

# Power Switching Devices

## DIN-A-MITE D

The DIN-A-MITE D silicon controlled rectifier (SCR) power controller provides an inexpensive, versatile product for controlling heat in an efficient package. This controller is designed and manufactured with the quality features expected from Watlow. The mounting footprint matches that of the industry standard mercury displacement relay (MDR), but 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 amperes single-phase, at 600VAC at 86°F (30°C), depending on the model selected. Combining the input of two or three controllers allows control of three-phase loads. The controller is completely touch-safe and includes on-board, front-accessible, semiconductor fuses. Options include a current transformer for load current monitoring and a shorted output alarm. The controller is UL® 508, C-UL® and CE approved making it ideal for panels and cabinets that require agency approvals.

Variable time-base, 4-20mA process control and VAC/VDC input contactor options are available. All options are model number dependent and factory configurable. This power controller also includes 200KA short circuit current rating (SCCR) tested up to 480VAC to minimize damage in the event of a short circuit when used with required fusing.



### Features and Benefits

#### 200KA SCCR with proper fusing

- Minimizes damage in the event of a short circuit

#### Standard panel mount

- Provides same mount as industry standard 100A MDR

#### Compact size

- Reduces panel space and cost

#### Touch-safe terminals

- Increases safety for installer and user

#### Mercury free

- Assures environmental safety

#### Faster switching with solid state

- Saves energy and extends heater life

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

- Meets applications requiring agency approval
- Reduces end product documentation

#### Back-to-back SCR design

- Ensures a rugged design

#### On-board semiconductor fusing

- Provides quick access with no extra mounting necessary

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### Specifications

#### Amperage

- See the Output Rating Curve below
- Max. surge current for 16.6ms, 1,800A peak
- Latching current: 500mA min.
- Holding current: 200mA min.
- Power dissipation is 1.4 watts per ampere switched including on-board fusing
- 200KA SCCR, Type 1 and 2 approved with the recommended fusing; see user manual

#### Line Voltage

- 24 to 48VAC units: 20VAC min. to 53VAC max.
- 100 to 240VAC units: 48VAC min. to 265VAC max.
- 277 to 480VAC units: 85VAC min. to 528VAC max.
- 277 to 600VAC units: 85VAC min. to 660VAC max.
- 50/60Hz independent  $\pm 5\%$

#### Control Mode, Zero Cross

- Control option C: VDC input, contactor output
- Control option K: VAC input, contactor output
- To increase service life, the cycle time should be less than three seconds
- Control option F: 4 to 20mA DC input, variable time-base control output

#### Control Input

- AC contactor: 24VAC  $\pm 10\%$ , 120VAC  $+10/-25\%$ , 240VAC  $+10/-25\%$  @ 25 mA max. per controlled leg
- DC Contactor: 4.5 to 32VDC: max. current @ 4.5VDC is 8mA per leg
- Linear current: 4 to 20mA DC, loop powered, input Type F0 option only, no more than three DIN-A-MITE inputs connected in series

#### 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 240VAC external supply with a current rating of 300mA @ 77°F (25°C)

#### Current Sensing

- On-board current transformer (CT), typically 0.2VAC output signal per ampere sensed into 1,000 $\Omega$  load

### Agency Approvals

- CE with proper filter:  
204/108/EC Electromagnetic Compatibility Directive  
EN 61326-1: Industrial Immunity Class A Emissions  
Not suitable for Class B emissions environment  
2006/95/EC Low Voltage Directive  
EN 50178 Safety Requirements
-  UL® 508-listed and C-UL® File E73741

### Control Input Terminals

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

### Line and Load Terminals

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

### Operating Environment

- Operating temperature range: -4 to 176°F (-20 to 80°C)
- 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 185°F (-40 to 85°C)
- Insulation tested to 3,000 meters
- Installation Category III, pollution degree 2

### Mounting

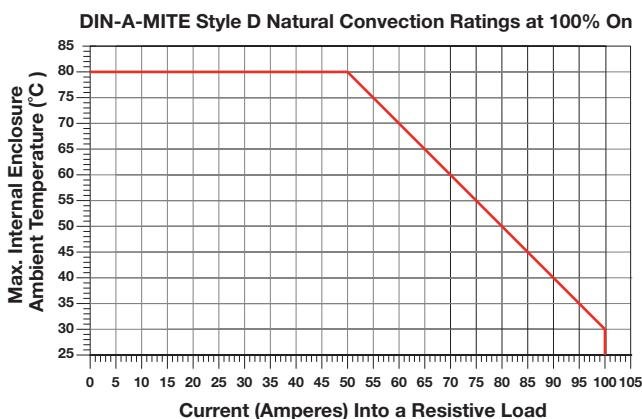
- Back-panel mounting; fits the same mounting pattern as a 100A, single-phase mercury displacement relay
- On-board semiconductor fusing

### Dimensions

- 7.3 in. (185 mm) high x 2.6 in. (66 mm) wide x 9.4 in. (239 mm) deep
- Weight: 6.5 lb (2.95kg)

Specifications are subject to change without notice.

### Output Rating Curve



# Power Switching Devices

## DIN-A-MITE D

### Ordering Information

#### Part Number

①	②	③	④	⑤ ⑥	⑦ ⑧	⑨	⑩	⑪ ⑫
		Phase	Cooling & Current Rating	Line & Load Voltage	Control	Current Sensing or Alarm	User Manual	Custom Options
D	D	1	0	-	-			

③	Phase
1 =	1-phase, 1 controlled leg

④	Cooling and Current Rating (See rating curve)
0 =	Natural convection

⑤ ⑥	Line and Load Voltage
02 =	24 to 48VAC
24 =	120 to 240VAC
48 =	277 to 480VAC
60 =	277 to 600VAC

⑦ ⑧	Control
C0 =	4.5 to 32VDC input, contactor output
F0 =	4 to 20mA DC input, variable time-base output
K1 =	22 to 26VAC input, contactor output
K2 =	100 to 120VAC input, contactor output
K3 =	200 to 240VAC input, contactor output

⑨	Current Sensing or Alarm
0 =	No alarm
1 =	Load current transformer
S =	Shorted SCR alarm

⑩	User Manual
0 =	English
1 =	German
2 =	Spanish
3 =	French

⑪ ⑫	Custom Options
00 =	Standard part

### Replacement Semiconductor Fuse

Watlow Part Number	Cooper Bussmann® Part Number
0808-0096-0000	170N3437