



## SCR Power Controller Delivers Up To 100 Amps in a Smart Package

The Watlow DIN-A-MITE® Style D SCR power controller provides you with an inexpensive, versatile product for controlling heat in an efficient package. You also get all the quality you expect from a Watlow designed and manufactured product. The standard back panel mounting footprint is equal to that of an industry standard mercury displacement relay. There is no need to worry about mercury; the DIN-A-MITE controller is mercury free.

The DIN-A-MITE Style D is capable of zero cross switching up to 100 amps single phase, at 600V~(ac) at 30°C (86°F), depending on the model selected. Gang together the input of two or three controllers and you can control three phase. It is totally touch-safe and includes standard back panel mounting, on-board semiconductor fuses (accessible from the front) and a current transformer option for external load current monitoring. An optional "shorted SCR detector" feature is available on some models. UL® 508 and C-UL® and CE approved. These agency approvals are ideal for those panel builders that require agency approvals on their panels and cabinets.

Variable time base, 4-20mA process control, or  $V_{ac}$  input contactor options are available. All configurations are model number dependent and factory selectable.

The DIN-A-MITE Style D power controller is made in the USA.

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### Your Authorized Watlow Distributor Is:

### Features and Benefits

#### Standard panel mount

- Provides same mount as industry standard 100A MDR

#### Compact size

- Reduced panel space; less cost

#### Touch-safe terminals

- Increased safety for installer/user

#### No mercury

- Environmentally safe product

#### Faster switching with solid state

- Saves energy and extends heater life

#### UL® 508 listed, C-UL® and CE with filter

- Meets applications requiring agency approval

#### Back-to-back SCR design

- Rugged design

#### On-board semiconductor fusing

- Provides quick access with no extra mounting necessary



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WIN-DMD-0403  
**ISO 9001**



Registered Company  
Winona, Minnesota USA



## Specifications

### Amperage

- See the Output Rating Curve chart below
- Maximum surge current for 16.6 milliseconds, 1,800-amp peak
- Latching current: 500mA minimum
- Holding current: 200mA minimum
- Power dissipation is 1.4 watts per amp switched including on-board fusing

### Line Voltage

- 24 to 48 V~(ac) units: 20 minimum to 53V~(ac) maximum
- 100 to 240 V~(ac) units: 48 minimum to 265V~(ac) maximum
- 277 to 480 V~(ac) units: 85 minimum to 528V~(ac) maximum
- 277 to 600 V~(ac) units: 85 minimum to 660V~(ac) maximum
- 50/60Hz independent +/-5 percent

### Control Mode, Zero Cross

- Input Control Signal Type C: V=(dc) input contactor
- Input Control Signal Type K: V~(ac) input contactor
- To increase service life, the cycle time should be less than three seconds
- Input Control Signal Type F: 4 to 20mA=(dc) variable time base control

### Input Command Signal

- AC contactor, 24V~(ac) ±10 percent, 120V~(ac) +10/-25 percent, 240V~(ac) +10/-25 percent @ 25 mA maximum per controlled leg
- DC Contactor, 4.5 to 32 V=(dc): maximum current @ 4.5V=(dc) is 8mA per leg
- Loop powered linear current 4 to 20mA=(dc). Input Type F0 option only. No more than three DIN-A-MITE inputs connected in series

### Alarm

#### Shorted SCR Alarm Option

- Alarm state when the input command signal off and a 15A or more load current is detected by the current transformer


#### Alarm Output

- Energizes on alarm, non-latching
- Triac 24 to 240V~(ac) external supply with a current rating of 300mA @ 25°C (77°F)

#### Current Sensing

- On-board current transformer (CT), typically 0.2 V~(ac) output signal per ampere sensed into 1,000Ω load

#### Agency Approvals

- CE with proper filter: 89/336/EEC Electromagnetic Compatibility Directive EN 61326: Industrial Immunity Class A emissions Not suitable for Class B emissions environment 73/23/EEC Low Voltage Directive EN 50178 Safety Requirements
-  US UL® 508-listed and C-UL® File E73741

#### Input Terminals

- Compression: will accept 0.13 to 3.3 mm<sup>2</sup> (26 to 12 AWG) wire

#### Line and Load Terminals

- Compression: will accept 13.3 to 33.6 mm<sup>2</sup> (6 to 2 AWG) wire

#### Operating Environment

- Operating temperature range: 0 to 85°C (32 to 185°F)
- 0 to 90% RH (relative humidity), non-condensing
- Vibration: 2 g, 10Hz to 150Hz, applied in any one of three axes
- Storage temperature: -40 to 85°C (-40 to 185°F)
- Insulation tested to 3,000 meters
- Installation Category III, pollution degree 2

#### Mounting

- Back panel mounting; fits the same mounting pattern as a 100A, single-phase mercury displacement relay
- On-board semiconductor fusing

#### Dimensions

- Height: 185 mm (7.25 in.) high x 65 mm (2.5 in.) wide x 240 mm (9.4 in.) deep
- Weight: 2.95 kg (6.5 lb)

Specifications are subject to change without notice.

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## Ordering Information

To order, complete the model number on the right with the information below.

### DIN-A-MITE

Style D = solid state power controller

### Phase

1 = 1 phase, 1 controlled leg

### Cooling and Current Rating

0 = Natural convection current rating 80A @ 50°C (122°F)  
(Note: See the output rating curve for the current rating at other temperatures.)

### Line and Load Voltage

02 = 24 to 48V~(ac)  
24 = 100 to 240V~(ac)  
48 = 277 to 480V~(ac)  
60 = 277 to 600V~(ac)

### Input Control Signal

C0 = 4.5 to 32V=(dc) contactor  
F0 = 4 to 20mA=(dc) proportional  
K1 = 22 to 26V~(ac) contactor  
K2 = 100 to 120V~(ac) contactor  
K3 = 200 to 240V~(ac) contactor

### Current Sensing or Alarm

0 = No alarm  
1 = Load current transformer  
S = Shorted SCR alarm

### User Manual Language

0 = English  
1 = German  
2 = Spanish  
3 = French

### Custom Options

00 = Standard parts

### Recommended Semiconductor Fuse:

Watlow P/N: 0808-0096-0000  
Bussmann P/N: 170N3437

## Output Rating Curve

