

E-SAFE™ Mercury-Free Relay Provides Food Safety Assurance



Watlow's E-SAFE™ mercury-free relay provides reliable and accurate power switching for the foodservice industry. The absence of mercury in the unit eliminates foodservice operator's concern of a toxic metal hazard for food safety.

The E-SAFE relay fills the gap between mercury displacement relays (MDRs) and solid state relays (SSRs), providing superior power switching in a non-mercury solution at a lower cost. This mercury-free relay fits within the same footprint and provides foodservice operators with longer contact life and higher performance than typical mechanical relays used in equipment.

The E-SAFE relay provides restaurants with an ideal solution for equipment power switching by eliminating mercury and reducing arcing and electrical noise.

The use of mercury relays is trending downward due to many regulations affecting the use of mercury in the United States and around the world. At the heart of the issue is the governmental classification of mercury as a hazardous material. The result is that the transportation, use, sale and disposal of mercury and mercury containing products are regulated. In many instances, such products are being banned.

Many businesses are opting to use alternative technology since the costs of using mercury outweigh the benefits. Mercury switches have been banned abroad and it is expected that this will occur in the United States once alternatives to mercury switches are made available to potential users. The E-SAFE relay is one of those alternatives.

The E-SAFE relay is UL® 508 listed and C-UL® approved.

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: 24V~(ac), 120V~(ac), 220V~(ac),
- Maximum operating ambient temperature: 55°C (130°F)
- Maximum cycle rate: 30 cycles per minute

Features and Benefits

Improves restaurant safety

- Eliminates risk of toxic metals in conjunction with food
- Prevents the possibility of consumer illness from mercury contamination

High current transient suppression

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

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

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Specifications

Control Mode

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

Input Command Signal

- 24V~(ac) (+10 / -15 percent), 120V~(ac) (+10 / -10 percent) relay coil input, 220V~(ac) (+10 / -15 percent)
- 50/60Hz, less than 9VA

Note: Do not use an R/C snubber (filter) on the E-SAFE relay input command signal

Output Rating

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

Operating Life

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

Weight/Dimensions

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

Terminals

- Controller 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 percent RH, non-condensing
- Shipping and storage temperature -40 to 85°C (-40 to 185°F)

Mounting

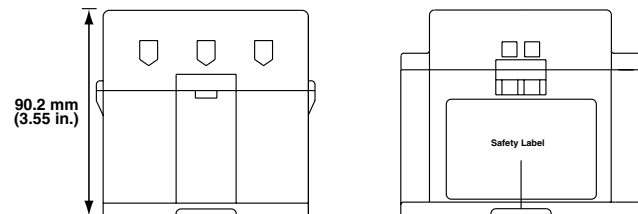
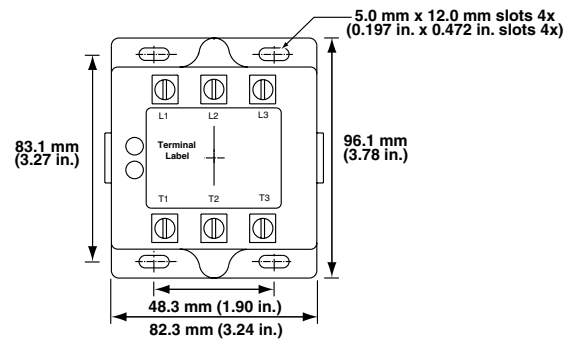
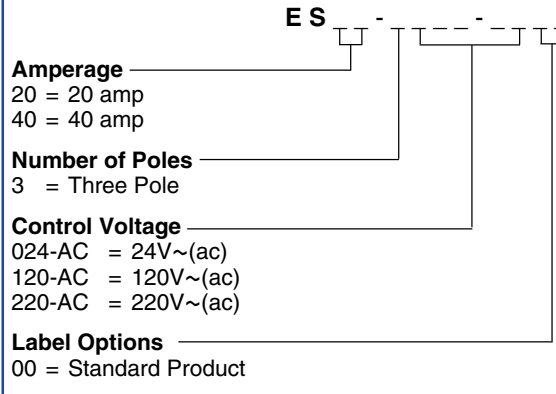
- Definite purpose relay and MDR mounting footprint

Agency Approvals

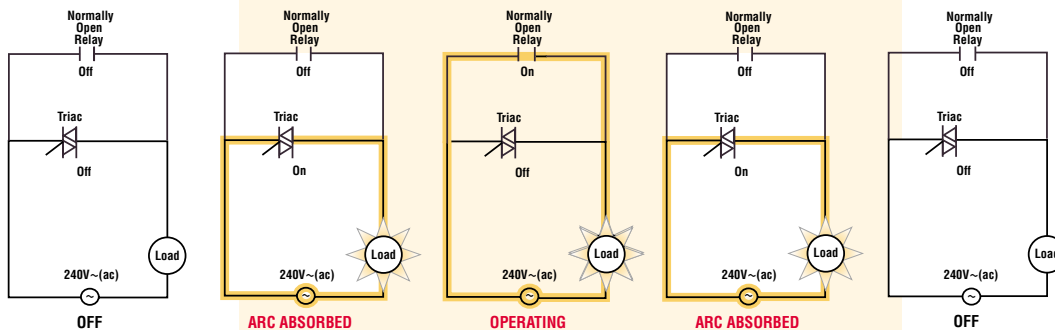
- UL® 508 listed, C-UL® approved, File #E213822

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Ordering Information



E-SAFE Relay In Operation



Conduction Path

Your Authorized Watlow Distributor is: