

TR11 Series

UL1077 Recognized Supplementary Protector/ Circuit Breaker for Equipment

Applications:

Protection of Control Transformers, UPS, Power strips, Solenoids etc., against damage due to overload conditions.

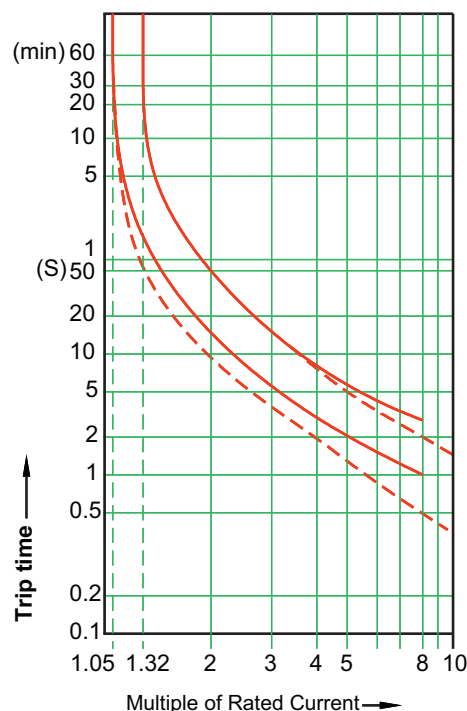


E209569

up to 12 Amps

Current Rating (A)	0.1 - 16A
Standard Current Rating (A)	0.1, 0.25, 0.5, 0.9, 1.0, 1.2, 1.5, 1.8, 2.0, 2.2, 2.5, 2.7, 3.0, 3.3, 4.0, 5.0, 6.0, 6.5, 7.0, 8.0, 9.0, 10.0, 12.0, 15.0, 16.0
Rated Voltage	240V AC, 50/60Hz, 50V DC / 24V DC (VDE)
Initial insulation resistance (500V DC)	> 100 M ohms. (As per EN 60934)
Dielectric strength	1.5 KV for One minute. (As per EN 60934)
Overload Switching Capacity	6 I _n - AC up to 9.0A 4 I _n - DC up to 12.0A (As per EN 60934) 60A AC/DC Max. - from 10.0A to 12.0A
Maximum Breaking Capacity	8x I _n AC/DC for <6.0A 60A AC/DC MAX. for > 6.0A
Power Loss	1 - 2 Watts
Operating Temperature	Maximum 60°C Ambient
Operational Life at 2xI _n	1000 Cycles
Rated Conditional Short Circuit Current Capacity I _{nc1} (PC1) Ref.: EN60934	1000 Amps PC 1, 240V AC, 24V DC, Ref.: EN60934 SC: 1KA, C1, 240V AC 50V DC Ref.: CSA22.2 No.235-04, UL-1077
Tripping Current Code TC	TC 2Ref.: CSA22.2 No. 235-04
Overload Rating	OL0 240V AC, 50V DC, Ref.: CSA22.2 No. 235-04
Application Type	General Industrial Ref.: CSA22.2 No. 235-04
Method of Tripping	Thermal 'TO' Trip Free
Type of Actuation	Reset Type 'R'
Application Standards	CSA 22.2 No. 235-04, UL-1077, EN 60934
Weight	aprox. 11g
Approvals	0.1 - 16.0A 240V AC 50V DC 0.5 - 12.0A 240V AC 24V DC

Operating Characteristic



Rated current

< 6 A

Ambient

≥ 6 A

Temperature

23°C

ORDERING INSTRUCTIONS

PRODUCT TYPE	TR20	C	63	S	B	1	A	7.0A	2	INDICATOR PLATE
MOUNTING TYPE										0 None 1 Black letters on Aluminum Background 2 Silver Letters on Black Background
TERMINAL SIZE										CURRENT RATING
63 6.3 x 0.8mm										3A, 4A, 5A, 6A, 7A, 8A, 10A, 12A, 15A, 10A & 20A
TERMINAL CONFIGURATION										MOUNTING NUT
S Straight L 90° Bend, Left side R 90° Bend, Right side										N None or wing clip A Plastic knurled B Metal knurled C Metal Hex Nut D Sealing knurled boot
SLIDER COLOR										SLIDER MARKING
B Black										0 None 1 White, Vertical 2 Black, Vertical 3 White, Horizontal 4 Black, Horizontal
WB White with trip indication										

Time Current Characteristics:

The standard characteristic is valid for ambient temperatures of +23°C. If the device is to be used in an ambient temperature other than +23°C, allowances must be made when selecting the current rating according to the following guidelines:

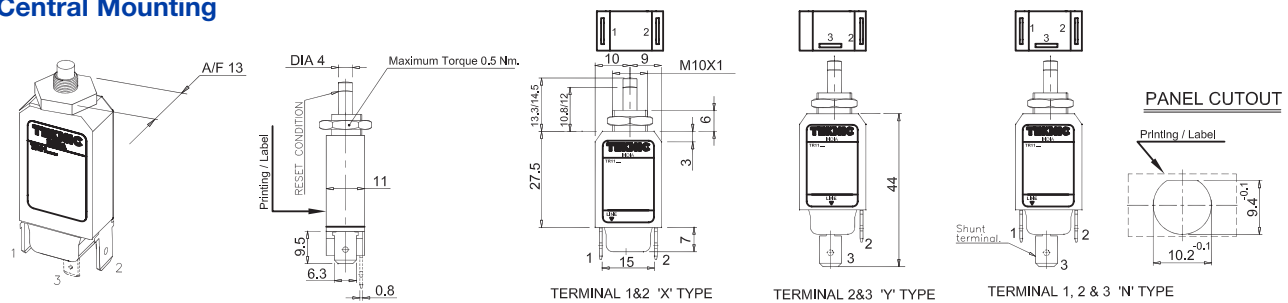
Ambient temp. °C	-20	-5	0	+10	+20	+30	+40	+50	+60
Correction Factor	0.8	0.88	0.9	0.96	1	1.05	1.12	1.2	1.3

Example:	Normal Continuous Current	1.8A
	Ambient Temperature	40°C
	Correction Factor	1.12
	Recommended Current Rating	1.8 x 1.12 = 2.016
	Select the nearest	2.0A

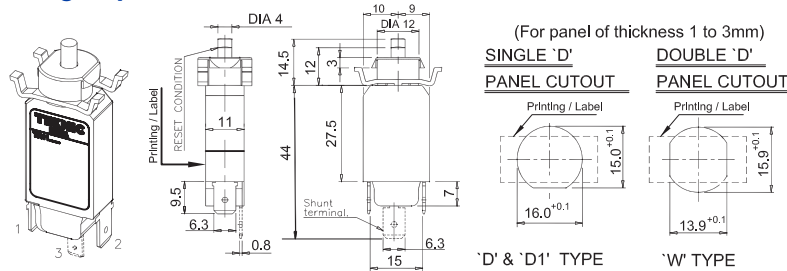
Note: TR11-C Series stocked; contact Altech for availability.

TR-11 Dimensions & Mounting Options

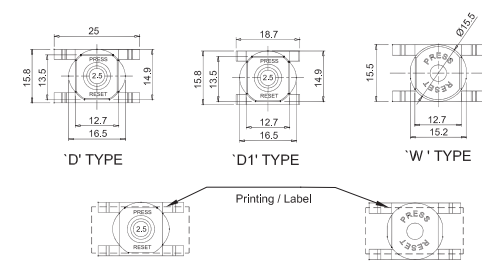
Central Mounting



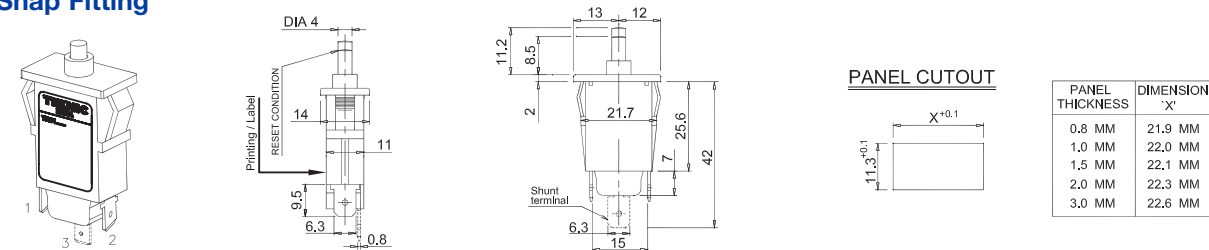
Wing Clips



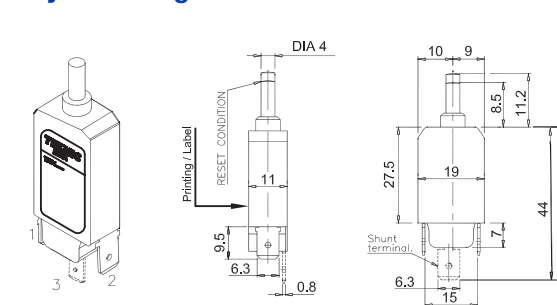
Wing Clip Types



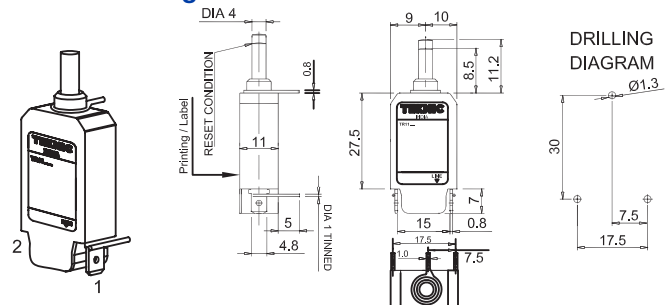
Snap Fitting



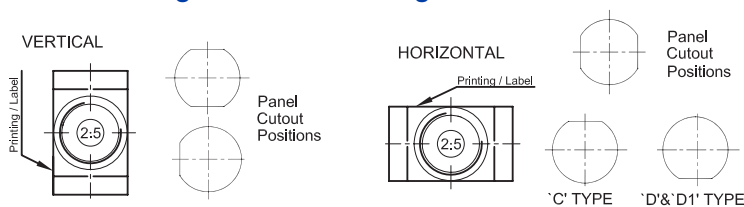
Body Mounting



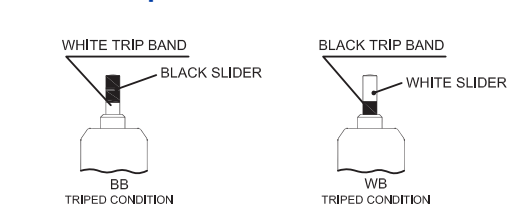
PCB Mounting



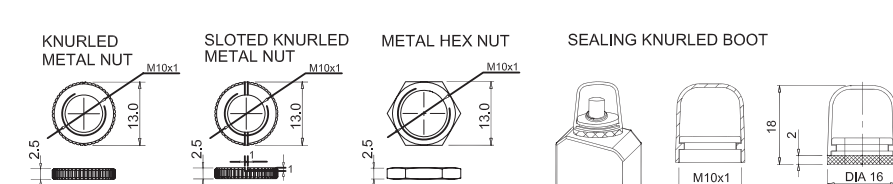
Slider Printing for Current Rating



Slider Color with Trip Band



Accessories



A sealing boot for central mounting Type (C) Circuit breaker to provide dust & splash protection (IP 54).

Dimensions in mm (to convert to inches multiply by 0.03937)

TR20 Series

UL1077 Recognized Supplementary Protector/ Circuit Breaker for Equipment

Applications:

Protection of Control Transformers, UPS, Power strips, Solenoids etc., against damage due to overload conditions.

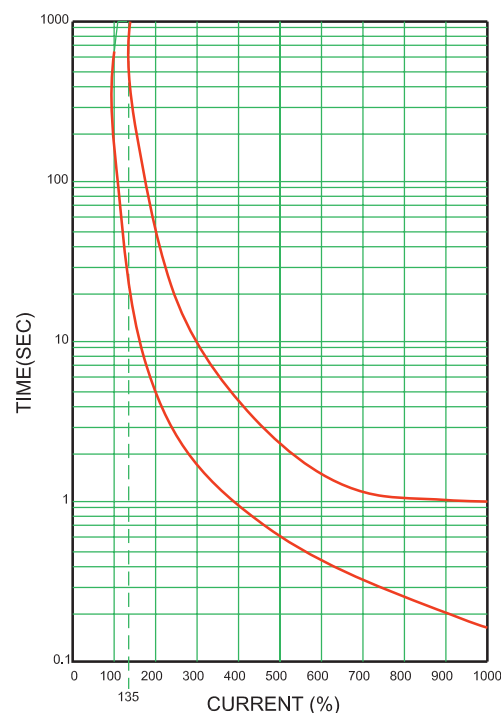
Application Type	General Industrial Ref. CSA22.2 No.235-04
Function	SPST
Standard Current Rating (A)	3, 4, 5, 6, 7, 8, 10, 12, 15, 16 & 20 AC-Inductive, DC-Resistive
Rated Voltage	125/125V AC, 50/60 Hz, 50V DC
Method of tripping	Thermal TO, Cycling trip - free
Type of Actuation	Reset Type 'R'
Initial insulation resistance	> 100 M ohms. (DC500V)
Dielectric strength	1.500 KV for 1 minute
Impulse withstand voltage	2.5kV Ref.: EN 60934
Contact Gap	Micro disconnection(μ) Ref.: EN60934
Housing Material	Thermoplastic / Thermoset
Slider Material	Thermoset
Contact Material	Silver alloy
Terminal Material	Copper alloy
Fixing	By a nut or snap fitting
Resettable overload capacity	10 times the rated current
Overload capacity	2 times rated current for 50 switching cycles min. Ref.: UL 1077
Rated Short Circuit Capacity I_{cn} Ref.: EN60934	Min 6 times the rated current ($6I_n$) for 250V AC (Inductive) Min 4 times the rated current ($4I_n$) for 50V DC (Resistive)
Rated Conditional Short Circuit Current Capacity I_{nc1} (PC1) Ref.: EN60934	1000 Amps 125/250V AC, 50V DC SC: 1kA, C1, 125/250V AC, 50V AC Ref.: CSA22.2 No.235-04, UL-1077
Tripping Current Code TC	TC 2Ref.: CSA22.2 No. 235-04
Overload Rating	OLO 125/250V AC, 50V DC, Ref.: CSA 22.2 No. 235-04
Weight	aprox. 17g
Application Standards	UL 1077, CSA 22.2 No. 235-04, EN 60934
Approvals	  



E209569



Operating Characteristic



ORDERING INSTRUCTIONS

	TR20	-	C	-	63	S	-	B	1	-	A	-	7.0A	-	2	
PRODUCT TYPE																INDICATOR PLATE
																0 None
																1 Black letters on Aluminum Background
																2 Silver Letters on Black Background
MOUNTING TYPE																CURRENT RATING
A Plastic 3/8"-27UNS																3A, 4A, 5A, 6A, 7A, 8A,
C Plastic M11																10A, 12A, 15A, 10A & 20A
W Wing clip																MOUNTING NUT
			TERMINAL SIZE													N None or wing clip
			63 6.3 x 0.8mm													A Plastic knurled
																B Metal knurled
TERMINAL CONFIGURATION																C Metal Hex Nut
S Straight								SLIDER COLOR								D Sealing knurled boot
L 90° Bend, Left side								B Black			SLIDER MARKING					
R 90 Bend, Right side								WB White with trip indication			0 None					
											1 White, Vertical					
											2 Black, Vertical					
											3 White, Horizontal					
											4 Black, Horizontal					

Time Current Characteristics:

The standard characteristic is valid for ambient temperatures of +25°C. If the device is to be used in an ambient temperature other than +25°C, allowances must be made when selecting the current rating according to the following guidelines:

Ambient temp. °C	-20	-10	0	+10	+25	+30	+35
Multiplication Factor	0.8	0.85	0.9	0.9	1	1	1.1
3A to 4A							
Multiplication Factor	0.8	0.85	0.88	0.9	1	1.1	1.3
5A to 20A							
Example: Normal Continuous Current							
Ambient Temperature							
Multiplication Factor							
Selected rated current at +40°C							
Ambient temperature							

* SPECIAL ORDER ONLY. Contact Altech for more details.

PCB Mounting and additional Shunt Terminal available, please contact Altech.

TR30 Series

UL1077 Recognized Supplementary Protector/ Circuit Breaker for Equipment

Applications:

Protection of Control Transformers, UPS, Power strips, Solenoids etc., against damage due to overload conditions.

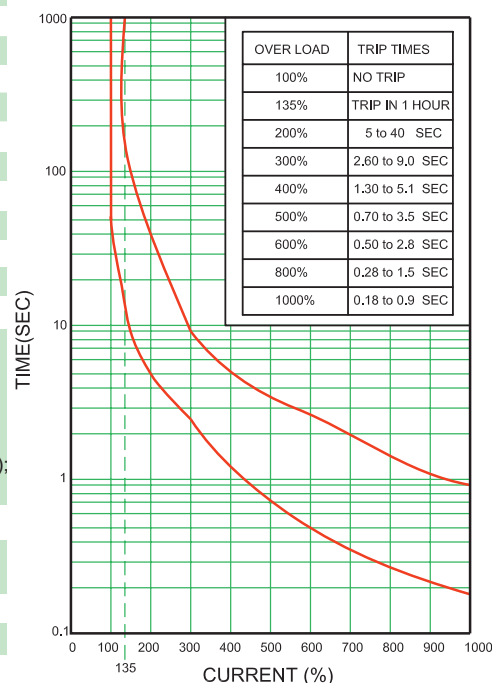
Application Type	General Industrial Ref. CSA22.2 No.235-04
Function	SPST
Standard Current Rating (A)	20A, 25A, 30A & 35A
Rated Voltage	125/125V AC, 50/60 Hz, 50V DC
Method of tripping	Thermol TO, Cycling trip - free
Type of Actuation	Reset Type 'R'
Initial insulation resistance	> 100 M ohms. (DC500V)
Dielectric strength	1.500 KV for 1 minute
Impulse withstand voltage	2.5kV Ref.: EN 60934
Contact Gap	Micro disconnection(μ) Ref.: EN60934
Housing Material	Thermoset - UL94-V0 flammability class
Slider Material	Thermoset - UL94-V0 flammability class
Contact Material	Silver alloy
Terminal Material	Copper alloy
Fixing	By a nut or snap fitting
Resettable overload capacity	10 times the rated current
Rated Short Circuit Capacity I_{cn}	Min 6 times the rated current ($6I_n$) for 250V AC (Inductive) Ref.: EN60934 Min 4 times the rated current ($4I_n$) for 50V DC (Resistive)
Rated Conditional Short Circuit Current Capacity I_{nc1} (PC1)	2kA, 20 to 35A, 250V AC, As per EN60934 1kA, 20 to 35A, 50V DC As per CSA 22.2 No. 235-04 & UL 1077 1kA, C1, 50V Dc, -(20-35A); 500A, U3, 125V AC, -(20-35A); 1kA, U1a, 125V AC, -(20-35A); 2kA, C1, 125V AC, -(20-35A); 1kA, C1, 250V AC, -(20-15A); 2kA, C1, 250V AC, -(20-35A)
Tripping Current Code TC	TC 3 Ref.: CSA22.2 No. 235-04
Overload Rating	20-35A - OL0 125/250V AC, 50V DC; As per CSA 22.2 No. 235-04 20-35A - OL1 125V AC; 20-35A - OL1 250V AC
Weight	aprox. 25g
Application Standards	UL 1077, CSA 22.2 No. 235-04, EN 60934, UL 1500
Approvals	  
Ignition Protected	Compliant as per UL 1500 (Standard for safety for Ignition protection test for Marine products)



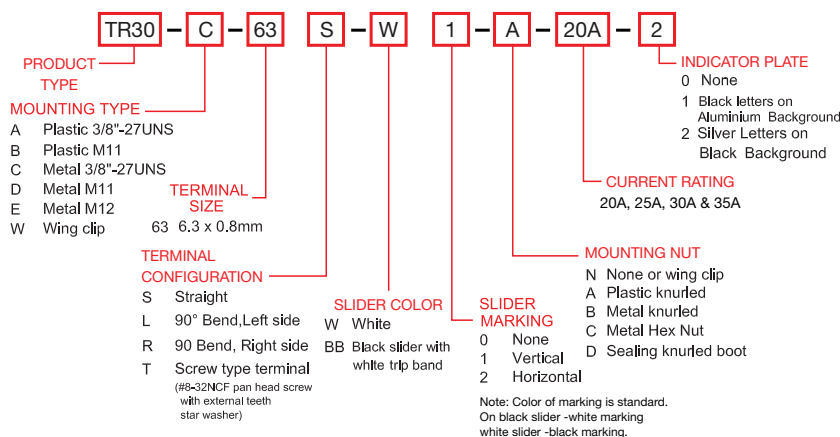
AL
E209569



Operating Characteristic



ORDERING INSTRUCTIONS



Time Current Characteristics:

The standard characteristic is valid for ambient temperatures of +25°C. If the device is to be used in an ambient temperature other than +25°C, allowances must be made when selecting the current rating according to the following guidelines:

Ambient temp. °C	-5	-0	+10	+20	+25	+30	+40	+50	+60
Multiplication Factor 5A	0.9	0.92	0.95	0.98	1	1.12	1.15	1.25	1.5
Multiplication Factor 56A to 30A	0.9	0.92	0.95	0.98	1	1.05	1.15	1.25	1.35
Multiplication Factor 35A	0.9	0.93	0.95	0.98	1	1.05	1.15	1.25	1.35

Example: Normal Continuous Current 20A
Ambient Temperature 40°C
Multiplication Factor 1.15
Selected rated current at +40°C ambient temperature $20 \times 1.15 = 23$
25A (nearest)

* SPECIAL ORDER ONLY. Contact Altech for more details.

PCB Mounting and additional Shunt Terminal available, please contact Altech.

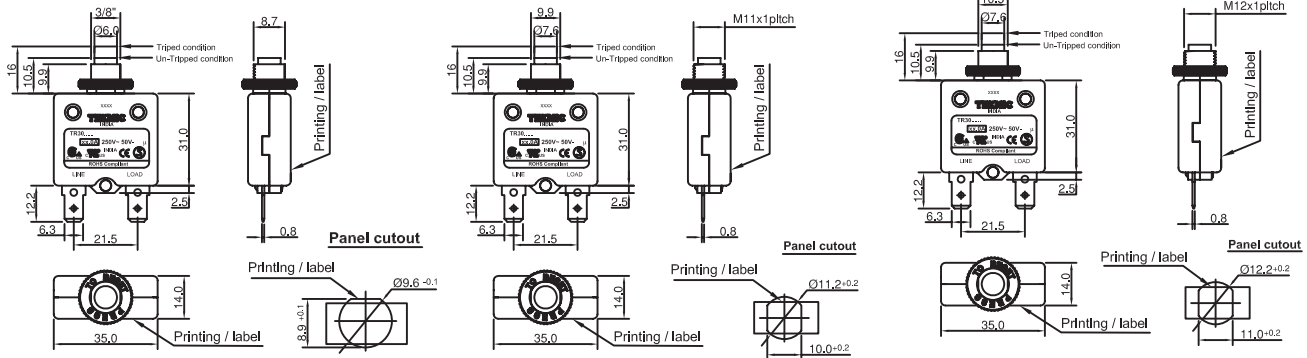
TR-30 Dimensions & Mounting Options

Central Mounting

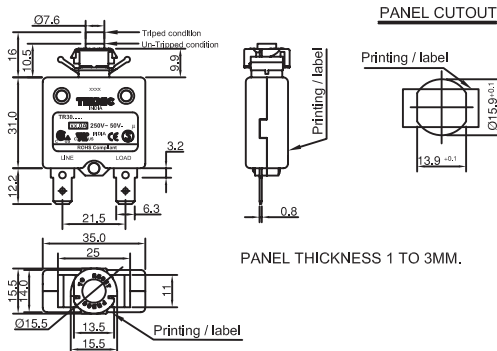
A/C. 3/8"-27 UNS

B/D. M11

E. M12



Wing Clips

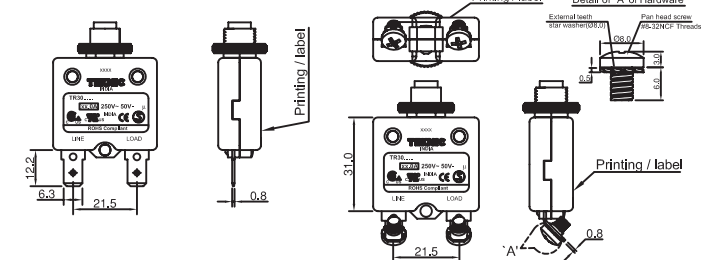


PANEL THICKNESS 1 TO 3MM.

Terminal Options

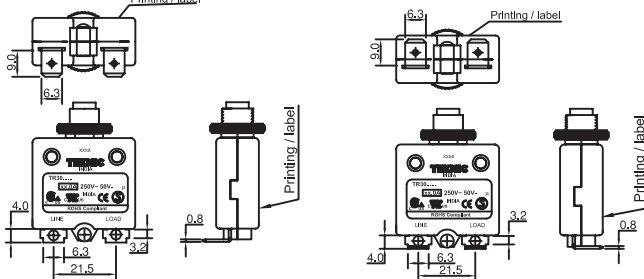
S. STRAIGHT

T. SCREW TYPE (#8 - 32NCF Threads)

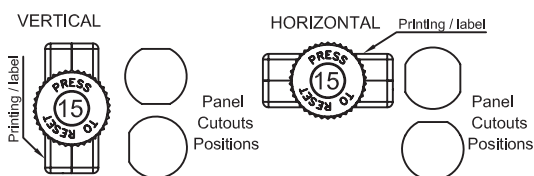


L. 90° BEND, (LEFT SIDE)

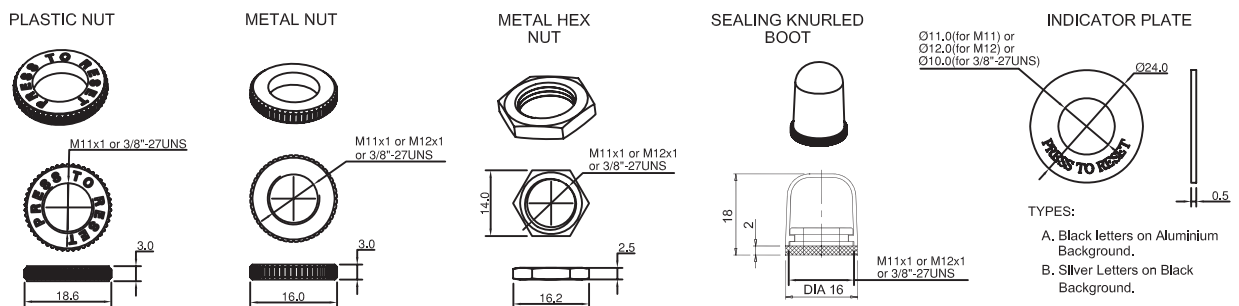
R. 90° BEND, (RIGHT SIDE)



Slider Printing for Current Rating



Accessories



Dimensions in mm (to convert to inches multiply by 0.03937)

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Altech:](#)

[TR-11WY6312A](#) [TR-11WY6315A](#) [TR11-D-X-63-BB-2-N-5.0A](#) [TR-11BX633.3A](#) [TR11-D-Y-63-BB-2-N-10.0A](#) [TR-11CX634A](#) [TR-11SX632.7A](#) [TR-11SY638A](#) [TR-11CY636.5A](#) [TR11-D-Y-63-BB-2-N-15.0A](#) [TR-11WY639A](#) [TR-11WX630.9A](#) [TR11-D-Y-63-BB-2-N-7.0A](#) [TR-11CX630.9A](#) [TR-11BX635A](#) [TR11-C-Y-63-B-0-C-9.0A](#) [TR11-W-Y-63-R-0-N-12.0A](#) [TR11-W-Y-63-W-0-N-10.0A](#) [TR11-C-X-63-B-0-C-1.8A](#) [TR11-D-X-63-BB-2-N-3.0A](#) [TR11-D-X-63-BB-2-N-0.5A](#) [TR11-C-X-63-B-0-C-1.5A](#) [TR11-C-Y-63-B-0-C-8.0A](#) [TR11-C-X-63-B-0-C-1.0A](#) [TR11-C-X-63-B-0-C-4.0A](#) [TR11-D-X-63-BB-2-N-1.0A](#) [TR11-C-Y-63-B-0-C-12.0A](#) [TR11-C-X-63-B-0-A-2.0A](#) [TR11-C-Y-63-B-0-C-15.0A](#) [TR11-C-X-63-B-0-C-3.3A](#) [TR11-C-X-63-B-0-C-0.9A](#) [TR11-C-X-63-B-0-C-2.0A](#) [TR11-C-X-63-B-0-C-0.5A](#) [TR11-C-X-63-B-0-A-2.5A](#) [TR11-C-X-63-B-0-A-1.0A](#) [TR11-C-Y-63-B-0-C-16.0A](#) [TR11-C-X-63-B-0-C-3.0A](#) [TR11-C-X-63-B-0-C-5.0A](#) [TR11-C-X-63-B-0-C-6.0A](#) [TR11-C-X-63-B-0-C-2.7A](#) [TR11-C-X-63-B-0-C-2.5A](#) [TR11-C-Y-63-B-0-C-6.5A](#) [TR-11CY6312A](#) [TR11-D-X-63-BB-2-N-10.0A](#) [TR20-C-63S-B3-B-3.0A-2](#) [TR20-C-63S-B3-B-5.0A-2](#) [DC TR11 C](#) [TR11-C-X-63-B-0-C-1.2A](#) [TR11-C-X-63-B-1-C-1.5A](#) [TR11-C-X-63-B-1-C-1.75A](#) [TR11-W-Y-63-B-0-C-15.0A](#) [TR11-W-Y-63-B-0-N-12.0A](#) [TR11-W-Y-63-B-0-N-15.0A](#) [TR11-W-Y-63-W-0-N-12.0A](#) [TR20-C-63S-B3-B-7.0A-2](#) [TR11-C-X-63-B-0-C-2.2A](#) [TR11-C-X-63-B-1-C-1.0A](#) [TR11-C-X-63-B-1-C-1.25A](#) [TR11-C-X-63-BB-0-C-2.0A](#) [TR11-C-X-63-WB-0-C-0.5A](#) [TR11-C-X-48-B-0-C-1.5A](#) [TR11-C-X-63-B-0-N-2.2A](#) [TR11-C-X-63-B-0-N-16A](#)