



*Enclosures . . .*

*. . . for Industry*



**ROSE+BOPLA**

A Phoenix Mecano Company

*We are Dedicated to  
Achieving Customer  
Satisfaction Through  
Continuous  
Improvement.*



Rose+Bopla, the enclosure companies of Phoenix Mecano AG, an international corporation based in Switzerland, has developed a broad range of products for industrial applications. The North American operation is located in Frederick, Maryland.

The Rose division manufactures an extensive line of off-the-shelf and custom enclosures,

machine control enclosures and suspension arm systems suited for industrial applications and harsh environments in a variety of materials including: cast and extruded aluminum; stainless steel; compression molded fiberglass and polyamide; and injection molded polycarbonate and ABS plastic.











Bopla produces a diverse line of modular tabletop, instrumentation, hand-held and wall-mountable plastic enclosures designed to meet today's demands for aesthetic electronic packaging.

Rose+Bopla adheres to DIN Standards in the manufacture of high quality components, and we offer a wide variety of added value services for customizing our products. At our Maryland facility in the US we operate a machine shop for modifying and building product, complete with CNC Machining Centers, powder coat and wet painting operations, as well as silk screening, engraving, and assembly services. In addition, our engineering personnel are available to assist in the design or customization of your product. We employ advanced manufacturing techniques and strict quality control methods. Meticulous internal controls built into our Quality system ensure that every Rose+Bopla enclosure meets critical quality standards. Our workmanship is unsurpassed in the industry.

**Let Rose+Bopla be your partner for  
standard or customized enclosures.**

We have attempted to present the information about our enclosures in this catalog in a straight-forward manner. We offer this information as accurate at the time of publication. Specifications are subject to change without notice. Rose+Bopla is not responsible for inadvertent errors.

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Phoenix Mecano Inc. is ISO 9001:2000 Certified.

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## Choosing an Enclosure

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### *GENERAL CONSIDERATIONS*

Generally, enclosures are intended to protect their contents from outside risks. These risks can be varied in nature and are of extreme importance when choosing an enclosure. In judging whether a particular housing meets the protection requirements of your application, a clear analysis of the environment where the enclosure is to be used should be made.

The following conditions need to be taken into account:

1. Protection against contact with and penetration by foreign bodies;
2. Protection against water ingress;
3. Protection against external or internal radiated noise (RFI Shielding);
4. Chemical resistance;
5. Temperature resistance;
6. Impact resistance;
7. Corrosion resistance.

In electronics/electrical engineering, the functions of enclosures are two-fold:

1. To protect the contents from mechanical risks and radiated noise from the outside.
2. To protect the environment from mechanical and electrical risks, as well as from radiated noise caused by installed components.

With the ever-increasing development of electronic components, the increased packing densities on printed circuit boards, and the increased "contamination" of the environment by electromagnetic interference, electromagnetic compatibility is becoming an issue of growing importance in the choice of an enclosure.

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### *MATERIAL CONSIDERATIONS*

In most applications, material is a major factor in your choice of an enclosure. In general, aluminum is ideal for EMI/RFI applications; fiberglass is ideal for caustic environments and salt-water applications; polycarbonate is good for all indoor and light outdoor applications; and ABS is well suited for indoor instrumentation designs.

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### *PROTECTION CLASSIFICATIONS*

Rose+Bopla enclosures are classified under the generally applicable European protection guidelines of EN 60529 and IEC 144. These protection classifications are indicated by a designation consisting of two unchanging letters, IP, plus two digits for the protection grade. Many of the enclosures in this catalog bear the IP 66 or IP 65 protection classification.

IP 65: Protection against ingress by dust and water jets

IP 66: Protection against ingress by dust and powerful water jets

Specific product lines are classified according to UL 50 and UL 508. These include aluminum, fiberglass, and plastic. Also noted in this catalog are recommended classification types like NEMA and UL, which are commonly used in the USA. Please contact the appropriate association or agency for complete information regarding test requirements and qualifications. Refer to the Technical Information Chapter in this catalog for more information on Protection Classifications.

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### *TEMPERATURE RESISTANCE*

The temperature resistance of enclosures is defined as the maximum permanent temperature at which the stability of the shape and the protection classification are maintained. Permissible short-term peak temperatures are often considerably higher.

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### *CORROSION RESISTANCE OF ALUMINUM ENCLOSURES*

Aluminum enclosures are resistant to corrosion even without a special surface treatment. The use of aluminum alloys with a low copper content increases corrosion resistance. Additional treatments such as irriditing, painting, powder-coating, or a combination of irriditing and painting provide increased corrosion resistance.

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### *IMPACT RESISTANCE*

Impact resistance is a measurement of the maximum impact that will not affect the protection classification. The breaking strength is often far greater. Impact resistance for Rose+Bopla enclosures is determined in an impact test to EN 50014.



# Enclosure Comparison Chart

	Metal	Plastic	Watertight	Indoor	Outdoor	Industrial	Hazardous Areas	Operator Areas	Wall Mount	Interface	Display	Control Panel	Membrane	Terminal	Cabinet	Handheld	Desktop	Console
Aluminum Watertight 01	•		•	•	•	•		•				•						
Aluform	•		•	•	•	•		•				•	•					
Stainless Steel Watertight 37	•		•	•	•	•		•				•						
Fiberglass Watertight 02		•	•	•	•	•		•				•						
Polymas Watertight PK		•	•	•	•	•		•				•						
Polycarbonate 03		•	•	•	•	•		•				•						
Polycarbonate 33		•	•	•	•	•		•				•						
Polycarbonate EM		•	•	•	•	•		•	•			•	•					
ABS Watertight 09		•	•	•	•	•		•				•						
ABS Watertight ET		•	•	•	•	•		•	•			•	•					
Aluminum Ex	•		•	•	•	•	•	•				•						
Polyglas® Ex		•	•	•	•	•	•	•				•						
Okta-Box Ex		•	•	•	•	•	•	•				•						
Stainless Steel Ex	•		•	•	•	•	•	•				•						
Fiberglass Modular Flange		•	•	•	•	•		•				•						
Polycarbonate Modular Flange		•	•	•	•	•		•				•						
Element		•		•				•							•	•		
Executive		•		•				•	•			•			•	•	•	
ECO/PCI Compact		•	•	•		•		•				•						
Build-A-Box	•		•	•	•	•		•								•		
ANG Panel Meter Housings	•	•	•	•	•	•		•	•	•		•						
Alubos	•		•	•	•	•		•	•			•			•		•	
TG Handheld Series		•		•					•			•			•			
BG Handheld Series		•	•	•	•	•	•	•				•			•			
Tastomat		•	•	•	•	•		•	•	•		•			•	•		
Pilot 250		•	•	•	•	•		•	•	•		•			•			
Mobile Control Units		•	•	•	•	•		•	•	•		•			•			
Arteb		•	•	•				•		•		•			•			
Databoss		•		•					•			•			•			
Limanda		•	•	•	•	•	•		•			•			•			
CombiCard		•	•	•		•		•	•	•		•				•		
CombiSet		•	•	•		•		•	•	•		•						
Intercard		•	•	•				•				•						
RCP Housings		•	•	•	•	•		•				•	•					
CombiBac	•	•	•	•		•		•	•			•						
Ultramas		•		•				•								•	•	
1300 Machine Control Enclosures	•		•	•		•	•	•	•	•		•						
5400 Machine Control Enclosures	•		•	•		•	•		•	•								
Slim Line 2000	•		•	•		•	•	•	•	•							•	
Rose Suspension Arm System	•		•	•		•		•										
4925 Support System	•			•		•		•										
8850 Support System	•			•		•		•										
NGS Panel Meter Housings		•		•				•	•	•		•						
Fiberglass Watertight Cabinets		•	•	•	•	•		•				•	•					
ABS Watertight Mini Cabinets		•	•	•		•		•				•	•					
Mini Console Housings		•		•				•				•				•	•	
BP 810 & BP 900 F Housings		•		•								•				•	•	
Futura Sloped Housings		•		•					•			•			•	•	•	
Profitronic 19	•		•	•	•	•		•	•			•				•		
Profitronic 19 Universal	•		•	•	•	•		•	•			•				•		

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## Secondary Services

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### *IRRIDITING/ CHROMATING/ ANODIZING*

For greater chemical resistance to corrosion in aluminum housings, consider using a chemical treatment process like irriditing, chromating, or anodizing. Subsequent priming and painting give lasting protection from corrosive attacks. Anodizing is available in black, or clear as standard.



### *RFI/EMC SHIELDING*

RFI spray on plastic and fiberglass housings offers protection for your design against adverse interference or radiation. We can also install RFI gaskets, on request.



### *PAINTING POWDER/COATING*

We routinely paint to customer requirements in smooth or textured finishes, using Federal Standard 595A colors, RAL colors, or other special colors.



### *SCREEN PRINTING*

Using the screen print process, we are able to print your data on all housings and front plates. Silk-screen inks are available in several colors and are resistant to most solvents. Rose+Bopla creates screens in-house and can provide artwork services, if required.



### *ENGRAVING*

Rose+Bopla offers engraving services using any alphabet or outline. Engraving is performed in-house by computer controlled machines.



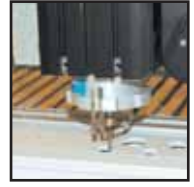
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## Secondary Services

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### DRILLING

We can drill holes through all housings in tolerances to 0.002 of an inch.



### TAPPING

Using NPT, Metric, or PG taps, we can thread holes in your housings to your specifications, on request.



### MILLING

Our CNC processing center enables us to carry out difficult machining work to tight tolerances. The program for your job will be stored ensuring that future orders can be repeated with the same accuracy and quality.



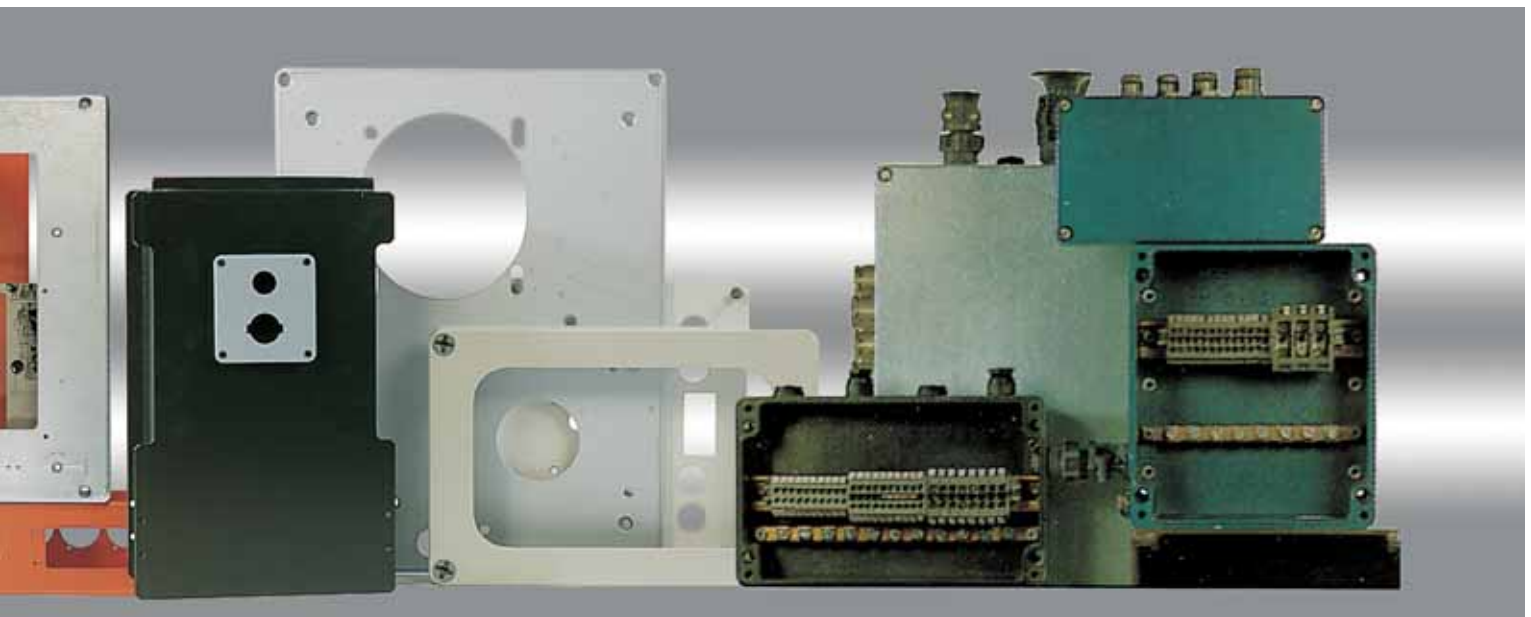
### ASSEMBLY

On request, we install accessories such as cable grips, conduit hubs, terminal blocks, DIN Rail assemblies, wiring, hinges, optional gaskets, and customer components into your housings.



### PANEL WORK

Rose+Bopla fabricates panels using various thicknesses of plate aluminum and plastic material, as well as screen printing information on panels..all to your specifications.



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## Terms and Conditions

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This is an overview of our Terms and Conditions. A full written version is available on request. Terms and Conditions are subject to change without notice

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### *CATALOG LISTINGS*

Most products listed in this catalog are available, at our stocking location in Frederick, Maryland. On occasion slow moving items may have to be brought in from our sister company in Germany. All specifications and descriptions are current, as of the time of publication. Product listings, specifications, availability, and pricing are subject to change without notice. Detailed drawings are available on the internet and directly from the company on request.

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### *PRODUCT WARRANTY*

Phoenix Mecano Inc. warrants all its products to be free from defects in materials and workmanship. Phoenix Mecano's liability under this warranty shall be limited to ninety days after delivery of the product to the original purchaser. Disputed product must be returned to Phoenix Mecano with prepaid transportation charges. After examination by Phoenix Mecano, should the product be found to be defective we will repair or replace it from our factory. Any defect is to be determined by accepted testing methods at Phoenix Mecano Inc. Any returned product found to be defective would become the property of Phoenix Mecano, Inc.

Phoenix Mecano Inc. shall not be liable to the purchaser for the cost of repairs, alterations, replacement, or any other expenses (including loss of profits, additional labor costs, or injury to persons or property caused by defective material or parts) incurred by the purchaser, their employees, or agents. One exception would be where Phoenix Mecano had previously authorized such repairs, alterations, or consequential damages.

This warranty shall not apply to products, which have been altered or repaired, except by Phoenix Mecano, Inc., or which have been subjected to misuse, negligence, or accident, including the use or operation of the products while parts are loose, broken, out of order, or damaged by the elements.

This warranty supersedes all other warranties, expressed or implied, including any implied warranty of merchantability, and of all other obligations or liability on the part of Phoenix Mecano, Inc.

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### *PRICING*

Rose+Bopla offers standard OEM pricing based on quantity price breaks. For pricing information please contact the Rose+Bopla sales staff or your local distributor. Prices are subject to change without notice.

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### *RETURNS*

Submit your drawings for pricing information on our secondary services, such as, CNC machining, painting, EMC/RFI spray shielding, silk-screening, chemical coating, and engraving...just to mention a few of the customizing services we offer.

1. All returns must be accompanied by an RMA (return merchandise authorization). Please call your inside salesperson for an RMA number. Invoice or Packing Slip number must accompany return.
  2. All returns due to customer error must be made within 30 days from the date of the invoice.
  3. Warranty returns must be made within 90 days from the date of the invoice.
  4. All returned product must be in resalable condition and in the original carton.
  5. Off-the-shelf parts, returned due to customer error, are subject to a minimum 15% restocking charge.
  6. Defective merchandise returns are evaluated on an individual basis.
  7. Parts that have been modified and special order items are not returnable.
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### *METHODS OF PAYMENT*

Rose+Bopla has four methods of payment; Net 30 day credit, C.O.D, credit card and pre-payment.

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## Terms and Conditions

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<i>NET 30 ACCOUNTS</i>	Net 30-account status is generally granted to qualified customers with appropriate credit and banking references. Terms of payment are net 30 days. Past due accounts are subject to late payment charge of 1½% per month.
<i>C.O.D. ACCOUNTS</i>	C.O.D. orders for product that has value added operations performed by Rose+Bopla require 50% down payment at time of order. The balance will be collected at time of shipment.
<i>CREDIT CARD ACCOUNTS</i>	Rose+Bopla accepts American Express, Discover, Master Card, Visa, or electronic funds transfers.
<i>PREPAYMENTS</i>	Payments can be made electronically directly to our bank account. Please contact an Accounts Receivable representative for our banking information.
<i>TO OPEN A NEW ACCOUNT</i>	To open a new account, please complete the credit application form in the back of this catalog. Fill out all references for credit contact. Names, addresses and telephone numbers will speed processing of your application. Rose+Bopla must have the credit application filled out in writing and signed BY CUSTOMER ONLY. Applications may be mailed or faxed (301-696-9493) to our Accounting Department in order to process a credit request. Please allow sufficient processing time.
<i>SALES TAX</i>	We are required by law to charge and collect Maryland sales tax. If you wish to avoid being charged state sales tax, you must submit a state sales tax exemption certificate annually to Rose+Bopla. Sales tax will always be charged unless otherwise indicated.
<i>MINIMUM ORDER</i>	All orders are subject to a minimum order value of \$100.00
<i>SHIPMENT DAMAGE</i>	Our products are inspected and carefully packed for shipment. In the event an item is damaged in shipment, you must submit a claim to the carrier within 15 days of delivery. We advise that you unpack and inspect all merchandise immediately upon receiving it. If damage does not become apparent until the shipment is unpacked, keep the shipping carton and make a request within 72 hours for inspection by the carrier's agent and file a claim with the carrier. Any external evidence of loss or damage must be noted on the freight bill. Failure to do this will result in the carrier refusing to honor the claim. Rose+Bopla will not be responsible for shipment damage or lost parts due to such damage.
<i>DELIVERY</i>	Items are shipped F.O.B. Frederick, Maryland. All orders are shipped UPS unless the weight prohibits shipment by this method. On heavier shipments we will attempt to ship by the carrier of your choice.
<i>SAME DAY SHIPMENT</i>	All orders to be shipped Air and received by 4 p.m. EST are shipped the same day. All UPS shipments are prepaid and charges added to the invoice, unless otherwise requested.
<i>LARGE ITEMS AND SPECIAL HANDLING</i>	For heavy shipments, common carrier truck is the most economical. Charges are F.O.B. shipping point and the product is shipped freight prepaid and charges are added to your invoice, unless otherwise requested.
<i>BLANKET ORDERS</i>	<ol style="list-style-type: none"><li>1. A "Blanket Purchase Order" is an agreement between two parties, "Seller/Buyer" to purchase a specific quantity of products over a specified period of time "Not to Exceed 12 Months".</li><li>2. Blanket Orders cannot be changed or canceled without 90-day advance written notice. Customer will be responsible for all parts manufactured for shipment within this 90-day period.</li><li>3. Blanket Orders canceled for standard enclosures will result in customer being billed back for the difference between the price break of quantity received, versus total quantity ordered.</li><li>4. Blanket Orders for modified or special order products must state Non-cancelable/Non-returnable on the Purchase Order.</li><li>5. All Blanket Orders must have firm ship dates stated on the Purchase Order for every release.</li></ol>

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## Drawings & Design Information

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**DESIGNING WITH ROSE+BOPLA** Rose+Bopla offers the engineer faced with packaging requirements an enormous advantage in finding a solution. Electronic products need enclosures. Our ability to deliver off-the-shelf enclosures makes Rose+Bopla one of the most important partners an engineer could ask for when bringing a product to market. We offer both electrical and electronic enclosures and have one of the widest ranges of standard off-the-shelf enclosures in the industry. Rose+Bopla also offers years of expertise in machining and other value added services, as well as technical support from an experienced technical sales force. Rose+Bopla also guarantees all secondary services and machining 100%, thereby eliminating scrap and additional costs.

The benefits of designing with Rose+Bopla enclosures are: cost savings, elimination of custom tool/molding expense, a large off-the-shelf inventory, no scrap, machining expertise and over 30 years experience in enclosure manufacturing. Take advantage of our experience and reduce your frustrations from dealing with multiple vendors. Rose+Bopla can offer you a turnkey solution that is 100% guaranteed.

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**DRAWINGS** Rose+Bopla recognizes that dimensional information is very important to our customers. Therefore, we have taken advantage of other media channels to provide more comprehensive drawing information. For more detailed dimensional information, or for CAD drawings:

1. Contact our inside Rose+Bopla sales staff by telephone at 301-696-9800.
2. Download drawing(s) from our website at [www.rose-bopla.com](http://www.rose-bopla.com). All product drawings are not available on the website. Our internal sales staff has access to a larger library of drawings. Please feel free to call us if you do not find the product drawing you need.
3. Request that the drawing(s) be sent to you via e-mail, by contacting us by phone, 301-696-9800, or fax us at 301-696-9494.

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**CUSTOM DESIGNS** Rose+Bopla not only supplies empty standard enclosures, but can also provide and deliver custom designs. We have skilled technical support personnel in-house that will work with your engineering staff on a custom enclosure design for your next product. By means of direct communications with you, the customer, we can create an individual solution to fit your precise requirements.

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**SPECIAL MATERIALS** Rose+Bopla can injection-mold most plastic enclosures in special colors and/or special materials. Minimum quantities for special injection runs range from 500 to 1,000 units depending on the enclosure. For special colors, please send us a sample of the color you would like to match. Rose+Bopla cannot guarantee an exact color match. If you need a special material for improved flame retardancy, impact resistance, chemical resistance, etc., let us know specifically what specifications you need to meet. We will suggest a material suitable for use in our molds that meets your requirements.

The universal design of ROSE industrial enclosures made from Aluminum, Fiberglass, Stainless Steel, Polycarbonate, ABS, and Polystyrene is the basis of their versatility.

They are designed to accommodate mechanical parts as well as electrical and electronic components. Apart from standard versions, flange enclosures are also available in Aluminum, Fiberglass, and Polycarbonate.



#### **Aluform Aluminum Enclosure**

- 14 enclosure sizes from 80 x 80 x 80 mm to 200 x 280 x 70mm
- Application area: its elegant design makes it ideal for use in areas where the visual impression is important.

#### **Standard Aluminum Enclosures / Aluminum Flange Enclosures**

- 48 enclosure sizes from 45 x 50 x 30 mm to 600 x 600 x 200 mm
- Application area: standard industrial enclosures

#### **Standard Fiberglass Enclosures**

- 26 enclosure sizes from 55 x 55 x 37 mm to 405 x 400 x 120 mm
- Application area: standard industrial enclosures

#### **Fiberglass Flange Enclosures**

- 6 enclosure sizes from 170 x 270 x 135 mm to 270 x 540 x 150 mm with two flange openings
- Application area: fieldbus and installation enclosures

#### **Standard Polycarbonate/ABS Enclosures**

- 25 enclosure sizes from 50 x 52 x 35 mm to 360 x 400 x 150 mm
- Application area: standard installation enclosures

#### **Polycarbonate Flange Enclosures**

- 6 enclosure sizes from 134 x 170 x 130 mm to 369 x 440 x 130 mm with 2 to 6 flange openings
- Application area: standard installation enclosures

#### **ECO/PCI Compact Enclosures**

- 47 enclosure sizes from 65 x 65 x 57 mm to 254 x 355 x 165 mm

#### **GRP 3040/4060 Fiberglass Cabinets**

- 5 enclosure sizes from 300 x 400 x 200 mm to 400 x 600 x 250 mm
- Application area: robust universal cabinet with hinged lid

#### **GFK Fiberglass/ABS Mini Cabinets**

- 4 enclosure sizes from 199 x 248.5 x 149 mm to 250 x 300 x 170 mm
- Application area: universal cabinet with hinged lid for measurement/control technology

#### **GRP Fiberglass Mini Cabinets**

- 6 enclosure sizes from 120 x 200 x 100 mm to 200 x 300 x 170 mm
- Application area: robust mini-cabinets with hinged lid for measurement/control technology

# Aluform, Painted



- Aluminum enclosure system for automation engineering
- Lid designed for membrane keypads and overlays
- Rectangular dome sequence in cover and base

## Included in delivery

Aluminum enclosure consisting of lid, base, captive stainless steel lid screws, and removable polyurethane gasket



## Technical Data

Material	Al Si 12, DIN 1725
Ingress Protection	IP 66 to EN 60529
Impact Resistance	>7 Nm, EN 50014
Temperature Resistance	Polyurethane seal: -40°F to +194°F Neoprene seal: -40°F to +212°F Silicone seal: -76°F to +266°F RFI gasket: -40°F to +392°F
Painting	Powdercoating
Color	Agate gray, similar to RAL 7038, special colors on request

Part Number	Dimensions	Dimensions	TS		Mounting	External	External	EMC	Corrosion	Allen lid
	mm	Inches	DIN rails for terminals							
	W x L x H	W x L x H	TS 15	TS 35	Plate <sup>1)</sup>	pair	hinges, pair <sup>3)</sup>			
04080808 00	80 x 80 x 80	3.15 x 3.15 x 3.15	•	•	•	•	•	•	•	•
04081208 00	80 x 120 x 80	4.72 x 3.15 x 3.19	•	•	•	•	•	•	•	•
04101006 00	100 x 100 x 60	3.94 x 3.94 x 2.40	•	•	•	•	•	•	•	•
04101606 00	100 x 160 x 60	3.94 x 6.30 x 2.40	•	•	•	•	•	•	•	•
04102006 00	100 x 200 x 60	3.94 x 7.87 x 2.40	•	•	•	•	•	•	•	•
04121208 00	120 x 120 x 80	4.72 x 4.72 x 3.19	•	•	•	•	•	•	•	•
04121608 00	120 x 160 x 80	6.30 x 4.72 x 3.19	•	•	•	•	•	•	•	•
04141407 00	140 x 140 x 70	5.51 x 5.51 x 2.80	•	•	•	•	•	•	•	•
04141807 00	140 x 180 x 70	5.51 x 7.09 x 2.80	•	•	•	•	•	•	•	•
04142207 00	140 x 220 x 70	5.51 x 8.66 x 2.80	•	•	•	•	•	•	•	•
04161608 00	160 x 160 x 80	6.30 x 6.30 x 3.19	•	•	•	•	•	•	•	•
04162408 00	160 x 240 x 80	9.45 x 6.30 x 3.19	•	•	•	•	•	•	•	•
04202007 00	200 x 200 x 70	7.87 x 7.87 x 2.80	•	•	•	•	•	•	•	•
04202807 00	200 x 280 x 70	7.87 x 11.02 x 2.80	•	•	•	•	•	•	•	•

<sup>1)</sup> Phenolic

<sup>2)</sup> Stainless steel

<sup>3)</sup> Cast aluminum

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

## Accessories

External brackets, pair for 0408	04000080 00
External brackets, pair for 0410	04000001 00
External brackets, pair for 0412	04002001 00
External brackets, pair for 0414	04004001 00
External brackets, pair for 0416	04006001 00
External brackets, pair for 0420	04000002 00
Console holder for wall or table mounting 98 mm wide, for type 0410	04300009 00
Console holder for wall or table mounting 138 mm wide, for type 0414	04300014 00
External hinges, pair, painted	04000010 00



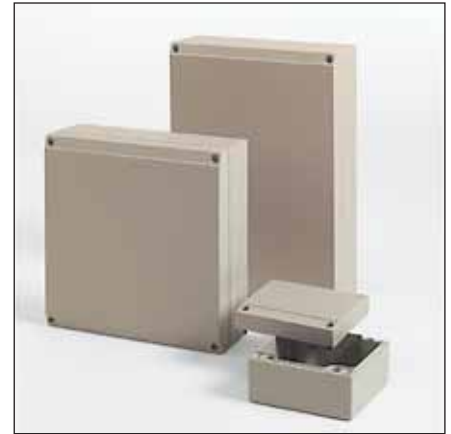
# Aluform, Unpainted



- Aluminum enclosure system for automation engineering
- Lid designed for membrane keypads and overlays
- Rectangular dome sequence in cover and base

## Included in delivery

Aluminum enclosure consisting of lid, base, captive stainless steel lid screws, and removable polyurethane gasket



## Technical Data

Material	Al Si 12, DIN 1725
Ingress Protection	IP 66 to EN 60529
Impact Resistance	>7 Nm, EN 50014
Temperature Resistance	Polyurethane seal: -40°F to +194°F Neoprene seal: -40°F to +212°F Silicone seal: -76°F to +266°F RFI gasket: -40°F to +392°F
Painting	Powdercoating
Color	Agate gray, similar to RAL 7038, special colors on request

Part Number	Dimensions		TS		Mounting Plate <sup>1)</sup>	External brackets pair	External aluminum hinges, pair <sup>3)</sup>	EMC screening	Corrosion resistant	Allen lid screws <sup>2)</sup>
	mm	Inches	DIN rails for terminals							
	W x L x H	W x L x H	TS 15	TS 35						
04080808 85	80 x 80 x 80	3.15 x 3.15 x 3.15	•	•	•	•	•	•	•	•
04081208 85	80 x 120 x 80	4.72 x 3.15 x 3.19	•	•	•	•	•	•	•	•
04101006 85	100 x 100 x 60	3.94 x 3.94 x 2.40	•	•	•	•	•	•	•	•
04101606 85	100 x 160 x 60	3.94 x 6.30 x 2.40	•	•	•	•	•	•	•	•
04102006 85	100 x 200 x 60	3.94 x 7.87 x 2.40	•	•	•	•	•	•	•	•
04121208 85	120 x 120 x 80	4.72 x 4.72 x 3.19	•	•	•	•	•	•	•	•
04121608 85	120 x 160 x 80	6.30 x 4.72 x 3.19	•	•	•	•	•	•	•	•
04141407 85	140 x 140 x 70	5.51 x 5.51 x 2.80	•	•	•	•	•	•	•	•
04141807 85	140 x 180 x 70	5.51 x 7.09 x 2.80	•	•	•	•	•	•	•	•
04142207 85	140 x 220 x 70	5.51 x 8.66 x 2.80	•	•	•	•	•	•	•	•
04161608 85	160 x 160 x 80	6.30 x 6.30 x 3.19	•	•	•	•	•	•	•	•
04162408 85	160 x 240 x 80	9.45 x 6.30 x 3.19	•	•	•	•	•	•	•	•
04202007 85	200 x 200 x 70	7.87 x 7.87 x 2.80	•	•	•	•	•	•	•	•
04202807 85	200 x 280 x 70	7.87 x 11.02 x 2.80	•	•	•	•	•	•	•	•

<sup>1)</sup> Phenolic

<sup>2)</sup> Stainless steel

<sup>3)</sup> Cast aluminum

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

## Accessories (Painted)

External brackets, pair for 0408	04000080 00
External brackets, pair for 0410	04000001 00
External brackets, pair for 0412	04002001 00
External brackets, pair for 0414	04004001 00
External brackets, pair for 0416	04006001 00
External brackets, pair for 0420	04000002 00
Console holder for wall or table mounting 98 mm wide, for type 0410	04300009 00
Console holder for wall or table mounting 138 mm wide, for type 0414	04300014 00
External hinges, pair, unpainted	04000010 85

## Standard & Flange Aluminum Enclosures, Painted



- Robust aluminum enclosure for mechanical and automation engineering
- Standard enclosures prepared for acceptance of DIN rail and mounting plates
- Flange enclosures with 4, 6, or 8 flange openings

### Included in delivery

Aluminum diecast enclosure consisting of lid with seal and captive stainless steel screws; base with 2 or 4 ground screws; flange enclosures with flange openings (please order flange plates separately).



UL 508

UL 50

### Technical Data

Material	Al Si 12, DIN 1725
Ingress Protection	IP 66 to EN 60529. Flange: IP 65 EN 60526
Impact Resistance	>7 Nm, EN 50014
Temperature Resistance	Neoprene gasket: -40°F to +212°F Silicone gasket: -76°F to +266°F RFI gasket: -40°F to +392°F Polyurethane -40°F to +194°F
Painting	Powdercoating
Color	Silver gray, similar to RAL 7001, special colors on request

Part Number	Dimensions mm W x L x H	Dimensions Inches W x L x H	Part Number	Dimensions mm W x L x H	Dimensions Inches W x L x H	Part Number	Dimensions mm W x L x H	Dimensions Inches W x L x H
<b>Standard enclosures</b>								
01050503 00	45 x 50 x 30	1.77 x .97 x .45	01122208 00	120 x 220 x 80	4.72 x 8.66 x 3.19	01232018 00	230 x 200 x 180	9.13 x 7.95 x 7.09
01060603 00	64 x 58 x 34	2.52 x 2.28 x 1.34	01122209 00	120 x 220 x 90	4.72 x 8.66 x 3.58	01232811 00	230 x 280 x 110	9.06 x 11.02 x 4.37
01061003 00	64 x 98 x 34	3.86 x 2.52 x 1.34	01122212 00	120 x 220 x 120	4.72 x 14.17 x 3.19	01233311 00	230 x 330 x 110	9.06 x 12.99 x 4.37
01061503 00	64 x 150 x 34	2.52 x 5.91 x 1.34	01123608 00	120 x 360 x 80	5.51 x 5.51 x 3.58	01233318 00	230 x 330 x 180	9.06 x 12.99 x 7.13
01061903 00	64 x 185 x 34	2.52 x 7.28 x 1.34	01141409 00	140 x 140 x 90	5.51 x 7.87 x 3.58	01234011 00	230 x 400 x 110	9.06 x 15.75 x 4.37
01080806 00	80 x 75 x 57	3.15 x 2.95 x 2.24	01142009 00	140 x 200 x 90	5.51 x 7.87 x 3.58	01234023 00	230 x 400 x 224	9.06 x 15.75 x 8.86
01081306 00	80 x 125 x 57	3.15 x 4.92 x 2.24	01161609 00	160 x 160 x 90	6.30 x 6.30 x 3.58	01236011 00	230 x 600 x 110	9.06 x 23.62 x 4.37
01081806 00	80 x 175 x 57	3.15 x 6.89 x 2.24	01162609 00	160 x 260 x 90	6.30 x 10.24 x 3.58	01314011 00	310 x 400 x 110	12.32 x 15.91 x 4.37
01082505 00	80 x 250 x 52	3.15 x 9.84 x 2.05	01163609 00	160 x 360 x 90	6.30 x 14.17 x 3.58	01314014 00	310 x 400 x 140	12.32 x 15.91 x 5.55
01101008 00	100 x 100 x 80	3.94 x 3.94 x 3.19	01165609 00	160 x 560 x 90	6.30 x 22.05 x 3.58	01314018 00	310 x 400 x 180	12.32 x 15.91 x 7.13
01101608 00	100 x 160 x 80	3.94 x 6.30 x 3.19	01181810 00	180 x 180 x 100	7.09 x 7.09 x 3.98	01314023 00	310 x 400 x 226	12.32 x 15.91 x 8.94
01102008 00	100 x 200 x 80	3.94 x 7.87 x 3.19	01182810 00	180 x 280 x 100	11.02 x 7.09 x 3.98	01316011 00	310 x 600 x 110	12.20 x 23.62 x 4.37
01121208 00	120 x 122 x 80	4.72 x 4.80 x 3.19	01231011 00	100 x 230 x 110	3.94 x 9.06 x 4.33	01316018 00	310 x 600 x 180	12.20 x 23.62 x 7.13
01121209 00	120 x 122 x 90	4.72 x 4.80 x 3.58	01232011 00	230 x 200 x 110	9.13 x 7.95 x 4.37	01606020 00	600 x 600 x 200	23.62 x 23.62 x 7.95
<b>Flange Enclosures</b>			<b>Flange openings</b>					
11232011 00	230 x 200 x 110	9.05 x 7.78 x 4.33	4					
11232811 00	230 x 280 x 110	9.05 x 11.02 x 4.33	4					
11234011 00	230 x 400 x 110	9.05 x 15.75 x 4.33	6					
11236011 00	230 x 600 x 110	9.05 x 23.62 x 4.33	8					
<b>Aluminum Watertight Enclosures With External Mounting Flange</b>								
01061200 00	64 x 115 x 34.5	2.52 x 4.53 x 1.36						
01061900 00	64 x 186 x 34.5	2.52 x 7.32 x 1.36						

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

## Accessories

Part Number	TS DIN rails for terminals	Mounting plate thickness in mm	External brackets pair set <sup>1)</sup>	External aluminum hinges, pair <sup>3)</sup>	Hinges inside pair <sup>2)</sup>	Corrosion resistant	Allen lid screws <sup>2)</sup>	Silicon lid seal up to +266° F	Lead-sealable steel lid screws
	TS 15								
	TS 35 <sup>5)</sup>								
<b>Standard Enclosures</b>									
01050503 00					•	•	•		
01060603 00					•	•	•	•	
01061003 00					•	•	•	•	
01061503 00					•	•	•	•	
01061903 00					•	•	•	•	
01080806 00	•	1.5			•	•	•	•	
01081306 00	•	1.5			•	•	•	•	
01081806 00	•	1.5			•	•	•	•	
01082505 00	•	1.5			•	•	•	•	
01101008 00	•	1.5	•	•	•	•	•	•	•
01101608 00	•	1.5	•	•	•	•	•	•	•
01102008 00	•	1.5	•	•	•	•	•	•	•
01121208 00	•	1.5	•	•	•	•	•	•	•
01121209 00	•	1.5	•	•	•	•	•	•	•
01122208 00	•	1.5	•	•	•	•	•	•	•
01122209 00	•	1.5	•	•	•	•	•	•	•
0112221200	•	1.5	•	•	•	•	•	•	•
01123608 00	•	1.5	•	•	•	•	•	•	•
01141409 00	•	1.5	•	•	•	•	•	•	•
01142009 00	•	1.5	•	•	•	•	•	•	•
01161609 00	•	1.5	•	•	•	•	•	•	•
01162609 00	•	1.5	•	•	•	•	•	•	•
01163609 00	•	1.5	•	•	•	•	•	•	•
01165609 00	•	2.0	•	•	•	•	•	•	•
01181810 00	•	1.5	•	•	•	•	•	•	•
01182810 00	•	1.5	•	•	•	•	•	•	•
01231011 00	•	1.5	•	•	•	•	•	•	•
01232011 00	•	1.5	•	•	•	•	•	•	•
01232018 00	•	1.5	•	•	•	•	•	•	•
01232811 00	•	1.5	•	•	•	•	•	•	•
01233311 00	•	1.5	•	•	•	•	•	•	•
01233318 00	•	1.5	•	•	•	•	•	•	•
01234011 00	•	2.0	•	•	•	•	•	•	•
01234023 00	•	2.0	•	•	•	•	•	•	•
01236011 00	•	2.0	•	•	•	•	•	•	•
01314011 00	•	2.0	•	•	•	•	•	•	•
01314014 00	•	2.0	•	•	•	•	•	•	•
01314018 00	•	2.0	•	•	•	•	•	•	•
01314023 00	•	2.0	•	•	•	•	•	•	•
01316011 00	•	2.0	•	•	•	•	•	•	•
01316018 00	•	2.0	•	•	•	•	•	•	•
01606020 00	•	2.5				•		•	
<b>Flange Enclosures</b>									
11232011 00	•		•			•	•	•	•
11232811 00	•		•			•	•	•	•
11234011 00	•		•			•	•	•	•
11236011 00	•		•			•	•	•	•
<b>Aluminum Watertight Enclosures With External Mounting Flange</b>									
01061200 00						•	•	•	•
01061900 00						•	•	•	•

<sup>1)</sup> Galvanized Steel    <sup>2)</sup> Stainless Steel    <sup>3)</sup> Die Cast Aluminum    <sup>5)</sup> TS 32 on Request

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

### Accessories for Flange Enclosures

Blank flange	10006001
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## Standard & Flange Aluminum Enclosures, Unpainted



UL 508

UL 50

- Robust aluminum enclosure for mechanical and automation engineering
- Standard enclosures prepared for acceptance of DIN rail and mounting plates
- Flange enclosures with 4, 6 or 8 flange openings

### Included in delivery

Aluminum diecast enclosure consisting of lid with seal and captive stainless steel screws; base with 2 or 4 ground screws; flange enclosures with flange openings (please order flange plates separately).

### Technical Data

Material	Al Si 12, DIN 1725
Ingress Protection	IP 66 to EN 60529. Flange: IP 65 EN 60526
Impact Resistance	>7 Nm, EN 50014
Temperature Resistance	Neoprene gasket: -40°F to +212°F Silicone gasket: -76°F to +266°F RFI gasket: -40°F to +392°F Polyurethane -40°F to +194°F
Painting	Powdercoating
Color	Silver gray, similar to RAL 7001, special colors on request

Part Number	Dimensions mm W x L x H	Dimensions Inches W x L x H	Part Number	Dimensions mm W x L x H	Dimensions Inches W x L x H	Part Number	Dimensions mm W x L x H	Dimensions Inches W x L x H	
<b>Standard enclosures</b>									
01050503 85	45 x 50 x 30	1.77 x .97 x .45	01122208 85	120 x 220 x 80	4.72 x 8.66 x 3.19	01232018 85	230 x 200 x 180	9.13 x 7.95 x 7.09	
01060603 85	64 x 58 x 34	2.52 x 2.28 x 1.34	01122209 85	120 x 220 x 90	4.72 x 8.66 x 3.58	01232811 85	230 x 280 x 110	9.06 x 11.02 x 4.37	
01061003 85	64 x 98 x 34	3.86 x 2.52 x 1.34	01122212 85	120 x 220 x 120	4.72 x 14.17 x 3.19	01233311 85	230 x 330 x 110	9.06 x 12.99 x 4.37	
01061503 85	64 x 150 x 34	2.52 x 5.91 x 1.34	01123608 85	120 x 360 x 80	5.51 x 5.51 x 3.58	01233318 85	230 x 330 x 180	9.06 x 12.99 x 7.13	
01061903 85	64 x 185 x 34	2.52 x 7.28 x 1.34	01141409 85	140 x 140 x 90	5.51 x 7.87 x 3.58	01234011 85	230 x 400 x 110	9.06 x 15.75 x 4.37	
01080806 85	80 x 75 x 57	3.15 x 2.95 x 2.24	01142009 85	140 x 200 x 90	5.51 x 7.87 x 3.58	01234023 85	230 x 400 x 224	9.06 x 15.75 x 8.86	
01081306 85	80 x 125 x 57	3.15 x 4.92 x 2.24	01161609 85	160 x 160 x 90	6.30 x 6.30 x 3.58	01236011 85	230 x 600 x 110	9.06 x 23.62 x 4.37	
01081806 85	80 x 175 x 57	3.15 x 6.89 x 2.24	01162609 85	160 x 260 x 90	6.30 x 10.24 x 3.58	01314011 85	310 x 400 x 110	12.32 x 15.91 x 4.37	
01082505 85	80 x 250 x 52	3.15 x 9.84 x 2.05	01163609 85	160 x 360 x 90	6.30 x 14.17 x 3.58	01314014 85	310 x 400 x 140	12.32 x 15.91 x 5.55	
01101008 85	100 x 100 x 80	3.94 x 3.94 x 3.19	01165609 85	160 x 560 x 90	6.30 x 22.05 x 3.58	01314018 85	310 x 400 x 180	12.32 x 15.91 x 7.13	
01101608 85	100 x 160 x 80	3.94 x 6.30 x 3.19	01181810 85	180 x 180 x 100	7.09 x 7.09 x 3.98	01314023 85	310 x 400 x 226	12.32 x 15.91 x 8.94	
01102008 85	100 x 200 x 80	3.94 x 7.87 x 3.19	01182810 85	180 x 280 x 100	11.02 x 7.09 x 3.98	01316011 85	310 x 600 x 110	12.20 x 23.62 x 4.37	
01121208 85	120 x 122 x 80	4.72 x 4.80 x 3.19	01231011 85	100 x 230 x 110	3.94 x 9.06 x 4.33	01316018 85	310 x 600 x 180	12.20 x 23.62 x 7.13	
01121209 85	120 x 122 x 90	4.72 x 4.80 x 3.58	01232011 85	230 x 200 x 110	9.13 x 7.95 x 4.37	01606020 85	600 x 600 x 200	23.62 x 23.62 x 7.95	
<b>Flange Enclosures</b>									
<b>Flange openings</b>									
11232011 85	230 x 200 x 110	9.05 x 7.78 x 4.33							4
11232811 85	230 x 280 x 110	9.05 x 11.02 x 4.33							4
11234011 85	230 x 400 x 110	9.05 x 15.75 x 4.33							6
11236011 85	230 x 600 x 110	9.05 x 23.62 x 4.33							8
<b>Aluminum Watertight Enclosures with External Mounting Flange</b>									
01061200 85	64 x 115 x 34.5	2.52 x 4.53 x 1.36							
01061900 85	64 x 186 x 34.5	2.52 x 7.32 x 1.36							

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.



## Accessories

Part Number	TS DIN rails for terminals	Mounting plate thickness in mm	External brackets pair set <sup>1)</sup>	External aluminum hinges, pair <sup>3)</sup>	Hinges inside pair <sup>2)</sup>	Corrosion resistant	Allen lid screws <sup>2)</sup>	Silicon lid seal up to +266° F	Lead-sealable steel lid screws
	TS 15								
	TS 35 <sup>3)</sup>								
<b>Standard Enclosures</b>									
01050503 85					•	•	•		
01060603 85					•	•	•	•	
01061003 85					•	•	•	•	
01061503 85					•	•	•	•	
01061903 85					•	•	•	•	
01080806 85	•	1.5			•	•	•	•	
01081306 85	•	1.5			•	•	•	•	
01081806 85	•	1.5			•	•	•	•	
01082505 85	•	1.5			•	•	•	•	
01101008 85	•	1.5	•	•	•	•	•	•	•
01101608 85	•	1.5	•	•	•	•	•	•	•
01102008 85	•	1.5	•	•	•	•	•	•	•
01121208 85	•	1.5	•	•	•	•	•	•	•
01121209 85	•	1.5	•	•	•	•	•	•	•
01122208 85	•	1.5	•	•	•	•	•	•	•
01122209 85	•	1.5	•	•	•	•	•	•	•
01122212 85	•	1.5	•	•	•	•	•	•	•
01123608 85	•	1.5	•	•	•	•	•	•	•
01141409 85	•	1.5	•	•	•	•	•	•	•
01142009 85	•	1.5	•	•	•	•	•	•	•
01161609 85	•	1.5	•	•	•	•	•	•	•
01162609 85	•	1.5	•	•	•	•	•	•	•
01163609 85	•	1.5	•	•	•	•	•	•	•
01165609 85	•	2.0	•	•	•	•	•	•	•
01181810 85	•	1.5	•	•	•	•	•	•	•
01182810 85	•	1.5	•	•	•	•	•	•	•
01231011 85	•	1.5	•	•	•	•	•	•	•
01232011 85	•	1.5	•	•	•	•	•	•	•
01232018 85	•	1.5	•	•	•	•	•	•	•
01232811 85	•	1.5	•	•	•	•	•	•	•
01233311 85	•	1.5	•	•	•	•	•	•	•
01233318 85	•	1.5	•	•	•	•	•	•	•
01234011 85	•	2.0	•	•	•	•	•	•	•
01234023 85	•	2.0	•	•	•	•	•	•	•
01236011 85	•	2.0	•	•	•	•	•	•	•
01314011 85	•	2.0	•	•	•	•	•	•	•
01314014 85	•	2.0	•	•	•	•	•	•	•
01314018 85	•	2.0	•	•	•	•	•	•	•
01314023 85	•	2.0	•	•	•	•	•	•	•
01316011 85	•	2.0	•	•	•	•	•	•	•
01316018 85	•	2.0	•	•	•	•	•	•	•
01606020 85	•	2.5				•		•	
<b>Flange Enclosures</b>									
11232011 85	•		•			•	•	•	•
11232811 85	•		•			•	•	•	•
11234011 85	•		•			•	•	•	•
11236011 85	•		•			•	•	•	•
<b>Aluminum Watertight Enclosures With External Mounting Flange</b>									
01061200 85						•	•	•	•
01061900 85						•	•	•	•

<sup>1)</sup> Galvanized Steel    <sup>2)</sup> Stainless Steel    <sup>3)</sup> Die Cast Aluminum    <sup>5)</sup> TS 32 on Request

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

### Accessories for Flange Enclosures

Blank flange	10006001 85
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# Fiberglass Watertight 02



- Robust enclosure for automation engineering
- Universal construction

## Included in delivery

Fiberglass enclosure consisting of lid, base, seal, and captive stainless steel lid screws.



UL 508

UL 50

## Technical Data

Material	Glassfiber-reinforced, duroplastic Polyester
Ingress Protection	IP 66 to EN 60529
Impact Resistance	>7 Nm, EN 50014
Flammability	UL 94 V0
Insulation	Fully insulated to VDE 100
Temperature Resistance	Neoprene gasket: -40°F to +212°F Silicone gasket: -76°F to +266°F Polyurethane gasket: -40°F to +194°F
Disruptive Strength	18 KV/mm
Toxicity	Halogen-free
Surface Resistance	>10 <sup>12</sup> Ohm VDE 0303 DIN 53482
Color	Gray, similar to RAL 7000, special colors on request

Part Number	Dimensions mm	Dimensions Inches	TS DIN rails for terminals		Mounting Plate Thickness in mm	External brackets pair <sup>2)</sup>	External aluminum hinges, pair <sup>3)</sup>	Allen lid screws <sup>2)</sup>	Silicone lid seal up to 257°F
	W x L x H	W x L x H	TS 15	TS 35 <sup>6)</sup>					
02060603 00	55 x 55 x 37	2.17 x 2.17 x 1.46							
02060606 00	55 x 55 x 59	2.17 x 2.17 x 2.32							
02080806 00	75 x 80 x 55	2.95 x 3.15 x 2.20	•		2 <sup>5)</sup>	•		•	•
02080808 00	75 x 80 x 75	2.95 x 3.15 x 2.95	•			•		•	•
02081106 00	75 x 110 x 55	2.95 x 4.33 x 2.20	•		2 <sup>5)</sup>	•		•	•
02081108 00	75 x 110 x 75	2.95 x 4.33 x 2.95	•			•		•	•
02081606 00	75 x 160 x 55	2.95 x 6.30 x 2.20	•		2 <sup>5)</sup>	•		•	•
02081608 00	75 x 160 x 75	2.95 x 6.30 x 2.95	•			•		•	•
02081906 00	75 x 190 x 55	2.95 x 7.48 x 2.20	•		2 <sup>5)</sup>	•		•	•
02081908 00	75 x 190 x 75	2.95 x 7.48 x 2.95	•			•		•	•
02082306 00	75 x 230 x 55	2.95 x 9.06 x 2.20	•			•		•	•
02082308 00	75 x 230 x 75	2.95 x 9.06 x 2.95	•			•		•	•
02103208 00	100 x 320 x 80	2.95 x 12.60 x 3.19	•		1.5 <sup>1)</sup>	•	•	•	•
02121209 00	120 x 122 x 90	4.72 x 4.80 x 3.58		•	1.5 <sup>1)</sup>	•	•	•	•
02122209 00	120 x 220 x 90	4.72 x 8.66 x 3.58		•	1.5 <sup>1)</sup>	•	•	•	•
02161609 00	160 x 160 x 90	6.30 x 6.30 x 3.58		•	2.5 <sup>1)</sup>	•	•	•	•
02162609 00	160 x 260 x 90	6.30 x 10.24 x 3.58		•	2.5 <sup>1)</sup>	•	•	•	•
02163609 00	160 x 360 x 90	6.30 x 14.17 x 3.58		•	2.5 <sup>1)</sup>	•	•	•	•
02165609 00	160 x 560 x 90	6.30 x 22.05 x 3.58		•	2.5 <sup>1)</sup>	•	•	•	•
02252612 00	250 x 255 x 120	9.84 x 10.04 x 4.76		•	2.0 <sup>1)</sup>	•	•	•	•
02252616 00	250 x 255 x 160	9.84 x 10.04 x 6.34		•	2.0 <sup>1)</sup>	•	•	•	•
02254012 00	250 x 400 x 120	9.84 x 15.75 x 4.76		•	2.0 <sup>1)</sup>	•	•	•	•
02254016 00	250 x 400 x 160	9.84 x 15.75 x 6.34		•	2.0 <sup>1)</sup>	•	•	•	•
02256012 00	250 x 600 x 120	9.84 x 23.62 x 4.76		•	2.0 <sup>1)</sup>	•	•	•	•
02363609 00	360 x 360 x 90	14.17 x 14.17 x 3.58		•	2.0 <sup>1)</sup>	•	•	•	•
02414012 00	405 x 400 x 120	15.94 x 15.94 x 4.76		•	2.0 <sup>1)</sup>	•	•	•	•

<sup>1)</sup> Galvanized steel

<sup>2)</sup> Stainless steel

<sup>3)</sup> Plastic cover insulated

<sup>5)</sup> Laminated paper

<sup>6)</sup> TS 32 on request

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

# Polyester Flange Enclosures



- Enclosures with flange openings for automation engineering
- Multiple configurations possible by combining with other Fiberglass Flange enclosures.

### Included in delivery

Enclosure in Fiberglass consisting of lid with seal, and plastic quick-release lock screws; base with flange openings, threaded insert set (4 pcs.). Please order flange plates separately.



## Technical Data

	Standard Version	With Polycarbonate Transparent Lid
Material	Glassfiber-reinforced, duroplastic Polyester	
Ingress Protection	IP 65 to EN 60529	IP 65 to EN 60529
Impact Resistance	>7 Nm, EN 50014	
Flammability	UL 94 V0	V2 / UL 94
Insulation	Fully insulated to VDE 010	Fully insulated to VDE 0100
Temperature Resistance	Neoprene gasket: -40°F to +212°F Silicone gasket: -76°F to +266°F Polyurethane gasket: -40°F to +194°F RFI gasket: -40°F to +392°F	Polyurethane gasket: -40°F to +194°F
Water Absorption	max. 0.7% downstream of ASTM D 570	max 0.2% DIN 53405 ISO/R62
Disruptive Strength	18 KV/mm	>30 Kv/mm VDE 0303 DIN 53481
Toxicity	Halogen-free	Halogen-free
Surface Resistance	>10 <sup>12</sup> Ohm VDE 0303 DIN 53482	>10 <sup>15</sup> Ohm VDE 0303 DIN 53482
Color	Gray, similar to RAL 7032, special colors on request	Gray, similar to RAL 7000, special colors on request

Part Number	Dimensions mm	Dimensions Inches	Flange Openings	Mounting Plate	Front Plate	* DIN Rail TS 35	Silicone Seal for Lid
	W x L x H	W x L x H					
14010000 00	170 x 270 x 135	6.69 x 10.63 x 5.31	2	14000011 00	14000027 00	10061721 00	10051501 00
14020000 00	270 x 270 x 135	10.63 x 10.63 x 5.91	4	14000012 00	14000028 00	10061722 00	10051502 00
14030000 00	270 x 540 x 135	10.63 x 21.26 x 5.31	6	14000013 00	14000029 00	10061723 00	10051503 00
<b>Version with Polycarbonate Transparent Lid</b>							
14010001 00	270 x 270 x 150	6.69 x 10.63 x 5.91	2	14000011 00	14000027 00	10061721 00	10051501 00
14020001 00	270 x 270 x 150	10.63 x 10.63 x 5.91	4	14000012 00	14000028 00	10061722 00	10051502 00
14030001 00	270 x 540 x 150	10.63 x 21.26 x 5.91	6	14000013 00	14000029 00	10061723 00	10051503 00

\*TS 32 on request Note: Standard delivery is without flanges, please order flange plates separately.

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

### Flanges and Accessories

Blind Flange	14000020 00
Threaded flange (17 x PG 11)	14000030 00
Threaded flange (14 x PG 13.5)	14000022 00
Threaded flange (11 x PG 16)	14000021 00
Threaded flange (4 x PG 16, 2 x PG 21.1 x PG 29)	14000023 00
Connecting flange (11 x PG 16)	14000025 00
Lid hinges (2 pcs.) for all types	14000026 00
External brackets (4 pcs.)	10031102 00
Threaded insert, additional (10 pcs.)	10035002 00
Silicone seal for flanges	10051402 00
Silicone seal for connecting flange	10051403 00

## Standard Polycarbonate / ABS Enclosures



- Light-weight plastic enclosures for industrial applications
- Polycarbonate enclosure with standard or transparent lid
- Optional RFI version with coating

### Included in delivery

Plastic enclosure consisting of lid with seal and captive stainless steel lid screws; base with 2 self-tapping screws for fastening internal components.



### Technical Data

	Polycarbonate	ABS
Material	Polycarbonate	
Ingress Protection	IP 66 EN 60529	IP 66 to EN 60529
Surface Resistance	>10 <sup>12</sup> OHm, DIN 53481	4x10 <sup>14</sup> Ohm, VDE 0303 DIN 53486
Disruptive Strength	> 18 KV/mm, DIN 53481	24 Kv/mm VDE 03032 DIN 53481
Insulation	Fully insulated, VDE 0100	Fully insulated VDE 0100
Flammability	UL 94 V0	UL 94 HB
Impact Resistance	>7Nm to EN 50014	
Temperature Range	-40°F to + 212°F (neoprene gasket)	-40°F to +212°F (neoprene gasket)
Color	Light gray, similar to RAL 7035. Special colors on request.	Light gray, similar to RAL 7035. Special colors on request.
Toxicity	Halogen-free	Halogen-free

Polycarbonate Enclosure Part Number	Polycarbonate Enclosure with Transparent Lid Part Number	ABS Enclosure Part Number	Dimensions mm	Dimensions Inches	External Brackets	Mounting Plate	Silicone Lid Seal	Rubber Feet	PC External Hinge approx. 150°
			W x L x H	W x L x H					
03050504 00	33050504 00	09050504 00	50 x 52 x 35	1.97 x 2.05 x 1.38		1.5			
03050704 00	33050704 00	09050704 00	50 x 65 x 35	1.97 x 2.56 x 1.38		1.5	•		
03080806 00	33080806 00	09080806 00	80 x 82 x 55	3.18 x 3.23 x 2.17	•	1.5	•	•	
03080809 00	33080809 00	09080809 00	80 x 82 x 85	3.15 x 3.23 x 3.35	•	1.5	•	•	
03081206 00	33081206 00	09081206 00	80 x 120 x 55	3.15 x 4.72 x 2.17	•	1.5	•	•	•
03081209 00	33081209 00	09081209 00	80 x 120 x 85	3.15 x 4.72 x 3.35	•	1.5	•	•	•
03081606 00	33081606 00	09081606 00	80 x 160 x 55	3.15 x 6.30 x 2.17	•	1.5	•	•	•
03081609 00	33081609 00	09081609 00	80 x 160 x 85	3.15 x 6.30 x 3.35	•	1.5	•	•	•
03082309 00	-	09082309 00	80 x 230 x 85	3.15 x 9.06 x 3.35	•	1.5	•	•	•
03121206 00	33121206 00	09121206 00	120 x 122 x 55	4.72 x 4.80 x 2.17	•	2	•	•	•
03121209 00	33121209 00	09121209 00	120 x 122 x 90	4.72 x 4.80 x 3.35	•	2	•	•	•
03121211 00	33121211 00	09121211 00	120 x 122 x 105	4.72 x 4.80 x 3.35	•	2	•	•	•
03121609 00	33121609 00	09121609 00	120 x 160 x 90	4.72 x 4.80 x 4.13	•	2	•	•	•
03121614 00	33121614 00	09121614 00	120 x 160 x 140	4.72 x 6.30 x 3.54	•	2	•	•	•
03122008 00	33122008 00	09122008 00	120 x 200 x 75	4.72 x 6.30 x 5.51	•	2	•	•	•
03122009 00	33122008 00	09122009 00	120 x 200 x 90	4.72 x 7.87 x 2.95	•	2	•	•	•
03122410 00	33122410 00	09122410 00	120 x 240 x 100	4.72 x 7.87 x 3.54	•	2	•	•	•
03152008 00	33152008 00	09152008 00	150 x 200 x 75	4.72 x 9.45 x 3.94	•	2.5	•	•	•
03162409 00	33162409 00	09162409 00	160 x 240 x 90	5.91 x 7.87 x 2.95	•	2.5 <sup>3)</sup>	•	•	•
03162412 00	33162412 00	09162412 00	160 x 240 x 120	6.30 x 9.45 x 3.54	•	2.5	•	•	•
03163610 00	-	09163610 00	160 x 360 x 100	6.30 x 9.45 x 4.72	•	2.5	•	•	•
03203615 00	33203615 00	09203615 00	200 x 360 x 150	6.30 x 14.17 x 3.98		2.5	•		•
03233009 00	33233009 00	09233009 00	230 x 300 x 85	7.87 x 14.17 x 5.87	•	2	•	•	•
03233011 00	33233011 00	09233011 00	230 x 300 x 110	9.06 x 11.81 x 3.35	•	2	•	•	•
-	-	09403615 00	360 x 400 x 150	9.06 x 11.81 x 4.33		2 <sup>3)</sup>	•		•

<sup>3)</sup> Galvanized sheet steel

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.



# Polycarbonate Flange Enclosures



- Light plastic enclosure for industrial applications with flange pre-embossing
- Multiple configurations possible by combining with other Polycarbonate Flange Enclosures
- Snap lock technology and flange quick-fixing system



### Included in delivery

Completely closed enclosure body with flange break-out points; lid with plastic quick-release lock; 4 threaded inserts for internal mounting.

### Technical Data

	Enclosure base, flanges, opaque enclosure lids	Transparent Lids
Impact Resistance	> 7 Nm, EN 50014	>7 Nm, EN 50014
Flammability	UL 94 V0/ self-extinguishing	UL 94 V2
Disruptive Strength	> 18 kV / mm, DIN 53482	> 30 KV / mm, DIN 53481
Surface Resistance	>10 <sup>15</sup> Ohm, DIN 53482	>10 <sup>15</sup> ohm, DIN 53482
Temperature Range	-40°F up to +212°F	-40°F to + 212°F
Ingress Protection	IP 65 to #N 60529	IP 65 to EN 60529
Sealing	Neoprene	Neoprene
Toxicity	Low-halogen	Low-halogen
Weather Resistance	UV stabilized	-
Insulation	Fully insulated VDE 0100	Fully insulated VDE 0100
Color	Gray, similar to RAL 7032	Transparent

Enclosure with Lid Part Number	Enclosure with Transparent Lid Part Number	Dimensions mm W x L x H	Dimensions Inches W x L x H	Flange Opening	TS 35*	DIN Rail	Mounting Plate
17011000 00	17011010 00	134 x 170 x 130	5.12 x 6.69 x 5.12	2	•	•	•
17021000 00	17021010 00	170 x 170 x 130	6.69 x 6.69 x 5.12	4	•	•	•
17031000 00	17031010 00	170 x 269 x 130	6.69 x 10.59 x 5.12	4	•	•	•
17041000 00	17041010 00	269 x 269 x 130	10.59 x 10.59 x 5.12	4	•	•	•
17051000 00	17051100 00	269 x 540 x 130	10.59 x 21.26 x 5.12	6	•	•	•
17061000 00	-	369 x 440 x 130	10.59 x 17.32 x 5.12	4	•	•	•

\*TS 32 on request

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

### Flanges and Accessories

	Part Number
Blind flange I	17003100 00
Blind flange II	17003200 00
Flange 11 PG, 19 x PG9/PG 13.5	17003400 00
Flange 11 PG, 16 x PG11/PG 16	17003500 00
Flange 11 PG , 10 x PG9/PG 13.5; 4 x PG 11/PG16; 2 x PG21/PG29	17003300 00
Connecting flange I	17003600 00
Connecting flange II	17003700 00
Internal Mounting Bracket (set of 4), for type 1705 2 sets required	17004200 00
Additional threaded inserts (set of 10)	10035003 00
External brackets (set of 4)	10031104 00
Spare fixing wedges (set of 10)	17004100 00
Internal hinges (set of 2)	17005500 00

## ECO/PCI Compact Enclosures



- Light-weight thermoplastic enclosure for industrial applications
- ECO version: base with smooth side walls, lid version standard or transparent
- PCI version: base with knock-outs for cable connections

### Included in delivery

Enclosure consisting of lid, base, seal, captive lid screws, and screws for fastening including spacer inserts.



### Technical Data

Material	Flame-resistant Polystyrene
Ingress Protection	IP 65 to EN 60529
Impact Resistance	2 Nm, EN 60068-2-75
Insulation	Fully insulated to VDE 0100
Temperature Range	+14°F to + 158°F
Flammability	UL 94 HB
Toxicity	Low-halogen
Weather Resistance	Do not expose to direct sunlight
Chemical Resistance	Not resistant to benzine, diesel, oils, and fats as well as strong acids.
Color	Gray, similar to RAL 7035. Special colors on request



## ECO Series

Enclosure Type	Part Number	Dimensions	Dimensions	TS		Mounting Plate	External Bracket	External Hinges	Knurled Screw
		mm	Inches	Din Rails for Terminals					
		W x L x H	W x L x H	TS 15	TS 35*				
ECO 01-6	60070711 00	65 x 65 x 57	2.56 x 2.56 x 2.24	•		•	•	•	•
ECO 01-8	60070721 00	65 x 65 x 81	2.56 x 2.56 x 3.49	•		•	•	•	•
ECO 02-6	60070911 00	65 x 94 x 57	2.56 x 3.70 x 2.24	•		•	•	•	•
ECO 02-8	60070921 00	65 x 94 x 81	2.56 x 3.70 x 3.19	•		•	•	•	•
ECO 03-6	60090911 00	94 x 94 x 57	3.70 x 3.70 x 2.24	•		•	•	•	•
ECO 03-8	60090921 00	94 x 94 x 81	3.70 x 3.70 x 3.19	•		•	•	•	•
ECO 03-6t	60090912 00	94 x 94 x 57	3.70 x 3.70 x 2.24	•		•	•	•	•
ECO 03-8t	60090922 00	94 x 94 x 81	3.70 x 3.70 x 3.19	•		•	•	•	•
ECO 04-6	60091311 00	94 x 130 x 57	3.58 x 5.12 x 2.24	•	•	•	•	•	•
ECO 04-8	60091321 00	94 x 130 x 81	3.70 x 5.12 x 3.19	•	•	•	•	•	•
ECO 04-6t	60091312 00	94 x 130 x 57	3.58 x 5.12 x 2.24	•	•	•	•	•	•
ECO 04-8t	60091322 00	94 x 130 x 81	3.70 x 5.12 x 3.19	•	•	•	•	•	•
ECO 05-7	60111111 00	110 x 110 x 66	4.33 x 4.33 x 2.60	•	•	•	•	•	•
ECO 05-9	60111121 00	110 x 110 x 90	4.33 x 4.33 x 3.54	•	•	•	•	•	•
ECO 05-7t	60111112 00	110 x 110 x 66	4.33 x 4.33 x 2.60	•	•	•	•	•	•
ECO 05-9t	60111122 00	110 x 110 x 90	4.33 x 4.33 x 3.54	•	•	•	•	•	•
ECO 06-7	60131311 00	130 x 130 x 75	4.33 x 4.33 x 2.95	•	•	•	•	•	•
ECO 06-10	60131321 00	130 x 130 x 99	4.33 x 4.33 x 3.90	•	•	•	•	•	•
ECO 06-7t	60131312 00	130 x 130 x 75	4.33 x 4.33 x 2.95	•	•	•	•	•	•
ECO 06-10t	60131322 00	130 x 130 x 99	4.33 x 4.33 x 3.90	•	•	•	•	•	•
ECO 07-6	60091811 00	94 x 180 x 57	3.70 x 7.09 x 2.24	•	•	•	•	•	•
ECO 07-8	60091821 00	94 x 180 x 81	3.70 x 7.09 x 3.19	•	•	•	•	•	•
ECO 07-6t	60091812 00	94 x 180 x 57	3.70 x 7.09 x 2.24	•	•	•	•	•	•
ECO 07-8t	60091822 00	94 x 180 x 81	3.70 x 7.09 x 3.19	•	•	•	•	•	•
ECO 08-9	60111811 00	110 x 180 x 90	4.33 x 7.09 x 3.54	•	•	•	•	•	•
ECO 08-11	60111821 00	110 x 180 x 111	4.33 x 7.09 x 4.37	•	•	•	•	•	•
ECO 08-9t	60111812 00	110 x 180 x 90	4.33 x 7.09 x 3.54	•	•	•	•	•	•
ECO 08-11t	60111822 00	110 x 180 x 111	4.33 x 7.09 x 4.37	•	•	•	•	•	•
ECO 09-9	60181811 00	180 x 182 x 90	7.09 x 7.16 x 3.54	•	•	•	•	•	•
ECO 09-11	60181821 00	180 x 182 x 111	7.09 x 7.16 x 4.37	•	•	•	•	•	•
ECO 09-16	60181831 00	180 x 182 x 165	7.09 x 7.16 x 6.50	•	•	•	•	•	•
ECO 09-9t	60181812 00	180 x 182 x 90	7.09 x 7.16 x 3.54	•	•	•	•	•	•
ECO 09-11t	60181822 00	180 x 182 x 111	7.09 x 7.16 x 4.37	•	•	•	•	•	•
ECO 09-16t	60181832 00	180 x 182 x 165	7.09 x 7.16 x 6.50	•	•	•	•	•	•
ECO 10-6t	60182509 00	180 x 254 x 63	7.09 x 10.00 x 2.48	•	•	•	•	•	•
ECO 10-6	60182510 00	180 x 254 x 63	7.09 x 10.00 x 2.48	•	•	•	•	•	•
ECO 10-9	60182511 00	180 x 254 x 90	7.09 x 10.00 x 3.54	•	•	•	•	•	•
ECO 10-11	60182521 00	180 x 254 x 111	7.09 x 10.00 x 4.37	•	•	•	•	•	•
ECO 10-16	60182531 00	180 x 254 x 165	7.09 x 10.00 x 6.50	•	•	•	•	•	•
ECO 10-9t	60182512 00	180 x 254 x 90	7.09 x 10.00 x 3.54	•	•	•	•	•	•
ECO 10-11t	60182522 00	180 x 254 x 111	7.09 x 10.00 x 4.37	•	•	•	•	•	•
ECO 10-16t	60182532 00	180 x 254 x 165	7.09 x 10.00 x 6.50	•	•	•	•	•	•
ECO 11-11	60253611 00	254 x 355 x 111	10.00 x 13.98 x 4.37	•	•	•	•	•	•
ECO 11-16	60253621 00	254 x 355 x 165	10.00 x 13.98 x 6.50	•	•	•	•	•	•
ECO 11-11t	60253612 00	254 x 355 x 111	10.00 x 13.98 x 4.37	•	•	•	•	•	•
ECO 11-16t	60253622 00	254 x 355 x 165	10.00 x 13.98 x 6.50	•	•	•	•	•	•

### PCI Series

PCI 06-1M	60070715 00	65 x 65 x 57	2.56 x 2.56 x 2.24	•		•	•	•	•
PCI 02-6M	60070915 00	65 x 95 x 57	2.56 x 3.74 x 2.24	•		•	•	•	•
PCI 03-6M	60090915 00	94 x 94 x 57	3.70 x 3.70 x 2.24	•		•	•	•	•
PCI 04-6M	60091315 00	94 x 130 x 57	3.70 x 5.12 x 2.24	•	•	•	•	•	•
PCI 05-9M	60111115 00	110 x 110 x 90	4.33 x 4.33 x 3.54	•	•	•	•	•	•
PCI 06-7M	60131315 00	130 x 130 x 75	5.12 x 5.12 x 2.95	•	•	•	•	•	•
PCI 07-6M	60091815 00	94 x 180 x 57	3.70 x 7.09 x 2.24	•	•	•	•	•	•
PCI 08-9M	60111815 00	110 x 180 x 90	4.33 x 7.09 x 3.54	•	•	•	•	•	•
PCI 08-11M	60111825 00	110 x 180 x 111	4.33 x 7.09 x 4.37	•	•	•	•	•	•
PCI 09-9M	60181815 00	180 x 182 x 90	7.09 x 7.16 x 3.54	•	•	•	•	•	•
PCI 09-11M	60181825 00	180 x 182 x 111	7.09 x 7.16 x 4.37	•	•	•	•	•	•
PCI 10-6M	60182505 00	180 x 254 x 63	7.09 x 10.00 x 2.48	•	•	•	•	•	•
PCI 10-9M	60182515 00	180 x 254 x 90	7.09 x 10.00 x 3.54	•	•	•	•	•	•
PCI 10-11M	60182525 00	180 x 254 x 111	7.09 x 10.00 x 4.37	•	•	•	•	•	•
PCI 11-11M	60253615 00	254 x 355 x 111	10.00 x 13.98 x 4.37	•	•	•	•	•	•

t = Transparent lid

\* TS 32 available on request

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

# Polymas Watertight Enclosures



- Especially suitable for fitting small electronic components and terminal blocks
- Available with or without molded-on cable glands and with or without quick-release lid screws
- Mounting bosses for self-tapping screws provided for the assembly of terminal blocks, DIN rails or PCBs

## Included in delivery

Enclosure consisting of lid and base; lid screws, or quick-release lid screws; depending on design with molded-on cable glands PG 11 including clamping cage, pressure screw, and closed sealing ring.



## Technical Data

Material	Polyamide 6, 30% glassbead-reinforced. UV stabilized
Ingress Protection	IP 65 DIN EN 60529. Increased protection up to IP x7 on request.
Color	Gray, similar to RAL 7001
Lid Seal	Neoprene

Enclosure Type	Part Number	Dimensions	Dimensions
		mm W x L x H	Inches W x L x H
PK 101*	38101000 00	58 x 64 x 34	2.28 x 2.52 x 1.34
PK 101-111*	38101100 00	58 x 64 x 34	2.28 x 2.52 x 1.34
PK 101-211*	38101200 00	58 x 64 x 34	2.28 x 2.52 x 1.34
PK 101 SV	38101500 00	58 x 64 x 34	2.28 x 2.25 x 1.34
PK 101 SV-111	38101600 00	58 x 64 x 34	2.28 x 2.25 x 1.34
PK 101 SV-211	38101700 00	58 x 64 x 34	2.28 x 2.25 x 1.34
PK 102*	38102000 00	98 x 64 x 34	3.86 x 2.52 x 1.34
PK 102-211*	38102200 00	98 x 64 x 34	3.86 x 2.52 x 1.34
PK 102-411*	38102400 00	98 x 64 x 34	3.86 x 2.52 x 1.34
PK 102 SV	38102500 00	98 x 64 x 34	3.86 x 2.52 x 1.34
PK 102 SV-211	38102700 00	98 x 64 x 34	3.86 x 2.52 x 1.34
PK 102 SV-411	38102900 00	98 x 64 x 34	3.86 x 2.52 x 1.34
PK 105*	38105000 00	75 x 80 x 57	2.95 x 2.52 x 2.24
PK 105 SV	38105500 00	75 x 80 x 57	2.95 x 2.52 x 2.24
PK 110*	38110000 00	125 x 80 x 57	4.91 x 2.52 x 2.24
PK 110 SV	38110500 00	125 x 80 x 57	4.91 x 2.52 x 2.24
PK 115*	38115000 00	175 x 80 x 57	6.89 x 2.52 x 2.24
PK 115 SV	38115500 00	175 x 80 x 57	6.89 x 2.52 x 2.24

\*Available with transparent polycarbonate lid for quantities exceeding 500 pieces.

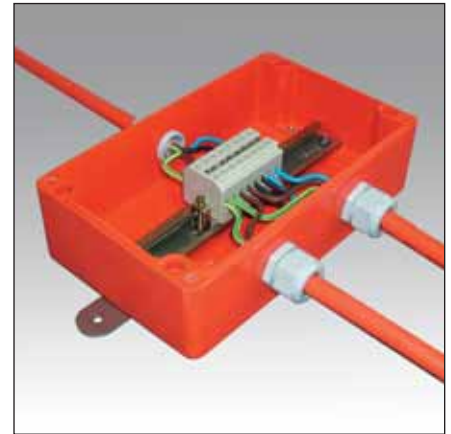
Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.



## E30 Fire Protection Enclosures



- Fire protection enclosures from special halogen-free fiberglass material
- Individually fitted with ceramic terminals and cable glands to customer specifications



### Included in delivery

Enclosure system with DIN rail and external brackets.  
Optional, approved terminals and cable glands

### Technical Data

Material	Glassfiber-reinforced polyester
Ingress Protection	IP 66, EN 60529
Seal/Temperature Stability	CR round seal -40° to +90°F
Test Certificate	DIN 4102 Part 12. General building test certification.
EMC	Optional EMC version

Part Number	Dimensions mm	Dimensions Inches	Ceramic Terminal Blocks	
	W x L x H	W x L x H	SAKK4	SAKK10
<b>E30121209 00</b>	120 x 120 x 90	4.72 x 4.72 x 3.54	7 pieces	4 pieces
<b>E30122209 00</b>	120 x 220 x 90	4.72 x 8.66 x 3.54	18 pieces	12 pieces
<b>E30161609 00</b>	160 x 160 x 90	6.30 x 6.30 x 3.54	11 pieces	8 pieces
<b>E30162609 00</b>	160 x 260 x 90	6.30 x 10.24 x 3.54	23 pieces	16 pieces
<b>E30252612 00</b>	250 x 260 x 120	9.84 x 10.24 x 4.72	2 x 23 pieces	2 x 16 pieces

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

### Accessories

#### Terminals

Part Number	Terminal	Description	Capacity
<b>E30000104 00</b>	SAKK4	ceramic terminal block	0.5 to 6 mm <sup>2</sup> (single strip) 0.5 to 4 mm <sup>2</sup> (multi strip)
<b>E30000116 00</b>	SAKK 10	ceramic terminal block	2.5 to 16mm <sup>2</sup> (single strip) 2.5 to 10mm <sup>2</sup> (multi strip)
<b>E30000191 00</b>	AP/SAKK4/10	lid	
<b>E30000192 00</b>	QL2/SAKK4	bridge, 2 pole to SAKK 4	
<b>E30000193 00</b>	QL3/SAKK4	bridge, 3 pole to SAKK 4	
<b>E30000194 00</b>	QL 4/SAKK4	bridge, 4 pole to SAKK 4	
<b>E30000196 00</b>	QL 2/SAKK10	bridge, 2 pole to SAKK 10	
<b>E30000197 00</b>	QL 3/SAKK10	bridge, 3 pole to SAKK 10	
<b>E30000198 00</b>	QL 4/SAKK10	bridge, 4 pole to SAKK 10	
<b>E30000201 00</b>	EW 1	end clamp TS 32	

#### Cable Glands

Part Number	Size	Range
<b>08080512 00</b>	M 12 x 1.5	range 3 - 7 mm
<b>08080516 00</b>	M 16 x 1.5	range 5 - 10 mm
<b>08080520 00</b>	M 20 x 1.5	range 8 - 13 mm
<b>08080525 00</b>	M 25 x 1.5	range 11 - 17 mm
<b>08080532 00</b>	M 32 x 1.5	range 15 - 21 mm
<b>08080540 00</b>	M 40 x 1.5	range 19 - 28 mm

## Polycarbonate Watertight EM/ABS Watertight ET



- Four new flat versions round off this innovative and successful IP 65 enclosure line.
- Made from either high-quality polycarbonate or cost-effective ABS, this enclosure line offers a wide range of benefits due to its easy-to-use screw-mounting system and additional mounting bosses in the base.
- Versions with a recessed membrane keypad area (F) and/or PCB plug-in-slots (LP/FLP) are ideal for use as electronic enclosures.
- This enclosure is especially easy to recycle because there are no molded-in metal parts, and in each case only one type of plastic is used.



### Included in delivery

Enclosure base with lid; self-tapping coarse thread lid screws made of V2A; max. screwing force 45 Ncm.

### Technical Data

Material	Polycarbonate	ABS
Ingress Protection	IP 65 DIN EN 60529	IP 65 DIN EN 60529
Color	Light gray, similar to RAL 7035. Special colors on request	Light gray, similar to RAL 7035. Special colors on request
Flammability	UL V2/1.14	UL 94 HB/1.6
Temperature Range	Neoprene Gasket -40°F to +212°F	Neoprene Gasket -40°F to +212°F
	Silicone Gasket -76°F to +266°F	Silicone Gasket -76°F to +266°F
	RFI Gasket -40°F to +392°F	RFI Gasket -40°F to +392°F
Surface Resistance	>10 <sup>15</sup> Ohm to DIN 53482	>10 <sup>14</sup> Ohm DIN 53482
Disruptive Strength	28 KV/mm DIN 53481	-

**Polycarbonate**

**ABS**

Model	Part Number	Dimensions		Dimensions		Model	Part Number	Dimensions		Dimensions	
		mm L x W x H		Inches L x W x H				mm L x W x H		Inches L x W x H	
EM 205	62205000 00	52 x 50 x 37	2.05 x 1.97 x 1.46	ET 205	63205000 00	52 x 50 x 37	2.05 x 1.97 x 1.46				
EM 250 F	62205200 00	52 x 50 x 37	2.05 x 1.97 x 1.46	ET 205 F	63205200 00	52 x 50 x 37	2.05 x 1.97 x 1.46				
EM 206	62206000 00	65 x 50 x 37	2.56 x 1.97 x 1.46	ET 206	63206000 00	65 x 50 x 37	2.56 x 1.97 x 1.46				
EM 206 F	62206200 00	65 x 50 x 37	2.56 x 1.97 x 1.46	ET 206 F	63206200 00	65 x 50 x 37	2.56 x 1.97 x 1.46				
EM 207 LP	62207300 00	82 x 60 x 57	3.23 x 2.36 x 2.24	ET 207 LP	63207300 00	82 x 60 x 57	3.23 x 2.36 x 2.24				
EM 207 F-LP	62207400 00	82 x 60 x 57	3.23 x 2.36 x 2.24	ET 207 F-LP	63207400 00	82 x 60 x 57	3.23 x 2.36 x 2.24				
EM 208	62208000 00	98 x 64 x 38	3.86 x 2.52 x 1.50	ET 208	63208000 00	98 x 64 x 38	3.86 x 2.52 x 1.50				
EM 208 F	62208200 00	98 x 64 x 38	3.86 x 2.52 x 1.50	ET 208 F	63208200 00	98 x 64 x 38	3.86 x 2.52 x 1.50				
EM 210	62210000 00	82 x 80 x 57	3.23 x 3.15 x 2.24	ET 210	63210000 00	82 x 80 x 57	3.23 x 3.15 x 2.24				
EM 210 F	62210200 00	82 x 80 x 57	3.23 x 3.15 x 2.24	ET 210 F	63210200 00	82 x 80 x 57	3.23 x 3.15 x 2.24				
EM 212	62212000 00	100 x 100 x 57	3.94 x 3.94 x 2.24	ET 212	63212000 00	100 x 100 x 57	3.94 x 3.94 x 2.24				
EM 212 F	62212200 00	100 x 100 x 57	3.94 x 3.94 x 2.24	ET 212 F	63212200 00	100 x 100 x 57	3.94 x 3.94 x 2.24				
EM 213*	62213000 00	122 x 120 x 37	4.80 x 4.72 x 1.46	ET 213	63213000 00	122 x 120 x 37	4.80 x 4.72 x 1.46				
EM 213 F*	62213200 00	122 x 120 x 37	4.80 x 4.72 x 1.46	ET 213 F	63213200 00	122 x 120 x 37	4.80 x 4.72 x 1.46				
EM 214 LP	62214300 00	200 x 120 x 57	7.87 x 4.72 x 2.24	ET 214 LP	63214300 00	200 x 120 x 57	7.87 x 4.72 x 2.24				
EM 214 F-LP	62214400 00	200 x 120 x 57	7.87 x 4.72 x 2.24	ET 214 F-LP	63214400 00	200 x 120 x 57	7.87 x 4.72 x 2.24				
EM 215	62215000 00	120 x 80 x 57	4.72 x 3.15 x 2.24	ET 215	63215000 00	120 x 80 x 57	4.72 x 3.15 x 2.24				
EM 215 F	62215200 00	120 x 80 x 57	4.72 x 3.15 x 2.24	ET 215 F	63215200 00	120 x 80 x 57	4.72 x 3.15 x 2.24				
EM 217	62217000 00	122 x 120 x 57	4.80 x 4.72 x 2.24	ET 217	63217000 00	122 x 120 x 57	4.80 x 4.72 x 2.24				
EM 217 F	62217200 00	122 x 120 x 57	4.80 x 4.72 x 2.24	ET 217 F	63217200 00	122 x 120 x 57	4.80 x 4.72 x 2.24				
EM 218 LP	62218300 00	150 x 150 x 57	5.90 x 5.90 x 2.24	ET 218 LP	63218300 00	150 x 150 x 57	5.90 x 5.90 x 2.24				
EM 218 F-LP	62218400 00	150 x 150 x 57	5.90 x 5.90 x 2.24	ET 218 F-LP	63218400 00	150 x 150 x 57	5.90 x 5.90 x 2.24				
EM 220	62220000 00	160 x 80 x 57	6.30 x 3.15 x 2.24	ET 220	63220000 00	160 x 80 x 57	6.30 x 3.15 x 2.24				
EM 220 F	62220200 00	160 x 80 x 57	6.30 x 3.15 x 2.24	ET 220 F	63220200 00	160 x 80 x 57	6.30 x 3.15 x 2.24				
EM 221	62221000 00	200 x 120 x 77	7.87 x 4.72 x 3.03	ET 221	63221000 00	200 x 120 x 77	7.87 x 4.72 x 3.03				
EM 221 F	62221200 00	200 x 120 x 77	7.87 x 4.72 x 3.03	ET 221 F	63221200 00	200 x 120 x 77	7.87 x 4.72 x 3.03				
EM 223	62223000 00	200 x 150 x 77	7.87 x 5.90 x 3.03	ET 223	63223000 00	200 x 150 x 77	7.87 x 5.90 x 3.03				
EM 223 F	62223200 00	200 x 150 x 77	7.87 x 5.90 x 3.03	ET 223 F	63223200 00	200 x 150 x 77	7.87 x 5.90 x 3.03				
EM 224 LP	62224300 00	240 x 80 x 60	9.45 x 3.15 x 2.36	ET 224 LP	63224300 00	240 x 80 x 60	9.45 x 3.15 x 2.36				
EM 224 F-LP	62224400 00	240 x 80 x 60	9.45 x 3.15 x 2.36	ET 224 F-LP	63224400 00	240 x 80 x 60	9.45 x 3.15 x 2.36				
EM 225	62225000 00	82 x 80 x 87	3.23 x 3.15 x 3.42	ET 225	63225000 00	82 x 80 x 87	3.23 x 3.15 x 3.42				
EM 225 F	62225200 00	82 x 80 x 87	3.23 x 3.15 x 3.42	ET 225 F	63225200 00	82 x 80 x 87	3.23 x 3.15 x 3.42				
EM 227	62227000 00	122 x 120 x 87	4.80 x 4.72 x 3.42	ET 227	63227000 00	122 x 120 x 87	4.80 x 4.72 x 3.42				
EM 227 F	62227200 00	122 x 120 x 87	4.80 x 4.72 x 3.42	ET 227 F	63227200 00	122 x 120 x 87	4.80 x 4.72 x 3.42				
EM 229*	62229000 00	160 x 80 x 37	6.30 x 3.15 x 1.46	ET 229	63229000 00	160 x 80 x 37	6.30 x 3.15 x 1.46				
EM 229 F*	62229200 00	160 x 80 x 37	6.30 x 3.15 x 1.46	ET 229 F	63229200 00	160 x 80 x 37	6.30 x 3.15 x 1.46				
EM 231	62231000 00	160 x 80 x 87	6.30 x 3.15 x 3.42	ET 231	63231000 00	160 x 80 x 87	6.30 x 3.15 x 3.42				
EM 231 F*	62231200 00	160 x 80 x 87	6.30 x 3.15 x 3.42	ET 231 F	63231200 00	160 x 80 x 87	6.30 x 3.15 x 3.42				
EM 232*	62232000 00	200 x 150 x 37	7.87 x 5.90 x 1.46	ET 232	63232000 00	200 x 150 x 37	7.87 x 5.90 x 1.46				
EM 232 F*	62232200 00	200 x 150 x 37	7.87 x 5.90 x 1.46	ET 232 F	63232200 00	200 x 150 x 37	7.87 x 5.90 x 1.46				
EM 233*	62233000 00	250 x 160 x 37	9.84 x 6.30 x 1.46	ET 233*	63233000 00	250 x 160 x 37	9.84 x 6.30 x 1.46				
EM 233 F*	62233200 00	250 x 160 x 37	9.84 x 6.30 x 1.46	ET 233 F	63233200 00	250 x 160 x 37	9.84 x 6.30 x 1.46				
EM 236 LP	62236300 00	240 x 80 x 80	9.45 x 3.15 x 3.15	ET 236 LP	63236300 00	240 x 80 x 80	9.45 x 3.15 x 3.15				
EM 236 F-LP	62236400 00	240 x 80 x 80	9.45 x 3.15 x 3.15	ET 236 F-LP	63236400 00	240 x 80 x 80	9.45 x 3.15 x 3.15				
EM 237	62237000 00	200 x 120 x 92	7.87 x 4.72 x 3.62	ET 237	63237000 00	200 x 120 x 92	7.87 x 4.72 x 3.62				
EM 237 F	62237200 00	200 x 120 x 92	7.87 x 4.72 x 3.62	ET 237 F	63237200 00	200 x 120 x 92	7.87 x 4.72 x 3.62				
EM 238	62238000 00	160 x 120 x 92	6.30 x 4.72 x 3.62	ET 238	63238000 00	160 x 120 x 92	6.30 x 4.72 x 3.62				
EM 238 F	62238200 00	160 x 120 x 92	6.30 x 4.72 x 3.62	ET 238 F	63238200 00	160 x 120 x 92	6.30 x 4.72 x 3.62				
EM 239	62239000 00	250 x 160 x 57	9.84 x 6.30 x 2.24	ET 239	63239000 00	250 x 160 x 57	9.84 x 6.30 x 2.24				
EM 239 F	62239200 00	250 x 160 x 57	9.84 x 6.30 x 2.24	ET 239 F	63239200 00	250 x 160 x 57	9.84 x 6.30 x 2.24				
EM 240	62240000 00	250 x 160 x 92	9.84 x 6.30 x 3.62	ET 240	63240000 00	250 x 160 x 92	9.84 x 6.30 x 3.62				
EM 240 F	62240200 00	250 x 160 x 92	9.84 x 6.30 x 3.62	ET 240 F	63240200 00	250 x 160 x 92	9.84 x 6.30 x 3.62				
EM 241	62241000 00	250 x 160 x 122	9.84 x 6.30 x 4.80	ET 241	63241000 00	250 x 160 x 122	9.84 x 6.30 x 4.80				
FM 241 F	62241200 00	250 x 160 x 122	9.84 x 6.30 x 4.80	ET 241 F	63241200 00	250 x 160 x 122	9.84 x 6.30 x 4.80				
EM 242	62242000 00	240 x 120 x 102	9.45 x 4.72 x 4.01	ET 242	63242000 00	240 x 120 x 102	9.45 x 4.72 x 4.01				
EM 242 F	62242200 00	240 x 120 x 102	9.45 x 4.72 x 4.01	ET 242 F	63242200 00	240 x 120 x 102	9.45 x 4.72 x 4.01				
FM 247 LP	62247300 00	300 x 160 x 120	11.81 x 6.30 x 4.72	ET 247 LP	63247300 00	300 x 160 x 120	11.81 x 6.30 x 4.72				
EM 247 F-LP	62247400 00	360 x 160 x 120	11.81 x 6.30 x 4.72	ET 247 F-LP	63247400 00	300 x 160 x 120	11.81 x 6.30 x 4.72				

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

\*An additional model with PCB slots EM/ET...LP is available on request.

F = with recessed area in upper section for flush-fitting of membrane keypads

LP/F=LP = with slots for PCBs

## Accessories

Model	Mounting Plate Part Number	Terminal Rail TS 15 Part Number	Terminal Rail TS 32 Part Number	Terminal Rail TS 35 Part Number	Screw Covers EM-SA Part Number	Rubber Feet EM-GF Part Number	Wall Bracket EM-WL Part Number
EM/ET 205	22000100 00	-	-	-	22080000 00	22009000 00	22010000 00
EM/ ET 250 F	22000100 00	-	-	-	22080000 00	22009000 00	22010000 00
EM / ET 206	22000200 00	22150501 00	-	-	22080000 00	22009000 00	22010000 00
EM/ET 206 F	22000200 00	22150501 00	-	-	22080000 00	22009000 00	22010000 00
EM/ET 207 LP	22207001 00*	22150701 00	-	-	22080000 00	22009000 00	22010000 00
EM/ET 207 F-LP	22207001 00*	22150701 00	-	-	22080000 00	22009000 00	22010000 00
EM/ET 208	-	22150701 00	22320701 00	22350701 00	22080000 00	22009000 00	22010000 00
EM/ET 208 F	-	22150701 00	22320701 00	22350701 00	22080000 00	22009000 00	22010000 00
EM/ET 210	22000300 00	22150701 00	22320701 00	22350701 00	22080000 00	22009000 00	22010000 00
EM/ET 210 F	22000300 00	22150701 00	22320701 00	22350701 00	22080000 00	22009000 00	22010000 00
EM/ET 212	22212000 00*	22150901 00	22320901 00	22350901 00	22080000 00	22009000 00	22010000 00
EM/ET 212 F	22212000 00*	22150901 00	22320901 00	22350901 00	22080000 00	22009000 00	22010000 00
EM/ET 213	-	22151101 00	22321101 00	22351101 00	22080000 00	22009000 00	22010000 00
EM/ET 213 F	-	22151101 00	22321101 00	22351101 00	22080000 00	22009000 00	22010000 00
EM/ET 214 LP	22214001 00*	22151901 00	22321901 00	22351901 00	22080000 00	22009000 00	22010000 00
EM/ET 214 F-LP	22214001 00*	22151901 00	22321901 00	22351901 00	22080000 00	22009000 00	22010000 00
EM/ET 215	22000400 00	22151101 00	22321101 00	22351101 00	22080000 00	22009000 00	22010000 00
EM/ET 215 F	22000400 00	22151101 00	22321101 00	22351101 00	22080000 00	22009000 00	22010000 00
EM/ET 217	22000500 00	22151101 00	22321101 00	22351101 00	22080000 00	22009000 00	22010000 00
EM/ET 217 F	22000500 00	22151101 00	22321101 00	22351101 00	22080000 00	22009000 00	22010000 00
EM/ET 218 LP	22218001 00*	22151401 00	22321401 00	22351401 00	22080000 00	22009000 00	22010000 00
EM/ET 218 F-LP	22218001 00*	22151401 00	22321401 00	22351401 00	22080000 00	22009000 00	22010000 00
EM/ET 220	22000600 00	22151501 00	22321501 00	22351501 00	22080000 00	22009000 00	22010000 00
EM/ET 220 F	22000600 00	22151501 00	22321501 00	22351501 00	22080000 00	22009000 00	22010000 00
EM/ET 221	22000700 00	22151901 00	22321901 00	22351901 00	22080000 00	22009000 00	22010000 00
EM/ET 221 F	22000700 00	22151901 00	22321901 00	22351901 00	22080000 00	22009000 00	22010000 00
EM/ET 223	22000800 00	22151901 00	22321901 00	22351901 00	22080000 00	22009000 00	22010000 00
EM/ET 223 F	22000800 00	22151901 00	22321901 00	22351901 00	22080000 00	22009000 00	22010000 00
EM/ET 224 LP	22224001 00*	22152301 00	22322301 00	22352301 00	22080000 00	22009000 00	22010000 00
EM/ET 224 F-LP	22224001 00*	22152301 00	22322301 00	22352301 00	22080000 00	22009000 00	22010000 00
EM/ET 225	22000300 00	22150701 00	22320701 00	22350701 00	22080000 00	22009000 00	22010000 00
EM/ET 225 F	22000300 00	22150701 00	22320701 00	22350701 00	22080000 00	22009000 00	22010000 00
EM/ET 227	22000500 00	22151101 00	22321101 00	22351101 00	22080000 00	22009000 00	22010000 00
EM/ET 227 F	22000500 00	22151101 00	22321101 00	22351101 00	22080000 00	22009000 00	22010000 00
EM/ET 229	-	22151501 00	22321501 00	22351501 00	22080000 00	22009000 00	22010000 00
EM/ET 229 F	-	22151501 00	22321501 00	22351501 00	22080000 00	22009000 00	22010000 00
EM/ET 231	22000600 00	22151501 00	22321501 00	22351501 00	22080000 00	22009000 00	22010000 00
EM/ET 231 F	22000600 00	22151501 00	22321501 00	22351501 00	22080000 00	22009000 00	22010000 00
EM/ET 232	-	22151901 00	22321901 00	22351901 00	22080000 00	22009000 00	22010000 00
EM/ET 232 F	-	22151901 00	22321901 00	22351901 00	22080000 00	22009000 00	22010000 00
EM/ET 233	-	22152301 00	22322301 00	22352301 00	22080000 00	22009000 00	22010000 00
EM/ET 233 F	-	22152301 00	22322301 00	22352301 00	22080000 00	22009000 00	22010000 00
EM/ET 236 LP	22224001 00	22152301 00	22322301 00	22352301 00	22080000 00	22009000 00	22010000 00
EM/ET 236 F-LP	22224001 00	22152301 00	22322301 00	22352301 00	22080000 00	22009000 00	22010000 00
EM/ET 237	22000700 00	22151901 00	22321901 00	22351901 00	22080000 00	22009000 00	22010000 00
EM/ET 237 F	22000700 00	22151901 00	22321901 00	22351901 00	22080000 00	22009000 00	22010000 00
EM/ET 238	22001100 00	22151501 00	22321501 00	22351501 00	22080000 00	22009000 00	22010000 00
EM/ET 238 F	22001100 00	22151501 00	22321501 00	22351501 00	22080000 00	22009000 00	22010000 00
EM/ET 239	22000900 00	22152301 00	22322301 00	22352301 00	22080000 00	22009000 00	22010000 00
EM/ET 239 F	22000900 00	22152301 00	22322301 00	22352301 00	22080000 00	22009000 00	22010000 00
EM/ET 240	22000900 00	22152301 00	22322301 00	22352301 00	22080000 00	22009000 00	22010000 00
EM/ET 240 F	22000900 00	22152301 00	22322301 00	22352301 00	22080000 00	22009000 00	22010000 00
EM/ET 241	22000900 00	22152301 00	22322301 00	22352301 00	22080000 00	22009000 00	22010000 00
EM/ET 241 F	22000900 00	22152301 00	22322301 00	22352301 00	22080000 00	22009000 00	22010000 00
EM/ET 242	22001200 00	22152301 00	22322301 00	22352301 00	22080000 00	22009000 00	22010000 00
EM/ET 242 F	22001200 00	22152301 00	22322301 00	22352301 00	22080000 00	22009000 00	22010000 00
EM/ET 247 LP	22247001 00*	22152901 00	22322901 00	22352901 00	22080000 00	22009000 00	22010000 00
EM/ET 247 F-LP	22247001 00*	22152901 00	22322901 00	22352901 00	22080000 00	22009000 00	22010000 00

\*Can also be fitted in lids

# Fiberglass 3040/4060 Cabinets



- Enclosure system with hidden external hinge
- Standard version or with window
- Version with handle



## Included in delivery

Enclosure consisting of lower section and door; **please order door lock separately**, press-in inserts in base for internal and external fitting.

## Technical Data

Material	Glassfiber-reinforced, duroplastic Polyester
Ingress Protection	IP 66 to EN 60529
Door Opening Angle	135°
Temperature Range	-40°F to +212°F window version -40°F to +176°F
Impact Resistance	>7 Nm, EN 50014
Surface Resistance	>10 <sup>12</sup> Ohm, DIN 53482
Disruptive Strength	18 kV/mm, VDE 0303 / DIN 53481
Insulation	fully insulated, VDE 0100
Flammability	UL 94 V0, self-extinguishing
Water Absorption	max. 0.6%
Toxicity	halogen free
Color	Agate gray, similar to RAL 7038. Special colors on request.

Polyglass/Polycase	Dimensions	Dimensions	Part Number Polyglas	Part Number Polyglas with Window	Part Number with Carrying Handle	Part Number with Window and Carrying Handle
	mm W x L x H	Inches W x L x H				
Size 1	300 x 400 x 200	11.81 x 15.75 x 7.87	21304000 00	22304000 00	23304000 00	24304000 00
Size 2	400 x 600 x 250	15.75 x 23.62 x 9.84	21406000 00	22406000 00	23406000 00	24406000 00

**Note: Standard delivery enclosure without lock, please order separately.**

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

Optional lock types (loose)	Part Number
Square lock 8 mm (2 pieces)	21610004 00
Square lock 7 mm (2 pieces)	21610014 00
Double ward lock 3 mm (2 pieces)	21610007 00
Knob (2 pieces)	21610001 00
Knob, to lock with keys (2 pieces)	21610002 00

Accessories	Part Number
Mounting plate for size 1 (galvanized sheet steel)	10011203 00
Mounting plate for size 2 (galvanized sheet steel)	10011204 00
External brackets (4 pieces)	10031009 00
Hole covers for mounting through the cabinet base (4 pieces)	10039001 00
Key, triangular 8 mm	10047003 00
Key, square 8mm	10047004 00
Key, square 7mm	10047014 00
Key double ward 3 mm	10047007 00

## GFK Fiberglass/ABS Mini Cabinets



- Enclosure system with hinged lid
- Standard version or with window panel or transparent door (ABS)



### Included in delivery

Enclosure consisting of base and door; **please order door lock and keys separately**, press-in inserts in base for internal and external fitting. Door locks and keys sold separately.

### Technical Data

Material	Glassfiber-reinforced, duroplastic Polyester	ABS
Ingress Protection	IP 65 to EN 60529	IP 65 to EN 60529
Door Opening Angle	135°	135°
Temperature Range	-67°F to +194°F window version -67°F to +176°F	-40°F to +158°F
Impact Resistance	>7 Nm, EN 50014	>7 Nm, EN 50014
Surface Resistance	>10 <sup>12</sup> Ohm, DIN 53482	>10 <sup>12</sup> Ohm VDE 0303 / DIN 53482
Disruptive Strength	18 kV/mm, VDE 0303 / DIN 53481	18 kV/mm, VDE 0303 / DIN 53481
Insulation	fully insulated, VDE 0100	fully insulated, VDE 0100
Flammability	UL 94 V0, self-extinguishing	UL 94 HB
Water Absorption	max. 0.2% DIN 53495 / ISO R 62	max. 0.2% DIN 53495 / ISO R62
Toxicity	halogen free	halogen free
Color	Agate gray, similar to RAL 7038. Special colors on request.	Light gray, similar to RAL 7035. Special colors on request.

Polyglass/Polycase	Dimensions mm W x L x H	Dimensions Inches W x L x H	Part Number ABS	Part Number ABS with Transparent Door	Part Number GFK	Part Number GFK with Window
Size 1	200 x 250 x 150	7.87 x 9.84 x 5.90	21202590 00	22202590 00	-	-
Size 2	250 x 300 x 170	9.84 x 11.81 x 6.69	21253090 00	22253090 00	-	-
Size 1	199 x 248.5 x 149	7.83 x 9.78 x 5.87	-	-	21202500 00	22202500 00
Size 2	248.5 x 298.0 x 166	9.78 x 11.73 x 6.53	-	-	21253000 00	22253000 00

Note: Standard delivery enclosure without lock, please order separately.

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

Locking screws optional (loose)	Part Number
Triangular lock 8 mm (1 piece)	21620003 00
Square lock 8 mm (1 piece)	21620004 00
Door handle	21620001 00
Locking door handle with key	21620002 00

Accessories	Part Number
Mounting plate for size 1 (2025) galvanized steel	10089040 00
Mounting plate for size 2 (2035) galvanized steel	10089041 00
Internal aluminum front panel with stud bolts for size 1 (2025)	10095320 00
Internal aluminum front panel with stud bolts for size 2 (2035)	10095321 00
Wall mount brackets (4 pieces)	10052010 00
Triangular metal key	10094325 00
Square metal key	10094326 00
Mounting plate screws with washers (set of 4)	10051059 00



## Fiberglass Mini Cabinets



- Mini enclosure system with hidden external hinge for MCR technology
- Standard version or with window panel

### Included in delivery

Enclosure consisting of base and door; **please order door locks and keys separately**, press-in inserts in the base for internal fitting.



UL 508

### Technical Data

Material	Glassfiber-reinforced, duroplastic Polyester
Ingress Protection	IP 66 to EN 60529
Door Opening Angle	120°
Temperature Range	-40°F to +212°F window version -40°F to +176°F
Impact Resistance	>7 Nm, EN 50014
Surface Resistance	>10 <sup>12</sup> Ohm, DIN 53482
Disruptive Strength	18 kV/mm, VDE 0303 / DIN 53481
Insulation	fully insulated, VDE 0100
Flammability	UL 94 V0, self-extinguishing
Water Absorption	max. 0.6%
Toxicity	halogen free
Color	Agate gray, similar to RAL 7038. Special colors on request.

Polyglass/Polycase	Dimensions	Dimensions	Part Number Mini-Polyglas	Part Number Mini-Polyglas with window	Part Number Mounting Plate
	mm W x L x H	Inches W x L x H			
Size 1	120 x 200 x 100	4.72 x 7.87 x 3.94	21122000 00	22122000 00	10011207 00
Size 2	160 x 260 x 100	6.30 x 10.24 x 3.94	21162600 00	22162600 00	10011208 00
Size 3	160 x 340 x 100	6.30 x 13.38 x 3.94	21163400 00	22163400 00	10011209 00
Size 4	200 x 150 x 100	7.87 x 5.90 x 3.94	21201500 00	22201500 00	10011210 00
Size 5	200 x 200 x 170	7.87 x 7.87 x 6.69	21202000 00	22202000 00	10011201 00
Size 6	200 x 300 x 170	7.87 x 11.81 x 6.69	21203000 00	22203000 00	10011202 00

Note: Standard delivery enclosure without locking screws, please order separately.

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

Accessories	Part Number
Philips lock (set of 2 with key)	10093312 00
Triangular lock (set of 2). Key must be order separately	10093313 00
Square lock (set of 2). Key must be order separately	10093314 00
Extra Philips lock key	10094320 00
Triangular metal key	10094325 00
Square metal key	10094326 00
Internal galvanized steel mounting plate for 2020	10089202 00
Internal galvanized steel mounting plate for 1220	10011207 00
Internal galvanized steel mounting plate for 1626	10011208 00
Internal galvanized steel mounting plate for 1634	10011209 00
Internal galvanized steel mounting plate for 2015	10011210 00
Internal galvanized steel mounting plate for 2030	10089204 00
Wall mount brackets for 2020 & 2030 (set of 4)	10052008 00
Wall mount brackets for 1220, 1626, 1634 and 2015 (set of 4)	10031008 00
Mounting plate screws and washers (set of 4)	10051051 00

## Element



- Components can be mounted quickly and easily through side-opening of the base.
- Easy access to electronic components for servicing
- Enclosure with air vents E...L available to ensure optimal heat dissipation

### Included in delivery

Lid and base, 4 mounting screws, (E 434 S without screws-with molded-on snap lock). E 430 A: includes aluminum panel in lid.



## Technical Data

Color	Upper section, light gray, similar to RAL 7035. Lower section, graphite gray, similar to RAL 7024
Material	Polystyrene
Ingress Protection	IP 40, DIN EN 60529 Dustight. With air vents: IP 30 DIN EN 60529
Flammability	UL 94 HB/1.47
Surface Resistance	>10 <sup>13</sup> Ohm to DIN 53482

Model Number	Part Number	Dimensions		Model Number	Part Number	Dimensions	
		mm L x W x H	Inches L x W x H			mm L x W x H	Inches L x W x H
E 406	05406000 00	65 x 50 x 30	2.56 x 1.97 x 1.18	E 434 S	05434000 00	188 x 110 x 40	7.40 x 4.33 x 1.57
E 406 F	05406700 00	65 x 50 x 31	2.56 x 1.97 x 1.22	E 435	05435000 00	120 x 65 x 65	4.72 x 2.56 x 2.56
E 406 VL	05406900 00	65 x 50 x 30	2.56 x 1.97 x 1.18	E 440	05440002 00	150 x 80 x 55	5.90 x 3.15 x 2.16
E 408	05408000 00	65 x 50 x 45	2.56 x 1.97 x 1.77	E 440 F	05440700 00	150 x 80 x 56	5.90 x 3.15 x 2.20
E 410	05410002 00	100 x 50 x 25	3.94 x 1.97 x 0.98	E 440 FVL	05440800 00	150 x 80 x 56	5.90 x 3.15 x 2.20
E 410 F	05410700 00	100 x 50 x 26	3.94 x 1.97 x 1.02	E 440 VL	05440200 00	150 x 80 x 55	5.90 x 3.15 x 2.16
E 410 FVL	05410800 00	100 x 50 x 26	3.94 x 1.97 x 1.02	E 445	05445000 00	150 x 80 x 80	7.40 x 4.33 x 3.15
E 420	05420002 00	100 x 50 x 40	3.94 x 1.97 x 1.57	E 450	05450002 00	188 x 110 x 70	7.40 x 4.33 x 2.75
E 420 F	05420700 00	100 x 50 x 41	3.94 x 1.97 x 1.61	E 450 F	05450700 00	188 x 110 x 71	7.40 x 4.33 x 2.79
E 420 FVL	05420800 00	100 x 50 x 41	3.94 x 1.97 x 1.61	E 450 FVL	05450800 00	188 x 110 x 71	7.40 x 4.33 x 2.75
E 430	05430002 00	120 x 65 x 40	4.72 x 2.56 x 1.57	E 450 VL	05450200 00	188 x 110 x 70	7.40 x 4.33 x 2.75
E 430 A	05430500 00	120 x 65 x 40	4.72 x 2.56 x 1.57	E 460	05460000 00	188 x 110 x 100	7.40 x 4.33 x 3.94
E 430 F	05430700 00	120 x 65 x 41	4.72 x 2.56 x 1.61	E 470	05470000 00	188 x 100 x 120	7.40 x 4.33 x 4.72
E 430 FVL	05430800 00	120 x 65 x 41	4.72 x 2.56 x 1.61				

F = Recessed for membrane keypad

VL = Ventilation slots

FVL = With membrane area for membrane keypads or front membranes and with vertically molded-in air vents

A = Recessed aluminum top plate

S = Snap fitting lid

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

### Accessories

Part Number	Description
SMP 1230 G	Mounting boss screws. Self-tapping
TF 1230	Rubber table feet (set of 4)
MP430E	Mounting plate for E430, E435
DO430E	Lid access screws for E430 (set of 4)
DO435E	Lid access screws for E435 (set of 4)
HS440E	Carry handle for E440
MP440E	Mounting plate for E440, E445
DO440E	Lid access screws for E440 (set of 4)
DO445E	Lid access screws for E445E
HS450E	Carry handle for E450
MP450E	Mounting plate for E450, 460, 470
DO450E	Lid access screws for E450 (set of 4)
DO460E	Lid access screws for E460 (set of 4)
DO470E	Lid access screws for E470 (set of 4)

# Executive Enclosures



- Provides optimal protection for your electronic products
- Versions available with or without ventilation
- Design covers and front panels made of aluminum or plastic also available

### Included in delivery

Lid and base, screws and cover or front panel depending on model.



## Technical Data

Color	Upper section, light gray, similar to RAL 7035. Lower section, agate gray, similar to RAL 7038.
Material	Impact resistant polystyrene
Ingress Protection	IP 40 DIN EN 60529, dusttight
Flammability	UL 94 HB/1.47
Surface Resistance	>10 <sup>13</sup> Ohm to DIN 53482

Model Number	Part Number	Dimensions		Model Number	Part Number	Dimensions		Model Number	Part Number	Dimensions	
		mm	Inches			mm	Inches			mm	Inches
		L x W x H	L x W x H			L x W x H	L x W x H			L x W x H	L x W x H
EG 1030	32103000 00	100 x 54 x 30	3.94 x 2.12 x 1.18	EG 1530	32153002 00	150 x 82 x 30	5.90 x 3.23 x 1.18	EG 2030	32203002 00	200 x 112 x 30	7.87 x 4.41 x 1.18
EG 1030 L	32103010 00	100 x 54 x 30	3.94 x 2.12 x 1.18	EG 1530 L	32153012 00	150 x 82 x 30	5.90 x 3.23 x 1.18	EG 2030 L	32203012 00	200 x 112 x 30	7.87 x 4.41 x 1.18
EG 1040	32104000 00	100 x 54 x 40	3.94 x 2.12 x 1.54	EG 1530 B*	32153032 00	150 x 82 x 30	5.90 x 3.13 x 1.18	EG 2030 B*	32203032 00	200 x 112 x 30	7.87 x 4.41 x 1.18
EG 1040 L	32104010 00	100 x 54 x 40	3.94 x 2.12 x 1.54	EG 1530 L-BL*	32153022 00	150 x 82 x 30	5.90 x 3.13 x 1.18	EG 2030 L-BL*	32203022 00	200 x 112 x 30	7.87 x 4.41 x 1.18
EG 1230	32123002 00	125 x 67 x 30	4.92 x 2.64 x 1.18	EG 1530 F	32153062 00	150 x 82 x 31	5.90 x 3.23 x 1.22	EG 2030 F	32203062 00	200 x 112 x 31	7.87 x 4.41 x 1.22
EG-AL 1230	32123090 00	129 x 71 x 30	5.08 x 2.79 x 1.18	EG 1530 FL*	32153067 00	150 x 82 x 31	5.90 x 3.23 x 1.22	EG 2030 FL*	32203067 00	200 x 112 x 31	7.87 x 4.41 x 1.22
EG 1230 L	32123012 00	125 x 67 x 30	4.92 x 2.67 x 1.18	EG 1545	32154502 00	150 x 82 x 45	5.90 x 3.23 x 1.77	EG 2050	32205002 00	200 x 112 x 50	7.87 x 4.41 x 1.97
EG 1230 B*	32123032 00	125 x 67 x 30	4.92 x 2.64 x 1.18	EG 1545 L	32154512 00	150 x 82 x 45	5.90 x 3.23 x 1.77	EG 2050 L	32205012 00	200 x 112 x 50	7.87 x 4.41 x 1.97
EG 1230 L-BL*	32123022 00	125 x 67 x 30	4.92 x 2.64 x 1.18	EG 1545 B*	32154532 00	150 x 82 x 45	5.90 x 3.23 x 1.77	EG 2050 B*	32205032 00	200 x 112 x 50	7.87 x 4.41 x 1.97
EG 1230 F	32123062 00	125 x 67 x 31	4.92 x 2.64 x 1.22	EG 1545 L-BL*	32154522 00	150 x 82 x 45	5.90 x 3.23 x 1.77	EG 2050 L-BL*	32205022 00	200 x 112 x 50	7.87 x 4.41 x 1.97
EG 1230 FL*	32123067 00	125 x 67 x 31	4.92 x 2.64 x 1.22	EG 1545 FK	32154542 00	150 x 82 x 45	5.90 x 3.23 x 1.77	EG 2050 FK	32205042 00	200 x 112 x 50	7.87 x 4.41 x 1.97
EG 1240	32124002 00	125 x 67 x 40	4.92 x 2.64 x 1.57	EG 1545 L-BL-FK*	32154557 00	150 x 82 x 45	5.90 x 3.23 x 1.77	EG 2050 L-BL-FK*	32205055 00	200 x 112 x 50	7.87 x 4.41 x 1.97
EG-AL 1240	32124090 00	129 x 71 x 40	5.08 x 2.79 x 1.57	EG 1545 B-FK*	32154552 00	150 x 82 x 45	5.90 x 3.23 x 1.77	EG 2050 B-FK*	32205052 00	200 x 112 x 50	7.87 x 4.41 x 1.97
EG 1240 L	32124012 00	125 x 67 x 40	4.92 x 2.64 x 1.57	EG 1545 F	32154563 00	150 x 82 x 46	5.90 x 3.23 x 1.81	EG 2050 F	32205062 00	200 x 112 x 51	7.87 x 4.41 x 2.01
EG 1240 B*	32124032 00	125 x 67 x 40	4.92 x 2.64 x 1.57	EG 1545 FL*	32154567 00	150 x 82 x 46	5.90 x 3.23 x 1.81	EG 2050 FL*	32205067 00	200 x 112 x 51	7.87 x 4.41 x 2.01
EG 1240 L-BL*	32124022 00	125 x 67 x 40	4.92 x 2.64 x 1.57	EG 1560	32156002 00	150 x 82 x 60	5.90 x 3.23 x 2.36	EG 2070	32207002 00	200 x 112 x 70	7.87 x 4.41 x 2.75
EG 1240 FK	32124042 00	125 x 67 x 40	4.92 x 2.64 x 1.57	EG 1560 L	32156012 00	150 x 82 x 60	5.90 x 3.23 x 2.36	EG 2070 L	32207012 00	200 x 112 x 70	7.87 x 4.41 x 2.75
EG 1240 F-BL-FK*	32124057 00	125 x 67 x 40	4.92 x 2.64 x 1.57	EG 1560 B*	32156032 00	150 x 82 x 60	5.90 x 3.23 x 2.36	EG 2070 B*	32207032 00	200 x 112 x 70	7.87 x 4.41 x 2.75
EG 1240 B-FK*	32124052 00	125 x 67 x 40	4.92 x 2.64 x 1.57	EG 1560 L-BL*	32156022 00	150 x 82 x 60	5.90 x 3.23 x 2.36	EG 2070 L-BL*	32207022 00	200 x 112 x 70	7.87 x 4.41 x 2.75
EG 1240 F	32124062 00	125 x 67 x 40	4.92 x 2.64 x 1.61	EG 1560 FK	32156042 00	150 x 82 x 60	5.90 x 3.23 x 2.36	EG 2070 FK	32207042 00	200 x 112 x 70	7.87 x 4.41 x 2.75
EG 1240 L*	32124067 00	125 x 67 x 41	4.92 x 2.64 x 1.61	EG 1560 L-BL-FK*	32156057 00	150 x 82 x 60	5.90 x 3.23 x 2.36	EG 2070 L-BL-FK*	32207057 00	200 x 112 x 70	7.87 x 4.41 x 2.75
EG 1250	32125002 00	125 x 67 x 50	4.92 x 2.64 x 1.97	EG 1560 B-FK*	32156052 00	150 x 82 x 60	5.90 x 3.23 x 2.36	EG 2070 B-FK*	32207052 00	200 x 112 x 70	7.87 x 4.41 x 2.75
EG-AL 1250	32125090 00	129 x 71 x 50	5.08 x 2.79 x 1.97	EG 1560 F	32156062 00	150 x 82 x 61	5.90 x 3.23 x 2.40	EG 2070 F	32207062 00	200 x 112 x 71	7.87 x 4.41 x 2.79
EG 1250 L	32125012 00	125 x 67 x 50	4.92 x 2.64 x 1.97	EG 1560 FL*	32156067 00	150 x 82 x 61	5.90 x 3.23 x 2.40	EG 2070 FL*	32207067 00	200 x 112 x 71	7.87 x 4.41 x 2.79
EG 1250 B*	32125032 00	125 x 67 x 50	4.92 x 2.64 x 1.97								
EG 1250 L-BL*	32125022 00	125 x 67 x 50	4.92 x 2.64 x 1.97								
EG 1250 FK	32125042 00	125 x 67 x 50	4.92 x 2.64 x 1.97								
EG 1250 L-BL-FK*	32125057 00	125 x 67 x 50	4.92 x 2.64 x 1.97								
EG 1250 B-FK*	32125052 00	125 x 67 x 50	4.92 x 2.64 x 1.97								
EG 1250 F	32125062 00	125 x 67 x 51	4.92 x 2.64 x 2.01								
EG 1250 FL*	32125067 00	125 x 67 x 51	4.92 x 2.64 x 2.01								

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

- \*Available on request
- L = Enclosure with air vents
- B = Cover panel closed
- BL = Cover panel with air vents
- F = Membrane keypad ared
- FK = Plastic front panel
- FKL = Plastic front panel with integrated ventilation
- DOB = Front access lid screws (factory installation recommended)

### Accessories

Model Number	Description
WL 1230 EG	Wall mounting brackets (set of 4)
SA 1230 EG	Base screw covers (set of 4)
AK 1230 EG	Keyhole knockout covers (set of 4)
MP 10 EG	Mounting plate for EG 1030-1040
MP 12 EG	Mounting plate for EG 1230-1250
S 1230 EG	4 assembly screws
MP 15 EG	Mounting plate for EG 1530-1560
MP 20 EG	Mounting plate for EG 2030-2070

## Futura Sloped Housings



- Enclosures designed for keypads with a ergonomic sloped front
- Designs in which half-shells are assembled either as a console type or with the top shell inverted as a parallel design.

### Included in delivery

Lid, base, assembly screws, and 4 rubber feet  
RO Version with aluminum front panel



### Technical Data

Color	Light gray, similar to RAL 7035. T 900, black, similar to RAL 9005. Special colors or request. 500 piece minimum order required.
Material	ABS plastic
Ingress Protection	IP 40 DIN EN 60529
Surface Resistance	>10 <sup>14</sup> Ohm to DIN 53482
Flammability	UL 94 HB/1.6

Model Number	Part Number	External Dimensions		External Dimensions		External Dimensions		Design Console	Design Parallel
		mm L x W	Inches L x W	mm Height Console	Inches Height Console	mm Height Parallel	Inches Height Parallel		
T 888 F	47888200 00	195 x 275	7.68 x 10.83	24.5 / 48.0	0.96 / 1.90	36.3	1.43		
T 889 F	47889200 00	170 x 132	6.69 x 5.20	24.5 / 44.9	0.96 / 1.77	36.3	1.43		
T 898	47898000 00	195 x 151	7.68 x 5.94	24.5 / 44.9	0.86 / 1.77	36.3	1.43		
T 898 F	47898200 00	195 x 151	7.68 x 5.94	24.5 / 44.9	0.96 / 1.77	36.3	1.43		
T 898 RO	47898100 00	195 x 151	7.68 x 5.94	24.5 / 44.9	0.96 / 1.77				
T 898 F-RO	47898300 00	195 x 151	7.68 x 5.94	24.5 / 44.9	0.96 / 1.44				
T 899	47899001 00	125 x 150	7.68 x 5.94	15.0 / 30.7	0.59 / 1.21	22.8	0.90		
T 890	47890001 00	300 x 225	4.92 x 5.91	17.0 / 48.7	0.67 / 1.92				
T 893	47893001 00	500 x 225	19.68 x 8.86	17.0 / 48.7	0.67 / 1.92				
T 895 P	47895101 00	480 x 330	19.00 x 8.86	89.3	3.51				
T 900	4790000 00	280 x 240	11.02 x 9.45	33.0	1.30				

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

F = Console with continuous area

RO = Console with rear wall open, split key area

F-RO = Console with rear wall open, continuous key area

P = Console with molded-on section for digital display

## BP 810 & BP 900 F Housings



### BP 810

- Can be used as a console or handheld unit.
- Elegant ergonomic design, large membrane keypad area, single PC board technology, clamp between lid and base, large front panel area, recessed installation area for cable glands.
- Front panels can be processed separately without any problems and provides adequate space for a wide range of connector designs.

#### Included in delivery

Lid, base, assembly screws, front panel, and rubber feet.



### Technical Data

Color	Light gray, similar to RAL 7035. Special colors on request. Minimum order quantities apply.
Material	ABS plastic
Ingress Protection	IP 40/DIN EN 60529
Surface Resistance	>10 <sup>14</sup> Ohm to DIN 53482
Flammability	UL 94 HB/1.6

Model Number	Part Number	Dimensions	Dimensions
		mm	Inches
		L x D x H	L x D x H
BP 810	45810000 00	176 x 106 x 54/24	6.93 x 4.17 x 2.13/0.94

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

### BP 900-F

- Ideal for use as a charging operation terminal
- Base can be attached parallel to STD 900
- Enclosure ideally suited for use under extreme environmental conditions
- Have three different uses: flat position on a table, angled position on a table, or wall mounted.

#### Included in delivery

Lid, base, assembly screws, lid seal in groove (in horizontal position), and 2 cover panels



Left - BP 900 F

### Technical Data

Color	Agate gray, similar to RAL 7038. Special colors on request. Minimum order quantities apply.
Material	ABS plastic
Ingress Protection	IP 65/DIN EN 60529
Surface Resistance	>10 <sup>14</sup> Ohm to DIN 53482
Flammability	UL 94 HB/1.6

Model Number	Part Number	Dimensions	Dimensions
		mm	Inches
		L x D x H	L x D x H
BP 900 F	45900600 00	211 x 100 x 118	8.31 x 3.94 x 1.65

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

## Mini Console Housings



- Two basic sizes, each with opened or closed console surface and open rear section that will accept a 2mm thick slide-in panel
- Console can be easily adapted to meet your requirements by using aluminum front panels.
- Internal mounting bosses in base for self-tapping screws

### Included in delivery

Lid, base, 4 screw covers, 4 rubber feet, and 4 assembly screws  
(front panels not included)

### Technical Data

Color	Light gray, similar to RAL 7035. Screws, covers and wall brackets, agate gray, similar to RAL 7038. Special colors on request. Minimum order quantities apply.
Material	ABS plastic
Ingress Protection	IP 40/DIN EN 60529
Surface Resistance	>10 <sup>14</sup> Ohm to DIN 53482
Flammability	UL 94 HB/1.6

Model Number	Part Number	Dimensions	Dimensions
		mm	Inches
		W x D x H rear	W x D x H rear
UM 32014	45320140 00	157 x 199 x 100	6.18 x 7.83 x 3.94
UMP 32014 FP	45320145 00	157 x 199 x 100	6.18 x 7.83 x 3.94
UMP 32018	45320180 00	157 x 199 x 120	6.18 x 7.83 x 4.72
UMP 32018 FP	45320185 00	157 x 199 x 120	6.18 x 7.83 x 4.72
UMP 62014	45620140 00	291 x 199 x 100	11.46 x 7.83 x 3.94
UMP 62014 FP	45620145 00	291 x 199 x 100	11.46 x 7.83 x 3.94
UMP 62018	45620180 00	291 x 199 x 120	11.46 x 7.83 x 4.72
UMP 62018 FP	45620185 00	291 x 199 x 120	11.46 x 7.83 x 4.72

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

### Accessories

Model Number	Part Number	Description
FP 30014	56031400 00	Rear panel, aluminum for UMP 32014 / UMP 32014 FP
FPK 30014	56031410 00	Rear panel, plastic for UMP 32014 / UMP 32014 FP
FPP 32000	29320180 00	Aluminum front panel for console areas
UM 1230 WLN	56002100 00	Wall brackets for UMP 32014 and UMP 32016
FP 60014	56061400 00	Rear panel aluminum for UMP 62014 / UMP 62014 FP
FPK 60014	56061410 00	Rear panel plastic for UMP 62014 / UMP 62014 FP
FPP 62000	29620180 00	Aluminum front panel for UMP 62014 / UMP 62014FP, UMP 32018 / UMP 32018 FP
FP 30018	56031800 00	Rear panel aluminum for UMP 32018 / UMP 32018 FP
FPK 30018	56031810 00	Rear panel plastic for UMP 32018 / UMP 32018 FP
UM 1230 WLH	56002000 00	Wall brackets for UMP 32018 and UMP 62018
FP 60018	56061800 00	Rear panel, aluminum for UMP 32018 / UMP 32018 FP
FPK 60018	56061810 00	Rear panel, plastic for UMP 32018 / 32018 FP



## Executive Sloped Front Housings



- Console type housing suited for use as a desktop or wall-mount enclosure
- PD version features recessed display window for LCD displays and recessed membrane keypads
- Wall mountable
- PC boards or mounting plates can be attached on mounting bosses in lid and base
- P version features a console-type lid with recessed continuous membrane keypad area



### Included in delivery

Lid, base, 4 screws, and rear panel. PD version includes display screen.

### Technical Data

Color	Lid, light gray, similar to RAL 7035. Base, covers and rear panels, agate gray, similar to RAL 7038. Special colors on request. Minimum order quantity 500+ pieces.
Material	Impact-resistant polystyrene
Ingress Protection	Closed version: IP 40/DIN EN 60529
Surface Resistance	>10 <sup>13</sup> Ohm to DIN 53482
Flammability	UL 94 HB/1.47

Model Number	Part Number	Dimensions	Dimensions
		mm L x W x H	Inches L x W x H
EG 1240 P	32124070 00	125 x 67.0 x 40	4.92 x 2.64 x 1.57
EG 1240 PD	32124080 00	125 x 67.0 x 40	4.92 x 1.64 x 1.57
EG 1545 P	32154570 00	150 x 82.0 x 45	5.91 x 3.23 x 1.77
EG 1545 PD	32154580 00	150 x 82.0 x 45	5.91 x 3.23 x 1.77
EG 2060 P	32206010 00	200 x 112 x 64	7.87 x 4.41 x 2.52
EG 2060 PD	32206000 00	200 x 112 x 64	7.87 x 4.41 x 2.52

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

P = Version with console-type lid

PD = Version with console-type lid and display opening

### Accessories

Model Number	Part Number	Description
EG-SA	33000300 00	Set of screw covers for assembly screws, 4 piece pack
EG-AK	33000100 00	Covers for keyhole suspension, 2 piece pack
EG-GF	25002100 00	Rubber feet, pack of 4
EG-M-12	33012000 00	Mounting plate for EG 1240
EG-M 15	33015000 00	Mounting plate for EG 1545
EG-M 20	33020000 00	Mounting plate for EG 2060

Build-A-Box® extrusions are sold in meter lengths and cut to custom lengths to meet your exact design requirements.

Developments in electronics are progressing faster and faster. Whereas complete modules could be housed in large standard enclosures just a few years ago, for added space, today's enclosures must adapt themselves permanently to new requirements.

In addition to conventional protection requirements such as the ingress protection classification (IP), the toughness against electro-magnet interfering radiation is now an important selection criteria.

Rose electronic enclosures comply with all current requirements for quality electronic enclosures:

- EMC or standard protection version
- for external, switchgear cabinet and internal use
- implementation as table, wall or regulator enclosure
- ingress protection up to IP 65
- design and functionality



#### **Alubos**

- 20 profiles are available with profiles that are closed, split horizontally, and/or open on one side
- High mechanical loading capacity of the profile and EMC screening ensure high level of protective functions

#### **Multitronic Build-A-Box®**

- 8 enclosure profile configurations from 105W x 36H mm to 208W x 54H mm
- Application area: EMC mounting enclosure in measurement and control engineering

#### **Multitronic TS Build-A-Box®**

- 8 enclosure profile configurations from 46/72W x 61H mm to 105W x 84H mm
- Application area: EMC enclosure for measurement/control engineering and DIN rail mounting

#### **Custom Build-A-Box®**

- 8 enclosure profile configurations from 105W x 85H mm to 196W x 167H mm
- Application area: PCB slot-in enclosure in measurement and control engineering

#### **Profitronic**

- 39 enclosures in sizes from 148 x 235 x 149 mm to 265 x 276 x 241 mm
- Application area: mechanical engineering, MCR-technology, Bus-technology

#### **Profitronic Universal**

- 12 enclosures in sizes from 148 x 258 x 149 mm to 265 x 285 x 241 mm
- Application area: mechanical engineering, measurement and control

# ALUBOS



- Ergonomic, individual hand-held enclosure in your design
- Available with profiles which are closed, divided horizontally, and open on one side
- High mechanical loading capacity of the profile and EMC screening ensure high level of protective functions



## Included in delivery

**ABP:** Closed extrusion only. Black powder-coated Aluminum sold by the meter

**ABPH:** Split extrusion only. Black powder-coated Aluminum sold by the meter

**ABPU:** Extrusion open on one side. Black powder-coated Aluminum sold by the meter

## Technical Data

Material	Aluminum extrusion, Al Mg Si 0.5, powder-coated aluminum diecast lid GD-Al Si 12
Color	Powdercoated Satin Black, similar to RAL 9005, fine texture finish. Special colors on request. Minimum order quantities apply
Ingress Protection	IP 65, EN 60529 IP 40 when using parallel adapters (AB-AP) with 600, 800 and 1000 extrusions

Model Number	Part Number	Dimensions mm	Dimensions Inches
		L x W x H	L x W x H
ABP 600-1000	84060000 00	1000 x 57 x 32	39.37 x 2.24 x 1.26
ABP 800-1000	84080000 00	1000 x 82 x 32	39.37 x 3.23 x 1.26
ABP 820-1000	84820000 00	1000 x 82 x 22	39.37 x 3.23 x 0.87
ABP 1000-1000	84100000 00	1000 x 106 x 32	39.37 x 4.17 x 1.26
ABP 1040-1000	84040000 00	1000 x 108 x 32	39.37 x 4.25 x 1.26
ABP 1300-1000	84130000 00	1000 x 138 x 34	39.37 x 5.43 x 1.34
ABP 1600-1000	84160001 00	1000 x 169 x 52	39.37 x 6.65 x 2.05
ABP 1680-1000	84680000 00	1000 x 169 x 82	39.37 x 6.65 x 3.23
ABP 2070-1000	84207000 00	1000 x 210 x 74	39.37 x 8.27 x 2.91
ABPH 600-1000	84066001 00	1000 x 57 x 32	39.37 x 2.24 x 1.26
ABPH 800-1000	84086001 00	1000 x 82 x 32	39.37 x 3.23 x 1.26
ABPH 820-1000	84826000 00	1000 x 82 x 22	39.37 x 3.23 x 0.87
ABPH 1000-1000	84106001 00	1000 x 106 x 32	39.37 x 4.17 x 1.26
ABPH 1040-1000	84046000 00	1000 x 108 x 42	39.37 x 4.25 x 1.65
ABPH 1300-1000	84136000 00	1000 x 138 x 34	39.37 x 5.43 x 1.34
ABPH 1680-1000	84686000 00	1000 x 169 x 82	39.37 x 6.65 x 3.23
ABPU 820-1000	84827000 00	1000 x 82 x 22	39.37 x 3.23 x 0.87
ABPU 1040-1000	84047000 00	1000 x 108 x 42	39.37 x 4.25 x 1.65
ABPU 1300-1000	84137000 00	1000 x 138 x 34	39.37 x 5.43 x 1.34
ABPU 1680-1000	84687000 00	1000 x 169 x 82	39.37 x 6.65 x 3.23

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

## Accessories

Model Number	Part Number	Description	Model Number	Part Number	Description
ABM 600 AL	84602000 00	Mounting lid, aluminum profile cap	DI 1040-3000	84200411 00	Seal, flame red (10 pieces)
AMB 600 IR	84063000 00	Mounting lid, infrared-permissive plastic cap	DI 1040-1021	84200413 00	Seal, yellow (10 pieces)
ABM 600 SAL	84064000 00	Mounting lid, aluminum hinged flap	DI 1040-6000	84200412 00	Seal, patina green (10 pieces)
ABM 600 AL-BE	84062100 00	Mounting lid, aluminum profile cap, battery compartment 9V	ABPU 1040-1000 FP2	84048000 00	Front panel for ABPU 1040-1000
ABM 600 IR-BE	84063100 00	Mounting lid, infrared-permissive plastic cap, battery compartment 9V	ABM 1300 AL	84132000 00	Mounting lid, aluminum profile cap
ABM 600 SAL-BE	84064100 00	Mounting lid, aluminum hinged flap, battery compartment 9V	ABD 1300 SAL	84134000 00	Mounting lid, aluminum hinged flap
ABD 600	84061000 00	End lid	ABM 1300	84131000 00	End lid
DI 600-EMV	84200615 00	EMC seal, black (10 pieces)	DI 1300-EMV	84201315 00	EMC seal, black (10 pieces)
DI 600-5002	84200614 00	Seal, ultramarine (10 pieces)	DI 1300-5002	84201314 00	Seal, ultramarine (10 pieces)
DI 600-3000	84200611 00	Seal, flame red (10 pieces)	DI 1300-3000	84201311 00	Seal, flame red (10 pieces)
DI 600-1021	84200612 00	Seal, yellow (10 pieces)	DI 1300-1021	84201312 00	Seal, yellow (10 pieces)
DI 600-6000	84200613 00	Seal, patina green (10 pieces)	DI 1300-6000	84201313 00	Seal, patina green (10 pieces)
ABM 800 AL	84082000 00	Mounting lid, aluminum profile cap	ABPU 1300-1000 FP2	84138000 00	Front panel for ABPU 1300-1000
ABM 800 IR	84083000 00	Mounting lid, infrared-permissive plastic cap	ABD 1600	84161000 00	End lid, black seals, screws, screw cover for ABD 1600-1000
ABM 800 SAL	84084000 00	Mounting lid, aluminum hinged flap	DI 1600-EMV	84201615 00	EMC seal, black (10 pieces)
ABM 800 AL-BE	84082100 00	Mounting lid, aluminum profile cap, battery compartment 9V	DI 1600-5002	84201614 00	Seal, ultramarine (10 pieces)
ABM 800 IR-BE	84083100 00	Mounting lid, infrared-permissive plastic cap, battery compartment 9V	DI 1600-3000	84201616 00	Seal, flame red (10 pieces)
ABM 800 SAL-BE	84084100 00	Mounting lid, aluminum hinged flap, battery compartment 9V	DI 1600-1021	84201612 00	Seal, yellow (10 pieces)
ABD 800	84081000 00	End lid, powder-coated aluminum	DI 1600-6000	84201613 00	Seal, patina green (10 pieces)
ABA 800-1000	84002000 00	Axial adapter for ALUBOS 800/100	ABD 1680	84168100 00	End lid, black seals, screws, screw cover for ABD 1680-1000
DI 800-EMV	84200815 00	EMC seal, black (10 pieces)	DI 1680-EMV	84206815 00	EMC seal, black (10 pieces)
DI 800-5002	84200814 00	Seal, ultramarine (10 pieces)	DI 1680-5002	84206814 00	Seal, ultramarine (10 pieces)
DI 800-3000	84200811 00	Seal, flame red (10 pieces)	DI 1680-3000	84206811 00	Seal, flame red (10 pieces)
DI 800-1021	84200812 00	Seal, yellow (10 pieces)	DI 1680-1021	84206812 00	Seal, yellow (10 pieces)
DI 800-6000	84200813 00	Seal, patina green (10 pieces)	DI 1680-6000	84206813 00	Seal, patina green (10 pieces)
ABD 820	84821000 00	End lid, black seal, screws, screw cover	ABPU 1680-1000 FP3	84689000 00	Front panels for ABPU 1680-1000
DI 820-EMV	84208215 00	EMC seal, black (10 pieces)	ABD 2070	84271000 00	End lid, black seals, screws, screw covers for ABP 2070-1000
DI 820-5002	84208214 00	Seal, ultramarine (10 pieces)	DI 2070-EMV	84202715 00	EMC seal, black (10 pieces)
DI 820-3000	84208211 00	Seal, flame red (10 pieces)	DI 2070-5002	84202714 00	Seal, ultramarine (10 pieces)
DI 820-1021	84208212 00	Seal, yellow (10 pieces)	DI 2070-3000	84202711 00	Seal, flame red (10 pieces)
DI 820-6000	84208213 00	Seal, patina green (10 pieces)	DI 2070-1021	84202712 00	Seal, yellow (10 pieces)
ABPU 820-1000 FP2	84828000 00	Front panel for ABPU 820-1000	DI 2070-6000	84202713 00	Seal, patina green (10 pieces)
ABM 1000 AL	84102000 00	Mounting lid, aluminum profile cap	AB-1000 WLW	84105000 00	ALUBOS adjustable wall bracket
ABM 1000 IR	84103000 00	Mounting lid, infrared-permissive plastic cap	AB-WL	84005000 00	Wall brackets for use with 600/800/1000/1300
ABM 1000 SAL	84104000 00	Mounting lid, aluminum hinged flap	AB-WL 1	84006001 00	Wall brackets for use with 820
AMB 1000 AL-BE	84202100 00	Mounting lid, aluminum profile cap, battery compartment 9V	AB-WL 2	84007000 00	Wall brackets for use with 1040
ABM 1000 IR-BE	84103100 00	Mounting lid, infrared-permissive plastic cap, battery compartment 9V	AB-WL 3	84008000 00	Wall brackets for use with 1600/1680/2070
ABM 1000 SAL-BE	84104100 00	Mounting lid, aluminum hinged flap, battery compartment 9V	AB 600 MKL	84006600 00	Mounting clamp for ALUBOS 600
ABD 1000	84101000 00	End lid	AB 800 MKL	84006400 00	Mounting clamp for ALUBOS 800
DI 1000-EMV	84201015 00	EMC seal, black (10 pieces)	AB 1000 MKL	84006500 00	Mounting clamp for ALUBOS 1000
DI 1000-5002	84201014 00	Seal, ultramarine (10 pieces)	AB-MKL	84006300 00	Mounting clamp for ALUBOS 600/800/1000
DI 1000-3000	84201011 00	Seal, flame red (10 pieces)	AB 1600 HS	84162000 00	Handle for use with ALUBOS 1600/1680
DI 1000-1021	84201012 00	Seal, yellow (10 pieces)	AB 2000 HS	84200000 00	Handle for use ALUBOS 2070
DI 1000-6000	84201013 00	Seal, patina green (10 pieces)	AB-AP 60	84006000 00	Parallel adapter for ALUBOS 600/800/1000, 60 mm length
ABM 1040 AL	84042000 00	Mounting lid, aluminum profile cap	AB-AP 100	84010000 00	Parallel adapter for ALUBOS 600/800/1000, 100 mm length
ABM 1040 SAL	84044000 00	Mounting lid, aluminum hinged flap	AB-AP 150	84015000 00	Parallel adapter for ALUBOS 600/800/1000, 150 mm length
ABM 1040	84041000 00	End lid	ABA 800-1000	84002000 00	Axial adapter, adapts ABP 800 to an ABP 1000
DI 1040-EMV	84200415 00	EMC seal, black (10 pieces)	AB-GF	84006700 00	Rubber feet
DI 1040-5002	84200414 00	Seal, ultramarine (10 pieces)			

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

# Alu-Topline



- Desktop enclosure whose innovative technology and ergonomic lines for use in the field of data recording and processing.
- Split profile of the enclosure guarantees easier and faster assembly of electronics and other components.
- Lid can be rotated in order to cover different ranges of application with the same contents.
- Profiles have a range of PCB slots and screw channels so that PCBs can be fitted in the required positions.



**Included in delivery**  
Enclosure profile, split horizontally

## Technical Data

Color	Profiles: clear anodized aluminum. End lids: quartz gray, similar to RAL 7039 and graphite gray, similar to RAL 7024. Special colors on request. Minimum order quantities apply.
Material	Profile: Aluminum Al Mg Si 0.5. End lids: ABS plastic
Protection Classifications	IP 40, DIN EN 60529. IP 54, when using seal (AT...DI) with sponge cord factory-installed

Model Number	Model Number	External Dimensions mm L x W x H	External Dimensions Inches L x W x H
ATPH 1850-0150	92850150 00	150 x 183.8 x 53.2	5.90 x 7.24 x 2.09
ATPH 1850-0200	92850200 00	200 x 183.8 x 53.2	7.87 x 7.24 x 2.09
ATPH 1850-0250	92850250 00	250 x 183.8 x 53.2	9.84 x 7.24 x 2.09
ATPH 1850-0300	92850300 00	300 x 183.8 x 53.2	11.81 x 7.24 x 2.09
ATPH 1865-0150	92865150 00	150 x 183.8 x 68.2	5.90 x 7.24 x 2.68
ATPH 1865-0200	92865200 00	200 x 183.8 x 68.2	7.87 x 7.24 x 2.68
ATPH 1865-0250	92865250 00	250 x 183.8 x 68.2	9.84 x 7.24 x 2.67
ATPH 1865-0300	92865300 00	300 x 183.8 x 68.2	11.81 x 7.24 x 2.68

Meter lengths available upon request. Minimum order may apply.

### Accessories

Model Number	Part Number	Description
ATD 1850-7024	92050024 00	Lid, graphite gray, similar to RAL 7024, (includes: 2 lids, right/left, 8 screws, 8 screw covers)
ATD 1850-7039	92050039 00	Lid, quartz gray, similar to RAL 7039, (includes: 2 lids, right/left, 8 screws, 8 screw covers)
AT 1850 DI*	92050000 00	Seal for ingress protection IP 54, (includes: 5 sets of sponge rubber seals, right/left)
ATD 1865-7024	92065024 00	Lid, graphite gray, similar to RAL 7024 (includes: 2 lids, right/left, 8 screws, 8 screw covers)
ATD 1865-7039	92065039 00	Lid, quartz gray, similar to RAL 7039, (includes 2 lids, right/left, 8 screws, 8 screw covers)
AT 1865 DI*	92065000 00	Seal for ingress protection IP 54, (includes: 5 sets of sponge rubber seals, right/left)
AT 1800-0150 WB	92800150 00	Wall bracket 150 (includes: 1 wall profile, 2 tapped pins)
AT 1800-0200 WB	92800200 00	Wall bracket for profile 200 (includes: 1 wall profile, 2 tapped pins)
AT 1800-0250 WB	92800250 00	Wall bracket for profile 250 (includes: 1 wall profile, 2 tapped pins)
AT 1800-0300 WB	92800300 00	Wall bracket for profile 300 (includes: 1 wall profile, 2 tapped pins)
AT-IS 00020	92000100 00	Insulating strip (includes: 5 insulating strips)
AB-GF	94006700 00	Rubbet feet (includes: 4 rubber feet)

\*Note: to attain IP 54, in addition to seal AT... DI, a sponge cord must be factory installed in the enclosure profile.



ATPH 1850  
Split Profile



ATPH 1865  
Split Profile



ATD 18...  
Lid made of ABS plastic

- Clear anodized aluminum profile enclosure system in 3 different versions in 4 profile widths
- Equipped with integral guide grooves for PC boards
- Ecoline features recessed areas for front membranes or membrane keypads
- Can be used with Euro cards



### Included in delivery

Extrusion sold in meter lengths

## Technical Data

Color	Profiles: clear anodized aluminum. End lids: dust gray, similar to RAL 7037. Special colors on request. Minimum order quantities apply.
Material	Profile: Aluminum Al Mg Si 0.5. End lids: ABS plastic
Protection Classifications	IP 40, EN 60529. IP 54, when using seal (EL-DI) with 620, 8540, 1050 and 1240. ELP type extrusions only.

Model Number	Part Number	External Dimensions	External Dimensions
		mm L x W x H	Inches L x W x H
ELP 620-1000	83062000 00	1000 x 57.5 x 22	39.37 x 2.26 x 0.86
ELPH 620-1000	83626000 00	1000 x 57.5 x 22	39.37 x 2.26 x 0.86
ELPU 620-1000	83627000 00	1000 x 57.5 x 22	39.37 x 2.26 x 0.86
ELP 840-1000	83084000 00	1000 x 80.0 x 42	39.37 x 3.14 x 1.65
ELPH 840-1000	83846000 00	1000 x 80.0 x 42	39.37 x 3.14 x 1.65
ELPU 840-1000	83847000 00	1000 x 80.0 x 42	39.37 x 3.14 x 1.65
ELP 1050-1000	83105000 00	1000 x 106 x 52	39.37 x 4.14 x 2.05
ELPH 1050-1000	83056000 00	1000 x 106 x 52	39.37 x 4.14 x 2.05
ELPU 1050-1000	83057000 00	1000 x 106 x 52	39.37 x 4.14 x 2.05
ELPH-EU 1050-1000	83055100 00	1000 x 106 x 52	39.37 x 4.17 x 2.04
ELP 1240-1000	83124000 00	1000 x 120 x 42	39.37 x 4.72 x 1.65
ELPH 1240-1000	83246000 00	1000 x 120 x 42	39.37 x 4.72 x 1.65
ELPU 1240-1000	83247000 00	1000 x 120 x 42	39.37 x 4.72 x 1.65

### Accessories

Model Number	Part Number	Description
ELD 620	83621000 00	Ecoline 620 plastic end caps, ABS, set of 2
ELDW 620	83621100 00	Ecoline 620 wall mount plastic end caps, ABS, set of 2
ELD 840	83841000 00	Ecoline 840 plastic end caps, ABS, set of 2
ELDW 840	83841100 00	Ecoline 840 wall mount plastic end caps, ABS, set of 2
ELD 1050	83051000 00	Ecoline 1050 plastic end caps, ABS, set of 2
ELDW 1050	83051100 00	Ecoline 1050 wall mount plastic end caps, ABS, set of 2
ELD 1240	83241000 00	Ecoline 1240 plastic end caps, ABS, set of 2
ELDW 1240	83241100 00	Ecoline 1240 wall mount plastic end caps, ABS, set of 2
EL 620 DI	83206210 00	Ecoline 620 gasket set of 10
EL 840 DI	83208410 00	Ecoline 840 gasket set of 10
EL 1050 DI	83210510 00	Ecoline 1050 gasket set of 10
EL 1240 DI	83212410 00	Ecoline 1240 gasket set of 10



ELP - Closed Profile



ELPH - Horizontally Split Profile



ELPU - Open on one side Profile



- Aluminum profile enclosure system in 5 diameters for data acquisition, PC, and measurement and control technology
- External screw channels guarantee complete use of internal area
- Integrated guide grooves for PC boards
- External groove system
- Variable profile lengths



### Included in delivery

Enclosure with 2 aluminum diecast lids and 2 multi-function profiles, not screwed.

## Technical Data

Color	Profile and lid, jet black, similar to RAL 9005. Multi-function side profile: ruby red, similar to RAL 3003.
Material	Profile: AlMgSi 0.5; DIN 1725. End lids: GD-AISi 12
Protection Classifications	up to IP 65, EN 60529
Temperature Resistance	-40°F to +90°F

Model Number	Part Number	External Dimensions	External Dimensions	Internal Dimensions	Internal Dimensions
		mm	Inches	mm	Inches
		W x H x D	W x H x D	H x W x D	H x W x D
<b>NoVoTronic 80</b>					
80/100	07501010 00	98 x 44 x 100	3.76 x 1.73 x 3.94	80 x 36 x 100	3.15 x 1.42 x 3.94
80/160	07501011 00	98 x 44 x 160	3.86 x 1.73 x 6.30	80 x 36 x 160	3.15 x 1.42 x 6.30
80/200	07501012 00	98 x 44 x 200	3.86 x 1.76 x 7.87	80 x 36 x 200	3.15 x 1.42 x 7.87
80/SL*	07501099 00	98 x 44 x SL*	3.86 x 1.76 x SL*	80 x 30 x SL*	3.15 x 1.42 x SL*
<b>NoVoTronic 100</b>					
100/100	07502010 00	118 x 44 x 100	4.64 x 1.73 x 3.94	100 x 36 x 100	3.94 x 1.41 x 3.94
100/160	07502011 00	118 x 44 x 160	4.64 x 1.73 x 6.30	100 x 36 x 160	3.94 x 1.41 x 6.30
100/200	07502012 00	118 x 44 x 200	4.64 x 1.73 x 7.87	100 x 36 x 200	3.94 x 1.41 x 7.87
100/SL*	07502099 00	118 x 44 x SL*	4.64 x 1.73 x SL*	100 x 36 x SL*	3.94 x 1.41 x SL*
<b>NoVoTronic 160</b>					
160/160	07503010 00	182 x 85 x 160	7.16 x 3.35 x 6.30	160 x 75 x 160	6.30 x 2.96 x 6.30
160/200	07503011 00	182 x 85 x 200	7.16 x 3.35 x 6.30	160 x 75 x 200	6.30 x 2.96 x 7.87
160/300	07503012 00	182 x 85 x 300	7.16 x 3.35 x 11.81	160 x 75 x 300	6.30 x 2.96 x 11.81
160/SL*	07503099 00	182 x 85 x SL*	7.16 x 3.35 x SL*	160 x 75 x SL*	6.30 x 2.96 x SL*
<b>NoVoTronic 130</b>					
130/130	07502510 00	157 x 69 x 150	6.18 x 2.72 x 5.90	130 x 57 x 130	5.12 x 2.24 x 5.12
130/160	07502511 00	157 x 69 x 160	6.18 x 2.72 x 7.09	130 x 57 x 160	5.12 x 2.24 x 6.30
130/200	07502513 00	157 x 69 x 220	6.18 x 2.72 x 8.66	130 x 57 x 200	5.12 x 2.24 x 7.87
130/SL*	07502599 00	157 x 69 x SL*	6.18 x 2.72 x SL*	130 x 57 x SL*	5.12 x 2.24 x SL*
<b>NoVoTronic 200</b>					
200/220	07504010 00	233 x 121 x 240	9.17 x 4.76 x 9.45	200 x 105 x 220	7.87 x 4.13 x 8.66
200/280	07504011 00	233 x 121 x 300	9.17 x 4.76 x 11.81	200 x 105 x 280	7.87 x 4.13 x 11.02
200/330	07504012 00	233 x 121 x 350	9.17 x 4.76 x 13.78	200 x 105 x 330	7.87 x 4.13 x 12.99
200/SL*	07504099 00	233 x 121 x SL*	9.17 x 4.76 x SL*	200 x 105 x SL*	7.87 x 4.13 x SL*

\*SL = Special Length

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

### Accessories

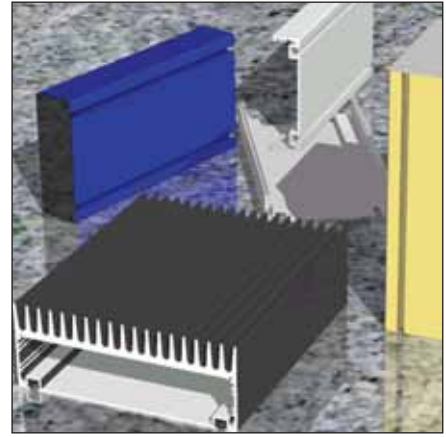
Part Number	Description	Part Number	Description
07509011 00	Wall profile 80/100-100	07509005 00	NoVo wall holder P160
07509012 00	Wall profile 80/100-160	07509006 00	Foot/connection element 80
07509013 00	Wall profile 80/100-200	07509007 00	Foot/connection element 100
07509099 00	Wall profile 80/SL*	07509014 00	Foot connection element 130
07509111 00	Wall profile 130/160-130	07509008 00	Foot connection element 160
07509112 00	Wall profile 130/160-160	83900003 00	Battery insert 9V block
07509113 00	Wall profile 130/160-200	83900006 00	Battery insert 4 AA
07509114 00	Wall profile 130/160-300	07509211 00	NoVoTronic PCB profile 200-220
07509199 00	Wall profile 130/160-SL*	07509212 00	NoVoTronic PCB profile 200-280
07509002 00	Lid wall holder 80/100	07509213 00	NoVoTronic PCB profile 200-330
07509003 00	NoVo wall holder P80	07529299 00	NoVoTronic PCB profile 200-SL*
07509004 00	NoVo wall holder P100	07509214 00	NoVoTronic PCB profile 80-100
07509015 00	NoVo wall holder P130	07509010 00	Transparent cover 160

\*SL = Special Length

- Aluminum profile that can be cut to any length required and capped with plate aluminum lids
- All profiles slotted internally for PCB or chassis mounting
- T-slot on bottom of profile for DIN rail mounting

## Included in delivery

Extrusion only. Sold by the meter.



## Technical Data

Material	Bare aluminum, Al Mg Si 0.5
Temperature Range	-40°F to +212°F
Protection Classification	IP 40 to EN 60529

Part Number	Length Inches/mm	Width Inches/mm	Height Inches/mm	PC Card Slot Size
10011109/10011109	39.37 / 1000	4.13 / 105	1.97 / 50	2 x 100 mm
10011109/10011110	39.37 / 1000	4.13 / 105	3.15 / 80	3 x 100 mm
10011110/10011110	39.37 / 1000	4.13 / 105	4.33 / 110	4 x 100 mm
10011109/10011111	39.37 / 1000	4.13 / 105	2.20 / 56	1 x 100 mm
10011111/10011110	39.37 / 1000	4.13 / 105	3.39 / 86	2 x 100 mm
10955170 / 10011113	39.37 / 1000	8.19 / 208	2.13 / 54	2 x 57 mm, 1 x 85 mm, 1 x 204 mm
10011108 00	39.37 / 1000	4.13 / 105	1.42 / 36	1 x 100 mm
10011112 00	39.37 / 1000	6.50 / 165	2.56 / 65	2 x 160 mm

These profiles feature external "T" slots for bracket wall-mounting

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only. All extrusions sold in 1 meter lengths.

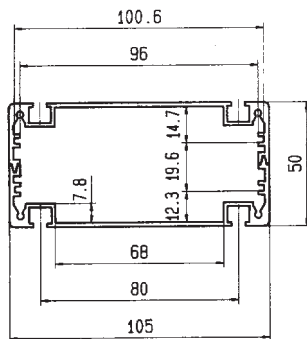
Accessories	Part Number
Unpainted plate lid with screws for 10011109/10011109	10095151 08
Unpainted plate lid with screws for 10011109/10011110	10095153 08
Unpainted plate lid with screws for 10011110/10011110	10095154 08
Unpainted plate lid with screws for 10011111/10011109	10095150 08
Unpainted plate lid with screws for 10011111/10011110	10095152 08
Unpainted plate lid with screws for 10955170/10011113	10095517 08
Unpainted plate lid with wall mount flange and screws for 10955170/10011113	10095518 07
Unpainted plate lid with screws for 10011108	10095150 08
Unpainted plate lid with screws for 10011112	10095155 08
External wall mount brackets (set of 4)	77000100 00
Rubber Table Feet	10094110 00
Black Lid Screw (M3 x 8)	10093205 00

**Multitronic Build-A-Box® 10011109/10011109**

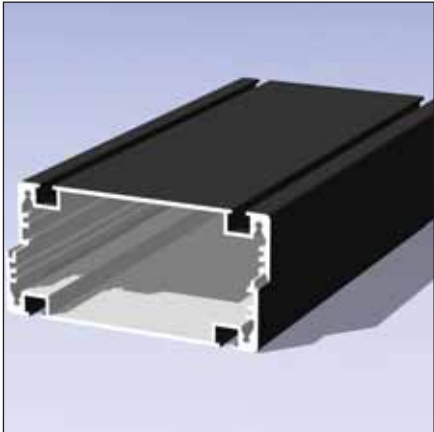
Part #	Type	Description
10011109 00	Extrusion Top	Extrusion only, bare Aluminum (sold by the meter)
10011109 00	Extrusion Bottom	Extrusion only, bare Aluminum (sold by the meter)

**Accessories**

10095151 08	End Lid	Unpainted Aluminum plate lid with screws
77000100 00	Brackets	Set of 4 External Wall Mount Brackets with spring nuts and screws
10094110 00	Rubber Feet	Rubber Table Feet
10093205 00	Screw	Black Lid Screw (M3 x 8)



Enclosure Profiles



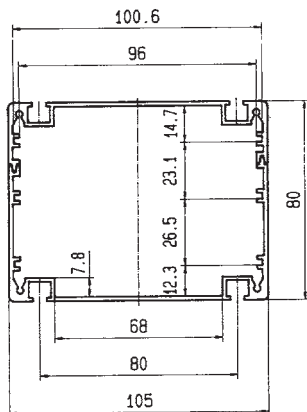
Two half-shell extrusions with integrated guide rails for two 100 mm PC boards, and 4 external "T" slots for bracket wall-mounting. External wall-mount bracket set, optional.

**Multitronic Build-A-Box® 10011109/10011110**

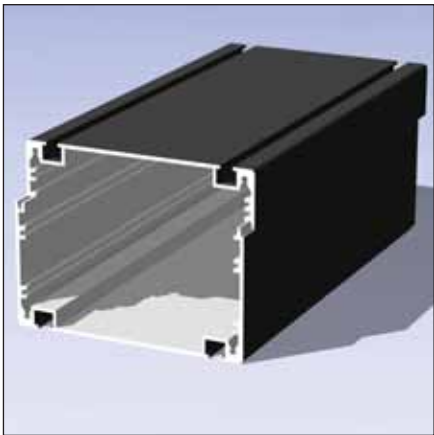
Part #	Type	Description
10011109 00	Extrusion Top	Extrusion only, bare Aluminum (sold by the meter)
10011110 00	Extrusion Bottom	Extrusion only, bare Aluminum (sold by the meter)

**Accessories**

10095153 08	End Lid	Unpainted Aluminum plate lid with screws
77000100 00	Brackets	Set of 4 External Wall Mount Brackets with spring nuts and screws
10094110 00	Rubber Feet	Rubber Table Feet
10093205 00	Screw	Black Lid Screw (M3 x 8)



Enclosure Profiles



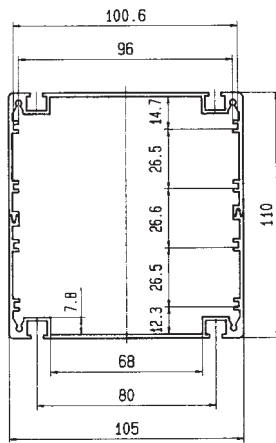
Two half-shell extrusions with integrated guide rails for three 100 mm PC boards, and 4 external "T" slots for bracket wall-mounting. External wall-mount bracket set, optional.

**Multitronic Build-A-Box® 10011110/10011110**

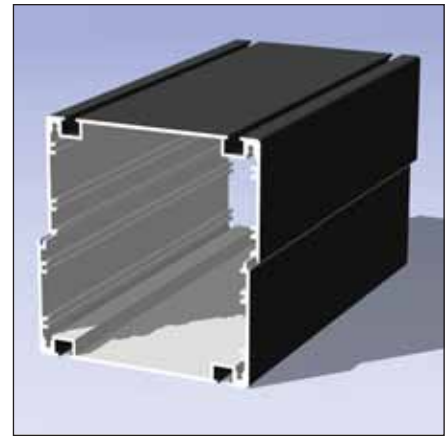
Part #	Type	Description
10011110 00	Extrusion Top	Extrusion only, bare Aluminum (sold by the meter)
10011110 00	Extrusion Bottom	Extrusion only, bare Aluminum (sold by the meter)

**Accessories**

10095154 08	End Lid	Unpainted Aluminum plate lid with screws
77000100 00	Brackets	Set of 4 External Wall Mount Brackets with spring nuts and screws
10094110 00	Rubber Feet	Rubber Table Feet
10093205 00	Screw	Black Lid Screw (M3 x 8)



Enclosure Profiles



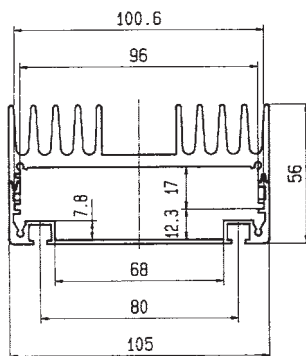
Two-shell extrusion design with integrated guide rails for four 100 mm PC boards, and 4 external "T" slots for bracket wall-mounting. External wall-mount bracket set, optional.

**Multitronic Build-A-Box® 10011111/10011109**

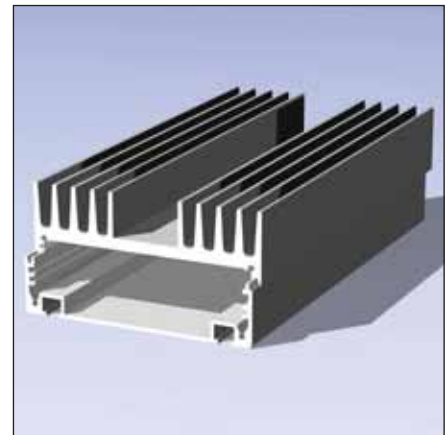
Part #	Type	Description
10011111 00	Extrusion Top	Extrusion only, bare Aluminum (sold by the meter)
10011109 00	Extrusion Bottom	Extrusion only, bare Aluminum (sold by the meter)

**Accessories**

10095150 08	End Lid	Unpainted Aluminum plate lid with screws
77000100 00	Brackets	Set of 4 External Wall Mount Brackets with spring nuts and screws
10094110 00	Rubber Feet	Rubber Table Feet
10093205 00	Screw	Black Lid Screw (M3 x 8)



Enclosure Profiles



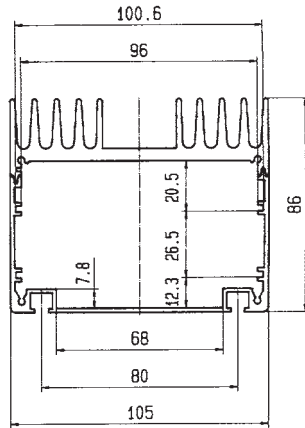
Two-shell extrusion design with integrated heat sink, integrated guide rail for one 100 mm PC boards, and 2 external "T" slots for bracket wall-mounting. External wall-mount bracket set, optional.

**Multitronic Build-A-Box® 10011111/10011110**

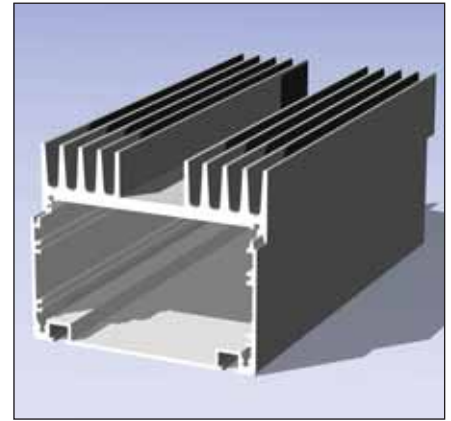
Part #	Type	Description
10011111 00	Extrusion Top	Extrusion only, bare Aluminum (sold by the meter)
10011110 00	Extrusion Bottom	Extrusion only, bare Aluminum (sold by the meter)

**Accessories**

10095152 08	End Lid	Unpainted Aluminum plate lid with screws
77000100 00	Brackets	Set of 4 External Wall Mount Brackets w/spring nuts and screws
10094110 00	Rubber Feet	Rubber Table Feet
10093205 00	Screw	Black Lid Screw (M3 x 8)



Enclosure Profiles



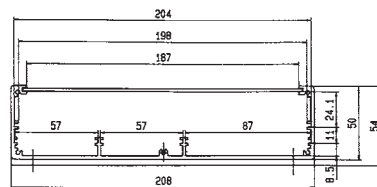
Two-shell extrusion design with integrated heat sink on top extrusion, integrated guide rails for two 100 mm PC boards, and 2 external "T" slots for bracket wall-mounting. External wall-mount bracket set, optional.

**Multitronic Build-A-Box® 10955170/10011113**

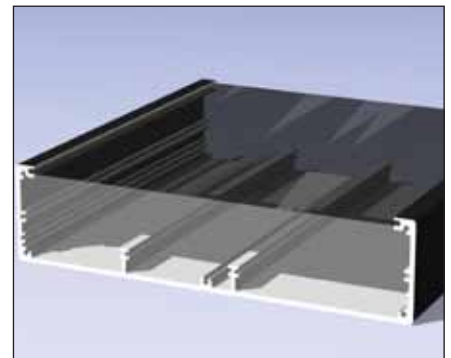
Part #	Type	Description
10955170 00	Plate Lid, Top	Unpainted Aluminum Plate Lid (sold by the meter)
10011113 00	Extrusion Bottom	Extrusion only, bare Aluminum (sold by the meter)

**Accessories**

10095517 08	End Lid	Unpainted Aluminum plate lid with screws
10095518 08	End Lid	Unpainted Plate Lid w/Wall Mount Flange and lid screws
10094110 00	Rubber Feet	Rubber Table Feet
10093205 00	Screw	Black Lid Screw (M3 x 8)



Enclosure Profile



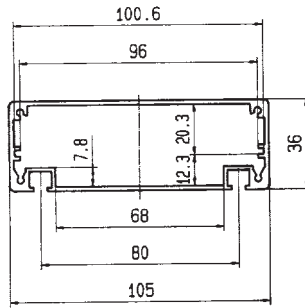
One-shell open extrusion with integrated guide rails for one 204 mm, one 87 mm, two 57 mm PC boards, and top aluminum plate lid. Wall-mount flange plate lids are available as an option.

**Multitronic Build-A-Box® 10011108**

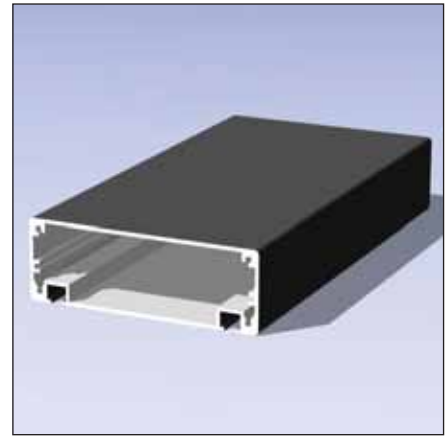
Part #	Type	Description
10011108 00	Extrusion	Extrusion, bare Aluminum (sold by the meter)

**Accessories**

10095150 08	Lid	Unpainted Aluminum plate lid with screws
77000100 00	Brackets	Set of 4 External Wall Mount Brackets with spring nuts and screws
10094110 00	Rubber Feet	Rubber Table Feet
10093205 00	Screw	Black Lid Screw (M3 x 8)



Enclosure Profile



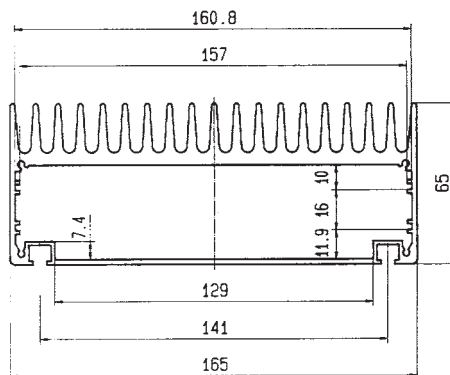
One-shell closed extrusion design with integrated guide rail for one 100 mm PC board and 2 external "T" slots for bracket wall-mounting. External wall-mount bracket set, optional.

**Multitronic Build-A-Box® 10011112**

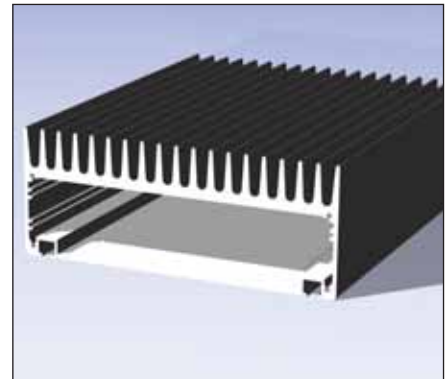
Part #	Type	Description
10011112 00	Extrusion	Extrusion, bare Aluminum (sold by the meter)

**Accessories**

10095155 08	Lid	Unpainted Aluminum plate lid with screws
77000100 00	Brackets	Set of 4 External Wall Mount Brackets with spring nuts and screws
10094110 00	Rubber Feet	Rubber Table Feet
10093205 00	Screw	Black Lid Screw (M3 x 8)



Enclosure Profile



One-shell closed extrusion design with integrated heat sink, integrated guide rails for two 160 mm PC boards, and 2 external "T" slots for bracket wall-mounting. External wall-mount bracket set, optional.



- Aluminum profile that can be cut to any length required and capped with plate aluminum lids
- All profiles slotted internally for PCB or chassis mounting
- Optional “L-shaped” aluminum plate lids are offered for wall-mount applications



**Included in delivery**  
Extrusion only. Sold by the meter.

## Technical Data

Color	Any color is available.
Material	Aluminum, Al Mg Si 0.5
Temperature Range	-40°F to +212°F
Protection Classification	IP 40 to EN 60529

Part Number	Length Inches/mm	Width Inches/mm	Height Inches/mm	PC Card Slot Size
10011129 /10011129	39.37 / 1000	2.83 / 72	1.81 / 46	42 mm
10011129/10011131	39.37 / 1000	2.99 / 76	2.40 / 61	42, 72 mm
10011131/10011131	39.37 / 1000	2.99 / 76	2.01 / 51	72 mm
10011130/10011131	39.37 / 1000	2.99 / 76	2.54 / 64	72 mm
10011130/10011130	39.37 / 1000	2.99 / 76	3.07 / 78	72 mm
10011132/10011132	39.37 / 1000	4.13 / 105	1.77 / 45	100 mm
10011133/10011132	39.37 / 1000	4.13 / 1.05	2.60 / 66	100 mm
10011133/10011133	39.37 / 1000	4.13 / 1.05	3.42 / 87	100 mm

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user’s convenience and are for reference only. All extrusions sold in 1 meter lengths

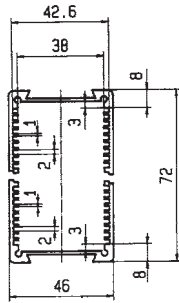
Accessories	Part Number
Unpainted plate lid with screws for 11129/11129	10095525 08
Unpainted plate lid with screws & wall flange for 11129/11129	10095531 08
Unpainted plate lid with screws for 11129/11131	10095530 08
Unpainted plate lid with screws & wall flange for 11129/11131	10095538 08
Unpainted plate lid with screws for 11131/11131	10095526 08
Unpainted plate lid with screws & wall flange for 11131/11131	10095532 08
Unpainted plate lid with screws for 11130/11131	10095527 08
Unpainted plate lid with screws & wall flange for 11130/11131	10095538 08
Unpainted plate lid with screws for 11130/11130	10095528 08
Unpainted plate lid with screws & wall flange for 11130/11130	10095534 08
Unpainted plate lid with screws for 11132/11132	10095529 08
Unpainted plate lid with screws & wall flange for 11132/11132	10095535 08
Unpainted plate lid with screws for 11133/11132	10095152 08
Unpainted plate lid with screws & wall flange for 11133/11132	10095536 08
Unpainted plate lid with screws & wall flange for 11133/11133	10095537 08
Black lid screws M3 x 8	10093205 00

**Multitronic TS Build-A-Box® 10011129/10011129**

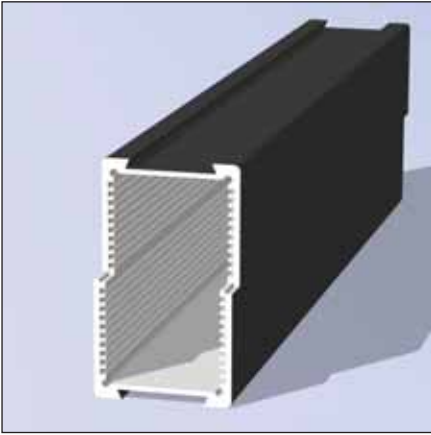
Part #	Type	Description
10011129 00	Extrusion Top	Extrusion only, bare Aluminum (sold by the meter)
10011129 00	Extrusion Bottom	Extrusion only, bare Aluminum (sold by the meter)

**Accessories**

10095525 08	End Lid	Unpainted Plate Lid w/screws for 11129/11129
10095531 08	End Lid	Unpainted Plate Lid w/ screws & Wall Flange for 11129/11129
10093205 00	Screws	Black Lid Screw M3x8
77003500 00	Bracket	DIN Rail Bracket



Enclosure Profiles



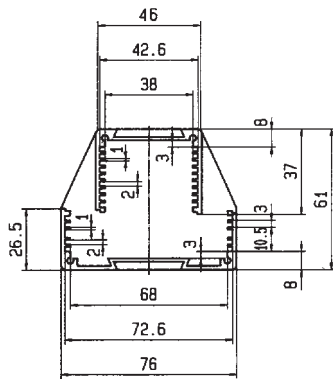
Two half-shell extrusions with integrated guide rails for 42 mm PC boards and exterior slots designed for optional 35 mm DIN Rail mounting bracket.

**Multitronic TS Build-A-Box® 10011129/10011131**

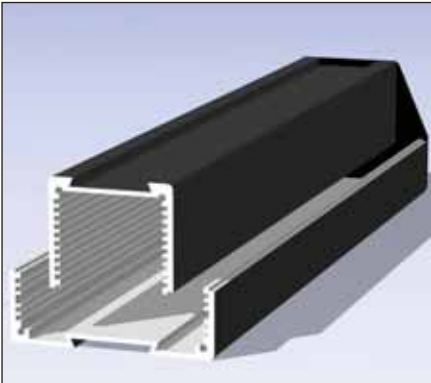
Part #	Type	Description
10011129 00	Extrusion Top	Extrusion only, bare Aluminum (sold by the meter)
10011131 00	Extrusion Bottom	Extrusion only, bare Aluminum (sold by the meter)

**Accessories**

10095530 08	End Lid	Unpainted Plate Lid w/screws for 11129/11131
10095538 08	End Lid	Unpainted Plate Lid w/ screws & Wall Flange for 11129/11131
10093205 00	Screws	Black Lid Screw M3x8
77003500 00	Bracket	DIN Rail Bracket



Enclosure Profiles



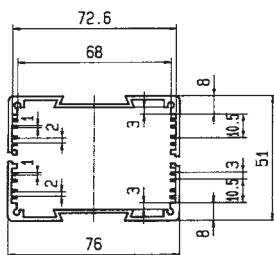
Two half-shell extrusions with integrated guide rails for 42 and 72 mm PC boards and exterior slots designed for optional 35 mm DIN Rail mounting bracket.

**Multitronic TS Build-A-Box® 10011131/10011131**

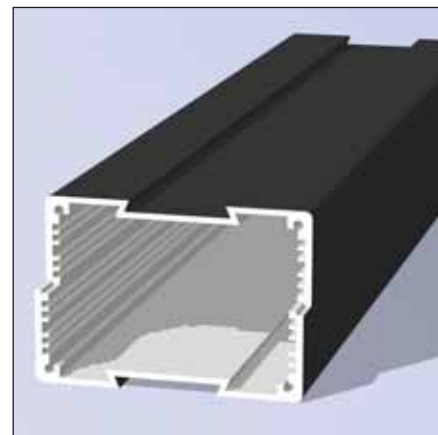
Part #	Type	Description
10011131 00	Extrusion Top	Extrusion only, bare Aluminum (sold by the meter)
10011131 00	Extrusion Bottom	Extrusion only, bare Aluminum (sold by the meter)

**Accessories**

10095526 08	End Lid	Unpainted Plate Lid w/screws for 11131/11131
10095532 08	End Lid	Unpainted Plate Lid w/ screws & Wall Flange for 11131/11131
10093205 00	Screws	Black Lid Screw M3x8
77003500 00	Bracket	DIN Rail Bracket



Enclosure Profiles



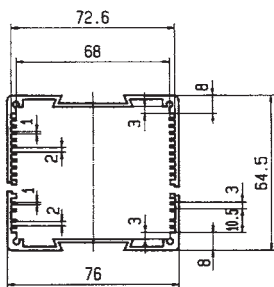
Two half-shell extrusions with integrated guide rails for 72 mm PC boards and exterior slots designed for optional 35 mm DIN Rail mounting bracket.

**Multitronic TS Build-A-Box® 10011130/10011131**

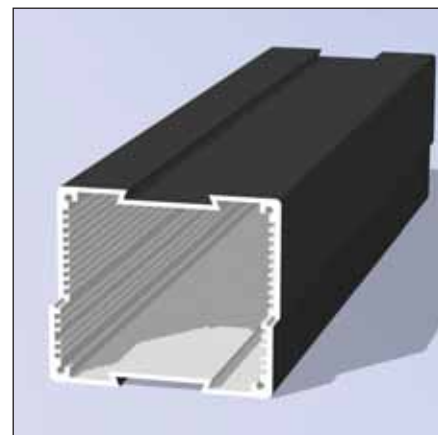
Part #	Type	Description
10011130 00	Extrusion Top	Extrusion only, bare Aluminum (sold by the meter)
10011131 00	Extrusion Bottom	Extrusion only, bare Aluminum (sold by the meter)

**Accessories**

10095527 08	End Lid	Unpainted Plate Lid w/screws for 11130/11131
10095533 08	End Lid	Unpainted Plate Lid w/ screws & Wall Flange for 11130/11131
10093205 00	Screws	Black Lid Screw M3x8
77003500 00	Bracket	DIN Rail Bracket



Enclosure Profiles



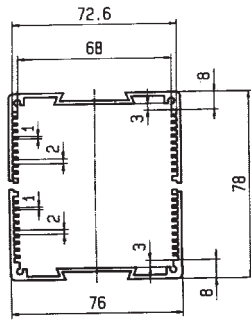
Two half-shell extrusions with integrated guide rails for 72 mm PC boards and exterior slots designed for optional 35 mm DIN Rail mounting bracket.

**Multitronic TS Build-A-Box® 10011130/10011130**

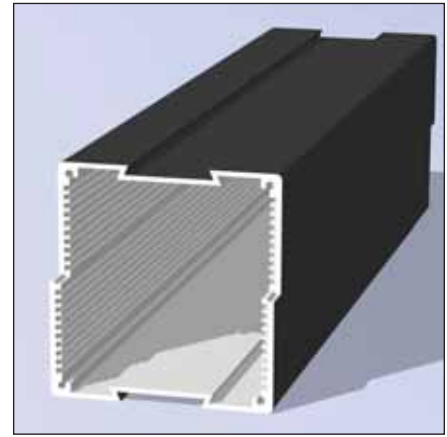
Part #	Type	Description
10011130 00	Extrusion Top	Extrusion only, bare Aluminum (sold by the meter)
10011130 00	Extrusion Bottom	Extrusion only, bare Aluminum (sold by the meter)

**Accessories**

10095528 08	End Lid	Unpainted Plate Lid w/screws for 11130/11130
10095534 08	End Lid	Unpainted Plate Lid w/ screws & Wall Flange for 11130/11130
10093205 00	Screws	Black Lid Screw M3x8
77003500 00	Bracket	DIN Rail Bracket



Enclosure Profiles



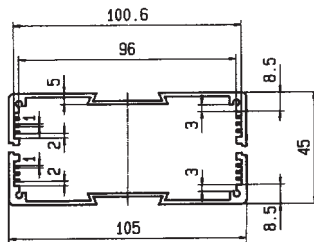
Two half-shell extrusions with integrated guide rails for 72 mm PC boards and exterior slots designed for optional 35 mm DIN Rail mounting bracket.

**Multitronic TS Build-A-Box® 10011132/10011132**

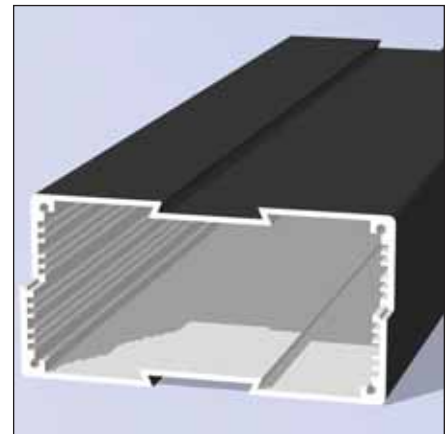
Part #	Type	Description
10011132 00	Extrusion Top	Extrusion only, bare Aluminum (sold by the meter)
10011132 00	Extrusion Bottom	Extrusion only, bare Aluminum (sold by the meter)

**Accessories**

10095529 08	End Lid	Unpainted Plate Lid w/screws for 11132/11132
10095535 08	End Lid	Unpainted Plate Lid w/ screws & Wall Flange for 11132/11132
10093205 00	Screws	Black Lid Screw M3x8
77003500 00	Bracket	DIN Rail Bracket



Enclosure Profiles



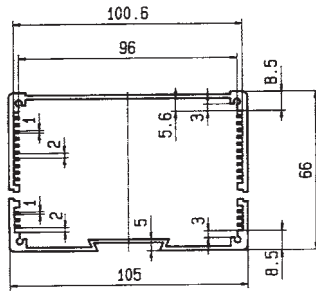
Two half-shell extrusions with integrated guide rails for 100 mm PC boards and exterior slots designed for optional 35 mm DIN Rail mounting bracket.

**Multitronic TS Build-A-Box® 10011133/10011132**

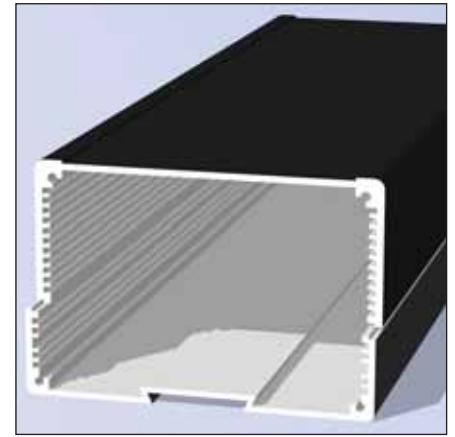
Part #	Type	Description
10011133 00	Extrusion Top	Extrusion only, bare Aluminum (sold by the meter)
10011132 00	Extrusion Bottom	Extrusion only, bare Aluminum (sold by the meter)

**Accessories**

10095152 08	Lid	Unpainted Plate Lid w/screws for 11133/11132
10095536 08	End Lid	Unpainted Plate Lid w/ screws & Wall Flange for 11133/11132
10093205 00	Screws	Black Lid Screw M3x8
77003500 00	Bracket	DIN Rail Bracket



Enclosure Profiles



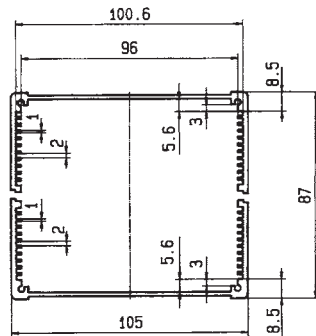
Two half-shell extrusions with integrated guide rails for 100 mm PC boards and exterior slots designed for optional 35 mm DIN Rail mounting bracket.

**Multitronic TS Build-A-Box® 10011133/10011133**

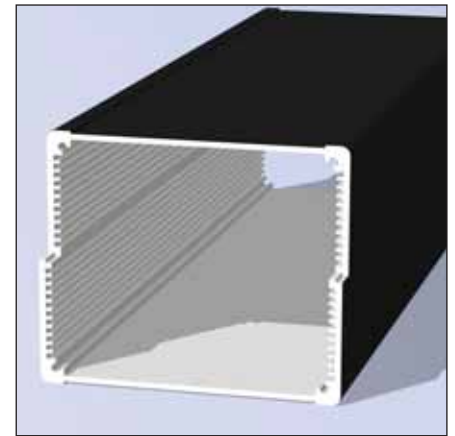
Part #	Type	Description
10011133 00	Extrusion Top	Extrusion only, bare Aluminum (sold by the meter)
10011133 00	Extrusion Bottom	Extrusion only, bare Aluminum (sold by the meter)

**Accessories**

10095537 08	End Lid	Unpainted Plate Lid with screws and Wall Flange for 11133/11133
10093205 00	Screws	Black Lid Screw M3x8

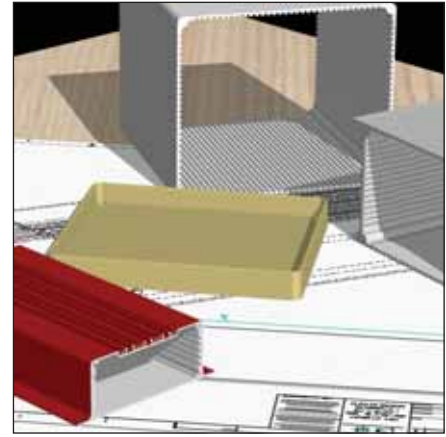


Enclosure Profiles



Two half-shell extrusions with integrated guide rails for 100 mm PC boards and exterior slots designed for optional 35 mm DIN Rail mounting bracket.

- Aluminum electronic enclosures for telecommunications and measurement control technology
- Sold by the meter and cut to custom lengths to meet design needs
- Versions with flange mounting rails integrated into sides
- Different lid versions depending on enclosure type
- Integrated guide slots for PCBs



**Included in delivery**  
Extrusion only. Sold by the meter.

## Technical Data

Material	Bare aluminum extrusion Al Mg Si 0.5
Ingress Protection	IP 40 to EN 60529 (dusttight) with aluminum plate lid IP 65 to EN 60529 (watertight) with die-cast aluminum lid
Temperature Resistance	-40°F to +212°F with aluminum plate lids -22°F to +176°F with die-cast aluminum lids

Part Number	Length Inches/mm	Width Inches/mm	Height Inches/mm	P.C. Card Slot Sizes
07011100 00	39.37 / 1000	5.12 / 130	1.77 / 45	100 mm
07021100 00	39.37 / 1000	5.12 / 130	2.72 / 69	100 mm
07031100 00	39.37 / 1000	7.72 / 196	4.17 / 106	100 mm / 160
07051100 00	39.37 / 1000	4.09 / 104	3.31 / 84	100 mm / 80.5
07061100 00	39.37 / 1000	6.50 / 165	4.13 / 105	100 mm / 160
07071100 00	39.37 / 1000	7.68 / 195	6.55 / 166	160 mm / 189.5
07101102 00	39.34 / 1000	5.67 / 144	2.66 / 67	100 mm
07111102 00	39.37 / 1000	5.67 / 144	1.69 / 43	100 mm

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only. All extrusions sold in 1 meter lengths.

## Accessories

Description	Part Number	Description	Part Number
Dusttight lid painted black with lid screws for 0701	07019509 00	Watertight die-cast bezel lid unpainted with screws and gasket for 0706	07061200 98
Dusttight lid unpainted with lid screws for 0701	07019509 08	Watertight die-cast membrane bezel lid painted with lid screws and gasket for 0706	07061200 00
Dusttight lid painted with lid screws for 0702	07029507 50	Watertight die-cast membrane bezel lid unpainted with lid screws and gasket for 0706	07061200 08
Dusttight lid unpainted with lid screws for 0702	07029507 58	Watertight die cast lid w/clear door & snap lock painted with lid screws and gasket for 0706	07061200 91
Watertight lid painted with lid screws and gasket for 0711	07110618 20	Watertight die cast lid w/clear door & key lock painted with lid screws, gasket and key for 0706	07061200 92
Watertight lid unpainted with lid screws and gasket for 0711	07110618 28	Watertight die cast membrane bezel lid w/clear pc door & side latch painted with screws and gasket for 0706	07808003 50
Watertight lid painted with lid screws and gasket for 0710	07100618 20	Dusttight lid painted with lid screws for 0707	07079521 20
Watertight lid unpainted with lid screws and gasket for 0710	07100618 28	Dusttight lid unpainted with lid screws for 0707	07079521 28
Dusttight wall mount lid painted with lid screws for 0703	07038916 00	Dusttight wall mount lid painted with lid screws for 0707	07079520 20
Dusttight wall mount lid unpainted with lids screws for 0703	07038916 08	Dusttight wall mount lid unpainted with lid screws for 0707	07079520 28
Watertight die-cast lid painted with lid screws and gasket for 0703	07031200 10	Watertight die cast lid unpainted with lid screws for 0707	07071201 30
Watertight die-cast lid unpainted with lid screws and gasket for 0703	07031200 18	Watertight die cast lid unpainted with lid screws and gasket for 0707	07071201 38
Dusttight lid painted with lid screws for 0705	07059521 00	Wall mount die cast lid painted with lid screws and gasket for 0707	07071201 10
Dusttight lid unpainted with lid screws for 0705	07059521 08	Watertight wall mount die-cast lid unpainted with lid screws and gasket for 0707	07071201 18
Dusttight wall mount lid painted with lid screws for 0705	07059520 00	Watertight die-cast bezel lid painted with lid screws and gasket for 0707	07071201 20
Dusttight wall mount lid unpainted with lid screws for 0705	07059520 08	Watertight die-cast bezel lid unpainted with lid screws and gasket for 0707	07071201 28
Watertight die-cast lid painted with lid screws and gasket for 0705	07051200 70	Watertight die-cast membrane bezel lid painted with lid screws and gasket for 0707	07071201 40
Watertight die-cast lid unpainted with lid screws and gasket for 0705	07051200 78	Watertight die-cast membrane bezel lid unpainted with lid screws and gasket for 0707	07071201 48
Watertight wall mount die cast lid painted with lid screws and gasket for 0705	07051200 50	Watertight die-cast lid w/clear door & side latch painted with lid screws and gasket for 0707	07808004 50
Watertight wall mount die cast lid painted with lid screws and gasket for 0705	07051200 58	Stainless steel lid screw M3 x 6 mm for 0701 and 0702	10093032 00
Watertight die cast bezel lid with screws and gasket for 0705	07051200 60	Phillips head screw for watertight lid, M4x18 mm for 0711, 0710, 0703, 0705, 0706, 0707	10093270 00
Watertight die cast bezel lid with screws and gasket for 0705	07051200 68	Slotted countersink screw for dusttight lid, M4x6mm for 0703, 0705, 0706, 0707	10093212 00
Dusttight lid painted with lid screws for 0706	07069521 10	Table feet (sold as each)	10094102 00
Dusttight lid unpainted with lid screws for 0706	07069521 18		
Dusttight wall mount lid painted with lid screws for 0706	07069520 10		
Dusttight wall mount lid unpainted with lid screws for 0706	07069520 18		
Watertight die-cast lid painted with lid screws and gasket for 0706	07061200 70		
Watertight die-cast lid unpainted with lid screws and gasket for 0706	07061200 78		
Watertight wall mount die-cast lid painted with lid screws and gasket for 0706	07061200 80		
Watertight wall mount die-cast lid unpainted with lid screws and gasket for 0706	07061200 88		
Watertight die cast bezel lid painted with lid screws and gasket for 0706	07061200 90		

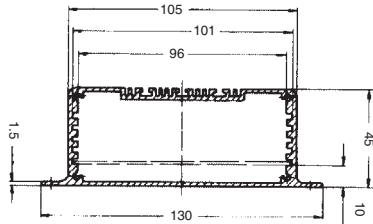


**Custom Build-A-Box® 0701**

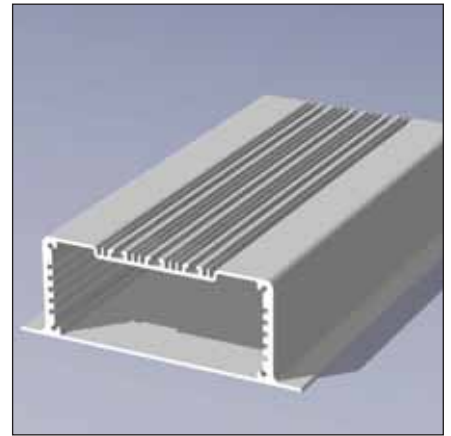
Part #	Type	Description
07011100 10	Extrusion	Extrusion only, bare Aluminum (sold by the meter)

**Accessories**

07019509 00	End Lid	Dusttight Lid-plate Aluminum, painted black, with lid screws
07019509 08	End Lid	Dusttight Lid-plate Aluminum, unpainted, with lid screws
10093032 00	Screws	Stainless Steel Lid Screw M3x6 mm
10094102 00	Table Feet	Table Feet (sold as each)



Enclosure Profile

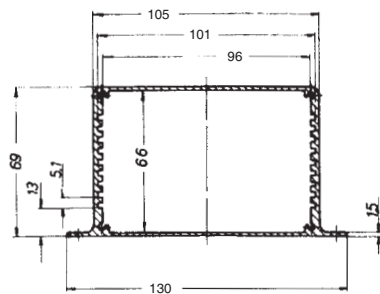


**Custom Build-A-Box® 0702**

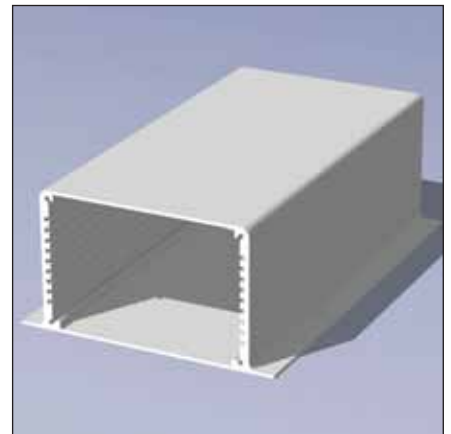
Part #	Type	Description
07021100 20	Extrusion	Extrusion only, bare Aluminum (sold by the meter)

**Accessories**

07029507 50	End Lid	Dusttight Lid-plate Aluminum, painted black, with lid screws
07029507 58	End Lid	Dusttight Lid-plate Aluminum, unpainted, with lid screws
10093032 00	Screws	Stainless Steel Lid Screw M3x6 mm
10094102 00	Table Feet	Table Feet (sold as each)



Enclosure Profile

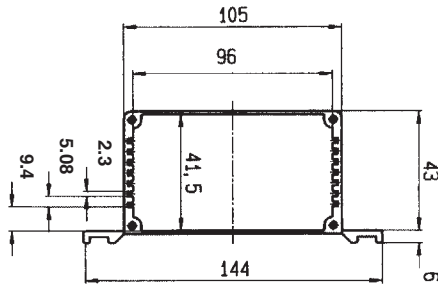


**Custom Build-A-Box® 0711**

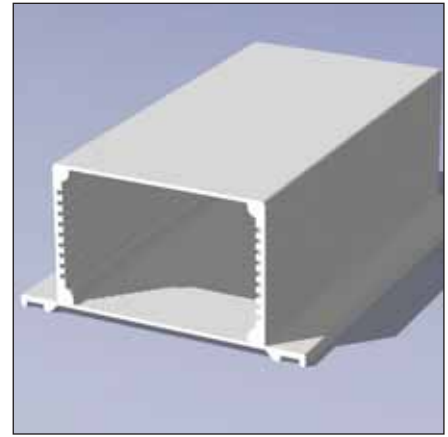
Part #	Type	Description
07111102 40	Extrusion	Extrusion only, bare Aluminum, (sold by the meter)

**Accessories**

07110618 20	End Lid	Watertight Die-cast Lid—Aluminum, painted black, with lid screws and gasket
07110618 28	End Lid	Watertight Die-cast Lid—Aluminum, unpainted, with lid screws and gasket
10093270 00	Screws	Phillips Head Screw for Watertight Lid M4x18 mm
10094102 00	Table Feet	Table Feet (sold as each)



Enclosure Profile



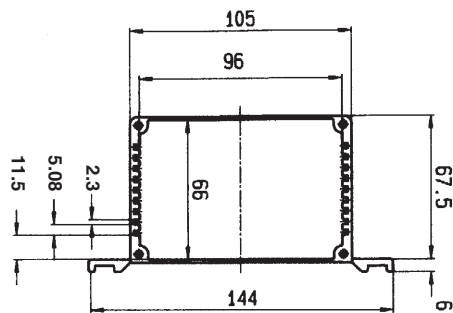
Die-cast Lid

**Custom Build-A-Box® 0710**

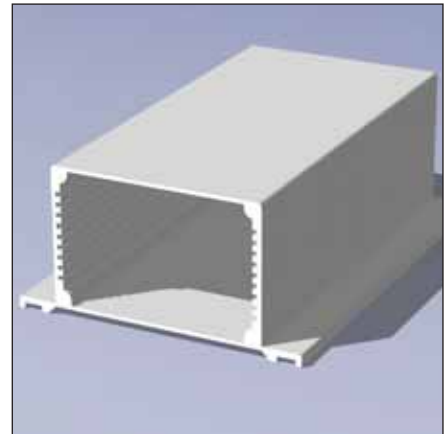
Part #	Type	Description
07101102 30	Extrusion	Extrusion only, bare Aluminum (sold by the meter)

**Accessories**

07100618 20	End Lid	Watertight Die-cast Lid—Aluminum, painted black, with lid screws and gasket
07100618 28	End Lid	Watertight Die-cast Lid—Aluminum, unpainted, with lid screws and gasket
10093270 00	Screws	Phillips Head Screw for Watertight Lid M4x18 mm
10094102 00	Table Feet	Table Feet (sold as each)



Enclosure Profile



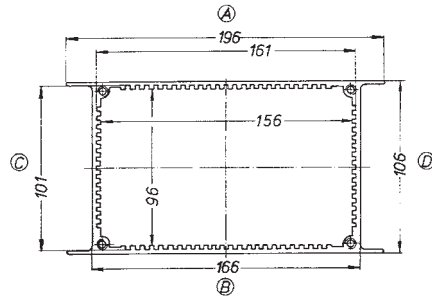
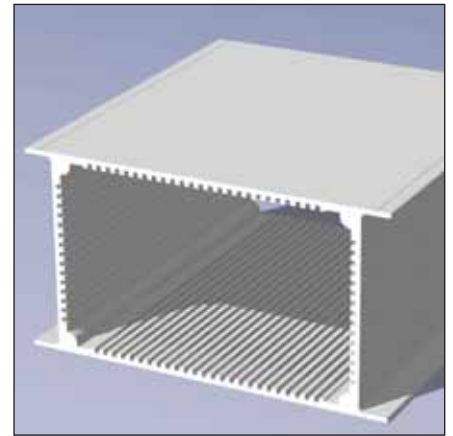
Die-cast Lid

**Custom Build-A-Box® 0703**

Part #	Type	Description
07031100 30	Extrusion	Extrusion only w/side flanges top and bottom–bare Aluminum (sold by the meter)

**Accessories**

07038916 00	End Lid	Dusttight Wall Mount Lid–plate Aluminum, painted black, with lid screws
07038916 08	End Lid	Dusttight Wall Mount Lid–plate Aluminum, unpainted, with lid screws
07031200 10	End Lid	Watertight Die-cast Lid–Aluminum, painted black, with lid screws and gasket
07031200 18	End Lid	Watertight Die-cast Lid–Aluminum, unpainted , with lid screws and gasket
10093212 00	Screws	Slotted Countersink Screw for Dusttight Lid M4x6mm
10093270 00	Screws	Phillips Head Screw for Watertight Lid M4x18mm
10094102 00	Table Feet	Table Feet (sold as each)



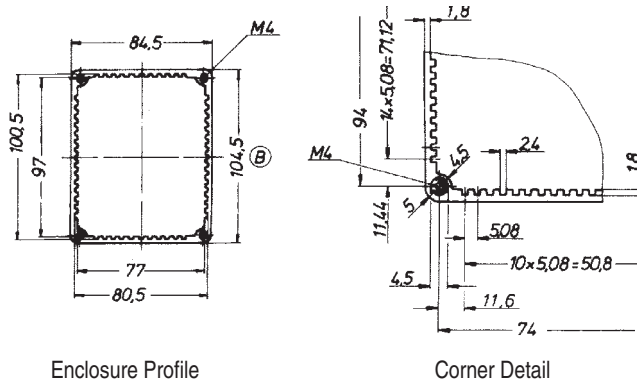
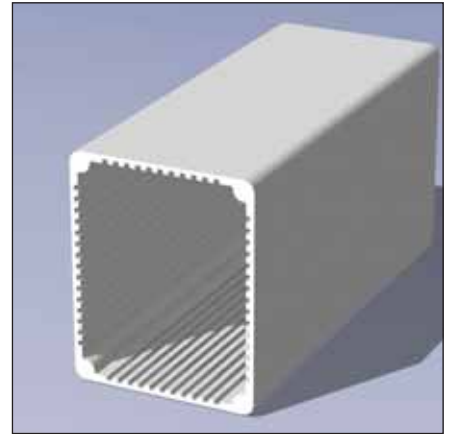
Enclosure Profile

## Custom Build-A-Box® 0705

Part #	Type	Description
07051100 50	Extrusion	Extrusion only–bare Aluminum, (sold by the meter)

### Accessories

07059521 00	Lid	Dusttight Lid–plate Aluminum, painted jet black similar to RAL 9005, with lid screws
07059521 08	Lid	Dusttight Lid–plate Aluminum, unpainted, with lid screws
07059520 00	Lid	Dusttight Wall Mount Lid–plate Aluminum, painted jet black similar to RAL 9005, with lid screws
07059520 08	Lid	Dusttight Wall Mount Lid–plate Aluminum, unpainted, with lid screws
07051200 70	Lid	Watertight Die-cast Lid–Aluminum, painted jet black similar to RAL 9005, with lid screws and gasket
07051200 78	Lid	Watertight Die-cast Lid–Aluminum, unpainted, with lid screws and gasket
07051200 50	Lid	Watertight Wall Mount Die-cast Lid–Aluminum, painted jet black similar to RAL 9005, with lid screws and gasket
07051200 58	Lid	Watertight Wall Mount Die-cast Lid–unpainted, with lid screws and gasket
07051200 60	Lid	Watertight Die-cast Bezel Lid–Aluminum, painted jet black similar to RAL 9005, with lid screws and gasket
07051200 68	Lid	Watertight Die-cast Bezel Lid–Aluminum, unpainted, with lid screws and gasket
10093212 00	Screw	Slotted Countersink Screw for Dusttight Lid M4x6mm
10093270 00	Screw	Screw for Watertight Lid M4x18mm
10094102 00	Table Feet	Table Feet (sold as each)

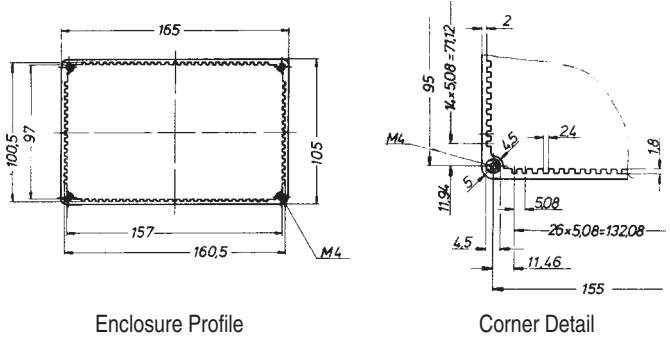
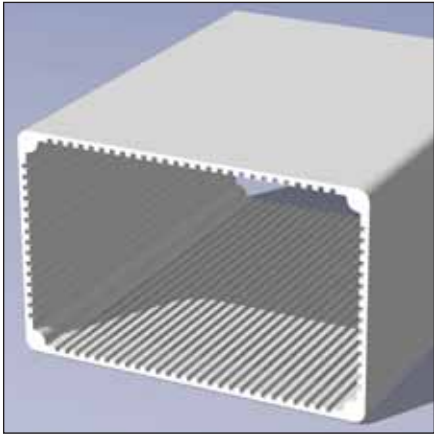


Enclosure Profile

Corner Detail

**Custom Build-A-Box® 0706**

Part #	Type	Description
07061100 60	Extrusion	Extrusion only–bare Aluminum (sold by the meter)
<b>Accessories</b>		
07069521 10	Lid	Dusttight Lid-plate Aluminum, painted jet black similar to RAL 9005, with lid screws
07069521 18	Lid	Dusttight Lid-plate Aluminum, unpainted, with lid screws
07069520 10	Lid	Dusttight Wall Mount Lid-plate Aluminum, painted jet black similar to RAL 9005, with lid screws
07069520 18	Lid	Dusttight Wall Mount Lid-plate Aluminum, unpainted with screws
07061200 70	Lid	Watertight Die-cast Lid-Aluminum painted jet black similar to RAL 9005, with lid screws and gasket
07061200 78	Lid	Watertight Die-cast Lid-Aluminum, unpainted with lid screws and gasket
07061200 80	Lid	Watertight Wall Mount Die-cast Lid-Aluminum, painted jet black similar to RAL 9005, with lid screws and gasket
07061200 88	Lid	Watertight Wall Mount Die-cast-Aluminum, unpainted, with lid screws and gasket
07061200 90	Lid	Watertight Die-cast Lid-Aluminum, painted jet black similar to RAL 9005, with lid screws and gasket
07061200 98	Lid	Watertight Die-cast Bezel Lid-Aluminum, unpainted, with lid screws and gasket
07061200 00	Lid	Watertight Die-cast Membrane Bezel Lid-Aluminum, painted jet black similar to RAL 9005, with lid screws and gasket
07061200 08	Lid	Watertight Die-cast Membran Bezel Lid-Aluminum, unpainted, with lid screws and gasket
07061200 91	Lid	Watertight Die-cast Lid/w Clear Door & Snap Lock-Aluminum, painted jet black similar to RAL 9005, with lid screws and gasket
07061200 92	Lid	Watertight Die-cast Lid w/Clear Door & Key Lock-Aluminum, painted jet black similar to RAL 9005, with lid screws, gasket and key
07808003 50	Lid	Watertight Die-cast Membrane Bezel Lid with Clear PC Door & Side Latch-Aluminum Lid painted jet black similar to RAL 9005, with lid screws and gasket
10093212 00	Screw	Slotted Countersink Screw for Dusttight Lid M4x6mm
10093270 00	Screw	Lid Screw for Watertight Lid M4x18mm
10094102 00	Table Feet	Table Feet (Sold as each)

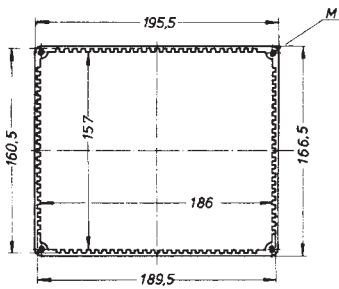
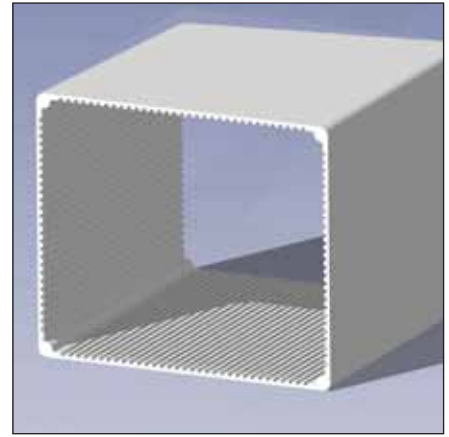


Enclosure Profile

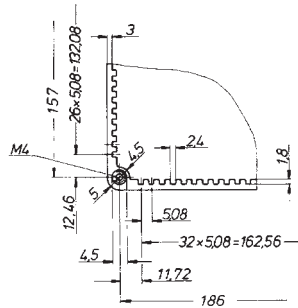
Corner Detail

## Custom Build-A-Box® 0707

Part #	Type	Description
07071100 70	Extrusion	Extrusion only—bare Aluminum (sold by the meter)
<b>Accessories</b>		
07079521 20	Lid	Dusttight Lid-plate Aluminum, painted jet black similar to RAL 9005, with lid screws
07079521 28	Lid	Dusttight Lid-plate Aluminum, unpainted, with lid screws
07079520 20	Lid	Dusttight Wall Mount Lid-plate Aluminum, painted jet black similar to RAL 9005, with lid screws
07079520 28	Lid	Dusttight Wall Mount Lid-plate Aluminum, unpainted, with lid screws
07071201 30	Lid	Watertight Die-cast Lid-Aluminum, painted jet black similar to RAL 9005, with lid screws and gasket
07071201 38	Lid	Watertight Die-cast Lid-Aluminum, unpainted with lid screws and gasket
07071201 10	Lid	Watertight Wall Mount Die-cast Lid-Aluminum, painted jet black similar to RAL 9005, with lid screws and gasket
07071201 18	Lid	Watertight Wall Mount Die-cast Lid-Aluminum, unpainted, with lid screws and gasket
07071201 20	Lid	Watertight Die-cast Bezel Lid-Aluminum, painted jet black similar to RAL 9005, with lid screws and gasket
07071201 28	Lid	Watertight Die-cast Bezel Lid-Aluminum, unpainted, with lid screws and gasket
07071201 40	Lid	Watertight Die-cast Membrane Bezel Lid-Aluminum, painted jet black similar to RAL 9005, with lid screws and gasket
07071201 48	Lid	Watertight Die-cast Membrane Bezel Lid-Aluminum, unpainted, with lid screws and gasket
07808004 50	Lid	Watertight Die-cast Lid w/Clear Door & Side Latch-Aluminum, painted jet black, similar to RAL 9005, with lid screws and gasket
10093212 00	Screw	Slotted Countersink Screw for Dusttight Lid M4x6mm
10093270 00	Screw	Lid Screw for Watertight Lid M4x18mm
10094102 00	Table Feet	Table Feet (Sold as each)



Enclosure Profile



Corner Detail



- Aluminum electronic enclosures, chassis fittings in three sizes
- Variable length options using profile technology
- Standard construction or version with connection compartment
- Optional Polycarbonate transparent cover



**Included in delivery**

Enclosure system - depending on version, either with cast aluminum lids, connection compartment, or transparent cover; please order mounting elements separately.

**Technical Data**

Material	Al Mg Si 0.5; connection compartment AISi12
Ingress Protection	IP 65 EN 60529
Opening Angle	For connection compartments and transparent covers 110°
Temperature Resistance	Lid seals -40°F to + 212°F Transparent cover -40° to +158°F; only suitable for external applications
Surface Resistance	Plastic resin stove-enamel finish
Color	Light gray, similar to RAL 7035 - enclosure body and connection compartment Stone gray, similar to RAL 7030 - enclosure lid and external fittings Special colors on request

Type	Part Number 19" Mounting Frame	Part Number 19" Mounting Frame with Transparent Cover	Part Number Front Panel Lid	Part Number Front Panel Lid	Part Number Front Panel Lid and Transparent Cover	Dimensions*	
						mm W x L x H	Inches W x L x H
<b>Enclosure with connection compartment Standard (63.5 mm)</b>							
19TE	07191100 00	07192100 00	07193100 00	07193300 00**	07192300 00	148 x 236 x 241	5.83 x 9.29 x 9.49
28TE	07281100 00	07282100 00	07283100 00	07283300 00**	07282300 00	191 x 236 x 241	7.52 x 9.29 x 9.49
42TE	07421100 00	07422100 00	07423100 00	07423300 00**	07422300 00	265 x 236 x 241	10.43 x 9.29 x 9.49
<b>Enclosure with connection compartment Standard (63.5 mm)</b>							
19TE	07191101 00	07192101 00	07193101 00	07193301 00**	07192301 00	148 x 276 x 241	5.83 x 10.87 x 9.49
28TE	07281101 00	07282101 00	07283101 00	07283301 00**	07282301 00	191 x 276 x 241	7.52 x 10.87 x 9.49
42TE	07421101 00	07422101 00	07423101 00	07423301 00**	07422301 00	265 x 276 x 241	10.43 x 10.87 x 9.49
<b>Enclosure with connection compartment Standard (63.5 mm)</b>							
19TE	07191200 00	07192200 00	07193200 00	-	-	148 x 235 x 149	5.83 x 9.25 x 5.87
28TE	07281200 00	07282200 00	07283200 00	-	-	191 x 235 x 149	7.52 x 9.25 x 5.87
42TE	07421200 00	07422200 00	07423200 00	-	-	265 x 235 x 149	10.43 x 9.25 x 5.87

\*Length without lid

\*\* Enclosure length is equal to connection compartment depth

Accessories	Part Number
External mounting for enclosure with connection compartment (set of 2)	07000100 00
External mounting for enclosures without connection compartment (set of 2)	07000200 00
Special lock with socket wrench for connection compartment (mounted)	07000017 00
Turning handle for transparent cover (mounted)	07000018 00
Cylinder lock, for transparent cover (mounted)	07000019 00
Board guides for PCB's, fixed (set of 10)	07000010 00
Board guides for PCB's; variable (set of 10)	07000011 00
Insulating strip to fix bus boards (set of 2)	Type 0719 07190020 00 0728 07280020 00 0742 07420020 00
Aluminum profile (Z rails) to fix connector bars (set of 2)	Type 0719 07190010 00 0729 07280010 00 0742 07420010 00
Mounting plate for connection compartment	Type 0719 07190030 00 0728 07280030 00 0742 07420030 00
Self-adhesive table feet (set of 4)	10070018 00
Mounting feet (2 pieces)	07700081 00

- Aluminum electronic enclosures, chassis fittings in three sizes
- Variable length options using profile technology
- Standard construction or version with connection compartment
- Optional Polycarbonate transparent cover

## Included in delivery

Enclosure system - depending on version either with cast aluminum lids, connection compartment or transparent cover; please order mounting elements separately.



## Technical Data

Material	Al Mg Si 0.5; connection compartment AlSi12
Ingress Protection	IP 65 EN 60529
Opening Angle	For connection compartments and transparent covers 110°
Temperature Resistance	Lid seals -40°F to + 212°F Transparent cover -40° to +158°F; only suitable for external applications
Surface Resistance	Plastic resin stove-enamel finish
Color	Light gray, similar to RAL 7035 - enclosure body and connection compartment Stone gray, similar to RAL 7030 - enclosure lid and external fittings Special colors on request

Type	Part Number 19" Mounting Frame with Transparent Cover	Dimensions mm W x L x H	Dimensions Inches W x L x H	Part Number Front Panel Lid	Dimensions mm W x L x H	Dimensions Inches W x L x H
<b>Enclosure with connection compartment (63.5 mm)</b>						
19TE	<b>07192111 00</b>	148 x 285 x 241	5.83 x 11.22 x 9.49	<b>07193111 00</b>	148 x 280 x 241	5.83 x 11.02 x 9.49
28TE	<b>07282111 00</b>	191 x 285 x 241	7.52 x 11.22 x 9.49	<b>07283111 00</b>	191 x 280 x 241	7.52 x 11.02 x 9.49
42TE	<b>07422111 00</b>	265 x 185 x 241	10.43 x 11.22 x 9.49	<b>07423111 00</b>	265 x 200 x 241	10.43 x 11.02 x 9.49
<b>Enclosure without connection compartment</b>						
19TE	<b>07192211 00</b>	148 x 263.5 x 149	5.83 x 10.15 x 5.87	<b>17193211 00</b>	148 x 258.5 x 149	5.83 x 10.18 x 5.87
28TE	<b>07282211 00</b>	191 x 263.5 x 149	7.52 x 10.18 x 5.87	<b>07283211 00</b>	191 x 258.5 x 149	7.52 x 10.18 x 5.87
42TE	<b>07422211 00</b>	265 x 263.5 x 148	10.43 x 10.18 x 5.87	<b>07423211 00</b>	265 x 258.5 x 149	10.43 x 10.18 x 5.87

Accessories	Part Number
External mounting for enclosure with connection compartment (set of 2)	<b>07000100 00</b>
External mounting for enclosures without connection compartment (set of 2)	<b>07000200 00</b>
Special lock with socket wrench for connection compartment (mounted)	<b>07000017 00</b>
Turning handle for transparent cover (mounted)	<b>07000018 00</b>
Cylinder lock, for transparent cover (mounted)	<b>07000019 00</b>
Board guides for PCB's, fixed (set of 10)	<b>07000010 00</b>
Board guides for PCB's; variable (set of 10)	<b>07000011 00</b>
Mounting plate for connection compartment	<b>Type 0719 07190030 00</b> <b>0728 07280030 00</b> <b>0742 07420030 00</b>
Self-adhesive table feet (set of 4)	<b>10070018 00</b>
Mounting feet (2 pieces)	<b>07700081 00</b>

## ANG Panel Meter Housing



- First DIN panel meter housing on the market with NEMA 4x protection
- Constructed from hollow extrusion of heavy duty aluminum with internal slotting to accommodate printed circuit boards or chassis.

### Included in delivery

Enclosure body, mounting profiles, bezel, front frame, rear lid, 1.5 allen key, adhesive plate, screws and washers.



### Technical Data

Color	Black powdercoat
Material	Extruded aluminum
Protection Classifications	NEMA 4X IP 66, DIN 40050

Part Number	Dimensions mm	Dimensions Inches
	L x W x H	L x W x H
ANG 9610	109.5 x 96 x 96	4.31 x 3.77 x 3.77
ANG 9616	165.5 x 96 x 96	6.51 x 3.77 x 3.77
ANG 9601	Sold in one meter lengths	Sold in one meter lengths

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

### Accessories

Part Number	Description
ANG 96 MPI	Aluminum mounting rail
ANG 96 BZ	Front bezel
ANG 96 FF	Front open frame
ANG 96 RL	Rear cover
SST 1230 NG	Replacement screws (set of 8)

Electronic systems are not made for the enclosures that house them; rather the enclosures are made to hold the electronics. For this reason, Bopla offers designers modular enclosures. These enclosure systems are offered in many diverse sizes with a wide range of possibilities for variation. This allows the individual design to come to life.

Electronic device manufacturers look for “packaging” that meets their requirements with regard to design and technology so that the ultimate product can effectively answer the demands of the market. The “package”, in this case, an enclosure made of plastic or metal, is of tremendous importance to the marketability of the device. Technical characteristics, price/performance comparisons, and the appearance of the product can prove central to its success. The extremely broad spectrum of different modular enclosure systems from Bopla represents a remarkable selection of “standards” that can be individualized.



**CombiCard 5000-7000**

- 3 versions with dimensions from 175.7 mm to 323 mm for the front length

**InterCard**

- 1 version with dimensions from 212 x 198 x 162.5 mm

**CombiSet**

- 4 versions with dimensions from 224.5 to 252 mm

**CombiNorm Classic**

-2 versions with dimensions from 100 x 109.5 x 75 mm to 22.5 x 109.5 x 75 mm

**CombiNorm Compact**

- 3 versions with dimensions from 19 x 110 x 75 mm to 26 x 110 x 75 mm

**CombiCard 1000-3000**

- 3 versions with dimensions from 134 mm to 288 mm for the front length

**Executive Plug Housings**

- 7 versions with dimensions from 125 x 37 mm with height from 15 to 35 mm

**SE 4 & SE 5 Plug Housings**

-2 versions with dimensions from 65 x 50 x 30 to 120 x 65 x 66 mm

# Alurail



- Modular DIN rail enclosure for use in measurement, control, and automation control technology
- Individual design of the enclosure construction is made possible by attaching different module types in various lengths onto the basic profile
- Basic profiles and modules equipped with integrated guide grooves for PCBs



## Included in delivery

Profiles sold in meter lengths. Other components sold individually. See below for details.

## Technical Data

Material	Profiles: Extruded aluminum profile, Al Mg Si 0.5; Profile caps: Polyamide 6.6 FR
Ingress Protection	Up to IP 40/DIN EN 60529, depending on enclosure construction
Flammability	UL 94 V0/1
Surface Resistance (caps)	>10 <sup>15</sup> Ohm to DIN 53482
Ingress Protection	Up to IP 40/DIN EN 60529 depending on the enclosure construction
Color	Aluminum profile: anodized Profile caps: light gray, similar to RAL 7035 Special colors on request. Minimum quantities apply.

Model Number	Part Number	Dimensions mm	Dimensions mm	Model Number	Part Number	Dimensions mm	Dimensions mm
Basic Profiles	Basic Profiles	L x W	L x W	Module Profiles	Module Profiles	L x W x H	L x W x H
ARP 75/31-1000	87010000 00	990.0 x 75.0	39.00 x 2.95	ARPM 45/27-1000	87110000 00	990 x 45 x 27.5	39.00 x 2.95 x 1.08
ARP 105/31-1000	87020000 00	990.0 x 105	39.00 x 4.13	ARPM 75-42-1000	87110000 00	990 x 75 x 42.5	39.00 x 2.95 x 1.67

Model Number	Part Number	Dimensions mm	Dimensions Inches	Model Number	Part Number	Dimensions mm	Dimensions Inches
Split Basic Profiles	Split Basic Profiles	L x W	L x W	Split Module Profiles	Split Module Profiles	L x H	L x H
ARPG 75/31-1000	87030000 00	990 x 75	39.00 x 2.95	ARPMG 00/27-1000	87120000 00	990 x 27.5	39.00 x 1.08

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

Accessories	Model Number
Profile caps (Includes 2 side panels, 4 assembly screws, 1 snap-on element, 1 positioning screw for snap-on element)	AR...KS
Module front panels (Includes 1 anodized front panel)	ARM...FP
Side panels, aluminum (Includes 2 side panels, 4 assembly screws, 1 snap-on element, 1 positioning screw for snap-on element)	AR...KS-AL
Module profiles for attaching to the basic profile (Includes 1 enclosure profile)	ARPM...
Split module profiles for attaching to the basic profile (Includes 2 aluminum profiles)	ARPMG 00/...
Module caps (Includes 2 module profile caps, 4 assembly screws, 2 mounting screws)	ARM...
Module front panels (Includes 1 anodized front panel)	ARM...FP
Module bridges for attaching the module profiles onto the basic profiles (required if basic profile and module profile are of different lengths. Includes 5 modules bridges, 10 assembly screws)	AR...MB
Wall mounting set (Includes 2 wall-mount elements)	AR...WB
Grounding set (Includes ground claws 5 pieces)	AR-E
Snap-on element (Includes snap-on elements, positioning screws, 5 pieces)	AR-R

# CombiCard 5000-7000



- Modular construction ensures that the demands made of a future-oriented enclosure system are satisfied in the best possible way
- Hinge system design and the possibility of installing prefabricated mounting racks minimize assembly times
- User-defined access protection
- Double clamp area permits easy, clean wiring with a large number of cable entries

## Included in delivery

Modular product sold by individual components. See below for details.



## Technical Data

Color	Fronts and bases light gray, similar to RAL 7035. Clear front lid, G-version; side covers light gray, similar to RAL 7035. Rear parts agate gray, similar to RAL 7038. Special colors on request. Minimum quantities apply.
Material	ABS, except FD...G (clear polycarbonate)
Gasket Material	Neoprene
Ingress Protection	IP 66 (IP 30 with ventilation) / DIN EN 60529, NEMA 4, 4X
Surface Resistance	ABS, >10 <sup>14</sup> Ohm to DIN 53482 Polycarbonate, >10 <sup>15</sup> Ohm to DIN 53482
Disruptive Strength	Polycarbonate 28KV/mm to DIN 53481
Flammability	Polycarbonate: UL 94 V2/1.14. ABS: UL 94 HB/1.6
Temperature Range	up to +167°F

Model Number	Front Length mm	Front Length Inches	Front Height mm	Front Height Inches	TE (x 5.08)	HE (x 44.45)
5000	175.7	6.92	146.7	5.77	20	3
6000	226.5	8.92	146.7	5.77	30	3
7000	323.0	12.72	146.7	5.77	49	3

Dimensions without lid

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only. For complete information and part numbers please see website. [www.rose-bopla.com](http://www.rose-bopla.com)

Model	FD	FR	FO	BC	RD
Front lids, clear	•			•	
Quick-release fastenings	•				
Lock cover	•				
Lock	•				
Front frames, open		•	•		
Front frame, closed		•	•		
Rear sections with/without terminal compartment					•

## Components

Part Number	Version	Depth mm	Depth Inches
FD...(G)	Front lids, clear (Includes: front lid with seal, 2 mounting locks, 1 blind plug, 1 catch)	34	1.34
FR...	Front frames, closed (Includes: front frame with seal, 2 snap-on covers, 4 assembly screws)	34	1.34
FO...	Front frames, open (Includes: front frame with seal, 2 snap-on covers, 4 assembly screws, 10 front panel assembly screws)	34	1.34
BC...(L) - 0.5	Bases - 0.5 (51.51 mm) construction depth (Includes: BC_000.0.5, base with seal, 2 mounted locks. BC_000 L-0.5, base with air vents without seal, 2 mounted locks)		
BC...(L) - 1	Bases - 1 (88.25mm) construction depth (Includes: BC_000-1, base with seal, 2 mounted locks. BC_000 L-1, base with air vents without seal, 2 mounted locks)	51.1	2.01
BC...(L) - 1.5	Bases - 1.5 (139.76 mm) construction depth (Includes: BC_0001.5, base with seal, 2 mounted locks. BC_000 L-1.5, base with air vents without seal, 2 mounted locks)	88.25	3.47
BC...NG(L)	Base NG (control panel mounting) (Includes: base including mounted set of elements for control panel mounting)	139.76	5.50
RD/RDK	Rear sections with/without terminal compartments (Includes: RD - rear section, RDK - rear section, terminal compartment bar, terminal compartment cover including seal and assembly screws.	68	2.68
		50	1.97
<b>Accessories</b>			
FP.../AI	Front panels		
M... / K / BK	Mounting plates for RD...BC...(L)-...RD...K, RD...BK		
WL... / K / BK	Wall bracket		
SR 5670 - 0.5/-1/-1.5	Set of catches		
VA 5670	Quick release fastening hinge (2 pieces)		
SV 5670 2	Lock cover / hinged quick-release fastening (Includes: 1 catch, 1 blind plug)		
BS 5670	Assembly kit		



# CombiCard 1000-3000



- Gives the user almost infinite possibilities for the optimal integration of individual electronic components
- Can be used as a desktop, wall or control panel mounted enclosure
- Mountable hinges mean that separate parts can be swiveled as required



### Included in delivery

Modular product sold by individual components. See below for details.

## Technical Data

Color	Base parts, light gray, similar to RAL 7035; front lid in G-version, crystal clear, front and rear parts, graphite gray, similar to RAL 7024. Special colors on request. Minimum order quantities apply.
Material	ABS, polycarbonate front lids (FD...G), for standard product
Gasket Material	Neoprene
Ingress Protection	IP 65 DIN VDE 0470, NEMA 12
Surface Resistance	ABS, >10 <sup>14</sup> Ohm to DIN 53482, Polycarbonate, >10 <sup>15</sup> Ohm to DIN 53482
Disruptive Strength	Polycarbonate 28KV/mm to DIN 53481
Flammability	ABS, UL 94 HB/1.6, Polycarbonate, UL 94 V2/1.14
Temperature Range	up to +167°F

Model	Front Length mm	Front Length Inches	Front Height Inches	Front Height Inches
1000	134	5.27	144	5.67
2000	184	7.24	144	5.67
3000	281	11.06	144	5.67

Dimensions without lid

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only. For detailed information and part numbers see website. [www.rose-bopla.com](http://www.rose-bopla.com)

### Part Number Prefix

Model	FD	FR	FO	FCT	FA	BC	RD
Front lids	•				•		
Front frames, closed		•					
Front frames, open			•	•			
Front frames, open, with protective door			•	•			
Front panels							
Bases for control and mounting						•	
Rear lids, low/tall							•

Model Number	Version	Depth mm	Depth Inches
<b>Front Sections</b>			
FD...	Front lids with screws	34	1.34
FR...	Front frames, closed with screws	33.6	1.32
FO...	Front frames, open, screws	33.6	1.32
FCT...F(P)	Front frames, open, with protective door and screws	50	1.97
<b>Bases</b>			
BC...(L)	BC...-base, without air vents includes seal. BC...(L) with air vents, no seal.	87.5	3.44
BC...N	Bases, low with seal including integrated fixing kit for control panel mounting	51	2.00
BC...NG	Bases for control panel mounting, (Includes base part with seal and integrated mounting kit for control panel mounting)	87.5	3.44

<b>Rear Lids</b>			
RD...	Rear lids, low with seal, screws	29.6	1.16
RD...H(SC)	RD...H-rear lid, tall with seal screws. RD...H(SC)-rear lid, tall with seal, hinges, and assembly material	48	1.89
RD...K(SC)	RD...K-rear lid, terminal compartments cover, seals, screws. RD...K(SC)-rear lid, terminal compartment cover, seals, screws, hinge elements and assembly material	48-60	1.89-2.36
RD...G-K(SC)	Rear lids with large terminal compartment	48-60	1.89-2.36

G=Transparent cover P=Open L=With air vents K=Terminal compartment SC=With hinges

### Accessories

Model Number	Version
WR...	Wall frame
WR...H	Wall frames for low/high rear parts
FP..AI	Internal aluminum front panels (assembly material included with FO... and FCT...FP)
FP..AA	External aluminum front panels (including assembly material)
FA...	Aluminum front panels for base parts (including assembly material)
FA...I	Internal mounting plate for base parts in combination with front element (including assembly material)
MR...	Mounting plate for rear wall (including assembly material)
MR...K	Mounting plate for rear wall lid with terminal compartment (including assembly material)
HS...	Handle

# InterCard



- Horizontal and vertical insertion slots for PCBs
- Door hinge system can be mounted on the right or left side
- Wall mounting (three-or four-point) is outside the sealed lip, so it does not affect the ingress protection IP 65
- Terminal compartment covers locks in the open position



### Included in delivery

Base, hinged clear lid, mounted with snap lock; terminal compartment cover; screws; threaded inserts for mounting plates.

## Technical Data

Color	Light gray, similar to RAL 7035. Special colors available on request. Minimum order applies.
Material	ABS, clear Polycarbonate lid.
Gasket	Neoprene
Temperature Range	up to 167°F
Ingress Protection	IP 65 / DIN EN 60529
Surface Resistance	ABS, >10 <sup>14</sup> Ohm to DIN 53482; Polycarbonate: >10 <sup>15</sup> Ohm to DIN 53482
Disruptive Strength	Polycarbonate, 28 KV/mm to DIN 53481
Flammability	ABS, UL 94 HB/1.6. Polycarbonate, UL 94 V2/1.14

Model	Part Number	Length mm	Length Inches	Height mm	Height Inches	Depth mm	Depth Inches
IC 5000	07500000 00	198	7.79	212	8.35	162.5	6.40

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

### Accessories

Type	Version	Part Number
SHLO-302	Cylinder catch	21008310 00
MP 5000	Mounting plate, screws	27450000 00
FA 5000	Front panel, screws	27350000 00

# CombiSet



- Ideal for mounting individual PCBs or cassettes in installation widths up to 12 TE
- NG version with the wraparound molded covering frame can be installed in control panels
- With lockable clear lid, this enclosure provides ingress protection IP 65



### Included in delivery

All models: Base and rear section, upper and lower guide grids, tapped strips and screws. CC...TK includes hinged clear door with knob. CC...NG includes molded-on installation frame on the base and retaining clasps. CC...NGTK additionally includes hinged clear door with knob.

## Technical Data

Color	Base, light gray, similar to RAL 7035; rear part, graphite gray, similar to RAL 7024; front door clear. Special colors available on request. Minimum order quantities apply.
Material	ABS, clear Polycarbonate front door
Gasket	Neoprene
Ingress Protection	For version CC 500 TK/NGTK: IP 65 / DIN EN 60529, NEMA 12
Surface Resistance	ABS, >10 <sup>14</sup> Ohm to DIN 53482, Polycarbonate >10 <sup>15</sup> Ohm to DIN 53482
Disruptive Strength	Polycarbonate, 28KV/mm to DIN 53481
Flammability	ABS, UL 94 HB/1.6. Polycarbonate, UL 94 V2/1.14
Temperature Resistance	up to 167°F

Model Number	Part Number	Version	Dimension	Dimensions
			mm W x H x D	Inches W x H x D
CC 500	19050000 00	Desktop / wall / rail enclosure	68 x 136 x 224.5	2.68 x 5.35 x 8.83
CC 500 TK	19050101 00	Desktop / wall / rail enclosure with door / ingress protection IP 65	68 x 136 x 252.5	2.68 x 5.35 x 9.94
CC 500 NG	19050200 00	Control panel mounting enclosure	72 x 144 x 224.5	2.83 x 5.67 x 8.34
CC 500 NGTK	19050301 00	Control panel mounting enclosure with door	72 x 144 x 252.5	2.83 x 5.67 x 9.94

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

### Accessories

Model Number	Part Number	Version
CC 500 WR	39001000 00	Wall frame
CC 500 MS	39004000 00	Mounting kit for DIN EN 60603-2 plug-in connector (previously DIN 41612)
CC 500 TS	39005000 00	Rail snap foot for top hat rail DIN EN 60715 TH 35
SHLO - 302	21009310 00	Cylinder lock catch
KF 1230	39302000 00	Card guides (10 pieces)
KS 1230	39301000 00	Card securing devices (10 pieces)

# CombiNorm Compact



- Optimal PCB utilization because the unit PCB is inserted from the side
- The right angled shape of the soldering pins makes it possible to mount terminals with components in one soldering process
- Latching of the shell and lid can take place on automated machines because of the special snap trim

## Included in delivery

Shell only. Lid and accessories must be ordered separately

## Technical Data

Color	Light gray, similar to RAL 7035. Special colors or request. Minimum order quantities apply.
Material	Polyamide 6,6 FR, front flap crystal clear polycarbonate
Flammability	UL 94 V0/1
Surface Resistance	>10 <sup>15</sup> Ohm to DIN 53482
Ingress Protection	IP 40 to DIN EN 60529 for complete enclosure without ventilation. IP 30 to DIN EN 60529 for complete enclosure with ventilation IP 20 to DIN EN 60529 for terminals

Model	Part Number	Version	Dimension	Dimensions
			mm	Inches
			W x L x H	W x L x H
CN 19 GU	65019000 00	Enclosure shell, universal	19 x 110.8 x 75	0.75 x 4.36 x 2.95
CN 22 GU	65022000 00	Enclosure shell, universal	22 x 110.8 x 75	0.87 x 4.36 x 2.95
CN 26 GU	65026000 00	Enclosure shell, universal	26 x 110.8 x 75	1.03 x 4.36 x 2.95
CN-DU	65000100 00	Enclosure lid, universal	19/22/26 x 110.8 x 75	0.75/0.87/1.03 x 4.36 x 2.95
CN 19 GU-L	65019010 00	Enclosure shell, universal, with air vents (on request)	19 x 110.8 x 75	0.75 x 4.36 x 2.95
CN 22 GU-L	65022010 00	Enclosure shell, universal, with air vents (on request)	22 x 110.8 x 75	0.87 x 4.36 x 2.95
CN 26 GU-L	65026010 00	Enclosure shell, universal, with air vents (on request)	26 x 110.8 x 75	1.03 x 4.36 x 2.95
CN 19 GK	65019100 00	Enclosure shell, contoured	19 x 110.8 x 75	0.75 x 4.36 x 2.95
CN 22 GK	65022100 00	Enclosure shell, contoured	22 x 110.8 x 75	0.87 x 4.36 x 2.95
CN 26 GK	65026100 00	Enclosure shell, contoured	26 x 110.8 x 75	1.03 x 4.36 x 2.95
CN 19 GK-L	65019110 00	Enclosure shell, contoured, with air vents	19 x 110.8 x 75	0.75 x 4.36 x 2.95
CN 22 GK-L	65022110 00	Enclosure shell, contoured, with air vents	22 x 110.8 x 75	0.87 x 4.36 x 2.95
CN 26 GK-L	65026110 00	Enclosure shell, contoured, with air vents	26 x 110.8 x 75	1.03 x 3.97 x 2.95
CN-DK	65000200 00	Enclosure lid, contoured	19/22/26 x 110.8 x 75	0.75/0.87/1.03 x 4.36 x 2.95

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

## Accessories

Model	Part Number	Version	Dimensions Width	Dimensions Width
			mm	Inches
CN 19 FP	65019500 00	Front panel, plug-in	19	0.75
CN 22 FP	65022500 00	Front panel, plug-in	22	0.87
CN 26 FP	65026500 00	Front panel, plug-in	26	1.02
CN 19 FK	65019600 00	Front flap, snap-on	19	0.75
CN 22 FK	65022600 00	Front flap, snap-on	22	0.87
CN 26 FK	65026600 00	Front flap, snap-on	26	1.02
CN 19 FKG	65019700 00	Front flap, clear, snap-on	19	0.75
CN 22 FKG	65022700 00	Front flap, clear, snap-on	22	0.87
CN 26 FKG	65026700 00	Front flap, clear, snap-on	26	1.02
AK 8191/2DL	66000052 00	Connection terminals, 2-pole, on left of component side (seen from front), PCB vertical	19 - 26	0.75 - 1.02
AK 8191/2DR	66000062 00	Connection terminals, 2-pole, on right of component side (seen from front), PCB vertical	19 - 26	0.75 - 1.02
AK 8191/3DL	66000072 00	Connection terminals, 3-pole, on left of component side (seen from front), PCB vertical	22 - 26	0.87 - 1.02
AK 8191/3DR	66000082 00	Connection terminals, 3-pole, on right of component side (seen from front), PCB vertical	22 - 26	0.87 - 1.02
CN-BL1	66000032 00	Blind piece, 1-pole, for unused terminal locations	19 - 26	0.75 - 1.02
CN-BL2	66000042 00	Blind piece, 2-pole, for unused terminal locations	19 - 26	0.75 - 1.02
CN-WA	66000012 00	Wall adapter for mounting single enclosures to wall	19 - 26	0.75 - 1.02
CN-BZ	66000022 00	Marking plate for clipping onto upper and lower section of enclosure front	19 - 26	0.75 - 1.02

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

## CombiNorm Classic



- 5-width enclosure program for 35 mm rail unit can be adapted to suit specific requirements by means of 4 different terminal types (PCB = variations) which, in some cases, can be combined outside a unit
- Lower part can be supplied with an adjusting flap on the upper side (type CNS...) that permits subsequent access to the electronic parts, e.g. for adjustment purposes
- Clear hood covers provide optimal protection for the operating fronts against dirt, unauthorized access (lead seal) and unintentional terminal operation
- Front lids are membrane-keypad ready



### Included in delivery

CN: Base, lid, mounted latch for rail fitting

CNS: Base, lid adjusting flap, mounted latch for rail fitting

## Technical Data

Color	Light gray, similar to RAL 7035. Special colors or request. Minimum order quantities apply.
Material	ABS
Flammability	UL 94 HB/1.6
Surface Resistance	>10 <sup>14</sup> Ohm to DIN 53482
Ingress Protection	IP 40 to DIN EN 60529

Model	Part Number	Version	Dimensions	
			mm W x L x H	Inches W x L x H
CN 22 AK	65002210 00	Small control enclosure for max. 8 terminals	22.5 x 109.5 x 75	0.88 x 4.31 x 2.95
CN 45 AK	65004510 00	Small control enclosure for max. 16 terminals	45.0 x 109.5 x 75	1.77 x 4.31 x 2.95
CN 55 AK	65005510 00	Small control enclosure for max. 20 terminals	55.0 x 109.5 x 75	2.16 x 4.31 x 2.95
CN 70 AK	65007010 00	Small control enclosure for max. 26 terminals	70.0 x 109.5 x 75	2.75 x 4.31 x 2.95
CN 100 AK	65010010 00	Small control enclosure for max. 138 terminals	100.0 x 109.5 x 75	3.94 x 4.31 x 2.95
CNS 22 AK	65002230 00	Small control enclosure for max. 8 terminals with adjustable flap, included	255.0 x 109.5 x 75	10.03 x 4.31 x 2.95
CNS 45 AK	65004530 00	Small control enclosure for max. 16 terminals with adjustable flap, included	45.0 x 109.5 x 75	1.77 x 4.31 x 2.95
CNS 55 AK	65005530 00	Small control enclosure for max. 20 terminals with adjustable flap, included	55.0 x 109.5 x 75	2.16 x 4.31 x 2.95
CNS 70 AK	65007030 00	Small control enclosure for max. 26 terminals with adjustable flap, included	70.0 x 109.5 x 75	2.75 x 4.31 x 2.95
CNS 100 AK	65010030 00	Small control enclosure for max. 138 terminals with adjustable flap, included	100.0 x 109.5 x 75	3.94 x 4.31 x 2.95

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

### Accessories

Model	Part Number	Version
CNH 22 N	65002260 00	Hinged hood cover, crystal-clear, low, for enclosure CN(S) 22 AK
CNH 22 H	65002250 00	Hinged hood cover, crystal-clear, tall, for enclosure CN(S) 22 AK
CNH 45 N	65004560 00	Hinged hood cover, crystal-clear, low, for enclosure CN(S) 45 AK
CNH 45 H	65004550 00	Hinged hood cover, crystal-clear, tall, for enclosure CN(S) 45 AK
CNH 55 N	65005560 00	Hinged hood cover, crystal-clear, low, for enclosure CN(S) 55 AK
CNH 55 H	65005550 00	Hinged hood cover, crystal-clear, tall, for enclosure CN(S) 55 AK
CNH 70 N	65007060 00	Hinged hood cover, crystal-clear, low, for enclosure CN(S) 70 AK
CNH 70 H	65007050 00	Hinged hood cover, crystal-clear, tall, for enclosure CN(S) 70 AK
CNH 100 N	65010060 00	Hinged hood cover, crystal-clear, low, for enclosure CN(S) 100 AK
CNH 100 H	65010050 00	Hinged hood cover, crystal-clear, tall, for enclosure CN(S) 100 AK
CNB 100	65010070 00	Blind bar CNB 100
CNA 100	65010100 00	STL adapter CNA 100
AK 700 V		Connection terminals
AK 700 H		Connection terminals
AK 950		Connection terminals
STL 950		Pin bars
AK-BS	66000100 00	Terminal identification strip

- Wall enclosure system for use in measurement and control applications available in 8 basic sizes, each with 6 different designs
- To permit insertion of mounting plates and PCBs, all designs feature vertical and horizontal grooves which ensure optimal unit assembly
- Terminal compartment can be separated from the actual electronics area by means of integrated grooves with separating plates



### Included in delivery

Enclosures with hinged lid and latch: Base, clear lid, hinged, clear lid, mounted with latch, terminal compartment covers, screws, blind plug, catch.

Enclosures with covering frame: Base, covering frame, terminal compartment cover, screws

Enclosures with membrane front: Base, recessed front lid, terminal compartment cover, screws, screw cover.

## Technical Data

Color	Light gray, similar to RAL 7035
Material	ABS housing, crystal clear polycarbonate lid (Lexan 241A) VO version: Lexan 500 R housing, Lexan 940 A lid. Special materials and colors can be supplied on request. Minimum order quantities apply.
Ingress Protection	Up to IP 65, DIN EN 60529. NEMA 12
Surface Resistance	ABS, >10 <sup>14</sup> Ohm to DIN 53482. Polycarbonate, >10 <sup>15</sup> Ohm to DIN 53482
Disruptive Strength	Polycarbonate 28 KV/mm to DIN 53481
Flammability	UL 94 HB/1.6 - ABS enclosure material, clear polycarbonate lid. (Lexan 241 R) UL 94 V0 - Lexan 500 R enclosure material, Lexan 940 A lid.

Model Number With Hinged Lid and Latch	Part Number With Hinged Lid and Latch	Model Number With Covering Frame	Part Number With Covering Frame	Model Number With Membrane Front	Part Number With Membrane Front	Dimensions mm H x W x D	Dimensions Inches H x W x D
RCP 1300	41130109 00	RCP 130	41130009 00	RCP 130 F	41130609 00	186 x 131 x 81-103	7.32 x 5.16 x 3.19-4.05
RCPM 1300	41131109 00	RCPM 130	41131009 00	RCPM 130 F	41131609 00	186 x 131 x 81-103	7.32 x 5.16 x 3.19-4.05
RCP 1600	41160109 00	RCP 160	41160009 00	RCP 160 F	41160609 00	161 x 166 x 71-93	6.34 x 6.53 x 2.79-3.66
RCPM 1600	41161109 00	RCPM 160	41161009 00	RCPM 160 F	41161609 00	161 x 166 x 71-93	6.34 x 6.53 x 2.79-3.66
RCP 1700	41170109 00	RCP 170	41170009 00	RCP 170 F	41170609 00	161 x 166 x 99-121	6.34 x 6.53 x 3.90-4.76
RCPM 1700	41171109 00	RCPM 170	41171009 00	RCPM 170 F	41171609 00	161 x 166 x 99-121	6.34 x 6.53 x 3.90-4.76
RCP 2000	41200309 00	RCP 200	41200009 00	RCP 200 F	41200609 00	185 x 213 x 82.5-104.5	7.28 x 8.38 x 3.25-4.11
RCPM 2000	41201309 00	RCPM 200	41201009 00	RCPM 200 F	41201609 00	185 x 213 x 82.5-104.5	7.28 x 8.38 x 3.25-4.11
RCP 2500	41250109 00	RCP 250	41250009 00	RCP 250 F	41250609 00	217 x 257 x 110.5-132.5	8.54 x 10.12 x 4.35-5.22
RCPM 2500	41251109 00	RCPM 250	41251009 00	RCPM 250 F	41251609 00	217 x 257 x 110.5-132.5	8.54 x 10.12 x 4.35-5.22
RCP 3100	41310109 00	RCP 310	41310009 00	RCP 310 F	41310609 00	261 x 296 x 110.5-132.5	10.27 x 11.65 x 4.35-5.22
RCPM 3100	41311109 00	RCPM 310	41311009 00	RCPM 310 F	41311609 00	261 x 296 x 110.5-132.5	10.27 x 11.65 x 4.35-5.22
RCP 3500	41350109 00	RCP 350	41350009 00	RCP 350 F	41350609 00	281 x 296 x 136-158	11.06 x 11.65 x 5.35-6.22
RCPM 3500	41351109 00	RCPM 350	41351009 00	RCPM 350 F	41351609 00	281 x 296 x 136-158	11.06 x 11.65 x 5.35-6.22
RCP 4000	41400109 00	RCP 400	41400009 00	RCP 400 F	41400609 00	318.6 x 363.4 x 128.5-150	12.54 x 14.31 x 5.06-5.90
RCPM 4000	41401109 00	RCPM 400	41401009 00	RCPM 400 F	41401609 00	318.6 x 363.4 x 128.2-150	12.54 x 14.31 x 5.06-5.90

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.  
RCPM Version = Metric size knock outs

### Accessories

Model Number	Part Number	Version
SHLO-302	21008310 00	Cylinder catch
RCP/RCPM-HK	41002501 00	Hand knob
RCP/RCPM-WL	41000300 00	Wall brackets (PU = 2 pieces)
RCP/RCPM 130 M	41000350 00	Mounting plate
RCP/RCPM 160/170 M	41000400 00	Mounting plate
RCP/RCPM 200 M	41000500 00	Mounting plate
RCP/RCPM 250 M	41000600 00	Mounting plate
RCP/RCPM 310 M/350M	41000700 00	Mounting plate
RCP/RCPM 400 M	41000800 00	Mounting plate
FAE 130	27000100 00	Front panel, for enclosure 130/1300
FAE 160/170	27000300 00	Front panel, for enclosure 160/170
FAE 200	27000500 00	Front panel, for enclosure 200
FAE 250	27000700 00	Front panel, for enclosure 250
FAE 310/350	27000900 00	Front panel, for enclosure 310/350
FAE 400	27120000 00	Front panel, for enclosure 400



- Individually adaptable enclosure for use in building automation systems and many other fields of electronics
- Enclosure bases can be supplied with or without ventilation in 3 basic sizes
- Eight different lid types, with different sizes and shapes, can be mounted on the base
- Choose between lids with a membrane keypad area, design front or a hinged lid



**Included in delivery**

Modular product sold by individual components.

**Technical Data**

Color	Base and wall mount fittings: agate gray, similar to RAL 7038 or white, similar to RAL 9010. Lid: light gray (standard color) similar to RAL 7035 or white (special order) similar to RAL 9010 Module bridges: light gray, similar to RAL 7035. Special colors on request.
Material	ABS - BVT-MB. Polyamide (PA 6, 15% GF) BVL-MB.
Ingress Protection	Up to IP 40, according to DIN EN 60529, depending on construction. Up to IP 30 if used with ventilated bases. Up to IP 20 if used with lids with secondary flap.
Surface Resistance	>10 <sup>12</sup> Ohm to DIN 53482 (Polyamide), >10 <sup>14</sup> Ohm to DIN 53482 (ABS)
Flammability	ABS and Polyamide: UL 94 HB/1.6

Model Number	Part Number Agate Gray	Part Number White	Dimensions		Description
			mm L x W x H	Inches L x W x H	
BVT-UT	40001000 00	40101000 00	200 x 120 x 18	7.87 x 4.72 x 0.71	Compact base
BVT-UT-L	40001100 00	40101100 00	200 x 120 x 18	7.87 x 4.72 x 0.71	Compact base with ventilation
BVT-UT2	40001200 00	40101200 00	120 x 80 x 18	4.72 x 3.16 x 0.71	Compact base 2
BVT-UT2-L	40001300 00	40101300 00	120 x 80 x 18	4.72 x 3.15 x 0.71	Compact base 2 with ventilation
BVT-OT1	40002100 00	40102100 00	120 x 40 x 18	4.72 x 1.57 x 0.71	Compact lid 1
BVT-OT1-F	40002110 00	40102110 00	120 x 40 x 18	4.72 x 1.57 x 0.71	Compact lid 1 with membrane keypad area
BVT-OT1-D	40002120 00	40102120 00	120 x 40 x 18	4.72 x 1.57 x 0.71	Compact lid 1 with design front
BVT-OT2	40002130 00	40102130 00	120 x 80 x 18	4.72 x 3.15 x 0.71	Compact lid 2
BCT-OT2-F	40002140 00	40102140 00	120 x 80 x 18	4.72 x 3.15 x 0.71	Compact lid 2 with membrane keypad area
BVT-OT3	40002150 00	40102150 00	120 x 120 x 18	4.72 x 4.72 x 0.71	Compact lid 3
BVT-OT3-F	40002160 00	40102160 00	120 x 120 x 18	4.72 x 4.72 x 0.71	Compact lid 3 with membrane keypad area
BVT-OT3-SK	40002170 00	40102170 00	120 x 120 x 18	4.72 x 4.72 x 0.71	Compact lid 3 with secondary flap
BVL-UT	40011000 00	40111000 00	270 x 162 x 28	10.63 x 6.38 x 1.10	Control base
BVL-UT-L	40011100 00	40111100 00	270 x 162 x 28	10.63 x 6.38 x 1.10	Control base with ventilation
BVL-OT1	40012100 00	40112100 00	162 x 54 x 22	6.38 x 2.12 x 0.87	Control lid 1
BVL-OT1-F	40012110 00	40112110 00	162 x 54 x 22	6.38 x 2.12 x 0.87	Control lid 1 with membrane keypad area
BVL-OT1-D	40012120 00	40112120 00	162 x 54 x 22	6.38 x 2.12 x 0.87	Control lid 1 with design front
BVL-OT2	40012130 00	40112130 00	162 x 108 x 22	6.38 x 4.25 x 0.87	Control lid 2
BVL-OT2-F	40012140 00	40112140 00	162 x 108 x 22	6.38 x 4.25 x 0.87	Control lid 2 with membrane keypad area
BVL-OT3	40012150 00	40112150 00	162 x 162 x 22	6.38 x 6.38 x 0.87	Control lid 3
BVL-OT3-F	40012160 00	40112160 00	162 x 162 x 22	6.38 x 6.38 x 0.87	Control lid 3 with membrane keypad area
BVL-OT3-SK	40012170 00	40112170 00	162 x 162 x 22	6.38 x 6.38 x 0.87	Control lid 3 with secondary flap

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

**Accessories**

Model Number	Part Number Agate Gray	Part Number White	Version
BVT-MB		40003000 00	Compact module bridges
BVT-WB	40040000 00	40104000 00	Compact wall mount plate
BVT-WB 2	40042000 00	40104200 00	Compact wall mount plate 2
BVT-UP		40200000 00	Compact flush mount enclosure
BVT-FO-9010		40200300 00	Compact front frame, white, similar to RAL 9010
BVT-FO-7035*		40200200 00	Compact front frame, light gray, similar to RAL 7035
BVT-UP2		40200010 00	Compact 2 flush-mount enclosure
BVT-FO2-9010		40200310 00	Compact 2 front frame, white, similar to RAL 9010
BVT-FO2-7035*		-	Compact 2 front frame with 2 mounting screws, light gray, similar to RAL 7035
BVL-MB		40013000 00	Control module bridges
DIBLZ AK 30 x 5/M3/10		59006986 00	Distance bolts, boss internal Ø 2.4-2.6
BVL-WB	40014000 00	40114000 00	Control wall mount plate
BVL-UP		40300000 00	Control flush-mount enclosure
BVL-FO-9010		40300300 00	Control front frame, white, similar to RAL 9010
BVL-FO-7035*		40200200 00	Control front frame, light gray, similar to RAL 7035

\*Available on request

- Enclosure system consisting of two-half shells. Designed for either horizontal or vertical use.
- Extension sets permit optimal adaptation of relevant space.
- Snap-lock technology reduces assembly time.
- Cap sets available in 6 colors to individualize the enclosure.

### Included in delivery

2 half shells. Other components sold individually or in sets. See website for details, [www.rose-bopla.com](http://www.rose-bopla.com)



## Technical Data

Color	Light gray, similar to RAL 7035. Special colors on request. Minimum order quantities apply.
Material	ABS
Ingress Protection	Closed: IP 40 to EN 60529. With air vents: IP 30 to EN 60529
Surface Resistance	>10 <sup>14</sup> Ohm to DIN 53482
Flammability	UL 94 HB/1.6

Model Number	Part Number	Dimensions	Dimensions	Front Panel to be Used
		mm W x H x D	Inches W x H x D	
BO 32006	68320060 00	174 x 49.96 x 196.9	6.85 x 1.97 x 7.75	BO FP 30006
BO 32006 L	68320061 00	174 x 49.96 x 196.9	6.85 x 1.97 x 7.75	BO FP 30006
BO 32009	68320090 00	174 x 65.20 x 196.9	6.85 x 2.57 x 7.75	BO FP 30009
BO 32009 L	68320091 00	174 x 65.20 x 196.9	6.85 x 2.57 x 7.75	BO FP 30009
BO 32012	68320120 00	174 x 80.44 x 196.9	6.85 x 3.17 x 7.75	BO FP 30012
BO 32012 L	68320121 00	174 x 80.44 x 196.9	6.85 x 3.17 x 7.75	BO FP 30012
BO 51406	68514060 00	240.67 x 49.96 x 136.9	9.47 x 1.97 x 5.39	BO FP 50006
BO 51406 L	68514061 00	240.67 x 49.96 x 136.9	9.47 x 1.97 x 5.39	BO FP 50006
BO 51409	68514090 00	240.67 x 65.20 x 136.9	9.47 x 2.57 x 5.39	BO FP 50009
BO 51409 L	68514091 00	240.67 x 65.20 x 136.9	9.47 x 2.57 x 5.39	BO FP 50009
BO 51412	68514120 00	240.67 x 80.44 x 136.9	9.47 x 3.17 x 5.39	BO FP 50012
BO 51412 L	68514121 00	240.67 x 80.44 x 136.9	9.47 x 3.17 x 5.39	BO FP 50012
BO 52006	68520060 00	240.67 x 49.96 x 196.9	9.47 x 1.97 x 7.75	BO FP 50006
BO 52006 L	68520061 00	240.67 x 49.96 x 196.9	9.47 x 1.97 x 7.75	BO FP 50006
BO 52009	68520090 00	240.67 x 65.20 x 196.9	9.47 x 2.57 x 7.75	BO FP 50009
BO 52009 L	68520091 00	240.67 x 65.20 x 196.9	9.47 x 2.57 x 7.75	BO FP 50009
BO 52012	68520120 00	240.67 x 80.44 x 196.9	9.47 x 3.17 x 7.75	BO FP 50012
BO 52012 L	68520121 00	240.67 x 80.44 x 196.9	9.47 x 3.17 x 7.75	BO FP 50012
BO 62606	68626060 00	307.35 x 49.96 x 256.9	12.10 x 1.97 x 10.11	BO FP 60006
BO 62606 L	68626061 00	307.35 x 49.96 x 256.9	12.10 x 1.97 x 10.11	BO FP 60006
BO 62609	68626090 00	307.35 x 65.20 x 256.9	12.10 x 2.57 x 10.11	BO FP 60009
BO 62609 L	68626091 00	307.35 x 65.20 x 256.9	12.10 x 2.57 x 10.11	BO FP 60009
BO 62612	68626120 00	307.35 x 80.44 x 256.9	12.10 x 3.17 x 10.11	BO FP 60012
BO 62612 L	68626121 00	307.35 x 80.44 x 256.9	12.10 x 3.17 x 10.11	BO FP 60012

L = With injection molded air vents in both half-shells.

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

### Accessories

Model Number	Version
BO FP ...	Front panel, aluminum Al Mg 3, anodized 2 mm. Front panel available in plastic on request
BO AB...	Extension set. ABS light gray, similar to RAL 7035; additional colors for minimum orders of 500 extension sets
BO-KS	Cap sets
BO-SF...	Angled operating front
BO-PB ...	Filling profile set for mounting rack installation.
BO-PT...	Profile set
BO HS...	Handle
BO FF...	Design foil
BO D...	Design element set
BO WB...	Wall mounting set

# Ultramas



- Ideal for small test equipment and computer peripherals, this enclosure can be adapted superbly to your individual space requirements
- Features smooth design lines, flawless satin finish and offered with or without ventilation slots
- Works in either the horizontal or vertical position, making it perfect as a desk or wall-mount



### Included in delivery

Lid and base, 8 screw covers, 4 rubber feet, 4 screws M3  
Accessories sold separately.

## Technical Data

Color	Enclosure, light gray, similar to RAL 7035. Screw covers, brackets and feet in agate gray, similar to RAL 7038.
Material	ABS
Protection Classification	Closed: IP 40 DIN EN 60529. IP 30 DIN EN 60529 with air vents
Surface Resistance	>10 <sup>14</sup> Ohm to DIN 53482
Flammability	UL 94 HB/1.6

Model Number	Part Number	Dimensions	Dimensions
		mm W x D x H	Inches W x D x H
UM 32009	55320000 00	157.5 x 198.9 x 62.2	6.20 x 7.83 x 2.45
UM 32009 L	55320010 00	157.5 x 198.9 x 62.2	6.20 x 7.83 x 2.45
UM 32609	55326000 00	157.5 x 258.9 x 62.2	6.20 x 10.19 x 2.45
UM 32609 L	55326010 00	157.5 x 258.9 x 62.2	6.20 x 10.19 x 2.45
UM 52011	55520000 00	224.2 x 198.9 x 72.4	8.83 x 7.83 x 2.85
UM 52011 L	55520020 00	224.2 x 198.9 x 72.4	8.83 x 7.83 x 2.85
UM 62009	55620000 00	290.9 x 198.9 x 62.2	11.45 x 7.83 x 2.45
UM 62009 L	55620010 00	290.9 x 198.9 x 62.2	11.45 x 7.83 x 2.45
UM 62609	55626000 00	290.9 x 258.9 x 62.2	11.45 x 10.19 x 2.45
UM 62609 L	55626010 00	290.9 x 258.9 x 62.2	11.45 x 10.19 x 2.45

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

### Accessories

Model Number	Version
FP	Front panel, aluminum Al Mg3, anodized, 2 mm
FPK	Front panel, plastic ABS, light gray, similar to RAL 7035, 2 mm, embossed on one side
AB	Extension set left and right, ABS light gray, similar to RAL 7035 (set = 2 pieces)
UM-AS	Fixed set-up foot set (set = 4 pieces)
UM-ASK	Hinged set-up foot set (set = 2 fixed and 2 hinged feet)
UM-WLH	Wall brackets (set = 4 pieces)
UM-VHH	Connecting straps (set = 4 pieces)

- Available in 5 basic sizes, each with 2 bases in different heights. Can be combined with 5 different lid types.
- Range of combinations ensures that the enclosure is suitable for an extremely wide range of applications.
- Terminal compartment can be kept separate from the electronics compartment by means of partitions.

### Included in delivery

Modular product sold individually. For details call factory.



## Technical Data

Color	Base parts, light gray, similar to RAL 7035. Lids, light gray, similar to RAL 7035 or graphite gray, similar to RAL 7024. DIN Rail holder, black similar to RAL 9005. Special colors on request
Material	ABS. Front lids, polycarbonate. DIN Rail holder, polyamide
Ingress Protection	IP 65/DIN VDE 06529, NEMA 12, depending on combined systems parts.
Surface Resistance	ABS: >10 <sup>14</sup> Ohm to DIN 53482
Flammability	ABS: UL 94 HB/1.6. Polyamide: UL 94 VO/1

Model Number	Part Number Light Gray	Model Number	Part Number Graphite Gray	Dimensions mm H x W x D	Dimensions Inches H x W x D
<b>High enclosure, with clear hinged lid, without terminal compartment</b>					
BCD 160 Set 01-7035	20163501 00	BCD 160 Set 01-7024	20162401 00	179 x 199 x 106.5	7.05 x 7.83 x 4.19
BCD 200 Set 01-7035	20203501 00	BCD 200 Set 01-7024	20202401 00	204 x 229 x 116.0	8.03 x 9.01 x 4.57
BCD 250 Set 01-7035	20253501 00	BCD 250 Set 01-7024	20252401 00	234 x 264 x 141.0	9.21 x 10.39 x 5.55
BCD 310 Set 01-7035	20313501 00	BCD 310 Set 01-7024	20312401 00	289 x 324 x 145.2	11.38 x 12.75 x 5.72
BCS 400 Set 01-7035	20403501 00	BCD 400 Set 01-7024	20402401 00	344 x 404 x 160.5	13.54 x 15.90 x 6.32
<b>Flat enclosure, with clear hinged lid, without terminal compartment</b>					
BCD 160 Set 02-7035	20163502 00	BCD 160 Set 02-7024	20162402 00	179 x 199 x 71.5	7.05 x 7.83 x 2.81
BCD 200 Set 02-7035	20203502 00	BCD 200 Set 02-7024	20202402 00	204 x 229 x 76.0	8.03 x 9.01 x 2.99
BCD 250 Set 02-7035	20253502 00	BCD 250 Set 02-7024	20252402 00	234 x 264 x 86.0	9.21 x 10.39 x 3.38
BCD 310 Set 02-7035	20313502 00	BCD 310 Set 02-7024	20312402 00	289 x 324 x 111.2	11.38 x 12.75 x 4.38
BCD 400 Set 02-7035	20403502 00	BCD 400 Set 02-7024	20402402 00	344 x 404 x 112.0	13.54 x 15.90 x 4.41
<b>High enclosure, with clear hinged lid, for 1 terminal compartment</b>					
BCD 160 Set 03-7035	20163503 00	BCD 160 Set 03-7024	20162403 00	179 x 199 x 106.5	7.05 x 7.83 x 4.19
BCD 200 Set 03-7035	20203503 00	BCD 200 Set 03-7024	20202403 00	204 x 229 x 116.0	8.03 x 9.01 x 4.57
BCD 250 Set 03-7035	20253503 00	BCD 250 Set 03-7024	20252403 00	234 x 264 x 141.0	9.21 x 10.39 x 5.55
BCD 310 Set 03-7035	20313503 00	BCD 310 Set 04-7024	20312403 00	289 x 324 x 145.2	11.38 x 12.75 x 5.72
BCD 400 Set 03-7035	20403503 00	BCD 400 Set 04-7024	20402403 00	344 x 404 x 160.5	13.54 x 15.90 x 6.32
<b>Flat enclosure, with clear hinged lid, for 1 terminal compartment</b>					
BCD 160 Set 04-7035	20163504 00	BCD 160 Set 04-7024	20162404 00	179 x 199 x 71.5	7.05 x 7.83 x 2.81
BCD 200 Set 04-7035	20203504 00	BCD 200 Set 04-7024	20202404 00	204 x 229 x 76.0	8.03 x 9.01 x 2.99
BCD 250 Set 04-7035	20253504 00	BCD 250 Set 04-7024	20252404 00	234 x 264 x 86.0	9.21 x 10.39 x 3.38
BCD 310 Set 04-7035	20313504 00	BCD 310 Set 04-7024	20312404 00	289 x 324 x 111.2	11.38 x 12.75 x 4.38
BCD 400 Set 04-7035	20403504 00	BCD 400 Set 04-7024	20402404 00	344 x 404 x 112.0	13.54 x 15.90 x 4.41
<b>High enclosure, with clear hinged lid, for 2 terminal compartments</b>					
BCD 160 Set 05-7035	20163505 00	BCD 160 Set 05-7024	20162405 00	179 x 199 x 106.5	7.05 x 7.83 x 4.19
BCD 200 Set 05-7035	20203505 00	BCD 200 Set 05-7024	20202405 00	204 x 229 x 116.0	8.03 x 9.01 x 4.57
BCD 250 Set 05-7035	20253505 00	BCD 250 Set 05-7024	20252405 00	234 x 264 x 141.0	9.21 x 10.39 x 5.55
BCD 310 Set 05-7035	20313505 00	BCD 310 Set 05-7024	20312405 00	289 x 324 x 145.2	11.38 x 12.75 x 5.72
BCD 400 Set 05-7035	20403505 00	BCD 400 Set 05-7024	20432405 00	344 x 404 x 160.5	13.54 x 15.90 x 6.32
<b>Flat enclosure, with clear hinged lid, for 2 terminal compartments</b>					
BCD 160 Set 06-7035	20163506 00	BCD 160 Set 06-7024	20162406 00	179 x 199 x 71.5	7.05 x 7.83 x 2.81
BCD 200 Set 06-7035	20203506 00	BCD 200 Set 06-7024	20202406 00	204 x 229 x 76.0	8.03 x 9.01 x 2.99
BCD 250 Set 06-7035	20253506 00	BCD 250 Set 06-7024	20252406 00	234 x 264 x 86.0	9.21 x 10.39 x 3.38
BCD 310 Set 06-7035	20313506 00	BCD 310 Set 06-7024	20312406 00	289 x 324 x 111.2	11.38 x 12.75 x 4.38
BCD 400 Set 06-7035	20403506 00	BCD 400 Set 06-7024	20402406 00	344 x 404 x 112.0	13.54 x 15.90 x 4.41

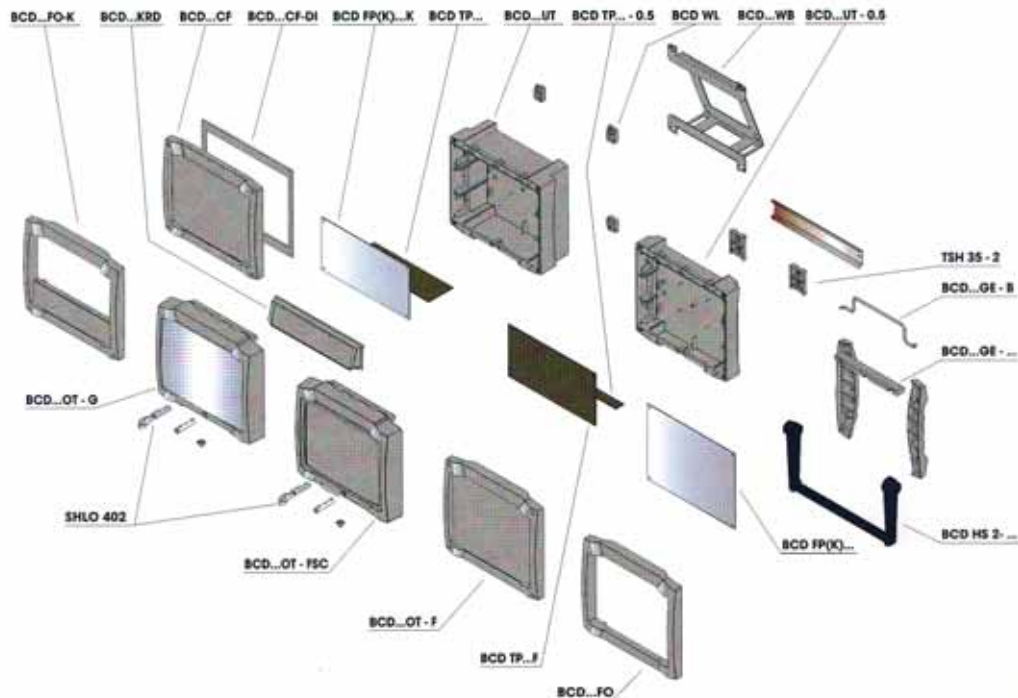
Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

Model Number	Part Number Light Gray	Model Number	Part Number Graphite Gray	Dimensions mm W x L x H	Dimensions Inches W x L x H
<b>High enclosure with front frame open, without terminal compartment</b>					
BCD 160 Set 07-7035	20163507 00	BCD 160 Set 07-7024	20162407 00	178 x 199 x 89.0	7.01 x 7.83 x 3.50
BCD 200 Set 07-7035	20203507 00	BCD 200 Set 07-7024	20202407 00	203 x 229 x 99.0	7.99 x 9.01 x 3.90
BCD 250 Set 07-7035	20253507 00	BCD 250 Set 07-7024	20252407 00	233 x 264 x 124	9.17 x 10.39 x 4.88
<b>Flat enclosure, with front frame open, without terminal compartment</b>					
BCD 160 Set 08-7035	20163508 00	BCD 160 Set 08-7024	20162408 00	178 x 199 x 54.0	7.01 x 7.83 x 2.12
BCD 200 Set 08-7035	20203508 00	BCD 200 Set 08-7024	20202408 00	203 x 229 x 59.0	7.99 x 9.01 x 2.32
BCD 250 Set 08-7035	20253508 00	BCD 250 Set 08-7024	20252408 00	233 x 264 x 69.0	9.17 x 10.39 x 2.72
<b>High enclosure, with front frame open, including terminal compartment cover</b>					
BCD 160 Set 09-7035	20163509 00	BCD 160 Set 09-7024	20162409 00	178 x 199 x 89.0	7.01 x 7.83 x 3.50
BCD 200 Set 09-7035	20203509 00	BCD 200 Set 09-7024	20202409 00	203 x 229 x 99.0	7.99 x 9.01 x 3.90
BCD 250 Set 09-7035	20253509 00	BCD 250 Set 09-7024	20252409 00	233 x 264 x 124	9.17 x 10.39 x 4.88
<b>Flat enclosure, with front frame open, including terminal compartment cover</b>					
BCD 160 Set 10-7035	20163510 00	BCD 160 Set 10-7024	20162410 00	178 x 199 x 54.0	7.01 x 7.83 x 2.12
BCD 200 Set 10-7035	20203510 00	BCD 200 Set 10-7024	20202410 00	203 x 229 x 59.0	7.99 x 9.01 x 2.32
BCD 250 Set 10-7035	20253510 00	BCD 250 Set 10-7024	20252410 00	233 x 264 x 69.0	9.17 x 10.39 x 2.72
<b>High enclosure, with membrane lid</b>					
BCD 160 Set 11-7035	20163511 00	BCD 160 Set 11-7024	20162411 00	178 x 199 x 89.0	7.01 x 7.83 x 3.50
BCD 200 Set 11-7035	20203511 00	BCD 200 Set 11-7024	20202411 00	203 x 229 x 99.0	7.99 x 9.01 x 3.90
BCD 250 Set 11-7035	20253511 00	BCD 250 Set 11-7024	20252411 00	233 x 264 x 124	9.17 x 10.39 x 4.88
<b>Flat enclosure, with membrane lid</b>					
BCD 160 Set 12-7035	20163512 00	BCD 160 Set 12-7024	20162412 00	178 x 199 x 54.0	7.01 x 7.83 x 2.12
BCD 200 Set 12-7035	20203512 00	BCD 200 Set 12-7024	20202412 00	203 x 229 x 59.0	7.99 x 9.01 x 2.32
BCD 250 Set 12-7035	20253512 00	BCD 250 Set 12-7024	20252412 00	233 x 264 x 69.0	9.17 x 10.39 x 2.72
<b>High enclosure, with hinged membrane lid</b>					
BCD 160 Set 13-7035	20163513 00	BCD 160 Set 13-7024	20162413 00	179 x 199 x 106.5	7.05 x 7.83 x 4.19
BCD 200 Set 13-7035	20203513 00	BCD 200 Set 13-7024	20202413 00	204 x 229 x 116.0	8.03 x 9.01 x 4.57
BCD 250 Set 13-7035	20253513 00	BCD 250 Set 13-7024	20252413 00	234 x 264 x 141.0	9.21 x 10.39 x 5.55
BCD 310 Set 13-7035	20313513 00	BCD 310 Set 13-7024	20312413 00	289 x 324 x 145.2	11.38 x 12.75 x 5.72
BCD 400 Set 13-7035	20403513 00	BCD 400 Set 13-7024	20402413 00	344 x 404 x 160.5	13.54 x 15.90 x 6.32
<b>Flat enclosure, with hinged membrane lid</b>					
BCD 160 Set 14-7035	20163514 00	BCD 160 Set 14-7024	20162414 00	179 x 199 x 71.5	7.05 x 7.83 x 2.81
BCD 200 Set 14-7035	20203514 00	BCD 200 Set 14-7024	20202414 00	204 x 229 x 76.0	8.03 x 9.01 x 2.99
BCD 250 Set 14-7035	20253514 00	BCD 250 Set 14-7024	20252414 00	234 x 264 x 86.0	9.21 x 10.39 x 3.38
BCD 310 Set 14-7035	20313514 00	BCD 310 Set 14-7024	20312414 00	289 x 324 x 111.2	11.38 x 12.75 x 4.38
BCD 400 Set 14-7035	20403514 00	BCD 400 Set 14-7024	20402414 00	344 x 404 x 112.0	13.54 x 15.90 x 4.41

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

#### Accessories

Model Number	Description	Model Number	Description
BCD FP...	Front panel, 1.5 mm aluminum	SHLO 402	Cylinder lock (1 lock, 2 keys)
BCD FPK...	Front panel, 2 mm plastic	BCD...WB	Wall mounting fastening angle and assembly screws
BCD TP...	Partition, 1.5 mm hard paper	BCD HS 2-9005	Handle (2 side section, 2 anti-slip elements, profile and assembly material)
BCD M...	Mounting panel, 2 mm hard paper	BCD...GE-7024	Handle element
BCD WL-7035	4 Wall brackets and assembly screws	BCD...GE-B	Set-up bow for handle element
TSH 35-2	DIN rail holders (2 pieces) and assembly screws		





## Executive Plug Housing



- This generation of plug enclosures is available in different styles for use in specific countries.
- From 3 lids with sockets, 5 lids without sockets, 2 console type lids, as well as 3 bases with plug, and one base without plug, it is possible to create 40 different plug enclosures.

### Included in delivery

Lid and base, assembly screws, including connector pins/socket inserts depending on type.

## Technical Data

Color	Lid, light gray, similar to RAL 7035; base, agate gray, similar to RAL 7038. Special colors on request. Minimum order quantities apply.
Material	Polycarbonate/ABS blend plastic
Ingress Protection	IP 40/DIN EN 60529
Flammability	UL 94 VO/1.6
Testing	Tested to VDE 0624/IEC 884
Subject to minimum order quantities	

Model Number	Part Number	Version	Length Inches/mm	Width Inches/mm	Height Inches/mm
ESO 1250 E	41010004 00	Lid with socket DIN 49440/CEE 7 III	4.92 / 125	2.64 / 67	1.38 / 35
ESO 1250 CEE	44020004 00	Lid with socket CEE 7 V	4.92 / 125	2.64 / 67	1.38 / 35
ESO 1250 SEV	44030004 00	Lid with socket SEV 1011 Type 13	4.92 / 125	2.64 / 67	1.38 / 35
ESO 1250 E-K*	44011004 00	Lid with socket DIN 49440/CEE 7 III	4.92 / 125	2.64 / 67	1.38 / 35
ESO 1250 CEE-K*	44021004 00	Lid with socket CEE 7 V	4.92 / 125	2.64 / 67	1.38 / 35
ESO 1250	44040004 00	Lid without socket	4.92 / 125	2.64 / 67	1.38 / 35
ESO 1240	44050004 00	Lid without socket	4.92 / 125	2.64 / 67	0.98 / 25
ESO 1230	44060004 00	Lid without socket	4.92 / 125	2.64 / 67	0.98 / 25
ESO 1240 P	44070004 00	Console lid without socket, keypad area 46 x 90 x 1mm deep	4.92 / 125	2.64 / 67	0.98 / 25
ESO 1240 PD	44080004 00	Console lid without socket, keypad area 46 x 70 x 1mm deep. Display opening 46 x 11mm	4.92 / 125	2.64 / 67	0.98 / 25
ESU 1200 E/CEE	44093004 00	Base with plug DIN 49441 R2	4.92 / 125	2.64 / 67	0.59 / 15
ESU 1200 SEV	44091004 00	Base with plug SEV 1011 Type 12	4.92 / 125	2.64 / 67	0.59 / 15
ESU 1200 E-US	44092004 00	Base with plug UL 498 ANSI ST. A5-15	4.92 / 125	2.64 / 67	0.59 / 15
ESU 1200	44090004 00	Base with plug	4.92 / 125	2.64 / 67	0.59 / 15

E = German version with ground      CEE = French version with ground      SEV = Swiss version with ground      E/CEE = Swiss version with ground  
 E-US = US version with ground      K = With child safety lock

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

## SE 4 and SE 5 Plug Housings



- Eight basic sizes are available. This enclosure program comprises six country-specific plugs and four different sockets.
- Because of their compactness and integrated cable inlets, the enclosures in the SE 510/520 series are especially suitable for use as transformer mains power units.



### Included in delivery

Lid and base, mounting screws, including connector pins/socket inserts depending on type.

### Technical Data

Color	SE 4 Series - lid, light gray, similar to RAL 7035; base, graphite gray, similar to RAL 7024. SE 5 series, black, similar to RAL 9005. Special colors on request
Material	SE 4 Series-flame-resistance Polycarbonate/ABS blend. SE 5 Series-flame-resistant Polyamide, PA 6.6 FR.
Ingress Protection	IP 40/DIN VDE 60529, IP 30 (enclosures with ventilation)
Flammability	SE 4 Series, UL 94 VO/1.6. SE 5 Series, UL 94 VO/1
Testing	SE 5 Series tested to VDE 0624/IEC 884.
Subject to minimum order quantities	

Model Number	Part Number	Dimensions mm	Dimensions Inches	Version
<b>Plug Enclosures with Euro Plug</b>		L x W x H	L x W x H	
SE 420 EU	43420204 00	100 x 50 x 40	3.94 x 1.97 x 1.57	Euro plug, DIN VDE 0620 part 101
<b>Plug Enclosures with German/French Plug</b>				
SE 406 E/CEE*	43406204 00	65 x 50 x 30	2.56 x 1.97 x 1.18	E/CEE = plug with ground, DIN 49441 R2. * = Available on request. Minimum order applies
SE 408 E/CEE*	43408504 00	65 x 50 x 45	2.56 x 1.97 x 1.77	
SE 410 E/CEE*	43410104 00	100 x 50 x 40	3.94 x 1.97 x 0.98	
SE 420 E/CEE	43420104 00	100 x 50 x 25	3.94 x 1.97 x 1.57	
SE 430 E/CEE	43430004 00	120 x 65 x 40	4.72 x 2.56 x 1.57	
SE 435 E/CEE	43435004 00	120 x 65 x 66	4.72 x 2.56 x 2.60	
<b>Plug Enclosures with Swiss Plug</b>				
SE 430 SEV*	43430604 00	120 x 65 x 40	4.72 x 2.56 x 1.57	SEV = Swiss version, with ground.
SE 435 SEV*	43435604 00	120 x 65 x 66	4.72 x 2.56 x 2.56	SEV-1011 type 12, minimum order 500+. *Available on request.
<b>Plug Enclosures with American Plug</b>				
SE 410 E/US*	43410404 00	100 x 50 x 25	3.94 x 1.97 x 0.98	E-US = US version, with ground.
SE 420 E/US*	43420224 00	100 x 50 x 40	3.94 x 1.97 x 1.57	UL 498 or ANSI St. A 5-15, minimum order 500+.
SE 430E/US*	43430104 00	120 x 65 x 40	4.72 x 2.56 x 1.57	*Available on request. Minimum order applies
SE 435 E/US	43435204 00	120 x 65 x 66	4.72 x 2.56 x 2.60	
<b>Plug Enclosures with Appropriate Socket</b>				
SE 432 DE	43432504 00	120 x 65 x 50	4.72 x 2.56 x 1.97	DE = German version (DIN 49440/CEE 7 111)
SE 432 DE CEE*	43432704 00	120 x 65 x 50	4.72 x 2.56 x 1.97	DE-CEE = French version (CEE 7V)
SE 432 DE SEV*	43432604 00	120 x 65 x 50	4.72 x 2.56 x 1.97	DE-SEV = Swiss version (SEV 1011 Type 13)
SE 435 DE	43435504 00	120 x 65 x 66	4.72 x 2.56 x 2.60	* = Available on request. Minimum order applies.
SE 435 DE CEE*	43435704 00	120 x 65 x 66	4.72 x 2.56 x 2.60	

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

Model Number	Part Number	Description
<b>Plugs SE 510...</b>		
SE 510 EU	43510200 00	Euro plug DIN VDE 0620 part 101
SE 510 E/CEE	43510000 00	German/French plug DIN 49441 R2
SE 510 AS	43510500 00	Australian plug AS 3112 without ground 7.5 A
SE 510 US	43510600 00	American plug US 498 ANSI ST. A 1-15 without ground 15 A
SE 510 GB*	43510300 00	British plug GB-BS 1363 with ground 13 A fuse
SE 510 EU-L	43510210 00	Euro plug DIN VDE 0620 part 101, with ventilation
SE 510 E/CEE-L	43510010 00	German/French plug DIN 49441 R2, with ventilation
SE 510 AS-L	43510510 00	Australian plug AS 3112 without ground 7.5 A, with ventilation
SE 510 US-L	43510610 00	American plug US 498 ANSI ST. A 1-15 without ground 15 A, with ventilation
SE 510 GB-L*	43510310 00	British plug GB-BS 1363 with ground, 13 A fuse, with ventilation
<b>Plugs SE 520...</b>		
SE 520 EU	43520200 00	Euro plug DIN VDE 0620 part 101
SE 520 E/CEE	43520000 00	German/French plug DIN 49441 R2
SE 520 AS	43520500 00	Australian plug AS 3112 without ground 7.5 A
SE 520 US	43520600 00	American plug US 498 ANSI ST. A 1-15 without ground 15 A
SE 520 GB*	43520300 00	British plug GB-BS 1363 with ground 5 A fuse
SE 520 EU-L	43520210 00	Euro plug DIN VDE 0620 part 101, with ventilation
SE 520 E/CEE-L	43520010 00	German/French plug DIN 49441 R2, with ventilation
SE 520 AS-L	43520510 00	Australian plug AS 3112 without ground 7.5 A, with ventilation
SE 520 US-L	43520610 00	American plug US 498 ANSI ST. A 1-15 without ground 15 A, with ventilation
SE 520 GB-L*	43520313 00	British plug GB-BS 1363 with ground, 5 A fuse, with ventilation



# NGS Panel Meter Housing



- Specifically designed to conform to the dimensional standard DIN 43700
- Housings slotted internally to accept PC boards comes in 36 different sizes
- Clear PVC front covers (available as an accessory) protect the front elements up to IP65

### Included in delivery

Enclosure body, standard front frame, rear cover, and assembly screws.

## Technical Data

Color	Black, similar to RAL 9005
Material	Flame resistant Noryl SE 1 GFN 1
Ingress Protection	IP 40, IP 65 possible with rubber hoods, part types NGS...GHN
Flammability	UL 94 V1/1.47
Gasket	Neoprene
Impact Resistance	200 JM at 23°C
Disruptive Strength	26 KV/mm to DIN 53481

Model Number	Part Number	Width Inches/mm	Height Inches/mm	Depth Inches/mm	Model Number	Part Number	Width Inches/mm	Height Inches/mm	Depth Inches/mm
NGS 4806	17480601 00	1.89 / 48.0	1.89 / 48.0	2.48 / 63.0	NGS 9408	17940801 00	3.78 / 96.0	1.89 / 48.0	3.35 / 85.0
NGS 4808	17480801 00	1.89 / 48.0	1.89 / 48.0	3.36 / 85.0	NGS 9410	17941001 00	3.78 / 96.0	1.89 / 48.0	4.31 / 109.5
NGS 4810	17481001 00	1.89 / 48.0	1.89 / 48.0	4.31 / 109.5	NGS 9411	17941101 00	3.78 / 96.0	1.89 / 48.0	4.68 / 119.0
NGS 4811	17481101 00	1.89 / 48.0	1.89 / 48.0	4.68 / 119.0	NGS 9413	17941301 00	3.78 / 96.0	1.89 / 48.0	5.55 / 141.0
NGS 4813	17481301 00	1.89 / 48.0	1.89 / 48.0	5.55 / 141.0	NGS 9416	17941601 00	3.78 / 96.0	1.89 / 48.0	6.51 / 165.5
NGS 7406	17740601 00	5.67 / 144.0	2.83 / 72.0	2.52 / 64.0	NGS 9606	17960601 00	3.78 / 96.0	3.78 / 96.0	2.48 / 63.0
NGS 7408	17740801 00	5.67 / 144.0	2.83 / 72.0	3.38 / 86.0	NGS 9608	17960801 00	3.78 / 96.0	3.78 / 96.0	3.35 / 85.0
NGS 7410	17741001 00	5.67 / 144.0	2.83 / 72.0	4.35 / 110.5	NGS 9610	17961001 00	3.78 / 96.0	3.78 / 96.0	4.31 / 109.5
NGS 7411	17741101 00	5.67 / 144.0	2.83 / 72.0	4.72 / 120.0	NGS 9611	17961101 00	3.78 / 96.0	3.78 / 96.0	4.68 / 119.0
NGS 7413	17741301 00	5.67 / 144.0	2.83 / 72.0	5.59 / 142.0	NGS 9613	17961301 00	3.78 / 96.0	3.78 / 96.0	5.55 / 141.0
NGS 7416	17741601 00	5.67 / 144.0	2.83 / 72.0	6.55 / 166.5	NGS 9616	17961601 00	3.78 / 96.0	3.78 / 96.0	6.51 / 165.5
NGS 7706	17770601 00	2.83 / 72.0	2.83 / 72.0	2.48 / 63.0	NGS 9806	17980601 00	5.67 / 144.0	5.67 / 144.0	2.52 / 64.0
NGS 7708	17770801 00	2.83 / 72.0	2.83 / 72.0	3.35 / 85.0	NGS 9806 GR	17980605 00	5.67 / 144.0	5.67 / 144.0	2.68 / 68.0
NGS 7710	17771001 00	2.83 / 72.0	2.83 / 72.0	4.31 / 109.5	NGS 9808	17980801 00	5.67 / 144.0	5.67 / 144.0	3.38 / 86.0
NGS 7711	17771101 00	2.83 / 72.0	2.83 / 72.0	4.68 / 119.0	NGS 9810	17981001 00	5.67 / 144.0	5.67 / 144.0	4.35 / 110.5
NGS 7713	17771301 00	2.83 / 72.0	2.83 / 72.0	5.55 / 141.0	NGS 9811	17981101 00	5.67 / 144.0	5.67 / 144.0	4.72 / 120.0
NGS 7716	17771601 00	2.83 / 72.0	2.83 / 72.0	6.51 / 165.5	NGS 9813	17981301 00	5.67 / 144.0	5.67 / 144.0	5.59 / 142.0
NGS 9406	17940601 00	3.78 / 96.0	1.89 / 48.0	2.48 / 63.0	NGS 9816	17981601 00	5.67 / 144.0	5.67 / 144.0	6.55 / 166.5

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

### Accessories

Model Number	Description
NGS...NF	Spring clamp (pk of 2)
NGS...NK	Screw clamp (pk of 2)
NGS...ZE	Connecting piece for DIN retaining clasp (pk of 2)
NGS...NH	DIN retaining clasp (pk of 2)
NGS...FKT	Plastic front panel, red translucent, 3mm thick
NGS...FAE	Aluminum front panel, anodized aluminum, 1.5mm thick
NGS...F	Membrane front, firmly latching
NGS...TK	NGS front door lockable by means of knob for models 74..., 96..., and 98
NGS...SA	Firmly latching front frame
NGS...AH	Clear hood cover
NGS...DA	Seal enclosure / control panel (pk of 5)
NGS...DI	Seal front panel / enclosure (pk of 5)
NGS...GHN	Flexible transparent PVC hoods for IP 65 front seal
NGS...RKS	Rear lid
SHLO-302	Cylinder catch for front door



NGS 9806-GR with stepped rear panel.



**NGS 48**



**NGS 74**



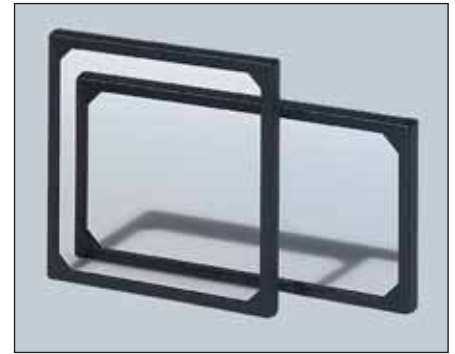
**NGS Front Panels**



**NGS 77**



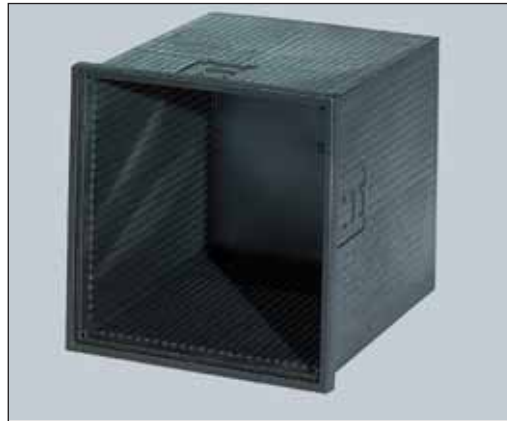
**NGS 94**



**NGS Front Frames**



**NGS 96**



**NGS 98**



**NGS Hood Covers**



**NGS Front Doors**



**NGS Cylinder Catch for Front Door**



**NGS Transparent Rubber Hood**

Stainless steel enclosure systems can offer considerable advantages in some application areas in comparison with plastic enclosure solutions:

- Food industries
- Packaging industries
- Hazardous environments
- EMC areas
- Field bus areas

Rose stainless steel-enclosure systems are manufactured in materials 1.4404 and 1.4301 as standard. This stainless steel quality offers permanent resistance in both rough environments, in the chemical industry, and is ideal for the cleaning demands of the food industry. Rose stainless steel products offer consistent high surface finish quality as standard (longitudinal finish 240 grain), finishing (precise edging and welding) and ingress protection (IP 65 and IP 66 as standard or higher upon request).



#### Stainless Steel Industrial Enclosures

- 18 enclosure sizes with lid or hinged door in sizes from 100 x 100 x 61 mm up to 600 x 200 x 121 mm
- Application area: food and packaging industries, as well as hazardous environments

#### Stainless Steel Cabinets

- 16 enclosure sizes with door and mounting plates in dimensions from 200 x 250 x 90 mm up to 600 x 760 x 210 mm
- Application area: food and packaging industries

#### Ex Stainless Steel Cabinets and Enclosures **ATEX**<sup>Ex</sup>

- 27 enclosure sizes from 100 x 100 x 61 mm up to 600 x 380 x 217 mm
- Application area: EExe, EExia in Zones 1 and 2
- Approvals: PTB 00 ATEX 1101U; PTB 00 ATEX 1052

# Standard Stainless Steel Enclosures



- Universal standard enclosures for hygienic areas
- High surface quality 1.4301
- No gaps in cover/lower section - ingress protection up to IP 66
- Special versions and sizes available as an option for 25 pieces and above

### Included in delivery

Enclosure base with internal mounting support bars for DIN rail mounting, 4 floor break-outs with or without mounting holes, gasket and mounting nuts, cover with internal threaded bolts and captive lid screws.



UL 50

## Technical Data

Material	Stainless steel 1.25 mm or 1.5mm; 1.4301/304. Other materials on request
Ingress Protection	IP 66, EN 60529. High pressure cleaning-resistant on request
Surface	Polished 240 grain. Other surface on request
Temperature Range	-76°F to +266°F

Part Number Enclosure with floor break-outs and mounting holes	Part Number Enclosure without mounting holes	Dimensions mm L x W x H	Dimensions Inches L x W x H
37101006 00	37101096 00	100 x 100 x 61	3.94 x 3.94 x 2.40
37151006 00	37151096 00	150 x 100 x 61	5.90 x 3.94 x 2.40
37151508 00	37151598 00	150 x 150 x 81	5.90 x 5.90 x 3.19
37201006 00		200 x 100 x 61	7.87 x 3.94 x 2.40
37202008 00	37202098 00	200 x 200 x 81	7.87 x 7.87 x 3.19
37202012 00	37202092 00	200 x 200 x 121	7.87 x 7.87 x 4.76
37301508 00		300 x 150 x 81	11.81 x 5.90 x 3.19
37302008 00		300 x 200 x 81	11.81 x 7.87 x 3.19
37302012 00	37302092 00	300 x 200 x 121	11.81 x 7.87 x 4.76
37303012 00		300 x 300 x 121	11.81 x 11.81 x 4.76
37303016 00		300 x 300 x 161	11.81 x 11.81 x 6.34
37383816 00		380 x 380 x 161	14.96 x 14.96 x 6.34
37401508 00		400 x 150 x 81	15.75 x 5.90 x 3.19
37402012 00		400 x 200 x 121	15.75 x 7.87 x 4.76
37403016 00		400 x 300 x 161	15.75 x 11.81 x 6.34
37503016 00		500 x 300 x 161	19.68 x 11.81 x 6.34
37504016 00		500 x 400 x 161	19.68 x 15.75 x 6.34
37602012 00		600 x 200 x 121	23.62 x 7.87 x 4.76
37999999 00		Special dimension	Special dimension

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

Accessories	Part Number
External bracket set (4 pcs.)	37105000 00
Mounting plate screws	10093041 00
Allen head lid screws	10091001 00

## IGS Stainless Steel Cabinets with Hinges



- Universal enclosure with hinge and lock
- High quality polished surface 1.4301
- Custom sizes and versions with flange openings or window available (25 piece minimum)

### Included in delivery

Enclosure base with bracket clips and threaded bores for attachment of mounting rail, hinged cover, double ward lock, 4 floor break-outs with attachment holes and sealing plugs.



### Technical Data

Material	Stainless steel 1.25 mm or 1.5 mm 1.4301 / 304 other material on request
Ingress Protection	IP 65 to EN 60529
Temperature Range	-40°F to +176°F
Seals	VMQ-(silicone) seal or PUR-(polyurethane) seal EMC on request
Surface	Polished, 240 grain, other surfaces on request

Part Number	Dimensions	Dimensions	Number of Locks
	mm L x W x H	Inches L x W x H	
37002209 00	200 x 250 x 90	7.87 x 9.84 x 3.54	1
37002215 00	200 x 250 x 150	7.87 x 9.84 x 5.90	1
37003209 00	300 x 300 x 165	11.81 x 11.84 x 6.50	1
37003316 00	350 x 250 x 90	13.78 x 9.84 x 3.54	1
37004416 00	380 x 380 x 165	14.96 x 14.96 x 6.50	1
37004421 00	380 x 380 x 215	14.96 x 14.96 x 8.46	1
37005316 00	500 x 300 x 165	19.68 x 11.81 x 6.50	1
37006316 00	600 x 300 x 165	23.62 x 11.81 x 6.50	1
37006421 00	600 x 380 x 215	23.62 x 14.96 x 8.46	1
37009900 00	Special sizes (please state requested dimensions)		

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

Accessories	Part Number
Mounting plate for 37002209 and 37002215	10011066 00
Mounting plate for 37003209	10111067 00
Mounting plate for 37004416	10011045 00
Mounting plate for 37006316	10011068 00
Mounting plate for 37006421	10011069 00
External bracket set (4 pieces)	37105000 00

## KSS Stainless Steel Switch Gear Cabinets



- Switch gear cabinets with hinged door
- Mounting plate attachment above stud bolts / threaded weld nuts
- Surface polished all sides (240 grain)
- Custom sizes and versions available (25 piece minimum).



### Included in delivery

Enclosure system with door, double ward lock, 4 x M6 threaded stud bolts in lid and 4 x M6 threaded weld nuts in base.

### Technical Data

Material	Stainless steel 1.25 mm or 1.5 mm 1.4301 / 304
Ingress Protection	IP 65 to EN 60529
Temperature Range	-40°F to + 176°F
Gasket	VMQ gasket (silicone) seal or PUR (polyurethane)
Surface	EMC on request polished, 240 grain

Part Number	Dimensions	Dimensions	Number of Locks
	mm L x W x H	Inches L x W x H	
37012315 00	200 x 300 x 155	7.87 x 11.81 x 6.10	1
37013421 00	300 x 380 x 210	11.81 x 14.96 x 8.27	1
37014315 00	400 x 300 x 155	15.75 x 11.81 x 6.10	1
37014621 00	380 x 600 x 210	14.96 x 23.62 x 8.27	2
37015521 00	500 x 500 x 210	19.68 x 19.68 x 8.27	2
37016415 00	600 x 400 x 155	23.62 x 15.75 x 6.10	1
37016821 00	600 x 760 x 210	23.62 x 29.92 x 8.27	4
37019900 00	Special dimensions	-	

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

Accessories	Part Number
Mounting plate for 37012305	37019901 00
Mounting plate for 37013421	37019902 00
Mounting plate for 37014315	37019903 00
Mounting plate for 37014621	37019904 00
Mounting plate for 37015521	37019905 00
Mounting plate for 37016415	37019906 00
Mounting plate for 37016821	37019907 00

The increasing mobility prevalent in all areas of industry requires portable hand enclosures. Materials, sizes and versions vary depending on the application area. Cable-connected systems made of robust Polyamide or Polyester with high ingress protection are in use, especially in automation engineering. In contrast, the data acquisition and instrumentation industries prefer to use light enclosures with integrated power supplies. The range of hand held enclosure products covers all areas of mobile applications.



#### **Taguan 130 / 180 / 230**

- 8 enclosures in four sizes from 125 x 80 x 37 mm to 229 x 97 x 52 mm
- Application area: data acquisition, instrumentation

#### **Beluga 180 / 220 / 380**

- 5 enclosures in three sizes from 106 x 187 x 50 mm to 380 x 117 x 68 mm
- Application area: instrumentation and automation engineering, analytical control

#### **Limanda**

- Enclosure system for controller components, sizes 270 x 248 x 64 mm and 311 x 281 x 72 mm
- Application area: analytical control and automation engineering

#### **Pilot 250**

- 2 enclosures in size 280 x 140 x 86 mm
- Application area: instrumentation and automation engineering, analytical control

#### **Mobile Control Units 2911, 2912, 2913**

- 3 enclosures in sizes 280 x 191 x 76 mm to 440 x 191 x 76 mm
- Application area: instrumentation and automation engineering, analytical control

#### **Mobile Control Units**

- 3 enclosures with integrated handles in sizes 190 x 70 x 93 mm to 295 x 164 x 116 mm
- Application area: pushbutton and switch enclosures

#### **Mobile Control Units 2921**

- 5 enclosures with integrated handle in sizes 206 x 85 x 85 mm to 281 x 160 x 105 mm
- Application area: pushbutton and switch enclosures

#### **Alubos**

- 20 profiles are available with profiles that are closed, split horizontally, and/or open on one side, for ergonomic hand-held enclosure designs.
- High mechanical loading capacity of the profile and EMC screening ensure high level of protective functions

#### **Tastomat**

- 2 enclosures in sizes 251 x 91 x 46 mm to 251 x 91 x 80 mm
- Application area: ideal for pushbutton or membrane keypad application

#### **ARTEB**

- 6 basic enclosures in sizes from 78 x 45 x 18 mm to 236 x 125 x 41 mm
- Application area: ideal for applications requiring a display screen or membrane keypad

#### **BOS**

- 9 enclosures in sizes from 100 x 65 x 24 mm to 224 x 106 x 40 mm
- Application area: cost-effective handheld enclosure for mobile data collection and processing applications

#### **BOS-Streamline**

- 3 enclosures in sizes from 119.3 x 64.9 x 26.5 mm to 209.3 x 98.0 x 34.8 mm
- Application area: ideal for applications requiring a display screen or membrane keypad



# Taguan 130 / 180 / 230



- ABS hand held enclosure for data acquisition and instrumentation
- With integrated battery/accumulator compartment
- Versions with or without display opening
- Prepared for acceptance of keypads/silicone switch mats

## Included in delivery

**Taguan 130:** 5 piece enclosure with top and base, battery compartment, battery compartment cover, head and shaft surround, mounting and enclosure screws.

**Taguan 180/230:** enclosure with top and base, keyboard surround, head and shaft surround, mounting and enclosure screws.

**Please order battery compartment separately.**



Taguan 130



Taguan 180/230

## Technical Data

Color	Enclosure body - green blue, similar to RAL 5020. Models 180/230-keypad plate, battery compartment/pack, black-gray, similar to RAL 7021
Material	ABS
Ingress Protection	IP 40 to EN60529
Surface Resistance	4 x 10 <sup>14</sup> Ohm to DIN 53482
Impact Resistance	24 KV/mm to DIN 53481
Flammability	UL 94 HB
Temperature Range	-40°F to +176°F

Model Number	Part Number	Versions	Dimensions		Weight	
			mm W x L x H	Inches W x L x H	kg	lbs
Taguan 130 FO	27010200 00	Flat, open	80/70 x 125 x 36.7	3.15/2.75 x 4.92 x 1.44	0.085	0.187
Taguan 130 FG	27010201 00	Flat, closed	80/70 x 125 x 36.7	3.15/2.75 x 4.92 x 1.44	0.085	0.187
Taguan 130 TO	27010210 00	Deep, open	80/70 x 125 x 46	3.15/2.75 x 4.92 x 1.81	0.085	0.187
Taguan 130 TG	27010211 00	Deep, closed	80/70 x 125 x 46	3.15/2.75 x 4.92 x 1.81	0.09	0.198
Taguan 180 O	27010400 00	Open	84/70 x 180 x 52.5/37.5	3.31/2.75 x 7.07 x 2.07/1.48	0.17	0.374
Taguan 180 G	27010401 00	Closed	84/70 x 180 x 52.5/37.5	3.31/2.75 x 7.07 x 2.07/1.48	0.12	0.264
Taguan 230 G	27010600 00	Open	97/70 x 229 x 52.5/37.5	3.82/2.75 x 9.01 x 2.07/1.48	0.15	0.330
Taguan 230 O	27010601 00	Closed	97/70 x 229 x 52.5/37.5	3.82/2.75 x 9.01 x 2.07/1.48	0.16	0.352

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

## Accessories

Description	Part Number	Description	Part Number
Battery holder 4 round cells (T130)	27010280 00	Wrist strap (T 180 / 230)	27010083 00
Battery holder 9 volt (T130)	27010281 00	Display assembly set (T 180)	27010480 00
Battery holder for 9 volt (T180 / 230)	27010094 00	Display assembly set (T 230)	27010680 00
Clip (T130)	27010282 00	Switch mat set (T 180 / 230)	27010481 00
Keypad FT 130b, 12 printed keys (T130)	82100001 00	Switch mat set (T 230)	27010681 00
Keypad FT 130b, 12 keys with plug-in unit (T130)	82100002 00	Switch mat set (T 180 / 230)	27010095 00
End plate in enclosure color	27010285 00	Hand strap (T 180)	27010484 00
End plate, transparent	27010286 00	Hand strap (T 230)	27010684 00
End plate, infra-red	27010287 00	Spare display screen set (T 130)	27010288 00
Battery compartment empty (T180 / 230) 0.03 kg	27010080 00	Spare display screen set (T180)	27010488 00
Battery pack 1000 mAh	27010081 00	Spare display screen set (T 230)	27010688 00
Battery charging station 115 V	27010084 00	Spare screws	27010090 00
Battery charging station 230 V	27010086 00	Head cover, stepped, in enclosure color (T 180/230)	27010085 00
Battery charging station without connector charger	27010088 00	Head cover, stepped for infra-red (T 180 / 230)	27010087 00
Docking station (T180 / 230) without connector charger	27010096 00	Head cover, stepped, transparent (T 180 / 230)	27010089 00
Docking station (T180 / 230) with connector charger	27010097 00	Head cover, straight, in enclosure color (T180 / 230)	27010091 00
Angle brackets for PCBs for docking station	27010098 00	Head cover, straight, in enclosure color (T 180 / 230)	27010092 00
Spring contact, 2-pole (T180 / 230)	27010082 00	Head cover, straight, in enclosure color (T 180 / 230)	27010093 00

# Beluga 180 / 220 / 380



- Polyamide hand held enclosure for measurement control automation engineering
- Ergonomic enclosure shape
- Versions with or without display opening
- Prepared for acceptance of keypads/silicone switch mats

## Included in delivery

**Beluga 180/220:** enclosure with top and base unit, each with mounting bosses, fastening and enclosure screws.

**Beluga 380:** enclosure with top and base unit, each with mounting bosses, mounting hook/set, fastening and enclosure screws.



Beluga 180/220



Beluga 380

## Technical Data

Color	Black-gray, similar to RAL 7021
Material	Polyamide
Ingress Protection	IP 65 to EN 60529
Surface Resistance	10 <sup>12</sup> Ohm to DIN 53482
Impact Resistance	>7 Nm to DIN 50014
Flammability	UL 94 V2
Temperature Range	-40°F to +140°F

Model Number	Part Number	Versions	Dimensions	Dimensions	Weight	
			mm W x L x H	Inches W x L x H	kg	lbs
Beluga 180 O	27020200 00	open	106/75 x 187 x 50	4.17/2.95 x 7.36 x 1.97	0.16	0.35
Beluga 180 G	27020201 00	closed	106/75 x 187 x 50	4.17/2.95 x 7.36 x 1.97	0.17	0.37
Beluga 220 O	27020400 00	open	116/85 x 220 x 51	4.57/3.35 x 8.66 x 2.01	0.20	0.44
Beluga 220 G	27020401 00	closed	116/85 x 220 x 51	4.57/3.35 x 8.66 x 2.01	0.21	0.46
Beluga 380	27020501 00	closed	380 x 117 x 68	14.96 x 4.61 x 2.68	0.52	1.15

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

## Accessories

Description	Part Number	Description	Part Number
Hook set without magnet (B180 / 220)	27020080 00	Hand strap (B 380)	27020581 00
Hook set with magnet (B180 / 220)	27020081 00	Wall holder (B 380)	27020582 00
Keypad FT 180e, 15 keys, printed (B180)	82100003 00	Spare screws (B 180 / 220)	27020082 00
Keypad FT 180e, 15 keys, with plug-in unit (B180)	82100004 00	Spare screws (B 380)	27020583 00
Keypad FT 220e, 18 keys, printed (B220)	82100005 00	Spare display screen set (B 180)	27010688 00
Keypad FT 220b, 18 keys, with plug-in unit (B220)	82100006 00	Spare display screen set (B 220)	27020483 00
Display assembly set (B180)	27010680 00	2-stage enable button, blue	83500001 00
Display assembly set, (B220)	27020482 00	Battery compartment (B 180 / 220)	27020085 00
Cable gland with bending protection M 16 x 1.5	08100116 00	Battery holder for 4 round cells for battery compartment	27020086 00
Cable gland with bending protection M 20 x 1.5	08100120 00	Battery holder for 9 V battery for battery compartment	27020087 00
Hand strap (B180/220)	27020083 00	Hook set for wall-mounting (B 180/220)	27020084 00
Carrying strap (B380)	28020580 00		

- Polyamide hand held enclosure for automation engineering measurement control and data acquisition
- Large component space
- Interface ports for acceptance of interfaces
- Variable enclosure depth (optional)
- Handle set for acceptance of enable button and batteries



**Included in delivery**

Enclosure with upper and lower mold, each with mounting bosses including seal and border profile, 3 cover panels for interface compartments, screws and material for front panel mounting.

**Front panels must be ordered separately.**

**Technical Data**

Color	Black-gray, similar to RAL 7021
Material	Polyamide enclosure, anodized aluminum front panel
Ingress Protection	IP 65 to EN 60529, NEMA 12
Surface Resistance	10 <sup>12</sup> Ohm to DIN 53482
Disruptive Strength	>7Nm to DIN 50014
Flammability	UL 94 V2
Temperature Range	-40°F to +140°F

Enclosure Type	Part Number	Dimensions	Dimensions	Weight	
		mm W x L x H	Inches W x L x H	kg	lbs
Limanda I	27030300 00	311 x 281 x 72	12.24 x 11.06 x 2.83	0.9	1.98
Limanda I EMC	27030301 00	311 x 281 x 72	12.24 x 11.06 x 2.83	1.0	2.20
Limanda I for OP17	27030317 00	311 x 281 x 97	12.24 x 11.06 x 3.82	1.4	3.09
Limanda II	27030200 00	270 x 248 x 64	10.63 x 9.76 x 2.52	0.7	1.54

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

**Accessories**

Description	Part Number
Limanda I front plate aluminum, natural anodized finish	27030380 00
Limanda I EMC front plate	27030390 00
Limanda II front plate, aluminum, natural anodized finish	27030280 00
Limanda I intermediate frame	27030381 00
Limanda I EMC intermediate frame	27030088 00
Limanda I handle set without push button	27030083 00
Limanda holder	27030084 00
Limanda I carrying strap	27030085 00
Limanda I quiver	27030086 00
Limanda II table stand ( set = 2 pieces)	27030087 00
Limanda II quiver	27030089 00
Limanda I handle set with 3-stage enable button (right-hand version)	85701001 00
Limanda I handle set with 3-stage enable button (left-hand version)	85701002 00
Enable button (2-stage/1 make contact)	83500001 00
Emergency off switch (2 break contacts)	83500002 00
Cable connection with bending protection M 16	08100116 00
Cable connection with bending protection M 20	08100120 00
Cable connection with bending protection M 25	08100125 00
Inclination adapter for mounting directly on wall or machine	50020001 00
Inclination adapter for mounting directly onto 4949 Suspension System	50020002 00
Inclination adapter for mounting directly onto 4945 Suspension System	50020003 00
Inclination adapter for mounting directly on 4945 Suspension System	50020004 00
Inclination adapter for Limanda bracket on 4949 Suspension System	50020005 00
Inclination adapter for Limanda bracket on 4945 Suspension System	50020006 00
Inclination adapter for Limanda bracket on wall or machine	50020007 00

# Pilot 250



- Polyamide hand held enclosure for automation engineering and data acquisition
- Large component space
- Version 3 with closed or front frame
- Rear battery compartment

## Included in delivery

Enclosure with top and base unit, each with mounting bosses, battery compartment cover, fastening and enclosure screws.



## Technical Data

Color	Base and lid: black gray, similar to RAL 7021 Rear cover: sapphire blue, similar to RAL 5003
Material	Polyamide
Ingress Protection	IP 65 to EN 60529
Gasket	Continuous foamed-in Neoprene
Impact Resistance	>7 Nm, EN 50014
Temperature Range	-40°F to +140 ° F

Enclosure Type	Part Number	Dimensions	Dimensions	Version
		mm W x L x H	Inches W x L x H	
Pilot 250/1	29250001 00	140/120 x 280 x 86	5.51/4.72 x 11.02 x 3.38	Closed Upper liner
Pilot 250/2	29250002 00	140/120 x 280 x 86	5.51/4.72 x 11.02 x 3.38	as frame for front panel mounting

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

## Accessories

Description	Part Number
Front panel, aluminum for Pilot 250/2	29250101 00
Magnet holder, round	29250102 00
Battery holder for mounting 4 rounds cells in the enclosure base	29250103 00
Battery holder for mounting a 9V battery in the enclosure base	29250104 00
Mounting set (2 hooks, 2 bolts with screws)	29250105 00
Cable gland with bending protection M 16 x 1.5	08100116 00
Cable gland with bending protection M 20 x 1.5	08100120 00
Enable button (3-stage)	on request

# Mobile Controls Units 2911, 2912, 2913



- Polyamide hand held enclosure for automation engineering and data acquisition
- Large component space
- Variable length using profile technology
- Optional EMC suitable version with internal enclosure in aluminum



### Included in delivery

Enclosure system consisting of Polyamide internal enclosure with end caps, two PVC side cover profiles, aluminum front panel, rear panel, 2 external end caps, with M 25 x 1.5 threaded hole for cable gland.

## Technical Data

Color	End caps: yellow, similar to RAL 1021 Body and rear panel : black, similar to RAL 9005
Material	Inner enclosure body: Polyamide Side cover: Black PVC extrusion Rear panel: Black laminated board, 3mm, plastic-coated End caps: Yellow polyamide
Ingress Protection	IP 65 to EN 60529, NEMA 12
Gasket	Neoprene
Impact Resistance	>7 Nm, EN 50014
Temperature Range	-4°F to +158°F

External Dimensions mm W x L x H	Dimensions Inches W x L x H	Part Number Standard Complete	Part Number EMC Complete	Part Number Standard Enclosure Body with Front Panel	Part Number Standard Rear Panel Separate	Part Number Standard Front Panel Separate	Part Number Standard Rear Panel Recessed
191 x 280 x 76	7.52 x 11.02 x 2.99	29111000 00	29141000 00	29110000 00	29110001 00	29110002 00	-
191 x 330 x 76	7.52 x 12.99 x 2.99	29121000 00	29151000 00	29120000 00	29120001 00	29120002 00	-
191 x 440 x 76	7.52 x 17.32 x 2.99	29131000 00	29161000 00	29130000 00	29130001 00	29190002 00	29130003 00
Special length	Special length	29191000 00	29171000 00	29190000 00	29190001 00	29190002 00	-

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

### Accessories

Description	Part Number
Wall mount element including enclosure modification	29001000 00
Modification for crane cable gland	29000030 00
Cable gland with bending protection M 25 x 1.5	08100125 00
Cable gland reduction M 25 / M 12	08102512 00
Cable gland reduction M 25 / M 16	08102516 00
Cable gland reduction M 25 / M 20	08102520 00
Crane cable gland for cable diameter 10-22 mm	29000800 00
M4 spring nuts for internal mounting, set of 4 pieces	29000050 00
PCB mounting set (4 pieces including spring nuts)	29000060 00
Wall mount bracket (set single)	29000070 00
Magnetic wall mount, 1 piece	29000080 00
EMC cable gland with bending protection M 25 x 1.5	08100125 00

## Mobile Controls Units 2930, 2940, 2950



- Hand held enclosure for measurement control and automation engineering
- Robust design (Polyamide or Polyester)
- Versions with handle and integrated cable entry (2940, 2930 standard)

### Included in delivery

**2930/2940:** enclosure with handle, including cable gland M 20 x 1.5, front panel with assembly screw and wall-mount bracket.

**2950:** two-part Polyester enclosure with self-adhesive aluminum front panel, enclosure screws and wall-mount bracket



### Technical Data

Material	2930, 2940 2950	Polyamide Polyester
Temperature Range	2930, 2940 2950	-40°F to +140°F -13°F to +194°F
Ingress Protection	2930, 2940 2950	IP 65 to EN 60529 IP 66 to EN 60529
Gasket	2930, 2940 2950	Stamped foam rubber gasket Round Neoprene gasket
Color		Yellow, similar to RAL 1021

Enclosure Type	Part Number	Dimensions Including Handle	Dimensions Including Handle	Dimensions Front Panel	Dimensions Front Panel	Mounting Depth mm	Mounting Depth Inches
		mm	Inches	mm	Inches		
		W x L x H	W x L x H	W x H	W x H		
2940	29400200 00	70 x 93 x 190	2.75 x 3.66 x 7.48	61 x 59	2.40 x 2.32	67	2.64
2930	29300100 00	115 x 93 x 200	4.53 x 3.66 x 7.87	106 x 69	4.17 x 2.72	67	2.64
2950	29500100 00	164 x 116 x 295	6.46 x 4.57 x 11.61	70 x 280	2.75 x 11.02	71	2.79

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

### Accessories

Description	Part Number
Mounting plate 2930	29310000 00
Wall-mount bracket (2 pieces with screws)	29600100 00
Cable gland M 25 x 1.5 (2950)	08100125 00

## Mobile Controls Units 2921



- Polyamide hand held enclosure for automation and control technology
- Version with handle and integrated cable exit
- Large component space

### Included in delivery

Enclosure with handle, including cable gland M 20 x 1.5, front panel, enclosure and front panel screws, and wall-mount bracket.



### Technical Data

Material Body	Polyamide
Cable Gland Material	Polyamide
Front Panel Material	Black Polyester
Body color	Yellow, similar to RAL 1021
Ingress Protection	IP 65 to EN 60529, NEMA 12
Impact Resistance	>7 Nm, EN 50014
Gasket Material	Stamped foam rubber
Temperature Resistance	-40° to +140°F

Enclosure Type	Part Number	Dimensions Including Handle	Dimensions Including Handle	Dimensions Front Panel	Dimensions Front Panel	Mounting Depth	Mounting Depth
		mm	Inches	mm	Inches		
		W x L x H	W x L x H	W x H	W x H		
Pilot 110	29211000 00	85 x 85 x 206	3.35 x 3.35 x 8.11	77 x 77	3.03 x 3.03	63.5	2.5
Pilot 120	29212000 00	115 x 85 x 206	4.53 x 3.35 x 8.11	107 x 77	4.21 x 3.03	63.5	2.5
Pilot 130	29213000 00	85 x 85 x 236	3.35 x 3.35 x 9.29	77 x 107	3.03 x 4.21	63.5	2.5
Pilot 140	29214000 00	160 x 85 x 226	6.30 x 3.35 x 8.90	152 x 97	5.98 x 3.82	63.5	2.5
Pilot 150	29215000 00	105 x 85 x 281	4.13 x 3.35 x 11.06	97 x 152	3.82 x 5.98	63.5	2.5

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

### Accessories

Description	Part Number
External wall mounting bracket	10094657 00
Extra power cable PG 11	10087222 00
Extra power cable PG 16	10087224 00
Magnetic holder, self-adhesive	29000080 00
External wall mounting bracket for 29214000 and 29215000	10094657 00



## Tastomat



- Developed for use as a factory floor control unit in tough operating conditions
- Gasketed to provide an ingress protection of IP 65 and made of glassbead-reinforced polyamide.
- Designed for easier handling with molded-in ribs in the bottom half of the enclosure

### Included in delivery

Lid with seal, base, 6 enclosure screws M 4 x 28 and 4 self-tapping screws for mounting plate

## Technical Data

Material	Polyamide, 30% glassbead-reinforced
Color	Light gray, similar to RAL 7035. Special colors on request. Minimum order quantities apply
Ingress Protection	IP 65 to DIN EN 60529
Flammability	UL 94 HB/1.6

Model Number	Part Number	Dimensions	Dimensions
		mm	Inches
		L x W x H	L x W x H
TAS 100	08100000 00	251 x 91 x 46	9.88 x 3.58 x 1.81
TAS 200	08200000 00	251 x 91 x 80	9.88 x 3.58 x 3.15

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

- Ergonomic handheld enclosure made of durable ABS plastic
- Design concept spanning 6 sizes in numerous combinations with end caps in black and 6 colors
- All sizes are membrane keypad ready
- Battery compartments with integrated front panels to prevent contact with other built-in components



**Included in delivery**

**ART 115:** Lid and base, screw, screw cover  
**ART 225, 335:** Lid and base  
**ART 555, 655, 865:** Lids and bases including tool operated snap locks for caps  
**Please order end caps separately.**

**Technical Data**

Material	ABS
Color	Agate gray, similar to RAL 7038. Special colors available. Minimum order quantities apply.
Ingress Protection	ART 115: IP 40/DIN EN 60529; ART 225 up to 865, IP 40/DIN EN 60529, can be increased to IP 65/DIN EN 60529 with set of seals ART..DI
Flammability	UL 94 HB/1.6
Temperature Resistance	-58°F to +158°F

Model Number	Part Number	Dimensions mm	Dimensions Inches
		L x W x H	L x W x H
ART 115 F	34111511 00	78 x 45 x 18	3.07 x 1.77 x 0.71
ART 225 F	34122511 00	98 x 55 x 20	3.86 x 2.16 x 0.79
ART 335 DIS	34133512 00	130 x 75 x 26	5.12 x 2.95 x 1.02
ART 335 F	34133511 00	130 x 75 x 26	5.12 x 2.95 x 1.02
ART 555 DIS	34155512 00	165 x 92 x 30	6.50 x 3.62 x 1.18
ART 555 F	34155511 00	165 x 92 x 30	6.50 x 3.62 x 1.18
ART 555 DIS with BE 30	34155582 00	165 x 92 x 30	6.50 x 3.62 x 1.18
ART 555 F with BE 30	34155581 00	165 x 92 x 30	6.50 x 3.62 x 1.18
ART 555 DIS with BE 60	34155592 00	165 x 92 x 30	6.50 x 3.62 x 1.18
ART 555 F with BE 60	34155591 00	165 x 92 x 30	6.50 x 3.62 x 1.18
ART 655 DIS	34165512 00	204 x 110 x 41	8.03 x 4.33 x 1.61
ART 655 F	34165511 00	204 x 110 x 41	8.03 x 4.33 x 1.61
ART 655 DIS with BE 30	34165582 00	204 x 110 x 41	8.03 x 4.33 x 1.61
ART 655 F with BE 30	34165581 00	204 x 110 x 41	8.03 x 4.33 x 1.61
ART 655 DIS with BE 60	34165592 00	204 x 110 x 41	8.03 x 4.33 x 1.61
ART 655 F with BE 60	34165591 00	204 x 110 x 41	8.03 x 4.33 x 1.61
ART 865 DIS	34186512 00	236 x 125 x 41	9.29 x 4.92 x 1.61
ART 865 F	34186511 00	236 x 125 x 41	9.29 x 4.92 x 1.61
ART 865 DIS with BE 30	34186582 00	236 x 125 x 41	9.29 x 4.92 x 1.61
ART 865 F with BE 30	34186581 00	236 x 125 x 41	9.29 x 4.92 x 1.61
ART 865 DIS with BE 60	34186592 00	236 x 125 x 41	9.29 x 4.92 x 1.61
ART 865 F with BE 60	34186591 00	236 x 125 x 41	9.29 x 4.92 x 1.61

F= continuous membrane area      DIS = display opening      BE=battery compartment  
 Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

**Accessories**

Model Number	Part Number	Description	Model Number	Part Number	Description
ART 115 KO-1016	34111523 00	Top end caps, sulphur yellow, similar to RAL 1016 (5 pcs.)	ART 555 BEU-2MN	34155561 00	Battery shaft for ARTEB 555 (5 pcs.)
ART 115 KO-3000	34111525 00	Top end caps, flame red, similar to RAL 3000 (5 pcs.)	ART 500 DIS	34150041 00	Display screen for ARTEB 555 DIS (5 pcs.)
ART 115 KO-5015	34111527 00	Top end caps, sky blue, similar to RAL 5015 (5 pcs.)	ART 555-DI	34155551 00	Seal set for ARTEB 555 DIS to achieve IP 65 (5 pcs.)
ART 115 KO-6027	34111522 00	Top end caps, light green, similar to RAL 6027 (5 pcs.)	ART 555 BTU 1	34155541 00	Partitions for battery compartment (5 pcs.)
ART 115 KO-7037	34111524 00	Top end caps, dust gray, similar to RAL 7037 (5 pcs.)	ART 655 BEU-2MN	34165561 00	Battery shaft for ARTEB 655 (5 pcs.)
ART 115 KO-7038	34111521 00	Top end caps, agate gray, similar to RAL 7038 (5 pcs.)	ART 655 KO-1016	34165523 00	Top end caps, sulphur yellow, similar to RAL 1016 (5 pcs.)
ART 115 KO-IR	34111526 00	Top end caps, black, infrared-permissive (5 pcs.)	ART 655 KO-3000	34165525 00	Top end caps, flame red, similar to RAL 3000 (5 pcs.)
ART 225 KO-1016	34122523 00	Top end caps, sulphur yellow, similar to RAL 1016 (5 pcs.)	ART 655 KO-5015	34165527 00	Top end caps, sky blue, similar to RAL 5015 (5 pcs.)
ART 225 KO-3000	34122525 00	Top end caps, flame red, similar to RAL 3000 (5 pcs.)	ART 655 KO-6027	34165522 00	Top end caps, light green, similar to RAL 6027 (5 pcs.)
ART 225 KO-5015	34122527 00	Top end caps, sky blue, similar to RAL 5015 (5 pcs.)	ART 655 KO-7037	34165524 00	Top end caps, dust gray, similar to RAL 7037 (5 pcs.)
ART 225 KO-6027	34122522 00	Top end caps, light green, similar to RAL 6027 (5 pcs.)	ART 655 KO-7038	34165521 00	Top end caps, agate gray, similar to RAL 7038 (5 pcs.)
ART 225 KO-7037	34122524 00	Top end caps, dust gray, similar to RAL 7037 (5 pcs.)	ART 655 KO-IR	34165526 00	Top end caps, infrared-permissive (5 pcs.)
ART 225 KO-7038	34122521 00	Top end caps, agate gray, similar to RAL 7038 (5 pcs.)	ART 655 KU-1016	34165533 00	Bottom end caps, sulphur yellow, similar to RAL 1016 (5 pcs.)
ART 225 KO-IR	34122526 00	Top end caps, black, infrared-permissive (5 pcs.)	ART 655 KU-3000	34165535 00	Bottom end caps, flame red, similar to RAL 3000 (5 pcs.)
ART 225 KU-1016	34122533 00	Bottom end caps, sulphur yellow, similar to RAL 1016 (5 pcs.)	ART 655 KU-1015	34165537 00	Bottom end caps, sky blue, similar to RAL 5015 (5 pcs.)
ART 225 KU-3000	34122535 00	Bottom end caps, flame red, similar to RAL 3000 (5 pcs.)	ART 655 KU-6027	34165532 00	Bottom end caps, light green, similar to RAL 6027 (5 pcs.)
ART 225 KU-5015	34122537 00	Bottom end caps, sky blue, similar to RAL 5015 (5 pcs.)	ART 655 KU-7037	34165534 00	Bottom end caps, dust gray, similar to RAL 7037 (5 pcs.)
ART 225 KU-6027	34122532 00	Bottom end caps, light green, similar to RAL 6027 (5 pcs.)	ART 655 KU-7038	34165531 00	Bottom end caps, agate gray, similar to RAL 7038
ART 225 KU-7037	34122534 00	Bottom end caps, dust gray, similar to RAL 7037 (5 pcs.)	ART 655 BTU 1	34165541 00	Partitions for battery compartment (5 pcs.)
ART 225 KU-7038	34122531 00	Bottom end caps, agate gray, similar to RAL 7038 (5 pcs.)	ART 655 BTU 2	34165542 00	Partitions for battery compartment (5 pcs.)
ART 225 KO-IR	34122526 00	Bottom end caps, black, infrared-permissive (5 pcs.)	ART 600 DIS	34160041 00	Display screen for ARTEB 655 DIS (5 pcs.)
ART 225 DI	34122551 00	Seal set for ARTEB 225 to achieve IP 65 (5 pcs.)	ART 655-DI	34165551 00	Seal set for ARTEB 655 to achieve IP 65 (5 pcs.)
ART 335 KO-1016	34133523 00	Top end caps, sulphur yellow, similar to RAL 1016 (5 pcs.)	ART 865 BEU -2MN	34165561 00	Battery shaft for ARTEB 865 (5 pcs.)
ART 335 KO-3000	34133525 00	Top end caps, flame red, similar to RAL 3000 (5 pcs.)	ART 865 KO-1016	34186561 00	Top end caps, sulfur yellow, similar to RAL 7035 (5 pcs.)
ART 335 KO-5015	34133527 00	Top end caps, sky blue, similar to RAL 5015 (5 pcs.)	ART 865 KO-3000	34186525 00	Top end caps, flame red, similar to RAL 3000 (5 pcs.)
ART 335 KO-6027	34133522 00	Top end caps, light green, similar to RAL 6027 (5 pcs.)	ART 865 KO-5015	34165527 00	Top end caps, sky blue, similar to RAL 5015 (5 pcs.)
ART 335 KO-7037	34133524 00	Top end caps, dust gray, similar to RAL 7037 (5 pcs.)	ART 865 KO-6027	34186527 00	Top end caps, light green, similar to RAL 6027 (5 pcs.)
ART 335 KO-7038	34133521 00	Top end caps, agate gray, similar to RAL 7038 (5 pcs.)	ART 865 KO-7037	34186524 00	Top end caps, dust gray, similar to RAL 7037 (5 pcs.)
ART 335 KO-IR	34133526 00	Top end caps, black, infrared-permissive (5 pcs.)	ART 865 KO-7038	34186521 00	Top end caps, agate gray, similar to RAL 7038
ART 335 KU-1016	34133533 00	Bottom end caps, sulphur yellow, similar to RAL 1016 (5 pcs.)	ART 865 KO-IR	34186526 00	Top end caps, infrared-permissive (5 pcs.)
ART 335 KU-3000	34133535 00	Bottom end caps, flame red, similar to RAL 3000 (5 pcs.)	ART 865 KU-1016	34186533 00	Bottom end caps, sulfur yellow, similar to RAL 7035 (5 pcs.)
ART 335 KU-5015	34133537 00	Bottom end caps, sky blue, similar to RAL 5015 (5 pcs.)	ART 865 KU-3000	34186535 00	Bottom end caps, flame red, similar to RAL 3000 (5 pcs.)
ART 335 KU-6027	34133532 00	Bottom end caps, light green, similar to RAL 6027 (5 pcs.)	ART 865 KU-5015	34186537 00	Bottom end caps, sky blue, similar to RAL 5015 (5 pcs.)
ART 335 KU-7037	34133534 00	Bottom end caps, dust gray, similar to RAL 7037 (5 pcs.)	ART 865 KU-6027	34186532 00	Bottom end caps, light green, similar to RAL 6027 (5 pcs.)
ART 335 KU-7038	34133531 00	Bottom end caps, agate gray, similar to RAL 7038 (5 pcs.)	ART 865 KU-7037	34186534 00	Bottom end caps, dust gray, similar to RAL 7037 (5 pcs.)
ART 335 KO-IR	34133526 00	Bottom end caps, black, infrared-permissive (5 pcs.)	ART 865 KU-7038	34186531 00	Bottom end caps, agate gray, similar to RAL 7038
ART 335 BTU 1	34133541 00	Partitions for battery compartment (5 pcs.)	ART 865 BTU 1	34186541 00	Partitions for battery compartment (5 pcs.)
ART 335 BTU 2	34133542 00	Partitions for battery compartment (5 pcs.)	ART 865 BTU 2	34186542 00	Partitions for battery compartment (5 pcs.)
ART 335-DI	34133551 00	Seal set for ARTEB 335 to achieve IP 65 (5 pcs.)	ART 865 BTU 3	34186543 00	Partitions for battery compartment (5 pcs.)
ART 335 DIS	34130041 00	Display screen for ARTEB 335 DIS (5 pcs.)	ART 800 DIS	34180041 00	Display screen for ARTEB 865 DIS (5 pcs.)
ART 555 KO-1016	34155523 00	Top end caps, sulphur yellow, similar to RAL 1016 (5 pcs.)	ART 865-DI	34186551 00	Seal set for ARTEB 865 to achieve IP 65 (5 pcs.)
ART 555 KO-3000	34155525 00	Top end caps, flame red, similar to RAL 3000 (5 pcs.)	ART SV-HB-7038	34155573 00	Hand operated snap lock (10 pcs.)
ART 555 KO-5015	34155527 00	Top end caps, sky blue, similar to RAL 5015 (5 pcs.)	ART SV-SR-7038	34155572 00	Snap lock, blocking (10 pcs.)
ART 555 KO-6027	34155522 00	Top end caps, light green, similar to RAL 6027 (5 pcs.)	BH 2MC <sup>1</sup>	34165572 00	Battery holder L 52.6 x W 26.9 x H 12.0 (5 pcs.)
ART 555 KO-7037	34155524 00	Top end caps, dust gray, similar to RAL 7037 (5 pcs.)	BH 4MC <sup>1</sup>	34165573 00	Battery holder L 50.6 x W 17.8 x H 12.8 (5 pcs.)
ART 555 KO-7038	34155521 00	Top end caps, agate gray, similar to RAL 7038 (5 pcs.)	BH 2MN <sup>3</sup>	34165574 00	Battery holder L 58.0 <sup>4</sup> x W31.9 x H 17.2 (5 pcs.)
ART 555 KO-IR	34155526 00	Top end caps, black, infrared-permissive (5 pcs.)	BH 3MN <sup>3</sup>	34165575 00	Battery holder L 58.2 <sup>4</sup> x W 49.7 x H 17.5 (5 pcs.)
ART 555 KU-1016	34155533 00	Bottom end caps, sulphur yellow, similar to RAL 1016 (5 pcs.)	BH 4MN-BL <sup>3</sup>	34165576 00	Battery holder L 58.6 <sup>4</sup> x W 33.0 x H31.6 (5 pcs.)
ART 555 KU-3000	34155535 00	Bottom end caps, flame red, similar to RAL 3000 (5 pcs.)	BH 6MN-BL3	34165577 00	Battery holder L 59.1 <sup>4</sup> x W48.4 H 31.5 (5 pcs.)
ART 555 KU-5015	34155537 00	Bottom end caps, sky blue, similar to RAL 5015 (5 pcs.)	BH 9V CLIP	34165578 00	Cable: approximately 100mm long
ART 555 KU-6027	34155532 00	Bottom end caps, light green, similar to RAL 6027 (5 pcs.)	ASC 1	34090010 00	Set-up clip, agate gray, similar to RAL 7038
ART 555 KU-7037	34155534 00	Bottom end caps, dust gray, similar to RAL 7037 (5 pcs.)		34333574 00	Dismantling tool
ART 555 KU-7038	34155531 00	Bottom end caps, agate gray, similar to RAL 7038 (5 pcs.)			

KO = Cap at Top      KU = Cap at Bottom      IR = Infrared Permissive

<sup>1</sup> Connection with soldering tags

<sup>2</sup> For battery shaft

<sup>3</sup> Connection clip included

<sup>4</sup> Length including clip: additional 8 mm

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

- Ergonomic enclosure ideally suited to handheld or small instrument designs
- Available with profiles that are closed, divided horizontally, or open on one side
- High mechanical loading capacity of the profile and EMC screening ensure a high level of protective function.

### Included in delivery

**ABP:** Closed extrusion only. Black powder-coated aluminum sold by the meter

**ABPH:** Split extrusion only. Black powder-coated aluminum sold by the meter

**ABPU:** Extrusion open on one side. Black powder-coated aluminum sold by the meter.

**Please order end caps and accessories separately.**



## Technical Data

Material	Aluminum extrusion, Al Mg Si 0.5, powdercoated; aluminum diecast lid GD-Al Si 12, powdercoated
Color	Powdercoated Satin Black, similar to RAL 9005, fine texture finish. Special colors on request. Minimum order quantities apply
Ingress Protection	IP 65, DIN EN 60529 IP 40 when using parallel adapters (AP-AP) with 600, 800 and 1000 extrusions

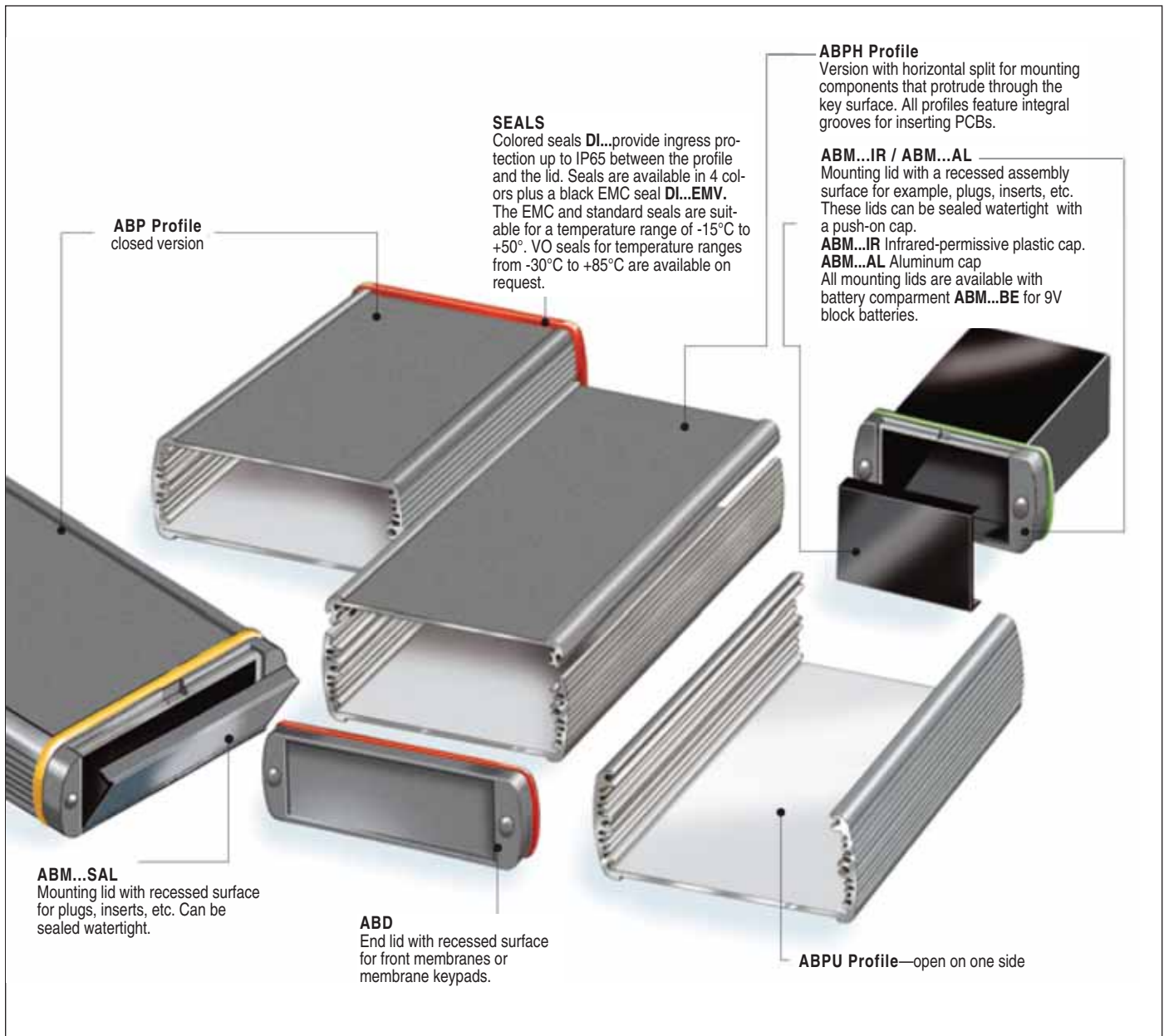
Model Number	Part Number	Dimensions mm		Dimensions Inches	
		L x W x H	L x W x H	L x W x H	L x W x H
ABP 600-1000	84060000 00	1000 x 57 x 32		39.37 x 2.24 x 1.26	
ABP 800-1000	84080000 00	1000 x 82 x 32		39.37 x 3.23 x 1.26	
ABP 820-1000	84820000 00	1000 x 82 x 22		39.37 x 3.23 x 0.87	
ABP 1000-1000	84100000 00	1000 x 106 x 32		39.37 x 4.17 x 1.26	
ABP 1040-1000	84040000 00	1000 x 108 x 32		39.37 x 4.25 x 1.26	
ABP 1300-1000	84130000 00	1000 x 138 x 34		39.37 x 5.43 x 1.34	
ABP 1600-1000	84160001 00	1000 x 169 x 52		39.37 x 6.65 x 2.05	
ABP 1680-1000	84680000 00	1000 x 169 x 82		39.37 x 6.65 x 3.23	
ABP 2070-1000	84207000 00	1000 x 210 x 74		39.37 x 8.27 x 2.91	
ABPH 600-1000	84066001 00	1000 x 57 x 32		39.37 x 2.24 x 1.26	
ABPH 800-1000	84086001 00	1000 x 82 x 32		39.37 x 3.23 x 1.26	
ABPH 820-1000	84826000 00	1000 x 82 x 22		39.37 x 3.23 x 0.87	
ABPH 1000-1000	84106001 00	1000 x 106 x 32		39.37 x 4.17 x 1.26	
ABPH 1040-1000	84046000 00	1000 x 108 x 42		39.37 x 4.25 x 1.65	
ABPH 1300-1000	84136000 00	1000 x 138 x 34		39.37 x 5.43 x 1.34	
ABPH 1680-1000	84686000 00	1000 x 169 x 82		39.37 x 6.65 x 3.23	
ABPU 820-1000	84827000 00	1000 x 82 x 22		39.37 x 3.23 x 0.87	
ABPU 1040-1000	84047000 00	1000 x 108 x 42		39.37 x 4.25 x 1.65	
ABPU 1300-1000	84137000 00	1000 x 138 x 34		39.37 x 5.43 x 1.34	
ABPU 1680-1000	84687000 00	1000 x 169 x 82		39.37 x 6.65 x 3.23	

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

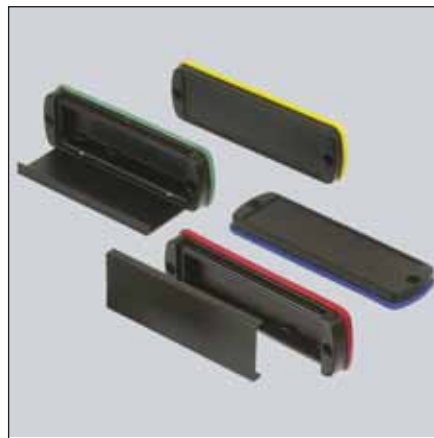
**Pictures top to bottom:**  
Group shot showing application using parallel adapter (AB-AP) and axial adapter (ABA), as well as closed profiles with endcaps; Wall mount application using wall brackets (AB-WL); Application featuring handles (AB...HS); and Application using parallel adapter (AB-AP).



# The Anatomy of ALUBOS



Depending on requirements, various lid designs are available to complete the Alubos. These designs include simple end lids, lids with battery compartments, and mounting lids with aluminum caps or infrared-permissive plastic caps.



Diecast aluminum lids, diecast aluminum mounting lid with aluminum hinged flap, and diecast aluminum mounting lid with aluminum profile cap. All lids can be sealed with colored gaskets up to IP 65.



Diecast aluminum lids with recessed surface for mounting front membranes or membrane keypads. Colored seals provide ingress protection up to IP 65.

**Accessories**

Model Number	Part Number	Description	Model Number	Part Number	Description
ABM 600 AL	84602000 00	Mounting lid, aluminum profile cap	DI 1040-5002	84200414 00	Seal, ultramarine (10 pieces)
AMB 600 IR	84063000 00	Mounting lid, infrared-permissive plastic cap	DI 1040-3000	84200411 00	Seal, flame red (10 pieces)
ABM 600 SAL	84064000 00	Mounting lid, aluminum hinged flap	DI 1040-1021	84200412 00	Seal, yellow (10 pieces)
ABM 600 AL-BE	84062100 00	Mounting lid, aluminum profile cap, battery compartment 9V	DI 1040-6000	84200413 00	Seal, patina green (10 pieces)
ABM 600 IR-BE	84063100 00	Mounting lid, infrared-permissive plastic cap, battery compartment 9V	ABPU 1040-1000 FP2	84048000 00	Front panel for ABPU 1040-1000
ABM 600 SAL-BE	84064100 00	Mounting lid, aluminum hinged flap, battery compartment 9V	ABM 1300 AL	84132000 00	Mounting lid, aluminum profile cap
ABD 600	84061000 00	End lid	ABD 1300 SAL	84134000 00	Mounting lid, aluminum hinged flap
DI 600-EMV	84200615 00	EMC seal, black (10 pieces)	ABM 1300	84131000 00	End lid
DI 600-5002	84200614 00	Seal, ultramarine (10 pieces)	DI 1300-EMV	84201315 00	EMC seal, black (10 pieces)
DI 600-3000	84200611 00	Seal, flame red (10 pieces)	DI 1300-5002	84201314 00	Seal, ultramarine (10 pieces)
DI 600-1021	84200612 00	Seal, yellow (10 pieces)	DI 1300-3000	84201311 00	Seal, flame red (10 Ppieces)
DI 600-6000	84200613 00	Seal, patina green (10 pieces)	DI 1300-1021	84201312 00	Seal, yellow (10 pieces)
ABM 800 AL	84082000 00	Mounting lid, aluminum profile cap	DI 1300-6000	84201313 00	Seal, patina green (10 pieces)
ABM 800 IR	84083000 00	Mounting lid, infrared-permissive plastic cap	ABPU 1300-1000 FP2	84138000 00	Front panel for ABPU 1300-1000
ABM 800 SAL	84084000 00	Mounting lid, aluminum hinged flap	ABD 1600	84161000 00	End lid, black seals, screws, screw cover for ABD 1600-1000
ABM 800 AL-BE	84082100 00	Mounting lid, aluminum profile cap, battery compartment 9V	DI 1600-EMV	84201615 00	EMC seal, black (10 pieces)
ABM 800 IR-BE	84083100 00	Mounting lid, infrared-permissive plastic cap, battery compartment 9V	DI 1600-5002	84201614 00	Seal, ultramarine (10 pieces)
ABM 800 SAL-BE	84084100 00	Mounting lid, aluminum hinged flap, battery compartment 9V	DI 1600-3000	84201616 00	Seal, flame red (10 pieces)
ABD 800	84081000 00	End lid, powder-coated aluminum	DI 1600-1021	84201612 00	Seal, yellow (10 pieces)
ABA 800-1000	84002000 00	Axial adapter for ALUBOS 800/100	DI 1600-6000	84201613 00	Seal, patina green (10 pieces)
DI 800-EMV	84200815 00	EMC seal, black (10 pieces)	ABD 1680	84168100 00	End lid, black seals, screws, screw cover for ABD 1680-1000
DI 800-5002	84200814 00	Seal, ultramarine (10 pieces)	DI 1680-EMV	84206815 00	EMC seal, black (10 pieces)
DI 800-3000	84200811 00	Seal, flame red (10 pieces)	DI 1680-5002	84206814 00	Seal, ultramarine (10 pieces)
DI 800-1021	84200812 00	Seal, yellow (10 pieces)	DI 1680-3000	84206811 00	Seal, flame red (10 pieces)
DI 800-6000	84200813 00	Seal, patina green (10 pieces)	DI 1680-1021	84206812 00	Seal, yellow (10 pieces)
ABD 820	84821000 00	End lid, black seal, screws, screw cover	DI 1680-6000	84206813 00	Seal, patina green (10 pieces)
DI 820-EMV	84208215 00	EMC seal, black (10 pieces)	ABPU 1680-1000 FP3	84689000 00	Front panels for ABPU 1680-1000
DI 820-5002	84208214 00	Seal, ultramarine (10 pieces)	ABD 2070	84271000 00	End lid, black seals, screws, screw covers for ABP 2070-1000
DI 820-3000	84208211 00	Seal, flame red (10 pieces)	DI 2070-EMV	84202715 00	EMC seal, black (10 pieces)
DI 820-1021	84208212 00	Seal, yellow (10 pieces)	DI 2070-5002	84202714 00	Seal, ultramarine (10 pieces)
DI 820-6000	84208213 00	Seal, patina green (10 pieces)	DI 2070-3000	84202711 00	Seal, flame red (10 pieces)
ABPU 820-1000 FP2	84828000 00	Front panel for ABPU 820-1000	DI 2070-1021	84202712 00	Seal, yellow (10 pieces)
ABM 1000 AL	84102000 00	Mounting lid, aluminum profile cap	DI 2070-6000	84202713 00	Seal, patina green (10 pieces)
ABM 1000 IR	84103000 00	Mounting lid, infrared-permissive plastic cap	AB-1000 WLW	84105000 00	ALUBOS adjustable wall bracket
ABM 1000 SAL	84104000 00	Mounting lid, aluminum hinged flap	AB-WL	84005000 00	Wall brackets for use with 600/800/1000/1300
AMB 1000 AL-BE	84202100 00	Mounting lid, aluminum profile cap, battery compartment 9V	AB-WL 1	84006001 00	Wall brackets for use with 820
ABM 1000 IR-BE	84103100 00	Mounting lid, infrared-permissive plastic cap, battery compartment 9V	AB-WL 2	84007000 00	Wall brackets for use with 1040
ABM 1000 SAL-BE	84104100 00	Mounting lid, aluminum hinged flap, battery compartment 9V	AB-WL 3	84008000 00	Wall brackets for use with 1600/1680/2070
ABD 1000	84101000 00	End lid	AB 600 MKL	84006600 00	Mounting clamp for ALUBOS 600
ABA 800-1000	84002000 00	Axial adapter for ALUBOS 800/1000	AB 800 MKL	84006400 00	Mounting clamp for ALUBOS 800
DI 1000-EMV	84201015 00	EMC seal, black (10 pieces)	AB 1000 MKL	84006500 00	Mounting clamp for ALUBOS 1000
DI 1000-5002	84201014 00	Seal, ultramarine (10 pieces)	AB-MKL	84006300 00	Mounting clamp for ALUBOS 600/800/1000
DI 1000-3000	84201011 00	Seal, flame red (10 pieces)	AB 1600 HS	84162000 00	Handle for use with ALUBOS 1600/1680
DI 1000-1021	84201012 00	Seal, yellow (10 pieces)	AB 2000 HS	84200000 00	Handle for use ALUBOS 2070
DI 1000-6000	84201013 00	Seal, patina green (10 pieces)	AB-AP 60	84006000 00	Parallel adapter for ALUBOS 600/800/1000, 60 mm length
ABM 1040 AL	84042000 00	Mounting lid, aluminum profile cap	AB-AP 100	84010000 00	Parallel adapter for ALUBOS 600/800/1000, 100 mm length
ABM 1040 SAL	84044000 00	Mounting lid, aluminum hinged flap	AB-AP 150	84015000 00	Parallel adapter for ALUBOS 600/800/1000, 150 mm length
ABM 1040	84041000 00	End lid	ABA 800-1000	84002000 00	Axial adapter, adapts ABP 800 to an ABP 1000
DI 1040-EMV	84200415 00	EMC seal, black (10 pieces)	AB-GF	84006700 00	Rubber feet

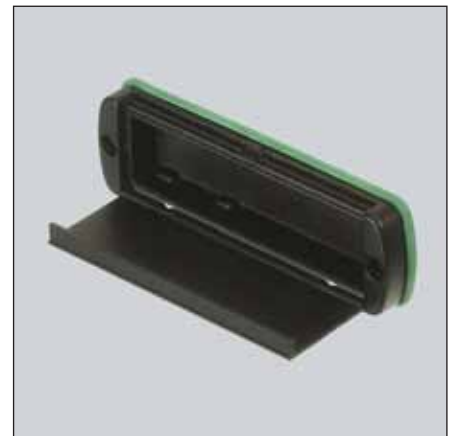
Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.



Application showing battery compartment with a closed profile, diecast lid, and seal.



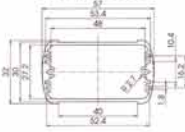
Besides stationary wall brackets, as shown on page 95, an adjustable wall bracket is offered, which allows angles from 0° to 90°.



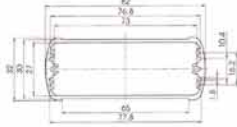
This Alubos mounting lid, ABM...SAL, can be sealed watertight, even with hinged flap.

**Closed Profiles**

**ABP 600**



**ABP 800**



**ABP 820**



**ABP 1000**



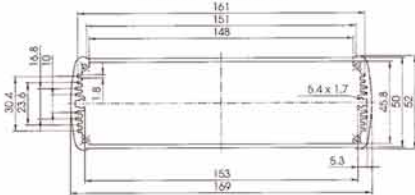
**ABP 1040**



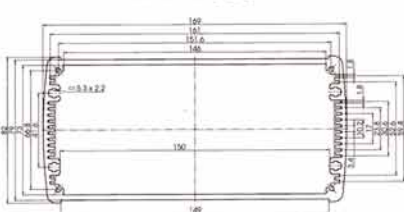
**ABP1300**



**ABP 1600**



**ABP 1680**

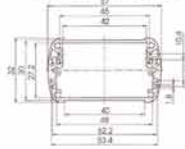


**ABP 2070**

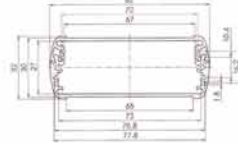


**Split Profiles**

**ABPH 600**



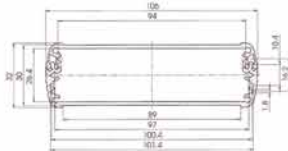
**ABPH 800**



**ABPH 820**



**ABPH 1000**



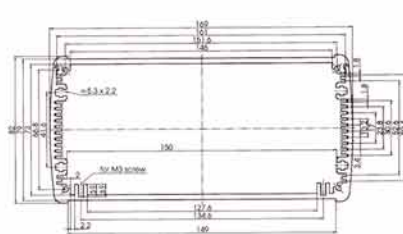
**ABPH 1040**



**ABPH 1300**



**ABPH 1680**



**U-Shaped Profiles**

**ABPU 820**



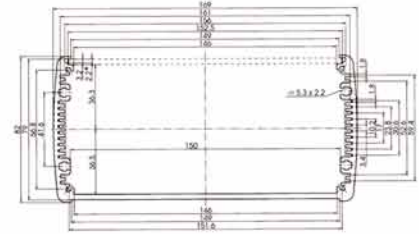
**ABPU1040**



**ABPU 1300**



**ABPU 1680**





- Versatile ABS handheld enclosure available in either black or gray and over 50 configurations
- Each enclosure provides different equipment features and accessories
- Ideal enclosure for use with a wide range of mobile data collection and processing applications



**Included in delivery**  
Lid, base, and enclosure screws as required. See website for more detailed information on various configurations.

**Technical Data**

Material	ABS; display screen, clear polycarbonate
Color	Black, similar to RAL 9005 and/or agate gray, similar to RAL 7038. Special colors on request.
Ingress Protection	IP 40/DIN VDE 0470
Surface Resistance	>10 <sup>14</sup> Ohm to DIN 53482
Flammability	UL 94 HB/1.6

Model Number	Type	Part Number		Dimensions		Display Opening	Battery Compartment For	Ingress Protection DIN EN 60529
		Black	Agate Gray	mm L x W x H	Inches L x W x H			
BOS 400	With battery compartment	34400000 00	-	100 x 65 x 24	3.94 x 2.56 x 0.94	-	9 Volt	IP 40
BOS 400 ASC	Includes integrated set-up clip	34400500 00	-	100 x 65 x 24	3.94 x 2.56 x 0.94	-	9 Volt	IP 40
BOS 401	Without battery compartment	34401000 00	-	100 x 65 x 24	3.94 x 2.56 x 0.94	-	-	IP 40
BOS 401 ASC	Includes integrated set-up clip	34401500 00	-	100 x 65 x 24	3.94 x 2.56 x 0.94	-	-	IP 40
BOS 500	With panoramic display screen	34500000 00	34500003 00	120 x 60 x 25	4.72 x 2.36 x 0.98	x	9 Volt	IP 40
BOS 501	With display screen	34501000 00	34501002 00	120 x 60 x 25	4.72 x 2.36 x 0.98	x	9 Volt	IP 40
BOS 502	Without display opening	34502000 00	34502002 00	120 x 60 x 25	4.72 x 2.36 x 0.98	-	9 Volt	IP 40
BOS 503	With membrane keypad area	34503000 00	34503001 00	120 x 60 x 25	4.72 x 2.36 x 0.98	-	9 Volt	IP 40
BOS 600	With display screen	34600000 00	-	172 x 77 x 25	6.77 x 3.03 x 0.98	x	9 Volt	IP 40
BOS 601	With membrane keypad area	34601000 00	-	172 x 77 x 25	6.77 x 3.03 x 0.98	-	9 Volt	IP 40
BOS 602	With loudspeaker grill	34602000 00	-	172 x 77 x 25	6.77 x 3.03 x 0.98	-	3 AA	IP 40
BOS 700	With display opening and battery compartment	34700000 00	-	150 x 80 x 30	5.90 x 3.15 x 1.18	x	9 Volt	IP 40
BOS 701	With display opening and battery compartment	34701000 00	-	150 x 80 x 30	5.90 x 3.15 x 1.18	x	9 Volt	IP 40
BOS 704	With slide for switch	34704000 00	-	150 x 80 x 30	5.90 x 3.15 x 1.18	x	9 Volt	IP 40
BOS 705	With slide for switch	34705000 00	-	150 x 80 x 30	5.90 x 3.15 x 1.18	x	9 Volt	IP 40
BOS 750	With panoramic display screen	34750000 00	34750001 00	157 x 84 x 30	6.18 x 3.31 x 1.18	x	9 Volt	IP 40
BOS 751	With display screen	34751000 00	34751001 00	157 x 84 x 30	6.18 x 3.31 x 1.18	x	9 Volt	IP 40
BOS 752	With membrane keypad area	34752000 00	34752001 00	157 x 84 x 30	6.18 x 3.31 x 1.18	-	9 Volt	IP 40
BOS 753	With panoramic display screen	34753000 00	-	157 x 84 x 30	6.18 x 3.31 x 1.18	x	-	IP 40
BOS 754	With display screen	34754000 00	34754001 00	157 x 84 x 30	6.18 x 3.31 x 1.18	x	-	IP 40
BOS 755	With membrane keypad area	34755000 00	34755001 00	157 x 84 x 30	6.18 x 3.31 x 1.18	-	-	IP 40
BOS 756	With panoramic display screen, with slide for switch	34756000 00	-	157 x 84 x 30	6.18 x 3.31 x 1.18	x	9 Volt	IP 40
BOS 757	With display screen, with slide for switch	34757000 00	-	157 x 84 x 30	6.18 x 3.31 x 1.18	x	9 Volt	IP 40
BOS 758	With membrane keypad area, with slide for switch	34758000 00	-	157 x 84 x 30	6.18 x 3.31 x 1.18	-	-	IP 40
BOS 759	With panoramic display screen, with slide for switch	34759000 00	-	157 x 84 x 30	6.18 x 3.31 x 1.18	x	-	IP 40
BOS 760	With display screen, with slide for switch	34760000 00	-	157 x 84 x 30	6.18 x 3.31 x 1.18	x	-	IP 40
BOS 761	With membrane keypad area, with slide for switch	34761000 00	-	157 x 84 x 30	6.18 x 3.31 x 1.18	-	-	IP 40
BOS 800	With panoramic display screen	34800000 00	34800001 00	196 x 100 x 40	7.72 x 3.94 x 1.57	x	4 AA	IP 40
BOS 801	With display screen	34801000 00	34801001 00	196 x 100 x 40	7.72 x 3.94 x 1.57	-	4 AA	IP 40
BOS 802	Without display opening	34802000 00	34802001 00	196 x 100 x 40	7.72 x 3.94 x 1.57	-	4 AA	IP 40
BOS 803	With panoramic display screen	34803000 00	34803001 00	196 x 100 x 40	7.72 x 3.94 x 1.57	x	-	IP 40
BOS 804	With display screen	34804000 00	34804001 00	196 x 100 x 40	7.72 x 3.94 x 1.57	x	-	IP 40
BOS 805	Without display opening	34805000 00	34805001 00	196 x 100 x 40	7.72 x 3.94 x 1.57	-	-	IP 40
BOS 807	With membrane keypad area	34807000 00	34807001 00	196 x 100 x 40	7.72 x 3.94 x 1.57	-	4 AA	IP 40
BOS 808	With membrane keypad area	34808000 00	34808001 00	196 x 100 x 40	7.72 x 3.94 x 1.57	-	-	IP 40
BOS 900	Without battery compartment and carrying strap	34900009 00	34900000 00	211 x 100 x 26	8.31 x 3.94 x 1.02	x	-	IP 40
BOS 901	Without battery compartment with carrying strap	34901009 00	34901000 00	211 x 100 x 26	8.31 x 3.94 x 1.02	x	-	IP 65
BOS 902	With carrying strap	34902009 00	34902000 00	211 x 100 x 26	8.31 x 3.94 x 1.02	x	4 AA	IP 65
BOS 903	With carrying strap	34903009 00	34903000 00	224 x 106 x 26	8.82 x 4.17 x 1.02	x	2 - 9 Volt	IP 65
BOS 910	Without battery compartment	34910009 00	34910002 00	224 x 106 x 40	8.82 x 4.17 x 1.57	x	-	IP 65
BOS 911	Without battery compartment	34911009 00	34911000 00	224 x 106 x 40	8.82 x 4.17 x 1.57	x	-	IP 65
BOS 912	With battery compartment	34912009 00	34912000 00	224 x 106 x 40	8.82 x 4.17 x 1.57	x	4 AA	IP 65
BOS 913	With battery compartment	34913009 00	34913000 00	224 x 106 x 40	8.82 x 4.17 x 1.57	x	2 - 9 Volt	IP 65

ASC = including integrated set-up clip  
Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

- The construction design permits parallel or inclined arrangement of the half-shells, as well as lengthwise and crosswise use
- Can be used for graphic-capable displays or as a membrane keypad model with continuous membrane keypad
- Ingress protection up to IP 65 depending on design.
- Can be adapted to customers individual requirements with membrane keypads and displays as well as mechanical processing and printing



### Included in delivery

**BS 400/402/600/602/800/802 F:** Lid and base, 4 screws  
**BS 401/403/404/601/603/604/801/803/804 F:** Lid and base, 4 screws, battery compartment including screws, battery contacts  
**BS 400/402/600/602/800/802 DIS:** Lid and base, display window, adhesive film, 4 screws  
**BS 401/403/404/601/603/604/801/803/804 DIS:** Lid and base, display window, adhesive film, 4 screws, battery compartment lid including screws, battery contacts

## Technical Data

Color	Enclosure: graphite gray, similar to RAL 7024. Light gray, similar to RAL 7035. Silver coated (minimum order 100 pieces) Special colors on request
Material	ABS plastic
Protection Classifications	IP 40, without seal IP 65 DIN EN 60529, with seal

Model Number	Part Number	Dimensions mm L x W x H	Dimensions Inches L x W x H	Protection Classification	Description
BS 400 F-7024	82400124 00	119.3 x 64.9 x 26.5	4.70 x 2.55 x 1.04	IP 40/IP 65*	Continuous membrane surface, graphite gray similar to RAL 7024
BS 400 F-7035	82400135 00	119.3 x 64.9 x 26.5	4.70 x 2.55 x 1.04	IP 40/IP 65*	Continuous membrane surface, light gray, similar to RAL 7035
BS 400 F-S**	82400100 00	119.3 x 64.9 x 26.5	4.70 x 2.55 x 1.04	IP 40/IP 65*	Continuous membrane surface, silver
BS 400 DIS-7024	82400224 00	119.3 x 64.9 x 26.5	4.70 x 2.55 x 1.04	IP 40/IP 65*	With display cut-out, graphite gray, similar to RAL 7024
BS 400 DIS-7035	82400235 00	119.3 x 64.9 x 26.5	4.70 x 2.55 x 1.04	IP 40/IP 65*	With display cut-out, light gray, similar to RAL 7035
BS 400 DIS-S**	82400200 00	119.3 x 64.9 x 26.5	4.70 x 2.55 x 1.04	IP 40/IP 65*	With display cut-out, silver
BS 401 F-7024	82401124 00	119.3 x 64.9 x 26.5	4.70 x 2.55 x 1.04	IP 40	Continuous membrane surface, battery compartment 3 AAA, graphite gray, similar to RAL 7024
BS 401 F-7035	82401135 00	119.3 x 64.9 x 26.5	4.70 x 2.55 x 1.04	IP 40	Continuous membrane surface, battery compartment 3 AAA, light gray, similar to RAL 7035
BS 401 F-S**	82401100 00	119.3 x 64.9 x 26.5	4.70 x 2.55 x 1.04	IP 40	Continuous membrane surface, battery compartment 3 AAA, silver
BS 401 DIS-7024	82401224 00	119.3 x 64.9 x 26.5	4.70 x 2.55 x 1.04	IP 40	With display cut-out, battery compartment 3 AAA, graphite gray, similar to RAL 7024
BS 401 DIS-7035	82401235 00	119.3 x 64.9 x 26.5	4.70 x 2.55 x 1.04	IP 40	With display cut-out, battery compartment 3 AAA, light gray, similar to RAL 7035
BS 401 DIS-S**	82401200 00	119.3 x 64.9 x 26.5	4.70 x 2.55 x 1.04	IP 40	With display cut-out, battery compartment 3 AAA, silver
BS 402 F-7024	82402124 00	119.3 x 64.9 x 26.5	4.70 x 2.55 x 1.04	IP 65	Continuous membrane surface, fitted round cord seal, graphite gray, similar to RAL 7024
BS 402 F-7035	82402135 00	119.3 x 64.9 x 26.5	4.70 x 2.55 x 1.04	IP 65	Continuous membrane surface, fitted round cord seal, light gray, similar to RAL 7035
BS 402 F-S**	82402100 00	119.3 x 64.9 x 26.5	4.70 x 2.55 x 1.04	IP 65	Continuous membrane surface, fitted round cord seal, silver
BS 402 DIS-7024	82402224 00	119.3 x 64.9 x 26.5	4.70 x 2.55 x 1.04	IP 65	With display cut-out, fitted round cord seal, graphite gray, similar to RAL 7024
BS 402 DIS-7035	82402235 00	119.3 x 64.9 x 26.5	4.70 x 2.55 x 1.04	IP 65	With display cut-out, fitted round cord seal, light gray, similar to RAL 7035
BS 402 DIS-S**	82402200 00	119.3 x 64.9 x 26.5	4.70 x 2.55 x 1.04	IP 65	With display cut-out, fitted round cord seal, silver
BS 403 F-7024	82403124 00	119.3 x 64.9 x 26.5	4.70 x 2.55 x 1.04	IP 40/IP 65*	Continuous membrane surface, battery compartment 3 AAA, graphite gray, similar to RAL 7024
BS 403 F-7035	82403135 00	119.3 x 64.9 x 26.5	4.70 x 2.55 x 1.04	IP 40/IP 65*	Continuous membrane surface, battery compartment 3 AAA, light gray, similar to RAL 7035
BS 403 F-S**	82403100 00	119.3 x 64.9 x 26.5	4.70 x 2.55 x 1.04	IP 40/IP 65*	Continuous membrane surface, battery compartment 3 AAA, silver
BS 403 DIS-7024	82403224 00	119.3 x 64.9 x 26.5	4.70 x 2.55 x 1.04	IP 40/IP 65*	With display cut-out, battery compartment 3 AAA, graphite gray, similar to RAL 7024
BS 403 DIS-7035	82403235 00	119.3 x 64.9 x 26.5	4.70 x 2.55 x 1.04	IP 40/IP 65*	With display cut-out, battery compartment 3 AAA, light gray, similar to RAL 7035
BS 403 DIS-S**	82403200 00	119.3 x 64.9 x 26.5	4.70 x 2.55 x 1.04	IP 40/IP 65*	With display cut-out, battery compartment 3 AAA, silver
BS 404 F-7024	82404124 00	119.3 x 64.9 x 26.5	4.70 x 2.55 x 1.04	IP 65	Continuous membrane surface, battery compartment 3 AAA, fitted round cord seal graphite gray similar to RAL 7024
BS 404 F-7035	82404135 00	119.3 x 64.9 x 26.5	4.70 x 2.55 x 1.04	IP 65	Continuous membrane surface, battery compartment 3 AAA, fitted round cord seal, light gray, similar to RAL 7035
BS 404 F-S**	82404100 00	119.3 x 64.9 x 26.5	4.70 x 2.55 x 1.04	IP 65	Continuous membrane surface, battery compartment 3 AAA, fitted round cord seal, silver
BS 404 DIS-7024	82404224 00	119.3 x 64.9 x 26.5	4.70 x 2.55 x 1.04	IP 65	With display cut-out, battery compartment 3 AAA, fitted round cord seal, graphite gray, similar to RAL 7024
BS 404 DIS-7035	82404235 00	119.3 x 64.9 x 26.5	4.70 x 2.55 x 1.04	IP 65	With display cut-out, battery compartment 3 AAA, fitted round cord seal, light gray, similar to RAL 7035
BS 404 DIS-S**	82404200 00	119.3 x 64.9 x 26.5	4.70 x 2.55 x 1.04	IP 65	With display cut-out, battery compartment 3 AAA, fitted round cord seal, silver

\* IP 65 and anti-knock protection when decorative seal BS 400 DI-D... is used

\*\*Available on request - minimum order quantity 100 pieces

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

Model Number	Part Number	Dimensions	External	Protection	Description
		mm	Dimensions		
		L x W x H	Inches		
		L x W x H	L x W x H		
BS 600 F-7024	82600124 00	159.4 x 77.9 x 33.5	6.27 x 3.07 x 1.32	IP 40/65*	Continuous membrane surface, graphite gray, similar to RAL 7024
BS 600 F-7035	82600135 00	159.4 x 77.9 x 33.5	6.27 x 3.07 x 1.32	IP 40/65*	Continuous membrane surface, light gray, similar to RAL 7035
BS 600 F-S**	82600100 00	159.4 x 77.9 x 33.5	6.27 x 3.07 x 1.32	IP 40/65*	Continuous membrane surface, silver
BS 600 DIS-7024	82600224 00	159.4 x 77.9 x 33.5	6.27 x 3.07 x 1.32	IP 40/65*	With display cut-out, graphite gray, similar to RAL 7024
BS 600 DIS-7035	82600235 00	159.4 x 77.9 x 33.5	6.27 x 3.07 x 1.32	IP 40/65*	With display cut-out, light gray, similar to RAL 7035
BS 600 DIS-S**	82600200 00	159.4 x 77.9 x 33.5	6.27 x 3.07 x 1.32	IP 40/65*	With display cut-out, silver
BS 601 F-7024	82601124 00	159.4 x 77.9 x 33.5	6.27 x 3.07 x 1.32	IP 40	Continuous membrane surface, battery compartment 3 AA, graphite gray, similar to RAL 7024
BS 601 F-7035	82601135 00	159.4 x 77.9 x 33.5	6.27 x 3.07 x 1.32	IP 40	Continuous membrane surface, battery compartment 3 AA, light gray, similar to RAL 7035
BS 601 F-S**	82601100 00	159.4 x 77.9 x 33.5	6.27 x 3.07 x 1.32	IP 40	Continuous membrane surface, battery compartment 3 AA, silver
BS 601 DIS-7024	82601224 00	159.4 x 77.9 x 33.5	6.27 x 3.07 x 1.32	IP 40	With display cut-out, battery compartment 3 AA, graphite gray, similar to RAL 7024
BS 601 DIS-7035	82601235 00	159.4 x 77.9 x 33.5	6.27 x 3.07 x 1.32	IP 40	With display cut-out, battery compartment 3 AA, light gray, similar to RAL 7035
BS 601 DIS-S**	82601200 00	159.4 x 77.9 x 33.5	6.27 x 3.07 x 1.32	IP 40	With display cut-out, battery compartment 3 AA, silver
BS 602 F-7024	82602124 00	159.4 x 77.9 x 33.5	6.27 x 3.07 x 1.32	IP 65	Continuous membrane surface, fitted round cord seal, graphite gray, similar to RAL 7024
BS 602 F-7035	82602135 00	159.4 x 77.9 x 33.5	6.27 x 3.07 x 1.32	IP 65	Continuous membrane surface, fitted round cord seal, light gray, similar to RAL 7035
BS 602 F-S**	82602100 00	159.4 x 77.9 x 33.5	6.27 x 3.07 x 1.32	IP 65	Continuous membrane surface, fitted round cord seal, silver
BS 602 DIS-7024	82602224 00	159.4 x 77.9 x 33.5	6.27 x 3.07 x 1.32	IP 65	With display cut-out, fitted round cord seal, graphite gray, similar to RAL 7024
BS 602 DIS-7035	82602235 00	159.4 x 77.9 x 33.5	6.27 x 3.07 x 1.32	IP 65	With display cut-out, fitted round cord seal, light gray, similar to RAL 7035
BS 602 DIS-S**	82602200 00	159.4 x 77.9 x 33.5	6.27 x 3.07 x 1.32	IP 65	With display cut-out, fitted round cord seal, silver
BS 603 F-7024	82603124 00	159.4 x 77.9 x 33.5	6.27 x 3.07 x 1.32	IP 40/65*	Continuous membrane surface, battery compartment 3 AA, graphite gray, similar to RAL 7024
BS 603 F-7035	82603135 00	159.4 x 77.9 x 33.5	6.27 x 3.07 x 1.32	IP 40/65*	Continuous membrane surface, battery compartment 3 AA, light gray, similar to RAL 7035
BS 603 F-S**	82603100 00	159.4 x 77.9 x 33.5	6.27 x 3.07 x 1.32	IP 40/65*	Continuous membrane surface, battery compartment 3 AA, silver
BS 603 DIS-7024	82603224 00	159.4 x 77.9 x 33.5	6.27 x 3.07 x 1.32	IP 40/65*	With display cut-out, battery compartment 3 AA, graphite gray, similar to RAL 7024
BS 603 DIS-7035	82603235 00	159.4 x 77.9 x 33.5	6.27 x 3.07 x 1.32	IP 40/65*	With display cut-out, battery compartment 3 AA, light gray, similar to RAL 7035
BS 603 DIS-S**	82603200 00	159.4 x 77.9 x 33.5	6.27 x 3.07 x 1.32	IP 40/65*	With display cut-out, battery compartment 3 AA, silver
BS 604 F-7024	82604124 00	159.4 x 77.9 x 33.5	6.27 x 3.07 x 1.32	IP 65	Continuous membrane surface, battery compartment 3 AA, fitted round cord seal, graphite gray, similar to RAL 7024
BS 604 F-7035	82604135 00	159.4 x 77.9 x 33.5	6.27 x 3.07 x 1.32	IP 65	Continuous membrane surface, battery compartment 3 AA, fitted round cord seal, light gray, similar to RAL 7035
BS 604 F-S**	82604100 00	159.4 x 77.9 x 33.5	6.27 x 3.07 x 1.32	IP 65	Continuous membrane surface, battery compartment 3 AA, fitted round cord seal, silver
BS 604 DIS-7024	82604224 00	159.4 x 77.9 x 33.5	6.27 x 3.07 x 1.32	IP 65	With display cut-out, battery compartment 3 AA, fitted round cord seal, graphite gray, similar to RAL 7024
BS 604 DIS-7035	82604235 00	159.4 x 77.9 x 33.5	6.27 x 3.07 x 1.32	IP 65	With display cut-out, battery compartment 3 AA, fitted round cord seal, light gray, similar to RAL 7035
BS 604 DIS-S**	82604200 00	159.4 x 77.9 x 33.5	6.27 x 3.07 x 1.32	IP 65	With display cut-out, battery compartment 3 AA, fitted round cord seal, silver
BS 800 F-7024	82800124 00	209.3 x 98.0 x 34.8	8.24 x 3.86 x 1.37	IP 40/65*	Continuous membrane surface, graphite gray, similar to RAL 7024
BS 800 F-7035	82800135 00	209.3 x 98.0 x 34.8	8.24 x 3.86 x 1.37	IP 40/65*	Continuous membrane surface, light gray, similar to RAL 7035
BS 800 F-S**	82800100 00	209.3 x 98.0 x 34.8	8.24 x 3.86 x 1.37	IP 40/65*	Continuous membrane surface, silver
BS 800 DIS-7024	82800224 00	209.3 x 98.0 x 34.8	8.24 x 3.86 x 1.37	IP 40/65*	With display cut-out, graphite gray, similar to RAL 7024
BS 800 DIS-7035	82800235 00	209.3 x 98.0 x 34.8	8.24 x 3.86 x 1.37	IP 40/65*	With display cut-out, light gray, similar to RAL 7035
BS 800 DIS-S**	82800200 00	209.3 x 98.0 x 34.8	8.24 x 3.86 x 1.37	IP 40/65*	With display cut-out, silver
BS 801 F-7024	82801124 00	209.3 x 98.0 x 34.8	8.24 x 3.86 x 1.37	IP 40	Continuous membrane surface, battery compartment 4 AA, graphite gray, similar to RAL 7024
BS 801 F-7035	82801135 00	209.3 x 98.0 x 34.8	8.24 x 3.86 x 1.37	IP 40	Continuous membrane surface, battery compartment 4 AA, light gray, similar to RAL 7035
BS 801 F-S**	82801100 00	209.3 x 98.0 x 34.8	8.24 x 3.86 x 1.37	IP 40	Continuous membrane surface, battery compartment 4 AA, silver
BS 801 DIS-7024	82801224 00	209.3 x 98.0 x 34.8	8.24 x 3.86 x 1.37	IP 40	With display cut-out, battery compartment 4 AA, graphite gray, similar to RAL 7024
BS 801 DIS-7035	82801235 00	209.3 x 98.0 x 34.8	8.24 x 3.86 x 1.37	IP 40	With display cut-out, battery compartment 4 AA, light gray, similar to RAL 7035
BS 801 DIS-S**	82801200 00	209.3 x 98.0 x 34.8	8.24 x 3.86 x 1.37	IP 40	With display cut-out, battery compartment 4 AA, silver
BS 802 F-7024	82802124 00	209.3 x 98.0 x 34.8	8.24 x 3.86 x 1.37	IP 65	Continuous membrane surface, fitted round cord seal, graphite gray, similar to RAL 7024
BS 802 F-7035	82802135 00	209.3 x 98.0 x 34.8	8.24 x 3.86 x 1.37	IP 65	Continuous membrane surface, fitted round cord seal, light gray, similar to RAL 7035
BS 802 F-S**	82802100 00	209.3 x 98.0 x 34.8	8.24 x 3.86 x 1.37	IP 65	Continuous membrane surface, fitted round cord seal, silver
BS 802 DIS-7024	82802224 00	209.3 x 98.0 x 34.8	8.24 x 3.86 x 1.37	IP 65	With display cut-out, fitted round cord seal, graphite gray, similar to RAL 7024
BS 802 DIS-7035	82802235 00	209.3 x 98.0 x 34.8	8.24 x 3.86 x 1.37	IP 65	With display cut-out, fitted round cord seal, light gray, similar to RAL 7035
BS 802 DIS-S**	82802200 00	209.3 x 98.0 x 34.8	8.24 x 3.86 x 1.37	IP 65	With display cut-out, fitted round cord seal, silver
BS 803 F-7024	82803124 00	209.3 x 98.0 x 34.8	8.24 x 3.86 x 1.37	IP 40/65*	Continuous membrane surface, battery compartment 4 AA, graphite gray, similar to RAL 7024
BS 803 F-7035	82803135 00	209.3 x 98.0 x 34.8	8.24 x 3.86 x 1.37	IP 40/65*	Continuous membrane surface, battery compartment 4 AA, light gray, similar to RAL 7035
BS 803 F-S**	82803100 00	209.3 x 98.0 x 34.8	8.24 x 3.86 x 1.37	IP 40/65*	Continuous membrane surface, battery compartment 4 AA, silver
BS 803 DIS-7024	82803224 00	209.3 x 98.0 x 34.8	8.24 x 3.86 x 1.37	IP 40/65*	With display cut-out, battery compartment 4 AA, graphite gray, similar to RAL 7024
BS 803 DIS-7035	82803235 00	209.3 x 98.0 x 34.8	8.24 x 3.86 x 1.37	IP 40/65*	With display cut-out, battery compartment 4 AA, light gray, similar to RAL 7035
BS 803 DIS-S**	82803200 00	209.3 x 98.0 x 34.8	8.24 x 3.86 x 1.37	IP 40/65*	With display cut-out, battery compartment 4 AA, silver
BS 804 F-7024	82804124 00	209.3 x 98.0 x 34.8	8.24 x 3.86 x 1.37	IP 65	Continuous membrane surface, fitted round cord seal, graphite gray, similar to RAL 7024
BS 804 F-7035	82804135 00	209.3 x 98.0 x 34.8	8.24 x 3.86 x 1.37	IP 65	Continuous membrane surface, fitted round cord seal, light gray, similar to RAL 7035
BS 804 F-S**	82804100 00	209.3 x 98.0 x 34.8	8.24 x 3.86 x 1.37	IP 65	Continuous membrane surface, fitted round cord seal, silver
BS 804 DIS-7024	82804224 00	209.3 x 98.0 x 34.8	8.24 x 3.86 x 1.37	IP 65	With display cut-out, battery compartment 4 AA, fitted round cord seal, graphite gray, similar to RAL 7024
BS 804 DIS-7035	82804235 00	209.3 x 98.0 x 34.8	8.24 x 3.86 x 1.37	IP 65	With display cut-out, battery compartment 4 AA, fitted round cord seal, light gray, similar to RAL 7035
BS 804 DIS-S**	82804200 00	209.3 x 98.0 x 34.8	8.24 x 3.86 x 1.37	IP 65	With display cut-out, battery compartment 4 AA, fitted round cord seal, silver

\* IP 65 and anti-knock protection when decorative seal BS 400 DI-D... is used

\*\*Available on request - minimum order quantity 100 pieces

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

#### Accessories

Model Number	Part Number	Description	Model Number	Part Number	Description
BS 400 DI-D-1003	82841003 00	Decorative seal, signal yellow, similar to RAL 1003	BS 800 DI-D-1003	82881003 00	Decorative seal, signal yellow, similar to RAL 1003
BS 400 DI-D-3001	82843001 00	Decorative seal, signal red, similar to RAL 3001	BS 800 DI-D-3001	82883001 00	Decorative seal, signal red, similar to RAL 3001
BS 400 DI-D-5005	82845005 00	Decorative seal, signal blue, similar to RAL 5005	BS 800 DI-D-5005	82885005 00	Decorative seal, signal blue, similar to RAL 5005
BS 400 DI-D-6032	82846032 00	Decorative seal, signal green, similar to RAL 6032	BS 800 DI-D-6032	82886032 00	Decorative seal, signal green, similar to RA: 6032
BS 400 DI-D-7024	82847024 00	Decorative seal, graphite gray, similar to RAL 7024	BS 800 DI-D-7024	82887024 00	Decorative seal, graphite gray, similar to RAL 7024
BS 600 DI-D-1003	82861003 00	Decorative seal, signal yellow, similar to RAL 1003	BS SA-7024	82800011 00	Screw covers, graphite gray, similar to RAL 7024
BS 600 DI-D-3001	82863001 00	Decorative seal, signal red, similar to RAL 3001	BS SA-7035	82800010 00	Screw covers, light gray, similar to RAL 7035
BS 600 DI-D-5005	82865005 00	Decorative seal, signal blue, similar to RAL 5005			
BS 600 DI-D-6032	82866032 00	Decorative seal, signal green, similar to RAL 6032			
BS 600 DI-D-7024	82867024 00	Decorative seal, graphite gray, similar to RAL 7024			

Note: Screw covers are not required if decorative seal DI-D is used.

Rose Ex enclosures made of aluminum, polyester and stainless steel correspond to ATEX guidelines. They have the approval II 2G/2D and may be used in zones 1 and 2. The standard temperature range for applications corresponds to T6, -4°F to +104°F; optionally aluminum and stainless steel enclosures can be used from -67°F to +203°F (corresponds to temperature classes T6, T5, T4); and polyester enclosures from -67°F to +131°F (corresponds to temperature classes T6, T5).



**Aluminum Ex Enclosures**

- Fully assembled enclosure with terminal blocks, cable glands and accessories
- Empty enclosures, component certified

**Polyester Ex Enclosures**

- More that 60 variations in more than 20 different sizes
- Worldwide use in all climate environments

**Okta-Box Enclosures**

- Fully assembled enclosure with terminal blocks, cable glands, and accessories.
- 9 variations in 3 sizes.
- Empty enclosure, component certified

**Stainless Steel Ex Enclosures**

- A rugged enclosure to meet the highest standards
- Robust material, safe system, terminal enclosure for increased and intrinsic safety protection

**Stainless Steel Enclosures with Hinged Lid, Ex-IGS**

- Enclosures with hinged lid and terminals for intrinsic and increased safety protection
- Empty enclosure with EC - type examination certificate for individual fittings

**Beluga**

- Handheld empty enclosures for applications in hazardous environments
- 3 enclosure sizes, 180, 220, 380 mm and an optional display opening



# Ex Aluminum terminal enclosures E Ex e II T6



- Empty enclosures with EC-type examination certificate for individual fittings
- Terminal enclosure for increased safety and intrinsically safe protection
- Robust aluminum diecast enclosure in standard or flange type

## Included in delivery

**Empty enclosure:** Enclosure with silicone seal and external ground connection

**Terminal enclosure:** Enclosure system - depending on version either with silicone seal, external ground connection, DIN rails, internal ground connection, terminals, manufacturing, cable glands.



PTB

## Technical Data

Explosion protection	EEx e II T6 (increased safety)
Ex II 2 G / 2 D	EEx ia IIC T6 (intrinsic safety) EEx e(ia) IIC T6 (mixed fitting) Temperature class T5 and T4 on request
Certificates	Empty enclosure: PTB 98 ATEX 3101U Terminal enclosure: PTB 00 ATEX 1063
Material	Aluminum diecast AlSi 12
Painting	Powdercoating
Color	Gray, similar to RAL 7001
Ingress protection	IP 66, EN 60529
Impact resistance	>7 Nm, EN 50014
Temperature range of application acc. EN	-20°F to +104°F (corresponds T6 = 185°F max. surface temperature) -20°F to +131°F (corresponds T5 = 212°F max. surface temperature) -20°F to +195°F (corresponds T4 = 275°F max. surface temperature) Temperature to -67°F with special marking on request

Part Number	Part Number	Part Number	Dimensions mm W x L x H	Dimensions Inches W x L x H	Part Number	Part Number	Part Number	Dimensions mm W x L x H	Dimensions Inches W x L x H
Ex-e version EN 50014/ EN 50019	Ex-ia version EN 50014/ EN 50020	Empty enclosure EN 50014/ EN 50019			Ex-e version EN 50014/ EN 50019	Ex-ia version EN 50014/ EN 50020	Empty enclosure EN 50014/ EN 50019		
05060603 00	15060603 00	25060603 00	64 x 58 x 34	2.52 x 2.28 x 1.34	05165609 00	15165609 00	25165609 00	160 x 560 x 90	6.30 x 22.04 x 3.54
05061003 00	15061003 00	25061003 00	64 x 98 x 34	2.52 x 3.86 x 1.34	05181810 00	15181810 00	25181810 00	180 x 180 x 100	7.09 x 7.09 x 3.94
05061503 00	15061503 00	25161503 00	64 x 150 x 34	2.52 x 5.90 x 1.34	05182810 00	15182810 00	25182810 00	180 x 280 x 100	7.09 x 11.02 x 3.94
05080806 00	15080806 00	25080806 00	80 x 75 x 57	3.15 x 2.95 x 2.24	05231011 00	15231011 00	25231011 00	100 x 230 x 110	3.94 x 9.05 x 4.33
05081306 00	15081306 00	25081306 00	80 x 125 x 57	3.15 x 4.92 x 2.24	05232011 00	15232011 00	25232011 00	230 x 200 x 110	9.05 x 7.87 x 4.33
05081806 00	15081806 00	25081806 00	80 x 175 x 57	3.15 x 6.89 x 2.24	05232018 00	15232018 00	25232018 00	230 x 200 x 180	9.05 x 7.87 x 7.09
05082505 00	15082505 00	25082505 00	80 x 250 x 52	3.15 x 9.84 x 2.24	05232811 00	15232811 00	25232811 00	230 x 280 x 110	9.05 x 11.02 x 4.33
05101008 00	15101008 00	25101008 00	100 x 100 x 80	3.94 x 3.94 x 3.15	05233311 00	15233311 00	25233311 00	230 x 330 x 110	9.05 x 12.99 x 4.33
05101608 00	15101608 00	25101608 00	100 x 160 x 80	3.94 x 6.30 x 3.15	05233318 00	15233318 00	25233318 00	230 x 330 x 180	9.05 x 12.99 x 7.09
05102008 00	15102008 00	25102008 00	100 x 200 x 80	3.94 x 7.87 x 3.15	05234011 00	15234011 00	25234011 00	230 x 400 x 110	9.05 x 15.75 x 4.33
05121208 00	15121208 00	25121208 00	120 x 122 x 80	4.72 x 4.80 x 3.15	05234023 00	15234023 00	25234023 00	230 x 400 x 224	9.05 x 15.75 x 8.82
05121209 00	15121209 00	25121209 00	120 x 122 x 90	4.72 x 4.80 x 3.54	05236011 00	15236011 00	25236011 00	230 x 600 x 110	9.05 x 23.62 x 4.33
05122208 00	15122208 00	25122208 00	120 x 220 x 80	4.72 x 8.66 x 3.15	05314011 00	15314011 00	25314011 00	310 x 400 x 110	12.20 x 15.75 x 4.33
05122209 00	15122209 00	25122209 00	120 x 220 x 90	4.72 x 8.66 x 3.54	05314014 00	15314014 00	25314014 00	310 x 400 x 140	12.20 x 15.75 x 5.51
05123608 00	15123608 00	25123608 00	120 x 360 x 80	4.72 x 14.17 x 3.15	05314018 00	15314018 00	25314018 00	310 x 400 x 180	12.20 x 15.75 x 7.09
05141409 00	15141409 00	25141409 00	140 x 140 x 90	5.51 x 5.51 x 3.54	05314023 00	15314023 00	25314023 00	310 x 400 x 230	12.20 x 15.75 x 9.05
04142009 00	15142009 00	25142009 00	140 x 200 x 90	5.51 x 7.87 x 3.54	05316011 00	15316011 00	25316011 00	310 x 600 x 110	12.20 x 23.62 x 4.33
05161609 00	15161609 00	25161609 00	160 x 160 x 90	6.30 x 6.30 x 3.54	05316018 00	15316018 00	25316018 00	310 x 600 x 180	12.20 x 23.62 x 7.09
05162609 00	15162609 00	25162609 00	160 x 260 x 90	6.30 x 10.24 x 3.54	05606020 00	15606020 00	25606020 00	600 x 600 x 200	23.62 x 23.62 x 7.87
05163609 00	15163609 00	25163609 00	160 x 360 x 90	6.30 x 14.17 x 3.54					

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

# Ex Fiberglass Terminal Enclosures E Ex e II T6



- Fiberglass enclosure with graphite added to reduce surface static
- Terminal enclosure for increased safety and intrinsically safe protection
- Empty enclosure for individual fittings with EG increased safeguard

## Included in delivery

**Empty enclosure:** Enclosure system with silicone seal

**Terminal enclosure:** Enclosure system - depending on version either with silicone seal, DIN rails, internal grounding connection, terminals, continuity plate, manufacturing, cable glands.



PTB

## Technical Data

Explosion protection	EEx e II T6 (increased safety)
Ex II 2 G / 2 D	EEx ia IIC T6 (intrinsic safety) EEx e(ia) IIC T6 (mixed fitting) Temperature classes T5 and T4 on request
Certificates	Empty enclosure: PTB 01 ATEX 1061U Terminal enclosure: PTB 00 ATEX 1002
Material	Glassfiber-reinforced duroplastic Polyester, graphite added
Color	Black, similar to RAL 9011
Ingress protection	IP 66, EN 60529
Impact resistance	>7 Nm, EN 50014
Flammability	self-extinguishing, UL 94/V0
Surface resistance	<10 <sup>9</sup> Ohm, EN 50014
Water absorption	max. 0.7%, ASTM D570
Toxicity	Halogen free
Temperature range of application	-4°F to +104°F (corresponds T6 = 185°F max. surface temperature)
acc. EN	-20°F to +131°F (corresponds T5 = 212°F max. surface temperature) Temperature to -67°F with special marking on request

Part Number	Part Number	Part Number	Dimensions mm W x L x H	Dimensions Inches W x L x H	Part Number	Part Number	Part Number	Dimensions mm W x L x H	Dimensions Inches W x L x H
Ex-e version EN 50014/ EN 50019	Ex-ia version EN 50014/ EN 50020	Empty enclosure EN 50014/ EN 50019			Ex-e version EN 50014/ EN 50019	Ex-ia version EN 50014/ EN 50020	Empty enclosure EN 50014/ EN 50019		
06080806 00	16080806 00	26080806 00	75 x 80 x 55	2.95 x 3.15 x 2.16	06161609 00	16161609 00	26161609 00	160 x 160 x 90	6.30 x 6.30 x 3.54
06080808 00	16080808 00	26080808 00	75 x 80 x 75	3.95 x 3.15 x 2.95	06162609 00	16162609 00	26162609 00	160 x 260 x 90	6.30 x 10.24 x 3.54
06081106 00	16081106 00	26081106 00	75 x 110 x 55	2.95 x 4.33 x 2.16	06163609 00	16163609 00	26163609 00	160 x 360 x 90	6.30 x 14.17 x 3.54
06081108 00	16081108 00	26081108 00	75 x 110 x 75	2.95 x 4.33 x 2.95	06165609 00	16165609 00	26165609 00	160 x 560 x 90	6.30 x 22.05 x 3.54
06081606 00	16081606 00	26081606 00	75 x 160 x 55	2.95 x 6.30 x 2.16	06252612 00	16252612 00	26252612 00	250 x 255 x 120	9.84 x 10.04 x 4.72
06081608 00	16081608 00	26081608 00	75 x 160 x 75	2.95 x 6.30 x 2.95	06252616 00	16252616 00	26252616 00	250 x 255 x 160	9.84 x 10.04 x 6.30
06081906 00	16081906 00	26081906 00	75 x 190 x 55	2.95 x 7.48 x 2.16	06254012 00	16254012 00	26254012 00	250 x 400 x 120	9.84 x 15.75 x 4.72
06081908 00	16081908 00	26081908 00	75 x 190 x 75	2.95 x 7.48 x 2.95	06254016 00	16254016 00	26254016 00	250 x 400 x 160	9.84 x 15.75 x 6.30
06082306 00	16082306 00	26082306 00	75 x 230 x 55	2.95 x 9.05 x 2.16	06256012 00	16256012 00	26256012 00	250 x 600 x 120	9.84 x 23.62 x 4.72
06082308 00	16082308 00	26082308 00	75 x 230 x 75	2.95 x 9.05 x 2.95	06363609 00	16363609 00	26363609 00	360 x 360 x 90	14.17 x 14.17 x 3.54
06121209 00	16121209 00	26121209 00	120 x 122 x 90	4.72 x 4.80 x 3.54	06414012 00	16414012 00	26414012 00	405 x 400 x 120	15.94 x 15.75 x 4.72
06122209 00	16122209 00	26122209 00	120 x 220 x 90	4.72 x 8.66 x 3.54					

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.



- Polyester enclosure with graphite added with external flanges
- Empty enclosure for individual fittings with EG increased safeguard
- Terminal enclosure for increased safety and intrinsic safety
- Optional version with window

## Included in delivery

**Empty enclosure:** Enclosure with silicone seal

**Terminal enclosure:** Enclosure system - depending on version either with silicone seal, continuity plate, DIN rails, internal grounding connection, terminals, manufacturing, cable glands



**ATEX**

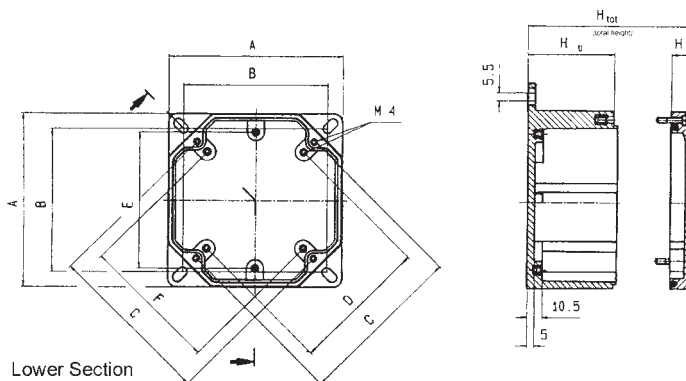
PTB

## Technical Data

Explosion protection	EEx e II T6 (increased safety)
II 2 G / 2 D	EEx ia IIC T6 (intrinsic safety) EEx e(ia) IIC T6 (mixed fitting)
	Temperature classes T5 and T4 on request
Certificates	Empty enclosure: PTB 01 ATEX 1061U Terminal enclosure: PTB 00 ATEX 1002
Material	Glassfiber-reinforced duroplastic Polyester, graphite added
Color	Black, similar to RAL 9011
Ingress protection	IP 66, EN 60529
Impact resistance	>7 Nm, EN 50014
Flammability	self-extinguishing UL 94 V0
Surface resistance	>10 <sup>9</sup> Ohm, EN 50014
Water absorption	max. 0.7%, ASTM D570
Toxicity	Halogen free
Weather resistance	UV stabilized
Temperature range of application acc. EN	-40°F to +104°F (corresponds T6 = 185°F max. surface temperature) -40°F to +131°F (corresponds T5 = 212°F max. surface temperature) Temperature to -67°F with special marking on request

Part Number	Part Number	Part Number	Dimensions	Dimensions
Ex-e version	Ex-ia version	Empty enclosure	mm	Inches
EN 50019	EN 50020	EN 50019	W x L x H	W x L x H
06880100 00	16880100 00	26880100 00	80 x 80 x 70	3.15 x 3.15 x 2.75
06880200 00	16880200 00	26880200 00	120 x 120 x 75	4.72 x 4.72 x 2.95
06880300 00	16880300 00	26880300 00	160 x 160 x 93	6.30 x 6.30 x 3.66

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.



Part Number	A	B	C	D	E	F	H <sub>U</sub>	H <sub>D</sub>	H <sub>tot</sub>
06880100 00	81	68	73	-	59	-	6.0.5	15	75.5
16880100 00	81	68	73	-	59	-	60.5	15	75.5
26880100 00	81	68	73	-	59	-	60.5	15	75.5
06880200 00	121	100	118	92	92	-	60.5	15	75.5
16880200 00	121	100	118	92	92	-	60.5	15	75.5
26880200 00	121	100	118	92	92	-	60.5	15	75.5
06880300 00	161	140	175	132	99	99	73	20	93
16880300 00	161	140	175	132	99	99	73	20	93
26880200 00	161	140	175	132	99	99	73	20	93

- Terminal enclosure for increased safety and intrinsically safe protection
- Empty enclosure for individual fittings with EC-type examination certificate
- High quality stainless steel (1.4404)

### Included in delivery

**Empty enclosure:** Enclosure with silicone/PUR seal and external ground connection.

**Terminal enclosure:** Enclosure system depending on version either with silicone/PUR seal, continuity plate, DIN rails, internal ground connection, terminals, manufacturing, cable glands.



**ATEX**

PTB

## Technical Data

Explosion protection	EEx e II T6 (increased safety)
II 2 G / 2 D	EEx ia IIC T6 (intrinsic safety) EEx e(ia) IIC T6 (mixed fitting) Temperature class T5 and T4 on request
Certificates	Empty enclosure: PTB 01 ATEX 1101U Terminal enclosure: PTB 00 ATEX 1052
Material	Stainless steel 1.25 mm or 1.5 mm 1.4404 / 316L
Surface	Polished grain 240
Ingress protection	IP 66 EN 60529
Impact resistance	>7 Nm, EN 50014
Temperature range of application acc. EN	-40°F to +104°F (corresponds T6 = 185°F max. surface temperature) -40°F to +131°F (corresponds T5 = 212°F max. surface temperature) -40°F to +194°F (corresponds T4 = 275°F max. surface temperature) Temperature to -67°F with special marking on request

Part Number	Part Number	Part Number	Dimensions	
			mm	Inches
Ex-e version	Ex-ia version	Empty enclosure	W x L x H	W x L x H
35101006 00	36101006 00	34101006 00	100 x 100 x 61	3.94 x 3.94 x 2.40
35151006 00	36151006 00	34151006 00	150 x 100 x 61	5.90 x 3.94 x 2.40
35151508 00	36151508 00	34151508 00	150 x 150 x 81	5.90 x 5.90 x 3.19
35201006 00	36201006 00	34201006 00	200 x 100 x 61	7.87 x 3.94 x 2.40
35202008 00	36202008 00	34202008 00	200 x 200 x 81	7.87 x 7.87 x 3.19
35202012 00	36202012 00	34202012 00	200 x 200 x 121	7.87 x 7.87 x 4.76
35301508 00	36301508 00	34301508 00	300 x 150 x 81	11.81 x 5.90 x 3.19
35302008 00	36302008 00	34302008 00	300 x 200 x 81	11.81 x 7.87 x 3.19
35302012 00	36302012 00	34302012 00	300 x 200 x 121	11.81 x 7.87 x 4.76
35303012 00	36303012 00	34303012 00	300 x 300 x 121	11.81 x 11.81 x 4.76
35303016 00	36303016 00	34303016 00	300 x 300 x 161	11.81 x 11.81 x 6.34
35383816 00	36383816 00	34383816 00	380 x 380 x 151	14.96 x 14.96 x 5.94
35401508 00	36401508 00	34401508 00	400 x 150 x 81	15.75 x 5.90 x 3.19
35402012 00	36402012 00	34402012 00	400 x 200 x 121	15.75 x 7.87 x 4.76
35403016 00	36403016 00	34403016 00	400 x 300 x 161	15.75 x 11.81 x 6.34
35503016 00	36503016 00	34503016 00	500 x 300 x 161	19.68 x 11.81 x 6.34
35504016 00	36504016 00	34504016 00	500 x 400 x 161	19.68 x 15.75 x 6.34
35602012 00	36602012 00	34602012 00	600 x 200 x 121	23.62 x 7.87 x 4.76
35999999 00	36999999 00	34999999 00	Special size	Special size

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

### Accessories

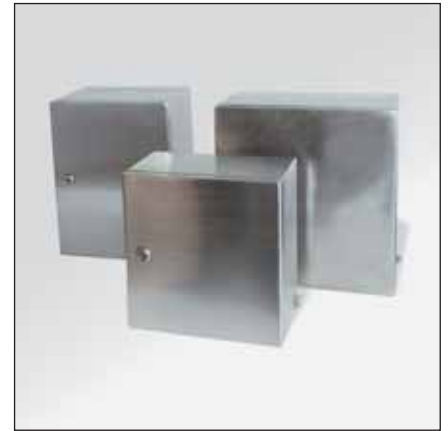
External brackets (4 pieces)	31105000 00
Mounting set (gaskets, nuts and screws)	37990001 00
External hinge set (2 pieces)	37000002 00

- Enclosure with EC-type examination certificate for individual fittings
- Stainless steel enclosure with terminals for increased safety and intrinsically protection
- High-quality stainless steel version with covered hinges and double ward lock
- Optional flange break outs

**Included in delivery**

**Empty enclosure:** Enclosure with hinged lid, double ward lock, silicone/PUR-seal and external ground connection.

**Terminal enclosure:** Depending on design with hinged lid, double ward lock, silicone/PUR-seal, external ground, DIN rail, internal ground connection, terminals, manufacturing, cable glands.



PTB

**Technical Data**

Explosion protection Ex II 2 G / 2 D	EEx e II T6 (increased safety) EEx ia IIC T6 (intrinsic safety) EEx e(ia) IIC T6 (mixed fitting) Temperature class T5 and T4 on request
Certificates	Empty enclosure: PTB 01 ATEX 1101U Terminal enclosure: PTB 00 ATEX 1052
Material	Stainless steel 1.25 mm or 1.5 mm 1.4301 / 304
Surface	Polished grain 240
Ingress protection	IP 66 EN 60529
Impact resistance	>7 Nm, EN 50014
Temperature range of application acc. EN	-40°F to +104°F (corresponds T6 = 185°F max. surface temperature) -40°F to +131°F (corresponds T5 = 212°F max. surface temperature) -40°F to +194°F (corresponds T4 = 275°F max. surface temperature) Temperature to -67°F with special marking on request

Part Number Ex-e version	Part Number Ex-ia version	Part Number Empty enclosure	Dimensions mm W x L x H	Dimensions Inches W x L x H
35002209 00	36002209 00	34002209 00	200 x 250 x 90	7.87 x 9.84 x 3.54
35002215 00	36002215 00	34002215 00	200 x 250 x 150	7.87 x 9.84 x 5.90
35003316 00	36003316 00	34003316 00	300 x 300x 167	11.81 x 11.81 x 6.57
35003209 00	36003209 00	34003209 00	350 x 250 x 90	13.78 x 9.84 x 3.54
35004416 00	36004416 00	34004416 00	380 x 380 x 167	14.96 x 14.96 x 6.57
35004421 00	36004421 00	34004421 00	380 x 380 x 215	14.96 x 14.96 x 8.46
35005316 00	36005316 00	34005316 00	500 x 300 x 167	19.68 x 11.81 x 6.57
35006316 00	36006316 00	34006316 00	600 x 300 x 167	23.62 x 11.81 x 6.57
35006421 00	36006421 00	34006421 00	300 x 380 x 215	23.62 x 14.96 x 8.46
35009999 00	36009999 00	34009999 00	Special size	Special size

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

**Accessories**

External brackets (4 pieces)	37105000 00
Mounting set (gaskets, nuts and screws)	37990001 00

- Hand enclosure for potentially explosive environments
- 3 enclosure sizes 180, 220, 380 mm
- Optionally with display opening

**Included in delivery**

Lid, base and enclosure screws. See options below.



ATEX<sup>Ex</sup>

PTB

**Technical Data**

Explosion protection	Ex II 2 G / EEx e II
Certificates	Empty enclosure: PTB 02 ATEX 1076U
Material	Polyamide 12
Surface resistance	<10 <sup>9</sup> Ohm to EN 50014
Flammability	UL 94 HB
Color	Black, similar to RAL 9005
Ingress protection	IP 65, EN 60529
Impact resistance	>7 Nm, EN 50014
Temperature range	-4°F to +140°F



**Beluga 180**

Consisting of top and bottom part, enclosure and board mounting screws, sealing ring, tongue-and-groove system with integrated seal. Open version comes complete with display screen and safety glass. Max. display board dimensions approximately 74 x 56.4 mm or 80 x 54 mm.



**Beluga 220**

Consisting of top and bottom part, enclosure and board mounting screws, sealing rings, tongue-and-groove system with integral seal. Open version comes complete with display screen and safety glass. Max. display board dimensions approximately 84 x 74.5 mm or 86 x 70.5 mm.



**Beluga 380**

Consisting of top part with seal, bottom part with hang-up set-up, enclosure and board mounting screws, sealing rings, tongue-and-groove system with integrated seal.

Enclosure Type	Part Number	Version	Dimensions mm W x L x H	Dimensions Inches W x L x H	Weight lbs.
Beluga 180 O	28020200 00	open	106/75 x 187 x 50	4.17/2.95 x 7.36 x 1.97	0.35
Beluga 180 G	28020201 00	closed	106/75 x 187 x 50	4.72/2.95 x 7.36 x 1.97	0.37
Beluga 220 O	28020400 00	open	116/85 x 220 x 51	4.57/3.35 x 8.66 x 2.00	0.44
Beluga 220 G	28020401 00	closed	116/85 x 220 x 51	4.57/3.35 x 8.66 x 2.00	0.46
Beluga 380	28020501 00	closed	380 x 117 x 68	14.96 x 4.61 x 2.68	1.15

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.

Machine control enclosures are used for machine operation. These complex modules, from a simple emergency stop switch up to complete industrial PCs or CNC controllers, must be adapted to the rough environmental conditions placed on the machines. ROSE operating and display enclosures ensure guaranteed protection for built-in electronic components and offer the very best in operator comfort.



### **Machine Control**

For stationary application areas and fitting of controllers and industrial PCs, the ROSE range offers a variety of enclosure types with more than 140 individual solutions, depending on controller size and construction. If your individual solution is not available here, please contact us.

### **Suspension Arm Systems**

Suspension systems link control enclosures with the respective machine. In addition to covering cable routing, they have the task of facilitating optimal positioning of the control enclosure for the user. For this reason we offer a variety of turning knuckles, inclination sets and coupling pieces. The selection of a suitable system depends on the weight and construction of the completely equipped control enclosure.

- Small machine control enclosure in aluminum with protective bumper bars
- Membrane Lid Versions: small machine control enclosure in aluminum with front frame for front panel and keypads
- Robust aluminum diecast enclosure body with front panel
- Transparent cover and handle sets (optional)



### Included in delivery

Unpainted diecast aluminum base and bezel.

**Membrane Lid Versions:** Aluminum front plate - 1F membrane, unpainted base for 1F membrane style, bezel designed for membrane front panel.

**Please order front panel separately.**

## Technical Data

Material	Enclosure body, die cast aluminum, Al Si 12. Bezel, die cast aluminum Al Si 12. Front panel, anodized sheet aluminum, 3mm thick
Ingress Protection	IP 65 to EN 60529
Impact Resistance	>7Nm, EN 50014
Seal	Neoprene
Temperature Range	-40°F to +194°F
Color	Body, agate gray, similar to RAL 7038. Bezel, transport gray, similar to RAL 7043. Special colors on request.

Part Number	Dimensions		Front Panel	Handle Mounting Options				Ext. hinges diecast aluminum swiveling range 150°	Int. hinges stainless steel swiveling range 150°	Mounting plates sheet steel, non-corrosive	DIN rails non-corrosive TS 35	Silicone lid seal, resistant up to 130°	Transparent Covers	Turn bolt lock
	mm	Inches		A	B	C	D							
13050000 00	230 x 100 x 128	9.05 x 3.94 x 5.04	10013005 00	-	-	-	-	•	•	•	•	•	-	•
13070000 00	260 x 160 x 108	10.23 x 6.30 x 4.25	10013007 00	-	-	-	-	•	•	•	•	•	-	•
13080000 00	360 x 160 x 108	14.17 x 6.30 x 4.25	10013008 00	-	-	-	-	•	•	•	•	•	-	•
13090000 00	560 x 160 x 108	22.05 x 6.30 x 4.25	10013009 00	-	-	-	-	•	•	•	•	•	-	•
13100000 00	230 x 200 x 128	9.05 x 7.87 x 5.04	10013010 00	•	•	-	•	•	•	•	•	•	•	•
13110000 00	230 x 200 x 198	9.05 x 7.87 x 7.79	10013010 00	•	•	-	•	•	•	•	•	•	•	•
13120000 00	230 x 330 x 128	9.05 x 12.99 x 5.04	10013012 00	•	•	•	•	•	•	•	•	•	•	•
13130000 00	230 x 330 x 198	9.05 x 12.99 x 7.79	10013012 00	•	•	•	•	•	•	•	•	•	•	•
13140000 00	230 x 400 x 128	9.05 x 15.75 x 5.04	10013014 00	•	•	•	•	•	•	•	•	•	•	•
13150000 00	230 x 400 x 242	9.05 x 15.75 x 9.53	10013014 00	•	•	•	•	•	•	•	•	•	•	•
13160000 00	230 x 600 x 128	9.05 x 23.62 x 5.04	10013016 00	•	•	•	•	•	•	•	•	•	•	•
13170000 00	230 x 280 x 130	9.05 x 11.02 x 5.12	10013017 00	•	-	-	-	•	•	•	•	•	-	•
13200000 00	310 x 400 x 128	12.20 x 15.75 x 5.04	10013020 00	•	•	•	•	•	•	•	•	•	•	•
13210000 00	310 x 400 x 198	12.20 x 15.75 x 7.79	10013020 00	•	•	•	•	•	•	•	•	•	•	•
13220000 00	310 x 600 x 128	12.20 x 23.62 x 5.04	10013022 00	•	•	•	•	•	•	•	•	•	•	•
13230000 00	310 x 600 x 198	12.20 x 23.62 x 7.79	10013022 00	•	•	•	•	•	•	•	•	•	•	•
13240000 00	310 x 400 x 244	12.20 x 15.75 x 9.61	10013020 00	•	•	•	•	•	•	•	•	•	•	•
13250000 00	310 x 400 x 158	12.20 x 15.75 x 6.22	10013020 00	•	•	•	•	•	•	•	•	•	•	•

Note: Dimensions are external. Metric is the primary dimension. Inch conversions are for the user's convenience and are for reference only.



Membrane Lid Version available. Call your factory representative for more information.



## Slim Line 2000



- Enclosure system for control and display fittings
- Variable size available in width and depth
- All-round adaptation capabilities for accessories
- Front panel insertion from front and rear

### Included in delivery

- Profile 1:** Extruded aluminum, 80 mm max. mounting depth  
**Profile 2:** Extruded aluminum, 100 mm max. mounting depth  
**Profile 3:** Extruded aluminum, 185 mm max. mounting depth



## Technical Data

Material	Enclosure profile: extruded aluminum, Al Mg Si 0.5 DIN 1725 Corner elements: diecast aluminum, Al Si 12 DIN 1725 Rear panel door: sheet metal, Al Mg 3, DIN 1725 Cover profile: thermoplastic material
Ingress Protection	IP 65 to EN 60529, NEMA 12
Temperature Range	-22°F to +176°F
Color	Enclosure: light gray, similar to RAL 7035 Handles: ruby red, similar to RAL 3003

Item Number	Description
<b>Profile 1</b>	Extruded aluminum, 80mm maximum mounting depth
<b>Profile 2</b>	Extruded aluminum, 110mm maximum mounting depth
<b>Profile 3</b>	Extruded aluminum, 185mm maximum mounting depth

### Accessories

Part Number	Description
19590020 00	Standard linking bar, one meter length, for split panels
19601004 00	Keyboard holder
19601008 00	Set of 2 hinges with screws
19601001 00	Panel mounting set with 12 screws, spring nuts, brackets
19601002 00	Fastening set 30 spring nuts, brackets, screws
19601007 00	Quick fastening kit for front plate
10036001 00	Set of M5 mounting nuts (8 pieces)
19590011 00	Console mounting kit, 15° fixed
19590012 00	Console mounting kit, 30° fixed
19590013 00	Console mounting kit, adjustable
19601005 00	Floppy disk drive mounting bay
19602004 00	Handle set (1 handle with brackets), 301 mm long for side attachment
19602005 00	Handle set (1 handle with brackets), 345 mm long for side attachment
19602006 00	Handle set (1 handle with brackets), 472 mm long for side attachment
19602002 00	Corner handle set: one L-shaped handle with brackets; three 556/395mm asymmetrical for side/bottom attachment

### Coupling Adapters for Suspension Arm System 4945, 4949, 4951, 4961, 1981

ItemNumber	Description
19602003 00	Flange coupling adapter for 80 mm profile 1
19602011 00	Flange coupling adapter for 100 mm profile 2
19602012 00	Flange coupling adapter for 185 mm profile 3

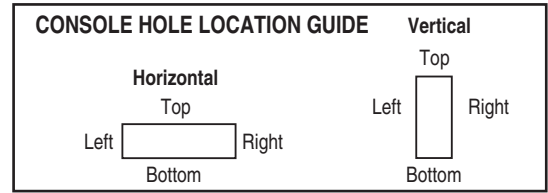
### Coupling Adapters for Suspension Arm System 4945, 4949

Part Number	Description
19602007 00	Flange coupling adapter for 110 mm profile 2
19602008 00	Flange coupling adapter for 185 mm profile 3
19602013 00	Flange coupling adapter for 185 mm profile 3



# SL 2000 Ordering Guide

Start at the top of this guide and work down, considering all options required. Circle required options and corresponding part numbers. You will build a 10 digit part number, eg., 19020002 01, plus assembly options. Then, call a Rose+Bopla sales person and they will give you pricing, internal dimensions and coupling hole options for the enclosure you designed.

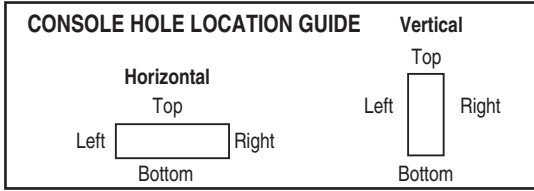


Please Circle All Items Required

NOTE: One Inch equals 25.4 mm

DESCRIPTION	FLANGE COUPLING ADAPTER REQUIRED	COUPLING PART NUMBER	CONSOLE BOOT LOCATION	ROSE P.N.
<b>COUPLING HOLES</b> <input type="checkbox"/> YES <input type="checkbox"/> NO <b>COUPLING HOLE LOCATION</b>  <b>INSTALL ADAPTER</b> <input type="checkbox"/> YES <input type="checkbox"/> NO	4945 & 4949 Suspension Systems 19602003 - 80mm Profile 19602011 - 110mm Profile 19602012 - 185mm Profile 4951 & 4961 Suspension Systems 19602007 - 110mm Profile 19602008 - 185mm Profile <b>Price of Adapter Not Included</b>		Top    Left Bottom    Right  N / A	19
<b>SELECT PROFILE</b>	Profile #1 - 80 mm Profile #2 - 110 mm Profile #3 - 185 mm			01 02 03
<b>ENCLOSURE HEIGHT / WIDTH</b>	<b>CIRCUMFERENCE</b>	<b>HEIGHT</b>	<b>WIDTH</b>	
	Actual Panel Size + 95.6mm = External Height and Width			
Usable Panel Space Required Height: _____ Width: _____	0 - 1200mm	_____ mm	_____ mm	0001
Actual Panel Size (Usable Panel Space + 34mm) Height: _____ Width: _____	1201 - 1800mm	_____ mm	_____ mm	0002
Usable Depth: _____ Refer to SL 2000 Drawing	1801 - 2300mm	_____ mm	_____ mm	0003
	2301 - 2800mm	_____ mm	_____ mm	0004
	2801 - 3300mm	_____ mm	_____ mm	0005
<b>DOORS</b>	Rear Panel Rear Door	Hinge Location, if required (facing the unit). Top    Left Bottom    Right		00 01
<b>FRONT PANEL (Circle One)</b> No Front Panel Clear Anodized Mill Finish / Painted	<b>Install Panel Gasket</b>  <input type="checkbox"/> YES <input type="checkbox"/> NO	<b>Install Front Panel:</b>  (Circle One)	<b>YES or NO</b> From Front From Front W / Studs From Rear	
<b>MACHINING</b> <input type="checkbox"/> YES <input type="checkbox"/> NO	Machine to DWG #			
<b>SILK SCREENING</b> <input type="checkbox"/> YES <input type="checkbox"/> NO	Silk Screen to DWG #			
<b>HANDLES</b> <input type="checkbox"/> YES <input type="checkbox"/> NO	<b>Type</b> Dual Side Handles Corner Handles Console Mounting Kit	<b>Installed</b> Yes - No Yes - No Yes - No	<b>Handle Location</b> Horizontal    or    Vertical	
	Prices of Handles Not Included			
<b>INSTALL</b>	Front Bezel	Black T-Slot Gasket	Optional: Keyboard Holder	
<b>NOTES OR SPECIAL INSTRUCTIONS:</b>			<b>CONSOLE REQUIRED</b> <input type="checkbox"/> YES <input type="checkbox"/> NO <b>IF YES, PROCEED TO NEXT PAGE</b>	

# SL 2000 Console Ordering Guide



Start at the top of this guide and work down, considering all options required. Circle required options and corresponding part numbers. You will build a 10 digit Rose part number, eg., 19010001 00, plus assembly options. Then call a Rose+Bopla sales person and they will give you pricing, internal dimensions and coupling hole options for the enclosure you designed.

**Please Circle All Items Required**

NOTE: One Inch equals 25.4 mm

DESCRIPTION	FIXED CONSOLE MOUNTING KIT		CONSOLE MOUNTING KIT LOCATION		ROSE P.N.
<b>CONSOLE MOUNTING KIT-HANDLES</b> <input type="checkbox"/> YES <input type="checkbox"/> NO <b>INSTALL MOUNTING KIT-HANDLES</b> <input type="checkbox"/> YES <input type="checkbox"/> NO	19590011 00	15 Degree Angle	Top	Left	19
	19590012 00	30 Degree Angle	Bottom	Right	
	19590013 00	Variable / Adjustable Price of Mounting Kit Not Included			
<b>SELECT PROFILE</b>	Profile #1 - 80 mm Profile #2 - 110 mm Profile #3 - 185 mm				01 02 03
<b>ENCLOSURE HEIGHT / WIDTH</b>	<b>CIRCUMFERENCE</b>	<b>HEIGHT</b>	<b>WIDTH</b>		
	Actual Panel Size + 95.6mm = External Height and Width				
Usable Panel Space Required Height: _____ Width: _____	0 - 1200mm	_____ mm	_____ mm		0001
Actual Panel Size (Usable Panel Space + 34mm) Height: _____ Width: _____	1201 - 1800mm	_____ mm	_____ mm		0002
Usable Depth: _____ Refer to SL 2000 Drawing	1801 - 2300mm	_____ mm	_____ mm		0003
	2301 - 2800mm	_____ mm	_____ mm		0004
	2801 - 3300mm	_____ mm	_____ mm		0005
<b>DOORS</b>	Rear Panel Rear Door	Hinge Location, if required (facing the unit). Top                      Left Bottom                  Right		00 01	
<b>FRONT PANEL (Circle One)</b> No Front Panel Clear Anodized Mill Finish / Painted	<b>Install Panel Gasket</b> <input type="checkbox"/> YES <input type="checkbox"/> NO	<b>Install Front Panel:</b> (Circle One)	<b>YES or NO</b> From Front From Front W / Studs From Rear		
<b>MACHINING</b> <input type="checkbox"/> YES <input type="checkbox"/> NO	Machine to DWG #				
<b>SILK SCREENING</b> <input type="checkbox"/> YES <input type="checkbox"/> NO	Silk Screen to DWG #				
<b>HANDLES</b> <input type="checkbox"/> YES <input type="checkbox"/> NO	<b>Type</b> Dual Side Handles Corner Handles	<b>Installed</b> Yes - No Yes - No	<b>Handle Location</b> Horizontal or Vertical		
<b>INSTALL</b>	<b>Front Bezel</b>	<b>Black T-Slot Gasket</b>	<b>Optional: Keyboard Holder</b>		
<b>NOTES OR SPECIAL INSTRUCTIONS:</b>					

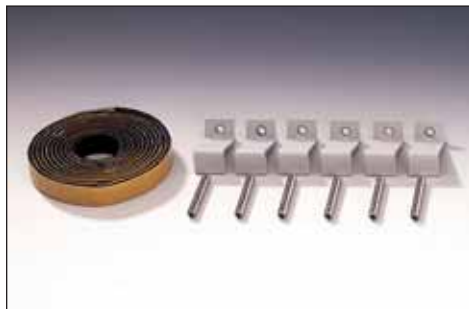
## SL 2000 Ordering Guide Instruction Sheet



- 1. Begin to fill in your SL 2000 part number** as 19\_\_ by going down through the SL 2000 Ordering Guide and filling in or circling the required items. You will build a 10-digit part number.
- 2. Coupling Hole**—circle yes if you will be using a suspension coupling adapter.
- 3. Coupling Hole Location**—select from...top, bottom, left, right. Also circle location guide in top left hand corner of ordering guide sheet.
- 4. Install Adapter**—circle yes if you would like us to install the coupling adapter.
- 5. Write in the Rose+Bopla flange coupling part number** being used if any.
- 6. Select Profile**—your profile choice will depend on your required depth. See drawings and keep in mind that your front plate will affect this choice.
- 7. Usable Panel Space**—fill in the usable panel space (in mm) you will need for your control or display panel.
- 8. Actual Panel Size**—take your usable space and add 34mm to arrive at this figure.
- 9. Usable Depth**—Check your supplied drawings to get this figure. Note: mounting your front plate from the front or rear will affect this dimension.
- 10. External Size**—take your actual panel size and add 95.6mm to the height and width to arrive at these circumference dimensions.
- 11. Door/Rear Panel**—you have a choice of a screwed-on rear panel or a hinged door. Please circle your choice and also the desired hinge locations.
- 12. Front Panel**—Circle your choice of front panel/finish and installation method.
- 13. Machining**—Please circle if you would like for us to machine/engrave your panels. If yes, please supply us with your drawing number and fax us a copy for review.
- 14. Silkscreen**—Rose+Bopla can provide complete silkscreen services. If you would like this service we will need a drawing for placement and artwork to create the screen.
- 15. Handles**—Please provide the part number and location for the handle style you have chosen. Keyboard Holder and Console Mounting Kit are available options. Note: A handle set consists of one handle and the required number of brackets.
- 16. Rose+Bopla will install** front bezel material and outside protective rubber unless specified otherwise.
- 17. Notes**—please fill in any special notes or instructions for building the unit.
- 18. After design review**, a copy of the ordering guide will be faxed to you for final approval and signature.

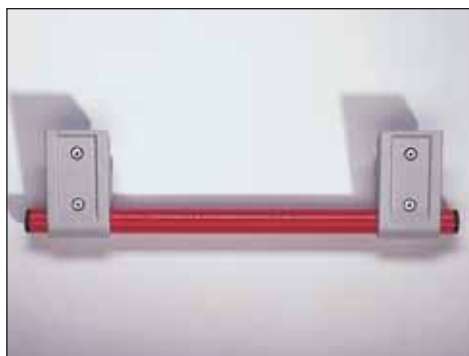
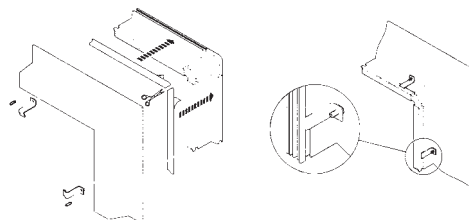
Note: For units with a console, please also fill out the "Console Ordering Guide" using these same guidelines.

## SL 2000 Accessories



**SL Panel Mounting Set** for integrating the SL 2000 into control panels.

**19601000 00** Includes fittings, sealing ring, and screws.



**SL Handle Set** consisting of tube and fittings

**19602002 00** Asymmetrical

**19602004 00** Side Attachment

**19602005 00** Side Attachment

**19602006 00** Side Attachment

## 5400 Machine Control



- Heavy duty aluminum extrusion, self-reinforced with internal ribs and slots
- Choose front and rear panels in either clear anodized aluminum, black anodized aluminum or mill finish aluminum
- Internal gasket protects against dust, water, chips and cutting fluids



### Technical Data

Color	Body, doors and rear panel, agate gray, similar to RAL 7038. Corner handles and lock, transport gray, similar to RAL 7043. Custom colors on request.
Material	Al Si 12, DIN 1725 Al Mg 3, DIN 1725 Al Mg Si 0.5, DIN 1725
Gasket Material	Neoprene foam rubber
Protection Classifications	IP 65 to EN 60529, NEMA 12 including see-through door
Temperature Range	-40°F to +176°F Transparent door: +14°F to +140°F

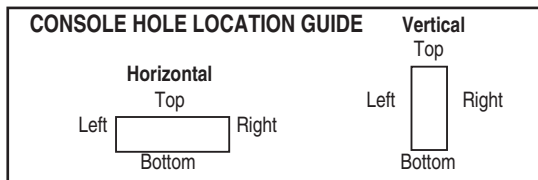
### Panel vs. Enclosure Size

Panel	Description
Working Surface Height	Working Surface Height + 84mm
Working Surface Width	Working Surface Width + 84mm
Visible Surface Height	Visible Surface Height + 75mm
Visible Surface Width	Visible Surface Width + 75mm
Total Height	Total Height + 48mm
Total Width	Total Width + 48mm

### 5400 Accessory Order Guide

Part Number	Description
10036001 00	M5 Captive Nuts for Internal Slots
10036002 00	M6 Captive Nuts for Internal Slots
10033101 00	Internal Mounting Brackets with nuts and bolts
	Internal Shelf Bracket for 160mm depth
	Internal Shelf Bracket for 240mm depth
	Internal Shelf Bracket for 320mm depth
	Gas Springs for Doors
	External Keyboard Tray

# 5400 Ordering Guide



Start at the top of this guide and work down, considering all options required. Circle required options and corresponding part numbers. You will build a 10 digit part number, eg., 54000102 02, plus assembly options. Then, call a Rose+Bopla sales person and they will give you pricing, internal dimensions and coupling hole options for the enclosure you designed.

**Please Circle All Items Required**

NOTE: One Inch equals 25.4 mm

Description	Series	Type	Location	ROSE P.N.			
<b>COUPLING HOLE</b>  <input type="checkbox"/> YES <input type="checkbox"/> NO	4949			54			
	4951, 4961, 4981 4990 OR OTHER TYPE						
<b>ENCLOSURE HEIGHT / WIDTH</b>  Inside Usable Height _____mm Inside Usable Width _____mm	<b>External Size</b>						
	<b>Circumference</b>	<b>Height</b>	<b>Width</b>				
	0 - 1800 mm	_____mm	_____mm	0001			
	1801 - 2300 mm	_____mm	_____mm	0002			
<b>DOORS</b>	<b>Type</b>	<b>Hinge Location (facing door)</b>		<b>Configuration</b>			
	Hinged Front Door	Left	Right	Top	Bottom	0 - 1 Door 2 Doors 3 Doors	01 02 03
	Hinged Rear Door	Left	Right	Top	Bottom		
	Hinged Front Clear Door	Left	Right	Top	Bottom		
Hinged Rear Clear Door	Left	Right	Top	Bottom			
<b>ENCLOSURE BODY DEPTH</b>	<b>External Size</b>						
	Inside Usable Depth _____mm	160 mm		01			
		240 mm +		01			
		320 mm +		02			
		160 mm +	160 mm	03			
		240 mm +	240 mm	03			
		160 mm +	240 mm	03			
		240 mm +	320 mm	04			
		240 mm +	160 mm	03			
		320 mm +	240 mm	04			
		160 mm +	320 mm	03			
		320 mm +	320 mm	04			
	320 mm +	160 mm	03				
<b>DOOR LOCK / LATCH</b>	<b>Flush Square Door Lock With Key</b>	<b>Door Handle/Latch</b>	<b>Locking Door Handle w/Key</b>				
	Front	Front	Front				
	Rear	Rear	Rear				
<b>1/4 WRAP HANDLES</b>	<b>Type</b>	<b>Location</b>					
	¼ Handle Horizontal (set of two)	Front	Rear	N/A			
	¼ Handle Vertical (set of two)	Front	Rear	N/A			
<b>FRONT / REAR PANELS</b>	<b>Type</b>	<b>Location</b>					
	Grained / Clear Anodized	Front	Rear	Engrave per Dwg # _____			
	Grained / Black Anodized	Front	Rear	Machine per Dwg # _____			
	Mill Finish / Painted	Front	Rear	Silkscreen per Dwg # _____			
	None	Front	Rear	Paint Instructions			
<b>19" ADAPTER PLATES</b>	Grained / Clear Anodized	Front	Rear	N/A			
<b>INTERNAL MOUNTING PLATES</b>	Mill Finish / Painted	H	mm / W	mm	N/A		
<b>Notes or Special Instructions:</b>							

## 4949 Suspension Arm System



- Industrial tube suspension arm system for supporting machine control enclosures
- Modular construction using steel tubing and individual connection components
- Protected internal cable routing

### Included in delivery

Individual system components including assembly material.



### Technical Data

Color	Transport gray, similar to RAL 7043
Material	Connection components - aluminum, steel Round Tubing - galvanized steel tube, 48 x 4 mm
Finish	Powder-coat painted connection components
Protection Classifications	IP 54, EN 60529. Foot 49496800, IP 40
Assembly	Cut the tubing. Slide components together. Tighten to required torque, 22 lbs. force (30 Newton Meters). Complete assembly instructions are provided with components.



Connection Components	Part Number	Weight (lbs)
Bass bracket	49496600 00	4.18
Foot	49497200 00	1.65
Foot	49496800 00	1.54
Wall bracket (Horizontal Exit)	49497000 00	3.75
Wall bracket (Vertical Exit)	49496200 00	3.31
Elbow	49497100 00	1.76
Coupling	49497300 00	1.10
Coupling	49497700 00	1.10
Elbow coupling	49497500 00	1.54
Elbow coupling	49497800 00	1.54
Angled adapter 30°	49497600 00	0.88
Adapter flange for external cable	49497900 00	8.82
Tilting adapter	49498000 00	1.32

### 4949 Maximum Weight:

3.3 ft. 4.9 ft.

112 67 lbf.

*lbf.=Pounds Force*

Steel Tubing	Part Number	Weight (lbs)
Round tubing 10 feet, 4 mm wall thickness, zinc plated	10094158 45	30.80 (10 feet)
Round tubing 10 feet, 4 mm wall thickness, zinc plated	10094158 85	30.80 (10 feet)

## 4951/61/81 Suspension Arm System



- Robust industrial suspension arm system for supporting machine control enclosures
- Modular construction using square steel tubing and cast steel and aluminum connection components
- High loading capacity, long extension capabilities

### Included in delivery

Individual system components including assembly material.



### Technical Data

Color	Dark gray, similar to RAL 7043. Tubing: zinc plated.
Material	Square connection tubing, 5mm thick, steel, to DIN 2395
Protection Classifications	IP 65, EN 60529, NEMA 12
Assembly	Cut tubing to desired length. Slide components together. Tighten to required torque. Complete assembly instructions provided with components.
Torque Requirements	30 Nm, 22 lbs. force



Connection Components	4951 Part Number	Weight (lbs)	4961 Part Number	Weight (lbs)	4981 Part Number	Weight (lbs)
Base unit bracket	49516600 00	30.86	49616600 00	40.12	49816600 00	51.38
Foot	49517400 00	6.61	49617400 00	6.61	49817400 00	13.23
Wall bracket	49517000 00	13.89	49617000 00	20.06	49817000 00	28.66
Adapter angle coupling (for vertical wiring exit)	49517900 00	11.02	49617900 00	13.23	49817900 00	14.33
Intermediate joint	49516700 00	13.67	49616700 00	19.62	49816700 00	28.00
Elbow	49518000 00	9.92	49618000 00	12.79	49818000 00	17.64
Elbow coupling	49517500 00	4.85	49617500 00	7.05	49817500 00	12.57
Flange elbow coupling	49517800 00	4.85	49617800 00	7.94	49817800 00	12.35
Flange coupling	49517700 00	4.63	49617700 00	6.17	49817700 00	10.80
Adjustable angle coupling	49516200 00	3.97	49616200 00	4.85	49816200 00	6.17
30° fixed angle adapter for flange coupling	49517600 00	1.76	49617600 00	2.20	49817600 00	3.75

Steel Tubing	Part Number	Weight (lbs.)
Support tubing, zinc plated steel, 10 foot sections for 4951	10094156 45 (51)	44.00
Support tubing, zinc plated steel, 10 foot sections for 4961	10094157 45 (61)	47.00
Support tubing, zinc plated steel, 10 foot sections for 4981	10094159 45 (81)	71.00

### Maximum Weight:

	3.3 ft.	4.9 ft.	6.6 ft.	8.1 ft.	9.8 ft.	lbf.
System 51	225	146	112			lbf.
System 61	281	180	140	112		lbf.
System 81	337	213	163	135	112	lbf.

*lbf.=Pounds Force*

### Usable Space:

- System 51—40 x 40mm, Inside Dimension of Tubing.
- System 61—50 x 50mm, Inside Dimension of Tubing.
- System 81—70 x 70mm, Inside Dimension of Tubing.



## 4990 Suspension Arm System



- Robust industrial suspension arm system for supporting machine control enclosures, with open cable duct for heavy loads
- Modular construction with freely accessible cable duct
- Floor, top-mounting or wall exit options

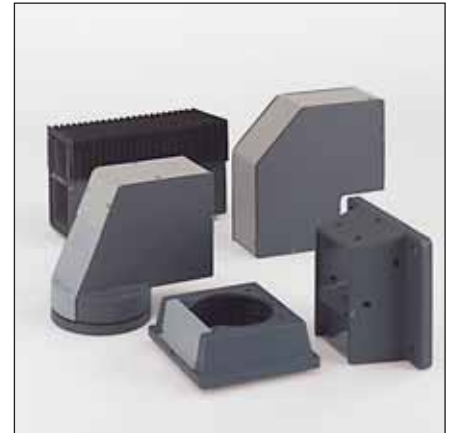
### Included in delivery

System individual components including cable duct covering and assembly material.



### Technical Data

Color	Connection Components—transport gray, similar to RAL 7043. Aluminum profile—agate gray, similar to RAL 7038
Material	Tubing—square tubing, 5mm or 8mm thick, steel, to ST 37 DIN 2395. Components—cast iron with copper graphite, or aluminum. Bearing—ball bearing. Textile bellows.
Cable Duct	Free cable passage in system components. Approximately 3.15" W x 2.81" H, 80 x 71.37mm
Torque	22 lbs. force (30 Newton Meters)
Protection Classification	IP 65 when special surface-mounted flange is used between enclosure coupling and control panel.
Load	When using square steel tube 80 x 80 x 5mm (ST 37 DIN 2395), maximum 500N at 3 meter extension. When using square steel tube 80 x 80 x 8mm (ST 37 DIN 2395), maximum 750N at 3 meter extension.



Description	Part Number	Weight (kg)
Brass bracket	49906601 00	44.53
Foot/wall flange	49907401 00	13.23
Wall bracket	49907001 00	38.58
Intermediate joint	49906701 00	38.86
Elbow C	49907111 00	20.06
Elbow A	49907120 00	9.48
Elbow coupling	49907501 00	9.26
Coupling	49907301 00	8.60
Watertight top flange (used in conjunction with couplings)	49900030 00	2.43
Watertight top flange (used in conjunction with couplings)	49900020 00	2.43

Note: Tubing can be cut to specific lengths. Maximum length for UPS 9 feet (108")

### Maximum Weight:

	2.4 ft.	3.3 ft.	4.9 ft.	6.6 ft.	8.1 ft.	9.8 ft.	lbf.
Supporting Tubing 80 x 80 x 5mm	449	337	225	169	135	112	lbf.
Supporting Tubing 80 x 80 x 8mm	449	449	337	253	198	169	lbf.

lbf.=Pounds Force

Description	Part Number Cable Duct (standard length to fit relevant suspension tube)	Part Number Support Tube 80 x 80 x 5 mm	Part Number Support Tube 80 x 80 x 8 mm
Cable duct	10094238 00		
Support tubing, steel		10094159 45	
Support tubing, steel			10094234 00

\*The cable duct needs to be 175 mm shorter than the suspension tube length.

## Moterm



- Mobile stand system for system components
- Optional fixed or manually adjustable version
- 2 and 4 wheels available

### Included in delivery

Moterm with mounting inclining adapter and adapter plate for Machine Control Systems.

**Please order adapter plate separately**



## Technical Data

Material	Foot: sheet steel Profile: AlMgSi 0.5
Temperature Range	-40°F to +176°F
Painting	Powder coating
Color	Profile: light gray similar to RAL 7035 Foot: black gray similar to RAL 7021
Maximum Load	Dependent on system construction - on request

Description	Part Number
Moterm 1, fixed version, height 1000 mm, 2 wheels	50010101 00
Moterm 2, manual adjustable (750 - 1000 mm), 2 wheels	50010102 00
Moterm 4, fixed version, height 980 mm, 4 wheels	50010104 00
Moterm 5, manual adjustable (730 - 1000 mm), 4 wheels	50010105 00

### Accessories

Description	Part Number
Adapter plate SL 2000 profile 1	50010203 00
Adapter plate SL 2000 profile 2	50010204 00
Adapter plate SL 2000 profile 3	50010205 00
Adapter plate universal (without holes)	50010209 00
Adapter plate Beckhoff CP 7032	50010210 00

## Inclining Adapter



- Inclining adapter for individual connection between enclosure and suspension systems or for wall mounting
- Simple handling

### Included in delivery

Inclining adapter, flange plates, sealing and mounting material



## Technical Data

Material	Sheet steel, 2.5 mm Bellow: PVC, RAL 9005 (black)
Surface	Black, similar to RAL 9005, powdered
Temperature Range	-40°F to +140°F

Description	Part Number	Weight (lb)
1. Inclining adapter for mounting to wall or machinery	50020001 00	2.87
2. Inclining adapter for suspension system 4945	50020002 00	2.20
3. Inclining adapter for suspension system with flange 4945	50020004 00	1.98

Cable entries and cable glands must be tightly sealed in accordance with design requirements. Rose+Bopla offers a wide range of cable gland products for this purpose:

- versions in plastic, aluminum, brass and stainless steel
- for Standard, Ex and EMC applications
- for ingress protection to IP 68

Note: Other cable glands on request



### Plastic Cable Glands

- Product range in Polyamide (PG and metric thread) as standard or Ex cable gland
- Accessories, blanking plugs, lock nuts, self-sealing grommets and PE seals

### Brass Cable Glands

- Product range PG and metric thread as standard, Ex or EMC cable glands
- Accessories, blanking plugs and lock nuts

### Stainless Steel Cable Glands

- Product range in 2 versions (PG and metric thread) as standard or Ex cable glands

# Polyamide Plastic Cable Glands



Type Polyamide Cable Gland  
 Material Polyamide  
 Color RAL 7035  
 Sealing Inset NBR  
 External Seal -  
 Ingress Protection IP 68  
 Temperature Range -40°F to +212°F

## Polyamide Cable Glands

Type	Cable Ø	Pcs/Pack	Part Number
<b>PG</b>			
7	3 - 6.5	100	08020207 00
9	4 - 8	100	08020209 00
11	5 - 10	100	08020211 00
13.5	6 - 12	100	08020213 00
16	10 - 14	50	08020216 00
21	13 - 18	50	08020221 00
29	18 - 25	25	08020229 00
36	22 - 32	10	08020236 00
42	30 - 38	5	08020242 00
48	34 - 44	5	08020248 00
<b>Metric</b>			
M 12 x 1.5	3 - 6	100	08080512 00
M 16 x 1.5	5 - 10	100	08080516 00
M 20 x 1.5	8 - 13	100	08080520 00
M 25 x 1.5	11 - 17	100	08080525 00
M 32 x 1.5	15 - 21	50	08080532 00
M 40 x 1.5	19 - 28	10	08080540 00
M 50 x 1.5	26 - 35	5	08080550 00
M 63 x 1.5	32 - 42	5	08080563 00



Type Plastic Ex Blind Plugs  
 DIN EN 5014/19/20  
 Certification II 2 G/D  
 acc. guideline 94/9/EG  
 Material Polyamide 6  
 Color RAL 9005 (black)  
 Ingress Protection IP 68 with seal  
 Temperature Range -40°F to +104°F

## Polyamide Ex Blind Plug

Type	Cable Ø	Pcs/Pack	Part Number
<b>PG</b>			
7		100	08056707 00
9		100	08056709 00
11		100	08056711 00
13.5		100	08056713 00
16		100	08056716 00
21		100	08056721 00
29		50	08056729 00
36		20	08056736 00
42		20	08056742 00
48		20	08056748 00
<b>Metric</b>			
M 16 x 1.5		100	08090616 00
M 20 x 1.5		100	08090620 00
M 25 x 1.5		100	08090625 00
M 32 x 1.5		100	08090632 00
M 40 x 1.5		20	08090640 00
M 50 x 1.5		20	08090650 00
M 63 x 1.5		20	08090663 00



Type Polyamide Ex  
 DIN EN 50014/19/20  
 Certification II 2 G/D  
 acc. guideline 94/9/EG  
 Material Polyamide 6  
 Color Black (RAL 9005)  
 Blue (RAL 5012)  
 Ingress Protection IP 68 with seal  
 Temperature Range -40°F to +140°F

## Polyamide Ex Cable Glands

Type	Cable Ø	Pcs/Pack	Part Number	Part Number
<b>PG</b>				
			<b>Black</b>	<b>Blue</b>
7	3.5 - 6	20	08060007 00	08065007 00
9	5 - 8	20	08060009 00	08065009 00
11	6 - 10	20	08060011 00	08065011 00
13.5	8 - 13	20	08060013 00	08065013 00
16	10 - 15	20	08060016 00	08065016 00
21	13 - 19	20	08060021 00	08065021 00
29	17 - 25	10	08060029 00	08065029 00
36	24 - 32	10	08060036 00	08065036 00
42	28 - 38	10	08060042 00	08065042 00
48	34 - 44	10	08060048 00	08065048 00
<b>Metric</b>				
M 16 x 1.5	5 - 8	20	08080616 00	08080716 00
M 20 x 1.5	8 - 13	20	08080620 00	08080720 00
M 25 x 1.5	13 - 19	20	08080625 00	08080725 00
M 32 x 1.5	17 - 25	10	08080632 00	08080732 00
M 40 x 1.5	24 - 32	10	08080640 00	08080740 00
M 50 x 1.5	28 - 38	10	08080650 00	08080750 00
M 63 x 1.5	34 - 44	10	08080663 00	08080763 00

## Polyamide Cable Glands



Type Polyamide lock nut  
 Material Polyamide  
 Color RAL 7035  
 Sealing Inset -  
 External Seal -  
 Ingress Protection -  
 Temperature Range -40°F to +212°F

Type	Cable Ø	Pcs/Pack	Part Number
<b>PG</b>			
7		100	08020907 00
9		100	08020909 00
11		100	08020911 00
13.5		100	08020913 00
16		50	08020916 00
21		50	08020921 00
29		25	08020929 00
36		25	08020936 00
42		25	08020942 00
48		25	08020948 00
<b>Metric</b>			
M 12		100	08090712 00
M 16		100	08090716 00
M 20		100	08090720 00
M 25		100	08090725 00
M 32		50	08090732 00
M 40		50	08090740 00
M 50		5	08090750 00
M 63		5	08090763 00



Type MZI Cable Gland  
 Ingress Protection IP 65  
 Temperature Range -4°F to +212°F  
 Material Polyamide

MZI Cable Glands			
Model	Cable Ø	Connection Thread	Part Number
<b>PG</b>			
MZI 9	6 - 8	13.5	12060200 00



Type PA with bending protection  
 Ingress Protection IP 54  
 IP 68 - 10 bar with seal  
 Temperature Range -40°F to +212°F  
 Material Polyamide  
 Color Black, RAL 9005

Type	Cable Ø	Pcs/Pack	Part Number
<b>PG</b>			
7		50	08110107 00
9		50	08110109 00
11		50	08110111 00
13.5		50	08110113 00
16		25	08110116 00
21		20	08110121 00
<b>Metric</b>			
M 12 x 1.5		50	08100112 00
M 16 x 1.5		50	08100116 00
M 20 x 1.5		50	08100120 00
M 25 x 1.5		20	08100125 00



Type Blind Plugs  
 Material Polyamide  
 Color RAL 7035  
 Sealing Inset -  
 External Seal -  
 Ingress Protection IP 54  
 Temperature Range -10°F to +176°F

Type	Cable Ø	Pcs/Pack	Part Number
<b>PG</b>			
7		100	08020607 00
9		100	08020609 00
11		100	08020611 00
13.5		100	08020613 00
16		100	08020616 00
21		100	08020621 00
29		50	08020629 00
<b>Metric</b>			
M 12 x 1.5		100	08090512 00
M 16 x 1.5		100	08090516 00
M 20 x 1.5		100	08090520 00
M 25 x 1.5		100	08090525 00
M 32 x 1.5		50	08090532 00
M 40 x 1.5		50	08090540 00





Characteristics Integrated strain relief, large sealing and terminal section, easy to assemble  
 Ingress Protection IP 68  
 Temperature Range -4°F to + 212°F

BF/MBF Cable Glands			
Model	Cable Ø	Connection Thread	Part Number
<b>PG</b>			
BF 7	3 - 6.5	PG 7	10000100 00
BF 9	4 - 8	PG 9	10000200 00
BF 11	5 - 10	PG 11	10000300 00
BF 13	6 - 12	PG 13.5	10000400 00
BF 16	10 - 14	PG 16	10000500 00
BF 21	13 - 18	PG 21	10000600 00
BF 29	18 - 25	PG 29	10000700 00
BF 36	22 - 32	PG 36	10000800 00
<b>Metric</b>			
MBF 12	3 - 6	M 12 x 1.5	12002100 00
MBF 16	5 - 10	M 16 x 1.5	12002200 00
MBF 20	8 - 13	M 20 x 1.5	12002300 00
MBF 25	11 - 17	M 25 x 1.5	12002400 00
MBF 32	15 - 21	M 32 x 1.5	12002500 00
MBF 40	19 - 28	M 40 x 1.5	12002600 00



Characteristics Integrated strain relief, anti-kink protection, large sealing and terminal section, easy to assemble  
 Ingress Protection IP 68  
 Temperature Range -4°F to +212° F

BFK/MBFK Cable Glands			
Model	Cable Ø	Connection Thread	Part Number
<b>PG, with anti-kink protection</b>			
BFK 7	3 - 6.5	PG 7	10001100 00
BFK 9	4 - 8	PG 9	10001200 00
BFK 11	5 - 10	PG 11	10001300 00
BFK 13	6 - 12	PG 13.5	10001400 00
BFK 16	10 - 14	PG 16	10001500 00
BFK 21	13 - 18	PG 21	10001600 00
<b>Metric, with anti-kink protection</b>			
MBFK 12	3 - 6.5	M 12 x 1.5	12002103 00
MBFK 16	5 - 10	M 16 x 1.5	12002210 00
MBFK 20-1	6 - 12	M 20 x 1.5	12002303 00
MBFK 20-2	10 - 14	M 20 x 1.5	12002306 00
MBFK 25	13 - 18	M 25 x 1.5	12002401 00



Characteristics With clamping cage for strain relief  
 Ingress Protection IP 65  
 Temperature Range -22°F to +212°F

POZ/MPOZ Cable Glands			
Model	Cable Ø	Connection Thread	Part Number
<b>PG</b>			
POZ 7	4 - 6	PG 7	12051809 00
POZ 9	6 - 8	PG 9	12051909 00
POZ 11	8 - 10	PG 11	12052009 00
POZ 13	10 - 12	PG 13	12052109 00
POZ 16	12 - 14	PG 16	12052209 00
POZ 21	14 - 18	PG 21	12052309 00
POZ 29	18 - 24	PG 29	12052409 00
<b>Metric</b>			
MPOZ 12-1	4 - 6	M 12 x 1.5	12151800 00
MPOZ 12-2	6 - 8	M 12 x 1.5	12151900 00
MPOZ 16	6 - 8	M 16 x 1.5	12152000 00
MPOZ 20-1	8 - 10	M 20 x 1.5	12152100 00
MPOZ 20-2	10 - 12	M 20 x 1.5	12152200 00
MPOZ 20-3	12 - 14	M 20 x 1.5	12152300 00
MPOZ 25-2	14 - 18	M 25 x 1.5	12152400 00
MPOZ 32	18 - 24	M 32 x 1.5	12152500 00



**Characteristics** With clamping cage for strain relief and anti-kink grommet

**Material:** Polyamide

**Ingress Protection** IP 65

**Temperature Range** -22°F to + 212°F

POZB/MPOZB Cable Glands			
Model	Cable Ø	Connection Thread	Part Number
<b>PG</b>			
POZB 7	4 - 6	PG 7	12052609 00
POZB 9	6 - 8	PG 9	12052709 00
POZB 11	8 - 10	PG 11	12052809 00
POZB 13	10 - 12	PG 13	12052909 00
POZB 16	12 - 14	PG 16	12053009 00
POZB 21	14 - 18	PG 21	12053109 00
POZB 29	18 - 24	PG 29	12053209 00
<b>Metric</b>			
MPOZB 12-1	4 - 6	M 12 x 1.5	12152600 00
MPOZB 12-2	6 - 8	M 12 x 1.5	12152700 00
MPOZB 16	6 - 8	M 16 x 1.5	12152800 00
MPOZB 20-1	8 - 10	M 20 x 1.5	12152900 00
MPOZB 20-2	10 - 12	M 20 x 1.5	12153000 00
MPOZB 20-3	12 - 14	M 20 x 1.5	12153100 00
MPOZB 25-2	14 - 18	M 25 x 1.5	12153200 00
MPOZB 32	18 - 24	M 32 x 1.5	12153300 00



**Characteristics** Polyamide counter nut for all cable glands with PG or metric connection threads.

GM/MGM Counter Nuts			
Model	Connection Thread	Part Number	Width Across Flats
<b>PG</b>			
GM 7	PG 7	52080100 00	SW 19
GM 9	PG 9	52080200 00	SW 22
GM 11	PG 11	52080300 00	SW 24
GM 13	PG 13.5	52080400 00	SW 27
GM 16	PG 16	52080500 00	SW 30
GM 21	PG 21	52080600 00	SW 36
GM 29	PG 29	52080700 00	SW 46
GM 36	PG 36	52080800 00	SW 60
<b>Metric</b>			
MGM 12	M 12 x 1.5	52090100 00	SW 17
MGM 16	M 16 x 1.5	52090200 00	SW 22
MGM 20	M 20 x 1.5	52090300 00	SW 26
MGM 25	M 25 x 1.5	52090400 00	SW 32
MGM 32	M 32 x 1.5	52090500 00	SW 41
MGM 40	M 40 x 1.5	52090600 00	SW 50



**Characteristics** Polyamide blind plugs for closing and sealing unused Pg/metric threaded drill holes. For increased protection, please use sealing ring for connection thread DR.

BL/MBL Blind Plugs		
Model	Connection Thread	Part Number
<b>PG blind plugs</b>		
BL 7	PG 7	52010000 00
BL 9	PG 9	52010100 00
BL 11	PG 11	52010200 00
BL 13	PG 13.5	52010300 00
BL 16	PG 16	52010400 00
BL 21	PG 21	52010500 00
BL 29	PG 29	52010600 00
BL 36	PG 36	52010700 00
<b>Metric blind plugs</b>		
MBL 12	M 12 x 1.5	52011100 00
MBL 16	M 16 x 1.5	52011200 00
MBL 20	M 20 x 1.5	52011300 00
MBL 25	M 25 x 1.5	52011400 00
MBL 32	M 32 x 1.5	52011500 00
MBL 40	M 40 x 1.5	52011600 00



**Characteristics** Integrated strain relief, large sealing and terminal section, easy to assemble, anti-twist protection.  
**Ingress Protection** IP 68  
**Temperature Range** -4°F to +212°F

MSBF Cable Glands			
Connection Thread	Cable Ø	Model	Part Number
<b>Metric</b>			
M 12 x 1.5	3 - 6.0	MSBF 12	13002100 00
M 16 x 1.5	5 - 9.0	MSBF 16	13002200 00
M 20 x 1.5	9 - 13.0	MSBF 20	13002300 00
M 25 x 1.5	11 - 16.0	MSBF 25	13002400 00
M 32 x 1.5	14 - 21.0	MSBF 32	13002500 00
M 40 x 1.5	19 - 27.0	MSBF 40	13002600 00



**Characteristics** With clamping cage for strain relief  
**Ingress Protection** IP 65  
**Temperature Range** -4°F to +212°F

MSK Cable Glands			
Connection Thread	Cable Ø	Model	Part Number
<b>PG</b>			
7	4 - 6	MSK 7	13050100 00
9	6 - 8	MSK 9	13050200 00
11	8 - 10	MSK 11	13050300 00
13.5	10 - 12	MSK 13	13050400 00
16	12 - 14	MSK 16	13050500 00
21	14 - 18	MSK 21	13050600 00
29	18 - 24	MSK 29	13050700 00



**Characteristics** Industrial cable glands in the style of DIN 46320  
**Ingress Protection** IP 54  
**Temperature Range** -22°F to +230°F

MSS Cable Glands			
Connection Thread	Cable Ø	Model	Part Number
<b>PG</b>			
7	4 - 6	MSS 7	13020100 00
9	6 - 8	MSS 9	13020200 00
11	8 - 10	MSS 11	13020300 00
13.5	10 - 12	MSS 13	13020400 00
16	12 - 14	MSS 16	13020500 00
21	15 - 17	MSS 21	13020600 00



Type Brass cable gland  
 Material Nickel-faced brass  
 Sealing Inset NBR  
 External Seal O-ring, NBR  
 Ingress Protection IP 68  
 Temperature Range -40° to +212°F  
 briefly +248°F

Brass Cable Glands			
Type	Cable Ø	Pcs/Pack	Part Number
<b>PG</b>			
7	3.5 - 6	50	08040307 00
9	4 - 8	50	08040309 00
11	5 - 10	50	08040311 00
13.5	6 - 12	50	08040313 00
16	10 - 14	25	08040316 00
21	13 - 18	25	08040321 00
29	18 - 25	20	08040329 00
36	22 - 32	1	08040336 00
42	30 - 38	1	08040342 00
48	34 - 44	1	08040348 00
<b>Metric</b>			
M 12 x 1.5	3 - 6.5	50	08080412 00
M 16 x 1.5	4 - 8	50	08080416 00
M 20 x 1.5	6 - 12	50	08080420 00
M 25 x 1.5	10 - 14	25	08080425 00
M 32 x 1.5	13 - 18	20	08080432 00
M 40 x 1.5	18 - 25	1	08080440 00
M 50 x 1.5	22 - 32	1	08080450 00
M 63 x 1.5	34 - 44	1	08080463 00



Characteristics Large sealing section, easy to assemble.  
 Ingress Protection IP 68  
 Temperature Range -4°F to +212°F

MSD Cable Glands			
Connection Thread	Cable Ø	Model	Part Number
<b>PG</b>			
7	4 - 6.5	MSD 7	13040100 00
9	5 - 10	MSD 9	13040200 00
11	7 - 11.5	MSD 11	13040300 00
13.5	8 - 15.0	MSD 13	13040400 00
16	8 - 15.0	MSD 16	13040500 00



Characteristics Brass counter nut for all cable glands with PG or metric connection

GMS/MGMS Counter Nuts			
Connection Thread	Width Across Flats	Model	Part Number
<b>PG</b>			
7	SW 15	GMS 7	13150100 00
9	SW 18	GMS 9	13150200 00
11	SW 21	GMS 11	13150300 00
13.5	SW 23	GMS 13	13150400 00
16	SW 26	GMS 16	13150500 00
21	SW 32	GMS 21	13150600 00
29	SW 41	GMS 29	13150700 00
36	SW 51	GMS 36	13150800 00
<b>Metric</b>			
M 12 x 1.5	SW 15	MGMS 12	13160100 00
M 16 x 1.5	SW 19	MGMS 16	13160200 00
M 20 x 1.5	SW 24	MGMS 20	13160300 00
M 25 x 1.5	SW 30	MGMS 25	13160400 00
M 32 x 1.5	SW 36	MGMS 32	13160500 00
M 40 x 1.5	SW 46	MGMS 40	13160600 00



Type Brass Ex Cable Gland with Seal  
 Certification II 2 G/D  
 acc. guideline 94/9/EG  
 Ingress Protection IP 68  
 Temperature Range -4°F to +221°F

Brass Ex Cable Gland with Seal			
Type	Cable Ø	Pcs/Pack	Part Number
<b>PG</b>			
7	3.5 - 6	50	08040707 00
9	4 - 8	50	08040709 00
11	5 - 10	50	08040711 00
13.5	6 - 12	50	08040713 00
16	10 - 14	50	08040716 00
21	13 - 18	50	08040721 00
29	18 - 25	25	08040729 00
36	22 - 32	1	08040736 00
42	32 - 38	1	08040742 00
48	37 - 44	1	08040748 00
<b>Metric</b>			
M 12 x 1.5	3 - 6.5	50	08080812 00
M 16 x 1.5	4 - 8	10	08080816 00
M 20 x 1.5	6 - 12	10	08080820 00
M 25 x 1.5	13 - 18	10	08080825 00
M 32 x 1.5	18 - 25	10	08080832 00
M 40 x 1.5	22 - 30	5	08080840 00
M 50 x 1.5	32 - 38	1	08080850 00
M 63 x 1.5	37 - 44	1	08080863 00



Type Brass Ex Blind Plug  
 Certification II 2 G/D  
 acc. guideline 94/9/EG  
 Ingress Protection IP 68  
 Temperature Range -22°F to +194°F

Brass Ex Blind Plug			
Type	Cable Ø	Pcs/Pack	Part Number
<b>PG</b>			
7		50	08080907 00
9		50	08080909 00
11		50	08080911 00
13.5		50	08080913 00
16		50	08080916 00
21		50	08080921 00
29		25	08080929 00
36		10	08080936 00
42		10	08080942 00
48		10	08080948 00
<b>Metric</b>			
M 16 x 1.5		50	08090816 00
M 20 x 1.5		50	08090820 00
M 25 x 1.5		50	08090825 00
M 32 x 1.5		25	08090832 00
M 40 x 1.5		10	08090840 00
M 50 x 1.5		5	08090850 00
M 63 x 1.5		5	08090863 00



Type MS cable gland EMC  
 Material Nickel-faced brass  
 Sealing Inset NBR  
 External Seal NBR  
 Ingress Protection IP 68  
 Temperature Range -40°F to +212°F  
 briefly +248°F

Brass Cable Glands EMC Versions			
Type	Cable Ø	Pcs/Pack	Part Number
<b>PG</b>			
7		50	08070007 00
9		50	08070009 00
11		50	08070011 00
13.5		50	08070013 00
16		50	08070016 00
21		50	08070021 00
29		25	08070029 00
36		1	08070036 00
42		1	08070042 00
48		1	08070048 00
<b>Metric</b>			
M 12 x 1.5		50	08070112 00
M 16 x 1.5		50	08070116 00
M 20 x 1.5		50	08070120 00
M 25 x 1.5		25	08070125 00
M 32 x 1.5		25	08070132 00
M 40 x 1.5		25	08070140 00



Type MS Blind Plug  
 Material Nickel-faced brass  
 External seal O-Ring, NBR  
 Ingress protection IP 65  
 Temperature range -40°F to +176°F

Type	Cable Ø	Pcs/Pack	Part Number
<b>PG</b>			
7		100	08040607 00
9		100	08040609 00
11		100	08040611 00
13.5		100	08040613 00
16		100	08040616 00
21		100	08040621 00
29		50	08040629 00
36		25	08040636 00
42		25	08040642 00
<b>Metric</b>			
M 16 x 1.5		50	08090416 00
M 20 x 1.5		50	08090420 00
M 25 x 1.5		50	08090425 00
M 32 x 1.5		25	08090432 00
M 40 x 1.5		1	08090440 00
M 50 x 1.5		1	08090450 00
M 63 x 1.5		1	08090463 00



Type Brass lock nut  
 Material Nickel-faced brass  
 Sealing insert -  
 External insert -  
 Ingress protection -  
 Temperature range -

Type	Cable Ø	Pcs/Pack	Part Number
<b>PG</b>			
7		100	08040907 00
9		100	08040909 00
11		100	08040911 00
13.5		100	08040913 00
16		100	08040916 00
21		100	08040921 00
29		100	08040929 00
<b>Metric</b>			
M 16 x 1.5		50	08090916 00
M 20 x 1.5		50	08090920 00
M 25 x 1.5		50	08090925 00
M 32 x 1.5		25	08090932 00
M 40 x 1.5		1	08090940 00
M 50 x 1.5		1	08090950 00
M 63 x 1.5		1	08090963 00



## Brass Cable Glands EMC Version



Type Brass lock nut EMC  
 Material Nickel-faced brass  
 Sealing Inset -  
 External Seal -  
 Ingress Protection -  
 Temperature Range -

Brass Lock Nut EMC			
Type	Cable Ø	Model	Part Number
<b>PG</b>			
7		100	08070907 00
9		100	08070909 00
11		100	08070911 00
13.5		100	08070913 00
16		100	08070916 00
21		100	08070921 00
29		100	08070929 00
36		100	08070936 00
42		100	08070942 00
48		100	08070948 00
<b>Metric</b>			
M 12 x 1.5		50	08070812 00
M 16 x 1.5		50	08070816 00
M 20 x 1.5		50	08070820 00
M 25 x 1.5		50	08070825 00
M 32 x 1.5		25	08070832 00
M 40 x 1.5		25	08070840 00

## Brass Cable Glands EMC Version



Characteristics For fast, easy EMC connection of cables and leads with the enclosure (via the contact spring and the intermediate connection of the screen mesh). Integrated strain relief, anti-twist protection.

Ingress Protection IP 68  
 Temperature Range -4°F to +212°F

MEMV EMC Cable Glands			
Type	Connection Thread	Cable Diameter	Part Number
<b>Metric</b>			
MEMV 16	M 16 x 1.5	5.0 - 9.0	12102200 00
MEMV 20	M 20 x 1.5	9.0 - 13.0	12102300 00
MEMV 25	M 25 x 1.5	11.0 - 16.0	12102400 00
MEMV 32	M 32 x 1.5	14.0 - 21.0	12102500 00
MEMV 40	M 40 x 1.5	19.0 - 27.0	12102600 00

## Polyethylene Cable Glands



Type PE seal  
 Material HP Polyethylene  
 Color Transparent  
 Sealing Inset -  
 External Seal -  
 Ingress Protection -  
 Temperature Range -22°F to +158°F

PE Seal			
Type	Cable Ø	Pcs/Pack	Part Number
<b>PG</b>			
7		50	08000807 00
9		50	08000809 00
11		50	08000811 00
13.5		50	08000813 00
16		50	08000816 00
21		50	08000821 00
29		50	08000829 00
36		50	08000836 00

## Polyethylene Cable Glands



Characteristics Polyethylene twisting nipple with Pg connection thread for feeding through cables, without IP protection or strain relief.

WN Twisting Nipples			
Model	Outer Ø	Connection Thread	Part Number
WN 9	15.2	PG 9	52020100 00
WN 11	18.6	PG 11	52020200 00
WN 13	20.4	PG 13.5	52020300 00
WN 16	22.5	PG 16	52020400 00
WN 21	28.3	PG 21	52020500 00
WN 29	37	PG 29	52020600 00



Characteristics Blanking plug for BoplaFlex cable glands not fitted with cables to provide IP 65 ingress protection

Material Polyethylene

VS BF Blanking Plugs for BoplaFlex Cable Glands		
Model	For Use With	Part Number
VS BF 7	BF 7 / MBF 12	10000110 00
VS BF 9	BF 9 / MBF 16	10000210 00
VS BF 11	BF 11	10000310 00
VS BF 13	BF 13 / MBF 20	10000410 00
VS BF 16	BF 16	10000510 00
VS BF 21	BF 21 / MBF 25	10000610 00
VS BF 29	BF 29	10000710 00
VS BF 32	MBF 32	10000715 00
VS BF 36	BF 36	10000810 00
VS BF 40	MBF 40	10000815 00



Characteristics Blind washer for all Bopla cable glands. Place the blind washer under the sealing ring if dust protection is required.

Material Polyethylene

BS Blind Washers for BoplaCon Cable Glands		
Model	Connection Thread	Part Number
BS 7	POZ 7 / POZB 7 / MSS 7 / MSD 7 / MSK 7	12911280 00
BS 9	POZ 9 / POZB 9 / MSS 9 / MSD 9 / MSK 9	12911285 00
BS 11	POZ 11 / POZB 11 / MSS 11 / MSD 11 / MSK 11	12911290 00
BS 13	POZ 13 / POZB 13 / MSS 13 / MSD 13 / MSK 13	12911300 00
BS 16	POZ 16 / POZB 16 / MSS 16 / MSD 16 / MSK 16	12911305 00
BS 21	POZ 21 / POZB 21 / MSS 21 / MSK 21	12911310 00
BS 29	POZ 29 / POZB 29 / MSK 29	12911320 00



Characteristics Sealing rings for PG or metric type connection threads.

Material Nitrite-rubber

DR Sealing Rings		
Model	For Connection Thread	Part Number
<b>PG</b>		
DR 7	PG 7	52030000 00
DR 9	PG 9	52030100 00
DR 11	PG 11	52030200 00
DR 13	PG 13	52030300 00
DR 16	PG 16	52030400 00
DR 21	PG 21	52030500 00
DR 29	PG 29	52030600 00
DR 36	PG 36	52030700 00
<b>Metric</b>		
MDR 12	M 12 x 1.5	52050100 00
MDR 16	M 16 x 1.5	52050200 00
MDR 20	M 20 x 1.5	52050300 00
MDR 25	M 25 x 1.5	52050400 00
MDR 32	M 32 x 1.5	52050500 00
MDR 40	M 40 x 1.5	52050600 00



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# Specifications

## Aluminum

### ALUMINUM CASTING METHODS

Rose+Bopla uses three methods to produce their die cast aluminum watertight enclosures:  
Die Casting, Chill Casting, and Sand Casting.

### LIMITATIONS

Like all products, Rose+Bopla's cast aluminum enclosures do have limitations. Rose+Bopla cannot change the size of any of these boxes dimensionally. Rose+Bopla's die cast boxes have depth limitations. Most designs are somewhat shallow. Rose+Bopla cannot increase depth. If depth is a problem, use Rose+Bopla's Build-A-Box® enclosures which are made from aluminum extrusion that can be cut to any depth required. If you cannot find the size you need, please call the factory. We can do a custom size for your application. Tooling costs and minimum order may apply.

### ROSE+BOPLA COPPER FREE ALUMINUM

Rose+Bopla uses AL Si 12 alloy in its cast aluminum housings. The term "Copper Free" is used to describe aluminum alloys which contain less than 0.4% copper. Rose+Bopla's copper content is .10% for Die Castings and .05% for Chill Castings and Sand Castings. It is the reduction in the copper content which increases the natural corrosion resistant properties of aluminum. Copper Free aluminum is particularly resistant to salt atmospheres, sulphur gases and ammonium nitrate. Above a level of 0.4% copper, the range of corrosion due to galvanic action within the structure of the metal increases rapidly.

Rose+Bopla's aluminum alloys are highly superior to most ferrous materials. For military applications we irradiate these enclosures to Mil Spec C-5541, Class 1A or Class 3. Rose+Bopla's "Copper Free" aluminum products provide optimum protection against galvanic corrosion.

### ALUMINUM

Mechanical, Electrical, and Thermal Properties	Pressure Die-Cast	Chill Cast	Sand Cast	Extrusion	Unit Of Measurement
Yield	130	80	70	160	N/mm <sup>2</sup>
Tensile Strength	240	170	150	215	N/mm <sup>2</sup>
Ductile Yield	1	6	5	12	%
Brinell Hardness	60	55	45	70	HB
Density	2.65	2.65	2.65	2.7	g/cm <sup>3</sup>
Castability	Very Good	Excellent	Excellent	-	
Polishability	Good	Adequate	Adequate	Excellent	
Machinability	Good	Good	Good	Excellent	
Weldability	Limited	Excellent	Excellent	Excellent	
Resistance	18-27	18-27	18-27	28-34	m/Ωmm <sup>2</sup>
Thermal Conductivity	130-160	140-170	140-170	190-210	W/mK
Heat Resistance	200	200	200	200	°C
Cold Resistance	-100	-100	-100	-100	°C

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## Specifications

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### Aluminum

#### **GENERAL ALUMINUM**

Article	DIN Alloy	AA Alloy	Closest Equivalent
Aluminum Castings	AL Si 12	B4130	A413
Aluminum Extrusions	AL Mg Si 0.5	6060	6063
Aluminum Plates	AL Mg 3	5754	5052

#### **ALUMINUM TOLERANCES**

Sufficient tolerances must be allowed for cast aluminum enclosures and extruded aluminum enclosures. To properly do this, refer to DIN 1688 for castings and DIN EN 12020 for extrusions. Refer to tolerance charts on page 151 through 154.



# Specifications

## Fiberglass

**COMPRESSION  
MOLDED  
FIBERGLASS**

- Fiberglass Watertight Enclosures
- Fiberglass Compression Molded Enclosures
- Fiberglass Mobile Control Enclosures

Made of glass fiber (25mm long) reinforced polyester plastic. Heat pressed compression molded under heat and pressure. This guarantees excellent dimensional stability under heat, excellent mechanical strength and dynamic load capacity, very low friction, excellent abrasion resistance to chemicals and weather, excellent surface finish, excellent dimensional stability and little tendency to stress and cracking.

Reinforced glass fiber fiberglass (polyester) mats come in rolls. The rolls are cut in the correct size, weighed and then placed into a heated mold. Under high pressure the material liquifies, and fills the mold completely. After a few minutes under heat and pressure, the completed housing can be removed for trimming and assembly.

In general, the resistance of this material to acids, bleaches and organic solvents ranges from good to excellent.

Physical Properties	Approx Value	Unit of Measurement	Test Standard
Leakage Current	KA 3c	Class	DIN 53480
Surface Resistance	1.0 x 10 <sup>13</sup>	Ohm	DIN 53482
Absorption of Water	.6	%	DIN 53472
Combustibility	self-extinguishing		ASTD D-635 UL 94 VO
Flame Resistance	self-extinguishing		Almost Non-Flammable
Insulation	fully insulated		VDE 0100-7
Continuous Heat	-40° C +250° C		DIN 53458
Thermal Conductivity:	.6	W/mk (watts per meter x coefficient of thermal expansion)	

NOTE: VALUES SHOWN ARE APPROXIMATE.

Mechanical Properties	Approx Value	Unit of Measurement	Test Standard
Density	1.50	g/cm <sup>3</sup>	DIN 53479
Resistance to Pressure	150	N/mm <sup>2</sup>	DIN 53453
Elongation	1	%	DIN 53455
Modulus of Elasticity	7100	N/mm <sup>2</sup>	DIN 53457
Bending Strength	180	N/mm <sup>2</sup>	DIN 53452
Compression Strength	120-150	N/mm <sup>2</sup>	DIN 53454
Impact Resistance	21-25	KJ/m <sup>2</sup>	DIN 53453
Shear Resistance	180	N/mm <sup>2</sup>	DIN 53452

NOTE: VALUES SHOWN ARE APPROXIMATE.

## Specifications

### Fiberglass

#### GFK FIBERGLASS

Physical Properties	Approx. Value	Unit of Measurement	Test Standard
Surface Resistance	4 x 10 <sup>15</sup>	Ohm	KDS 0303 DIN 53482
Insulation	fully insulated		VDE 0100
Burning Process	self-extinguishing		UL 94 VO
Toxic Fumes	Free of Halogenated Gases		
Moisture Content	0.2% Max		DIN 53495 ISO/R 62

### Polystyrene

Physical Strength	Approx. Value	Unit of Measurement	Test Standard
Tensile strength, yield	27	MPa	ISO 527 ASTM D 638
Tensile strain, yield	1.4	%	ISO 527, ASTM D 638
Tensile modulus	2200	MPa	ISO 527 ASTM D 638
Normal strain at break	25	%	ISO 527
Charpy impact, unnotched + 23° C - 30° C	150 120	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy impact, notched 23° C	16	kJ/m <sup>2</sup>	ISO 179/1eA
Heat deflation, temperature Method A Method B	78 82	°C	ISO 75
Vicat Softening, Temperature Method b	84	°C	ISO 306
Flame resistance test	HB		UL 94/ISO 1210
Relative Permittivity (100Hz)	2.5	-	ISO 60250
Relative Permittivity (1 MHz)	2.5	-	ISO 60250
Dissipation Factor (100 Hz)	1.5	E-4	ISO 60250
Dissipation Factor (1 MHz)	4	E-4	ISO 60250
Surface resistivity	>10 <sup>13</sup>	Ohms	IEC 60093

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## Specifications

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### Polycarbonate

#### **POLYCARBONATE**

Features excellent strength, stiffness and impact resistance, very good thermal stability, tough yet flexible down to -150° F, excellent dimensional accuracy and stability, weather resistance, excellent light transmission (up to 89% with translucent grades), good electrical insulating properties. High gloss finish.

Mechanical fastening is a good technique for attaching materials and components to polycarbonate. It is relatively quick and provides high assembly strength. In addition, mechanical fastening does not subject the plastic to chemical changes, accordingly, losses in the properties of the polycarbonate are minimized.

Screws are one form of mechanical fastening used to minimize induced assembly stresses in polycarbonate use. Thread cutting, rather than thread forming screws are recommended. A thread forming screw merely displaces material, setting-up areas of high stress.

THREAD CUTTING screws remove material and do not cause excessive stress when used properly.

#### **NOTE**

POLYCARBONATE IS NOT TOLERANT OF OIL IN GENERAL AND HIGH SULPHIDE OILS, IN PARTICULAR. IF OIL IS CONTINUOUSLY PRESENT, WE DO NOT RECOMMEND POLYCARBONATE.

# Specifications

## Polycarbonate

### POLYCARBONATE

Physical Properties	Approx. Value	Unit of Measurement	Standard
Tensile stress, break	70 69	MPa	ISO 527 ASTM D 638
Tensile strain, break	110 130	%	ISO 527 ASTM D 638
Tensile stress, yield	63 62	MPa	ISO 527 ASTM D 638
Tensile strain, yield	6 7	%	ISO 527 ASTM D 638
Tensile modulus	2350	MPa	ISO 527
Flexural stress, yield	90 97	MPa	ISO 178 ASTM D 790
Flexural modulus	2300 2340	MPa	ISO 178 ASTM D 790
Izod impact, unnotched + 23° C - 30° C + 23° C	No failure No failure 3204	KJ/m <sup>2</sup> KJ/m <sup>2</sup> Jm	ISO 180/1U ISO 180/1U ASTM D 4812
Izod impact, notched + 23° C - 30° C + 23° C	25 10 801	KJ/m <sup>2</sup>  Jm	ISO 180/1A ISO 180/1A ASTM D 256
Charpy impact, unnotched + 23° C - 30° C	No failure No failure	KJ/m <sup>2</sup> KJ/m <sup>2</sup>	ISO 179/1eU ISO 179/1eU
Charpy impact, notched + 23° C	35	KJ/m <sup>2</sup>	ISO 179/2C
Taber abrasion, CS-17, 1 kg	10	Mg/1000cy	ASTM 1044
Ball indentation, 125° C	Passes	--	IEC 60695-10-2
Thermal conductivity	0.2 0.27	W/m·°C	ISO 8302 ASTM C 177
Specific heat	1.26	J/g·°C	ASTM C 351
Vicat Softening Temperature Method b Method a	141 153	°C	ISO 306/ASTM D 1525
Long term service temperature	115-135	°C	
Heat deflection temperature Method A Method B	135 140	°C	ISO 75 ISO 75
Flame resistance test	V-2		UL 94
Shrinkage	0.5-0.7	%	
Dielectric strength, in air, 3.2mm 1.0 mm in oil, 0.8mm in oil, 1.6mm in oil, 3.2mm	15 15 35 27 17	KV/mm	ASTM D 149 IEC 60243-1 IEC 60243-1 IEC 60243-1 IEC 60243-1
Surface resistivity	>10 <sup>15</sup>	Ohms	IEC 60093
Volume resistivity	10 <sup>15</sup>	Ohm-cm	IEC 60093
Permittivity 50 Hz 1 MHz	2.7 2.7		IEC 60250 IEC 60250
Water absorption 23° C, 50% RH 23° C, storage in H <sub>2</sub> O	0.15 0.35	%	ISO 62 ISO 62

## Specifications

### ABS

#### ABS

ABS offers an excellent combination of mechanical and thermal properties, outstanding stiffness, impact strength, hardness, heat resistance, and dimensional stability. ABS can be chemically electroplated.

Physical Properties	Approx. Value	Unit of Measurement	Test Standard
Tensile stress, yield	50	MPa	ISO 527
Tensile strain, yield	2.3	%	ISO 527
Tensile modulus	2300	MPa	ISO 527
Flexural stress, yield	72	MPa	ISO 178
Flexural modulus	2460	MPa	ISO 178
Izod impact, notched + 23°C	16	KJ/m <sup>2</sup>	ISO 180/1A
Charpy impact, unnotched + 23°C -30° C	No failure 75	KJ/m <sup>2</sup>	ISO 179/1eU
Charpy impact, notched +23°C - 30°C	18 8	KJ/m <sup>2</sup>	ISO 179/2C
Ball indentation, hardness	108	MPa	ISO 2039-1
Thermal conductivity	0.18	W/mK	DIN 52612
Vicat Softening, temperature Method b Method a	97	°C	ISO 306
Heat deflection, temperature Method A Method B	92 96	°C	ISO 75
Flame resistance test	HB		UL 94/ISO 1210
Dielectric Strength	17	KV/mm	IEC 60243-1
Surface resistivity	>10 <sup>14</sup>	Ohms	IEC 60093
Volume resistivity	1015	Ohm-cm	IEC 60093
Water absorption 23°C, storage H <sub>2</sub> O	0.4	%	ISO 62

### ABS

#### **WEATHERABILITY OF POLYCARBONATE & ABS**

Unlike the Rose+Bopla compression molded and GFK fiberglass enclosures, our polycarbonate and ABS enclosures are affected by weather, particularly, ultra-violet light.

The quality of most materials deteriorate if they are exposed to the weather for long periods of time.

For ABS moldings, exposure to direct sunlight is harmful. Yellowing of the material gradually leads to changes in most color shades. The surface of the moldings lose their gloss, become harder and rough. If objects damaged in this way are subjected to mechanical load (eg: impact), a marked reduction in their initial toughness is noticeable, particularly if the damaged side is situated in the tensile zone of deflection with prolonged exposure to ultra violet rays, fine micro cracks will appear. Fine micro cracks act as notches. The original micro-crack damage itself only extends to a slight depth, and polishing the weathered surface restores its original toughness.

To decide whether ABS or polycarbonate can be used depends on the extent to which it is affected by the above mentioned changes, the design of the part, and its application.

For example, a part which suffers surface damage by impact in the compressive zone has a much better performance than a part suffering impact in the tensile zone.

Polycarbonate is affected by weathering, but due to its general technical properties being higher in performance than ABS, the polycarbonate parts will retain higher mechanical values after equal exposure to weather.



## Specifications

### Polyamide

#### POLYAMIDE SPECIFICATIONS

Material Properties	Approx. Value		Unit of Measurement	Test Standard
Impact Strength	–	35	KJ/m <sup>2</sup>	DIN 53453
Heat Resistance*	80-100*	120	°C	–
Cold Resistance*	-40	-40	°C	–
Notched Impact Strength	17	20	KJ/m <sup>2</sup>	DIN 53453
Maximum Bending Stress	150	100	N/mm <sup>2</sup>	DIN 53452
Elastic Modulus	6000	2700	N/mm <sup>2</sup>	DIN 53455
Elastic Stretch	4	18	%	–
Flammability	94HB	94HB	Class	UL 94
Water Absorption	1	.9	%	DIN 53472
Creep Resistance	KB 350	KB 350	Class	DIN 53480
Thermal Conductivity	.33	–	w/m °C	VDE 0304/1

\*The temperature resistance of the enclosure is dependent upon the installed gasket. Temperature limits can also be influenced by mechanical stress.

### Material Properties of Plastics

Material Properties	Unit	Test Requirements	PS	ABS	PC	SE 1 GFN1	PC / ABS Blend	PA6.6 FR	PA6 FR (NV12)	PA6 GF 15	UP-GF
Impact strength +20° C	KJ/m <sup>2</sup>	ISO 179	–	60	without breaking	30	–	–	without breaking	36	49
Impact strength -40° C		DIN 53453	–	40		30	–	–		–	–
Notched impact str. (Charpy) +20° C	KJ/m <sup>2</sup>	ISO 179	7	10	25	–	–	–	3.5	55	–
Notched impact str. (Charpy) -40° C		DIN 53453	4	4	10	–	–	–	–	–	–
Max. bending stress	N/mm <sup>2</sup>	ISO 178 DIN 53452	–	64	>70	110	–	–	–	–	100
Round body pressure test	°C	ISO 335-1 DIN 0471/2-1	–	75	125	125	125	–	125	–	–
Retention of shape under heat <sup>1)</sup> A	°C	ISO 75	75	80	125	120	120	90	70	150	150
Retention of shape under heat <sup>1)</sup> B		DIN 53461	–	85	135	130	130	215	190	210	–
Thermal conductivity	W/mK	DIN 53461 ASTM 648	0.17	0.18	0.2	0.23	–	–	–	–	0.6
Glow hot wire test	°C with mm	ISO 695 DIN 0471/2-1	–	650/2	850/1	960/3.2	960/2	–	850/1	–	–
Combustibility	Grade from mm	UL 94	HB/1.47	HB/1.6	V2/1.14	V1/1.47	VO/1.6	VO/1	V2/1.6	HB/1.6	VO/4
Water absorption	%	ISO 62 DIN 53495 ASTM D 570	<0.1	0.4	0.35	0.22	–	2.2	2.5	2.2	0.7
Surface resistivity	Ohm	IEC 93 DIN 53482 ASTM 257	>10 <sup>13</sup>	>10 <sup>14</sup>	>10 <sup>15</sup>	>10 <sup>15</sup>	–	>10 <sup>15</sup>	>10 <sup>12</sup>	–	>10 <sup>12</sup>
Special Volume resistivity	Ohm x cm	IEC 93 DIN 53482 VDE 303 T3 ASTM 257	>10 <sup>16</sup>	>10 <sup>15</sup>	>10 <sup>16</sup>	>10 <sup>15</sup>	–	>10 <sup>15</sup>	>10 <sup>15</sup>	>10 <sup>12</sup>	>10 <sup>13</sup>
Dielectric strength	KV / mm	IEC 243 DIN 53481 VDE 303 T2 ASTM 149	–	17	28	26	–	–	–	–	25

<sup>1)</sup> The ability of the enclosure to maintain their shape when subject to heat depends on a seal being inserted. The temperature resistance can still be affected by mechanical stress.

The above data are for guidance only. It has been determined using standardized test pieces and can vary within normal tolerances.

The combustibility classification refers to the material and deviations are possible in finished parts if these have a different material strength.

# Specifications

## Material Chemical Resistance

Type	PS	ABS	PC	PA	Aluminum	Stainless Steel	Polyester
Acetic acid	50%	25%	10%	5%	+	+	40%
Acetone	-	-	-	+	+	+	-
Ammonia	+	25%	-	10%	+	+	-
Benzene	-	-	•	+	+	+	+
Benzole	-	-	-	-	+	+	+
Brake fluid	/	•	-	+	/	/	+
Butane	-	+	+	+	+	/	/
Butanol	/	/	/	+	/	/	+
Calcium chloride	+	+	+	10%	+	+	+
Carbon disulphide	-	-	-	+	+	+	-
Carbon tetrachloride	-	-	/	+	+	/	+
Caustic potash solution	50%	50%	-	50%	/	+	-
Chlorine benzole	-	-	-	+	+	/	+
Citric acid	+	+	10%	/	+	/	+
Diesel oil	-	+	•	+	/	/	+
Detergents	/	/	+	/	/	+	/
Engine oils	•	+	+	+	/	/	+
Formaldehyde	40%	30%	/	•	+	+	30%
Formic acid	40%	-	-	-	•	+	10%
Frigen	/	-	+	+	/	/	+
Fruit Juice	/	/	+	+	/	+	+
Glycerine	+	+	•	+	+	+	+
Heating oil	-	•	•	+	+	+	+
Hydraulic oil	/	/	+	+	/	/	+
Hydrochloric acid	10%	/	20%	-	/	+	+
Lactic acid	80%	80%	+	•	+	+	+
Linseed oil	+	+	+	+	+	+	+
Lubricating oil	/	/	+	+	+	+	+
Methanol	/	/	-	•	+	+	-
Methylene chloride	-	-	-	•	+	+	-
Mineral oils	/	/	+	+	/	/	+
Nitric oils	10%	-	10%	-	+	+	10%
Potassium chloride	+	/	+	10%	•	+	+
Potassium hydroxide	/	/	/	/	-	+	-
Soap suds	/	/	•	/	/	+	+
Soda lye	50%	50%	-	+	/	+	40%
Sodium carbonate	+	+	+	10%	•	+	+
Sodium chloride	+	+	+	-	•	•	+
Sodium hydroxide	/	+	/	/	+	+	-
Sulphuric acid	50%	50%	50%	-	•	+	70%
Tartaric acid	+	+	+	10%	/	/	+
Toluol	-	-	-	+	+	/	+
Trichloroethylene	-	-	-	+	+	/	-
Turpentine oil	-	/	•	+	/	/	+
Water (distilled, river, tap, sea water)	+	+	+	+	/	+	+
Xylol	-	-	-	+	+	/	+
Zinc sulphate	+	+	+	/	•	/	+

- + Resistant to all concentrations
- % Resistant to max % concentration
- C° Resistant up to max C°
- Conditionally resistant
- Not resistant
- / No information available

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# Specifications

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## Military

THE FOLLOWING STANDARDS WILL BE APPLIED ONLY WHEN SPECIFIED.

<b>FEDERAL SUPPLY CODES</b>	Rose Federal Supply Code	#FSCM-4Y520
	Rose Foreign Country Supply Code	#FSCM-C024
	Cage Code	1L9R7

<b>QUALITY PROCEDURES</b>	ISO 9001:2000
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<b>CALIBRATION SYSTEM REQUIREMENTS</b>	ISO 9001:2000
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<b>ASSEMBLY &amp; PACKAGING</b>	Mil Spec	#STD-130
	Special request only.	

<b>ALUMINUM</b>	Mil Spec	ASTM-B85
	ASTM	#B-8560: S 12A
	For Europe:	DIN 230 Alloy

<b>STAINLESS STEEL LID SCREWS</b>	<b>Hardness Cross:</b>	70
	<b>Torque:</b>	M4 = 18-26 inch lbs.    M6 = 26-35 inch lbs.

Torque specs are included for reference only. Rose+Bopla does not recommend using a torque wrench on enclosures (tighten until snug).

<b>MACHINED SURFACES</b>	When specified, Rose+Bopla can:	
	(A) Machine Surfaces to 125 micro inches or better	
	(B) Deburr / Break All Sharp Edges	
	(C) Remove All Burrs	

<b>Helicoils</b>	
Mil Spec	#NASM-21209 Helicoil Insert Method

**Masking Surfaces Prior To Painting**  
Rose+Bopla will mask all threaded surfaces and connector mating surfaces prior to primer and paint application.

<b>Chemical Surface Treatments</b>		
Gold Irridite:	Mil Spec	#C-5541-Class 1A
Clear Irridite:	Mil Spec	#C-5541-Class 3

NOTE: Gold irriditing to Mil Spec C-5541-Class 1A offers superior protection, but creates a less conductive surface for grounding or shielding. Clear irriditing to Mil Spec C-5541-Class 3 offers less protection from corrosion, but leaves a conductive surface which is recommended for optimum EMI shielding. All machined surfaces are irridited after machining.

<b>Anodizing</b>	
Mil Spec	# A 8625: Black Anodize Class 2 Type 2, Nickel acetate sealcoat test.
Federal Standard	#595A: Color 37038

NOTE: All machined surfaces can be anodized after machining.

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## Specifications

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### Military: Coatings

Rose+Bopla normally does not paint any inside surfaces on Military boxes, but leaves them gold irridited bare aluminum (unpainted) in accordance with normal requirements.

Rose+Bopla will evaluate coating requirements on a per contract basis. Our capabilities include both wet spray and powder coating.

#### Silk Screen Ink

Mil Spec	#A-56032	Epoxy Ink White
Mil Spec	#A-56032	Epoxy Ink Black

#### Engraving

Per customer's specifications.

# Specifications

## EMI/RFI Coatings and Gaskets

### EMI/RFI SHIELDED COATINGS

We offer the Isolex WP 120 nickel acrylic conductive coating as our standard EMI/RFI coating. Upon request we also have available Electro DAG 7050, copper acrylic conductive coating.

Detailed spec sheet is available upon request.

### EMI/RFI SHIELDED STANDARD GASKETS

All data supplied is from manufacturer's engineering data sheets.

We offer the Cho-Seal 1350 gasket as our standard EMI/RFI gasket.

Cho-Seal is a silver-plated glass-filled material and will not remain sufficiently conductive during vibration or after EMP-induced currents.

		Test Standard	Cho-Seal 1350
Grade			Industrial Commercial
Elastomer Binder			Silicone
Conductive Filler			Ag/glass
Volume Resistivity (ohm-cm, max) as supplied		MIL-G-83528 Para. 4.6.11	0.01
Durometer (shore A±5)		ASTM D2240	65
Specific Gravity (±0.2)		ASTM D792	1.8
Tensile Strength (psi, min)		ASTM D412	150
Elongation (percent, min/max)		ASTM D412	75/300
Tear Strength (lb./in., min.)		ASTM D624	25
Compression Set, 70 hrs @ 100° C (percent, max)		ASTM D395 Method B	30
Low Temperature Flex, TRIO (° C, minimum)		ASTM D1329	-55
Maximum Continuous Use Temperature (° C)			160
Shielding Effectiveness	200 kHz (H Field)	MIL-G-83528 Para. 4.6.12	50
	100 MHz (E Field)		100
	500 MHz (E Field)		100
	2 GHz (Plane Wave)		90
	10 GHz (Plane Wave)		80
Electrical Stability	Heat Aging	MIL-G-83528 Para. 4.6.15	
	Vibration Resistance	During	
		After	
	Post Tensile Set	MIL-G-83528 Para. 4.6.9	0.01 0.01
	EMP Survivability (KA)	MIL-G-83528 Para. 4.6.16	NS

# Specifications

## Gaskets

**EMI/RFI SHIELDED  
OPTIONAL GASKETS  
(SPECIAL ORDER  
ONLY)**

For military requirements where greater shielding is required, such as EMP survivability, we can supply Cho-Seal 1285 gasket, which meets the Specs listed below. Rose+Bopla DOES NOT stock this gasket. Accordingly, we will have to advise lead-time, delivery, cost and minimum quantity (if applicable), if Rose+Bopla is to supply this higher grade gasket.

		Cho-Seal 1285	Test Standard	
Grade			Mil Aerospace	
Elastomer Binder			Silicone	
Conductive Filler			Ag/Al	
Volume Resistivity (ohm-cm, max) as supplied		MIL-G-83528 Para. 4.6.11	0.008	
Durometer (shore A±5)		ASTM D2240	65	
Specific Gravity (±0.2)		ASTM D792	1.9	
Tensile Strength (psi, min)		ASTM D412	200	
Elongation (percent, min/max)		ASTM D412	100/300	
Tear Strength (lb./in., min.)		ASTM D624	30	
Compression Set, 70 hrs @ 100° C (percent, max)		ASTM D395 Method B	32	
Low Temperature Flex, TRIO (° C, minimum)		ASTM D1329	-65	
Maximum Continuous Temperature (° C)			200	
Shielding Effectiveness	200 kHz (H Field)	MIL-G-83528 Para. 4.6.12	60	
	100 MHz (E Field)		115	
	500 MHz (E Field)		100	
	2 GHz (Plane Wave)		105	
	10 GHz (Plane Wave)		100	
Electrical Stability	Heat Aging	MIL-G-83528 Para. 4.6.15	0.01	
	Vibration Resistance		During	0.012
			After	0.008
	Post Tensile Set		MIL-G-83528 Para. 4.6.9	0.015
	EMP Survivability (KA)		MIL-G-83528 Para. 4.6.16	0.9

\* Maximum continuous use is defined as 1000 hours at max. rated temperature (compressed between flanges 7-10%) without electrical degradation above the limits given under Electrical Stability-Heat Aging.

**CROSS REFERENCE  
CHART**

Rose Part Number	Gasket Size	
	Metric	Inches
10082020 00	2.0mm	.078
10082021 00	2.5mm	.098
10082022 00	3.0mm	.118
10082023 00	3.5mm	.137
10082024 00	4.0mm	.157
10082025 00	5.0mm	.197
10082026 00	5.5mm	.216

# Specifications

## Standard Paint Color Guide

### STANDARD METALLIC COLOR GUIDE

Product Category	Description Acrylic Enamel #	P. P. G. Industrial	Color
01	Painted Aluminum	RAL 7001	Gray
04	Aluform	RAL 7038	Light Gray
01	Corrosion-Proof Aluminum	DAR 2825H	Bright Blue
07	P.C. Board Extrusions 0701, 0702, 0703, 0710, 0711	RAL 9005	Black
07	Profitronic 19 Body	RAL 7035	White Gray
07	Profitronic 19 Trim	RAL 7030	Stone Gray
88	8850 Support Arms	RAL 7035	Light Gray
49	49, 51, 61, 81 Suspension Components	RAL 7043	Dark Gray
13	Small Machine Control Enclosures 1300 Base	RAL 7038	Light Gray
13	Small Machine Control Enclosures 1300 Bezels	RAL 7043	Dark Gray
SL 2000	Thin Profile Machine Control Enclosures	RAL 7035	White Gray
54	Large Machine Control Enclosures 5400	DAR 5400 SC	Gold Smoke Gray

### STANDARD NON-METALLIC COLOR GUIDE

Product Category	Description	RAL Color
02	Fiberglass	7000
06	Fiberglass Safety	9011
PK	Polyamide	7001
03, 33, EM	Polycarbonate	7035
09, ET	ABS	7035
21	ABS Cabinets	7035
21	GFK Cabinets	7032
21	Compression-Molded Fiberglass Cabinets	7038
14	Fiberglass Modular Flange	7032
17	Polycarbonate Modular Flange	7032
08	Polyamide Cable Grips	7035
29	Mobile Control Housings	1021



# Specifications

## Cable Grip

### CABLE GRIP INSTALLATION INFORMATION

PG cable glands are in the process of being phased out. These will be replaced with metric type glands. Rose+Bopla's PG cable grips employ a special thread not generally available in America, therefore we are standardizing with metric.

Accordingly, Rose+Bopla has a limited stock of taps for sale to customers wishing to drill, tap and install Rose+Bopla's PG type cable grips at their own facilities. We do not offer metric taps, however they can be purchased through your local hardware supplier.

Listed below is the necessary information for drilling and tapping holes for Rose+Bopla's PG or metric cable grips and the appropriate tap part number. Thick wall applications require that you tap holes for cable glands. Thin wall applications may be drilled through with a nut.

### CROSS REFERENCE CHART

Metric Cable Grip Size	Tap Size	Metric Tapped Hole Size	Inch Tapped Hole Size	Closest American Drill Size	Metric Through-Hole	Inch Through-Hole
M 12	M 12 x 1.5	10.5 mm	0.413	z (.413)	12.2 mm	0.480
M 16	M 16 x 1.5	14.5 mm	0.571	37/64" (.578)	16.2 mm	0.638
M 20	M 20 x 1.5	18.5 mm	0.728	47/64" (.734)	20.2 mm	0.795
M 25	M 25 x 1.5	23.5 mm	0.925	59/64" (.922)	25.2 mm	0.992
M 32	M 32 x 1.5	30.5 mm	1.2	-	32.2 mm	1.268
M 40	M 40 x 1.5	38.5 mm	1.516	-	40.2 mm	1.583

If you are going to use a polyamide grip with a nut and are not going to tap the hole, you will need to drill a larger hole to push the grip through. Use the chart below for the correct size hole.

### DRILL HOLE AND TAP INFORMATION

Cable Grip Size	Rose PG Tap Part Number	Metric Tapped Hole Size	Inch Tapped Hole Size	Closest American Drill Size	Metric Through-Hole	Inch Through-Hole
PG 7	08070000	11.5 mm	0.453	29/64" (.453)	12.3 mm	0.484
PG 9	08090000	14 mm	0.551	35/64" (.547)	15.1 mm	0.594
PG 11	08110000	17.25 mm	0.679	43/64" (.672)	19.6 mm	0.772
PG 13.5	08130000	19 mm	0.748	3/4" (.750)	20.2 mm	0.795
PG 16	08160000	21.25 mm	0.837	53/64" (.828)	22.3 mm	0.878
PG 21	08210000	27 mm	1.063	1 1/16" (1.063)	28.2 mm	1.11
PG 29	08290000	35.5 mm	1.398	1 25/64" (1.391)	36.9 mm	1.453
PG 36	08360000	45.5 mm	1.791	1 51/64" (1.797)	48.8 mm	1.921
PG 42	08420000	52.8 mm	2.079	2 5/64" (2.078)	-	-
PG 48	08480000	58 mm	2.283	2 9/32" (2.281)	-	-

### CABLE GRIP SELECTION GUIDE

Wire Size		Metric Size	PG Size	American Size
mm	Inches			
3-6.5	.12-.26	M12	PG 7	-
4-8	.18-.32	M16	PG 9	3/8" NPT
6-10	.24-.39	M16	PG 11	-
6-12	.24-.47	M20	-	-
7-12	.28-.47	-	PG 13.5	1/2" NPT
10-14	.39-.55	M20	PG 16	-
13-18	.51-.71	-	PG 21	3/4" NPT
14-18	.55-.71	M25	-	-
20-25	.79-.98	M32	PG 29	1" NPT
24-32	.95-1.26	M40	PG 36	-
32-38	1.26-1.50	M50	PG 42	-
37-44	1.46-1.73	M63	PG 48	-

# Tolerances

## Aluminum

### TOLERANCES FOR PRESSURE DIECASTINGS (DIN 1688)\*

#### 1) Determining the spatial diagonal:

The spatial diagonal R is that between the extreme points of the casting.

It is calculated from the nominal dimensions of the prismatic body, which delimits the casting, whatever its shape

$$R = \sqrt{l^2 + b^2 + h^2} \text{ (spatial diagonal)}$$

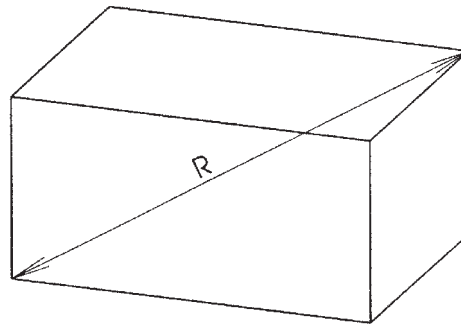


Table 1. Tolerances of dimensions for lengths, widths, heights, central distances, diameters and roundings.

Spatial diagonal area	Degree of exactitude	Shape dependency	Nominal Dimension Area													
			up to 18	over 18 up to 30	over 30 up to 50	over 50 up to 80	over 80 up to 120	over 120 up to 180	over 180 up to 250	over 250 up to 315	over 315 up to 400	over 400 up to 500	over 500 up to 630	over 630 up to 800	over 800 up to 1000	over 1000 up to 1250
over 180	GTA 13	Intrinsic	±0.14	±0.17	±0.20	±0.23	±0.27	±0.32								
		Non-Intrinsic	±0.24	±0.27	±0.30	±0.33	±0.37	±0.42								
over 50 up to 500	GTA 13/5	Intrinsic	±0.17	±0.20	±0.25	±0.30	±0.35	±0.40	±0.45	±0.50	±0.55	±0.60				
		Non-Intrinsic	±0.32	±0.35	±0.40	±0.45	±0.50	±0.55	±0.60	±0.65	±0.70	±0.75				
over 180	GTA 14	Intrinsic	±0.22	±0.26	±0.31	±0.37	±0.44	±0.50	±0.60	±0.65	±0.70	±0.80	±0.90	±1.00	±1.20	±1.30
		Non-Intrinsic	±0.42	±0.46	±0.51	±0.57	±0.64	±0.70	±0.80	±0.85	±0.90	±1.00	±1.10	±1.20	±1.40	±1.50
over 500	GTA 14/5	Intrinsic	±0.25	±0.35	±0.40	±0.45	±0.55	±0.65	±0.75	±0.80	±0.85	±0.95	±1.10	±1.20	±1.40	±1.60
		Non-Intrinsic	±0.55	±0.65	±0.70	±0.75	±0.85	±0.95	±1.00	±1.10	±1.10	±1.20	±1.40	±1.50	±1.70	±1.90

**Intrinsic** dimensions are those in the same parts of the tool.

**Non-intrinsic** dimensions are those created by the interaction of movable tool components, e.g. wall thickness and base thickness or dimensions affected by additives or extenders.

\*Important: We assume no liability for quoted standards.

# Tolerances

## Aluminum

### TOLERANCES FOR PRESSURE DIECASTINGS (DIN 1688)\* CONTINUED

Table 2. Tolerances of dimensions for wall thicknesses, ledges and ribs.

Spatial diagonal area	Degree of exactitude	Shape dependency	Nominal dimensional area		
			up to 3	over 3 up to 6	over 6 up to 10
up to 180	GTA 13	Intrinsic	±0.15	±0.20	±0.20
		Non-Intrinsic	±0.25	±0.30	±0.30
over 50 up to 500	GTA 13/5	Intrinsic	±0.20	±0.25	±0.30
		Non-Intrinsic	±0.35	±0.40	±0.45
over 180	GTA 14	Intrinsic	±0.25	±0.30	±0.35
		Non-Intrinsic	±0.45	±0.50	±0.55
over 500	GTA 14/5	Intrinsic	±0.30	±0.40	±0.45
		Non-Intrinsic	±0.55	±0.65	±0.70

**Intrinsic** dimensions are those in the same parts of the tool.

**Non-intrinsic** dimensions are those created by the interaction of movable tool components, e.g. wall thickness and base thickness or dimensions affected by additives or extenders.

# Tolerances

## Aluminum

### TOLERANCES FOR CHILL CASTINGS (DIN 1688)\*

In the case of raw castings made of light metal alloys in the chill casting process, all deviations in dimensions are essentially dependent on :

- a). the dimensional accuracy of the mold, characterized by the degree of accuracy
- b). the position of the mold division, cores, extenders, characterized by the subdivision into intrinsic and non-intrinsic dimensions (see DIN 1680 part 1)
- c). the nominal dimensions.

Table 1. Deviations in lengthwise dimensions (lengths, widths, heights, central distances, diameters, roundings).

Degree of accuracy	Shape dependency	Nominal Dimension Area													
		up to 18	over 18 up to 30	over 30 up to 50	over 50 up to 80	over 80 up to 120	over 120 up to 180	over 180 up to 250	over 250 up to 315	over 315 up to 400	over 400 up to 500	over 500 up to 630	over 630 up to 800	over 800 up to 1000	over 1000 up to 1250
GTA 15/5	Intrinsic	±0.45	±0.50	±0.60	±0.75	±0.85	±1.00	±1.20	±1.30	±1.40	±1.60	±1.70	±2.00	±2.30	±2.60
	Non-Intrinsic	±0.55	±0.65	±0.80	±0.95	±1.10	±1.30	±1.50	±1.60	±1.80	±2.00	±2.20	±2.50	±2.80	±3.30

Table 2. Deviations in thickness (wall thicknesses, ledges, ribs).

Degree of accuracy	Shape dependency	Nominal Dimension Area		
		up to 6	over 6 up to 10	over 10 up to 18
GTA 15/5	Intrinsic	±0.60	±1.20	±1.80
	Non-Intrinsic	±0.80	±1.50	±2.20

**Intrinsic** dimensions are those in the same parts of the tool. **Non-intrinsic** dimensions are those created by the interactions of movable tool components, e.g. wall thicknesses and base thicknesses or dimensions affected by additives or extenders.

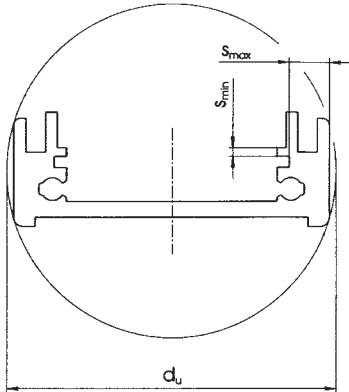
\*Important: We assume no liability for quoted standards!

# Tolerances

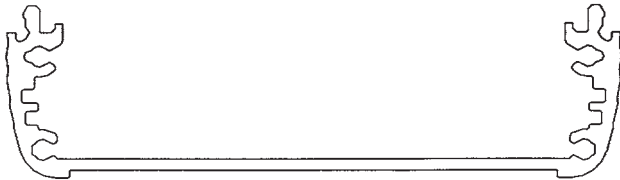
## Aluminum

### TOLERANCES FOR ALUMINUM PROFILES ACCORDING TO DIN EN 12020-2\*

The tolerances for the nominal dimensions (see table 1) depend on the following ratios:  
 - diameter of the minimum circumscribing circle  $d_u$  divided by the minimum wall thickness  $s_{min}$ .  
 - maximum wall thickness  $s_{max}$  divided by the minimum wall thickness  $s_{min}$ .



ABPH 800 (Full Profile)



ABP 800 (Hollow Profile)

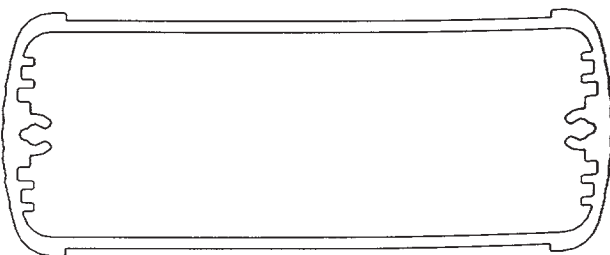


Table 1  
Tolerances for linear measurements

Range of dimensions		Tolerances for a ratio of $d_u : s_{min}$	
		up to 40 : 1	over 40 : 1
		and a ratio of $s_{max} : s_{min}$	
over	up to	up to 6 : 1	over 6 : 1
-	10	±0.15	
10	15	±0.20	
15	30	±0.25	
30	45	±0.30	
45	60	±0.40	
60	90	±0.45	
90	120	±0.60	
120	150	±0.70	±0.80
150	180	±0.90	±1.00
180	240	±1.10	±1.20
240	300	±1.40	±1.50

Table 2  
Tolerances for the wall thickness of full profiles

Range of dimensions		Tolerances for wall thickness
over	up to	
-	1.5	±0.15
1.5	3	±0.20
3	6	±0.25
6	10	±0.30
10	15	±0.40
15	20	±0.50
20	30	±0.60
30	40	±0.70

Table 3  
Tolerances for the wall thickness of hollow profiles

Range of dimensions		Tolerances for the wall thicknesses with a circumscribing circle $d_u$			
		over 75 to 75	over 130 to 130	over 250 to 250	over 250 to 300
over	up to	to 75	to 130	to 250	to 300
-	1.5	±0.20	±0.25	-	-
1.5	2	±0.20	±0.25	±0.30	-
2	3	±0.25	±0.30	±0.35	±0.45
3	6	±0.35	±0.40	±0.50	±0.60
6	9	±0.50	±0.55	±0.70	±0.80
9	12	±0.60	±0.70	±0.85	±0.95
12	15	±0.70	±0.80	±1.00	±1.10
15	20	-	±1.00	±1.20	±1.30

\*Important: We assume no liability for quoted standards!

# Tolerances

## Plastic

### **TOLERANCES OF PLASTICS ACCORDING TO DIN 16901**

Deviations from the nominal dimensions are unavoidable in the manufacture of plastic shapes.

There are various reasons for the deviations:

- a) Processing parameters. These are dependent on:
  - the evenness of the shape
  - the setting of the machine
  - the temperature of the tools
  - the distortion of the tool under pressure
- b) The condition of the tool:
  - manufacturing tolerances for tool dimensions (see DIN 16749)
  - wear on tools
  - deviations in the position of movable tool parts.

The tolerances for this norm have been laid down taking into account these factors and numerous measurements in practice.

The plastics in this norm are divided into tolerance rows. All the plastics used by Rose+Bopla for standard enclosures are in row 130, for which tolerances given below apply. The tolerances apply on the basis of the machining shrinkage working into the tool only for the appropriate enclosure with the standard material stated.

#### Nominal dimension area

over	0	1	3	6	10	15	22	30	40	53	70
up to	1	3	6	10	15	22	30	40	53	70	90
A	±0.18	±0.19	±0.20	±0.21	±0.23	±0.25	±0.27	±0.30	±0.34	±0.38	±0.44
B	±0.08	±0.09	±0.10	±0.11	±0.13	±0.15	±0.17	±0.20	±0.24	±0.28	±0.34

over	90	120	160	200	250	315	400	500	630	800
up to	120	160	200	250	315	400	500	630	800	1000
A	±0.51	±0.60	±0.70	±0.90	±1.10	±1.30	±1.60	±2.00	±2.50	±3.00
B	±0.41	±0.50	±0.60	±0.80	±1.00	±1.20	±1.50	±1.90	±2.40	±2.90

A = Dimensions which are not tool specific are those formed by the interaction of movable tool parts, e.g. wall thicknesses and floor thicknesses or dimensions which are affected by additives or pushers.

B = Tool-specific dimensions are those in the same part of the tool.

\*Important: We assume no liability for quoted standards!

## Protection Classifications

### Standards Comparison:

#### NEMA, UL, CSA Standard Enclosures

Type Designation	National Electrical Manufacturers' Association (NEMA Standard 250)	Underwriters' Laboratories Inc. (UL 50 and UL 508)	Canadian Standards Association (Standard C22.2, Nos. 14, 40 and 94)
1	Enclosures are intended for use indoors, primarily to prevent accidental contact of personnel with the enclosed equipment in areas where unusual service conditions do not exist.	Indoor use primarily to provide a degree of protection against contact with the enclosed equipment and against a limited amount of falling dirt.	General purpose enclosure. Protects against accidental contact with live parts.
2	Indoor use primarily to provide a degree of protection against contact with the enclosed equipment and against a limited amount of falling water and dirt.	An enclosure for indoor use, constructed so as to provide a degree of protection against dripping and light splashing of non-corrosive liquids, and falling dirt.	Indoor use to provide a degree of protection against limited amounts of falling water and dirt.
3	Enclosures are intended for outdoor use primarily to provide a degree of protection against windblown dust, rain, sleet, and external ice formation.	Outdoor use to provide a degree of protection against windblown dust, rain, and sleet; undamaged by the formation of ice on the enclosure.	An enclosure for either indoor or outdoor use, constructed so as to provide a degree or protection against rain, snow, and windblown dust; undamaged by the external formation of ice on the enclosure.
3R	Enclosures are intended for outdoor use primarily to provide a degree or protection against windblown falling rain, sleet, and external ice formation. (May be ventilated).	Outdoor use to provide a degree of protection against windblown dust, rain, and sleet; undamaged by the formation of ice on the enclosure.	An enclosure for either indoor or outdoor use, constructed so as to provide a degree of protection against rain, snow, windblown dust, splashing and hose-directed water; undamaged by the external formation of ice on the enclosure.
4	Enclosures are intended for use indoors or out doors, to protect the enclosed equipment against splashing water, seepage of water, falling or hose directed water, and severe external condensation. They are sleet resistant but not sleet (ice) proof.	Indoor or outdoor use to provide a degree of protection against splashing water, windblown dust and rain, and hose-directed water; undamaged by the formation of ice on the enclosure.	An enclosure for either indoor or outdoor use, constructed so as to provide a degree of protection against rain, snow, windblown dust, splashing and hose-directed water; undamaged by the external formation of ice on the enclosure.
4X	Type 4X enclosures have the same provisions as Type 4 enclosures and, in addition, are corrosion-resistant.	Indoor or outdoor use to provide a degree of protection against splashing water, windblown dust and rain, and hose-directed water; undamaged by the formation of ice on the enclosure; resists corrosion.	An enclosure for either indoor or outdoor use, constructed so as to provide a degree of protection against rain, snow, windblown dust, splashing and hose-directed water; undamaged by the external formation of ice on the enclosure; resists corrosion.
12	Enclosures are intended for use indoors to protect the enclosed equipment against fibers, flyings, lint, dust, and dirt, and light splashing, seepage, dripping and external condensation of non-corrosive liquids.	Indoor use to provide a degree of protection against dust, falling dirt, and dripping non-corrosive liquids.	An enclosure for indoor use, constructed so as to provide a degree of protection against circulating dust, lint, fibers, and flyings; drippings and light splashing of non-corrosive liquids; not provided with knockouts.
13	Enclosures are intended for use indoors primarily to house pilot devices such as limit switches, foot switches, pilot lights, etc., and to protect these devices against lint and dust, seepage, external condensation, and spraying of water, oil, and coolant.	Indoor use to provide a degree of protection against dust and spraying of water, oil, and non-corrosive coolants.	An enclosure for indoor use, constructed so as to provide a degree of protection against circulating dust, lint, fibers, and flyings; seepage and spraying of non-corrosive liquids including oils and coolants.

**Please Note:** The information presented here is for reference only and is not meant to be a definitive description of the test requirements and/or qualifications. The complete standards should be obtained from the appropriate association or agency.



# Protection Classifications

## Comparison of NEMA and IEC Standards

### ENCLOSURE TYPES

Europe IEC specifications 144 & 529 define the degree of protection provided electrical enclosures to safeguard personnel against electric shock and equipment within the enclosure from environmental contamination such as entry of water. This is expressed by the letters IP followed by two numerals.

In the USA, NEMA and UL have established a rating system for enclosures which provided for different levels of protection. A direct comparison between IEC and NEMA is not possible but the following table gives an approximate guide.

### NEMA TO IEC

#### Enclosure Rating Comparison

NEMA TYPE	IP 23	IP 30	IP 32	IP 64	IP 65	IP 66	IP 67
1	●						
2		●					
3				●			
3R			●				
4						●	
4X						●	
6							●
12					●		
13					●		

Note: This comparison table is an approximation of NEMA and IEC classifications and is for reference only. Complete standards should be obtained from the appropriate association or agency.


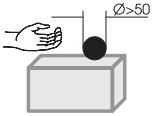
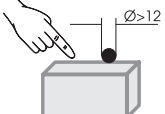
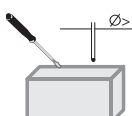
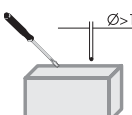
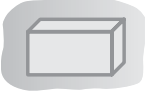
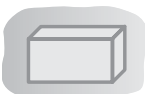
# Protection Classifications

## I.P. Ingress Protection Classifications to DIN VDE 0470/EN 60529\*

The protection classification offered by an enclosure is shown by the letters IP Ingress Protection, and two digits. The first digit indicates two factors (protection for persons and equipment). The second digit indicates only one factor, protection against water.

Similarly, changes in temperature, as may occur, for example, in the open air, are not taken into account. Such changes in temperature may cause a loss of pressure in the enclosure, and dampness may be absorbed through the seal area. Rose+Bopla can supply pressure compensation elements for this purpose.

### First digit: Protection for persons and equipment

	Digit	Persons		Equipment	
		Brief Description	Definition	Brief Description	Definition
	0	Not protected	–	Not protected	–
	1	Protection against the back of the hand touching dangerous parts	A round body, 50mm in diameter, must be at a sufficient distance from dangerous parts	Protection against a solid foreign body of 50mm or more in diameter	A round body, 50mm in diameter, must not fully penetrate
	2	Protection against a finger touching dangerous parts	The test finger, jointed, 12mm in diameter and 80mm long, must be at a sufficient distance from dangerous parts	Protection against a solid foreign body of 12.5mm or more in diameter	A round body, 12.5mm in diameter, must not penetrate at all
	3	Protection against a tool touching dangerous parts	A body, 2.5mm in diameter, must not be able to penetrate	Protection against a solid foreign body of 2.5mm or more in diameter	A round body, 2.5mm in diameter, must not penetrate at all
	4	Protection against a wire touching dangerous parts	A body, 1.0mm in diameter, must not be able to penetrate	Protection against a solid foreign body of 1.0mm or more in diameter	A round body, 1.0mm in diameter, must not penetrate at all
	5	Protection against a wire touching dangerous parts	A body, 1.0mm in diameter, must not be able to penetrate	Protection against dust	No dust penetration
	6	Protection against a wire touching dangerous parts	A body, 1.0mm in diameter, must not be able to penetrate	Sealed against dust	No dust penetration

<sup>1)</sup>Dust must not penetrate in sufficient quantities to prevent the equipment from operating satisfactorily, or to impair safety.

**Important note:** The protection classifications given for the enclosures refer to unmachined enclosures as supplied. In the case of protection against water in particular (second digit), the test conditions will be met if during the given time for the experiment no water has penetrated, or not in harmful quantities. As the tests to show protection classifications take no account of ageing, the maintenance of the protection classification throughout the lifetime of the equipment is not guaranteed.

\*We assume no liability for quoted standards.



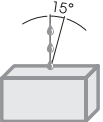
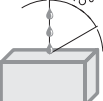
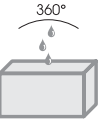
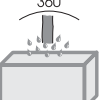
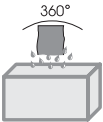
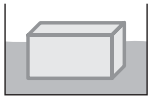
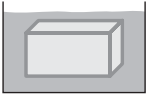
## Protection Classifications

Example: **IP54**

—first digit 5= protection against dust and wire contact with dangerous parts

—second digit 4= protection against splashing water

### Second digit: Protection against water

	Digit	Brief Description	Definition
	0	Not protected	-
	1	Protection against vertical water drops	Drops of water falling vertically onto the enclosure must not have any harmful effects
	2	Protection against vertical water drops when the enclosure is inclined at 15°	Drops of water falling vertically onto the enclosure must not have any harmful effects if the enclosure is inclined by up to 15° on both sides of the vertical
	3	Protection against water spray	Water sprayed onto the enclosure at up to 60° on both sides of the vertical must not have any harmful effects
	4	Protection against water spray	Water splashed onto the enclosure from any direction must not have any harmful effects
	5	Protection against water jet	Water splashed onto the enclosure from any direction must not have any harmful effects
	6	Protection against powerful water jet	A strong water jet directed at the enclosure from any direction must not have any harmful effects
	7	Protection against the effects of temporary immersion in water	Water must not enter in a quantity that could have harmful effects if the enclosure is temporarily immersed in water under standardized pressure and time conditions
	8	Protection against the effects of constant submersion in water	Water must not enter in a quantity that could have harmful effects if the enclosure is kept permanently under water under conditions agreed between the manufacturer and the user; however, these must be more severe than those under figure 7



**ROSE+BOPLA**

A Phoenix Mecano Company

**Credit Application**

30 day credit limit requested \$ \_\_\_\_\_

Company Name \_\_\_\_\_ Phone \_\_\_\_\_

Street Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Fax Number \_\_\_\_\_ Are you incorporated? \_\_\_\_\_

Where \_\_\_\_\_ When \_\_\_\_\_

Tax Exemption Number: \_\_\_\_\_ Please provide Tax Exemption Certificate with Application

**PRINCIPAL OFFICERS**

Name \_\_\_\_\_ Title \_\_\_\_\_

Name \_\_\_\_\_ Title \_\_\_\_\_

**BANK REFERENCES**

Bank Name \_\_\_\_\_ Account No. \_\_\_\_\_ Phone \_\_\_\_\_

Bank Name \_\_\_\_\_ Account No. \_\_\_\_\_ Phone \_\_\_\_\_

Bank Name \_\_\_\_\_ Account No. \_\_\_\_\_ Phone \_\_\_\_\_

**SUPPLIER REFERENCES**

Name \_\_\_\_\_ Phone \_\_\_\_\_ Fax \_\_\_\_\_

Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Name \_\_\_\_\_ Phone \_\_\_\_\_ Fax \_\_\_\_\_

Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Name \_\_\_\_\_ Phone \_\_\_\_\_ Fax \_\_\_\_\_

Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

TERMS AND APPLICATION FOR CREDIT: We hereby agree that Rose+Bopla terms are Net 30 days from the date of invoice, with interest charge at 1½ percent per month on all accounts past due.

Signature\*:

Authorized By \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

**DO NOT WRITE BELOW THIS LINE**

\*It is understood that by signing the Rose+Bopla Credit Application you, the customer, agree to Rose+Bopla's Net 30 credit terms, including a 1½% late finance charge per month for any overdue balance. By signing this document, you also agree to give Rose+Bopla permission to investigate your credit worthiness through trade references and credit bureau research.



**ROSE+BOPLA**

A PHOENIX MECANO COMPANY

## Who Is Phoenix Mecano?

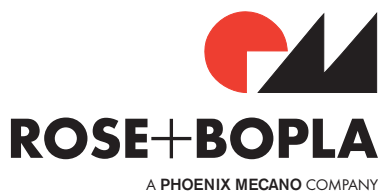


# Phoenix Mecano is dedicated to achieving customer satisfaction through continuous improvement.

Using best business practice, lean manufacturing and sustained supply chain operations Phoenix Mecano Inc. markets its products and services through three product divisions in Maryland. The Frederick, Maryland facility serves as headquarters for North American operations. PMI is part of Phoenix Mecano AG, an international corporation based in Switzerland comprised of independent manufacturing plants worldwide.

Rose+Bopla, a division of PMI, manufactures an extensive line of off-the-shelf and customized enclosures, as well as suspension arm systems. The Rose line is suited for industrial applications and harsh environments in a variety of materials—cast and extruded aluminum; fiberglass; stainless steel; polycarbonate; polyamide; and ABS. By contrast, Bopla produces a diverse line of modular tabletop, handheld, and wall-mount plastic enclosures designed to meet today's demands for aesthetic electronic packaging.

Value-added secondary services at PMI offer our customers a broad range of specialized manufacturing processes. Secondary services include: irriditing, chromating, anodizing, wet painting, powder-coating, silk-screening, engraving, drilling, tapping, milling, etching, in-house prototyping and engineering services, as well as product print generation.



Rose+Bopla sales representatives are available to assist you in choosing the right enclosure for your application. Orders and inquiries are processed during normal business hours, 8:30 am to 5:00 pm ET, Monday through Friday. Feel free to contact us at 301-696-9800, or learn more online at [www.Rose-Bopla.com](http://www.Rose-Bopla.com).

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ISO 9001:2000 Certified



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