SSR3 SERIES

POTTER & BRUMFIELD
THREE PHASE SOLID STATE RELAY WITH MOTOR REVERSING

TE Connectivity(TE's) Potter & Brumfield Solid-state relays(SSR) comes with compact, space saving solution. SSR3 series will add a motor forward/reverse SSR, which offer solution to customer whose application requirements are not only limited to energization of the motor, but also control the direction of rotation. Common DC input, with load ratings ranging from 10 to 40 Amps @ 480Vac, equipped with random and zero turn-on switching options.



FEATURES

- LED indicator
- TRIAC output
- 10, 25, 40A rms versions
- 50-480V_{AC} output type
- Zero voltage and random voltage turn-on versions
- DC input version
- 4000V_{RMS} optical isolation
- Safety cover to meet IP 20 protection
- Epoxy filled
- Transient voltage protection by MOVs externally
- Panel mountable
- Positive input interlock system

APPLICATIONS

- Industrial control
- Automation
- Conveyor belt
- Elevator
- Escalator
- Sun tracking solar panels
- Large antennas

APPROVALS

- UL : File E29244
- CE & UK CA : N84_00005

Users should thoroughly review the technical data before selecting a product part number. It is recommended that users also seek out the pertinent approvals files of the agencies/laboratories and review them to ensure the product meets the requirements for a given application

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ENGINEERING DATA

Isolation	4000V_{rms} minimum
Temperature range	
Storage	–30°C to +100°C
Operating Temperature	–30°C to + 80°C
Case material	Plastic, UL rated 94V-0
Case and mounting	Refer to outline dimension
Termination	Refer to outline dimension
Approximate weight	16.6 oz. (471g)

INPUT SPECIFICATIONS

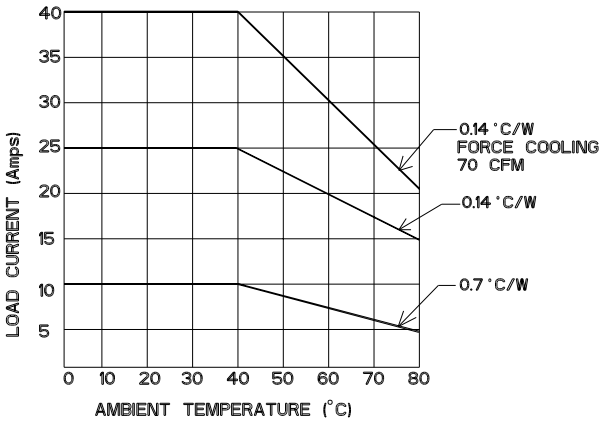
Characteristics	Units	Zero & Random Voltage Turn-on
		10, 25 & 40A Model
Control voltage range	V_{IN}	4-32
Must operate voltage	$V_{IN(OP)}$	4
Must release voltage	$V_{IN(REL)}$	1
Input current	mA	30-80
Max Input Current @ 32V_{DC} Rated Volltage	mA	80

OUTPUT SPECIFICATION (@ 25°C, UNLESS OTHERWISE SPECIFIED)

Characteristics	Units	10A Models	25A Models	40A Models
Load Voltage Range, V_L	V_{RMS}	50-480		
Load Current Range, I_L	A	10	25	40
On-State Voltage Drop @ Rated Current	V_{AC}	1.6		
Single cycle surge current	A	100	250	400
Peak Off state Voltage	V_{AC}	800		
Off- State Leakage Current	mA	5		
Fusing Current, I^2T Rating	A^2s	55	340	880
Static dv/dt (Off-State)	V/µs	400	500	
Zero Turn-On Voltage	V_{pk}	25		
Thermal Resistance, (Junction to Case, R_{J-C})	°C/W	2.4	0.9	0.6
Turn-On Time (F= 60/50 Hz)	ms	Zero - 10/8.3, Random - 0.1		
Turn-Off Time (F= 60/50 Hz)		Zero - 10/8.3, Random - 10		

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ELECTRICAL CHARACTERISTICS (THERMAL DERATING CURVES)



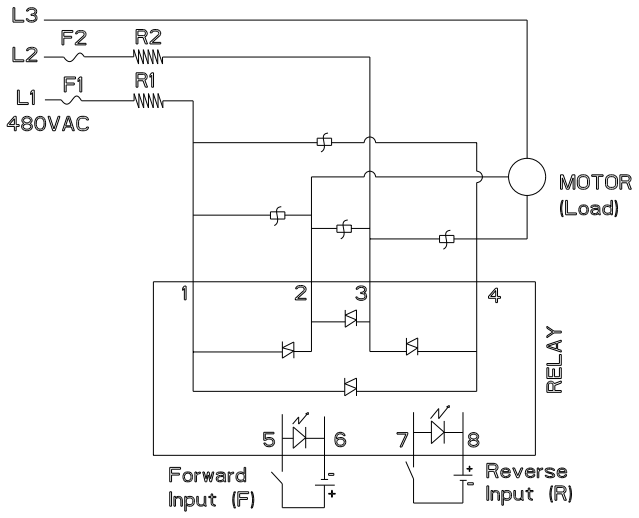
HEATSINK RECOMMENDATIONS

- We recommend that solid state relay modules be mounted to a heatsink sufficient to maintain the module's base temperature at less than 85°C under worst case ambient temperature and load conditions.
- The heatsink mounting surface should be a smooth (30-40 micro-inch finish), flat (30-40 micro-inch flatness across mating area), un-painted surface which is clean and free of oxidation.
- An even coating of thermal compound (Dow Corning DC340 or equivalent) should be applied to both the heatsink and module mounting surfaces and spread to a uniform depth of .002" to eliminate all air pockets.
- The module should be mounted to the heatsink using two #8 screws.

THERMAL PAD

- Product Code : SSR-ACC-TH-003
- Part Number : 2323803-2

OPERATING DIAGRAMS



R1,R2 : PROTECTION RESISTORS

F1,F2 : SEMICONDUCTOR FUSES

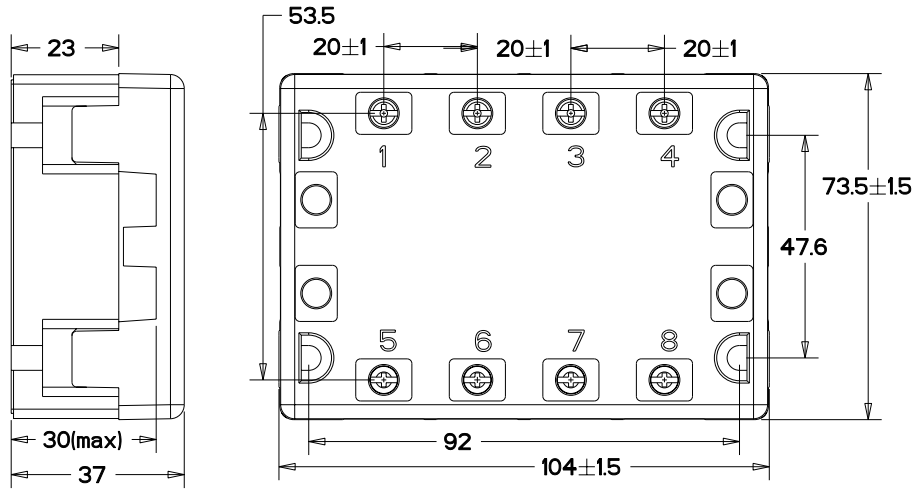
MOV

POSITIVE INPUT INTERLOCKING INCLUDED

Note : Resistors and fuses are selected based on the customer's application. Only MOVs are provided by TE with the relay.

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OUTLINE DIMENSIONS



Unspecified dimension tolerance			
0≤6	>6≤30	>30≤120	>120≤320
±0.15	±0.25	±0.65	±1.00

Type	Screw size	Ampere	Head type
Input	M3.5/0.6	As per data sheet	Pan head Phillips
Output	M4/0.7	up to 40A	

Note:

- Overall height dimensions includes with clear cover
- Dimensions in mm

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ORDERING INFORMATION

Typical Part Number

SSR3 T R -480 D 75 R

Basic Series

SSR3	Three phase solid state relay

Switching

T	TRIAC Output

Direction Options

R	Motor reversing

Line Voltage

480	50 - 480

Options

Blank	Zero voltage turn-on
R	Random volage turn-on (phase controllable)

Maximum Current Rating

10	0.1-10A_{RMS}, mounted to heatsink
25	0.1-16A_{RMS}, mounted to heatsink
40	0.1-25A_{RMS}, mounted to heatsink

Input Type & Voltage

D	4 - 32VDC

Other types on request

PART NUMBER LIST

Product Code	TE Part Number
SSR3TR-480D10	2-2345984-3
SSR3TR-480D25	2-2345984-4
SSR3TR-480D40	2-2345984-5
SSR3TR-480D10R	2-2345984-6
SSR3TR-480D25R	2-2345984-7
SSR3TR-480D40R	2-2345984-8

OUR AUTHORIZED DISTRIBUTORS ARE MORE LIKELY TO MAINTAIN THE FOLLOWING ITEMS IN STOCK FOR IMMEDIATE DELIVERY.

Product Code	
SSR3TR-480D10	SSR3TR-480D10R
SSR3TR-480D25	SSR3TR-480D25R
SSR3TR-480D40	SSR3TR-480D40R

Notes:

1. Catalog and product specification according to IEC 61810-1 and to be used only together with the 'Definitions' section.
2. Catalog and product data is subject to the terms of the disclaimer and all chapters of the 'Definitions' section, available at http://relays.te.com/definitions
3. Catalog product data, 'Definitions' section, application notes and all specifications are subject to change.
4. To view solid-state relay application notes click here

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