



SSRM series

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

cULus 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 $V_{IN}(\text{Max.})$	@ 25°C	—	32 VDC
Must Operate Voltage $V_{IN(OPS)}(\text{Min.})$	@ 25°C	90 Vrms	4.0 VDC
Must Release Voltage $V_{IN(REL)}(\text{Min.})$	@ 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

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.)		$^{\circ}\text{C/W}$	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^2t 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.

The figure consists of three separate line graphs, each representing a different current rating: 45 A, 55 A, and 65 A. All three graphs share the same axes: the x-axis is 'Ambient Temperature (°C)' ranging from 10 to 80, and the y-axis is 'Output Current (Arms)'. The y-axis scale for the 45 A graph is 0 to 60, for the 55 A graph it is 0 to 90, and for the 65 A graph it is 0 to 90. Each graph shows a single line that starts at a maximum output current at 10°C and decreases linearly to a minimum output current at 80°C. The 45 A graph starts at approximately 50 A and ends at 20 A. The 55 A graph starts at approximately 65 A and ends at 25 A. The 65 A graph starts at approximately 75 A and ends at 30 A.

Ambient Temperature (°C)	45 A Output Current (Arms)	55 A Output Current (Arms)	65 A Output Current (Arms)
10	50	65	75
20	45	60	70
30	40	55	65
40	35	50	60
50	30	45	55
60	25	40	50
70	20	35	45
80	20	25	30

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The drawing shows the mechanical specifications of the 100W 230VAC Power Supply Unit. The top view includes the following dimensions:

- Overall width: 1.0 (25.4)
- Mounting hole diameter: 0.17 (4.3) DIA.
- Distance from top edge to mounting hole center: 0.75 (19.1)
- Distance from mounting hole center to input terminal center: 3.5 (88.9)
- Distance from input terminal center to output terminal center: 3.0 (76.2)
- Distance from output terminal center to bottom edge: 2.5 (63.5)
- Mounting slot dimensions: 0.17 x 0.20 (4.3 x 5.1)
- Distance from left edge to mounting slot center: 1.75 (44.5)
- Distance from mounting slot center to right edge: 0.9 (22.9)

The side view shows the following dimensions:

- Overall height: 4.3 (109.2)
- Width of the black anodized aluminum heatsink: 3.0 (76.2)

The unit features a black anodized aluminum heatsink, an input terminal, an output terminal, and mounting holes for secure installation.

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).



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