

# Heavy Duty Power Relay MGN

## 30 Amp Heavy Duty Relay

- Class F coil insulation system for 155°C (311°F)
- Coil molded in DuPont Rynite® for environmental protection
- Rugged construction rivets terminals to base
- cUL<sub>US</sub> Listed
- Short Circuit Current Rating (SCCR) of 5kA, 600VAC



## Ordering Information

To Order: Select part number and add the desired coil voltage rating (e.g. MGN1C-AC24)

Base size	Contact Form	Model
Short	SPDT	MGN1C
	SPST-NO	MGN1A
	SPST-NO-DM	MGN1X (see note)
	DPST-NO	MGN2A
Long	DPDT	MGN2C
	DPDT	MGN2CM (see note)
MG series dust cover		MGCOV

**Note 1:** MGN2CM is magnetic blow-out type. Available in following coil voltages:  
 AC: 120, 240  
 DC: 12, 24, 48

**Note 2:** MGN1X is available in following coil voltages:  
 AC: 12, 24, 120  
 DC: 12, 24

## Specifications

### Contact Data

Materials	All versions 5/16" diameter Ag-Alloy
Contact UL ratings	30 amp or 1-1/2 hp @ 120 or 240 VAC, 2 hp @ 240 VAC, 3,600w @ 120 or 240 VAC (ballast), 30 amp @ 240 VAC, 100,000 cycle (resistive), 20 amp @ 600 VAC, 30 amp @ 28 VDC
UL file number	E323870

**Note:** Magnetic Blow-out versions also have a 20 amp @ 125 VDC (resistive) load rating.

## ■ Coil Data

### AC

Nominal voltage	Resistance in Ohms ± 10%	Nominal coil power	Coil voltages	Coil treatment	Insulation resistance	Pick up voltage at 25 C (77 F)
6 VAC*	0.85	9.5 VA	Up to 600 volts/60 Hz	Molded Rynite® Std. Class F	100 megohms min.	85% or less of nominal
12 VAC*	2.85					
24 VAC	11.5					
120 VAC	295					
240 VAC	1,170					
480 VAC*	4,860					

### DC

Nominal voltage	Resistance in Ohms ± 10%	Nominal coil power	Coil voltages	Coil treatment	Insulation resistance	Pick up voltage at 25 C (77 F)
6 VDC*	18	2W	Up to 125 volts	Molded Rynite® Std. Class F	100 megohms min.	75% or less of nominal
12 VDC	72					
24 VDC	290					
48 VDC*	1,150					
110 VDC*	6,050					

**Note:** All rated coil voltages denoted by \* will be manufactured upon special request. Please consult with an Omron Representative for more details.

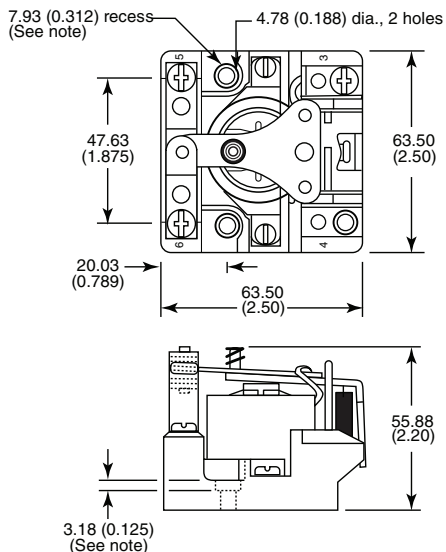
## ■ Characteristics

Operate time	Approximately 30 ms	
Release time	Approximately 30 ms	
Operating ambient temperature	AC: -45 to 80 C (-49 to 176 F) @ 30 amps	
	DC: -45 to 115 C (-49 to 239 F) @ 30 amps	
Coil temperature rise	25 C ambient-continuous duty	
	AC: 70 C (158 F) approx. @ 60 Hz (use at 50 Hz will cause slight increase in coil rise)	
	DC: 35 C (95 F) approx.	
Life expectancy	Electrical at rated load	100,000 operations (minimum)
	Mechanical	1,000,000 operations
Dielectric strength	2,200 VRMS, 60 Hz between contacts	
	2,200 VRMS, 60 Hz between other elements	
Terminals	Screw type	
Weight	Short base version: approx 227 g (8 oz)	
	Long base version: approx 283 g (10 oz)	

# Dimensions

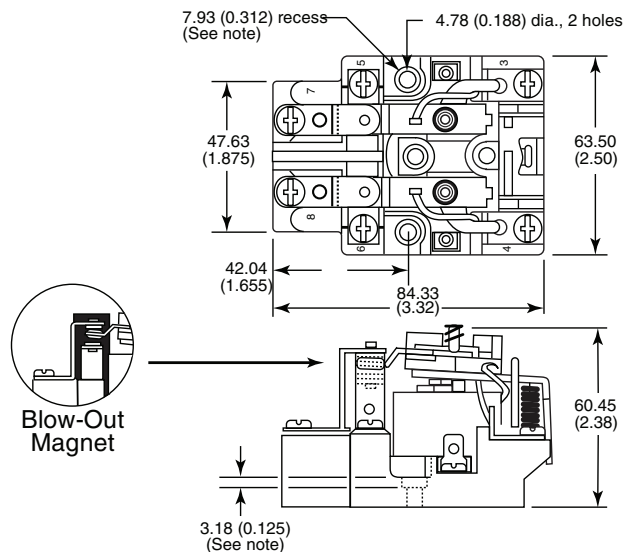
Unit: mm (inch)

## ■ MGN (Short Base)



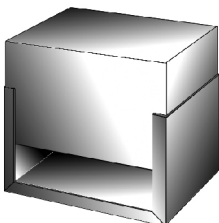
**Note:** Recess for screw mounting on units with 300-600 VAC coils

## ■ MGN (Long Base)



**Note:** Recess for screw mounting on units with 300-600 VAC coils

## ■ MG Series Dust Cover (Optional)



Sealed knock-out holes for standard conduit fittings. Relay mounts on pre-drilled base. Constructed of Aluminum. Snap-action cover release.

127W x 76.2H x 101.6D mm (5W x 3H x 4D in)

**ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.**

To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

MEMO

A large grid of dashed lines for taking notes, consisting of 20 columns and 30 rows of small squares.

## Read and Understand This Catalog

Please read and understand this catalog before purchasing the products. Please consult your OMRON representative if you have any questions or comments.

## Warranty and Limitations of Liability

### WARRANTY

OMRON's exclusive warranty is that the products are free from defects in materials and workmanship for a period of one year (or other period if specified) from date of sale by OMRON.

OMRON MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, REGARDING NON-INFRINGEMENT, MERCHANTABILITY, OR FITNESS FOR PARTICULAR PURPOSE OF THE PRODUCTS. ANY BUYER OR USER ACKNOWLEDGES THAT THE BUYER OR USER ALONE HAS DETERMINED THAT THE PRODUCTS WILL SUITABLY MEET THE REQUIREMENTS OF THEIR INTENDED USE. OMRON DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED.

### LIMITATIONS OF LIABILITY

OMRON SHALL NOT BE RESPONSIBLE FOR SPECIAL, INDIRECT, OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR COMMERCIAL LOSS IN ANY WAY CONNECTED WITH THE PRODUCTS, WHETHER SUCH CLAIM IS BASED ON CONTRACT, WARRANTY, NEGLIGENCE, OR STRICT LIABILITY.

In no event shall the responsibility of OMRON for any act exceed the individual price of the product on which liability is asserted.

IN NO EVENT SHALL OMRON BE RESPONSIBLE FOR WARRANTY, REPAIR, OR OTHER CLAIMS REGARDING THE PRODUCTS UNLESS OMRON'S ANALYSIS CONFIRMS THAT THE PRODUCTS WERE PROPERLY HANDLED, STORED, INSTALLED, AND MAINTAINED AND NOT SUBJECT TO CONTAMINATION, ABUSE, MISUSE, OR INAPPROPRIATE MODIFICATION OR REPAIR.

## Application Considerations

### SUITABILITY FOR USE

OMRON shall not be responsible for conformity with any standards, codes, or regulations that apply to the combination of products in the customer's application or use of the products.

At the customer's request, OMRON will provide applicable third party certification documents identifying ratings and limitations of use that apply to the products. This information by itself is not sufficient for a complete determination of the suitability of the products in combination with the end product, machine, system, or other application or use.

The following are some examples of applications for which particular attention must be given. This is not intended to be an exhaustive list of all possible uses of the products, nor is it intended to imply that the uses listed may be suitable for the products:

- Outdoor use, uses involving potential chemical contamination or electrical interference, or conditions or uses not described in this catalog.
- Nuclear energy control systems, combustion systems, railroad systems, aviation systems, medical equipment, amusement machines, vehicles, safety equipment, and installations subject to separate industry or government regulations.
- Systems, machines, and equipment that could present a risk to life or property.

Please know and observe all prohibitions of use applicable to the products.

NEVER USE THE PRODUCTS FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON PRODUCTS ARE PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.

### PROGRAMMABLE PRODUCTS

OMRON shall not be responsible for the user's programming of a programmable product, or any consequence thereof.

## Disclaimers

### CHANGE IN SPECIFICATIONS

Product specifications and accessories may be changed at any time based on improvements and other reasons.

It is our practice to change model numbers when published ratings or features are changed, or when significant construction changes are made. However, some specifications of the products may be changed without any notice. When in doubt, special model numbers may be assigned to fix or establish key specifications for your application on your request. Please consult with your OMRON representative at any time to confirm actual specifications of purchased products.

### DIMENSIONS AND WEIGHTS

Dimensions and weights are nominal and are not to be used for manufacturing purposes, even when tolerances are shown.

### PERFORMANCE DATA

Performance data given in this catalog is provided as a guide for the user in determining suitability and does not constitute a warranty. It may represent the result of OMRON's test conditions, and the users must correlate it to actual application requirements. Actual performance is subject to the OMRON Warranty and Limitations of Liability.

### ERRORS AND OMISSIONS

The information in this document has been carefully checked and is believed to be accurate; however, no responsibility is assumed for clerical, typographical, or proofreading errors, or omissions.

**OMRON AUTOMATION AMERICAS HEADQUARTERS** • Chicago, IL USA • 847.843.7900 • 800.556.6766 • [www.omron247.com](http://www.omron247.com)

**OMRON CANADA, INC. • HEAD OFFICE**

Toronto, ON, Canada • 416.286.6465 • 866.986.6766 • [www.omron247.com](http://www.omron247.com)

**OMRON ELECTRONICS DE MEXICO • HEAD OFFICE**

México DF • 52.55.59.01.43.00 • 01-800-226-6766 • [mela@omron.com](mailto:mela@omron.com)

**OMRON ELECTRONICS DE MEXICO • SALES OFFICE**

Apodaca, N.L. • 52.81.11.56.99.20 • 01-800-226-6766 • [mela@omron.com](mailto:mela@omron.com)

**OMRON ELETRÔNICA DO BRASIL LTDA • HEAD OFFICE**

São Paulo, SP, Brasil • 55.11.2101.6300 • [www.omron.com.br](http://www.omron.com.br)

**OMRON ARGENTINA • SALES OFFICE**

Cono Sur • 54.11.4783.5300

**OMRON CHILE • SALES OFFICE**

Santiago • 56.9.9917.3920

**OTHER OMRON LATIN AMERICA SALES**

54.11.4783.5300

**OMRON EUROPE B.V.** • Wegalaan 67-69, NL-2132 JD, Hoofddorp, The Netherlands. • +31 (0) 23 568 13 00 • [www.industrial.omron.eu](http://www.industrial.omron.eu)

*Authorized Distributor:*

**Controllers & I/O**

- Machine Automation Controllers (MAC) • Motion Controllers
- Programmable Logic Controllers (PLC) • Temperature Controllers • Remote I/O

**Robotics**

- Industrial Robots • Mobile Robots

**Operator Interfaces**

- Human Machine Interface (HMI)

**Motion & Drives**

- Machine Automation Controllers (MAC) • Motion Controllers • Servo Systems
- Frequency Inverters

**Vision, Measurement & Identification**

- Vision Sensors & Systems • Measurement Sensors • Auto Identification Systems

**Sensing**

- Photoelectric Sensors • Fiber-Optic Sensors • Proximity Sensors
- Rotary Encoders • Ultrasonic Sensors

**Safety**

- Safety Light Curtains • Safety Laser Scanners • Programmable Safety Systems
- Safety Mats and Edges • Safety Door Switches • Emergency Stop Devices
- Safety Switches & Operator Controls • Safety Monitoring/Force-guided Relays

**Control Components**

- Power Supplies • Timers • Counters • Programmable Relays
- Digital Panel Meters • Monitoring Products

**Switches & Relays**

- Limit Switches • Pushbutton Switches • Electromechanical Relays
- Solid State Relays

**Software**

- Programming & Configuration • Runtime