

1-phase AC Relay for Inductive Loads SSRQ



- ◆ Designed for all types of loads up to 400 VAC
- ◆ Zero-cross output switching
- ◆ 10 A, 16 A, or 25 A switching RMS current
- ◆ 4 input ranges
- ◆ 4000 V input/output insulation
- ◆ Heatsinks available

The SSRQ solid state relay is a zero-cross operating electronic module designed to switch single-phase AC power loads. Since there are no moving parts, noise, shocks, and vibration during the operation, the life and reliability of the SSR module, compared to these of the contact relays, are much higher. Thanks to a snubberless™ triac, SSRQ can switch both active and inductive loads up to 25 A at power voltage up to 400 VAC. The control input is optically isolated from the output and accepts AC or DC voltage signals.

Technical specifications

Input

Control voltage	4...36 VDC	6...26 VAC/DC	115 VAC	230 VAC
Input current	5...12 mA	6...12 mA	6 mA	12 mA
Turn-on/off voltage	3 VDC	4 VAC / 5 VDC	90 VAC	180 VAC
Reverse voltage protection	-32 VDC	-32 VDC	-	-

Output (no connection with the input types!)

On-state current at proper heatsink ⁽¹⁾	≤ 10 A _{rms}	≤ 16 A _{rms}	≤ 25 A _{rms} ⁽²⁾
Minimum holding current	50 mA	50 mA	80 mA
Non-rep. surge current at t = 20 ms	100 A	160 A	250 A
Maximum leakage current	1 mA	2 mA	3 mA
Critical rate of current rise di/dt	50 A/μs	50 A/μs	50 A/μs
I²t value for fusing at t = 10 ms	78 A ² s	78 A ² s	78 A ² s
On-state voltage at rated current	1.6 V _{rms}	1.6 V _{rms}	1.6 V _{rms}
Critical off-state voltage rise dv/dt	400 V/μs	400 V/μs	500 V/μs
Operational frequency	45...65 Hz	45...65 Hz	45...65 Hz
Thermal resistance (junction-case)	2.3 °C/W	2.1 °C/W	1.1 °C/W

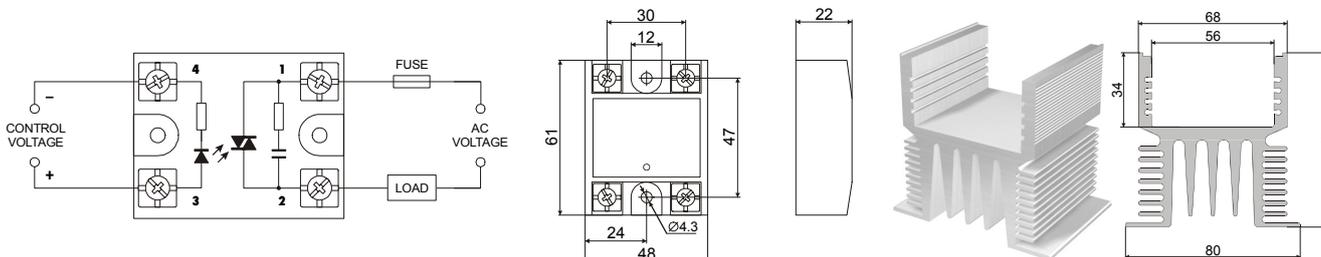
General specifications

Maximum operating AC voltage	282 VAC _{rms}	400 VAC _{rms}
Minimum operating AC voltage	24 VAC _{rms}	24 VAC _{rms}
Rep. off-state peak voltage	600 V _p	800 V _p
Non-rep. off-state peak voltage	700 V _p	900 V _p
Operating temperature	-20...65 °C	
Storage temperature	-40...85 °C	
Case material	glass-filled plastic	
Base plate (heatsink) material	aluminum	
Input/output insulation	4000 VAC _{rms}	
Output/case insulation	2500 VAC _{rms}	
Protection class	IP00	
Wiring	4 x M4 screws	
Mounting	2 x M4 screws	
Rail mounting	MAC2 rail clamp ⁽³⁾	
ON-indicating LED	ø3, red	
Weight	≈ 100 g	

⁽¹⁾ We highly recommend using SSR at no more than 80% of maximum on-state current!

⁽²⁾ Ask for availability!

⁽³⁾ Ordered separately (see 'Accessories')



Heatsink specifications Heatsink surface [cm²] / length [mm] (at 85 °C heatsink temperature)

SSRQ variant	10	16		25		
Current →	10 A	10 A	16 A	15 A	20 A	25 A
Ambient temperature ↓						
20 °C	72 / 62	60 / 62	214 / 62	134 / 62	287 / 62	499 / 62
40 °C	150 / 62	124 / 62	445 / 62	278 / 62	601 / 62	1041 / 100
60 °C	485 / 62	400 / 62	1435 / 135	907 / 85	1924 / 180	

Ordering code SSRQ* - G1

Code	Feature or option	Code values
*	Variant	280 V
		400 V
G1	Input	A - 230 VAC, B - 115 VAC, D - 4...36 VDC, E - 6...26 VAC/DC

Applicable accessories

Code	Description
HS__	Heatsink (specify the length [mm] using the table above) w/ or w/o rail-mounting clamp ⁽³⁾