SSR3 SERIES

POTTER & BRUMFIELD
THREE PHASE SOLID STATE RELAY

TE Connectivity(TE's) Potter & Brumfield Solid-state relays(SSR) comes with compact, space saving solution. SSR3 series will add a three phase relay option to our SSR range of products, which is three individual single phase solid state relays packaged in a single housing, having a common input(AC/DC), to energize each SSR simultaneously. With load ratings ranging from 10 to 75 Amps @ 480Vac.

FEATURES

- LED indicator
- SCR output for medium to high industrial loads
- TRIAC output for low industrial loads
- 10, 16, 25, 40, 50 & 75Arms
- 48-480Vac output types
- Zero voltage and random voltage turn-on versions
- AC & DC input versions
- 4000V rms optical isolation
- Safety cover to meet IP 20 protection
- Epoxy filled
- Transient voltage protection by MOVs externally
- Panel mountable

APPLICATIONS

- Industrial control
- Automation
- Conveyor belt
- Elevator
- Warehouse equipment
- Plastic inject machine

APPROVALS

- UL : File E29244
- CE & UK CA : N84_00003

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

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	16.3-18.4 oz. (461-521g) (Depending on the specific model)

INPUT SPECIFICATIONS

Characteristics	Units	AC Input	DC Input
		Zero & Random V Turn-on	Zero & Random V Turn-on
Control voltage range	V_{IN}	90 - 280	4 - 32
Must operate voltage	$V_{IN(OP)}$	90	4
Must release voltage	$V_{IN(REL)}$	10	1
Input current	mA	9-25	30-80
Max input current @ rated voltage	mA	25 @ 280V_{AC}	80 @ 32V_{DC}

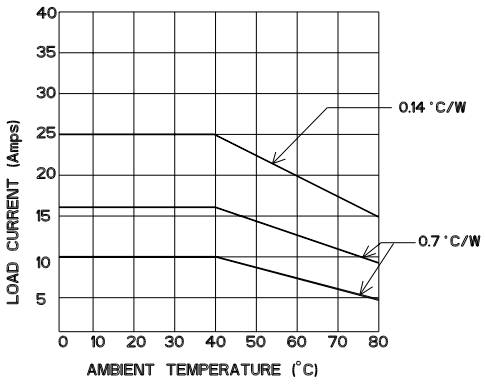
OUTPUT SPECIFICATION (@ 25°C, UNLESS OTHERWISE SPECIFIED)

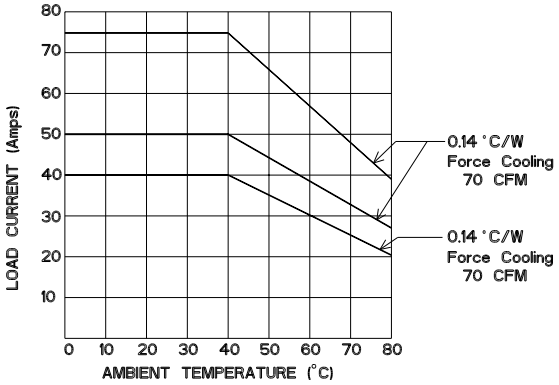
Characteristics	Conditions	Units	10A Models	16A Models	25A Models
Load Voltage Range, V_L		V_{RMS}	48-480		
Load Current Range, I_L		A	10	16	25
On-State Voltage Drop	@ Rated Current	V_{RMS}	1.6		
Single cycle surge current	For Triac / SCR	A	100	160	250
Peak Off state Voltage		V_{AC}	800		
Off- State Leakage Current	(F-60 Hz)	mA	5		
Fusing Current, I^2T Rating	For Triac / SCR	A^2s	55	144	340
Static dv/dt (Off-State)	For Triac / SCR	V/µs	400		500
Zero Turn-On Voltage		V_{pk}	25		
Thermal Resistance, (Junction to Case, R_{J-C})	For Triac / SCR	°C/W	2.4	2.1	0.6 (AC i/p & Random), 0.9 (DC i/p)
Turn-On Time (F= 60/50 Hz)	AC i/p	ms	40		
	DC i/p		Zero - 10/8.3, Random - 0.1		
Turn-Off Time (F= 60/50 Hz)	AC i/p		80		
	DC i/p		Zero - 10/8.3, Random - 10		

Characteristics	Conditions	Units	40A Models	50A Models	75A Models
Load Voltage Range, V_L		V_{RMS}	48-480		
Load Current Range, I_L*		A	40	50	75
On-State Voltage Drop	@ Rated Current	V_{RMS}	1.6		
Single cycle surge current	For Triac / SCR	A	400 / 580	520	750
Peak Off state Voltage		V_{AC}	800		
Off- State Leakage Current	(F-60 Hz)	mA	5		
Fusing Current, I^2T Rating	For Triac / SCR	A^2s	880 / 1680	1350	2812
Static dv/dt (Off-State)	For Triac / SCR	V/µs	500 / 1000	1000	
Zero Turn-On Voltage		V_{pk}	25		
Thermal Resistance, (Junction to Case, R_{J-C})	For Triac / SCR	°C/W	0.6 / 0.9	0.6 / 0.5	0.6
Turn-On Time (F= 60/50 Hz)	AC i/p	ms	40		
	DC i/p		Zero - 10/8.3, Random - 0.1		
Turn-Off Time (F= 60/50 Hz)	AC i/p		80		
	DC i/p		Zero - 10/8.3, Random -10		

* See derating curve

ELECTRICAL CHARACTERISTICS (THERMAL DERATING CURVES)





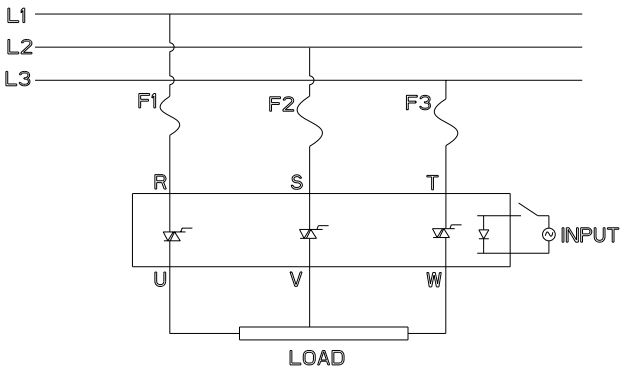
HEATSINK RECOMMENDATIONS

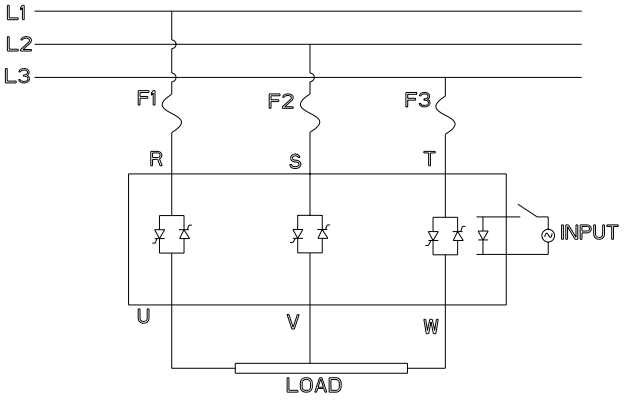
- We recommend that solid state relay modules be mounted to a heatsink sufficient to maintain the module's base temperature at less than 85°C under worst case ambient temperature and load conditions.
- The heatsink mounting surface should be a smooth (30-40 micro-inch finish), flat (30-40 micro-inch 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

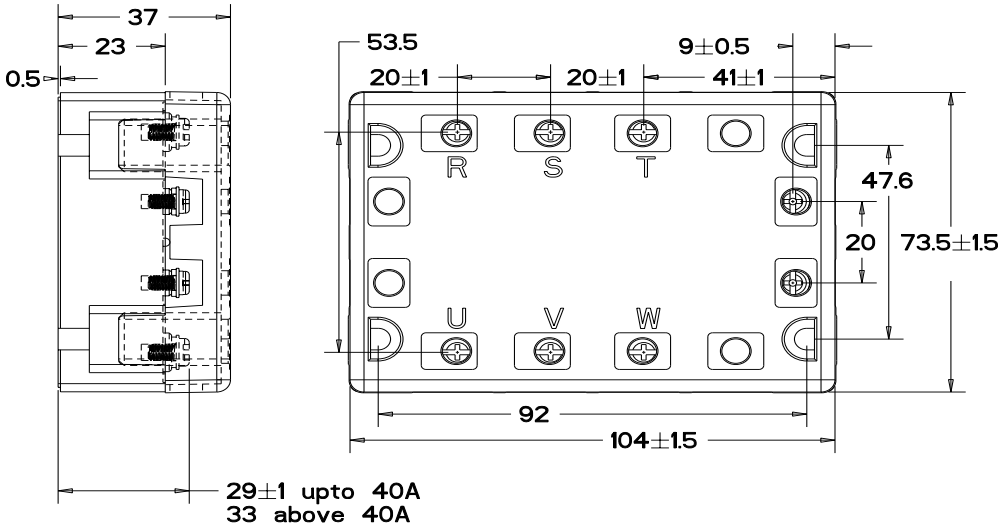
- Product Code : SSR-ACC-TH-003
- Part Number : 2323803-2

OPERATING DIAGRAMS





OUTLINE DIMENSIONS



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

Screw details

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	
	M6/1	50A & above	

Note:

- Overall height dimensions includes with clear cover.
- All dimensions are in mm.

ORDERING INFORMATION

Typical Part Number

SSR3 S -480 D 75 R

Basic Series

SSR3	Three phase solid state relay

Switching

S	SCR Output
T	TRIAC Output

Line Voltage

480	48 - 480

Input type & Voltage

A	90 - 280VAC
D	4 - 32VDC

Other types on request

Turn-On Options

Blank	Zero voltage turn-on
R	Random volage turn-on

Maximum Current Rating

10	0.1-10A rms, mounted to heatsink
16	0.1-16A rms, mounted to heatsink
25	0.1-25A rms, mounted to heatsink
40	0.1-40A rms, mounted to heatsink
50	0.1-50A rms, mounted to heatsink
75	0.1-75A rms, mounted to heatsink

PART NUMBER LIST

Product Code	TE Part Number
SSR3T-480A10	2345984-1
SSR3T-480A16	2345984-2
SSR3T-480A25	2345984-5
SSR3T-480A40	2345984-6
SSR3S-480A40	2345984-7
SSR3S-480A50	2345984-8

Product Code	TE Part Number
SSR3S-480A75	2345984-9
SSR3T-480D10	1-2345984-1
SSR3T-480D16	1-2345984-2
SSR3T-480D25	1-2345984-3
SSR3T-480D40	1-2345984-4
SSR3S-480D40	1-2345984-5

Product Code	TE Part Number
SSR3S-480D50	1-2345984-6
SSR3S-480D75	1-2345984-7
SSR3T-480D10R	1-2345984-9
SSR3T-480D25R	2-2345984-0
SSR3S-480D40R	2-2345984-1
SSR3S-480D50R	2-2345984-2

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

Product Code	
SSR3T-480A10	SSR3T-480D25
SSR3T-480A16	SSR3T-480D40
SSR3T-480A25	SSR3T-480D10R
SSR3S-480A50	SSR3S-480D50R

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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