



SSRM series

45-65A DIN Mount Solid State Relay With Paired SCR Output, Integral Heatsink

us File E29244

Users should thoroughly review the technical data before selecting a product part number. It is recommended that users also seek out the pertinent approvals files of the agencies/laboratories and review them to confirm the product meets the requirements for a given application.

Features

- DIN mount design with integral heatsink.
- Choice of 45, 55 or 65A rms inverse-parallel connected SCR output.
- 48 - 660VAC output.
- 4 -32VDC or 90 - 140Vrms input control.
- 4,000V rms optical isolation.
- Green LED input status indicator.
- Finger-safe (IP20) screw clamp terminals for load and control.
- Ground terminal.

Engineering Data

Form: 1 Form A (SPST-NO).

Duty: Continuous.

Isolation: 4,000V rms input-to-output-to-ground.

Insulation Resistance: 10⁹ Ohms, minimum, at 500VDC.

Capacitance: 8.0 pf maximum (input to output).

Temperature Range:

Storage: -40°C to +125°C

Operating: -40°C to + 80°C

Case and Mounting: Refer to outline dimension drawing.

Termination:

Control: Finger safe (IP20) screw clamps accepting wire size up to #12 AWG (2.5 mm).

Load: Finger safe (IP20) screw clamps accepting wire size up to #8 AWG (3.8 mm).

Ground: #10 screw with 5/16 in. hex/slotted head.

Installation Spacing: Minimum 0.8 in (20 mm) space between units.

Approximate Weight: 16.9 oz. (479 g).

Ordering Information

Sample Part Number ▶

SSRM

-600

A

55

1. Basic Series: SSRM = Solid State Relay with Integral Heatsink for DIN Rail Mounting

2. Line Voltage: 600 = 48 - 660 VAC

3. Input Type & Voltage: A = 90 - 140VAC
D = 4 - 32VDC

4. Maximum Switching Rating/Output: 45 = 45.0A rms
55 = 55.0A rms
65 = 65.0A rms

Our authorized distributors are more likely to maintain the following items in stock for immediate delivery.

SSRM-600A45
SSRM-600D45

SSRM-600A55
SSRM-600D55

SSRM-600A65
SSRM-600D65

Input Specifications

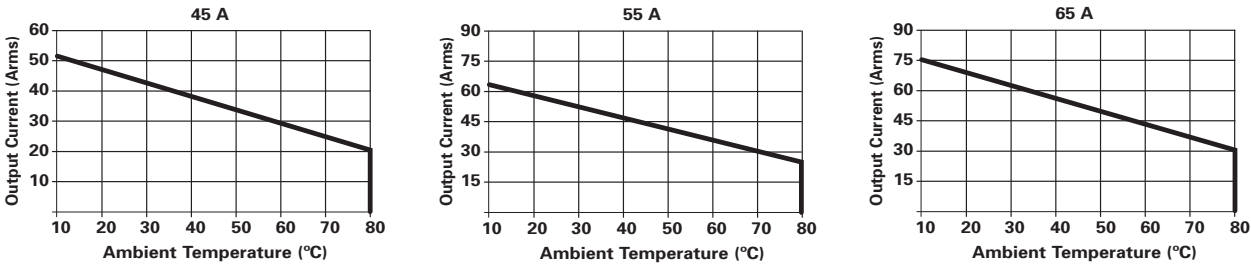
| Parameter | Conditions | AC Control Units | DC Control Units |
|--|------------|------------------|------------------|
| Control Voltage Range V _{IN} | @ 25°C | 90 - 140 Vrms | 4.0 - 32 VDC |
| Reverse Voltage V _{IN} (Max.) | @ 25°C | — | 32 VDC |
| Must Operate Voltage V _{IN(OPS)} (Min.) | @ 25°C | 90 Vrms | 4.0 VDC |
| Must Release Voltage V _{IN(REL)} (Min.) | @ 25°C | 10 Vrms | 1.0 VDC |
| Input Current (Typ.) | @ 25°C | 15 mA @ 120 Vrms | 14 mA @ 5 VDC |
| Input Current (Max.) | @ 25°C | — | 30 mA |

Output Specifications (@ 25° C, unless otherwise specified)

| Parameter | Conditions | Units | 45A Rated Units | 55A Rated Units | 65A Rated Units |
|---|--|---------------------|---|-----------------|-----------------|
| Load Voltage Range V_L | $f = 47 - 63 \text{ Hz.}$ | V rms | 48 - 660 | 48 - 660 | 48 - 660 |
| Repetitive Blocking Voltage (Min.) | | V peak | ± 1200 | ± 1200 | ± 1200 |
| Load Current Range I_L^* | | A rms | 0.15 - 45.0 | 0.25 - 55.0 | 0.25 - 65.0 |
| Single Cycle Surge Current (Min.) | | A peak | 625 | 1,000 | 1,200 |
| Leakage Current (Off-State) (Max.) | $f = 60 \text{ Hz. } V_L = 600\text{Vrms}$ | mA rms | 1.0 | 1.0 | 1.0 |
| Thermal Resistance Junction to Case $R_{\theta J-C}$ (Max.) | | °C/W | 0.63 | 0.31 | 0.28 |
| On-State Voltage Drop (Max.) | $I_L = \text{Max.}$ | V peak | 1.7 | 1.7 | 1.7 |
| Static dv/dt (Off-State) (Min.) | $V_L = \text{Max.}$ | V/ μs | 500 | 500 | 500 |
| Turn-On Time (Max.) | $f = 60 \text{ Hz.}$ | ms | 8.3 for DC Input Models, 10.0 for AC Input Models | | |
| Turn-Off Time (Max.) | $f = 60 \text{ Hz.}$ | ms | 8.3 for DC Input Models, 40.0 for AC Input Models | | |
| $I^2 t$ Rating (Max.) | $t = 8.3 \text{ ms}$ | A ² Sec. | 1,620 | 4,150 | 6,000 |
| Load Power Factor Rating (Min.) | $I_L = \text{Max.}$ | | 0.5 | 0.5 | 0.5 |

*See Thermal Derating Curves.

Electrical Characteristics (Thermal Derating Curves)



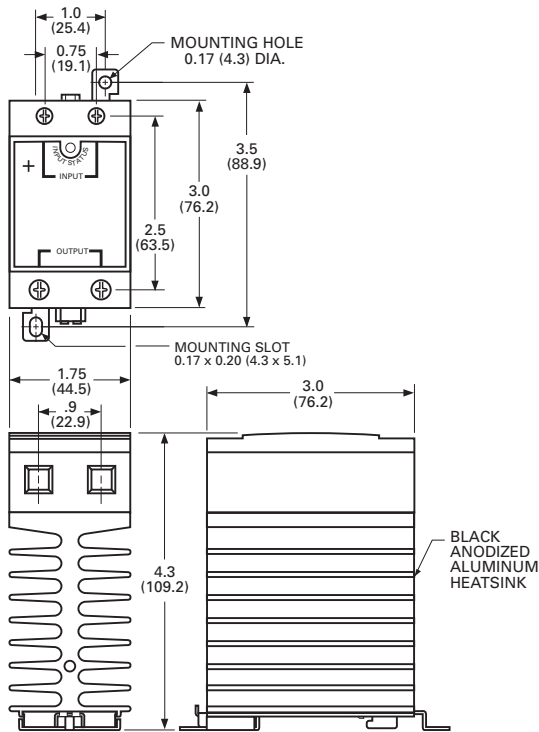
Disclaimer

While Tyco Electronics has made every reasonable effort to ensure the accuracy of the information in this document, Tyco Electronics does not guarantee that it is error-free, nor does Tyco Electronics make any other representation, warranty or guarantee that the information is accurate, correct, reliable or current.

Tyco Electronics reserves the right to make any adjustments to the information contained herein at any time without notice. Tyco Electronics expressly disclaims all implied warranties regarding the information contained herein, including, but not limited to, any implied warranties of merchantability or fitness for a particular purpose.

The dimensions in this catalog are for reference purposes only and are subject to change without notice. Specifications are subject to change without notice. Consult Tyco Electronics for the latest dimensions and design specifications.

Outline Dimensions



Recommended Torque Range for Terminal Screws:
 Control: 5 - 6 in lb (0.6 - 0.7 Nm).
 Output: 10 - 15 in lb (1.1 - 1.7 Nm).