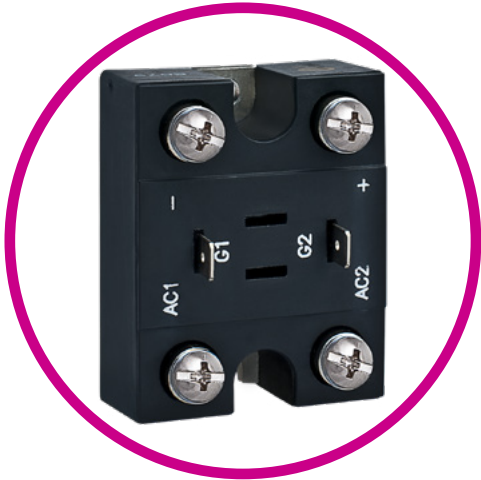




# M50 SERIES

POWER MODULES



## Features

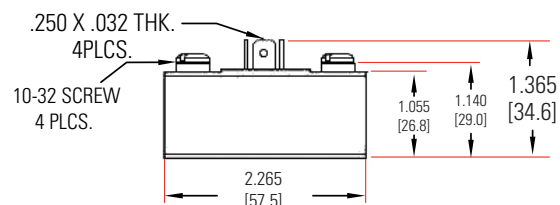
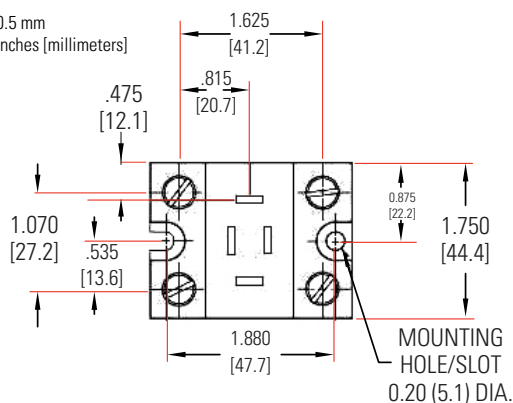
- Over 40 kW output capability
- 4 Different Circuits to Choose from
- 50 and 100 A outputs
- UL Recognized E72445

## SPECIFICATIONS

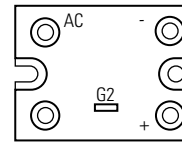
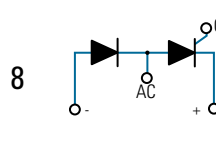
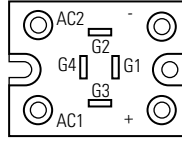
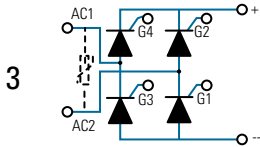
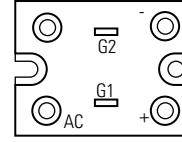
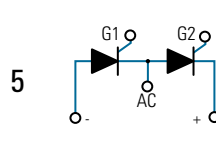
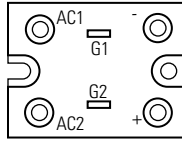
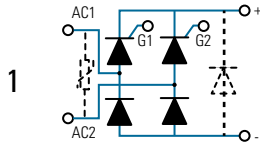
| Part Number  | Symbol     | M5050          | M50100       |
|--|------------|----------------|--------------|
| Maximum DC Output Current (Tc= 85°C)                                 | $I_D$      | 50 A           | 100 A        |
| Maximum Voltage Drop @ Amps Peak                                     | $V_F$      | 1.35V @ 50A    | 1.2V @ 100 A |
| Operating Junction Temperature Range                                 | $T_J$      | -40 - 125°C    | -40 - 125°C  |
| Repetitive Peak Reverse Voltage (AC Line Nominal) [Vpk]              | $V_{RMS}$  | 600 (240 VAC)  |              |
|  |            | 800 (280 VAC)  |              |
|  |            | 1200 (480 VAC) |              |
| Maximum Non-Repetitive Surge Current (1/2 Cycle, 60 Hz) [A]          | $I_{TSM}$  | 800            | 1500         |
| Maximum $I^2 t$ for Fusing (t=8.3ms)[A <sup>2</sup> sec]             | $I^2 t$    | 2650           | 9350         |
| Maximum Thermal Resistance, Junction to Ceramic Base per Chip [°C/W] | $R_{JC}$   | 0.45°C/W       | 0.3°C/W      |
| Isolation Voltage [Vrms]   | $V_{ISOL}$ | 2500           |              |
| Weight (typical)   |            | 4.5 oz (158g)  |              |

## MECHANICAL SPECIFICATIONS

Tolerances: ±0.02 in / 0.5 mm  
All dimensions are in: inches [millimeters]



# CIRCUIT DIAGRAMS



# ORDERING OPTIONS

Example : M505012FV

|   |  |    |   |   |   |   |
|---|--|----|---|---|---|---|
|   | M50  | 50 | 1 | 2 | F | V |
| <b>Series</b>   | [Line connecting M50 to Series]            |    |   |   |   |   |
| <b>M50</b>  | [Shaded bar]                               |    |   |   |   |   |
| <b>Load Current</b>   | [Line connecting 50 to Load Current]       |    |   |   |   |   |
| <b>50: 50 Amps</b><br><b>100: 100 Amps</b>                                | [Shaded bar]                               |    |   |   |   |   |
| <b>Circuit Type</b>   | [Line connecting 1 to Circuit Type]        |    |   |   |   |   |
| <b>1 3 5 8</b><br>(See schematic diagrams)                                | [Shaded bar]                               |    |   |   |   |   |
| <b>AC Line Voltage</b>  | [Line connecting 2 to AC Line Voltage]     |    |   |   |   |   |
| <b>2: 240 VAC</b><br><b>3: 280 VAC</b><br><b>5: 480 VAC</b>               | [Shaded bar]                               |    |   |   |   |   |
| <b>Free Wheeling Diode</b>  | [Line connecting F to Free Wheeling Diode] |    |   |   |   |   |
| <b>Blank: Not Included</b><br><b>F: Included (Circuit 1 only)</b>         | [Shaded bar]                               |    |   |   |   |   |
| <b>External Suppressor</b>  | [Line connecting V to External Suppressor] |    |   |   |   |   |
| <b>Blank: Not included</b><br><b>V: Include (Circuits 1 &amp; 3 only)</b> | [Shaded bar]                               |    |   |   |   |   |

— Required for valid part number  
  For options only and not required for valid part number

NOTE: Not all combinations are available.  
Consult factory for information on the availability of a specific part number.

## AGENCY APPROVALS & CERTIFICATIONS



## WARNINGS



### RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE

- The product's side panels may be hot, allow the product to cool before touching
- Follow proper mounting instructions including torque values
- Do not allow liquids or foreign objects to enter this product

**Failure to follow these instructions can result in serious injury, or equipment damage.**



### HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

- Disconnect all power before installing or working with this equipment
- Verify all connections and replace all covers before turning on power

**Failure to follow these instructions will result in death or serious injury.**

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