

## VSM Series Single Phase Solid State Relays [Module Type]



### Features

- High power and high current.
- High performance/low cost circuit design.
- Logic compatible current regulated input.
- 4000 Vrms optical isolation.
- Both "Zero Voltage" & phase controllable "Random Switching" versions.
- High voltage [1200 Vpk] versions for 480 Vrms service.
- LED-indication for control input.
- Control voltage range: 3 to 32 Vdc or 90 to 280Vac
- Industry standard "SCR Modules" package.

### Ordering Options

**VSM**

#### VSM Series

Single Phase  
Solid State Relay

**500**

#### Load Current

500: 500Amps  
600: 600Amps  
800: 800Amps  
1000: 1000Amps

**D**

#### Control Voltage

D: 3-32VDC  
A: 90-280VAC

**A48**

#### Output Voltage

A28: 24-280VAC  
A48: 48-480VAC  
A66: 48-660VAC

**Z**

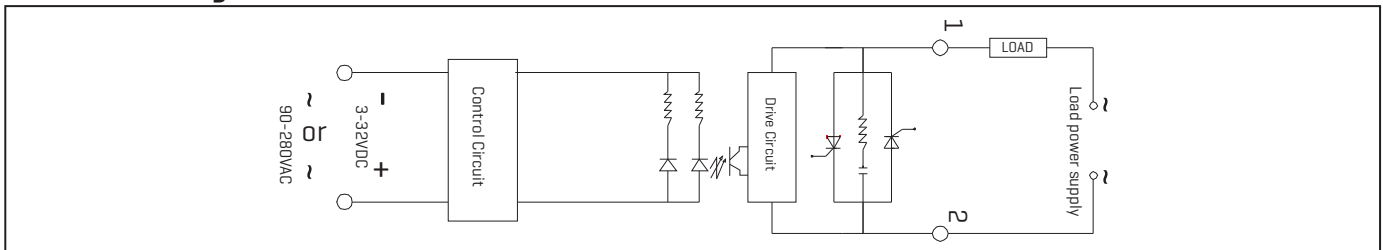
#### Switching Type

Z: Zero Cross Turn-on  
R: Random Turn-on

### Product Selection

Control Voltage	Output Voltage	Rated Operational Current			
		500Amps	600Amps	800Amps	1000Amps
3 to 32VDC	280VAC "Z"	VSM500DA28Z	VSM600DA28Z	VSM800DA28Z	VSM1000DA28Z
3 to 32VDC	280VAC "R"	VSM500DA28R	VSM600DA28R	VSM800DA28R	VSM1000DA28R
90 to 280VAC	280VAC "Z"	VSM500AA28Z	VSM600AA28Z	VSM800AA28Z	VSM1000AA28Z
90 to 280VAC	280VAC "R"	VSM500AA28R	VSM600AA28R	VSM800AA28R	VSM1000AA28R
3 to 32VDC	480VAC "Z"	VSM500DA48Z	VSM600DA48Z	VSM800DA48Z	VSM1000DA48Z
3 to 32VDC	480VAC "R"	VSM500DA48R	VSM600DA48R	VSM800DA48R	VSM1000DA48R
90 to 280VAC	480VAC "Z"	VSM500AA48Z	VSM600AA48Z	VSM800AA48Z	VSM1000AA48Z
90 to 280VAC	480VAC "R"	VSM500AA48R	VSM600AA48R	VSM800AA48R	VSM1000AA48R

### Connection Diagram



### Input Specifications

Parameter-list	Specification Limits	
Input Parameter	D	A
Control Voltage Range	3 to 32VDC	90 to 280VAC
Input Current [Max.]	13/16mA @=5V/12V	29mA @=220V
Must Turn-on Voltage	3VDC	90VAC
Must Turn-off Voltage	1VDC	10VAC
Reverse Voltage [Max.]	-6VDC	/

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### Output Specifications

Output Parameter	Units	Specification Limits			
Model No.: VSM	Amps	500	600	800	1000
Load Current Range	Arms	0.1 to 50	0.1 to 600	0.1 to 800	0.1 to 1000
Surge Current 20mSec [Max.]	Arms	7200	8800	11500	12000
Load Voltage Range [280V]	Vrms	24 to 280			
Transient Overvoltage [280V]	Vpk	≥1200			
Load Voltage Range [480V]	Vrms	48 to 480			
Transient Overvoltage [480V]	Vpk	≥1600			
Frequency Range	Hz	47 to 63			
Off State dv/dt [Min.]	V/μsec	500			
Off State Leakage Current [Max.]	mArms	≤8			
On State Voltage Drop [Max.]	Vrms	1.8			
Thermal Resistance, [Rthjc]	°C/W	0.1	0.1	0.08	0.07
Turn on Time [Max.] "Z"	Cycle	1/2			
Turn off Time [Max.] "D"	Cycle	1/2			
Turn on Time [Max.] "R"	mSec	1			
Turn off Time [Max.] "A"	mSec	10			

### General Specifications [Ta=25°C]

Description	500	600	800	1000
Dielectric Strength, Input to Output [50/60 Hz]	2500Vrms			
Dielectric Strength, Input/Output to Base [50/60 Hz]	2500Vrms			
Minimum Insulation Resistance [@ 500 VDC]	10 <sup>9</sup> Ω			
Maximum Capacitance, Input/Output	0.8pF			
Ambient Operating Temperature Range	-30 to 80°C			
Ambient Storage Temperature Range	-30 to 100°C			
Humidity per IEC60068-2-78	95%			
LED Input Status Indicator	Red			
Baseplate Material	Pure copper			
Weight	880g		1500g	

### Dimensions

