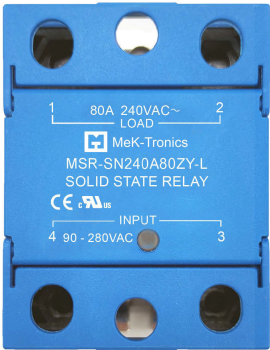


Product Data Sheet

Features

- Zero Crossing or Random-on Switching
- Ratings from 15A-125A @ 24-660VAC 1
- SCR Output TRIAC Output
- DC or AC Input
- Dielectric Strength 4000VACrms
- LED Indication
- Next-Gen Chipset
- Aluminum Wire Bonding for Precision Connectivity resulting in Extended Thermal Cycling Life with Enhanced Reliability
- Direct Copper Strap Output for Maximum Current Flow
- Integrated Injection-Molded Enclosure
- High Efficiency & Stability
- Vacuum Soldering Technology with Extremely Low Void Rate



Product Selection

MSR	—	SN	480	D	60	T	R	W	-L	M
	Packing -: Bulk Pack Y: Individual Pack	SN Series	Load Voltage 240:240VAC 480:480 VAC 600:600VAC	Control Voltage D:DC Control A:AC Control	Load Current 15:15Amp 25:25Amp 40:40Amp 50:50Amp 60:60Amp 75:75Amp 80:80Amp 100:100Amp 125:125Amp	T: TRIAC Blank: SCR	Switching Mode Z:Zero Crossing R:Random-on	Control Voltage: Y: 90-250 VAC W: 3-32 VDC	L:LED	M:MOV T: TVS Without: No Protection (Optional)

Notes: (1) 15A version is only available for the 240V or 480V load voltage version. (2) 15A version is TRIAC output only; 25A/40A versions are available as SCR or TRIAC; 50A/60A/75A/80A/100A/125A are SCR output only.

Applications

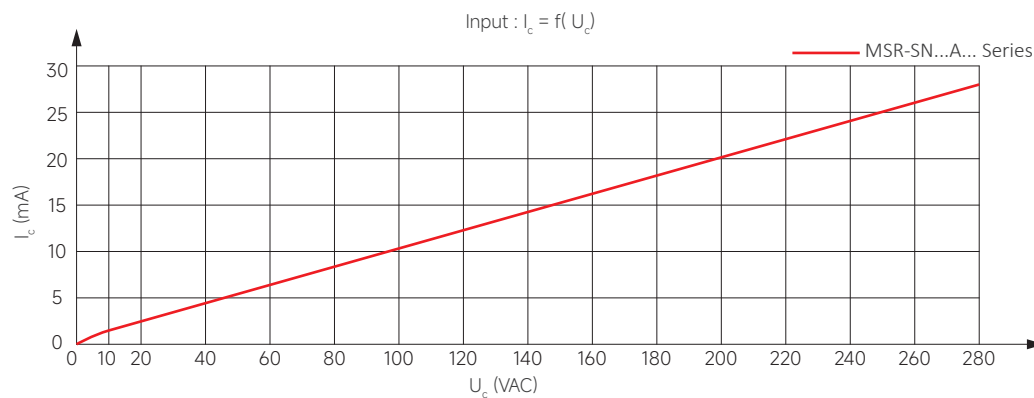
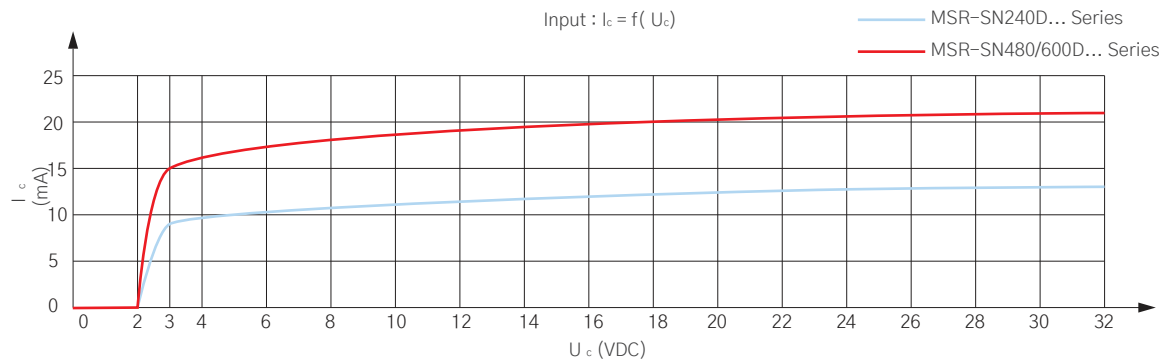
High-low Temperature Chamber, Food processing machinery, Plastics processing Machinery.

Technical Specification

Input parameters (Ta=25℃)		
Control Voltage Range	DC Input	3-32VDC
	AC Input	90-280VAC
Must Turn-on Voltage	DC Input	3VDC
	AC Input	90VAC
Must Turn-off Voltage	DC Input	1VDC
	AC Input	15VAC
Maximum Input Current	DC Input	13 max (240V series) / 21 max (480V, 600V series)
	AC Input	28 max @280VAC

Product Data Sheet

Technical Specification



Output parameters (Ta=25°C)		
Load Voltage	240V	24-280VAC
	480V	24-530VAC
	600V	24-660VAC
Maximum Turn-on Time	DC Input Random-on	1ms
	DC Input Zero-crossing	½ cycle + 1ms (≈ 11ms @50Hz / ≈ 9.3ms @60Hz)
	AC Input	40ms
Maximum Turn-off Time	DC Input	½ cycle + 1ms
	AC Input	20ms
Maximum Surge Current [@10ms]	15A	150A
	25A, SCR / TRIAC	300 / 250A
	40A, SCR / TRIAC	500 / 400A
	50A	600A
	60A	700A
	75A	750A
	80A	800A
	100A	1100A
	125A	2250A

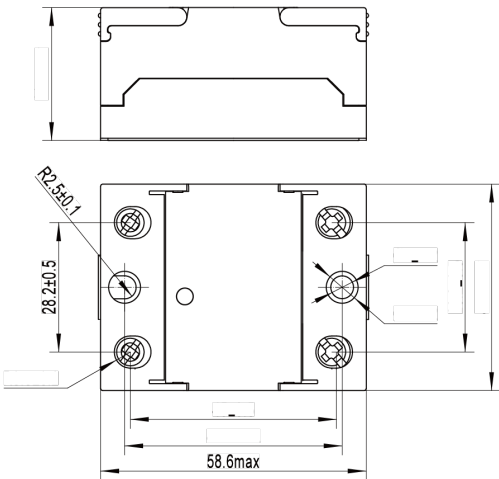
Product Data Sheet

Technical Specification

Output parameters (Ta=25℃)		
Maximum I _{st} For Fusing [@10ms]	15A	112A ² s
	25A, SCR / TRIAC	450/312A ² s
	40A, SCR / TRIAC	1250/880A ² s
	50A	1800A ² s
	60A	2450A ² s
	75A	2812A ² s
	80A	3200A ² s
	100A	6050A ² s
	125A	25000A ² s
Transient Overvoltage	240V	600Vpk
	480V	1200Vpk
	600V	15A–80A: 1200Vpk 100A–125A: 1600Vpk
Maximum Off-state Leakage Current [@ Rated Voltage]	With RC	Typ 1.5 (240V series) / 0.7 (480V, 600V series); Max 3 @220VAC
	Without RC	Typ 0.1
Maximum On-state Voltage Drop [@ Rated Current]		Typ 1.1, Max 1.5
Minimum Off-state dv/dt	SCR Output	500V/μs
	TRIAC Output	200V/μs
Operating Frequency		47-63Hz

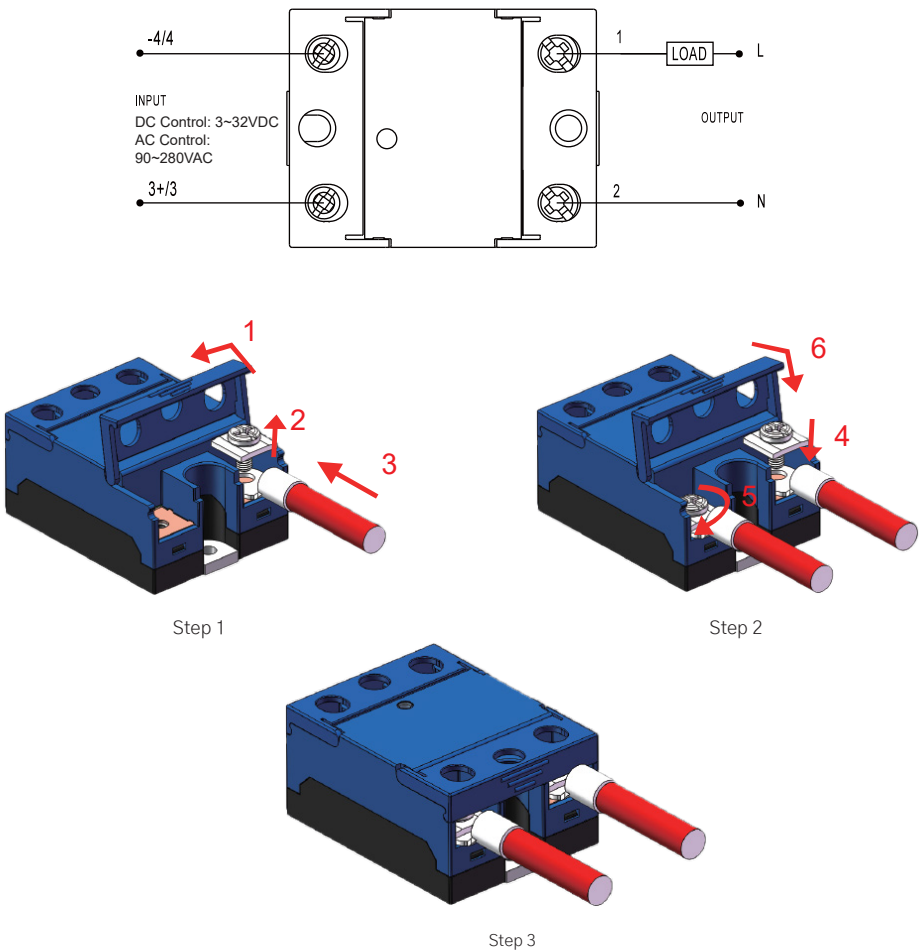
General Specifications (Ta=25℃)		
Dielectric Strength (50/60Hz)	Input, Output / Base — SCR Output	4000Vrms
	Input, Output / Base — TRIAC Output	2500Vrms
Min.Power Factor	0.5	
Min. Load Current	≥100mA	
Ambient Operating Temperature Range	-30℃ ~ +80℃	
Ambient Storage Temperature Range	-30℃ ~ +100℃	
Weight (Typical)	SCR Output	80g
	TRIAC Output	75g

Outline Dimensions

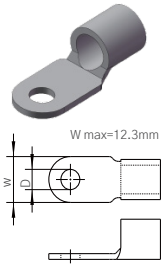


Product Data Sheet

Wiring Diagram



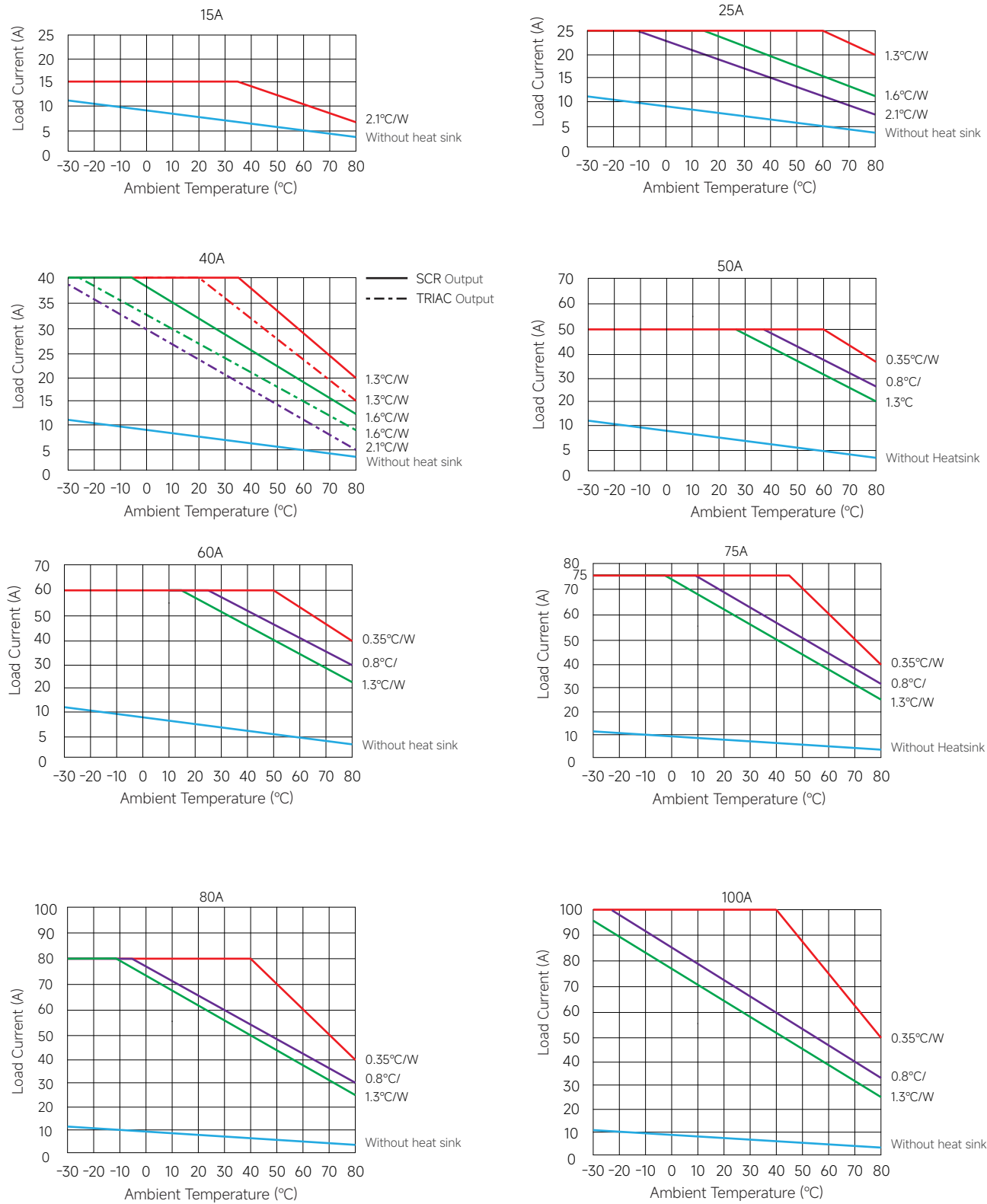
Recommended Wire Sizing

Load Current (A)	Wire Size (AWG)	Cross-section (mm ²)	Terminal Hole ϕ / Width (mm)	
15-20	12	2.5	4.3-5.3 / 8-10	
20-35	10	4	4.3-5.3 / 8-10	
25-32	10	6	4.3-5.3 / 8-10	
32-50	8	10	5.3 / 10	
50-65	6	16	5.3 / 11	
65-85	4	25	5.3 / 12	

Note: (3) When use the wire cross-sectional area greater than 25mm², we suggest to break it in to two smaller wires and connect them back to back superimposed.

Product Data Sheet

Thermal Derating Curve

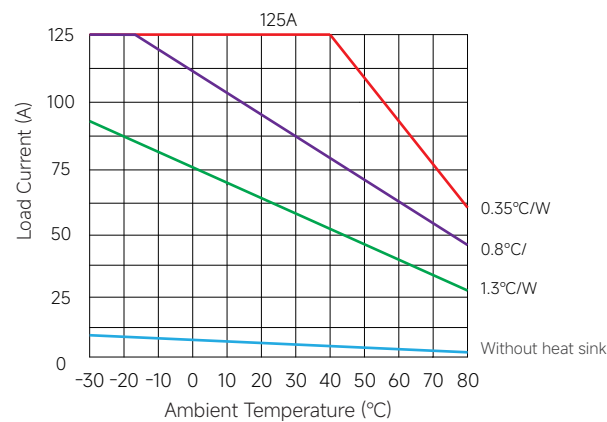


Solid State Relay MSR-SN Series

Single Phase AC Output



Product Data Sheet



1. Relay must be mounted to proper sized heat sink based on thermal curves. Thermal grease or a thermal pad must be used between relay and heat sink and be torqued down to 18-20/2.0-2.2in-lb/Nm.
2. When connecting wiring to SSR, ensure screws are torqued down properly (input 13-15/1.5-1.7in-lb/Nm, output 18-20/2.0-2.2 in-lb/Nm).
3. SSR's carrying load capacity is related to the operation ambient temperature and heat dissipation condition, please refer to the Thermal Derating Curve for derating.

