

# 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             |
|                      | SPST-NO      | MGN1AM (see note) |
|                      | SPST-NC      | MGN1B             |
|                      | DPST-NO      | MGN2A             |
| Long                 | DPDT         | MGN2C             |
|                      | DPDT         | MGN2CM (see note) |
| MG series dust cover |              | MGCOV             |

**Note:** Magnetic blow-out version

## 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     | E41643                                                                                                                                                                 |

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

## ■ Coil Data

### AC

| Nominal voltage | Resistance in Ohms $\pm 10\%$ | 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 $\pm 10\%$ | 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                         |                    |                 |                             |                       |                                |

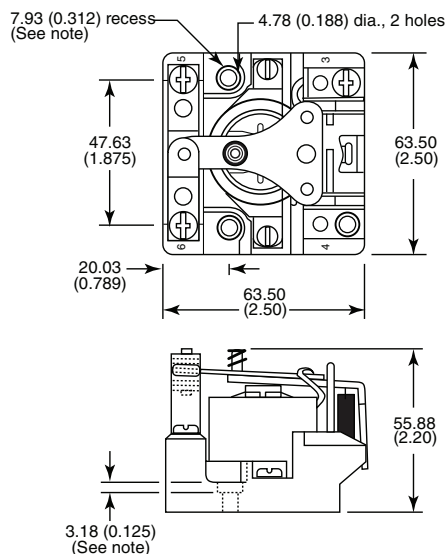
## ■ Characteristics

|                               |                          |                                                                                         |
|-------------------------------|--------------------------|-----------------------------------------------------------------------------------------|
| 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

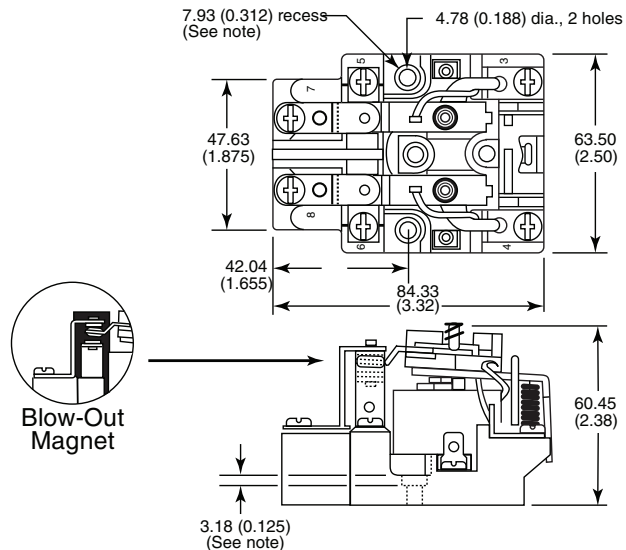
Unit: mm (inch)

## ■ MGN (Short Base)



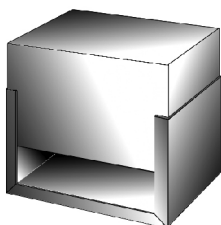
**Note:** Recess for screw mounting on units with 300-600 VAC coils

## ■ 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)

# MEMO

# Omron Electronic Components, LLC

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

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