

E-SAFE™ Relay Provides Cost-Effective Mercury-Free Power Switching

The newly released E-SAFE™ mercury-free relay from Watlow provides reliable and accurate power switching for processing applications.

This relay can exceed the performance of typical mercury relays while fitting within the same footprint. The E-SAFE relay bridges the gap between mercury displacement relays (MDRs) and solid state relays (SSRs) by providing superior power switching in a non-mercury solution at a lower cost. This mercury-free relay also provides longer contact life and higher performance than typical mechanical relays used in equipment.

The E-SAFE relay eliminates mercury, arcing and electrical noise and it provides processors with an excellent solution for equipment power switching. The absence of mercury in the unit eliminates the concern of a toxic metal hazard in processing environments.

Specifications

- Output rating: from 20A to 40A maximum resistive load at -30 to 55°C (-22 to 130°F)
- Maximum power switching voltage: 208/240V~(ac), three pole
- Coil voltage: 120V~(ac)
- Maximum operating ambient temperature: 55°C (130°F)
- Maximum cycle rate: 30 cycles per minute

Applications

- Plastics processing
- Packaging
- Ovens/furnaces
- Petroleum/chemical
- Semiconductor processing
- Wave soldering
- Foodservice equipment



Features and Benefits

High current transient suppression

- High reliability
- Extended contact life
- Low electrical noise
- Out performs mechanical contactors
- Out performs mercury displacement relays

Compact size

- Fits footprint of definite purpose relays and most 30 to 50 amp mercury relays
- Easily retrofittable

Environmentally safer than mercury contactors

- Eliminates toxic waste (mercury) disposal from failed mercury contactors

Agency Approvals

- UL® 508 listed and C-UL approved

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1241 Bundy Boulevard, P.O. Box 5580
Winona, Minnesota 55987-5580 USA

WIN-ESR-0601



Specifications—2018

Control Mode

- Zero cross switching output
- Form A outputs, without arcing
- Cycle rate: 30 cycles per minute, maximum.

Input Command Signal

- 120V~(ac) (+10% / -10%) relay coil input
- 50/60 Hz, less than 9VA

Output Rating

- 20A to 40A max. per pole into a resistive load
- 208/240V~(ac), 50/60 Hz, each pole
- Three pole

Operating Life

- 1,000,000 switching cycles at max. rating

Weight/Dimensions

- Weight: 1.25 lb (0.560 kg)
- 96.0 mm (3.78 in.) high x 82.3 mm (3.24 in.) wide x 90.2 mm (3.55 in.) deep

Terminals

- Control input: Compression, accept #22 to 10 (0.2 to 6 mm²) AWG wire. Torque to 7 in-lbs (0.8 Nm) max.
- Output: Compression, accept #14 to 6 (2.5 to 16 mm²) AWG wire. Torque to 35 in-lbs max. (3.95 Nm)

Operating Environment

- Operating temperature up to -30 to 55°C/-22 to 130°F
- 5 to 85% RH, non-condensing
- Shipping and storage temperature -40 to 85°C/-40 to 185°F

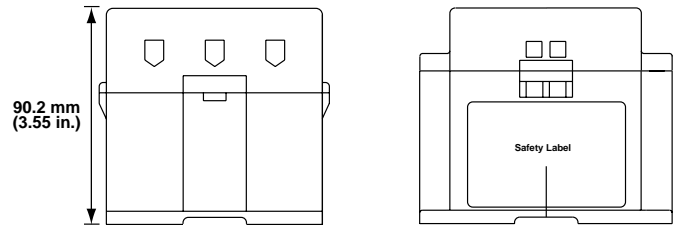
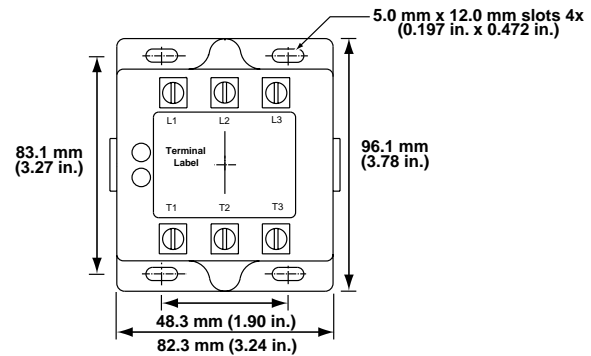
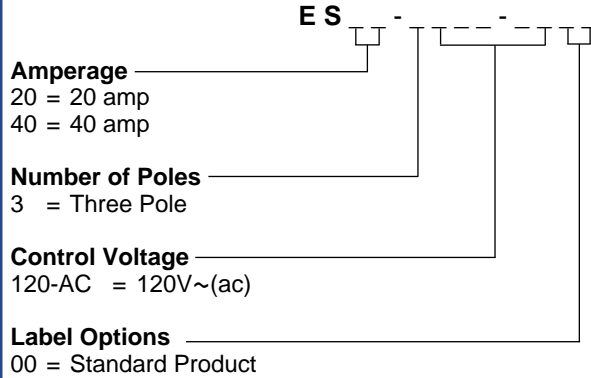
Mounting

- Definite purpose relay and MDR mounting footprint

Agency Approvals

- UL® 508 listed, C-UL approved, File #E213822

Ordering Information—2019



E-SAFE Relay In Operation

