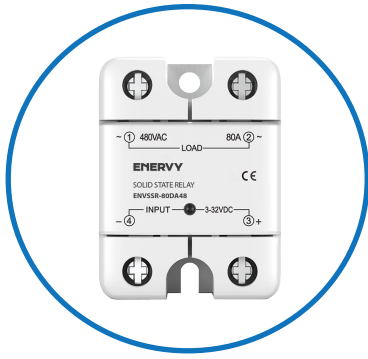


# SOLID STATE RELAYS



**ENERVY**  
Verified to Energize ✓

## ENVSSR Series Single Phase Solid State Relays



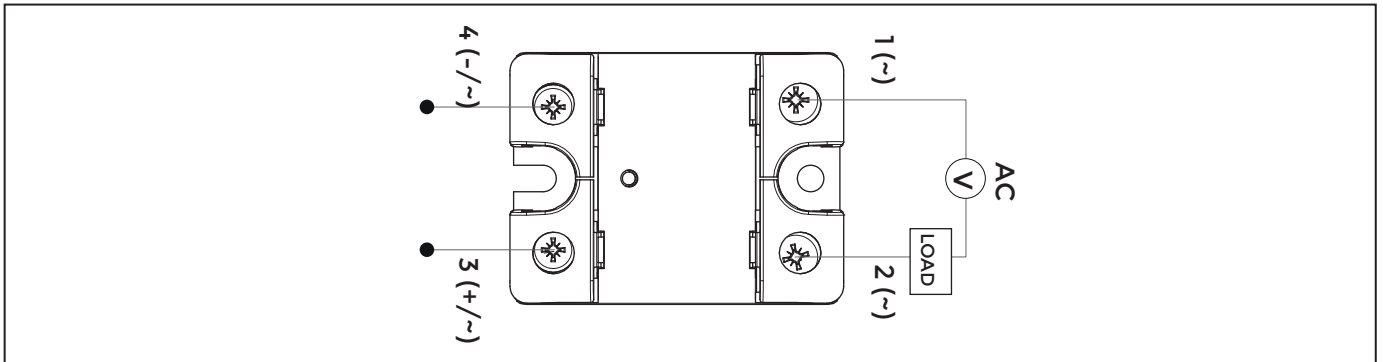
### Features

- Rating of 15A, 25A, 40A, 60A, 80A, 100A and 120A.
- Output voltage of 24-280VAC, 24-480VAC and 48-660VAC
- Control voltage of 3-32VDC and 90-280VAC.
- Zero Crossing or Random-on Switching.
- Integrated IP20 touch-safe removable covers.
- Dielectric Strength 4000VACrms.
- LED input status indicator.

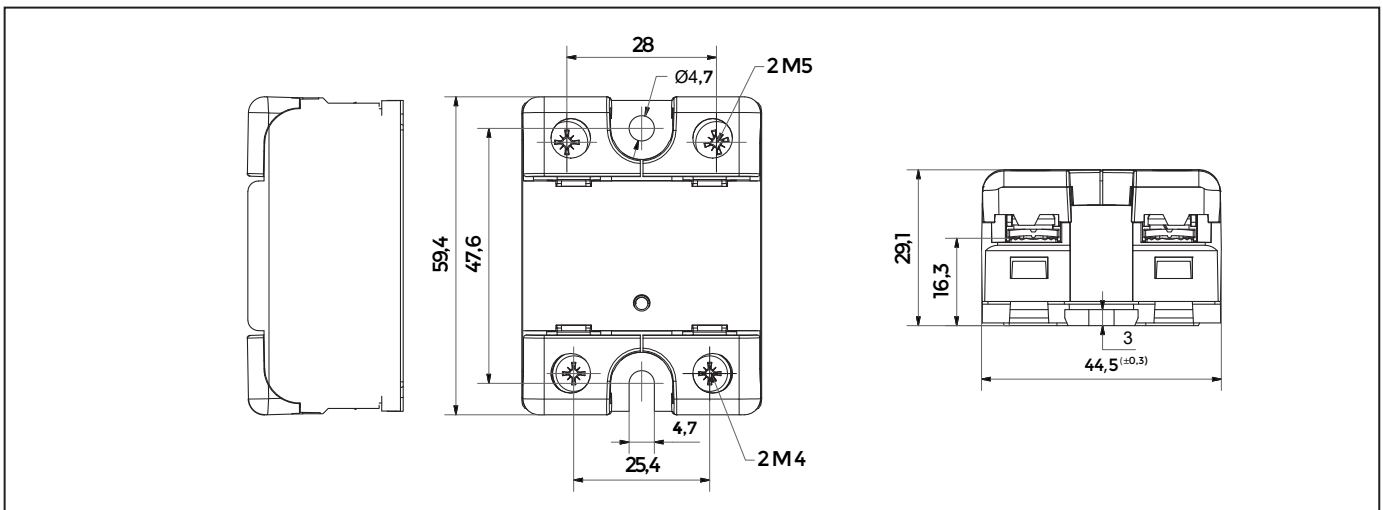
### Ordering Options

ENVSR	25	D	A66	Z
SSR Series	Load Current	Control Voltage	Output Voltage	Switching Type
Single Phase Solid State Relay	15: 15Amps 25: 25Amps 40: 40Amps 60: 60Amps 80: 80Amps 100: 100Amps 120: 120Amps	D: 3-32VDC A: 90-280VAC	A28: 24-280VAC A48: 24-480VAC A66: 48-660VAC	"Null": Zero Cross Turn-on R: Random Turn-on

### Wiring Diagram



### Dimensions (mm)



## ENVSSR Series Single Phase Solid State Relays

### Input Specifications

Description	Specification Limits	
Control Voltage Range	3-32VDC	90-280VAC
Maximum Reverse Voltage	-6VDC	/
Minimum Turn-On Voltage	3VDC	90VAC
Must Turn-Off Voltage	1V	10VAC
Minimum Input Current (for on-state)	10mA	6.5mA
Maximum Input Current [mA]	20mA	18mA
Maximum Turn-On Time [msec]	1/2 Cycle	1/2 Cycle
Maximum Turn-Off Time [msec]	1/2 Cycle	1/2 Cycle

### Output Specifications

Description	Units	Specification Limits						
Model No.:VSR	Amp	15	25	40	60	80	100	120
Load Current Range	Arms	0.05-15	0.05-25	0.05-40	0.1-60	0.1-80	0.1-100	0.1-125
Surge Current 10mSec(Max.)	Arms	150	250	400	600	800	1000	1200
Load Voltage Range (280V)	Vrms	24-280						
Transient Overvoltage (280V)	Vpk	800						
Load Voltage Range (480V)	Vrms	24-480						
Transient Overvoltage (480V)	Vpk	1200						
Load Voltage Range (660V)	Vrms	48-660						
Transient Overvoltage (660V)	Vpk	1600						
Operating Frequency Range	Hz	47~63						
Off State dv/dt (min.)	V/μs	200	200	200	500	500	500	500
Off State Leakage Current (Max.)	mA	≤8						
On State Voltage Drop (Max.)	Vrms	1.5	1.5	1.5	1.6	1.6	1.8	1.8
Turn On Time (Max.) "Zero-cross"	Cycle	1/2						
Turn On Time (Max.) "Random-on"	mSec	1						
Turn-off Time (DC input)	Cycle	1/2						
Turn-off Time (AC input)	mSec	10						
Thermal Resistance,(Rthjc)	°C/W	2.5	2.5	1.3	0.65	0.5	0.3	0.3

## ENVSSR Series Single Phase Solid State Relays

### General Specifications (Ta=25°C)

Description	15A	25A	40A	60A	80A	100A	120A
Dielectric Strength, Input to Output (50/60 Hz)	4000 Vrms						
Dielectric Strength, Input/Output to Base (50/60 Hz)	2500 Vrms						
Minimum Insulation Resistance (@ 500 VDC)	10 <sup>9</sup> Ω						
Maximum Capacitance, Input/Output	0.8 pF						
Ambient Operating Temperature Range	-30 to 80 °C						
Ambient Storage Temperature Range	-30 to 100 °C						
Input Terminal Screw Torque Range (in-lb/Nm)	11-18 /1.2-2.0						
Load Terminal Screw Torque Range (in-lb/Nm)	18-26 / 2-3						
SSR Mounting Screw Torque Range (in-lb/Nm)	11-16 /1.2-1.8						
Humidity per IEC60068-2-78	95 %						
LED Input Status Indicator	Red						
Housing Material	PBT+30%GF						
Baseplate Material	Pure copper						
Weight	145g						

### General Notes

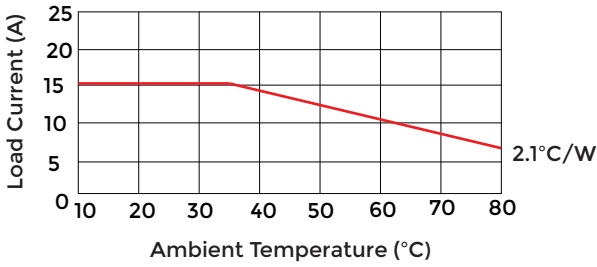
1. Relay must be mounted to proper sized heat sink based on thermal curves. Thermal grease or a thermal pad must be used between relay and heat sink and be torqued down to 11-16 /1.2-1.8in-lb/Nm.
2. When connection wiring to SSR, please ensure screws are torqued down properly (input 11-18 /1.2-2.0in-lb/Nm, output 18-26 / 2-3 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.

### Warnings !

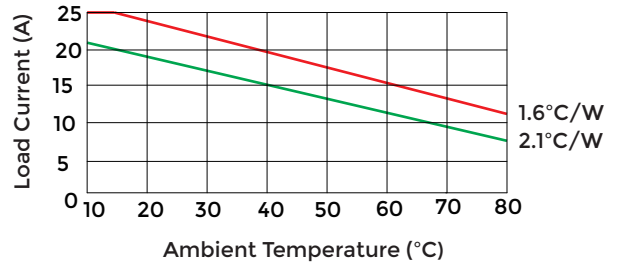
1. The product's side panels may be hot, allow the product to cool before touching.
2. Disconnect all power before installing or working with this equipment.
3. Verify all connections and replace all covers before turning on power.

### Thermal Derating Curve

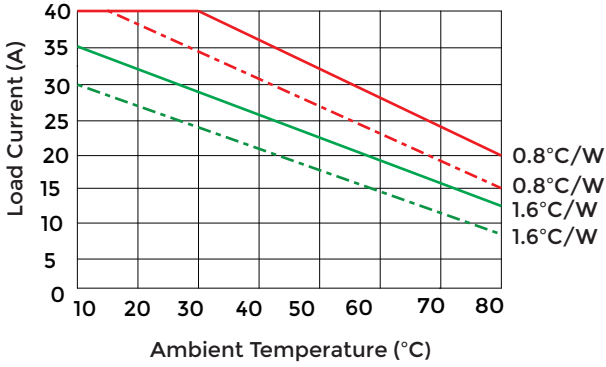
15A



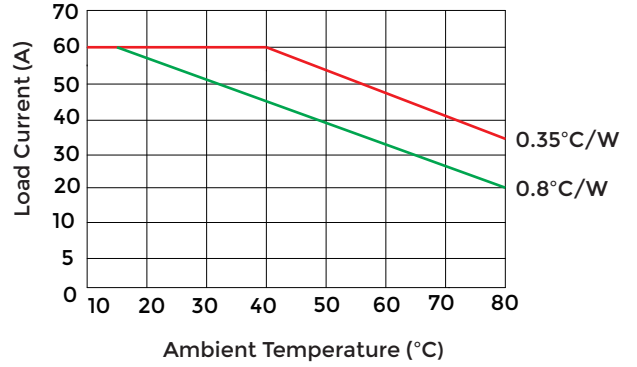
25A



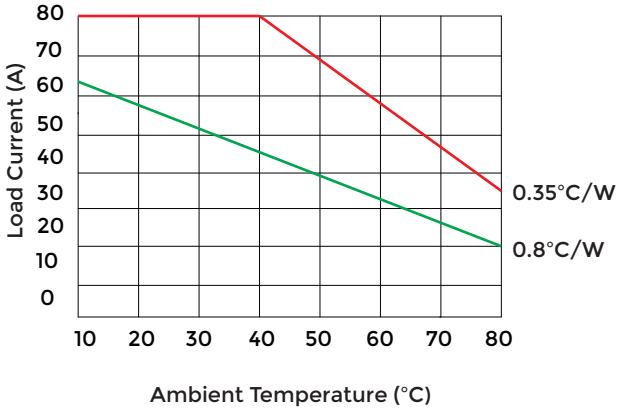
40A



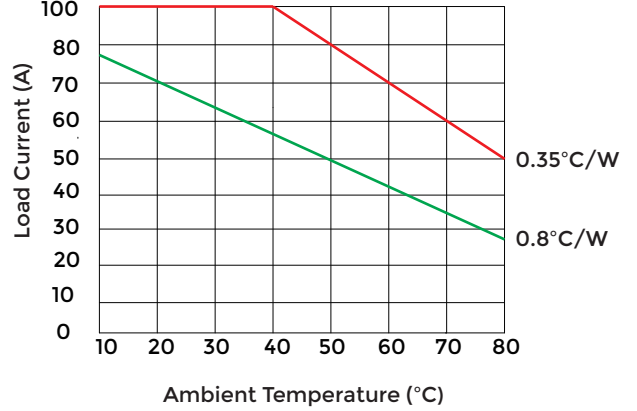
60A



80A



100A



120A

