



CATALOG 2021

Connect
ideas.
Shape
solutions.

ESA S.p.A. | www.esa-automation.com |



Industrial Innovation Experts.

ESA is an international reality committed to the industrial revolution for over 40 years. Our ultimate goal is to deliver industrial automation solutions that make the production process more sustainable, efficient, safe and digitalized.

We stand out for our customer orientation, technological excellence, support, reliability and innovation. Through this approach, we focus on the challenges of the market to bring greater value to our customers and to anticipate their needs.

WEB PANEL

HMI-PAC

IPC

MONITOR

DIGITAL SIGNAGE

ERGO

RUGGED TABLET

I/O

DRIVE

DRIVE ON BOARD

SERVO MOTORS

SWITCH

ENERGY

WEB PANEL

4.0 evolution of the classic HMI client



ESA Web Panel represents the Industry 4.0 based evolution of the classic HMI client. Thanks to the powerful built-in browser and the true flat display up to 15,6", it optimizes the visualization of production data and of any interface developed in HTML5.

Based on Android or Linux OS add more possibility to be tailored on the customer needs, not only to install any kind of application but also customize the launcher and store server.

APPLICATIONS

- + Packaging Machine
- + Plastic and rubber machine
- + Steel and Wood working machine
- + CNC
- + Food processing machine
- + Robotics

FEATURES

- + Display true flat from 7" to 15" with capacitive touch screen.
- + Can display production data from any controller that generates HTML5 pages (PC or PLC)
- + Industrial grade hardware based on powerful Cortex A9 quad core processor.
- + 2 Ethernet ports.
- + DDR3L RAM 2 Gb on board.
- + SDHC card reader.
- + Optional serial port and Wi-Fi and 3G communication capability.
- + Enhanced by Automation browser (optional)
 - Has been designed for the automation market
 - Extending significantly the range of control platforms, to visualize HTML5 and Java web pages.
 - Can manage the connection with multiple webservers: once opened, the browser shows the list of controllers to which HMI is connected.
- + Panel and VESA solution as option
- + CE / EN 60068-2-6 / EN60068-2-27 / Humidity EN60068-2-30 / UL

LINUX

| MODEL | EW107BD4SP0000 | EW110BD4SP | EW115BD4SP |
|---|--|--------------------|--------------------|
| Display Size | 7" | 10.1" | 15,6" |
| Display Technology | TFT | | |
| Display Colors | 16 M | | |
| Display Backlight | LED | | |
| Display Brightness (cd/m ²) | 500 | 350 | 300 |
| Display Resolution (pixel) | 1024 x 600 | 1280 x 800 | 1366 x 768 |
| Backlight Life (hours) | 50 K | 30 K | 50 K |
| Touch Technology | Capacitive | | |
| Processor | ARM Cortex A9 Quad-Core | | |
| RAM | 2 GB DDR3L | | |
| Flash | 8GB | | |
| Browser | Chromium | | |
| Ethernet Port | 1 x 1 GB + 1 x 10 / 100 Mb | | |
| USB Port | 2 x vers. 2.0 | | |
| Serial Port | 1 X RS232/485 | | |
| Expansion Slot | 1 x MINI PCI express | | |
| Cardbus slot | 1 x SDHC | | |
| Power Supply (Vdc) | 12 - 32 | | |
| Consumption (W) | 7 | 24 | 24 |
| Operating Temperature (°C) | -10 ... + 50 (non condensing) | | |
| Storage Temperature (°C) | -20 ... + 65 | | |
| Humidity | <90% (non condensing) | | |
| External dimensions(W/H/D) (mm) | 192 x 132 x 32 | 269,3 x 187,3 x 45 | 416,5 x 265,5 x 45 |
| Cut-out dimensions (W/H) (mm) | 185,0 x 125,0 | 255,5 x 173,5 | 402,5 x 251,5 |
| Weight (kg) | 0.5 | 1,1 | 3,7 |
| Protection degree (front) | IP 66 | | |
| Certifications | CE / EN60068-2-6 / EN60068-2-27 / Humidity EN60068-2-30 / UL | | |

Esaware Web Panel
Browser-based efficient control

ANDROID
EW107BD - EW110BD

| MODEL | EW107BD2SP | EW107BD5SP | EW110BD2SP | EW110BD5SP |
|---------------------------------|--|--------------------|-------------------------------|--------------------|
| Display Size | 7" | | 10,1" | |
| Display Technology | TFT | | | |
| Display Colors | 16 M | | | |
| Display Backlight | LED | | | |
| Display Brightness (cd/m²) | 500 | | 350 | |
| Display Resolution (pixel) | 1024 x 600 | | 1280 x 800 | |
| Backlight Life (hours) | 50 K | | 30 K | |
| Touch Technology | Capacitive | | | |
| Processor | ARM Cortex A9 Quad-Core | | | |
| RAM | 2 GB DDR3L | | | |
| Flash | 8GB | | | |
| Browser | Chrome/ WebView (fullscreen) | Automation Browser | Chrome / WebView (fullscreen) | Automation Browser |
| Ethernet Port | 1 x 1 GB + 1 x 10 / 100 Mb | | | |
| USB Port | 2 x vers. 2.0 | | | |
| Serial Port | 1 X RS232 / 485 | | | |
| Expansion Slot | 1 x MINI PCI express | | | |
| Cardbus slot | 1 x SDHC | | | |
| Power Supply (Vdc) | 12 - 32 | | | |
| Consumption (W) | 7 | | 24 | |
| Operating Temperature (°C) | -10 ... + 50 (non condensing) | | | |
| Storage Temperature (°C) | -20 ... + 65 | | | |
| Humidity | <90% (non condensing) | | | |
| External dimensions(W/H/D) (mm) | 192 x 132 x 32 | | 269,3 x 187,3 x 45 | |
| Cut-out dimensions (W/H) (mm) | 185,0 x 125,0 | | 255,5 x 173,5 | |
| Weight (kg) | 0.5 | | 1,1 | |
| Protection degree (front) | IP 66 | | IP 66 | |
| Certifications | CE / EN60068-2-6 / EN60068-2-27 / Humidity EN60068-2-30 / UL | | | |

Esaware Web Panel
Browser-based efficient control

ANDROID
EW115BD

| MODEL | EW115BD2SP | EW115BD5SP |
|---|--|--------------------|
| Display Size | 15,6" | |
| Display Technology | TFT | |
| Display Colors | 16 M | |
| Display Backlight | LED | |
| Display Brightness (cd/m ²) | 300 | |
| Display Resolution (pixel) | 1366 x 768 | |
| Backlight Life (hours) | 50 K | |
| Touch Technology | Capacitive | |
| Processor | ARM Cortex A9 Quad-Core | |
| RAM | 2 GB DDR3L | |
| Flash | 8GB | |
| Browser | Chrome / WebView (fullscreen) | Automation Browser |
| Ethernet Port | 1 x 1 GB + 1 x 10 / 100 Mb | |
| USB Port | 2 x vers. 2.0 | |
| Serial Port | 1 x RS232 / 485 | |
| Expansion Slot | 1 x MINI PCI express | |
| Cardbus slot | 1 x SDHC | |
| Power Supply (Vdc) | 12 - 32 | |
| Consumption (W) | 24 | |
| Operating Temperature (°C) | -10 ... + 50 (non condensing) | |
| Storage Temperature (°C) | -20 ... + 65 | |
| Humidity | <90% (non condensing) | |
| External dimensions(W/H/D) (mm) | 416,5 x 265,5 x 45 | |
| Cut-out dimensions (W/H) (mm) | 402,5 x 251,5 | |
| Weight (kg) | 3,7 | |
| Protection degree (front) | IP 66 | |
| Certifications | CE / EN60068-2-6 / EN60068-2-27 / Humidity EN60068-2-30 / UL | |

HMI PAC

Control made easy.



ESA HMI PAC is the evolution of the standard ESA HMI including the powerful and well known softPLC runtime Codesys. Both the visualization and the machine control functionalities are embedded in a single product. The I/O can be connected locally or remotely via the real time ethercat bus.

Online Tag sharing between the HMI and the SoftPLC programming environment.

APPLICATIONS

- + Packaging Machine
- + Plastic and rubber machine
- + Steel and Wood working machine
- + CNC
- + Food processing machine
- + Robotics

FEATURES

- + Preloaded Codesys 3.5 runtime
- + Battery powered NVRAM
- + Software Watchdog
- + Hardware Watchdog
- + Ethercat master stack onboard
- + Windows Embedded Compact 7 Pro operating system
- + Preloaded Everywhere runtime
- + SNTP Server and Client
- + Aluminium front side PTFE coating
- + True Flat touch screen
- + Front status led
- + CPU Arm Cortex A8 1 GHz
- + Ram DDR3
- + 3 Gb internal memory
- + SDHC v 2.0 (till 25Mbyte)
- + High brightness display (16M colours)

Esaware HMI + SoftPLC

Control made easy

| MODEL | EW104AB | EW107AB | EW112AB | EW115AB |
|---|---|------------------|-------------------------------|-------------------------|
| Display Size | 4,3" | 7" | 12,1" | 15,6" |
| Display Technology | TFT | | | |
| Display Colors | 262 K | 16 M | | |
| Display Backlight | LED | | | |
| Display Brightness (cd/m ²) | 400 | 600 | 400 | 300 |
| Display Resolution (pixel) | 480x272 | 800x480 | 1280x800 | 1366x768 |
| Backlight Life (hours) | 50 K | | | |
| Processor | ARM Cortex A8 | | | |
| RAM | 256 MB DDR3 | | 512 MB DDR3 | |
| Flash | 3 GB | | | |
| NVRAM | 32 Kb (SoftPLC) | | | |
| Scan Time (µSec) | Typical 30 | | | |
| Serial Ports | SP1 RS232/485-MPI-COM0; SP2 RS232/485-MPI-COM0; CAN; Profibus | | | |
| Ethernet (Ethercat Master) | 1 x 10/100Mb | 2 x 10/100Mb | | |
| USB Ports | 1 x USB Host + 1 x USB Device | | 2 x USB Host + 1 x USB Device | |
| Cardbus slot | 1 x SDHC/MMC | | | |
| Power Supply (Vdc) | 18 – 32 | | | |
| Consumption (W) | 4 | 7 | 15 | 19 |
| Operating Temperature (°C) | -10 ... +50 (non condensing) | | | |
| Storage Temperature (°C) | -20 ... +65 | | | |
| Humidity | <90% (non condensing) | | | |
| External dimensions(W/H/D) (mm) | 166 x 112 x 45,9 (61 with double port) | 202 x 142 x 45,9 | 340,5 x 238,5 x 48,6 | 436,5 x 285,5 x 54,4 |
| Cut-out dimensions (W/H) (mm) | 158,5 x 104,5 | 195 x 135 | 326 x 227 | 422,5 x 271,5 |
| Weight (kg) | 0,5 | 0,8 | 2,5 | 4,5 |
| Protection degree (front) | IP 66 | | | |
| Certifications | CE / EN60068-2-6 / EN60068-2-27 / Humidity EN60068-2-30 cULus (Certificate no. E189179) / EAC ATEX 2014/34/UE directive Group II Category 3 G D Zone 2/22 | | | |

IPC

Panel



The ESA panel IPC portfolio includes configurable and all in one industrial PC series with resistive or capacitive touch screen.

Due to this extreme flexibility the product can fit perfectly the customer requirement.

The extended temperature range, fanless architecture and use of anti-vibration components are key concept that will ensure the functionality of the ESA IPC even in any extreme and harsh industrial environment.

FEATURES

- + High resolution and bright LCD available in different size
- + Extended view angle
- + Resistive or multipoint capacitive touchscreen
- + Industrial grade motherboard with multiple processor selection and fanless design
- + Extremely flexible disk drive and RAM configuration
- + RS232 – RS485 serial port

APPLICATIONS

- + Packaging Machine
- + Plastic and rubber machine
- + Steel and Wood working machine
- + CNC
- + Food processing
- + Machine Robotics

Esaware Panel IPC (EW200 SLIM)

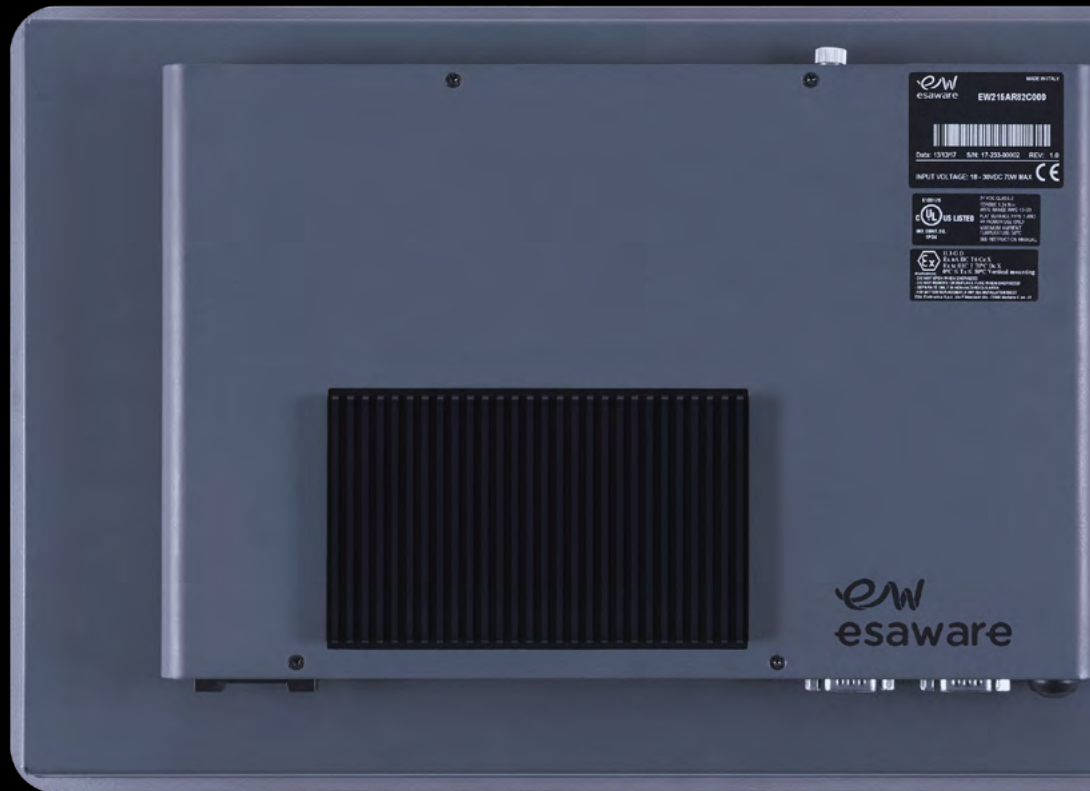
Design your own performance.

| MODEL | EW212 | EW215 | EW218 | EW222 |
|---|--|-----------------------|------------------|------------------|
| Display Size | 12,1" | 15,6" | 18,5" | 21,5" |
| Display Technology | TFT / 16,7 M | | | |
| Display Brightness (cd/m ²) | 400 | | 300 | |
| Contrast | 1000 | 500 | 1000 | 5000 |
| Viewing Angle | 88/88/88/88 | 85/85/85/85 | 85/85/80/80 | 89/89/89/89 |
| Display Resolution (pixel) | 1280X800 | 1366X768 | | 1920X1080 |
| Backlight life (hours) | 50K | | | |
| Touch Technology | Resistive (5 wires) / Capacitive (PCT 10 touches) | | | |
| Bezel /Chassis | Aluminum with PTFE non-sticking coating / Sheet Steel | | | |
| CPU Fanless Celeron 4G | Celeron Quad Core J1900 2,0 GHz (2,42GHz) | | | |
| CPU Fanless Celeron 6G | Celeron Quad Core J3455E 1,5GHz (2,30 GHz) – 10W | | | |
| CPU Fanless Intel® Core™ 4G | Intel Core i3-4010U 1,7GHz / i7-4650U 1,7GHz (3,3GHz) – 15W | | | |
| CPU Fanless Intel Core 7G | Intel Core i3-7100U 2,4 GHz / i7-7600U 2,8 GHz – 15W | | | |
| Chipset | SoC | | | |
| GPU embedded Celeron J1900 | HD Graphics | | | |
| GPU embedded Celeron J3455 | HD Graphics 500 | | | |
| GPU embedded i-core i3-4010U | HD Graphics 4400 | | | |
| GPU embedded i-code i5-7300U | HD Graphics 620 – up to 1,10 GHz | | | |
| GPU embedded i-core i7-4650U | HD Graphics 5000 | | | |
| GPU embedded i-core i7-7600U | HD Graphics 620 – up to 1,15 GHz | | | |
| RAM (Celeron J1900/J3455E) | on board 4GB DDR3L 1066/1333MHz - dual channel /up to 8GB DDR3L 1866MHz | | | |
| RAM (Intel i-Core 4G / 7G) | up to 8GB DDR3L SODIMM 1333/1600MHz 204 pin / up to 16GB DDR4 2133/1866MHz 260 pin | | | |
| RS232 / RS485 | 1x RS232 + 1x RS485 | | | |
| USB Port IP66 front | 1x -no capacitive | | | |
| USB Ports 2.0/3.0 rear | 1x 2.0 + 1x 3.0 CPU J1900/ 2x2.0 + 2x3.1 CPU J3455E 4 x 3.0 CPU Intel® Core 7G | | | |
| Ethernet Celeron J1900 / J3455E | 2x 1Gb RJ45 Intel I210 / 2x1Gb RJ45 Intel I211AT | | | |
| Ethernet iCore™ i3/i7 4G/7G | 2x 1Gb RJ45 Intel I210/I218 / 2x 1Gb RJ45 Intel I210AT/I219LM | | | |
| VGA/DP (Celeron J1900 / J3455E) | 1x / 1x (DP passive cable required) 1 x VGA + 1 x HDMI | | | |
| DP (iCore™ i3/i7 4G / 7G) | 2x (DP active cable required) / 1xVGA + 1x DP++ | | | |
| RAID 0/1 | 2xSSD/HDD CPU iCore | | | |
| Expansion Slot (J3455E / i3 / i7 7G) | 1x miniPCIe FS 1 x m.2 B 2242 1 x m.2 E 2230 | | | |
| Drives externally accessible | CFast slot (option) | | | |
| Drives (internal) | HDD min. 500GB / SSD min. 32GB / mSATA min.32GB (options) | | | |
| Power Supply (Vdc) | 15...36 (25W-15" basic) | | | |
| Consumption (W) | 25-50 | | | |
| Operating Temperature (°C) | -10 ... + 50 (non condensing) | | | |
| Storage Temperature (°C) | -20 ... + 65 | | | |
| Humidity | 90% (non condensing) | | | |
| External dimensions(W/H/D) (mm) | 340,5x238,5x66,6(max) | 436,5x285,5x66,6(max) | 503,7x324,7x62,1 | 571,7x362,7x62,1 |
| Cut-out dimensions (W/H) (mm) | 326x227 | 422,5x271,5 | 486,5x307,5 | 554,5x345,5 |
| Weight (kg) | 4,5 | 6 | 8,5 | 10,5 |
| Protection degree (front) | IP 66 | | | |
| Certifications | CE / EN61000-6-2 / EN61000-6-4 / EN60068-2-6 / EN60068-2-6/27/30 cULus (Certificate no. E189179) / EAC ATEX 2014/34/UE directive Group II Category 3 G D Zone 2/22 | | | |
| Operating Systems (32/64 bit according to CPU type) | WIN7 - WES7 - WIN8.1 - WIN10 IoT LTSC Enterprise 2016/LTSC 2019 | | | |

Esaware Panel IPC (EW200 MITX)

Design your own performance.

| MODEL | EW212 | EW215 | EW218 | EW222 |
|---|--|-----------------------|------------------|------------------|
| Display Size | 12,1" | 15,6" | 18,5" | 21,5" |
| Display Technology | TFT / 16,7 M | | | |
| Display Brightness (cd/m ²) | 400 | | 300 | |
| Contrast | 1000 | 500 | 1000 | 5000 |
| Viewing Angle | 88/88/88/88 | 85/85/85/85 | 85/85/80/80 | 89/89/89/89 |
| Display Resolution (pixel) | 1280X800 | 1366X768 | | 1920X1080 |
| Backlight life (hours) | 50K | | | |
| Touch Technology | Resistive (5 wires) / Capacitive (PCT 10 touches) | | | |
| Bezel /Chassis | Aluminum with PTFE non-sticking coating / Sheet Steel | | | |
| CPU Fanless Celeron | Celeron Quad Core J1900 2,0 GHz | | | |
| CPU Fan Intel® Core™ 3G | Intel Core i3-3120ME 2,4GHz/ i5-3610ME 2,7GHz/ i7-3610QE 2,3 GHz | | | |
| CPU Fan Intel® Core™ 6G | Intel Celeron G3900TE 2,6GHz/ Intel Core i3-6100TE 2,7GHz/ i5-6500TE 2,3GHz/ i7-6700TE 2,4 GHz | | | |
| Chipset | NM10 Atom / SoC / QM67 / Q170 | | | |
| GPU embedded | GMA3650 650MHz / HD Graphics - 4000 / HD Graphics 9G 510-530 | | | |
| RAM (Celeron Quad Core) | up to 8GB DDR3L SODIMM 1333MHz 204 pin | | | |
| RAM (Fan Intel® Core™) 3G | up to 16GB DDR3 SODIMM 1333/1600MHz 204 pin | | | |
| RAM (Fan Intel® Core™) 6G | up to 32GB DDR4 SODIMM 1866/2133MHz 260 pin | | | |
| RS232 / RS485 | 2x RS232 + 1x RS232-422-485 | | | |
| USB Port IP66 front | 1x -no capacitive- | | | |
| USB Ports 2.0/3.0 rear | 4/0 Atom - 3/1 Celeron - 4/0 iCore™ 3G – 0/4 iCore™ 6G | | | |
| Ethernet (Celeron Quad Core) | 2x 1Gb RJ45 Intel I210 | | | |
| Ethernet (Fan iCore™) 3G | 2x 1Gb RJ45 Intel 82579LM / Realtek RTL8111DL | | | |
| Ethernet (Fan iCore™) 6G | 2x 1Gb RJ45 Intel I210AT / I219LM | | | |
| VGA/DVI-D (Celeron Quad Core) | 1x / 1x | | | |
| VGA/DVI-D (Fan iCore™) 3G | 1x / 1x | | | |
| DVI-D/HDMI (Fan iCore™) 6G | 1x / 1x | | | |
| Audio - PS2 (no iCore 6G) | 1/0 (Atom-Celeron) – 1/1 (iCore 3G) | | | |
| CFast slot | 1 x external accessible slot | | | |
| Mechanical Slot (optional) | 1x PCIe x1 - 1x miniPCIe - 1x PCIe x16 – 1x PCI | | | |
| Drives – RAID 0/1 | HDD min. 500GB / SSD min. 32GB / CFast min. 4GB - Option | | | |
| Power Supply (Vdc) | 18...30 VDC (25W-15" basic) | | | |
| Consumption (W) | 25W - 65W | | | |
| Operating Temperature (°C) | -10 ... + 50 (non condensing) | | | |
| Storage Temperature (°C) | -20 ... + 65 | | | |
| Humidity | 90% (non condensing) | | | |
| External dimensions(W/H/D) (mm) | 340,5x238,5x87, (max) | 436,5x285,5x87, (max) | 503,7x324,7x83,3 | 571,7x362,7x83,3 |
| Cut-out dimensions (W/H) (mm) | 326x227 | 422,5x271,5 | 486,5x307,5 | 554,5x345,5 |
| Weight (kg) | 4,5 | 6 | 8,5 | 10,5 |
| Protection degree (front) | IP 66 | | | |
| Certifications | CE - EN61000-6-2 / EN61000-6-4 / EN60068-2-6/27/30 cULus (Certificate no. E189179) / EAC ATEX 2014/34/UE directive Group II Category 3 GD Zone 2/22 | | | |
| Operating Systems (32/64 bit according to CPU type) | WIN7 - WES7 - WIN8.1 - WIN10 IoT Enterprise LTSB 2016/ LTSC 2019 | | | |



IPC

Box



The ESA BOX PC portfolio include configurable and extremely compact industrial PC series with multiple hardware configurations.

Due to this extreme flexibility the product can fit perfectly the customer requirement.

The extended temperature range, fanless architecture and use of anti-vibration components are key concept that will ensure the functionality of the ESA IPC even in any extreme and harsh industrial environment.

Designed for Industry 4.0 and Edge computing applications.

FEATURES

- + Extreme compact size
- + Fanless architecture even with high power processor
- + Extended temperature range
- + Industrial grade mainboard with multiple processor selection
- + Extremely flexible disk drive and RAM configuration
- + Up to 4 independent ethernet ports for Industry 4.0 applications
- + RS232 – RS485 serial port

APPLICATIONS

- + Packaging Machine
- + Plastic and rubber machine
- + Steel and Wood CNC
- + Food processing Machine Robotics
- + Industry 4.0 edge computing

EW420

Rugged design.

| MODEL | EW420 |
|--|---|
| Heavy duty steel chassis | Selection ATX/APO via BIOS LED green on/off On/Off push-button LED red HDD Lockable industrial power connector Aluminium Heat-sink |
| CPU Fanless | Core i7-6700TE Quad Core 2,4 GHz Fanless Core i5-6500TE Quad Core 2,3 GHz Fanless Core i3-6100TE Dual Core 2,4 GHz Fanless Celeron G3900TE Dual Core 2,4 GHz Fanless |
| Chipset | H170 DMI 8GT/s |
| GPU embedded | HD Graphics 530 CPU icore HD Graphics 510 CPU Celeron |
| RAM | RAM up to 32GB DDR4 SODIMM 260-pin 2133 MHz |
| I/F | 2 x RS232/422/485 Sub-D 9 pin 2 x RS232 Sub-D 9 pin 4 x USB ver. 3.0 + 2x ver- 2.0 4 x Ethernet 1Gbit RJ45 - Intel 82574L 1 x DP port + 1 x DVI-I + 1 x HDMI 1 x Line In-Out / Mic In 3 x MiniPCle slot FS (one mSATA) 1 x connector GPIO 8bit 4DI/4DO |
| Drives (options) | 2x HDD (min. 500GB) /SSD (min 64GB) on extractable drawer(s) RAID 0-1 [optional] |
| Mechanical slot (opt.) | 2 x slot (PCIe x1) |
| Operating Temperature (°C) | 0... +50 (non condensing) |
| Storage Temperature (°C) | -40 ... +85 |
| Humidity | < 90% (non condensing) |
| Weight (kg) | 4,5/5,5 (0/2 slot ver.) |
| Power supply (Vdc) | 9...36 |
| Power consumption (24 Vdc – basic config – NO PCI CARDS) (W) | 55 (i7-4GB+HDD) max 56,3 without PCI 60,4 with PCI |
| Dimensions (W/H/D) (mm) | 280x230x87 / 280x230x135 (0-2 slot ver.) |
| Operating system (32/64 bit according to CPU type) | WIN7 – WES7 – WIN 8.1 – WIN 10 IoT Enterprise LTSB 2016 / LTSC 2019 |
| Protection degree | IP 20 |
| Certifications | CE / EN61000-6-2 / EN61000-6-4 / EAC |

Esaware EW410 Box IPC
Compact design. Multi-connectivity.

| MODEL | EW410NF6 | EW410NF2 |
|---|---|--|
| Aluminum Enclosure | Heavy alu extrusion chassis Aluminum heat-sink Selection ATX/APO via Bios LED green on/off On/Off push-button LED blue HDD Lockable power connector Wall/VESA/DIN rail – mounting options | Heavy alu extrusion chassis Aluminum heat-sink Selection ATX/APO via Bios LED green on/off On/Off push-button LED blue HDD Lockable power connector Wall/VESA/DIN rail – mounting options |
| CPU Fanless | Celeron Quad Core J1900 2,00 GHz | Atom Dual Core D2550 1,86 GHz |
| Chipset | SoC | NM10 DMI 2,5GT/s |
| GPU embedded | HD Graphics Resolution 1920 x 1080 DVI Resolution 2560 x 1600 VGA | GMA3650 Resolution 1920 x 1080 DVI/VGA |
| RAM | 4GB DDR3L 1066 MHz on board | 2GB DD3 1066MHz on board |
| I/F | 2 x RS232/422/485 Sub-D 9 pin 1 x RS232/422/485 8-bit DIO 9 pin 4 x USB ver. 2.0 1 x USB ver. 3.0 1 x DVI-I 4 x Ethernet 1 Gbit RJ45 – Intel I210 2 x miniPCIe slot (1x mSATA) 1 x SIM slot (RS485 Auto Direct Control) | 2 x RS232/422/485 Sub-D 9 pin 4 x USB ver. 2.0 2 x Ethernet 1 Gbit RJ45 – Intel 82574L 3 x miniPCIe slot (1x mSATA) 1 x DVI-I 1 x Line Out / Mic In 1 x CFast slot external access 1 x SIM slot (RS485 Auto Direct Control) |
| Drives options | mSATA/SSD/HDD | CFast/mSATA |
| Operating Temperature (°C) | 0 ... + 60 (non condensing) | |
| Storage Temperature (°C) | -20 ... +80 | |
| Humidity | < 85% (non condensing) | |
| Weight (kg) | 0,8 | 0,7 |
| Power supply (Vdc) | 9...36 max 20W | 9...26 max 20W |
| Dimensions (W/H/D) (mm) | 180 x 121 x 33 | 161 x 108 x 32 |
| Operating system (32/64 bit according to CPU type) | WIN7 – WES7 – WIN8.1 – WIN10 – UBUNTU 14 | XPpro – WIN7 – WES7 – WE2009 – UBUNTU 12 |
| Protection degree | IP 20 | |
| Certifications | CE / EN61000-6-2 / EN61000-6-4 / EAC | |

| MODEL | EW410NF7 |
|----------------------------|---|
| Enclosure | Heavy alu extrusion chassis Alluminium heat-sink 1x power led 1x Status led Lockable power connector Wall/VESA/DIN Rail Mounting option |
| J3455E | I/F expansion 1x mSATA FS 1x mPCIe FS 1x M.2 (2230E) 1x SIM socket - nano - |
| CPU Fanless | Intel J3455E, 2M Cache, 1.5GHz (2.3 GHz) |
| Chipset | SoC |
| Embedded GPU | HDMI: resolution up to 3840x2160 DP: resolution up to 4096 x 2160 VGA: resolution up to 1920 x 1200 |
| RAM | DDR3L 8GB SO-D SO-DIMM 1866 MHz |
| I/F | Serial: 2 x RS232/485 (DB9) Display: 1 x VGA - 1 x DP/HDMI combo Buttons: 1xPower - 1xReset Wi-Fi / 3G : Antenna 3 x Antenna Holes Ethernet: 4x I210IT x Gbe LAN (RJ45) USB: 2 x 3.0 Serial: 2 x RS232/RS422/RS485 (DB9) Expansion 1x mSATA FS 1x mPCIe FS 1x M.2 (2230E) 1x SIM slot - nano - |
| Drives options | SATA 3.0 : SSD or HDD 2.5" |
| Operating system | WIN10 IoT enterprise LTSC 2019 64bit Linux support |
| Operating temperature (°C) | -20 +60 |
| Storage temperature (°C) | -40..+85 |
| Humidity | < 95% (non condensing) |
| Weight (kg) | 0,7 |
| Power supply | 9 ~ 36 VDC |
| Dimensions (WxHxD) | 180mm x 128mm x 33mm |
| Protection degree | IP20 |
| Certifications | CE / EN 61000-6-2 / EN 61000-6-4 , FCC class A / UL |

EW327

27" Full HD TFT industrial monitor



A modern and robust glass design industrial monitor that does fit perfectly any industrial application.

The full HD resolution and bright 16 million colour display, the capacitive multitouch and the true flat design let the user create a very high level and modern user interface that does fit perfectly any industrial application.

Thanks to the 27" and full HD display several software windows can be grouped into the same page providing to the user an immediate and complete control of the machine.

FEATURES

- + 27" Full HD TFT high brightness display
- + VGA and DVI video input
- + Capacitive multitouch
- + Wide view angle

APPLICATIONS

- + Packaging Machine
- + Plastic and rubber machine
- + Steel and Wood working machine
- + CNC
- + Food processing machine
- + Robotics

EW327

Product Description.

| MODEL | EW327 |
|----------------------|--|
| Control buttons | OSD control buttons on back to adjust contrast and brightness |
| External (W x H x D) | 396.5mm x 657.5mm x 58 mm (15.61" x 25.88" x 2.28") |
| Cut out (W x H) | 380.5mm x 641.5mm (14.98" x 25.25") |
| Material | Front: Aluminum - magnesium alloy anodizing ; Back: Metal paint |
| Installation | Embedded |
| Power supply | DC 24V |
| Power | 30W |
| Video ports | VGA & DVI |
| Net weight | 9KG |
| Size | 27" Full HD TFT |
| Resolution | 1920 x 1080 |
| Color | 16.7MB |
| Display (W x H) | 336.15mm x 597.6mm (13.23" x 23.53") |
| Back light | LED |
| Pixel pitch | 0.311 x 0.311 |
| Brightness | 300cd/ m |
| Contrast | 3000 : 1 |
| View | (L)150 / (R)150 / (U)150 / (D)150 |
| Type | Multi capacitive |
| Transmittance | > 85% |
| Touch signal | USB |
| Working temperature | -0~50°C (-32~122) |
| Storage temperature | -20~60°C (-4~140) |
| Humidity | 5~95% |
| Working vibration | SSD applied: 1.5 Grms, IEC 60068 -2-64, random, 5 ~ 500 Hz, 1 hr/ axis |
| Working shock | SSD applied: 10 G, IEC 60068 -2-64 |
| EMC | CE/ FCC Class A |
| IP | IP65 front |

DIGITAL SIGNAGE MONITOR

55" and 65" Android 4K
HD industrial class digital
signage monitor



LUMIA355



LUMIA365

LUMIA355 55" and LUMIA365 65" Android 4K HD industrial class digital signage monitor combines innovative and elegant design with the highest smart performances. Engineered according to the principles of Industry 4.0, they promote production efficiency through their responsiveness and ease of using.

APPLICATIONS

- + Visualization of the industrial line efficiency and production data dashboards
- + Packaging production line
- + Textile Industry

FEATURES

Powerful hardware

- + Android 7.1, RK3288 Quad core processor
- + 4K HD industrial LED display
- + Wifi/RJ45/RS232/USB/GPIO/IR ports
- + True flat front tempered glass front
- + IP55 aluminum front and steel back
- + Capacitive touch screen or without touch screen
- + Multi Video input

Intelligent System

- + Native and web apps supported
- + Quad viewer, up to 4 source signals on one screen
- + Media player integrated
- + HTML5 browser integrated, Play and control online content
- + Energy-saving automatic backlight control

Easy use and control

- + Install and launch apps remotely
- + Operate, update, maintain remotely
- + Develop and launch your own content
- + VESA (400mm) and wall fix

Android based industrial monitor

| MODEL | | LUMIA 355CVDS000 - LUMIA355NVDS000 (no touch) | LUMIA 365CVDS000 - LUMIA365NVDS000 (no touch) |
|---------------------|-------------------------|--|---|
| Size | | 1348mm*819mm*105mm (L*W*T) | 1610mm*1000.4mm*105mm (L*W*T) |
| Color | | Front black, Industrial white back. | Front black, Industrial white back. |
| Display | Size | 55inches (LG) 4K industrial LED | 65inches (LG) 4K industrial LED |
| | Resolution | 3840*2160 | 3840*2160 |
| | Display size | 1209.6 × 680.4 mm | 1428.48 × 803.52 mm |
| | Brightness | 500cd/m2 | 500cd/m2 |
| | Contrast | 02/03/1900 12:01 | 02/03/1900 12:01 |
| | screen ratio | 01/01/1970 16:09 | 01/01/1970 16:09 |
| | Color | 16.7M (8-bit + Hi-FRC) , CIE1931 72% | 16.7M (8-bit + Hi-FRC) , CIE1931 72% |
| | View angle | 88/88/88/88 | 88/88/88/88 |
| | Respond time | 8 (Typ.)(Tr+Td) (ms) | 8 (Typ.)(Tr+Td) (ms) |
| Board | | RK3288 Quad core Cortex A17, double channel LVDS, ARM Mali-T764 GPU. TE, ASTC, AFBC memory compression, support 2160P and 4k H.264 HP 1080P@30fps video decoding | |
| | | 1.6 GHz | 1.6 GHz |
| | | RAM: 2GB | Flash: 16G |
| | | Flash: 16G | Flash: 16G |
| | | 1xTF slot | 1xTF slot |
| | | 1xGPIO | 1xGPIO |
| | | 1xIR | 1xIR |
| | | 2xRS232 | 2xRS232 |
| | | 2xUSB 2.0 | 2xUSB 2.0 |
| | | 1xRJ45 | 1xRJ45 |
| | | 1xHDMI | 1xHDMI |
| | | 1xVGA | 1xVGA |
| | | 1xWIFI | 1xWIFI |
| | | Android version 7.1 | Android version 7.1 |
| PCAP | | 55" water proof | 65" water proof |
| | Type | Projected capacitive touch screen | Projected capacitive touch screen |
| | Points | 10points | 10points |
| | Transmittance | 0.95 | 0.95 |
| | Resolution | 4096x4096 | 4096x4096 |
| | Life | 50000hours | 50000hours |
| | Touch respond time | <=3ms | <=3ms |
| | Hardness | Mohs 7 | Mohs 7 |
| Sound | | Built-in speakers | Built-in speakers |
| Power supply | | 100-240VAC,50/60HZ | 100-240VAC,50/60HZ |
| Power | | 190W | 230W |
| Working temperature | | -10°C~65°C | -10°C~65°C |
| Working humidity | | 10%-90% | 10%-90% |
| Storage temperature | | -20°C-60°C | -20°C-60°C |
| IP | | IP55 front | IP55 front |
| Main features | Customize split screen: | support 1-8 view areas | support 1-8 view areas |
| | Multi management | multi-level and users manage | multi-level and users manage |
| | Images formats | .jpg, jpeg.bmp,.png.gif. | .jpg, jpeg.bmp,.png.gif. |
| | Video formats | .avi, .mkv,.mov,.mp4,.mpg,.is,.vob,.trp,.flv,.wmv | .avi, .mkv,.mov,.mp4,.mpg,.is,.vob,.trp,.flv,.wmv |
| | Audio formats | .mp3, .wma, .ogg, .aac, .wav | .mp3, .wma, .ogg, .aac, .wav |
| | File formats | pdf, word, excel, .ppt | pdf, word, excel, .ppt |
| | Network | 3G/4G, wifi, LAN | 3G/4G, wifi, LAN |
| | On/Off | Scheduled on/off | Scheduled on/off |
| | Remote control | Volume and bright remotely control | Volume and bright remotely control |
| | U disk | support U disk import files and pictures | support U disk import files and pictu |

ERGO

All in one platform solution



ERGO is the new all-in-one machine control system by ESA. A solution designed to deliver the highest level of flexibility, ergonomics and customization. With a true flat projected capacitive multi-touch screen and a 21.5" million colors TFT display, it offers a very wide choice of configurations and customizable options, including buttons, touch keypads and even an additional 12.1" HMI. In order to maximize productivity, ERGO comes into two true flat versions: classical and 120° ergonomic. Finally, thanks to its rough design and easy installing system, it can be installed in any work environment (even the harshest ones), both in landscape and in portrait mode.

APPLICATIONS

- + Packaging Machine
- + Plastic and rubber machine
- + Steel and Wood working machine
- + CNC
- + Food processing machine
- + Robotics

FEATURES

- + Industrial Personal Computer All-in-One arm mounted
- + LCD 21.5" wide
- + Resolution 1920x1080
- + LED backlight 50 K/h
- + 16.7M colors
- + Mounting horizontal VESA 100
- + P-CAP Touch screen
- + CPU Intel® Core™ i3-4010U Dual Core 1.7GHz SoC, Fanless
- + 2x miniPCIe slots on the motherboard (mPCIe/mSATA cards)
- + RAM memory 8 GB DDR3L SO-DIMM 204 PIN 1333/1600 MHz single channel
- + SSD 256 GB SATA 2.5"
- + 1 serial port RS232
- + 4 USB (3.0) on the back , 1 on the front
- + 2 DP video ports (DP active cable required)
- + 2 Ethernet ports 10/100/1000 Mbps RJ45 - Intel I210 / I218
- + Power supply 24 VDC
- + Protection degree IP65
- + Operating Temperature 0...50°C
- + Storage Temperature -20...+65°C
- + Humidity 85% no condensing

| MODEL | Embedded ARM ERGO122 | PC Control ERGO222 | Monitor ERGO322 |
|-------------------------------------|---|--|--|
| Versions | - Touch Capacitive - Full Glass | - Touch Capacitive - Full Glass - Dual Touch Capacitive 120° + Keyboard Touch - Dual Touch Capacitive 120° + 12" HMI Touch" | - Touch Capacitive - Full Glass - Dual Touch Capacitive 120° + Keyboard Touch - Dual Touch Capacitive 120° + 12" HMI Touch" |
| General | | | |
| Bezel /Chassis | Aluminum /Sheet Steel | Aluminum /Sheet Steel | Aluminum /Sheet Steel |
| Mounting | Portrait Landscape | Portrait Landscape | Portrait Landscape |
| | VESA 100 | VESA 100 | VESA 100 |
| Power Supply (Vdc) | 12...32 VDC | 15...36 VDC | 18...30 VDC |
| Consumption (W) | 24W for ARM base+ 24W for display keyboard (if any) | 45 - 50 W for PC base + 24W for display keyboard (if any) | 40W for monitor + 24W for display keyboard (if any) |
| Operating Temperature (°C) | -10 ... + 50 (non condensing) | -10 ... + 50 (non condensing) | -10 ... + 50 (non condensing) |
| Storage Temperature (°C) | -20 ... + 65 | -20 ... + 65 | -20 ... + 65 |
| Humidity | 90% (non condensing) | 90% (non condensing) | 90% (non condensing) |
| Protection degree (all) | IP65 | IP65 | IP65 |
| Certifications | CE / UL | CE / UL | CE / UL |
| Display Size 1 | 21.5" true flat multi-touch screen | 21.5" true flat multi-touch screen | 21.5" true flat multi-touch screen |
| Display Technology | TFT / 16,7 M colors / LED backlight | TFT / 16,7 M colors / LED backlight | TFT / 16,7 M colors/ LED backlight |
| Display Brightness (cd/m²) | 300 | 300 | 300 |
| Contrast | 5000:1 | 5000:1 | 5000:1 |
| Viewing Angle H-V | 89/89/89/89 | 89/89/89/89 | 89/89/89/89 |
| Display Resolution (pixel) | 1920x1080 | 1920x1080 | 1920x1080 |
| Backlight life (hours) | 50K | 50K | 50K |
| Touch Technology | Capacitive | Capacitive | Capacitive |
| Video input | | | DVI + VGA |
| Operating systems | Linux | Windows7 - Windows10 - WES7 | |
| CPU Fanless Celeron 4G | Quad Core i.MX6 1.2 GHz Cortex A9 Linux | Celeron quad core J1900 2,0 GHz (2,42GHz) – 10W | |
| CPU Fanless Intel® Core™ 4G | | Intel Core i3-4010U 1,7GHz / i7-4650U 1,7GHz (3,3GHz) – 15W | |
| RAM | 2 GB | | |
| FLASH | 8 GB | | |
| LAN | LAN 1xGb RJ45 - 1x10/100Gb RJ45 | | |
| RAM (Celeron quad core) | | on board 4GB DDR3L 1066/1333MHz - dual channel - | |
| RAM (Fanless Intel® Core™) | | up to 8GB DDR3L SODIMM 1333/1600MHz 204 pin -single channel- | |
| RS232 / RS485 | 1x RS232/RS485 | 1x RS232 + 1x RS485 | |
| USB Ports 2.0/3.0 rear | 2x 2.0 | 1x 2.0 + 1x 3.0 cpu J1900 / 4x 3.0 cpu Intel®Core™ | 1x USB 2.0 type A – rear 1x USB type B |
| Ethernet Celeron J1900 | | 2x 1Gb RJ45 Intel I210 | |
| Ethernet i-Core™ i3/i7 | | 2x 1Gb RJ45 Intel I210/I218 | |
| VGA/DP (Celeron J1900) | | 1x / 1x (DP passive cable required) | |
| DP (i-Core™ i3/i7) | | 2x (DP active cable required) | |
| RAID 0/1 | | 2x SSD on cpu i-core | |
| Drives (internal) | | HDD min. 500GB / SSD min. 64GB / mSATA min.32GB (options) | |
| Display Size 2 (only on dual Touch) | - | 12.1" true flat multi-touch screen | 12.1" true flat multi-touch screen |
| Display Technology | | TFT / 16,7 M colors / LED backlight | TFT / 16,7 M colors/ LED backlight |
| Display Brightness (cd/m²) | | 400 | 400 |
| Contrast | | 800:1 | 800:1 |
| Viewing Angle H-V | | 80/80/65/80 | 80/80/65/80 |
| Display Resolution (pixel) | | 1920x1080 | 1920x1080 |
| Backlight life (hours) | | 50k | 50K |
| Touch Technology | | Capacitive | Capacitive |
| Operating systems | | Linux WEC7 | Linux WEC7 |
| Keyboard Extension HMI Extension | - | HTML5 Web Browser + Touch keyboard | HTML5 Web Browser + Touch keyboard |
| | - | "Capacitive HMI 12,1" + 2 Ethernet port 10/100 Mbps RJ45, + Crew + Everyware + Codesys + Esa Motion Function Blocks Library" | "Capacitive HMI 12,1" + 2 Ethernet port 10/100 Mbps RJ45, + Crew + Everyware + Codesys + Esa Motion Function Blocks Library" |
| Push button extension | up to 8 x 22 mm standard push-buttons, switches, emergency button, USB, RFID etc. | up to 8 x 22 mm standard push-buttons, switches, emergency button, USB, RFID etc. | up to 8 x 22 mm standard push-buttons, switches, emergency button, USB, RFID etc. |

* More configurations available online on our web tool configurator

RUGGED TABLET

LUMIA 7xx



The Lumia rugged tablet is ideal for highly mobile indoor and outdoor applications in any harsh environment condition.

The capacitive multitouch and sunlight viewable display will ensure the data are always available when needed.

Thanks to the scanning trigger accessory and the integrated bar code reader the product will fit perfectly any logistics and automatic store applications.

FEATURES

- + Fully rugged IP67 protection level (Water-Dust resistant)
- + Military certifications (MIL-STD810G) for vibration, shock, drop
- + Fanless
- + Capacitive 10 points multitouch
- + Rain, glove and finger-pen touch enabled
- + 8 hours operation battery life with 100% charging in less than 2.5 hours
- + Battery hotswap which enables NON-STOP working
- + Light weight

APPLICATIONS

- + Medical
- + Maintenance
- + Vehicle management
- + Logistics
- + Smart robot
- + Smart factory
- + Training
- + Wireless AVG and robot control
- + Paperless checklist
- + Augmented reality

LUMIA 704

| MODEL | LUMIA 704MTAAAR0 | |
|--------------------|---------------------------|--|
| Product Form | Type | Rugged handheld Terminal |
| | Dimension | 155.8*72*25 |
| | Weight | 292 g |
| | Device Color | black |
| LCD | Screen Size | 4 inch 3:5 |
| | Resolution | 480*800 IPS |
| | Brightness | 300Nit |
| TP | Touch Panel | Multipoint 5points Capacitive, Glass + film , Rigidity: above 7H-An-ti-scratch |
| Camera | Front | Front2.0MP |
| | Rear | 8.0MP,with flash and auto-focus |
| Speaker | Built-in | Embedded 8Ω/0.7W speaker x 1 |
| Mic | Built-in | Sensitivity:-42db, output resistance2.2kΩ |
| Earphone | Built-in | built inx 1 |
| Battery | type | polymer Li,battery loadable |
| | Capacity | 3.8V/4400mAh |
| | Endurance | 7hrs |
| CPU | Type | MT8735A Quad-core ARM® Cortex-A53 MPCore TM |
| | Speed | 1.45GHz |
| RAM | DDR3L | 2GB/ LPDDR3 |
| ROM | Emmc | 32G |
| Compass | Built-in | electronic compass |
| G_sensor | Built-in | Gravity acceleration sensor |
| WIFI | WIFI | WIFI 802.11(a/b/g/n) Frequency 2.4G+5.8G dual band WIFI, |
| Bluetooth | Built-in | BT4.0 (BLE) class1transmission distance:10m |
| 3G/4G | Built-in | CMCC 5M: LTE 1/2/3/4/5/7/17/20/38/39/40/41 WCDMA 1/2/5/8 TD-SCDMA 34/39 GSM 2/3/5/8 |
| GPS | Built-in | support GPS;Capture sensitivity:-160 dBm;Cool Start Time:<60 seconds, Hot start time:<28seconds, frequency:0.25 Hz ... 10 MHz (configurable) |
| 2D barcode scanner | Built-in | Honeywell3680 |
| TF slot | Extensive External Memory | support SDHC/SDXC x1 max: 64G |
| SIM slot | SIM card | SIMx1 |
| USB2.0 interface | data transmission | Micr usb2.0*1 OTG |
| Earphone Jack | Audio Output | φ 3.5mm standard earphone jack x1 |
| HOME key | home | HOME*1 |
| Menu Key | Menu | MENU*1, |
| Back Key | Back | BACK*1, |
| barcode | barcode | barcode *1 |
| POGO PIN | docking charger | charging function x1 |
| Power on | press key | power key x1 |
| Volume + - | press key | Volume + - x1 |
| others | press key | 0-9 number keys, #key, *key, Fn key, back, ENT key, aA key |
| Operating System | OS version | Android8.1 |
| Certificate System | IP65 | IP65 Report: Water resistance: IP-X5 |
| | CE NB | Y |
| | MIL-STD-810G | Y |
| | Battery | UN38.3,MSDS,IEC62133 |
| Enviroment | Drop Height | 1.2m composite wood floors, in operation status |
| | Operate Temperature | -10 °C to 50 °C |
| | Store Temperature | -20 °C to 60 °C |
| | Humidity | Humidity: 95% Non-Condensing |

LUMIA 705

| MODEL | LUMIA 705MTA1AR0 | |
|--------------------|---------------------------|---|
| Product Form | Type | Rugged Handheld Terminal |
| | Dimension | 156*74*17 |
| | Weight | 260 g |
| | Device Color | black |
| LCD | Screen Size | 5 inch 16:9 |
| | Resolution | 720*1280 |
| | Brightness | 300 Nit |
| TP | Touch Panel | Multitouch 5points Capacitive, Glass + Film, Rigidity: above 7H-Anti-scratch |
| Camera | Front | Front2.0MP |
| | Rear | Rear 8.0MP,with flash and auto-focus |
| Speaker | Built-in | Embedded 8Ω/0.7Wspeaker x 1 |
| Mic | Built-in | Sensitivity:-42db, output resistance2.2kΩ |
| Earphone | Built-in | built inx 1 |
| Battery | type | polymer Li-on |
| | Capacity | 3.8V/4000mAh |
| | Endurance | 7hrs |
| CPU | Type | MT8735A Quad-core ARM® Cortex-A53 MPCore TM |
| | Speed | 1.45GHz |
| RAM | DDR3L | 2GB/ LPDDR3 |
| ROM | Emmc | 64GB |
| Compass | Built-in | electronic compass |
| G_sensor | Built-in | Gravity acceleration sensor |
| Light sensor | Built-in | yes |
| range sensor | Built-in | yes |
| led indicate | Built-in | In charging led |
| WIFI | WIFI | WIFI 802.11(a/b/g/n) Frequency 2.4G+5.8G dual band WIFI, |
| Bluetooth | Built-in | BT4.0 (BLE) class 1 transmission distance:10m |
| 3G/4G | Built-in | CMCC 5M: LTE 1/2/3/4/5/7/17/20/38/39/40/41 WCDMA 1/2/5/8 TD-SCDMA 34/39 GSM 2/3/5/8 |
| GPS | Built-in | GPS;Capture sensitivity: -160 dBm; Cool Start Time: <60 seconds, Hot start time: <28seconds, frequency::0.25 Hz ... 10 MHz (configurable) |
| 2D barcode scanner | Built-in | Honeywell3680 |
| TF slot | Extensive External Memory | support SDHC/SDXC x1 max:128G |
| SIM slot | SIM card | SIMx1 |
| USB2.0 interface | data transmission | Micr usb2.0*1 OTG |
| Earphone Jack | Audio Output | 3.5mm standard earphone jack x1 |
| System HOME key | home | HOME*1 |
| Barcode | barcode | barcode *1 |
| POGO PIN | docking charger | charging function x1 |
| Power on | press key | power key x1 |
| Volume + - | press key | Volume + - x2 |
| Others | press key | MENU*1, BACK*1, CUSTOM*1 |
| Operating System | OS version | Andriod 8.1 |
| Certificate System | IP65 | IP65 Report: Water resistance:IP-X5, Dust resistance:IP-6X |
| | CE NB | Y |
| | MIL-STD-810G | Y |
| Enviroment | Battery | UN38.3,MSDS,IEC62133 |
| | Drop Height | 1.2m composite wood floors, in operation status |
| | Operate Temperature | -10 °C to 50 °C |
| | Store Temperature | -20 °C to 60 °C |
| | Humidity | Humidity: 95% Non-Condensing |

LUMIA 708 CH

| MODEL | LUMIA708CH11W00 | |
|-------------------|--|---|
| Product Form | Type | Rugged Tablet |
| | Dimension | 228*145*16.5mm |
| | Weight | 715g |
| LCD | Screen Size | 8" |
| | Resolution | 800*1280 |
| | Brightness | 450Nit |
| TP | Touch Panel | Multipoints Capacitive, Glass+Glass, Rigidity: above 7H-Anti-scratch |
| Camera | Front | 2.0MP |
| | Rear | 5.0MP |
| Speaker | Built-in | Embedded 8Ω/0.8W waterproof speakerx 1 |
| Mic | Built-in | Sensitivity:-42db, output resistance2.2kΩ |
| Battery | Type | build in polymer li-ion battery |
| | Capacity | 3.7V/8500mAh |
| | Endurance | 8Hrs |
| CPU | Type | Intel Cherrytrail Z8350 |
| | Speed | 1.44Ghz-1.92GHz |
| RAM | LPDDR3 | 4GB |
| Disk | Emmc | 64GB |
| G_sensor | build in | Gravity acceleration sensor |
| WIFI | WIFI module | WIFI 802.11(a/b/g/n/ac) Frequency 2.4G+5.8G dual band WIFI intel 3165D2WG |
| Bluetooth | build in | BT4.2 (BLE) class1 transmission distance:10m |
| 4G | build in | EC25 LTE FDD: B1/B3/B7/B8/B20/B28A WCDMA: B1/B8 GSM: B3/B8 |
| GPS | build in | U-blox NEO-7 Support :GPS; Capture sensitivity: -160 dBm;Cool Start Time:<50second, Hot start time:<28seconds, frequency: 0.25 Hz ... 10 MHz (configurable) |
| TF slot | Extensive External Memory | support TF x1 max:128G |
| USB Interface | Extend external memory and data transfer | USB2.0*1 (Host) |
| Earphone Jack | Audio Output | φ 3.5mm standard earphone jack x1 |
| DC Jack | Power | DC 5V 3A 3.5mm Power connector |
| HDMI | Video Output | HDMI 1.4a Type C x1 |
| Docking connector | pogo Pin | 12pin Pogo Pin x1 |
| Power Adaptor | Standard | AC100V ~ 240V, 50Hz/60Hz output DC 5V/3A |
| Operating System | OS version | Windows 10 IoT English |
| Certifications | IP67 | |
| | CE NB | |
| | MIL-STD-810G | |
| | Battery | UN38.3, MSDS,IEC62133 |
| | Drop Height | 1.2m |
| | Operate Temperature | -10 °C to 50 °C |
| | Store Temperature | -30 °C to 70 °C |
| Humidity | Humidity: 95% Non-Condensing | |

LUMIA 708 QM

| MODEL | LUMIA708QM11A00 | |
|--------------------|---------------------------|---|
| Product Form | Type | Rugged Tablet |
| | Dimension | 228*145*16.5mm |
| | Weight | 715g |
| LCD | Screen Size | 8" |
| | Resolution | 800*1280 |
| | Brightness | 450cd/m ² |
| TP | Touch Panel | Multipoints Capacitive, Glass+Glass, Rigidity: above 7H-Anti-scratch |
| Camera | Front | 5.0MP |
| | Rear | 13MP |
| Speaker | build in | Embedded 8Ω/0.8W waterproof speakerx 1 |
| Mic | build in | Sensitivity:-42db, output resistance2.2kΩ |
| Battery | Type | build in polymer li-ion battery |
| | Capacity | 3.7V/8500mAh |
| | Endurance | 6Hrs |
| CPU | Type | Snapdragon MSM8953(8core) |
| | Speed | 2.0GHz |
| RAM | Memory | 4GB/ LPDDR3 |
| Disk | EmmC | 64GB |
| Indicator light | build in | Indicator light of charge, red light will flash when device has low power. red long light when charging, green long light when full power |
| L-Sensor | Built-in | light Sensor *1 |
| Compass | Built-in | Compass Sensor *1 |
| Gyro Sensor | Built-in | Gyro Sensor *1 |
| G_sensor | Built-in | Gravity acceleration sensor |
| WIFI | WIFI module | WIFI 802.11 b/g/n/a/ac frequency 2.4G+5G dual band WIFI, |
| Bluetooth | build in | BT4.1(BLE) |
| 2G/3G/4G | build in | CMCC 4M: LTE B1,B3,B5,B7,B8,B20,B38,B39,B40,B41 WCDMA 1/2/5/8 GSM 2/3/5/8 |
| GPS | build in | support:GPS+Glonass;Capture sensitivity:-140 dBm:Cool Start Time:<50秒,Hot start time:<5秒,GPS frequency:1575.42MHz,Glonass frequency:1602MHZ |
| TF slot | Extensive External Memory | x1 max:128G |
| USB Interface | | standard USB 2.0x1 , type C x1(data&charging) |
| Earphone Jack | Audio Output | φ 3.5mm standard earphone jack x1 |
| DC Jack | Power | DC 5V 3A φ 3.5mm Power connector x1 |
| HDMI | Video Output | HDMI 1.4a Type C x1 |
| Extensive Slot | pogo Pin | 12pin Pogo Pin x1 |
| Operating System | OS version | Android 9.0 GMS |
| Certificate System | IP67 | |
| | CE | Y |
| | MIL-STD-810G | Y |
| | Battery | UN38.3, MSDS,IEC62133 |
| | Drop Height | 1.2m composite wood floors, in operation status |
| | Operate Temperature | -10 °C to 50 °C |
| | Store Temperature | -20 °C to 60 °C |
| | Humidity | Humidity: 95% Non-Condensing |

LUMIA 710 CH

| MODEL | LUMIA710CH11W00 | |
|---------------------|---------------------------------------|---|
| Product Form | Type | Rugged Tablet |
| | Dimension | 280*187*22mm |
| | Weight | 1014g |
| LCD | Screen Size | 10.1" |
| | Resolution | 800*1280 |
| | Brightness | 400 cd/m2 |
| TP | Touch Panel | 10 points Capacitive, Glass+Glass, Rigidity: above 7H-Anti-scratch |
| Camera | Front | 2.0MP |
| | Rear | 5.0MP |
| Speaker | Built-in | Embedded 8Ω/0.8W waterproof speaker x 1 |
| Mic | | Sensitivity:-42db, output resistance:2.2kΩ |
| Battery | Type | Lithium-ion polymer battery, removable |
| | Capacity | 3.7V/10000mAh |
| | Endurance | 8hrs |
| CPU | Type | Intel cherry Trail Z8350 |
| | Speed | 1.44Ghz-1.92GHz |
| RAM | LPDDR3 | 4GB |
| ROM | Emmc | 64GB |
| WIFI | WIFI Module | WIFI 802.11(a/b/g/n/ac) Frequency 2.4G+5.8G dual band WIFI intel 3165D2WG |
| Bluetooth | Built-in | BT4.2 (BLE) class1 transmission distance:10m |
| 4G | Built-in | EC25-EC LTE FDD: B1/B3/B7/B8/B20/B28A WCDMA: B1/B8 GSM: B3/B8 |
| GPS | Built-in | Capture sensitivity: -160 dBm; frequency: 0.25 Hz ... 10 MHz |
| TF slot | Extensive External Memory | TF x1 max: 128G |
| USB Interface | External memory and data transfer | USB2.0*1 (Host) |
| Earphone Jack | Audio Output | φ3.5mm standard earphone jack x1 |
| DC Jack | Power | DC 5V 3A φ3.5mm Power connector x1 |
| HDMI | Video Output | HDMI 1.4a Type C x1 |
| Extensive Slot | pogo Pin | 12pin Pogo Pin x1 |
| DB9 PORT | Serial port | *1 (RS232) TTL |
| RJ45 PORT | internet port | *1 10/100 |
| Certificate System | IP65 | IP65 |
| | CE-NB | YES |
| | MIL-STD-810G | YES |
| | certification of explosion protection | Ex ic IIB T4 Gc |
| | CCC | YES |
| | Battery | UN3803, MSDS,IEC62133 |
| Product Reliability | Drop Height | 80cm |
| | Operate Temperature | -10 °C to 50 °C |
| | Store Temperature | -20 °C to 60 °C |
| | Humidity | Humidity: 95% Non-Condensing |

LUMIA 710 SK

| MODEL | LUMIA710SK22W00 | |
|---------------------|---------------------------|---|
| Product Form | Type | Rugged Tablet |
| | Dimension | 280*187*22mm |
| | Weight | 1014g |
| LCD | Screen Size | 10.1 " |
| | Resolution | 1200×1920 |
| | Brightness | 330 cd/m2 |
| TP | Touch Panel | 10 points Capacitive, Glass+Glass, Rigidity: above 7H-Anti-scratch |
| Camera | Front | 2.0MP |
| | Rear | 8.0MP |
| Speaker | Built-in | Embedded 8Ω/0.8W waterproof speaker x 1 |
| Mic | | Sensitivity:-42db, Output resistance:2.2kΩ |
| Battery | Type | Lithium-ion polymer battery , removable |
| | Capacity | 7.4V/5000mAh |
| | Endurance | 6hrs |
| CPU | Type | Intel® Skylake M3-6Y30 |
| | Speed | 2.20 GHz |
| RAM | DDR3L | 8GB |
| SSD | NGFF SSD | 128GB |
| G_sensor | Built-in | Gravity acceleration sensor |
| WIFI | WIFI Module | WIFI 802.11(a/b/g/n/ac) dual frequency 2.4G+5.8G WIFI intel 3165D2WG (3.3v) |
| Bluetooth | Built-in | BT4.2 (BLE) class1 transmitted distance:10m |
| 4G | Built-in | EC25-EC LTE FDD: B1/B3/B7/B8/B20/B28A WCDMA: B1/B8 GSM: B3/B8 |
| GPS | Built-in | U-blox NEO-7,Support:GPS; Capture sensitivity:-160 dBm;Cool Start Time:<50 second, Hot start time:<28 second, Frequency:0.25 Hz ... 10 MHz (configurable) |
| TF Slot | Extensive External Memory | Support TF x1 max:128G |
| SIM Slot | SIM Slot | SIM x1 |
| Micro usb | USB2.0 | USB 2.0*1 |
| type A usb | USB3.0 | USB 3.0*1 |
| DC Jack | Power | DC 12V 4A ϕ 4.0mm Power connector x1 |
| Earphone Jack | Audio Output | ϕ 3.5mm Standard Earphone Jack x1 |
| HDMI Jack | Audio&Video Output | HDMI 1.4a Type C x1 |
| Extensive Slot | Pogo Pin | 12pin Pogo Pin x1 |
| DB9 PORT | Serial port | *1 (RS232) TTL Electrical Level |
| RJ45 PORT | Ethernet port | *1(10/100 Self-adaption) |
| Operating System | OS version | windows 10 IoT English |
| Certificate System | IP65 | IP65 |
| | CE | YES |
| | MIL-STD-810G | YES |
| | CCC | YES |
| | Battery | UN3803,MSDS,IEC62133,Aviation, Ocean shipping reports |
| Product Reliability | Drop Height | 80cm |
| | Operate Temperature | -10 °C to 50 °C |
| | Store Temperature | -20 °C to 60 °C |
| | Humidity | Humidity: 95% Non-Condensing |

LUMIA 710 QM

| MODEL | LUMIA708QM11A00 | |
|---------------------|-----------------------------------|---|
| Product Form | Type | Rugged Tablet |
| | Dimension | 280*187*22mm |
| | Weight | 1014g |
| LCD | Screen Size | 10.1" |
| | Resolution | 800*1280 |
| | Brightness | 400cd/ m2 |
| TP | Touch Panel | Multipoints Capacitive, Glass+Glass, Rigidity: above 7H-Anti-scratch |
| Camera | Front | 5.0MP |
| | Rear | 13MP |
| Speaker | build in | Embedded 8Ω/0.8W waterproof speakerx 1 |
| Mic | build in | Sensitivity:-42db, output resistance2.2kΩ |
| Battery | Type | build in polymer li-ion battery |
| | Capacity | 3.7V/10000mAh |
| | Endurance | 8 hours |
| CPU | Type | Snapdragon MSM8953(8core) |
| | Speed | 2.0GHz |
| RAM | DDR3L | 4GB |
| ROM | storage | 64GB |
| Indicator light | build in | Indicator light of charge, red light will flash when device has low power. red long light when charging, green long light when full power |
| L-Sensor | Built-in | light Sensor *1 |
| Compass | Built-in | Compass Sensor *1 |
| Gyro Sensor | Built-in | Gyro Sensor *1 |
| G_sensor | Built-in | G_sensor *1 |
| WIFI | WIFI module | WIFI 802.11 b/g/n/a/ac frequency 2.4G+5G dual band WIFI, |
| Bluetooth | build in | BT4.1(BLE) |
| 2G/3G/4G | build in | CMCC 4M: LTE B1,B3,B5,B7,B8,B20,B38,B39,B40,B41 WCDMA 1/2/5/8 GSM 2/3/5/8 |
| GPS | build in | support:GPS+Glonass;Capture sensitivity:-140 dBm;GPS frequency:1575.42MHz |
| TF slot | Extensive External Memory | x1 max:128G |
| SIM slot | SIM card | SIM card x1 |
| USB Interface | External memory and data transfer | USB 2.0x1 |
| Earphone Jack | Audio Output | φ3.5mm standard earphone jack x1 |
| DC Jack | Power | DC 5V 3A φ3.5mm Power connector x1 |
| HDMI | Video Output | HDMI 1.4a Type C x1 |
| Extensive Slot | pogo Pin | 12pin Pogo Pin x1 |
| Operation System | OS version | Android 9.0 |
| | | |
| Certificate System | IP65 | IP65 |
| | CE | Yes |
| | MIL-STD-810G | Yes |
| | Battery | UN38.3, MSDS,IEC62133 |
| Product Reliability | Drop Height | 1m |
| | Operate Temperature | -10 °C to 50 °C (-20 °C to 60 °C optional) |
| | Store Temperature | -30 °C to 70 °C |
| | Humidity | Humidity: 95% Non-Condensing |

LUMIA 710 I5

| MODEL | LUMIA710I522W00 | |
|---------------------|-----------------------------------|---|
| Product Form | Type | Rugged Tablet |
| | Dimension | 290*196*22 mm |
| | Weight | 1300g |
| LCD | Screen Size | 10.1" |
| | Resolution | 1200x1920 |
| | Brightness | 330 cd/m2 |
| TP | Touch Panel | 10 points Capacitive, Glass+Glass, Rigidity: above 7H-Anti-scratch |
| Camera | Front | 2.0MP |
| | Rear | 8.0MP |
| Speaker | Built-in | Embedded 8Ω/0.8W waterproof speaker x 1 |
| Mic | | Sensitivity:-42db, output resistance:2.2kΩ |
| Battery | Type | Lithium-ion polymer battery, removable |
| | Capacity | 7,4V/10000mAh |
| | Endurance | 10hrs |
| CPU | Type | 8th generation Intel Icore I5 |
| | Speed | 3,40GHz |
| RAM | LPDDR4 | 8GB |
| ROM | SSD | 128GB |
| WIFI | WIFI Module | WIFI 802.11(a/b/g/n/ac) Frequency 2.4G+5.8G dual band WIFI intel 3165D2WG |
| Bluetooth | Built-in | BT4.2 (BLE) class1 transmission distance:10m |
| 4G | Built-in | EC25-EC LTE FDD: B1/B3/B7/B8/B20/B28A WCDMA: B1/B8 GSM: B3/B8 |
| GPS | Built-in | Capture sensitivity: -160 dBm; frequency:0.25 Hz ... 10 MHz |
| TF slot | Extensive External Memory | TF x1 max:128G |
| USB Interface | External memory and data transfer | USB3.0*1 (Host) |
| Earphone Jack | Audio Output | φ 3.5mm standard earphone jack x1 |
| DC Jack | Power | DC 5V 3A φ 3.5mm Power connector x1 |
| HDMI | Video Output | HDMI 1.4a Type C x1 |
| Extensive Slot | pogo Pin | 12pin Pogo Pin x1 |
| DB9 PORT | Serial port | *1 (RS232) TTL |
| RJ45 PORT | internet port | *1 10/100 |
| Operating System | OS version | windows 10 IoT English |
| Certificate System | IP65 | IP65 |
| | CE-NB | YES |
| | MIL-STD-810G | YES |
| | CCC | YES |
| Product Reliability | Battery | UN3803, MSDS,IEC62133 |
| | Drop Height | 80cm |
| | Operate Temperature | -10 °C to 50 °C |
| | Store Temperature | -20 °C to 60 °C |
| | Humidity | Humidity: 95% Non-Condensing |

LUMIA 712 CH

| MODEL | LUMIA712CH12W00 | |
|-----------------------|---|---|
| Product Form | Type | 12.2" |
| | Dimension | 319.6*216*23.4 mm |
| | Weight | 1500g |
| LCD | Screen Size | 12.2" |
| | Resolution | 1920*1200 |
| | Brightness | 280Nit |
| TP | Touch Panel | 10 point capacitive, Glass+Glass, Rigidity: 7H above, anti-scratch, |
| Camera | Front | 2.0MP |
| | Rear | 5.0MP |
| Speaker | Built-in | built-in 8Ω/0.8W water-proof speaker x2 |
| Mic | Built-in | sensitivity:-42db, Output resistance:2.2kΩ |
| Battery | Type | Lithium-ion polymer, removable |
| | Capacity | 3.7V/12600mAh |
| | Endurance | 8Hrs |
| CPU | Type | Intel Cherrytrail Z8350 |
| | Speed | 1.44Ghz-1.92GHz |
| RAM | DDR3L | 4GB |
| ROM | Emmc | 128GB |
| G_sensor | Built-in | gravity sensor |
| WIFI | WIFI Module | WIFI 802.11(a/b/g/n/ac) Frequency 2.4G+5.8G dual band WIFI |
| Bluetooth | Built-in | class1 transmission distance:10m |
| 4G | Built-in | EC25-EC LTE FDD: B1/B3/B7/B8/B20/B28A WCDMA: B1/B8 GSM: B3/B8 |
| GPS | Built-in | Capture sensitivity: -160 dBm;frequency:0.25 Hz ... 10 MHz |
| TF slot | Extensive External Memory | TF x1 max:128G |
| SIM card slot | 3G/4G communication | SIM card x1 |
| USB connector | Extensive external memory and data transfer | USB 2.0*2 (4pin) Host |
| | | USB 3.0*1 |
| MICRO USB connector | USB2.0 | MICRO USB x1 |
| Earphone Jack | Audio Output | φ 3.5mm standard earphone jack x1 |
| DC Jack | Power | DC 5V 3A φ3.5mm power adaptor x1 |
| HDMI | Video Output | HDMI 1.4a x1 |
| Serial port connector | Serial Port | DB9 (RS232) x1 DB9 (RS485) x1 |
| RJ45 connector | Ethernet port | 10/100Mbps x1 |
| Extensive connector | pogo Pin | 12pin Pogo Pin x1 |
| | | power |
| volume | volume up/volume down | volume+- x2 |
| F KEY | Scanner | Code scanner(back of unit) x1 |
| program | Program Key | Self define key x2 |
| Operation System | OS version | Windows 10 IOT English; |
| Certificate System | IP65 | IP65 |
| | CE | Y |
| | MIL-STD-810G | Y |
| Product Reliability | Battery | UN38.3,MSDS,IEC62133 |
| | Drop Height | 80cm |
| | Operate Temperature | -10 °C to 50 °C |
| | Store Temperature | -20 °C to 60 °C |
| | Humidity | Humidity: 95% Non-Condensing |

LUMIA 712 SK

| MODEL | LUMIA712SK22W00 | |
|---------------------|---------------------------|--|
| Product Form | Type | Rugged Tablet |
| | Dimension | 319,6*216*23,4 mm |
| | Weight | 1500g |
| LCD | Screen Size | 12,2" |
| | Resolution | 1920x1200 |
| | Brightness | 280 cd/m2 |
| TP | Touch Panel | 10 points Capacitive, Glass+Glass, Rigidity: above 7H-Anti-scratch |
| Camera | Front | 2.0MP |
| | Rear | 5.0MP |
| Speaker | Built-in | Embedded 8Ω/0.8W waterproof speaker x 1 |
| Mic | | Sensitivity:-42db, Output resistance:2.2kΩ |
| Battery | Type | Lithium-ion polymer battery , removable |
| | Capacity | 7.4V/6300mAh |
| | Endurance | 6hrs |
| CPU | Type | Intel® Skylake M3-6Y30 |
| | Speed | 2.20 GHz |
| RAM | DDR3L | 8GB |
| SSD | NGFF SSD | 128GB |
| G_sensor | Built-in | Gravity acceleration sensor |
| WIFI | WIFI Module | WIFI 802.11(a/b/g/n/ac) dual frequency 2.4G+5.8G WIFI intel 3165D2WG (3.3v) |
| Bluetooth | Built-in | BT4.2 (BLE) class1 transmitted distance:10m |
| 4G | Built-in | EC25-EC LTE FDD: B1/B3/B7/B8/B20/B28A WCDMA: B1/B8 GSM: B3/B8 |
| GPS | Built-in | U-blox NEO-7,Support:GPS; Capture sensitivity:-160 dBm, Cool Start Time:<50 second, Hot start time:<28 second, Frequency:0.25 Hz ... 10 MHz (configurable) |
| TF Slot | Extensive External Memory | Support TF x1 max : 128G |
| SIM Slot | SIM Slot | SIM x1 |
| Micro usb | USB2.0 | USB 2.0*1 |
| type A usb | USB3.0 | USB 3.0*1 |
| DC Jack | Power | DC 12V 4A ϕ 4.0mm Power connector x1 |
| Earphone Jack | Audio Output | ϕ 3.5mm Standard Earphone Jack x1 |
| HDMI Jack | Audio&Video Output | HDMI 1.4a Type C x1 |
| Extensive Slot | Pogo Pin | 12pin Pogo Pin x1 |
| DB9 PORT | Serial port | *1 (RS232) TTL Electrical Level |
| RJ45 PORT | Ethernet port | *1(10/100 Self-adaption) |
| Operation System | OS version | windows 10 IoT English |
| Certificate System | IP65 | IP65 |
| | CE | YES |
| | MIL-STD-810G | YES |
| | CCC | YES |
| | Battery | UN3803, MSDS,IEC62133,Aviation, Ocean shipping reports |
| Product Reliability | Drop Height | 80cm |
| | Operate Temperature | -10 °C to 50 °C |
| | Store Temperature | -20 °C to 60 °C |
| | Humidity | Humidity: 95% Non-Condensing |

LUMIA 714

| MODEL | LUMIA714I511WB0 |
|-------------|---|
| OS | Windows 10 Pro/Windows 7 Pro |
| LCD | 14" IPS TFT LCD FHD (1920 x 1080) |
| | 1000nit LumiBond® display,sunlight readable |
| CPU | Intel® Core™ i5-6200U 2.3GHz~2.8GHz, Intel® Turbo Boost, 3MB Intel® Smart Cache |
| RAM | 4GB DDR4 |
| SSD | 64G SSD |
| Button | 8 buttons |
| Touch | Capacitive touch screen |
| Slots | 1 x SIM card |
| | Micro SD card slot |
| I/O | 1 x Audio and micropone |
| | 1 x DC in Jack |
| | 2 x USB 3.0 |
| | 1 x USB 2.0 |
| | 1 x HDMI |
| | 1 x Docking connector 24-pin |
| | 1 x Camera 8MP auto focus rear camera |
| | 1 x 10/100/1000 base-T ETH |
| | Wifi-Intel® Dual Band Wireless-AC 8260, 802.11ac |
| | EM7430C |
| | Bluetooth (v4.2) |
| Security | Intel® vPro™ |
| | TPM 2.0 |
| | Kensington lock |
| Power | 100-240VAC, 50 / 60Hz, 65W |
| | 2x Li-Ion battery 10.8V,3220mAh |
| | LifeSupport™ battery swappable technology |
| Dimension | 369 x 248 x 32.5 mm |
| Weight | 2.3 kg |
| Rugged | MIL-STD-810G and IP65 certification |
| | 4 inches height break proof |
| | e-Mark car certification |
| Environment | Working:-20°C ~ 60°C |
| | Storage:-50°C ~ 70°C |
| | Humidity:95% RH , non-condensing |

I/O

EW620 network remote I/O



EW620 is the new distributed Input Output system for up to 63 modules made by ESA Automation. With 10 different fieldbuses including EtherCAT, CANOpen, modBUS and a multiple configuration of both digital and analog inputs and outputs, it is the ideal solution for distributed control of field device signals. The easy integration with the ESA Automation platform consisting in HMI, control and servodrive and the guarantee of an excellent price/performance ratio mean that the product can be used in different applications and markets not only industrial. The EW620 product cabling solution called Remove Terminal Block (RTB) together with the toolless system allow easy maintenance and management of the multiple connection cables.

- + Different fieldbuses accepted thanks to the modularity of the couplers
- + Digital input or output modules up to 32 points
- + Analog input or output modules with up to 16 channels and 16 bit resolution
- + Special modules such as encoder input, thermocouples, synchronous serial input
- + RTB for contact removal without rewiring
- + Module clamping system on DIN rail easily accessible
- + Sealing ring for cable fixing

FEATURES

- + Fieldbus standard: EtherCAT o CANOpen
- + Optional Fieldbus: modBUS, ProfiNET, CC-Link
- + Working temperature -20 .. +60°C
- + Internal BUS: <1ms (128Bytes), 2ms (256Bytes), 4ms (512Bytes)
- + Number of module for each coupler: 63
- + Protection degree: IP20
- + Compliance / certification: CE | UL

APPLICATIONS

- + Industrial automation
- + Robotics
- + In-Plant production
- + Handling & Packaging

EW610 / ComRio



EW610 and COM-RIO remote I/O are designed to be housed directly on the machine. Their main features of the sturdiness and I/O density in small spaces. They are housed in sturdy metal containers with wall fixing or DIN rails. They are easy to install as they are supplied with connectors with screw-on terminals.

Each unit represents a single node which can be set via Dip-Switches. There are interesting mixes of digital input/outputs and analogue input/outputs, relay outputs, inputs for thermocouples etc.

Main features:

- + EtherCAT, Modbus RTU protocol (EW610)
- + CANOpen DS401, Modbus RTU protocol (COM-RIO)
- + Communications status LED on bus
- + Communication set via dip –switches
- + The digital inputs have a hardware filter

FEATURES

- + Stand alone compact I/O module
- + Separate power supply
- + Ready to fit in the machine body
- + Mixed digital/analog solution
- + Special module for pressure input

APPLICATIONS

- + Industrial automation
- + Robotics
- + In-Plant production
- + Handling & Packaging

| MODEL | EWDU |
|-------------------------------|------------------------------------|
| General Specifications | |
| Power Supply | 24 .. 60 Vdc |
| Control Supply | 24 Vdc |
| Nominal Current | 10 A |
| Peak Current | 20 A |
| Analogue Input | 1 +/- 10V differential |
| Digital Input | 4 PNP |
| Digital Output | 2 Insulated – 0,5A |
| Communication | RS422 – CANopen – EtherCAT |
| Control Type | Speed – Torque – Position Mode |
| Brake Resistor | Not available |
| Power Loss | @ stand by = 5 W @ I nom = 20 W |
| Mechanical | |
| Dimensions | 135 (h) x 82 (w) x 28.5 (L) mm |
| Weight | 0,4 kg |

Environmental Conditions

| | |
|----------------------|--|
| Working Temperature | 0 °C ... + 40 °C, max 55 °C at 55 °C consider derating drive's rated I by 50% |
| Stocking Temperature | -25 °C ... +85°C |
| Altitude | Up to 1000 m above sea level without de-rating. |
| Humidity | Operating: 5% ... 85% non-condensing Storage: 5% ... 95% non-condensing. |
| Vibration | Conformal to IEC60068-2-6 |
| Protection Degree | IP20 |

Standard

| | |
|---------------------------|--|
| EN 61800-3:2004 + A1:2012 | Adjustable speed electrical power drive systems - Part 3: EMC requirements and specific test methods |
| EN 61800-2 2015 | Adjustable speed electrical power drive systems - Part 2: General requirements - Rating specifications for low voltage adjustable speed a.c. power drive systems |
| EN 61800-5-1 (2007) | Adjustable speed electrical power drive systems - Part 5-1: Safety requirements - electrical, thermal and energy requirements |
| 2014/30/EU | European Directive on electromagnetic compatibility |
| 2014/35/EU | European Low Voltage Directive |
| 2011/65/EU | European RoHS Directive |

EWDL

ESA Servo Package Low Power



the new esaware drive low power (EWDL) with the esaware motors (EWML) made the servo-package solution based on the EtherCAT fieldbus designed as an excellent performance/price powered at 230 Vac and rated up to 1 kW.

Available in the 3 sizes of 100W, 400W and 750W nominal power, this family drive allows a decentralized motion control approach, executed by EtherCAT fieldbus or CANOpen DS402.

Inside offers a control algorithm with very fast sampling, advanced speed, torque and position loop controls plus the addition of filters for correct system setting. These ensure fast system response times, high accuracy and efficiency.

The EWDL series also offers features such as anti-vibration, automatic in-line setting, preselectable positioning, stand-alone programs with integrated motion control and more.

The configuration wizard on the ESA Servo Suite tool optimizes inertia detection for accuracy and allows you to quickly set control parameters and minimize commissioning time.

UL certification and STO safety features available on EWDL reduce time and cost, no need additional cabling.

FEATURES

- + Incremental Encoder feedback 2500ppr
- + FieldBUS: EtherCAT or CANopen
- + 8 digital input / 4 digital output
- + 6 operation mode conformal EtherCAT standards
- + IP 20 Protection Degree
- + Safety Standards – Safe Torque Off
- + Standards: CE, UL, UR

APPLICATIONS

- + Packaging
- + Position Tables
- + Delta Robot X-Y
- + Polisher, Conveyor
- + Industrial Automation

Technical Characteristics

| MODEL | EWDL2S20x250000 | EWDL2S40x250000 | EWDL2S70x250000 |
|-------------------------------|---|---------------------------|---------------------------|
| General Specifications | | | |
| Input Power Main Circuit | Single / Three-phase, 200~240VAC ±10%, 50/60Hz | | |
| Input Power Control Circuit | Single, 200~240VAC ±10%, 50/60Hz | | |
| Nominal Current (A) | 1,75 | 3 | 4,5 |
| Peak Current (A) | 5,25 | 9 | 13,5 |
| Withstand Voltage | Primary to earth: withstand 1500 VAC, 1 min, (Leakage current: 20 mA) [220V Input] | | |
| Control Method | PWM Sinusoidal wave drive | | |
| Analogue Input | 2 inputs (12Bit A/D:2 input) – Only for CANopen Version - | | |
| Digital Input | 8 optical isolated multi function inputs, 5-24VDC, 20mA | | |
| Digital Output | 4 optical isolated multi function outputs, 5-24VDC, 20mA | | |
| Communications | RS-232 (for configuration) – EtherCAT-CANopen | | |
| Operation Mode (EtherCAT) | Profile Position (PP) – Profile Velocity (PV) – Torque Profile (TQ) – Cyclic Synchronous Position (CSP) – Cyclic Synchronous Velocity (CSV) – Homing (HM) – Q Program | | |
| Front Panel | 4 keys (MODE, UP, DOWN, SET) , 5-digit LED Display | | |
| Regeneration Resistor | Built-in regenerative resistor (external resistor is also enabled.) | | |
| Additional Features | Simple Soft PLC QProgram based on SCL | | |
| Mechanical | | | |
| Dimensions | W.41 x D.145 x H.150 (mm) | W.55 x D.145 x H.150 (mm) | W.65 x D.176 x H.150 (mm) |
| Weight | 0,89 kg | 1,21 kg | 1,63 kg |

Environmental Conditions

| | |
|-----------------------|---|
| Working temperature: | 0°C to 50°C (If the ambient temperature of servo drive is higher than 45°C, please install the drive in a wellventilated location) |
| Stocking temperature: | 20°C .. + 65°C |
| Altitude | Lower than 1000m |
| Humidity | 10 to 85%RH or less both Operating and Storage |
| Vibration | 9,8m/s ² or less, 10 - 60Hz (Do not use continuously at resonance frequency) |
| Protection Degree | IP20 |

Standard

| | |
|---------------------------|---|
| EN 61800-3:2004 + A1:2012 | Adjustable speed electrical power drive systems - Part 3: EMC requirements and specific test methods |
| EN 61800-5-1 (2007) | Adjustable speed electrical power drive systems - Part 5-1: Safety requirements - electrical, thermal and energy requirements |
| 2014/30/EU | European Directive on electromagnetic compatibility |
| 2014/35/EU | European Low Voltage Directive |
| 2011/65/EU | European RoHS Directive |
| UL | Power Conversion Equipment UL508C |
| STO | afety Torque Off according to EN ISO 13849 |

miniECO+

Best performance to cost ratio



miniECOplus drive is designed as an excellent performance/price compromise to control small/medium size brushless servomotors powered at 230 Vac and rated up to 1 kW.

Available in the size of 4 A nominal current, this drive allows a decentralized motion control approach, executed by CANopen DS402 or ModBUS fieldbus. Inside has a double CPU for high speed response with a firmware set-up functions like:

- + Pulse positioner
- + Analogue control
- + Fieldbus ethernet based control
- + Emulated Encoder

Different feedback input from the brushless servomotors like incremental encoder or absolute BiSS, for an high resolution positioning.

Key point of the new miniECO servo drive is the easy to set-up; thanks to the drive watcher software you are able to set-up the motor parameter with one digit only. The best performances of the drive and motor combinations are guaranteed by our skilled technical people that have already set-up into the firmware drive all ESA motor database and tested all configurations. STO Safety Functions on board reduce time and cost, no need additional cabling.

FEATURES

- + Feedback Incremental Encoder or BiSS absolute
- + CANopen DS402 - Modbus RTU
- + 2 digital Inputs / 4 digital output
- + 2 analog input +/- IOV differential
- + Protection Level: IP20
- + Standards: CE and cUL
- + STO Safety Torque Off SIL2 integrated

APPLICATIONS

- + Packaging Machine
- + Position table
- + Delta robot X-Y
- + Conveyor
- + Industrial automation

Technical Characteristics

| MODEL | 9XECO2S0408U | 9XECO2S0409U |
|-------------------------------|---|--------------|
| General Specifications | | |
| Input Power Main Circuit | Single / Three-phase, 200-240VAC ±10%, 50/60Hz | |
| Input Power Control Circuit | Single, 24VDC ±15% | |
| Nominal Current (A) | 4 | 4 |
| Peak Current (A) | 8 | 9 |
| Control Method | PWM Sinusoidal wave drive | |
| Analogue Input | 2 inputs (12Bit 0-10V and +/-10V) | |
| Digital Input | 2 optical isolated +24 Vdc (DIR / PULSE) | |
| Digital Output | 3 optical isolated outputs Drive OK, EOJ, Brake, 5-24VDC, 50mA | |
| Communications | RS-485 – CANopen - ModBUS | |
| Front Panel | 2 keys (MODE, SET) , 2-digit LED Display | |
| Regeneration Resistor | Built-in regenerative resistor (external resistor is also enabled.) | |
| Standard Functions | Analog Input, Pulse | |
| Additional Features | DivENC board or BiSS Board | |
| Mechanical | | |
| Dimensions | W.68 x D.126 x H.161 (mm) | |
| Weight | 1.06 | |

Environmental Conditions

| | |
|-----------------------|---|
| Working temperature: | 0 ... + 40 (de-rate by 50% up to 55°C) |
| Stocking temperature: | -25°C .. + 85°C |
| Altitude | Up to 1000 m above sea level without derating |
| Humidity | 5 to 95%RH or less both Operating and Storage |
| Vibration | 9,8m/s ² or less, 10 - 60Hz (Do not use continuously at resonance frequency) |
| Protection Degree | IP20 |

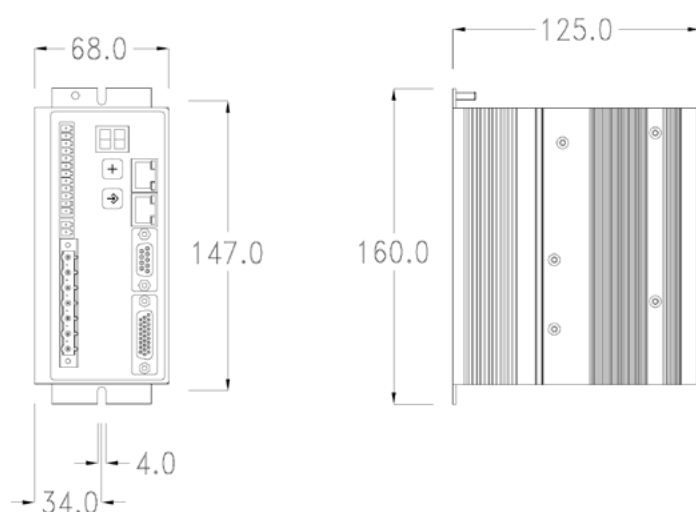
Standard

| | |
|-------------------------------|---|
| 2014/35/UE - 2014/35/EU | Direttiva Bassa Tensione / Low Voltage Directive / Directive Basse Tension / Niederspannungsrichtlinie / Directiva de Baja Tensión: |
| 2014/30/UE - 2014/30/EU | Direttiva EMC / EMC directive / Directive CEM / EMV-Richtlinie / Directiva EMC: |
| 2011/65/UE – 2011/65/EU | Direttiva RoHS / RoHS Directive / Directive RoHS / RoHS-Richtlinie / Directiva RoHS: |
| CEI EN 61800-3 2005 + A1:2013 | EMC requirements and specific test methods |
| CEI EN 61800-2 1999-2009 | General requirements. Rating specifications |
| CEI EN 61800-5-1 2009 | Safety requirements. Electrical, thermal and energy |
| UL Listed | File number E468356 |

Order Code

| Order Code | Description |
|-------------------------------------|---|
| 9 x ECO x x x x x x x | |
| Drive Family | 9XECO |
| Power Supply | 2 230 Vac |
| Version | S mini ECO Plus |
| Nominal Current | 0408 4 A nom. / 8 A pk (1,05kW @ 230V) 0409 4 A nom. / 9 A pk (1,05kW @ 230V) |
| Options | U Standard - UL Certified 12 Option - Encoder Repeater 18 Option - BiSS Encoder input |

Dimensions



ECO TECH

Smart Control.
Simple Design.



ECO Tech drive is capable of controlling a wide range of brushless motors starting from 0.7 up to 1000 Nm and also is ready to pilot the asynchronous motors, thanks the special algorithm design.

Available in a size range from 4 A to 60 A nominal current, with a voltage supply from 230 Vac to 400 Vac this drive allows a decentralized motion control approach, executed by several fieldbuses available like EtherCAT, CANopen DS402, ModBUS RTU.

The capability to accept different feedback device like incremental encoder, resolver, absolute encoder and also Hiperface DSL® provide a high-resolution response in the positioning mode.

The mechatronic functions implemented allow non-interpolated single axis or multiple axis applications to perform movements directly on the Drive, even with complex laws of motion. This feature makes it possible to use a PLC or operator panel without an actual axis board, thus optimizing the application from a cost-effective view point as well.

Easy set-up and simple commissioning are guarantee by a special firmware design with one-digit set-up for the motor combination. Finally, a simple Safety Stop circuit inside of the ECO Tech drive reduce the timing to connect and cost

FEATURES

- + Feedback: standard Incremental Encoder, optional DSL absolute feedback or resolver
- + Fieldbus: CAN DS402, EtherCAT or ModBUS RTU
- + 12 digital Inputs / 4 digital output
- + 2 analog input +/- 10 V differential
- + Protection Level: IP20
- + Standards: CE and UL (only for ext range)
- + Safety Torque Off circuit integrated
- + High overload capability

APPLICATIONS

- + Industrial automation
- + Position table
- + Delta robot X-Y
- + Conveyor
- + Industrial automation

230Vac Voltage supply

| MODEL | 9XEKO2T0410x | 9XEKO2T0615x |
|-------------------------------|---|-----------------------------|
| General Specifications | | |
| Input Power Main Circuit | Single / Three-phase, 200~240VAC ±10%, 50/60Hz | |
| Input Power Control Circuit | Single, 24VDC ±15% | |
| Nominal Current (A) | 4 | 6 |
| Peak Current (A) | 10 | 15 |
| Control Method | PWM Sinusoidal wave drive | |
| Analogue Input | 2 inputs (12Bit 0-10V and +/-10V) | |
| Digital Input | 12 optical isolated +24 Vdc (Configurable) | |
| Digital Output | 4 optical isolated outputs 500 mA + 1 Drive OK relay 100mA | |
| Communications | RS-485 – CANopen - ModBUS | |
| Front Panel | 2 keys (MODE, SET) , 2-digit LED Display | |
| Regeneration Resistor | Built In 68 Ohm 100 W (external is also available) | |
| Standard Functions | Analog Input, Pulse, SAP, MSQ, Electronic Gearbox, electronic CAM | |
| Additional Features | EtherCAT Board, DSL Board | |
| Mechanical | | |
| Dimensions | H. 186 x L. 68 x D.150 (mm) | H. 186 x L. 82 x D.150 (mm) |
| Weight | 1.3 kg | 1.5 kg |

400Vac Voltage supply

| MODEL | 9XEKO4T0410x | 9XEKO4T0512x | 9XEKO4T1020x | 9XEKO4T2040x | 9XEKO4T2550x | 9XEKO4T3090x | 9XEKO4T60180x |
|-----------------------------|---|-----------------------------|---|-------------------------------|-------------------------------|--------------|-------------------------------|
| Input Power Main Circuit | Three-phase, 400VAC ±10%, 50/60Hz | | | | | | |
| Input Power Control Circuit | +24 Vdc – 0.5 A | | +24 Vdc – 0.75 A | | +24 Vdc – 1 A | | +24 Vdc – 2 A |
| Nominal Current (A) | 4 | 5 | 10 | 20 | 25 | 30 | 60 |
| Peak Current (A) | 10 | 12 | 20 | 40 | 50 | 90 | 180 |
| Control Method | PWM Sinusoidal wave drive | | | | | | |
| Analogue Input | 2 inputs (12Bit 0-10V and +/-10V) | | | | | | |
| Digital Input | 12 optical isolated +24 Vdc (Configurable) | | | | | | |
| Digital Output | 4 optical isolated outputs 500 mA + 1 Drive OK relay 100mA | | | | | | |
| Communications | RS-485 – CANopen - ModBUS | | | | | | |
| Front Panel | 2 keys (MODE, SET) , 2-digit LED Display | | | | | | |
| Regeneration Resistor | Built In 150 Ohm 100 W (external is also available) | | Built In 150 Ohm 150 W (external is also available) | | external | | |
| Standard Functions | Analog Input, Pulse, SAP, MSQ, Electronic Gearbox, electronic CAM | | | | | | |
| Additional Features | EtherCAT Board, DSL Board | | | | | | |
| Mechanical | | | | | | | |
| Dimensions | H. 227 x L. 73 x D.190 (mm) | H. 227 x L. 87 x D.190 (mm) | H. 270 x L. 104 x D. 224 (mm) | H. 270 x L. 104 x D. 224 (mm) | H. 390 x L. 140 x D. 250 (mm) | | H. 487 x L. 216 x D. 250 (mm) |
| Weight | 2.2 kg | 2.5 kg | 4.2 kg | 4.2 kg | 8.5 kg | 9.7 kg | |

Technical Characteristics

480Vac Voltage supply

| MODEL | ECO4T0410xxxEXTU | ECO4T0512xxxEXTU | ECO4T0615xxxEXTU |
|-------------------------------|---|------------------|------------------|
| General Specifications | | | |
| Input Power Main Circuit | Single / Three-phase, 230 – 400 – 480 Vac \pm 10%, 50/60Hz | | |
| Input Power Control Circuit | 24 Vdc | | |
| Nominal Current (A) | 4 | 5 | 6 |
| Peak Current (A) | 10 | 12 | 15 |
| Control Method | PWM Sinusoidal wave drive | | |
| Analogue Input | 2 inputs (12Bit 0-10V and +/-10V) | | |
| Digital Input | 12 optical isolated +24 Vdc (Configurable) | | |
| Digital Output | 4 optical isolated outputs 500 mA + 1 Drive OK relay 100mA | | |
| Communications | RS-485 – CANopen - ModBUS | | |
| Front Panel | 2 keys (MODE, SET) , 2-digit LED Display | | |
| Regeneration Resistor | Built In 150 Ohm 100 W (external is also available) | | |
| Standard Functions | Analog Input, Pulse, SAP, MSQ, Electronic Gearbox, electronic CAM | | |
| Additional Features | EtherCAT Board, DSL Board | | |
| Mechanical | | | |
| Dimensions | H. 227 x L. 75 x D.190 (mm) | | |
| Weight | 2,2 kg | 2,5 kg | 2,6 kg |

Environmental Conditions

| | |
|-----------------------|---|
| Working temperature: | 0 ... + 40 (de-rate by 50% up to 55°C) |
| Stocking temperature: | -25°C .. + 85°C |
| Altitude | Up to 1000 m above sea level without derating |
| Humidity | 5 to 95%RH or less both Operating and Storage |
| Vibration | 9,8m/s ² or less, 10 - 60Hz (Do not use continuously at resonance frequency) |
| Protection Degree | IP20 |

Standards

| | |
|-------------------------------|---|
| 2014/35/UE - 2014/35/EU | Direttiva Bassa Tensione / Low Voltage Directive / Directive Basse Tension / Niederspannungsrichtlinie / Directiva de Baja Tensión: |
| 2014/30/UE - 2014/30/EU | Direttiva EMC / EMC directive / Directive CEM / EMV-Richtlinie / Directiva EMC: |
| 2011/65/UE – 2011/65/EU | Direttiva RoHS / RoHS Directive / Directive RoHS / RoHS-Richtlinie / Directiva RoHS: |
| CEI EN 61800-3 2005 + A1:2013 | EMC requirements and specific test methods |
| CEI EN 61800-2 1999-2009 | General requirements. Rating specifications |
| CEI EN 61800-5-1 2009 | Safety requirements. Electrical, thermal and energy |
| UL Listed | File number E468356 (only for Extended Range version) |

M4
BRK +
BRK -

CN1
+24V
OV24
OK
TEN
IEN
REF
REF/
OV
EXTREF
PULSE
DIR
CONCLR

M1
L1
L2
L3

M5
HVDC+
HVDC-

M2
W
V
U
SH

CN7
L/A
IN
RUN
L/A
OUT
ERR

CN8
C
N
1
0

DSL +
DSL -
SH
BRK +
BRK -
SH
DSL OK
DSL ERROR

FIELD BUS

ESN

ESA elettronica S.p.A.  

Cod. 9XECC4T0512E25
Sp. MT A042
Rev. 10 5.25 RM 4.1 S/N 0993
Opt. ETHERCAT+DSL

| | | |
|---|--|-----------------------------------|
| AC-INPUT 400 V±10% 50/60Hz 3 Phase - 5.5 AMPS | AC-OUTPUT 370V ±10% 3 Phase 2.7 kW A 5.0 | Made in Italy Date: 17/05/2017 |
|---|--|-----------------------------------|

EWDB

ESA Integrated Servodrive



EWDB Motor Integrated Servo-Drive is a synchronous servo motor with an integrated drive control, combine compact dimensions with space-saving machine design by eliminating a drive in a cabinet.

The drive, powered at low voltage with 24 to 60 Vdc power supply simplify the connections structure of the axis with simple connectors. The dynamic performance and the flexibility of the implemented mechatronic functions extend its use in various applications on the machine.

The EWDB is based on motors with 60 mm flange, torque from 0.7 to 1.3 Nm with or without integrated gearbox. Despite the thrust integration and on-board

housing of the motor, which is typically a source of heat, the drive does not need to be downgraded in terms of both performance and power delivered to the motor, and this is due to a sophisticated engineering solution. Thanks to the integrated feedback, the product has good speed accuracy and position control.

EWDB has 4 industrial water-resistant connectors at the rear, 2 at the top for fieldbus communication such as CANOpen (standard), EtherCAT or EthernetIP, and 2 at the bottom for I/O connections and power supply.

Commissioning is the easiest as possible thanks to the complete characterization of the motor.

FEATURES

- + SinCos Absolute single turn Encoder
- + FieldBUS: EtherCAT, CANopen, EthernetIP
- + 4 digital input
- + IP 65 Protection Degree
- + Standards: CE

APPLICATIONS

- + Packaging Machine
- + Handled
- + AGV
- + Life & Science
- + Setting machine

| MODEL | EWDB1210xx0A00 | EWDB1220xx0A00 |
|-----------------------------|--|------------------------|
| Drive Section | | |
| Input Power Main Circuit | From 24Vdc to 60Vdc – All data referred to 48Vdc +/-10% | |
| Input Power Control Circuit | 24Vdc | |
| Output Current | 10A | |
| Peak Current (for 2 s) | 20A | |
| Control Method | PWM Sinusoidal wave drive | |
| Analogue Input | no | |
| Digital Input | 4 x +24 Vdc (Drive Enable – Limit Switch 1, 2 – Homing) | |
| Digital Output | no | |
| Status Led | For status and alarms warning | |
| Communication | RS-485 (for configuration) – CANopen – EtherCAT - ProfinetIO | |
| Protection | I ² T, thermal | |
| Brake management | Integrated; immediate stop or in ramp mode (optional) | |
| Configuration drive | With Drivewatcher Software | |
| Power Loss | 7,2W @ stand-by – 24,3W @ I nominal | |
| Motor Section | | |
| Stall Torque | 0.7 Nm | 1,3 Nm |
| MaxTorque | 2.4 Nm | 4 Nm |
| Rated Speed | 3500 rpm | 3000 rpm |
| Max Mechanical Speed | 6000 rpm | 6000 rpm |
| Motor Inertia | 0.13 kgcm ² | 0.23 kgcm ² |
| Voltage Constant +/- 5% | 6 V/Krpm | 8 V/Krpm |
| Torque Constant +/- 5% | 0.1 Nm/A | 0.132 Nm/A |
| Flange | 60 | |
| Dimensions | | |
| [Interaxis x Centering] | 1.63 x C.40 mm | |
| Weight | 1,8 | 2,3 |
| Weight with brake | | |
| Connection Type | Connectors M17 for power and M12 for signal / fieldbus | |

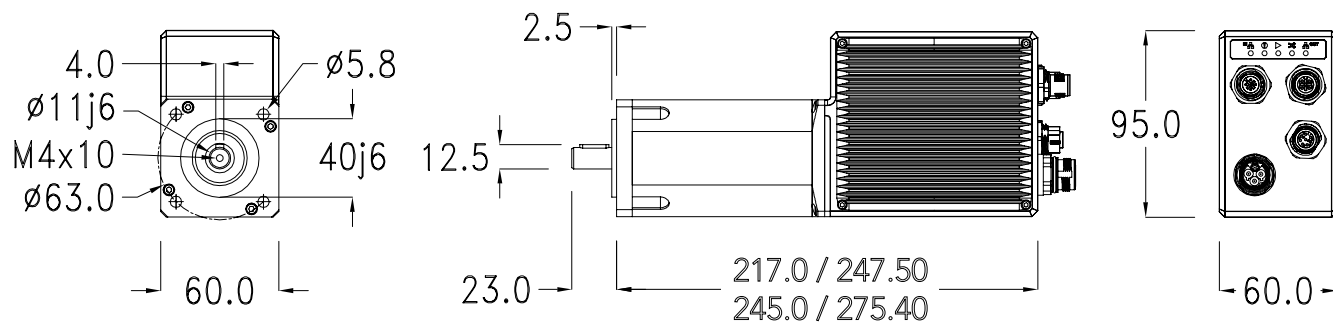
Environmental Conditions

| | |
|-----------------------|---|
| Working temperature: | 0°C to 40°C |
| Stocking temperature: | -20°C .. + 65°C |
| Altitude | Lower than 1000m |
| Humidity | 5 to 85%RH or less both Operating and Storage |
| Vibration | 9,8m/s ² or less, 10 - 60Hz (Do not use continuously at resonance frequency) |
| Protection Degree | IP65 |

Standard

| | |
|-------------------------------|---|
| 2014/35/UE - 2014/35/EU | Direttiva Bassa Tensione / Low Voltage Directive / Directive Basse Tension / Niederspannungsrichtlinie / Directiva de Baja Tensión: |
| 2014/30/UE - 2014/30/EU | Direttiva EMC / EMC directive / Directive CEM / EMV-Richtlinie / Directiva EMC: |
| 2011/65/UE – 2011/65/EU | Direttiva RoHS / RoHS Directive / Directive RoHS / RoHS-Richtlinie / Directiva RoHS: |
| CEI EN 61800-3 2005 + A1:2013 | EMC requirements and specific test methods |
| CEI EN 61800-2 1999-2009 | General requirements. Rating specifications |
| CEI EN 61800-5-1 2009 | Safety requirements. Electrical, thermal and energy |

Dimensions



Order Code

| | 1 | 5 | 6 | 7 | 8 | 9 | 10 | 11-12 | 13 | 14-15 | |
|-----------------------------------|---|---|---|---|---|---|----|-------|----|-------|--|
| EWD | x | x | x | x | x | x | x | x | x | x | |
| Products | | | | | | | | | | | |
| B = Drive on Motor | | | | | | | | | | | |
| Supply Voltage (SV) | | | | | | | | | | | |
| 1 = 24 Vdc a 60 Vdc | | | | | | | | | | | |
| Motor Size - Flange (MSF) | | | | | | | | | | | |
| 2 = Flange 60 | | | | | | | | | | | |
| Motor Size - Torque (MST) | | | | | | | | | | | |
| 1 = 0,7 Nm 2500rpm | | | | | | | | | | | |
| 2 = 1,3 Nm - 3000 rpm | | | | | | | | | | | |
| Brake (B) | | | | | | | | | | | |
| 0 = No Brake | | | | | | | | | | | |
| 1 = Brake Fitted | | | | | | | | | | | |
| Fieldbus (FT) | | | | | | | | | | | |
| A = Can Open DS 402 | | | | | | | | | | | |
| D = Profinet IO | | | | | | | | | | | |
| I = Ethernet/IP | | | | | | | | | | | |
| E = EtherCAT (in develop) | | | | | | | | | | | |
| Feedback (FB) | | | | | | | | | | | |
| A = Absolute SinCos Encoder | | | | | | | | | | | |
| B = Hall Sensors | | | | | | | | | | | |
| Mechanical Interface (MEI) | | | | | | | | | | | |
| A4 = Flange 40/63, shaft 9x25 | | | | | | | | | | | |
| 00 = Flange 40/63, shaft 11x23 | | | | | | | | | | | |
| 48 = Flange 50/70, shaft 14x30 | | | | | | | | | | | |
| Gearboxes (GEA) | | | | | | | | | | | |
| A = Without Gearbox | | | | | | | | | | | |
| B = With Gearbox | | | | | | | | | | | |
| Special (SPC) | | | | | | | | | | | |
| 00 - No Special | | | | | | | | | | | |
| xx - Special Code | | | | | | | | | | | |



SERVO MOTORS

EWML Brushless Servo Motors



Esaware motor made by 3 different mechanical flange size, 40, 60 and 80mm and 3 power level 100W, 400W, 750W; inside an high performance encoder ensure well accuracy and stability.

Low cogging rotors built for power, speed and accuracy

- + High energy magnets provide enhanced peak torque
- + Skewed magnets minimize cogging for smooth speed control and accurate positioning
- + Double bonded magnets and precision balanced, for smooth reliable high speed performance

The simplicity of mechanical construction and only the optional brake make the product very economical, which can be combined with all gearboxes on the market.

CE, RoHS and UL certifications complete the product, making it available for the various reference markets.

FEATURES

- + Encoder 2500ppr on board
- + High torque in a small package:
- + 40mm, 60mm and 80mm flanges
- + Low cost non sealed connectors,
- + Low cogging design
- + Standard brake option
- + Shaft seal
- + IP65 protection level
- + All motors are CE, RoHS, and UL recognized

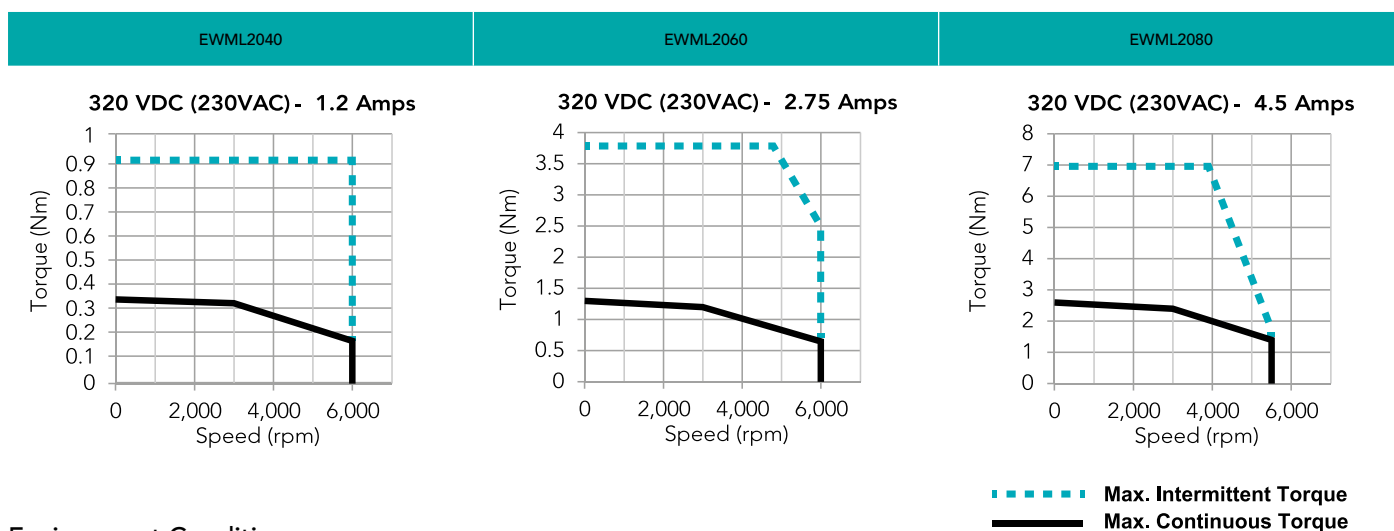
APPLICATIONS

- + Textile
- + Packaging
- + Industrial Equipment
- + Delta Robot X-Y
- + Wood Working
- + Semiconductor

Technical Characteristics

| MODEL | EWML2040EDx00 | EWML2060EDx00 | EWML2080EDx00 |
|------------------------------------|--------------------------|-------------------------|------------------------|
| General Specifications | | | |
| Rated Output Power | 100W | 400W | 750W |
| Rated Speed | 3000 rpm | | |
| Max. Mechanical Speed | 6000 rpm | | |
| Rated Torque | 0,32 Nm | 1,27 Nm | 2,4 Nm |
| Continuous Stall Torque | 0,34 Nm | 1,27 Nm | 2,6 Nm |
| Peak Torque | 0,93 Nm | 3,8 Nm | 6,9 Nm |
| Rated Current | 1,2 A (rms) | 2,7 A (rms) | 4,5 A (rms) |
| Continuous Stall Current | 1,27 A (rms) | 2,7 A (rms) | 4,9 A (rms) |
| Peak Current | 3,6 A (rms) | 8,1 A (rms) | 13,5 A (rms) |
| Inertia | 0,0428 kgcm ² | 0,272 kgcm ² | 0,89 kgcm ² |
| Inertia - With Brake Option | 0,0494 kgcm ² | 0,326 kgcm ² | 0,97 kgcm ² |
| Voltage Constant +/- 5% | 16,6 V/krpm | 29 V/krpm | 36,6 V/krpm |
| Torque Constant +/- 5% | 0,271 Nm/A | 0,484 Nm/A | 0,543 Nm/A |
| Numero di poli | 8 | 8 | 8 |
| Mechanical | | | |
| Flange | 40 mm | 60 mm | 80 mm |
| Dimensions [Interaxis x Centering] | 1.46 x C.30 mm | 1.70 x C.50 mm | 1.90 x C.70 mm |
| Shaft Dimensions [DxL] | 8 x 25 mm | 14 x 30 mm | 19 x 40 mm |
| Weight | 0,55 kg | 1,4 kg | 2,6 kg |
| Weight with Brake | 0,8 kg | 1,9 kg | 3,4 kg |

Curves



Environment Conditions

| | |
|-----------------------|--|
| Working temperature: | 0°C to 40°C |
| Stocking temperature: | -20°C .. + 80°C |
| Altitude | Lower than 1000m |
| Humidity | 85%RH or lower (free from condensing) both Operating and Storage |
| Vibration | 49 m/s ² |
| Protection Degree | IP65 |

Standards

| | |
|------------|-------------------------------------|
| 2014/35/EU | European Low Voltage Directive |
| EN 60034-1 | Rotating electrical machines part 1 |
| EN 60034-5 | Rotating electrical machines part 5 |
| 2011/65/EU | European RoHS Directive |
| UL | (cURus) standards |

SERVO MOTORS

Standard and customizing motors



9MDSM Series brushless servomotors from ESA combine exceptional precision and motion quality, high dynamic performance and very compact dimensions. A large set of torque / speed characteristics, options and customization possibilities are available, making 9MDSM Series servomotors the ideal solution for most servosystems' applications.

FEATURES

- + Style according to IEC 34-7
- + Protection type IP65
- + Natural Cooling or with servo fan in option
- + Safety brake like option
- + CE & UL Certifications

APPLICATIONS

- + Life Science Diagnostic
- + Tooling Machines
- + Pulp & Paper
- + Packaging
- + Aerospace
- + Continuous Process

| Motor Type | Permanent magnet synchronous servomotors |
|----------------|--|
| Power Range | 0.1 kW to 60 kW |
| Torque Range | 0.19 Nm to 320 Nm |
| Speed Range | 0 to 6000 rpm |
| Voltage supply | 24V – 48 V – 230 V – 400 V |
| Feedback | Incremental Encoder, Resolver, absolute feedback |
| Connections | M15 – M17 – M23 – M40 Connectors |

Technical Data

Size 0

| Description Winding Code | Symbol | Motor UM | 9MDSM504 | | 9MDSM505 | |
|-----------------------------|------------------|--------------------|----------|-------|----------|------|
| | | | 1 | 3 | 1 | 3 |
| Stall Torque | M ₀ | Nm | 0,19 | | 0,38 | |
| Maximum Torque | M _{pk} | Nm | 0,6 | 0,6 | 1,3 | 1,3 |
| Stall Current | I ₀ | A | 0,78 | 1,52 | 1,2 | 3 |
| Peak current | I _{pk} | A | 3,12 | 6,08 | 4,8 | 12 |
| Maximum mechanical revs | N _{mec} | min ⁻¹ | 8500 | | 8500 | |
| Maximum revs @ 230Vac | N _{MAX} | min ⁻¹ | 8000 | - | 8000 | - |
| Maximum revs @ 50Vac | N _{max} | min ⁻¹ | - | 3600 | - | 4100 |
| Voltage constant | K _E | V/Krpm | 14,7 | 7,4 | 19 | 7,7 |
| Torque constant | K _T | Nm/A | 0,25 | 0,122 | 0,32 | 0,13 |
| Rotor Inertia | J _R | Kg cm ² | 0,037 | | 0,061 | |
| Resist. @ 20°C | R _{U-V} | ohm | 27 | 6,8 | 14 | 2,4 |
| Induct. @ 1 kHz | L _{U-V} | mH | 11 | 2,6 | 7,9 | 1,25 |
| Weight | m | Kg | 0,53 | | 0,68 | |

Technical Data

Size 2

| Description Winding Code | Symbol | Motor | 9MDSM521 | | 9MDSM522 | |
|-----------------------------|------------------|--------------------|----------|------|----------|------|
| | | UM | 1 | 2 | 1 | 2 |
| Stall Torque | M ₀ | Nm | 0,7 | | 1,4 | |
| Maximum Torque | M _{pk} | Nm | 2,5 | 2,5 | 4,7 | 4,9 |
| Stall Current | I ₀ | A | 1,6 | 1 | 2,8 | 1,7 |
| Peak current | I _{pk} | A | 6,4 | 4 | 11 | 7 |
| Maximum mechanical revs | N _{mec} | min ⁻¹ | 8500 | | 8500 | |
| Maximum revs @ 230Vac | N _{MAX} | min ⁻¹ | 6200 | 3600 | 6300 | 3900 |
| Maximum revs @ 400Vac | N _{max} | min ⁻¹ | 8000 | 6000 | 8000 | 6000 |
| Voltage constant | K _E | V/Krpm | 27 | 44 | 30 | 49 |
| Torque constant | K _T | Nm/A | 0,45 | 0,73 | 0,5 | 0,82 |
| Rotor Inertia | J _R | Kg cm ² | 0,13 | | 0,23 | |
| Resist. @ 20°C | R _{U-V} | ohm | 8,6 | 23 | 3,2 | 8,4 |
| Induct. @ 1 kHz | L _{U-V} | mH | 10 | 27 | 5,6 | 13 |
| Weight | m | Kg | 1,2 | | 1,7 | |

Size 3

| Description Winding Code | Symbol | Motor | 9MDSM531 | | 9MDSM532 | | 9MDSM533 | | 9MDSM534 | |
|-----------------------------|------------------|--------------------|----------|------|----------|------|----------|------|----------|------|
| | | UM | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 |
| Stall Torque | M ₀ | Nm | 1,5 | | 2,9 | | 4,2 | | 5,3 | |
| Maximum Torque | M _{pk} | Nm | 5,1 | 4,8 | 10 | 10 | 14 | 14 | 18 | 18 |
| Stall Current | I ₀ | A | 1,65 | 1,1 | 3,2 | 2 | 4,6 | 2,9 | 5,8 | 3,4 |
| Peak current | I _{pk} | A | 6,6 | 4 | 13 | 8 | 19 | 12 | 24 | 15 |
| Maximum mechanical revs | N _{mec} | min ⁻¹ | 7000 | | 7000 | | 7000 | | 6000 | |
| Maximum revs @ 230Vac | N _{MAX} | min ⁻¹ | 3100 | 1800 | 3200 | 1900 | 3300 | 2000 | 3300 | 1900 |
| Maximum revs @ 400Vac | N _{max} | min ⁻¹ | 6000 | 3500 | 6000 | 3500 | 6000 | 3500 | 5000 | 3000 |
| Voltage constant | K _E | V/Krpm | 55 | 86 | 55 | 88 | 55 | 88 | 55 | 93 |
| Torque constant | K _T | Nm/A | 0,91 | 1,42 | 0,91 | 1,45 | 0,91 | 1,45 | 0,91 | 1,54 |
| Rotor Inertia | J _R | Kg cm ² | 0,92 | | 1,72 | | 2,53 | | 3,33 | |
| Resist. @ 20°C | R _{U-V} | ohm | 9 | 23 | 3,4 | 8,3 | 1,9 | 5 | 1,4 | 4 |
| Induct. @ 1 kHz | L _{U-V} | mH | 16 | 35 | 7 | 18 | 4,5 | 12 | 3,5 | 11 |
| Weight | m | Kg | 2,4 | | 3,5 | | 4,6 | | 5,7 | |

Size 4

| Description Winding Code | Symbol | Motor | 9MDSM541 | | 9MDSM542 | | 9MDSM543 | |
|-----------------------------|------------------|--------------------|----------|------|----------|------|----------|------|
| | | UM | 1 | 2 | 1 | 2 | 1 | 2 |
| Stall Torque | M ₀ | Nm | 4 | | 7,6 | | 11,3 | |
| Maximum Torque | M _{pk} | Nm | 14 | 14 | 26 | 26 | 40 | 39 |
| Stall Current | I ₀ | A | 4,4 | 2,5 | 7,8 | 4,7 | 11,9 | 7 |
| Peak current | I _{pk} | A | 18 | 10 | 31 | 19 | 47 | 28 |
| Maximum mechanical revs | N _{mec} | min ⁻¹ | 6500 | | 6500 | | 6500 | |
| Maximum revs @ 230Vac | N _{MAX} | min ⁻¹ | 3200 | 1800 | 3100 | 1800 | 3200 | 1800 |
| Maximum revs @ 400Vac | N _{max} | min ⁻¹ | 6000 | 3000 | 5000 | 3000 | 5000 | 3000 |
| Voltage constant | K _E | V/Krpm | 55 | 96 | 59 | 98 | 59 | 98 |
| Torque constant | K _T | Nm/A | 0,91 | 1,59 | 0,98 | 1,62 | 0,98 | 1,62 |
| Rotor Inertia | J _R | Kg cm ² | 5 | | 9,6 | | 14 | |
| Resist. @ 20°C | R _{U-V} | ohm | 2,3 | 6,9 | 0,95 | 2,7 | 0,5 | 1,5 |
| Induct. @ 1 kHz | L _{U-V} | mH | 5,6 | 16 | 2,9 | 7,5 | 1,6 | 4,9 |
| Weight | m | Kg | 5,6 | | 8,5 | | 11,4 | |

Size 5

| Description Winding Code | Symbol | Motor | 9MDSM551 | | 9MDSM552 | | 9MDSM553 | | 9MDSM554 | |
|-----------------------------|------------------|--------------------|----------|------|----------|------|----------|------|----------|------|
| | | | UM | 1 | 2 | 1 | 2 | 1 | 2 | 1 |
| Stall Torque | M _{lo} | Nm | 10 | | 19 | | 27 | | 35 | |
| Maximum Torque | M _{pk} | Nm | 36 | 34 | 65 | 66 | 93 | 93 | 119 | 118 |
| Stall Current | I _{lo} | A | 10,5 | 6,5 | 16 | 12,3 | 21 | 15,4 | 25 | 20 |
| Peak current | I _{pk} | A | 42 | 26 | 64 | 50 | 84 | 62 | 100 | 80 |
| Maximum mechanical revs | N _{mec} | min ⁻¹ | 6500 | | 6500 | | 5500 | | 5500 | |
| Maximum revs @ 230Vac | N _{MAX} | min ⁻¹ | 3000 | 1900 | 2600 | 2000 | 2400 | 1700 | 2200 | 1800 |
| Maximum revs @ 400Vac | N _{max} | min ⁻¹ | 5000 | 3000 | 4500 | 3000 | 4500 | 3000 | 4000 | 3000 |
| Voltage constant | K _E | V/Krpm | 62 | 93 | 72 | 93 | 78 | 106 | 85 | 106 |
| Torque constant | K _T | Nm/A | 1,02 | 1,54 | 1,2 | 1,54 | 1,3 | 1,74 | 1,4 | 1,74 |
| Rotor Inertia | J _R | Kg cm ² | 22 | | 43 | | 65 | | 87 | |
| Resist. @ 20°C | R _{U-V} | ohm | 0,65 | 1,61 | 0,34 | 0,61 | 0,25 | 0,46 | 0,18 | 0,32 |
| Induct. @ 1 kHz | L _{U-V} | mH | 2,6 | 7 | 1,9 | 3,3 | 1,7 | 2,7 | 1,7 | 1,9 |
| Weight | m | Kg | 11 | | 16 | | 21 | | 26 | |

Size 6

| Description Winding Code | Symbol | Motor | 9MDSM561 | | 9MDSM562 | | 9MDSM563 | | 9MDSM564 | |
|-----------------------------|------------------|--------------------|----------|------|----------|------|----------|------|----------|------|
| | | | UM | 1 | 2 | 1 | 2 | 1 | 2 | 1 |
| Stall Torque | M _{lo} | Nm | 15 | | 28 | | 50 | | 70 | |
| Maximum Torque | M _{pk} | Nm | 42 | 38 | 72 | 72 | 127 | 130 | 177 | 184 |
| Stall Current | I _{lo} | A | 12 | 9 | 24 | 12,5 | 28 | 18 | 39 | 26 |
| Peak current | I _{pk} | A | 37 | 27 | 72 | 38 | 84 | 55 | 117 | 80 |
| Maximum mechanical revs | N _{mec} | min ⁻¹ | 5500 | | 5500 | | 4500 | | 4500 | |
| Maximum revs @ 230Vac | N _{MAX} | min ⁻¹ | 2300 | 1800 | 2400 | 1300 | 1800 | 1100 | 1800 | 1200 |
| Maximum revs @ 400Vac | N _{max} | min ⁻¹ | 4000 | 3000 | 4000 | 2500 | 3000 | 2000 | 3000 | 2000 |
| Voltage constant | K _E | V/Krpm | 79 | 100 | 72 | 134 | 108 | 169 | 108 | 162 |
| Torque constant | K _T | Nm/A | 1,32 | 1,66 | 1,17 | 2,22 | 1,78 | 2,8 | 1,78 | 2,7 |
| Rotor Inertia | J _R | Kg cm ² | 54 | | 91 | | 177 | | 264 | |
| Resist. @ 20°C | R _{U-V} | ohm | 0,6 | 0,95 | 0,26 | 0,74 | 0,16 | 0,36 | 0,09 | 0,16 |
| Induct. @ 1 kHz | L _{U-V} | mH | 3,4 | 6,5 | 2,1 | 5,3 | 1,3 | 3,2 | 0,8 | 1,8 |
| Weight | m | Kg | 17 | | 23 | | 36 | | 50 | |

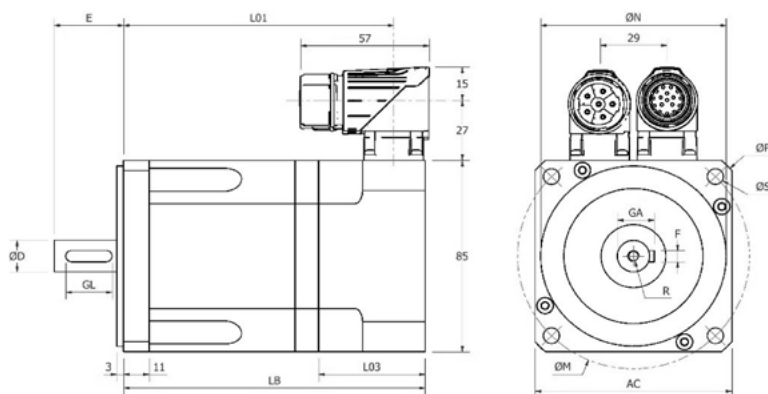
Size 7

| Description Winding Code | Symbol | Motor | 9MDSM571 | | 9MDSM572 | | 9MDSM5.73 | |
|-----------------------------|------------------|--------------------|----------|------|----------|------|-----------|------|
| | | | UM | 1 | 2 | 1 | 2 | 1 |
| Stall Torque | M _{lo} | Nm | 76 | | 145 | | 230 | |
| Maximum Torque | M _{pk} | Nm | 210 | 203 | 408 | 399 | 618 | 632 |
| Stall Current | I _{lo} | A | 37 | 25 | 70 | 41 | 104 | 65 |
| Peak current | I _{pk} | A | 111 | 75 | 210 | 123 | 312 | 195 |
| Maximum mechanical revs | N _{mec} | min ⁻¹ | 4000 | | 4000 | | 4000 | |
| Maximum revs @ 230Vac | N _{MAX} | min ⁻¹ | 1500 | 1000 | 1500 | 900 | 1400 | 900 |
| Maximum revs @ 400Vac | N _{max} | min ⁻¹ | 2600 | 1800 | 2600 | 1600 | 2500 | 1500 |
| Voltage constant | K _E | V/Krpm | 126 | 183 | 126 | 216 | 135 | 216 |
| Torque constant | K _T | Nm/A | 2.1 | 3 | 2.1 | 3.6 | 2.2 | 3.6 |
| Rotor Inertia | J _R | Kg cm ² | 484 | | 941 | | 1398 | |
| Resist. @ 20°C | R _{U-V} | ohm | 0.14 | 0.28 | 0.05 | 0.12 | 0.03 | 0.08 |
| Induct. @ 1 kHz | L _{U-V} | mH | 1.5 | 3.1 | 0.8 | 2.2 | 0.6 | 1.5 |
| Weight | m | Kg | 50 | | 81 | | 112 | |

Size 3

| WORKING DIMENSIONS | LB | | L01 | | L03 |
|--------------------|-----|-----|-----|-----|-----|
| SHAFT - ØD | 14 | 19 | 14 | 19 | 31 |
| 9MDSM531x0xx | 115 | 125 | 101 | 111 | |
| 9MDSM532x0xx | 145 | 155 | 131 | 141 | |
| 9MDSM533x0xx | 175 | 185 | 161 | 171 | |
| 9MDSM534x0xx | 205 | 215 | 191 | 201 | |
| 9MDSM531x1xx BRAKE | 163 | 163 | 149 | 149 | |
| 9MDSM532x1xx BRAKE | 193 | 193 | 179 | 179 | |
| 9MDSM533x1xx BRAKE | 223 | 223 | 209 | 209 | |
| 9MDSM534x1xx BRAKE | 253 | 253 | 283 | 283 | |

Value referred to feedback EQI1130, TTL 2048i/g, Resolver, SEL52



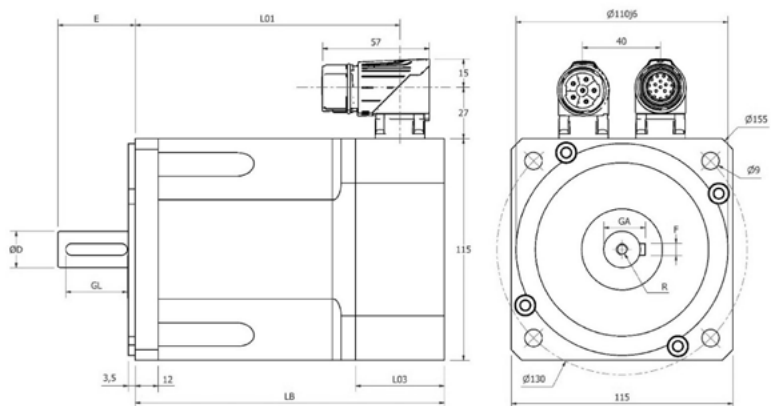
| SIZE 3 | SHAFT | |
|--------|-------|-------|
| D | 14j6 | 19j6 |
| E | 30 | 40 |
| GL | 20 | 32 |
| GA | 16 | 21.5 |
| F | 5 | 6 |
| R | M5x15 | M6x16 |

| SIZE 3 | FLANGE | |
|--------|--------|------|
| | 56B5 | 63B5 |
| N | 80j6 | 95j6 |
| M | 100 | 115 |
| S | 7 | 9 |

Size 4

| WORKING DIMENSIONS | LB | L01 | L03 |
|--------------------|-------|-------|-----|
| 9MDSM541x0xx | 146.5 | 123.5 | 31 |
| 9MDSM5.42 | 186.5 | 163.5 | |
| 9MDSM5.43 | 226.5 | 203.5 | |
| 9MDSM5.41 BRAKE | 195.5 | 172.5 | |
| 9MDSM5.42 BRAKE | 235.5 | 212.5 | |
| 9MDSM5.43 BRAKE | 275.5 | 232.5 | |

Value referred to feedback TTL 2048i/g, Resolver,



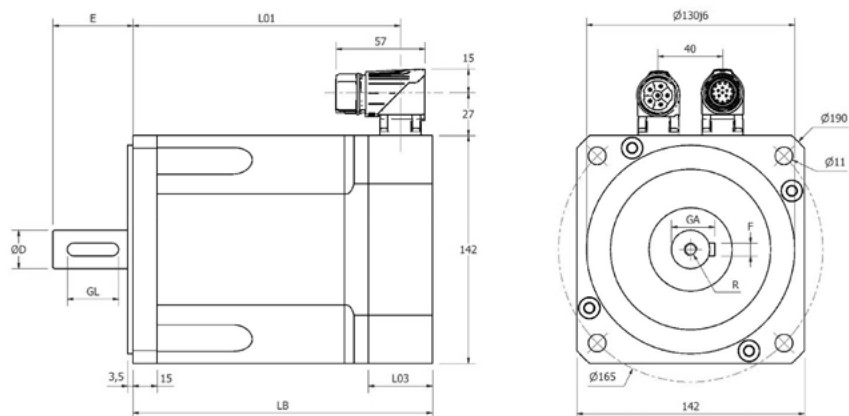
| SIZE 4 | SHAFT | |
|--------|-------|-------|
| D | 19j6 | 24j6 |
| E | 40 | 50 |
| GL | 32 | 32 |
| GA | 21.5 | 27 |
| F | 6 | 8 |
| R | M6x16 | M6x16 |

Dimensions

Size 5

| WORKING DIMENSIONS | LB | L01 | L03 |
|--------------------|-------|-------|-----|
| 9MDSM551x0xx | 174 | 154 | 27 |
| 9MDSM552x0xx | 224 | 204 | |
| 9MDSM553x0xx | 274 | 254 | |
| 9MDSM554x0xx | 324 | 304 | |
| 9MDSM551x1xx BRAKE | 227.5 | 207.5 | |
| 9MDSM552x1xx BRAKE | 277.5 | 257.5 | |
| 9MDSM553x1xx BRAKE | 327.5 | 307.5 | |
| 9MDSM554x1xx BRAKE | 377.5 | 357.5 | |

Value referred to feedback TTL 2048i/g, Resolver

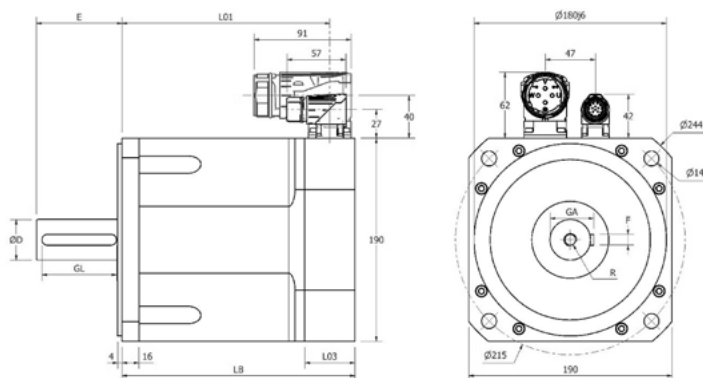


| SIZE 5 | SHAFT | |
|--------|-------|--------|
| D | 24j6 | 32k6 |
| E | 50 | 58 |
| GL | 32 | 45 |
| GA | 27 | 35 |
| F | 8 | 10 |
| R | M8x15 | M12x22 |

Size 6

| WORKING DIMENSIONS | LB | L01 | L03 |
|--------------------|-------|-------|-----|
| 9MDSM561x0xx | 163 | 139.5 | 27 |
| 9MDSM562x0xx | 198 | 174.5 | |
| 9MDSM563x0xx | 288 | 264.5 | 47 |
| 9MDSM564x0xx | 334.5 | 334.5 | |
| 9MDSM561x1xx BRAKE | 233.5 | 210 | 27 |
| 9MDSM562x1xx BRAKE | 268.5 | 245 | |
| 9MDSM563x1xx BRAKE | 358.5 | 335 | 47 |
| 9MDSM564x1xx BRAKE | 428.5 | 405 | |

Value referred to feedback TTL 2048 i/g, Resolver

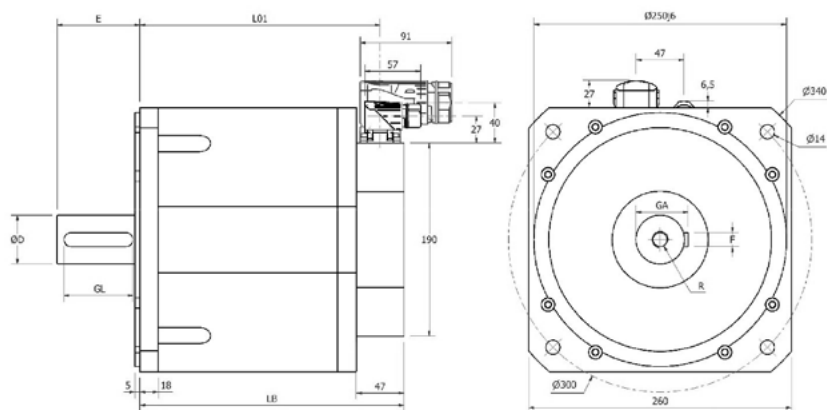


| SIZE 6 | SHAFT | |
|--------|--------|--------|
| D | 32k6 | 38k6 |
| E | 58 | 80 |
| GL | 45 | 70 |
| GA | 35 | 41 |
| F | 10 | 10 |
| R | M12x22 | M12x28 |

Size 7

| WORKING DIMENSIONS | LB | L01 | L03 |
|--------------------|-----|-----|-----|
| 9MDSM571x0xx | 261 | 214 | 47 |
| 9MDSM572x0xx | 341 | 294 | |
| 9MDSM573x0xx | 421 | 374 | |
| 9MDSM571x1xx BRAKE | 314 | 267 | |
| 9MDSM572x1xx BRAKE | 394 | 347 | |
| 9MDSM573x1xx BRAKE | 474 | 427 | |

Value referred to feedback TTL 2048i/g, Resolver



| SIZE 7 | SHAFT |
|--------|--------|
| D | 48k6 |
| E | 82 |
| GL | 70 |
| GA | 51.5 |
| F | 14 |
| R | M16x25 |

SERVO MOTORS

Compact Brushless Servomotors



For all applications where inertia and compactness are the most important features, ESA has a special version of 9MDSM motor with shorter length. This solution provides a shorter motor with high value of inertia.

FEATURES

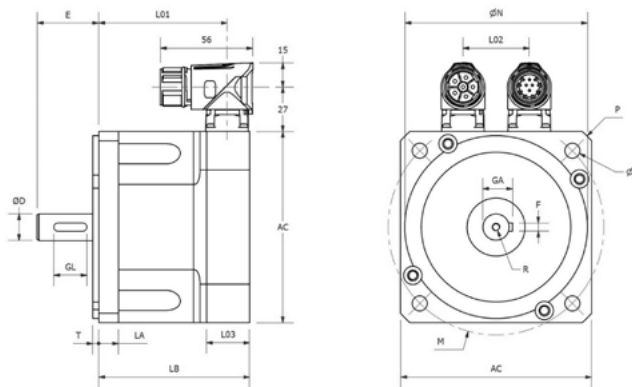
- + Style according to IEC 34-7
- + Protection type IP65
- + Natural Cooling
- + CE & UL Certifications
- + Incremental Encoder Feedback
- + Safety brake in option

APPLICATIONS

- + Life Science Diagnostic
- + Special Machine
- + Medical applications
- + Continuous Process

Technical characteristic - Overview

| Motor Type | Permanent magnet synchronous servomotors |
|----------------|--|
| Power Range | 0.3 kW to 3 kW |
| Torque Range | 1 Nm to 8 Nm |
| Speed Range | 0 to 6500 rpm |
| Voltage supply | 230 V – 400 V |
| Feedback | Incremental Encoder |
| Connections | M23 Connectors |



Technical Data

| Description | Symbol | Motor | 9MDSM530 | | 9MDSM540 | | 9MDSM550 | | 9MDSM560 |
|-------------------------|------------------|--------------------|----------|------|----------|------|----------|------|----------|
| | | | UM | 1 | 2 | 1 | 2 | 1 | 2 |
| Stall Torque | M ₀ | Nm | 1 | | 2,1 | | 5 | | 8 |
| Maximum Torque | M _{pk} | Nm | 3,6 | 3,6 | 7,3 | 6,9 | 17 | 17 | 7,3 |
| Stall Current | I ₀ | A | 1,7 | 1,1 | 3,3 | 2,1 | 7,3 | 4,6 | 3,3 |
| Peak current | I _{pk} | A | 7 | 4,5 | 13 | 8 | 29,2 | 18 | 13 |
| Maximum mechanical revs | N _{mec} | min ⁻¹ | 7000 | | 6500 | | 6500 | | 5500 |
| Maximum revs @ 230Vac | N _{MAX} | min ⁻¹ | 4500 | 3000 | 4500 | 3000 | 4500 | 3000 | 4500 |
| Maximum revs @ 400Vac | N _{max} | min ⁻¹ | 6500 | 5500 | 6000 | 5000 | 6000 | 5000 | 6000 |
| Voltage constant | K _E | V/Krpm | 36 | 56 | 39 | 61 | 41 | 66 | 39 |
| Torque constant | K _T | Nm/A | 0,6 | 0,93 | 0,65 | 1 | 0,68 | 1,1 | 0,65 |
| Rotor Inertia | J _R | Kg cm ² | 0,7 | | 2,8 | | 12 | | 27 |
| Resist. @ 20°C | R _{U-V} | ohm | 7,9 | 19 | 3,5 | 8,6 | 1 | 2,3 | 0,6 |
| Induct. @ 1 kHz | L _{U-V} | mH | 11 | 25 | 6,3 | 16 | 2,7 | 6,8 | 10 |
| Weight | m | Kg | 2 | | 3,6 | | 6 | | 40 |

Dimensions : mm

| Motor Type | | 9MDSM530 | 9MDSM540 | 9MDSM550 | 9MDSM560 |
|---------------|-----|----------|----------|----------|----------|
| Without brake | AC | 85 | 115 | 142 | 190 |
| | NJ6 | 80 | 110 | 130 | 180 |
| | M | 100 | 130 | 165 | 215 |
| | P | 114 | 155 | 190 | 244 |
| | S | 7 | 9 | 11 | 14 |
| | T | 3 | 3,5 | 3,5 | 4 |
| | LA | 11 | 12 | 15 | 16 |
| | DJ6 | 14 | 19 | 24 | 28 |
| | E | 30 | 40 | 50 | 60 |
| | R | M5x15 | M6x16 | M8x16 | M10x20 |
| | F | 5 | 6 | 8 | 8 |
| | GL | 20 | 32 | 32 | 32 |
| | GA | 16 | 21,5 | 27 | 31 |
| | LB | 87 | 94 | 108,5 | 120 |
| | L01 | 73,5 | 80,5 | 95 | 106,5 |
| L02 | 29 | 40 | 40 | 47 | |
| L03 | 26 | 26 | 27 | 27 | |
| With brake | L01 | 101,5 | 124 | 134,5 | 143,5 |
| | LB | 115 | 137 | 148 | 157 |

SERVO MOTORS

Asynchronous Servomotor 9MMVQ



The MVQ series of asynchronous squirrel-cage motors is a range specially designed for all automation applications that do not require high dynamic performance, but offers far greater value than conventional DC systems.

FEATURES

- + Squirrel-cage
- + Nominal voltage 180 Vac and 330Vac
- + IP 44 protection without fan, IP 21 with fan, IP54 upon request
- + Class F insulation
- + Ambient temperature: 25° .. + 55°C
- + Storage temperature: 25° .. + 70°C
- + Natural cooling and forced ventilation
- + 4 pole resolver
- + Shielded bearings lubricated for life
- + Shaft with key and standard screwthread hole .
- + Black finish
- + Thermal protection using PTC with threshold at 130°C
- + Flange B5 and B14

APPLICATIONS

- + Special Machine
- + Wood machine
- + Glass machine

| Motor Type | Asynchronous squirrel-cage |
|----------------|-----------------------------------|
| Power Range | 0.75 kW to 9 kW |
| Torque Range | 2.5 Nm to 29 Nm |
| Speed Range | 0 to 3000 rpm |
| Voltage supply | 180 V – 330 V |
| Feedback | Resolver |
| Connections | Terminal box + feedback connector |

Technical Data

| Motor Type | Nominal Torque Nm | Peak Torque Nm | Continuous current A | Nominal Speed Rpm | Torque Constant Nm/A | Rotor Inertia 10 ⁻⁶ kgm ² | Weight Kg | Drive Voltage |
|---------------|----------------------|-------------------|----------------------------|----------------------|-------------------------|--|--------------|---------------|
| 9MMVQ6330214x | 2.5 | 5 | 3.5 | 3000 | 0.71 | 400 | 6.5 | 230 |
| 9MMVQ6330414x | 2.8 | 7 | 1.6 | 3000 | 1.75 | 400 | 6.5 | 400 |
| 9MMVQ7130219x | 5.5 | 11 | 6 | 3000 | 0.91 | 1800 | 9.7 | 230 |
| 9MMVQ7130419x | 5.8 | 14 | 2.5 | 3000 | 2.32 | 1800 | 9.7 | 400 |
| 9MMVQ8030219x | 8 | 16 | 8.7 | 3000 | 0.92 | 3500 | 13.6 | 230 |
| 9MMVQ8030419x | 9.5 | 24 | 4.2 | 3000 | 2.27 | 3500 | 13.6 | 400 |
| 9MMVQ9030424x | 13 | 30 | 7.5 | 3000 | 1.6 | 5000 | 18.25 | 400 |
| 9MMVQ0030428x | 22 | 55 | 13.5 | 3000 | 1.6 | 8000 | 26.5 | 400 |
| 9MMVQ1230428x | 29 | 71 | 18 | 3000 | 1.56 | 11500 | 34.5 | 400 |

Brake specifications

| Details | | 9MMVQ63 | 9MMVQ71 | 9MMVQ80 | 9MMVQ90 | 9MMVQ00 | 9MMVQ12 |
|-----------------------------|---|---------|---------|---------|---------|---------|---------|
| Supply Voltage | Vdc | 24 | 24 | 24 | 24 | 24 | 24 |
| Supply Current | A | 0.65 | 0.9 | 0.9 | 1.2 | 1.42 | 1.66 |
| Static brake holding torque | Nm | 2 | 5 | 5 | 8 | 16 | 40 |
| Max.angular backlash | Min | 20 | 20 | 20 | 20 | 20 | 20 |
| Inertia | 10 ⁻⁶ Kg ^m ² | 15 | 20 | 20 | 120 | 140 | 160 |
| Weight | Kg | 0.9 | 1.5 | 1.5 | 2.7 | 2.9 | 4.6 |
| Length motor + L brake | mm | 45 | 55 | 55 | 60 | 80 | 80 |

SWITCH

HIDRA Industrial Switch



ESA provides a wide range of industrial ethernet switches that feature industrial grade reliability, network redundancy, embedded security features, easy management.

The ESA portfolio includes unmanaged, managed Layer2, managed Layer3, PoE and IP67 switches specially designed for outdoor and harsh applications.

- + Redundancy through ITU-T G.8032 ERPS ring, RSTP, STP, MRP (client) compatible ring
- + CE, UL, NEMA, Atex zone-2, IP67 certified
- + Virtual LAN segmentation
- + Modbus, Profinet and Ethernet Ip support
- + IEC62443 Cybersecurity standard complian

FEATURES

- + 10/100/1000 RJ45 ports and 100/1000 BASE-X SFP slots
- + Power over Ethernet ports with 24V DC power supply (ESNET08UG8P800V). No need of a specific power supply.
- + Redundant DC power input
- + Reverse Polarity Protection
- + DIN-Rail, slim-size metal housing
- + Wide temperature operations, from -40°C to 70°C
- + Support IEEE 802.3/802.3u/802.3x
- + Powerful Layer2 and Layer3 management

APPLICATIONS

- + Packaging Machine
- + Handled
- + Life & Science
- + Industrial automation
- + Automotive

HIDRA Industrial Switch

Unmanaged

| MODEL | HIDRA05U000000X | HIDRA05UG50000A | HIDRA08U000000X |
|---------------------------------|--|--|---|
| Ethernet | | | |
| Connector | RJ45 | RJ45 | RJ45 |
| Ports | 5 | 5 | 8 |
| Transmission rate | 10/100 Mbps | 10/100/1000 Mbps | 10/100/1000 Mbps |
| PoE support | NO | NO | NO |
| PoE voltage booster | NO | NO | NO |
| Standards | IEEE802.3, 802.3u, 802.3x | IEEE802.3, 802.3u, 802.3x, 80.3z | IEEE802.3, 802.3u, 802.3ab |
| Flow control | IEEE 802.3x for Flow Control, back pressure flow control IEEE 802.1q/p for VLAN Tagging and Class of Service IEEE 802.3az for Energy Efficient Ethernet | IEEE 802.3x for Flow Control, back pressure flow control IEEE 802.1q/p for VLAN Tagging and Class of Service IEEE 802.3az for Energy Efficient Ethernet | IEEE802.3X flow control, back-pressure flow control |
| Jumbo frame Size | 9216 byte | 10K Bytes | 9216 byte |
| Auto MDI/MDI-X | Yes | Yes | Yes |
| Power | | | |
| Input voltage | 12 - 48 VDC | 12 - 48 VDC | 9-48 VDC |
| Power Consumption | 4.0 Watts Max | 4.0 Watts Max | 4.05 Watts |
| Connector | Lockable 5-pin terminal blocks | Lockable 5-pin terminal blocks | 5.08mm 5 pin Terminal Block |
| Redundancy | YES | YES | YES |
| Reverse Polarity Protection | YES | YES | YES |
| Physical characteristics | | | |
| Housing | SPCC Black | SPCC Black | Alluminium |
| Protection level | IP30 | IP30 | IP30 |
| Installation | DIN Rail | DIN Rail | DIN Rail |
| Dimension (WxHxD) | Slim type, 23mm x 94mm x 72mm | Slim type, 23mm x 94mm x 72mm | 45.2 x 90 x 78 mm |
| Weight | 420g | 420g | 255g |
| Led indicators | PWR1, PWR2, Alarm, ALM, LAN | PWR1, PWR2, Alarm, ALM, LAN | PWR1, PWR2 |
| Environmental | | | |
| Operating Temperature | -40 to 70°C | -40 to 70°C | -10°C~70°C |
| Storage Temperature | -40 to 85°C | -40 to 85°C | -40°C~85°C |
| Ambient Relative Humidity | 5 to 95%, 55°C (non-condensing) | 5 to 95%, 55°C (non-condensing) | 5 to 95%, 55°C (non-condensing) |
| Certifications | | | |
| Safety | UL/IEC 62368-1, UL/IEC(CB) 60950-1 | UL/IEC(CB) 61010-2-201 | UL60950-1 2nd Ed. / CSA C22.2 No.60950-1-07 2nd Ed. / CB (IEC62368-1 / IEC62368-1) |
| FCC (EMI) | FCC Part 15, Subpart B, Class A | FCC Part 15, Subpart B, Class A | FCC Part 15, Subpart B, Class A |
| CE (EMI) | EN 55032:2013 EN 61000-3-2: 2014, Class A EN 61000-3-3: 2013 EN 61000-6-4: 2007 + A1: 2011 | EN 55032:2015/AC:2016 Class A EN 61000-3-2: 2014 EN 61000-3-3: 2013 EN 61000-6-4: 2007 + A1: 2011 | European Standard EN55032:2012+AC:2013 Class A. EN61000-3-2:2014, EN 61000-3-3:2013 |
| CE (EMS) | EN 55024: 2010 EN 61000-6-2:2005 + AC: 2005 IEC 61000-4-2: 2008 IEC 61000-4-3: 2010 IEC 61000-4-4: 2012 IEC 61000-4-5: 2014 IEC 61000-4-6: 2013 IEC 61000-4-8: 2009 IEC 61000-4-11: 2005 | EN 55024: 2010 EN 61000-6-2:2005 + AC: 2005 IEC 61000-4-2: 2008 IEC 61000-4-3: 2010 IEC 61000-4-4: 2012 IEC 61000-4-5: 2014 IEC 61000-4-6: 2013 IEC 61000-4-8: 2009 IEC 61000-4-11: 2005 | EN55024:2010(IEC 61000-4-2:2008) IEC61000-4-3:2006/A1:2007/A2:2010, IEC 61000-4-4:2012 IEC 61000-4-5:2014, IEC 61000-4-6:2013 IEC 61000-4-8 :2009, IEC 61000-4-11:2004 |
| ATEX | NO | NO | NO |
| Rail Traffic | NO | NO | NO |
| Testing report | | | |
| Shock | IEC 60068-2-27 | MIL-STD-810F Method 516.5 | IEC 60068-2-27 |
| Drop | IEC 60068-2-32 | MIL-STD-810F Method 516.5 | IEC 60068-2-32(ISTA Test Procedure 2A) |
| Vibration | IEC 60068-2-6 | MIL-STD-810F Method 514.5 C-1 & C-2 | IEC 60068-2-64 |
| RoHS | YES | YES | YES |
| MTBF | 20 years | 20 years | 30 years |

| MODEL | HIDRA08UG80000X | HIDRA08UG8P800V | HIDRA05UG50000X | HIDRA05UG500007 |
|---------------------------------|---|--|---|--|
| Ethernet | | | | |
| Connector | RJ45 | RJ45 | RJ45 | M12 connector (A or X coding) |
| Ports | 8 | 8 | 5 | 5 |
| Transmission rate | 10/100/1000 Mbps | 10/100/1000 Mbps | 10/100/1000 Mbps | 10/100/1000 Mbps |
| PoE support | NO | YES (8) | NO | NO |
| PoE voltage booster | NO | Yes (Max support 120W) | NO | NO |
| Standards | IEEE802.3, 802.3u, 802.3ab | IEEE 802.3, IEEE 802.3u, IEEE 802.3ab, IEEE802.3x | IEEE802.3 for 10BASE-T IEEE802.3u for 100BASE-T(X) and 100BASE-FX IEEE 802.3ab for 1000BASE-T IEEE 802.3z for 1000BASE-X IEEE 802.1Q for VLAN Tagging IEEE 802.1p for Class of Service IEEE 802.3x Flow Control | IEEE 802.3 for 10BaseT IEEE 802.3u for 100BaseT(X) IEEE 802.3ab for 1000BaseT |
| Flow control | IEEE802.3X flow control, back-pressure flow control | IEEE 802.3x for Flow Control, back pressure flow control IEEE 802.3af/at for Power-over-Ethernet IEEE 802.3az Energy Efficient Ethernet IEEE 802.1Q for VLAN Tagging IEEE 802.1p for CoS | IEEE802.3X flow control, back-pressure flow control | IEEE 802.3x for Flow Control, Back pressure and pause frame based flow control schemes |
| Jumbo frame Size | 9217 byte | 10K Bytes | 10K bytes | 10k bytes |
| Auto MDI/MDI-X | Yes | Yes | Yes | Yes |
| Power | | | | |
| Input voltage | 9-48 VDC | 12~57 VDC | 12-52 VDC | 12-48 VDC |
| Power Consumption | 4.05 Watts | 12~23VDC, max total 60W 24~57VDC, max total 120W | 6 Watts | 5 W |
| Connector | 5.08mm 5 pin Terminal Block | Terminal block | Terminal block | 5-Pin A-Code Male M12 |
| Redundancy | YES | NO | NO | NO |
| Reverse Polarity Protection | YES | YES | YES | YES |
| Physical characteristics | | | | |
| Housing | Alluminium | Metal | SECC | Aluminum Housing |
| Protection level | IP30 | IP30 | IP30 | IP67 protection according to EN 60529 |
| Installation | DIN Rail | DIN Rail | DIN Rail | Wall mount |
| Dimension (WxHxD) | 45.2 x 90 x 78 mm | 54 x 145 x 113 mm | 32 x 90 x 110 mm | 105.7 x 196 x 48.3 mm |
| Weight | 255g | 700g | 420g | 650 g |
| Led indicators | PWR1, PWR2 | P1, P2, Fault, SFP1-2, PoE LED | PWR1, PWR2, Alarm, RJ45 Act/Link | PWR1, PWR2, LAN1, LAN2, LAN3, LAN4, LAN5 |
| Environmental | | | | |
| Operating Temperature | -10°C~70°C | -40°C~70°C | -40°C~70°C | -40°C~75°C |
| Storage Temperature | -40°C~85°C | -40°C~85°C | -40°C~85°C | -40°C~85°C |
| Ambient Relative Humidity | 5 to 95%, 55°C (non-condensing) | 5 to 95%, 55°C (non-condensing) | 5%~95%, 55°C (Non-condensing) | 5%~95%, 55°C (Non-condensing) |
| Certifications | | | | |
| Safety | UL60950-1 2nd Ed. / CSA C22.2 No.60950-1-07 2nd Ed. / CB (IEC62368-1 / IEC62368-1) | UL62368-1:2014(2nd Ed.) CB/IEC60950-1:2005(2nd Ed.) CB/IEC62368-1:2014(2nd Ed.) | UL 61010-2-201, UL C1D2 | EN 60950-1:2006 UL/IEC(CB) 61010-2-201 |
| FCC (EMI) | FCC Part 15, Subpart B, Class A | FCC Part 15, Subpart B, Class A | NO | FCC Part 15 Subpart B Class A |
| CE (EMI) | European Standard EN55032:2012+AC:2013 Class A. EN61000-3-2:2014, EN 61000-3-3:2014 | EN 55032:2015 +AC:2016 Class A EN 61000-3-2: 2014, Class A EN 61000-3-3: 2013 EN 61000-6-4: 2007+ A1: 2001 EN 55024: 2010+ A1:2015 EN 61000-6-2:2005+ AC : 2005 | EN 55032 EN 61000-6-4 EN 55024 EN 61000-6-2 | EN 55032 EN 55024 EN 61000-3-3 EN 61000-6-2 EN 61000-6-4 |
| CE (EMS) | EN55024:2010(IEC 61000-4-2:2008) IEC61000-4-3:2006/A1:2007/ A2:2010, IEC 61000-4-4:2012 IEC 61000-4-5:2014, IEC 61000-4-6:2013 IEC 61000-4-8 :2009, IEC 61000-4-11:2005 | IEC 61000-4-2 IEC 61000-4-3 IEC 61000-4-4 IEC 61000-4-5 IEC 61000-4-6 IEC 61000-4-8 | IEC 61000-4-2 IEC 61000-4-3 IEC 61000-4-4 IEC 61000-4-5 IEC 61000-4-6 IEC 61000-4-8 IEC 61000-4-11 | IEC 61000-4-2 IEC 61000-4-3 IEC 61000-4-4 IEC 61000-4-5 IEC 61000-4-6 IEC 61000-4-8 |
| ATEX | NO | NO | ATEX Zone 2 | NO |
| Rail Traffic | NO | NO | EN50155 / EN50121-4 | NO |
| Testing report | | | | |
| Shock | IEC 60068-2-27 | MIL-STD-810F Method 516.5 | MIL-STD-810F Method 516.5 | MIL-STD-810G Method 516.5 |
| Drop | IEC 60068-2-32(ISTA Test Procedure 2A) | MIL-STD-810F Method 516.5 | MIL-STD-810F Method 516.5 | MIL-STD-810F Method 516.5 |
| Vibration | IEC 60068-2-64 | MIL-STD-810F Method 514.5 C-1 & C-2 | MIL-STD-810F Method 514.5 C-1 & C-2 | MIL-STD-810F Method 514.5 C-1 & C-2 |
| RoHS | YES | YES | YES | YES |
| MTBF | 30 years | 20 years | 20 years | 20 years |

| MODEL | HIDRA16UG20000X |
|---------------------------------|--|
| Ethernet | |
| Connector | RJ45 |
| Ports | 16 |
| Transmission rate | 2 x 10/100 Mbps 14 x 10/100/1000 Mbps |
| PoE support | NO |
| PoE voltage booster | NO |
| Standards | IEEE802.3, 802.3u, 802.3ab |
| Flow control | IEEE802.3X flow control, back-pressure flow control IEEE802.1p packet prioritization (for profinet CC-A) |
| Jumbo frame Size | 9216 byte |
| Auto MDI/MDI-X | Yes |
| Power | |
| Input voltage | 12~48 VDC |
| Power Consumption | 7.4 Watts |
| Connector | Terminal block |
| Redundancy | YES |
| Reverse Polarity Protection | YES |
| Physical characteristics | |
| Housing | Alluminium |
| Protection level | IP30 |
| Installation | DIN Rail |
| Dimension (WxHxD) | 54 mm x 113mm x 145mm |
| Weight | 700g |
| Led indicators | PWR1, PWR2 |
| Enviromental | |
| Operating Temperature | -10°C~60°C |
| Storage Temperature | -20°C~70°C |
| Ambient Relative Humidity | 5 to 95%, 55°C (non-condensing) |
| Certifications | |
| Safety | EN60950-1:2006, UL/IEC(CB) 60950/62368 |
| FCC (EMI) | FCC Part 15, Subpart B, Class A |
| CE (EMI) | FCC Part 15, Subpart B, Class A EN 55032 EN 55024 EN 61000-6-4 EN 61000-6-2 |
| CE (EMS) | IEC 61000-4-2 IEC 61000-4-3 IEC 61000-4-4 IEC 61000-4-5 IEC 61000-4-6 IEC 61000-4-8 IEC 61000-4-11 |
| ATEX | NO |
| Rail Traffic | NO |
| Testing report | |
| Shock | IEC 60068-2-27 |
| Drop | IEC 60068-2-32 |
| Vibration | IEC 60068-2-6 |
| RoHS | YES |
| MTBF | 20 years |

Managed

| MODEL | HIDRA08MG80000X | HIDRA08MG8P800X | HIDRA08MG8P4F4X | HIDRA08MG800007 |
|--------------------------|---|---|---|--|
| Interface | | | | |
| Connector | 8 | 8 | 8 | 8 |
| Ethernet Ports | 8 x RJ45 | 8 x RJ45 | 4 x RJ45 | 8 x M12 |
| SFP Ports | NO | NO | 4 x SFP | NO |
| Transmission rate | 10/100/1000BASE-T(X) auto negotiation speed | 10/100/1000BASE-T(X) auto negotiation speed | 10/100/1000BASE-T(X) auto negotiation speed | 10/100/1000BASE-T(X) auto negotiation speed |
| Fiber Ports | NO | NO | 100BASE-FX / 1000BASE-X SFP slot | NO |
| PoE support | NO | YES | YES | NO |
| PoE voltage booster | NO | YES | YES | NO |
| Console | RS232 (RJ45 connector) | RS232 (RJ45 connector) | RS232 (RJ45 connector) | RS232 (A-coding M12 connector) |
| Relay Output | 2 relay outputs with current carrying capacity of 2A @30VDC | 2 relay outputs with current carrying capacity of 2A @30VDC | 2 relay outputs with current carrying capacity of 2A @30VDC | 2 relay outputs with current carrying capacity of 1A @ 24 VDC (through A-coding M12 connector) |
| DIP Switches | Ring Control | Ring Control | Ring Control | NO |
| Reset button | YES | YES | YES | NO |
| Technology | | | | |
| Standards | IEEE802.3 for 10BASE-T IEEE802.3u for 100BASE-T(X) and 100BASEFX IEEE802.3ab for 1000BASE-T(X) IEEE802.3z for 1000BASE-X | IEEE802.3af / 802.3at for Power-over-Ethernet IEEE802.3 for 10BASE-T IEEE802.3u for 100BASE-T(X) and 100BASEFX IEEE802.3ab for 1000BASE-T(X) IEEE802.3z for 1000BASE-X | IEEE802.3af / 802.3at for Power-over-Ethernet IEEE802.3 for 10BASE-T IEEE802.3u for 100BASE-T(X) and 100BASEFX IEEE802.3ab for 1000BASE-T(X) IEEE802.3z for 1000BASE-X | IEEE802.3 for 10BASE-T IEEE802.3u for 100BASE-T(X) and 100BASEFX IEEE802.3ab for 1000BASE-T(X) IEEE802.3z for 1000BASE-X |
| Flow control | IEEE802.3x for Flow Control IEEE802.1D-2004 for Spanning Tree Protocol IEEE802.1w for Rapid STP IEEE802.1Q for VLAN Tagging IEEE802.1p for Class of Service IEEE8021X for Authentication IEEE802.3ad for Port Trunk with LACP | IEEE802.3x for Flow Control IEEE802.1D-2004 for Spanning Tree Protocol IEEE802.1w for Rapid STP IEEE802.1Q for VLAN Tagging IEEE802.1p for Class of Service IEEE8021X for Authentication IEEE802.3ad for Port Trunk with LACP | IEEE802.3x for Flow Control IEEE802.1D-2004 for Spanning Tree Protocol IEEE802.1w for Rapid STP IEEE802.1Q for VLAN Tagging IEEE802.1p for Class of Service IEEE8021X for Authentication IEEE802.3ad for Port Trunk with LACP | IEEE 802.1d-2004 for Spanning Tree Protocol IEEE 802.1w for Rapid Spanning Tree Protocol IEEE 802.1s for Multiple Spanning Tree Protocol IEEE 802.1Q for VLAN Tagging IEEE 802.1p for Class of Service IEEE 802.1X for Authentication IEEE 802.3ad for Port Trunk with LACP |
| Protocols | IPv4, IPv6, IGMPv1/v2/v3, IGMP Snooping, GARP, GMRP, GVRP, SNMPv1/v2c/v3, SNMP Inform, ICMP, Telnet, SSH, DHCP Relay/Client, BootP, TFTP, NTP Server/Client, SNMP, SMTP, SMTP(G-mail), RMON, HTTP, Syslog, MRP (Client), LLDP, IEEE 1588 PTP V1/V2, 802.1x, EAP, RADIUS, TACACS+, Mirror port, QoS, ACL, Serial Console, U-Ring, STP, RSTP, MSTP, Redundancy Compatible Ring, Profinet, Modbus/TCP, UDLD, Security, Trunk,LACP, MLD, 802.1Q VLAN, Port Based VLAN,MAC-Based VLAN, IP-Subnet-Based VLAN, Protocol-Based VLAN, QinQ,802.1x, ARP spoof Prevention, DHCP snooping, IP source Guard, Dynamic ARP Inspection, DHCP relay Agent | IPv4, IPv6, IGMPv1/v2/v3, IGMP Snooping, GARP, GMRP, GVRP, SNMPv1/v2c/v3, SNMP Inform, ICMP, Telnet, SSH, DHCP Relay/Client, BootP, TFTP, NTP Server/Client, SNMP, SMTP, SMTP(G-mail), RMON, HTTP, Syslog, MRP (Client), LLDP, IEEE 1588 PTP V1/V2, 802.1x, EAP, RADIUS, TACACS+, Mirror port, QoS, ACL, Serial Console, U-Ring, STP, RSTP, MSTP, Redundancy Compatible Ring, Profinet, Modbus/TCP, UDLD, Security, Trunk,LACP, MLD, 802.1Q VLAN, Port Based VLAN,MAC-Based VLAN, IP-Subnet-Based VLAN, Protocol-Based VLAN, QinQ,802.1x, ARP spoof Prevention, DHCP snooping, IP source Guard, Dynamic ARP Inspection, DHCP relay Agent | IPv4, IPv6, IGMPv1/v2/v3, IGMP Snooping, GARP, GMRP, GVRP, SNMPv1/v2c/v3, SNMP Inform, ICMP, Telnet, SSH, DHCP Relay/Client, BootP, TFTP, NTP Server/Client, SNMP, SMTP, SMTP(G-mail), RMON, HTTP, Syslog, MRP (Client), LLDP, IEEE 1588 PTP V1/V2, 802.1x, EAP, RADIUS, TACACS+, Mirror port, QoS, ACL, Serial Console, U-Ring, STP, RSTP, MSTP, Redundancy Compatible Ring, Profinet, Modbus/TCP, UDLD, Security, Trunk,LACP, MLD, 802.1Q VLAN, Port Based VLAN,MAC-Based VLAN, IP-Subnet-Based VLAN, Protocol-Based VLAN, QinQ,802.1x, ARP spoof Prevention, DHCP snooping, IP source Guard, Dynamic ARP Inspection, DHCP relay Agent | IPv4, IPv6, IGMPv1/v2/v3, IGMP Snooping,GARP,GMRP, GVRP, SNMPv1/v2c/v3, SNMP Inform, ICMP, Telnet, SSH, DHCP Server/Relay/Client, DHCP Option 66/67/82, BootP, RARP, TFTP, NTP Server/Client, SNMP, SMTP, SMTP (Gmail), RMON, HTTP, HTTPS, Syslog, MRP (Client), LLDP, IEEE 1588 Hardware E2E Transparent Clock, 802.1x, EAP, RADIUS, TACACS+, Mirror port, QoS, ACL, Serial Console, U-Ring, STP, RSTP, MSTP, Redundancy Compatible Ring |
| Automation profiles | Profinet CC-B v2.33 certified, GSDML file provided | Profinet CC-B v2.33 certified, GSDML file provided | Profinet CC-B v2.33 certified, GSDML file provided | Modbus/TCP status registers |
| MIB | MIB II, IF-MIB, SNMPv2 MIB, BRIDGE-MIB, RMON MIB Group 1,2,3,9, RFC RFC 1157, RFC 1213, RFC 1215, RFC 1493, RFC 1643, RFC 1757, RFC 2011, RFC 2012, RFC 2013, RFC 2233, RFC 2571, RFC 2742, RFC 2819, RFC 2863, RFC 3411, RFC 3412, RFC 3413, RFC 3414, RFC 3415 | MIB II, IF-MIB, SNMPv2 MIB, BRIDGE-MIB, RMON MIB Group 1,2,3,9, RFC RFC 1157, RFC 1213, RFC 1215, RFC 1493, RFC 1643, RFC 1757, RFC 2011, RFC 2012, RFC 2013, RFC 2233, RFC 2571, RFC 2742, RFC 2819, RFC 2863, RFC 3411, RFC 3412, RFC 3413, RFC 3414, RFC 3415 | MIB II, IF-MIB, SNMPv2 MIB, BRIDGE-MIB, RMON MIB Group 1,2,3,9, RFC RFC 1157, RFC 1213, RFC 1215, RFC 1493, RFC 1643, RFC 1757, RFC 2011, RFC 2012, RFC 2013, RFC 2233, RFC 2571, RFC 2742, RFC 2819, RFC 2863, RFC 3411, RFC 3412, RFC 3413, RFC 3414, RFC 3415 | MIB II, IF-MIB, SNMPv2 MIB, BRIDGE-MIB, RMON MIB Group 1,2,3,9, RFC RFC 1157, RFC 1213, RFC 1215, RFC 1493, RFC 1643, RFC 1757, RFC 2011, RFC 2012, RFC 2013, RFC 2233, RFC 2571, RFC 2742, RFC 2819, RFC 2863, RFC 3411, RFC 3412, RFC 3413, RFC 3414, RFC 3415, RFC 2674 |
| Switch Properties | | | | |
| Priority Queues | 8 | 8 | 8 | 8 |
| Max. Number of Available | A | A | A | A |
| VLANs | 256 | 256 | 256 | 4096 |
| VLAN ID Range | VID 1 to 4094 | VID 1 to 4094 | VID 1 to 4094 | VID 1 to 4094 |
| Static IGMP Groups | 256 | 256 | 256 | 128 |
| Dynamic IGMP Groups | 256 | 256 | 256 | 256 |
| MAC Table Size | 16K | 16K | 16K | 16k |
| Packet Buffer Size | 12 Mbit | 12 Mbit | 12 Mbit | 1.5Mb |

| MODEL | HIDRA08MG8000X | HIDRA08MG8P800X | HIDRA08MG8P4F4X | HIDRA08MG80007 |
|---------------------------------|--|--|--|--|
| Power | | | | |
| Input voltage | 9-48 VDC | 9-48 VDC | 9-48 VDC | 12~57 VDC |
| Input current | 3.0A @24V | 3.0A @24V | 3.0A @24V | 1.19A @24V |
| Connector | Removable 5-pin Terminal Block | Removable 5-pin Terminal Block | Removable 5-pin Terminal Block | 2 x S-Coding M12 connectors (4 Pin) |
| Redundancy | YES | YES | YES | YES |
| Reverse Polarity Protection | YES | YES | YES | YES |
| Physical characteristics | | | | |
| Housing | Metal | Metal | Metal | Alluminium, IP67 protection according to EN 60529 |
| Protection level | IP30 | IP30 | IP30 | IP67 |
| Installation | DIN-Rail | DIN-Rail | DIN-Rail | Wall-mount |
| Dimension (WxHxD) | 60.3mm x 137.9mm x 164mm | 60.3mm x 137.9mm x 164mm | 60.3mm x 137.9mm x 164mm | 216mm x 232mm x 72mm |
| Weight | 1200g | 1200g | 1200g | 2000 g |
| Led indicators | PWR1, PWR2, Alarm, Run, Ring, Ring Master, RJ-45 Link/Speed, | PWR1, PWR2, Alarm, Run, Ring, Ring Master, RJ-45 Link/Speed, PoE | PWR1, PWR2, Alarm, Run, Ring, Ring Master, RJ-45 Link/Speed, PoE | PWR1, PWR2, Alarm, Ethernet Act/Link, Ring |
| Environmental | | | | |
| Operating Temperature | 20°C~70°C | 20°C~70°C | 20°C~70°C | -40°C~75°C |
| Storage Temperature | -40°C~85°C | -40°C~85°C | -40°C~85°C | -40°C~85°C |
| Ambient Relative Humidity | 5%~95%, 55°C (Non-condensing) | 5%~95%, 55°C (Non-condensing) | 5%~95%, 55°C (Non-condensing) | 5%~95%, 55°C (Non-condensing) |
| Certifications | | | | |
| Safety | UL60950-1 2nd Ed. /CSA C22.2 No.60950-1-07 2nd Ed. / CB (IEC/EN62368-1 & IEC/EN60950-1) | UL60950-1 2nd Ed. /CSA C22.2 No.60950-1-07 2nd Ed. / CB (IEC/EN62368-1 & IEC/EN60950-1) | UL60950-1 2nd Ed. /CSA C22.2 No.60950-1-07 2nd Ed. / CB (IEC/EN62368-1 & IEC/EN60950-1) | EN 60950-1:2006, UL/IEC(CB) 61010-2-201 |
| EMC | FCC Part 15, Subpart B, Class A / EN 61000-6-4:2007+A1:2011 / EN 61000-6-2:2005 | FCC Part 15, Subpart B, Class A / EN 61000-6-4:2007+A1:2011 / EN 61000-6-2:2005 | FCC Part 15, Subpart B, Class A / EN 61000-6-4:2007+A1:2011 / EN 61000-6-2:2005 | FCC Part 15, Subpart B, Class A EN 55032, EN 55024, EN 61000-3-2, EN 61000-3-3, EN 61000-6-2, EN 61000-6-4, |
| Rail traffic | NO | NO | NO | EN50155, EN50121-4, IEC60571, EN45545-2 |
| Test | IEC 61000-4-2 IEC 61000-4-3 IEC 61000-4-4 IEC 61000-4-5 IEC 61000-4-6 IEC 61000-4-8 IEC 61000-4-11 | IEC 61000-4-2 IEC 61000-4-3 IEC 61000-4-4 IEC 61000-4-5 IEC 61000-4-6 IEC 61000-4-8 IEC 61000-4-11 | IEC 61000-4-2 IEC 61000-4-3 IEC 61000-4-4 IEC 61000-4-5 IEC 61000-4-6 IEC 61000-4-8 IEC 61000-4-11 | IEC 61000-4-2 IEC 61000-4-3 IEC 61000-4-4 IEC 61000-4-5 IEC 61000-4-6 IEC 61000-4-8 IEC 61000-4-11 |
| Testing report | | | | |
| Shock | IEC 60068-2-27 | IEC 60068-2-27 | IEC 60068-2-27 | MIL-STD-810G Method 516.5 |
| Drop | IEC 60068-2-32 | IEC 60068-2-32 | IEC 60068-2-32 | MIL-STD-810F Method 516.5 |
| Vibration | IEC 60068-2-64 | IEC 60068-2-64 | IEC 60068-2-64 | MIL-STD-810F Method 514.5 C-1 & C-2 |
| Traffic control | NEMA TS-2 | NEMA TS-2 | NEMA TS-2 | NO |
| RoHS | YES | YES | YES | YES |
| MTBF | 11 years | 11 years | 11 years | 20 years |

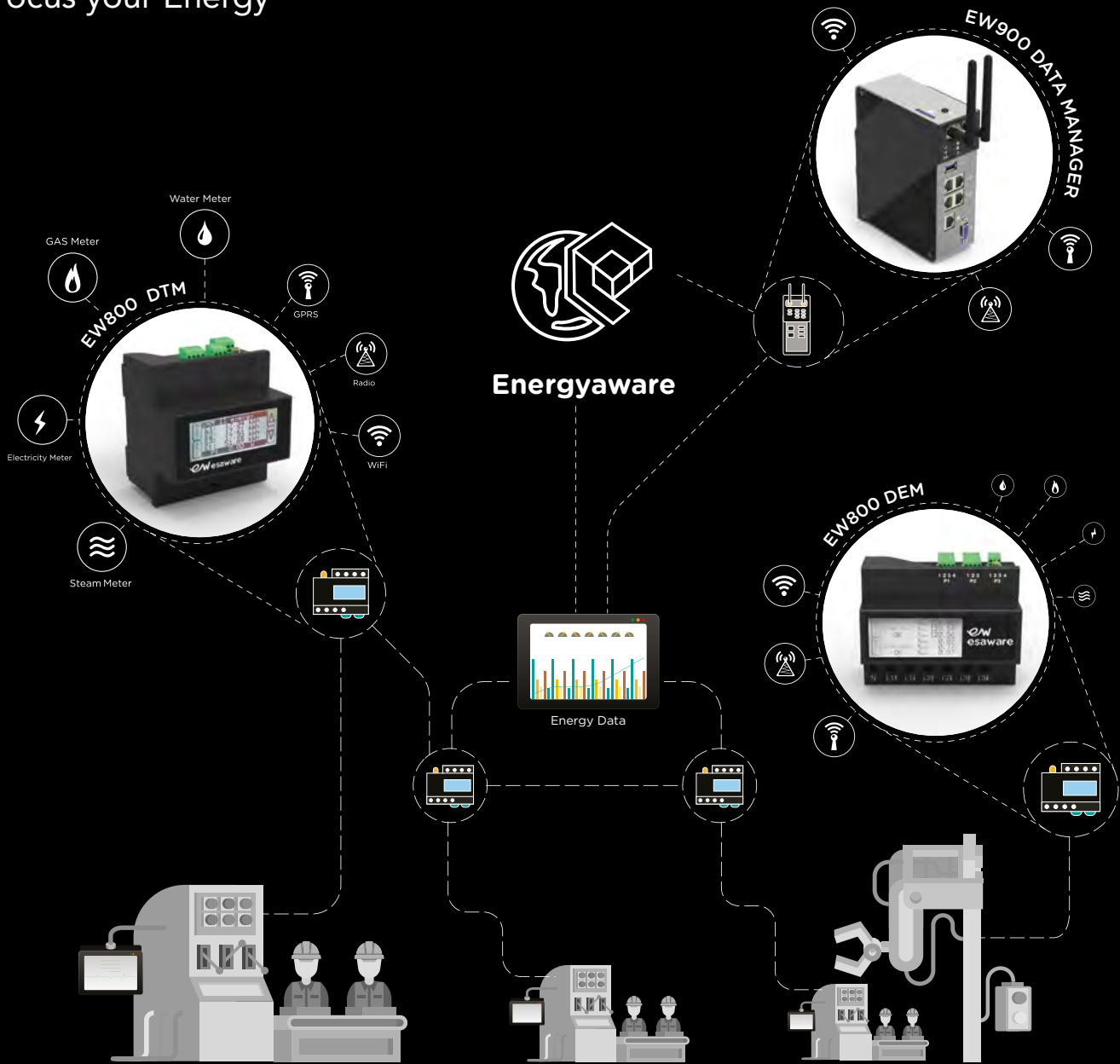
Layer 3

| MODEL | HIDRA083G80000X |
|---|---|
| Interface | |
| Connector | 8 |
| Ethernet Ports | 8 x RJ45 |
| SFP Ports | NO |
| Transmission rate | 10/100/1000BASE-T(X) auto negotiation speed |
| Fiber Ports | NO |
| PoE support | NO |
| PoE voltage booster | NO |
| Console | RS232 (RJ45 connector) |
| Relay Output | 2 relay outputs with current carrying capacity of 1A @24VDC |
| DIP Switches | Ring Control and Profinet settings |
| Reset button | NO |
| Technology | |
| Standards | IEEE802.3 for 10BASE-T IEEE802.3u for 100BASE-T(X) and 100BASEFX IEEE802.3ab for 1000BASE-T(X) IEEE802.3z for 1000BASE-X |
| Flow control | IEEE802.3x for Flow Control IEEE 802.3x for Flow Control IEEE 802.1d-2004 for Spanning Tree Protocol IEEE 802.1w for Rapid Spanning Tree Protocol IEEE 802.1s for Multiple Spanning Tree Protocol IEEE 802.1q for VLAN Tagging IEEE 802.1p for Class of Service IEEE 8021x for Authentication IEEE 802.3ad for Port Trunk with LACP |
| Protocols | IPv4, IPv6, IGMPv1/v2/v3, IGMP Snooping, GARP, GMRP, GVRP, SNMPv1/v2c/v3, SNMP Inform, ICMP, Telnet, SSH, DHCP Server/Relay/Client, DHCP Option 66/67/82, BootP, RARP, TFTP, SMTP, SMTP (Gmail), RMON, HTTP, HTTPS, Syslog, MRP (Client),LLDP,802.1x,EAP,RADIUS,TACACS+,Mirror port, QoS, ACL |
| Layer-3 Protocols | Routing: IPv4 Unicast static routing, RIP v1/v2, OSPFv2, Multicast: IGMPv1/v2/v3, DVMRP, PIM-DM, PIM-SM, PIM-SSM Routing Redundancy: VRRP (Virtual Router Redundancy Protocol) |
| Redundancy | ITU-T G.8032 ERPS Ring, STP, RSTP, MSTP, Compatible Ring/Chain, U-Ring |
| Time Synchronization Network Synchronization | Precision Network Synchronization |
| Time Synchronization NTP Server/Client, SNTP | IEEE1588v1 OC/BC (Software) IEEE1588v2 E2E TC (Hardware) - ns acc. IEEE1588v2 OC/BC (Software) |
| Automation profiles | Modbus/TCP status registers |
| SNMP MIB | MIB II, IF-MIB, SNMPv2 MIB, BRIDGE-MIB, RMON MIB Group 1,2,3,9, RFC RFC 1157, RFC 1213, RFC 1215, RFC 1493, RFC 1643, RFC 1757, RFC 2011, RFC 2012, RFC 2013, RFC 2233, RFC 2571, RFC 2742, RFC 2819, RFC 2863, RFC 3411, RFC 3412, RFC 3413, RFC 3414, RFC 3415, RFC 2674 |
| Switch Properties | |
| Priority Queues | 8 |
| VLAN Table | 4096 |
| MAC based VLAN | 512 |
| VLAN ID Range | VID 1 to 4094 |
| Trunk Group | 4 |
| Static IGMP Groups | 256 |
| Dynamic IGMP Groups | 256 |
| MAC Table Size | 16K |
| Packet Buffer Size | 1.5MB |
| Jumbo frame | 9216 Byte |
| Power | |
| Input voltage | 9-57 VDC |
| Input current | 1.4A |
| Connector | 5-Pin 5.08mm Lockable Terminal Block |
| Redundancy | YES |
| Reverse Polarity Protection | YES |

| MODEL | HIDRA083G8000X |
|---------------------------------|--|
| Physical characteristics | |
| Housing | Alluminium |
| Protection level | IP30 |
| Installation | DIN-Rail |
| Dimension (WxHxD) | 54mm x 113mm x 145 mm |
| Weight | 800g |
| Led indicators | PWR1, PWR2, Alarm, Run, Ring, Ring Master, RJ-45 Link/Speed |
| Enviromental | |
| Operating Temperature | -20°C~70°C |
| Storage Temperature | -40°C~85°C |
| Ambient Relative Humidity | 5%~95%, 55°C (Non-condensing) |
| Certifications | |
| Safety | UL 60950-1 2nd Ed. /CSA C22.2 No.60950-1-07 2nd Ed. / EN 60950-1 / CB |
| EMC | FCC Part 15, Subpart B, Class A EN 55032, EN 55024, EN 61000-3-2, EN 61000-3-3, EN 61000-6-2, EN 61000-6-4 |
| Traffic Control | NEMA TS-2 |
| Rail traffic | EN50155 - EN50121-4 |
| Test | IEC 61000-4-2 IEC 61000-4-3 IEC 61000-4-4 IEC 61000-4-5 IEC 61000-4-6 IEC 61000-4-8 IEC 61000-4-11 |
| Testing report | |
| Shock | MIL-STD-810G Method 516.5 |
| Drop | MIL-STD-810F Method 516.5 |
| Vibration | MIL-STD-810F Method 514.5 C-1 & C-2 |
| High Altitude | Certified for altitudes up to 4,000m, according to IEC 60068-2-13 |
| RoHS II | YES |
| MTBF | 20 years |

ENERGY

Focus your Energy



The SMART METER technological platform for continuous monitoring of energy consumption responds to the increasingly pressing need to have a continuous, reliable and accurate report of the measures related to the various characteristics of the energy used. This allows the user to identify the actions needed in order to obtain an improvement in efficiency. The new technological approach, which also exploits what is proposed by the IoT paradigm, brings intelligence directly to the sensor level. The single sensor (Meters EW800) aggregates and normalizes the data, optimized in term of size and cost, published by devices located in the plant (Data Manager EW900).

The aggregated data are published via standard webpages (HTML5) that can be displayed in a browser without any additional plug-in.

The platform allows the use of minimally invasive communication infrastructures such as wireless communication (3G, 4G, WiFi, 868) and allows to optimize the installation costs.

Finally, the distributed networking let the user develop a smart and optimized cost effective solution that allows to obtain important ROIs (Return on Investment) in a short period.

ENERGYAWARE

Data Manager pre-installed software for measurement, monitoring and remote / local control of smart meter networks. The software integrates all the functions of an advanced Energy Management system. Acquisition of the consumption data, VPN connection for the remote control, secure access to the database historical data.



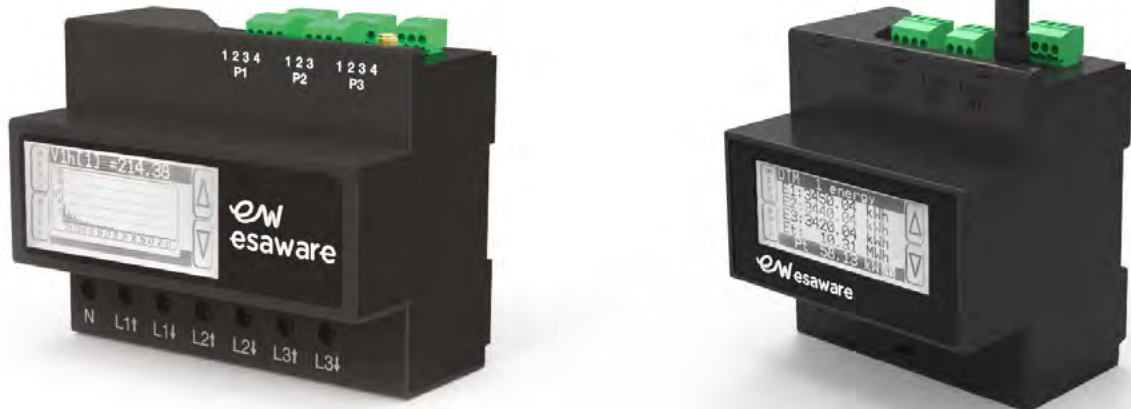
Accessories (EW8ET)

Current and voltage transformers, Rogowski coils to be used with EW800B (DTM) and EW800C (DRM).



Smart Meters (EW800)

The EW800 smart meters are the basic elements of a measurement system, capable of monitoring the plant's punctual consumption, for a distributed analysis of energy profiles. In addition to the measurement of line quantities, EW800 provides the main network quality parameters. An EW800 network can count up to 250 devices managed by an EW900 series Data Manager.



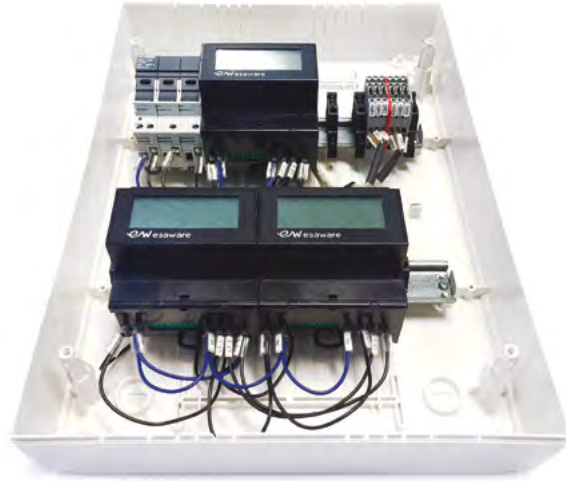
Data Manager (EW900)

Compact Data Manager for the acquisition, storage and management of measurements of electricity and other sources (water, gas, ...), allows you to connect up to 250 devices (ESA or third parties), can be configured with : LAN ports (1 or 3), WiFi module, 3G cellular module, 868 MHz wireless module, RS485 port, USB port and digital I / O module (3 inputs and 3 outputs). The configuration software EnergyAware is preinstalled. The basic version allows a complete web management of the device including the advanced display of the measures both in graphical and tabular form.



Kit ESCo (EW8BX)

The ESCO kit extremely simplify the creation of an effective measurement system for monitoring energy consumption by assembling all the necessary hardware and software components in a single object (an electrical panel). The kit is also accompanied by all the necessary declarations of conformity and it is not necessary a new certification of the electrical systems that will be monitored. The user simply needs to connect the power supply and the CTs related to the measurements to be detected. Everything else is self-configuring and makes monitoring data available immediately. The “pre-packaged” monitoring system can be expanded using the BASIC panel combined with one or more EXTENSION panels.





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