

Features (RoHS compliant)

Input: DC control

Double SCR AC output or TRIAC AC output

4000V dielectric strength / Pinned circuit board mount

Environmental friendly product / UL and CUL approval, File No.: E179936

INPUT (TA=25°C)

GENERAL (TA=25°C)

Input voltage	D	3 to 32VDC
	1D	3 to 15VDC
	2D	15 to 32VDC
Must operate voltage	D	3VDC
	1D	3VDC
	2D	15VDC
Must release voltage		1.0VDC
Max. Input current	D	25mA
	1D	40mA
	2D	20mA

Dielectric strength (input-output)	4000VAC, 50/60Hz 1min
Insulation resistance	1000MΩ (at 500VDC)
Vibration resistance	10 to 55Hz 1.5mm DA
Ambient operating temperature range	-30°C to +80°C
Ambient storage temperature range	-30°C to +100°C
Ambient humidity	45% to 85% RH
Unit weight	Approx. 15g

OUTPUT (TA=25°C)

DESCRIPTION (TA=25°C)

Load voltage range		48 to 280VAC (240VAC rated voltage)
		48 to 440VAC (380VAC rated voltage)
		48 to 530VAC (480VAC rated voltage)
Load current range		0.1 to 5A
Max. surge current(10ms)		Triac output: 120A _{pk}
		SCR output: 250A _{pk}
Max. off-state voltage current		1.5mA
Max. on-state voltage drop		1.5V _{rms}
Max. turn-on time	Zero-cross	1/2 cycle + 1ms
	Random	1ms
Max. turn-off time		1/2 cycle + 1ms
Max. transient over voltage		600V _{pk} (at 240VAC rated voltage)
		800V _{pk} (at 380VAC rated voltage)
		1200V _{pk} (at 480VAC rated voltage)
Min. off-state dv/dt		200V/μs
Min. power factor		0.5
Max. I ² t (10ms)		Triac output:78A ² S SCR output:310A ² S

MS11 pin-out is compatible with standard OAC type I/O modules, and all models are available with random turn-on as an alternative to zero-cross turn-on. The MS11 SSR range offers a choice of 240VAC, 380VAC, 480VAC versions. Input Voltage specifications have 3 to 15VDC, 15 to 32VDC and 3 to 32VDC.

PRECAUTIONS

- Soldering must be completed within 10 seconds at 260°C or less or within 5 seconds at 350°C or less.
- The SSR case serves to dissipate heat. Install the relays so that they are adequately ventilated. If poor ventilation is unavoidable, reduce the load current by half.
- The input circuitry does not incorporate a circuit protecting the SSR from being damaged due to a reversed connection. Make sure that the polarity is correct when connecting the input lines.
- When using the MS11 series for an AC load with a peak voltage of more than the rated, connect the load terminals of the relay to an inrush absorber (varistor). For 220VAC the recommended varistor voltage is 470V; For 380VAC, the recommended varistor voltage is 750V.

ORDERING INFORMATION

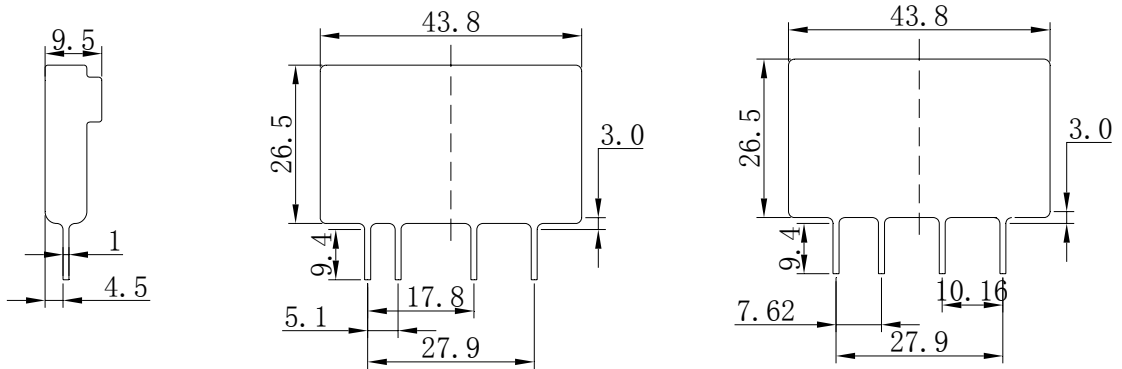
Model No.	Input voltage	Load voltage	Load current	Zero cross function	Output component	RC snubber	Sead form	Input terminal pitch
MS11	D: 3 to 32VDC 1D: 3 to 15VDC 2D: 15 to 32VDC	240A: 240VAC 380A: 380VAC 480A: 480VAC	2: 2A 3: 3A 4: 4A 5: 5A	Z: Zero cross turn-on P: Random cross turn-on	S: SCR Nil: TRIAC	N: without RC snubber Nil: with RC snubber	G: Epoxy resin vacuum-dipped	Nil: 5.10mm 1: 7.62mm

Notes: 1) If the input voltage is D type (3-32VDC), the load voltage would be only available in 240V or 380V, and the output component is Triac only

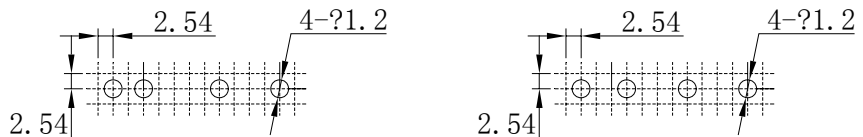
OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

Outline Dimensions



PCB Layout
(Bottom view)



Wiring Diagram

