TEKNIC

Circuit Breaker for equipment - NTR 11

The NTR11 circuit breaker for equipment (CBE) is a single pole ,push to reset, thermally operated overload protector, providing reliable trip free operation on overloads and short circuits within maximum breaking capacity specified. The trip mechanism is of a latch type and a high contact force can be maintained until the unit trips.This prevents contact bounce & reduces the risk of contact welding.

Application : Main applications are protection of single phase motor, transformers, UPS, Power strips,Solenoids etc.,against damage due to overcurrent conditions.

Operation : The mechanism of the circuit breaker is designed to open the contacts in the event of a current flow in excess of the rated current according to the time/current characteristics of the device. A thermo bimetal strip, which has the advantage of being immune to high inrush currents and line transients, is heated by an overcurrent and deflects, there by releasing the latch mechanism.The contacts open even if the reset button is manually held in the closed position.This is known as `**trip free'** mechanism. The contacts open and close with a positive snap action and the tripped state is clearly indicated by the extended projection of the reset button.

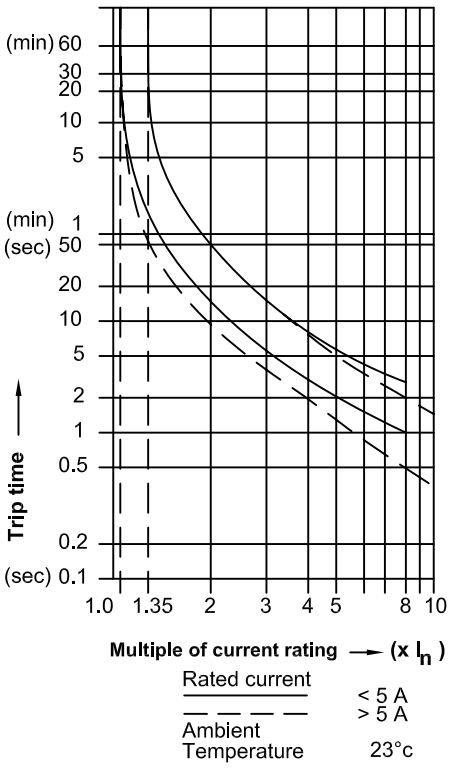
Shunt Terminal (N) : An optional additional terminal can be provided as a parallel circuit to the main current sensing circuit, for circuit breakers provided with heater winding, that is upto a rating of 6A. The shunt circuit between terminal 1 & 3 may be used for any signals which may be required in addition to the main circuit.However,since the circuit makes use of the bimetal as a current carrying path, the trip time of the circuit breaker may be slightly influenced.

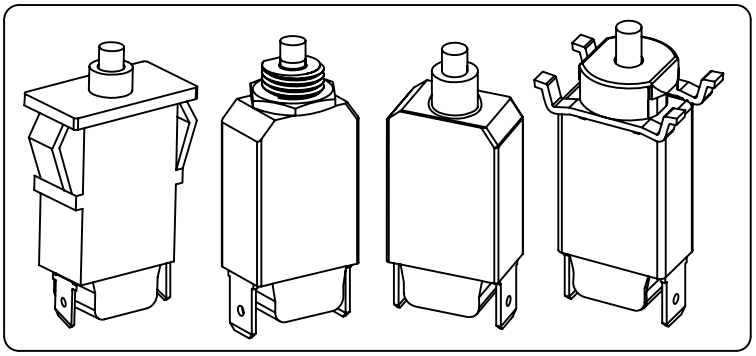
Time Current Characteristics : The standard characteristic is valid for ambient temperature of 23°C. If the device is to be used in an ambient temperature other than +23°C,allowance must be made when selecting the current rating according to the following guide lines:

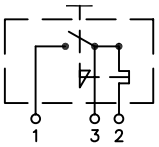
Ambient temp. °C	-20	-5	0	+10	+20	+30	+40	+50	+60
Multiplication Factor	0.8	0.88	0.9	0.96	1	1.05	1.12	1.2	1.3

Example :
Normal Continuous Current : 1.8 A
Ambient Temperature : 40°C
Multiplication Factor : 1.12
Recommended Current Rating : 1.8 x 1.12 = 2.016
Select the nearest : 2 A

Tripping Characteristics :







Technical Data

Current Rating in(Amp)	: 0.5 -16A
Rated Voltage	: 240V~ 50/60 Hz, 50V DC
Initial insulation resistance (500 V DC)	: > 100 Megohms. at 500V DC
Dielectric strength	: 1.5 KV for One minute @ 50Hz Impulse 1.2/50µs 2.5kV
Operating Temperature	: Maximum 60°C Amb.
Rated conditional short circuit current capacity	: 1000 Amps ,240V AC, 50V DC (product not fit for use after short circuit)
Over load capacity	: 2 times rated current for 50 switching cycles min.
Degree of protection (IEC 60529)	: Operating area IP 40 Terminal area IP 00
Method of tripping	: Thermal `TO' Trip free
Type of actuation	: Reset type `R'
Weight	: approx. 11g

Ordering Example :

NTR11 – B – X – 63 – B – 1 – A – 7.0A

Product type

CURRENT RATING 0.5 TO 16.0A

MOUNTING TYPE.
Body Mouting - B
Central nut - C
Snap fit - S
Wing clip - W
Wing clip - D
PCB - P

TERMINAL CONFIGURATION
Terminal 1&2 - X
upto I_n 12A
Terminal 2&3 - Y
I_n >6A
Shunt terminal - N
Terminal 1, 2 & 3
Upto I_n 6A

TERMINAL SIZE
6.3 - 63
4.8 - 48
2.8 - 28
PCB - 10

SLIDER MARKING
0 - None
1 - Vertical
2 - Horizontal

Mounting Nut
N - None
A - Knurled metal nut
B - Sloted knurled metal nut
C - Hex metal nut
D - Sealing knurled boot

COLOUR OF THE SLIDER WITHOUT TRIP BAND
Black - B (standard), White - W

COLOUR OF THE SLIDER WITH TRIP BAND
Black - BB (Black slider with white trip band)
White - WB (White slider with black trip band)

NOTE :

Terminal size 2.8 available upto I_n 6A

Terminal size 4.8 available in X-type only upto I_n 12A.

Terminal 1 & 2 with PCB pins available only upto I_n 12A.

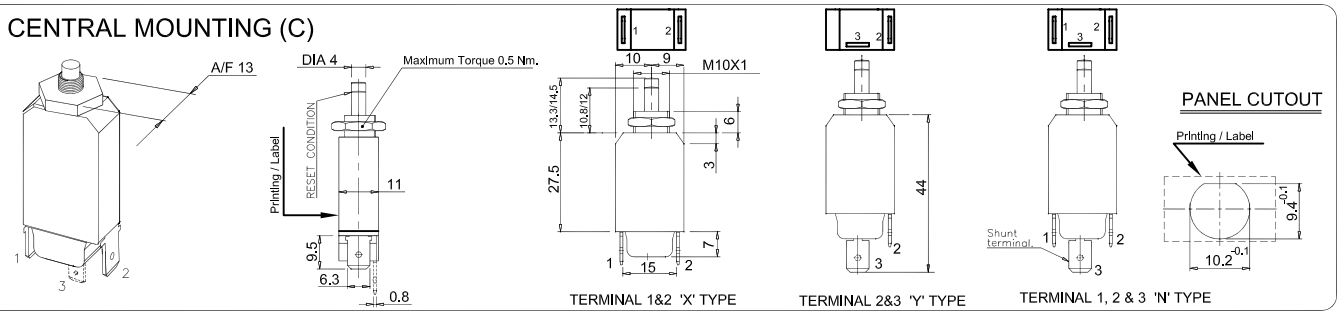
Shunt terminal - N , Terminal 1, 2 & 3 available in Terminal sizes 2.8 & 6.3 only.

For `D' type wing clip printing of current rating on slider is in horizontal orientation only (Refer page 2)

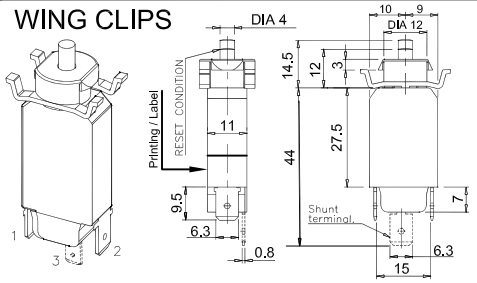
FM:MT:115 REV. : A

MOUNTING OPTIONS

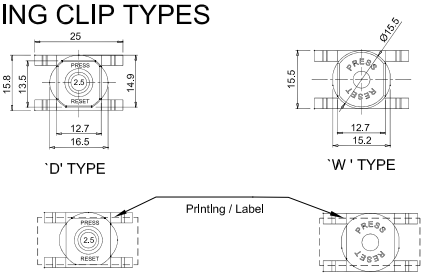
CENTRAL MOUNTING (C)



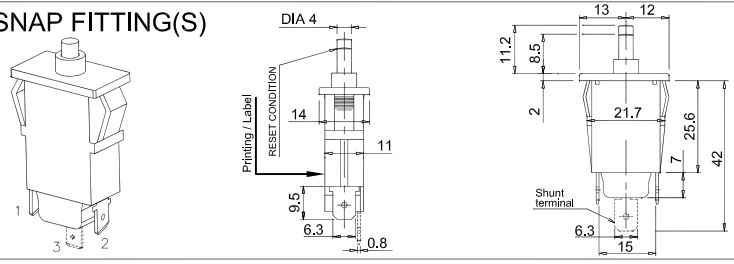
WING CLIPS



WING CLIP TYPES

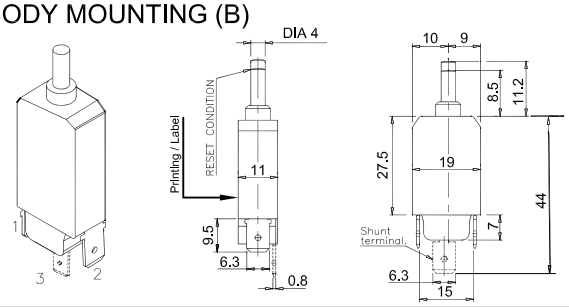


SNAP FITTING(S)

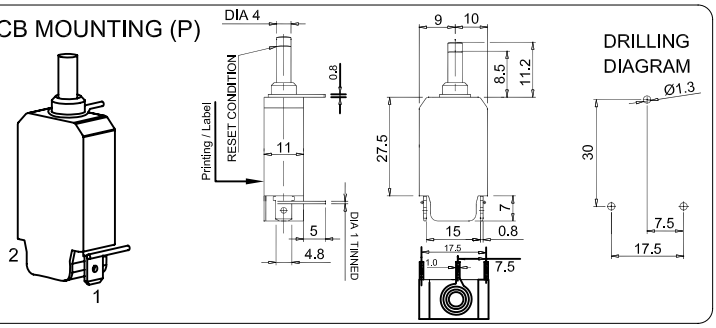


PANEL THICKNESS	DIMENSION 'X'
0.8 mm	21.9 mm
1.0 mm	22.0 mm
1.5 mm	22.1 mm
2.0 mm	22.3 mm
3.0 mm	22.6 mm

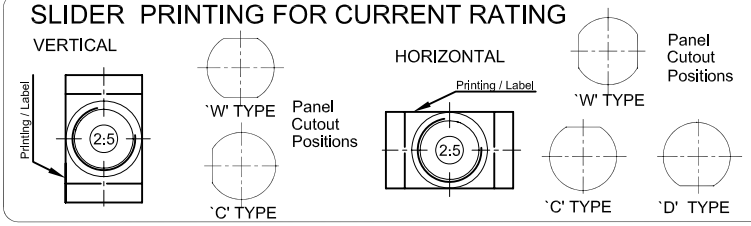
BODY MOUNTING (B)



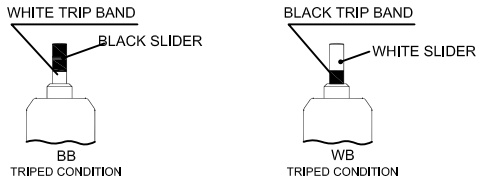
PCB MOUNTING (P)



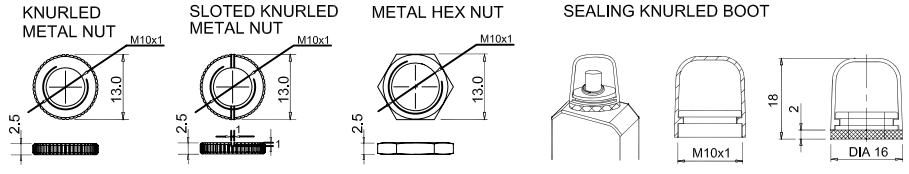
SLIDER PRINTING FOR CURRENT RATING



SLIDER COLOUR WITH TRIP BAND



ACCESORIES



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

For further details, please write to:

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Website: www.teknic.co.in

All dimensions are in 'mm'

FM:MT:115 REV. : A

TEKNIC

Supplementary Protector / Circuit Breaker for equipment - TR 11

The TR11 circuit breaker for equipment (CBE) is a single pole ,push to reset, thermally operated overload protector, providing reliable trip free operation on overloads and short circuits within maximum breaking capacity specified. The trip mechanism is of a latch type and a high contact force can be maintained until the unit trips.This prevents contact bounce & reduces the risk of contact welding.

Application : Main applications are protection of single phase motor, transformers, UPS, Power strips,Solenoids etc.,against damage due to overcurrent conditions.

Operation : The mechanism of the circuit breaker is designed to open the contacts in the event of a current flow in excess of the rated current according to the time/current characteristics of the device. A thermo bimetal strip, which has the advantage of being immune to high inrush currents and line transients, is heated by an overcurrent and deflects, there by releasing the latch mechanism.The contacts open even if the reset button is manually held in the closed position.This is known as `**trip free'** mechanism. The contacts open and close with a positive snap action and the tripped state is clearly indicated by the extended projection of the reset button.

Shunt Terminal (N) : An optional additional terminal can be provided as a parallel circuit to the main current sensing circuit, for circuit breakers provided with heater winding, that is upto a rating of 6A. The shunt circuit between terminal 1 & 3 may be used for any signals which may be required in addition to the main circuit.However,since the circuit makes use of the bimetal as a current carrying path, the trip time of the circuit breaker may be slightly influenced.

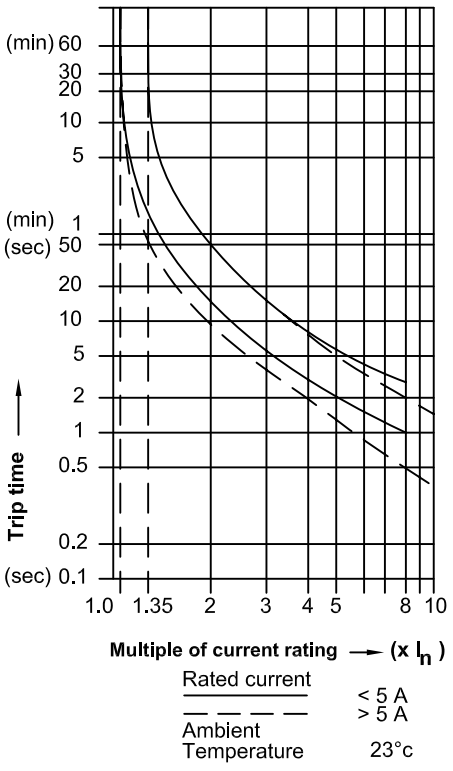
Time Current Characteristics : The standard characteristic is valid for ambient temperature of 23°C. If the device is to be used in an ambient temperature other than +23°C,allowance must be made when selecting the current rating according to the following guide lines:

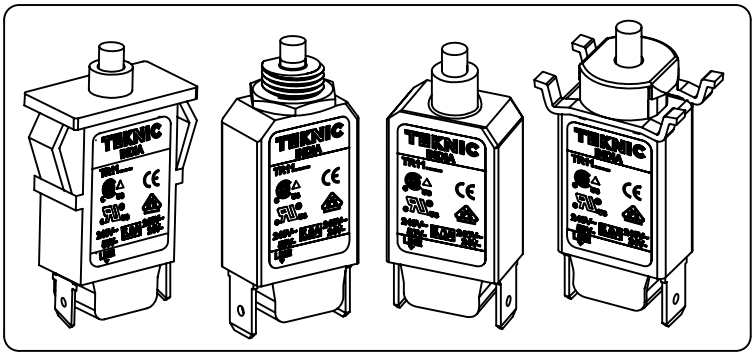
Ambient temp. °C	-20	-5	0	+10	+20	+30	+40	+50	+60
Multiplication Factor	0.8	0.88	0.9	0.96	1	1.05	1.12	1.2	1.3

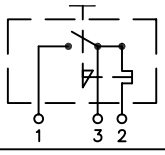
Example :

Normal Continuous Current	:	1.8 A
Ambient Temperature	:	40°C
Multiplication Factor	:	1.12
Recommended Current Rating	:	1.8 x 1.12 = 2.016
Select the nearest	:	2 A

Tripping Characteristics :







Technical Data

Current Rating in(Amp) Standard Current Rating in(Amp)	: 0.25 -16A 0.25, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0, 1.2, 1.5, 1.6,1.8, 2.0, 2.2, 2.4, 2.5, 2.7, 2.8, 3.0, 3.2, 3.5, 4.0,4.5, 5.0,5.5, 6.0, 6.5, 7.0, 8.0, 9.0, 10.0, 12.0, 15.0, 16.0
Rated Voltage	: 240V~ 50/60 Hz, 50V DC / 24V DC (VDE)
Initial insulation resistance (500 V DC)	: > 100 Megohms. at 500V DC
Dielectric strength	: 1.5 KV for One minute @ 50Hz Impulse 1.2/50µs 2.5kV
Operating Temperature	: Maximum 60°C Amb.
Short circuit capacity I_{cn} Ref.: EN60934 (Max.Making & Breaking Capacity)	: 8x In AC 240V for In ≤ 6.0A, 6xIn AC 240V,4xIn 24V DC for In > 6.0A - 12A
Rated conditional short circuit current capacity I_{nc1} (PC1) Ref.: EN60934	: 1000 Amps PC 1,240V AC, 24 V DC ,Ref.:EN60934 SC :1KA, C1, 240V AC 50 V DC Ref.: CSA22.2 No.235-04, UL-1077
Endurance minimum	: AC 2xIn, Power Factor 0.6 DC 2xIn, L/R =2 -3 ms 50 Switching cycles.
Degree of protection (IEC 60529)	: Operating area IP 40 Terminal area IP 00
Tripping current code(TC)	: TC 2 Ref.: CSA22.2 No.235-04
Over load rating	: OL0 240 V AC, 50 V 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'
Applicable Standards	: CSA 22.2 No. 235-04, UL-1077, EN 60934,
Weight	: approx. 11g
Approvals	: 0.25 - 16.0A 240 V AC 50 V DC; 0.5 - 12.0A 240 V AC 24 V DC

Ordering Example :

TR11 – B – X – 63 – B – 1 – A – 7.0A

Product type

CURRENT RATING 0.25 TO 16.0A

MOUNTING TYPE.	TERMINAL CONFIGURATION	TERMINAL SIZE	SLIDER MARKING	Mounting Nut
Body Mouting - B Central nut - C Snap fit - S Wing clip - W Wing clip - D PCB - P	Terminal 1&2 - X upto I_n 12A Terminal 2&3 - Y I_n >6A Shunt terminal - N Terminal 1, 2 & 3 Upto I_n 6A	6.3 - 63 4.8 - 48 2.8 - 28 PCB - 10	0 - None 1 - Vertical 2 - Horizontal	N - None A - Knurled metal nut B - Sloted knurled metal nut C - Hex metal nut D - Sealing knurled boot

COLOUR OF THE SLIDER WITHOUT TRIP BAND
Black - B (standard), White - W

COLOUR OF THE SLIDER WITH TRIP BAND
Black - BB (Black slider with white trip band)
White - WB (White slider with black trip band)

NOTE :

Terminal size 2.8 available upto I_n 6A

Terminal size 4.8 available in X-type only upto I_n 12A.

Terminal 1 & 2 with PCB pins available only upto I_n 12A.

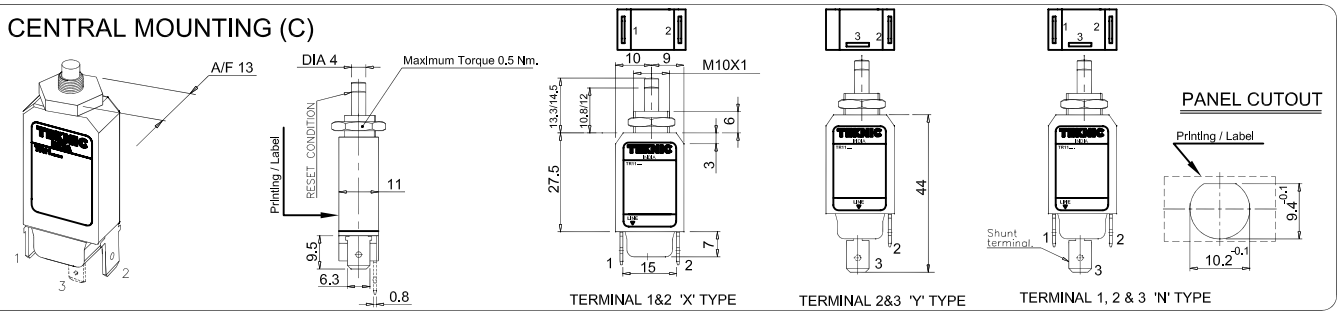
Shunt terminal - N , Terminal 1, 2 & 3 available in Terminal sizes 2.8 & 6.3 only.

For `D' type wing clip printing of current rating on slider is in horizontal orientation only (Refer page 2)

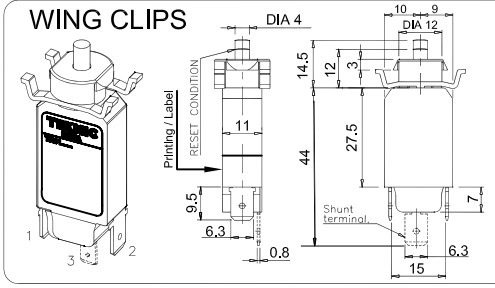
FM:MT:82 REV. : X

MOUNTING OPTIONS

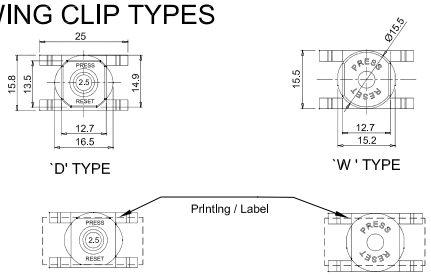
CENTRAL MOUNTING (C)



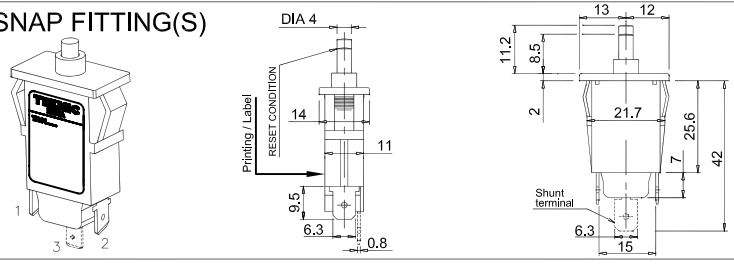
WING CLIPS



WING CLIP TYPES

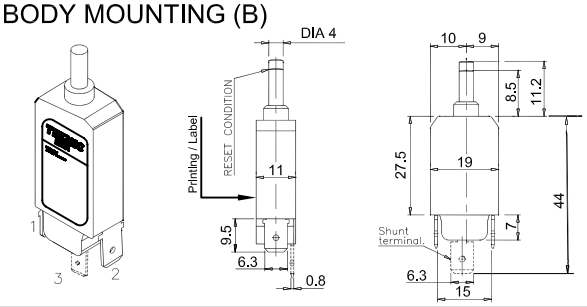


SNAP FITTING(S)

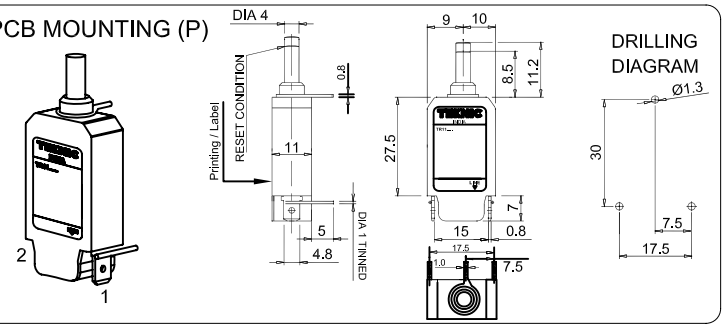


PANEL THICKNESS	DIMENSION 'X'
0.8 mm	21.9 mm
1.0 mm	22.0 mm
1.5 mm	22.1 mm
2.0 mm	22.3 mm
3.0 mm	22.6 mm

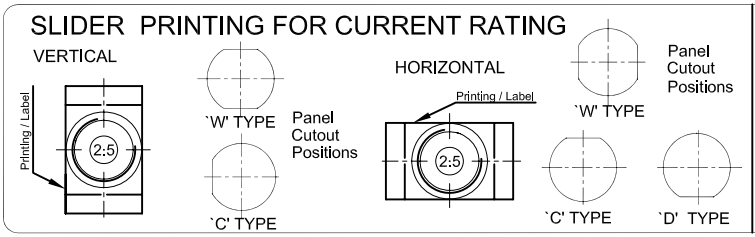
BODY MOUNTING (B)



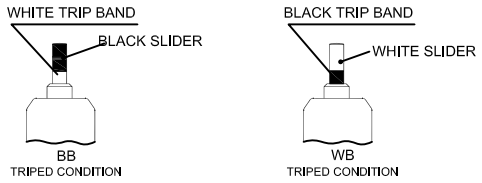
PCB MOUNTING (P)



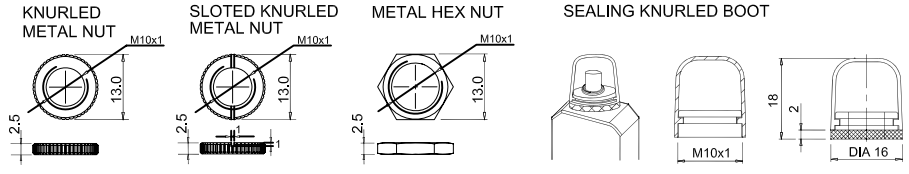
SLIDER PRINTING FOR CURRENT RATING



SLIDER COLOUR WITH TRIP BAND



ACCESORIES



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

For further details, please write to:

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Factory : 93, Electronic city Phase 1, 5th cross, Hosur Road, Bangaluru-560 100
Tel. 0091-80-28522716,2820389, 28520714. Fax. 0091-80-28520254.
E-mail : tepl_wks@teknic.co.in & planning@teknic-electromeconics.co.in
Head Office : 703, Madhava, Bandra Kurla Complex, Bandra(East), Mumbai - 400 051.
Tel. 0091-22-42532500. Fax. 0091-22-26592391
Email : teknic@vsnl.com
Website: www.teknic.co.in

All dimensions are in 'mm'

FM:MT:82 REV. : X

TEKNIC

Circuit Breaker for equipment - NTR 20

The NTR 20 circuit breaker for eqiupment (CBE) is a single pole, thermally operated, snap action over load protector, with a manual, push - to -reset mechanism , providing reliable `cycling trip free' operation on overloads & short circuits within maximum capacity specified. A high contact force is maintained till the contacts break due to overload through the snap action bimetal disc.

APPLICATION : Protection against overloads.

OPERATION: The entire mechanism of the circuit breaker is based on the use of a snap action cantilevered , thermo - bimetal disc profile with silver alloy contacts , designed to open in the event of a current flow in excess of the rated current, according to the time / current characteristic of the device. The contacts open and close with a positive snap action and the tripped state is clearly indicated by the extended projection of the reset button.

TIME & CURRENT CHARACTERISTICS :

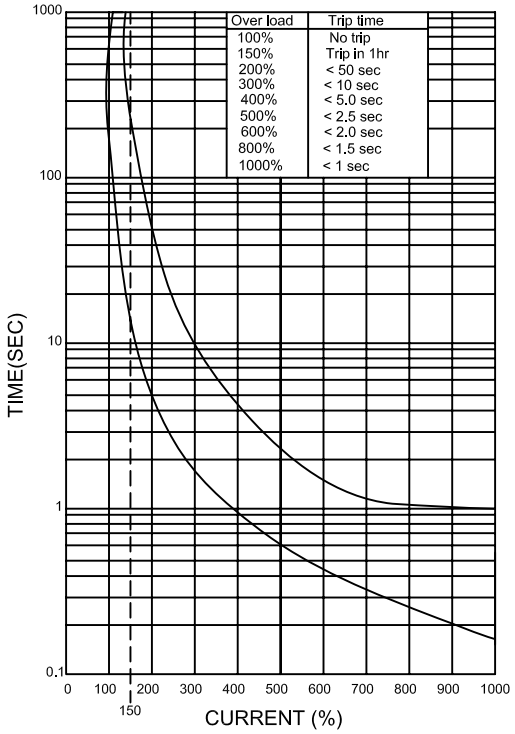
The standard characteristic is valid for an ambient temperature of 25 °C. If the device is to be used in an ambient temperature other than 25°C, allowance must be made when selecting the current rating according to the following guide lines.

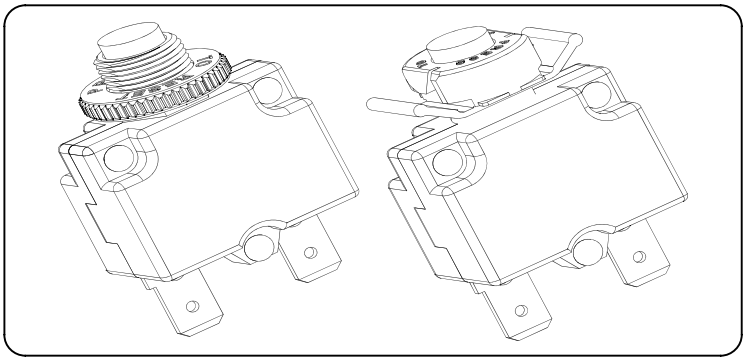
Example :

Normal continuous current : 5.0A
Ambient temperature : 40°C
Multiplication factor : 0.85
Selected rated current at +40°C ambient temperature : 5 X 0.85 =4.25
: 4.0A (nearest)

AMBIENT TEMP.(°C) / MULTI-PLICATION FACTOR	-5°C	0°C	10°C	25°C	40°C	50°C	60°C
3A to 20A	1.4	1.3	1.2	1.0	0.85	0.8	0.7

Operating Characteristics @25°c :





Technical Data

Function	: SPST
Standard Current Rating in(Amp)	: 7, 8, 9,10, 12, 14,15,16 & 20
Rated Voltage	: 125 / 250V AC, 50/60 Hz,50V DC.
Method of tripping	: Thermal TO Cycling trip - free
Initial insulation resistance at 500V DC for 1 minute	: > 100 M Ω
Dielectric strength	: 1500V AC for 1 minute
Impulse withstand voltage	: 2.5kV
Housing Material	: Thermoplastic
Slider Material	: Thermoset
Contact Material	: Silver alloy
Terminal Material	: Copper alloy
Fixing	: By a nut or snap fitting
Overload capacity	: 2 times rated current for 50 switching cycles min.
Rated Conditional Short Circuit Current Capacity	: 1000A 125/250V AC 50V DC (product not fit for use after short circuit)
Weight	: approx. 17g

Ordering Example :

NTR 20 - C - 63 S - B 1 - A - 7.0A - 2

Product type

2 Mounting Bush
- A Plastic 3/8"-27
- B Metal 3/8"-27UNS
- C Plastic M11
- D Metal M11
- W Wing clip

4 Terminal options
- S Straight
- L 90° Bend,Left side
- R 90 Bend, Right side
- SR Screw terminal

6 Slider Marking
- 0 None
- 1 White, Vertical
- 2 Black, Vertical
- 3 White, Horizontal
- 4 Black, Horizontal

8 Std. Current Rating
3.0, 4.0, 5.0, 6.0, 7.0, 8.0,9.0, 10.0,11.0, 12.0, 14.0,15.0, 16.0, 20.0

3 Terminal size
- 63 6.3 x 0.8mm
- SR Screw terminals (M4x0.7)

5 Slider Colour
- B Black
- WB White with trip indication

7 Mounting Nut
- N None or wing clip
- A Plastic knurled
- B Metal knurled
- C Metal Hex Nut
- D Sealing knurled boot

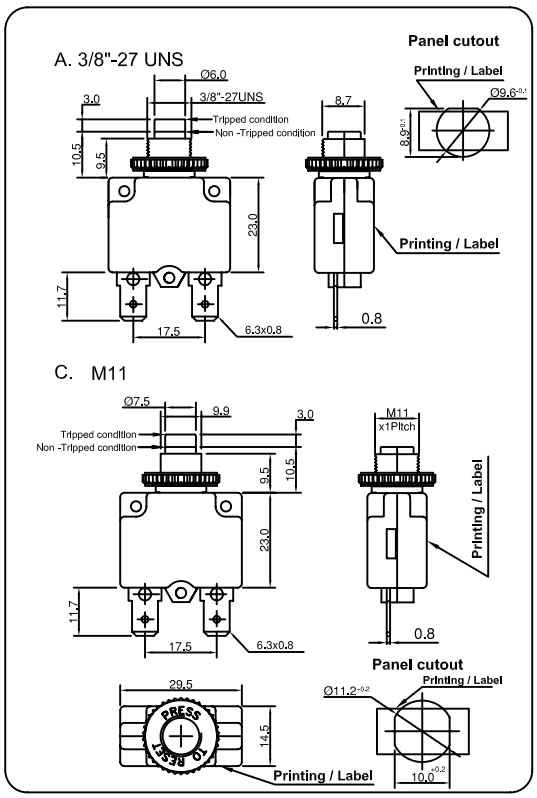
9 Indicator plate
- 0 None
- 1 Black letters on Aluminium Background.
- 2 Silver Letters on Black Background.

Schematic diagram

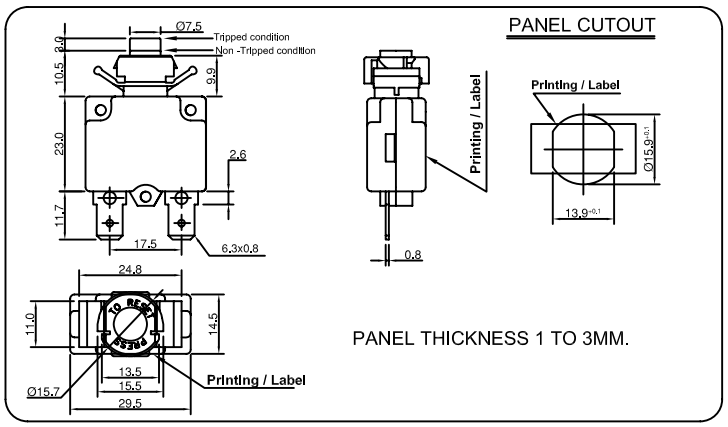
FM:MT:113 REV.: B

Mounting options:

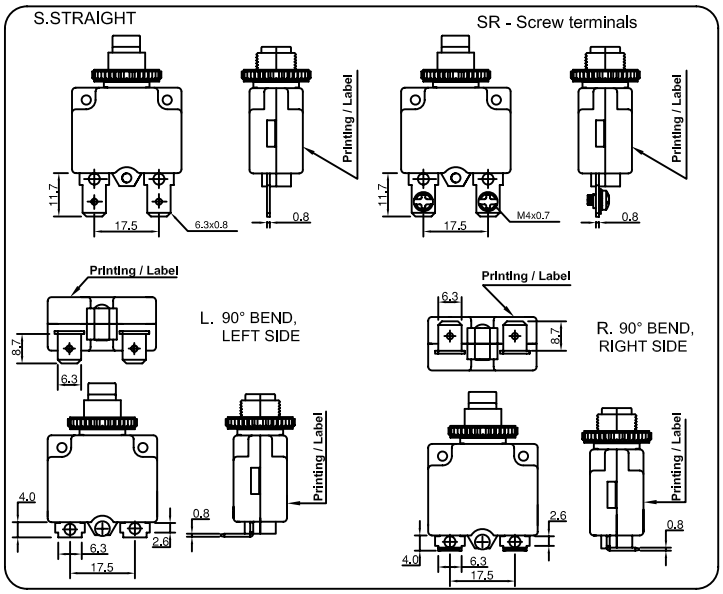
CENTRAL MOUNTING



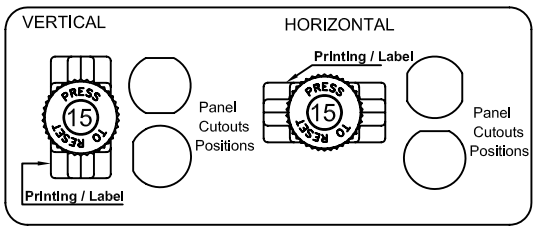
W. WING CLIP



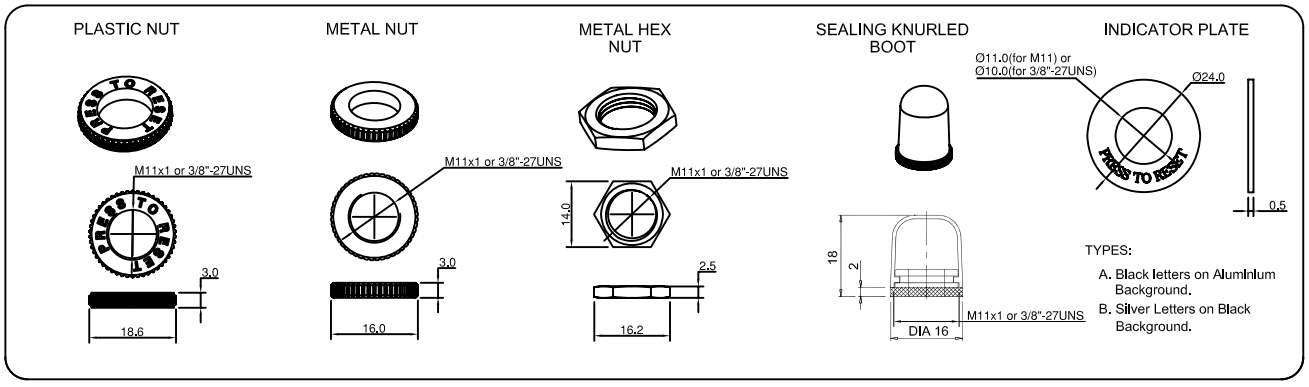
TERMINAL OPTIONS



SLIDER PRINTING FOR CURRENT RATING



ACCESORIES :



For further details, please write to:

TEKNIC ELECTROMECONICS PVT. LTD.

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Website: www.teknicindia.com
Factory : 93, Electronic city Phase 1, 5th cross, Hosur Road, Bangaluru-560 100
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Tel. 0091-22-42532500. Fax. 0091-22-26592391
Email : teknic@vsnl.com
Website: www.teknic.co.in

All dimensions are in 'mm'

TEKNIC

Supplementary Protector / Circuit Breaker for equipment - TR 20

The TR 20 circuit breaker for eqiupment (CBE) is a single pole, thermally operated, snap action over load protector, with a manual, push - to -reset mechanism , providing reliable `cycling trip free' operation on overloads & short circuits within maximum capacity specified. A high contact force is maintained till the contacts break due to overload through the snap action bimetal disc.

APPLICATION : Protection against overloads.

OPERATION: The entire mechanism of the circuit breaker is based on the use of a snap action cantilevered , thermo - bimetal disc profile with silver alloy contacts , designed to open in the event of a current flow in excess of the rated current, according to the time / current characteristic of the device. The contacts open and close with a positive snap action and the tripped state is clearly indicated by the extended projection of the reset button.

TIME & CURRENT CHARACTERISTICS :

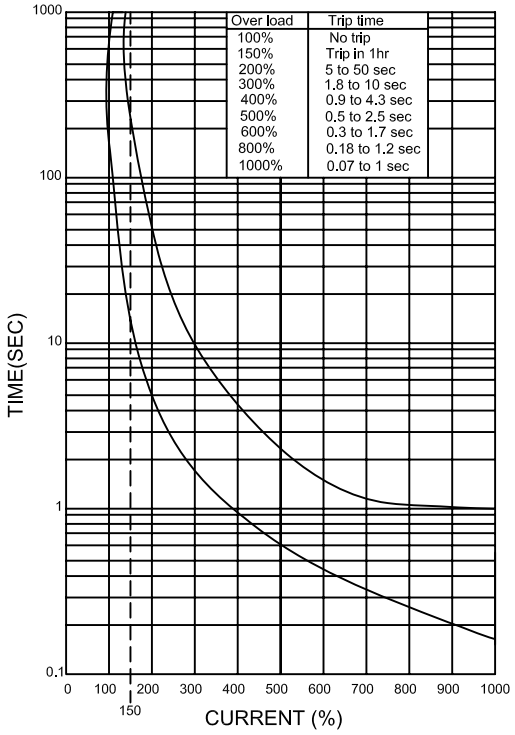
The standard characteristic is valid for an ambient temperature of 25 °C. If the device is to be used in an ambient temperature other than 25°C, allowance must be made when selecting the current rating according to the following guide lines.

Example :

Normal continuous current : 5.0A
Ambient temperature : 40°C
Multiplication factor : 0.85
Selected rated current at +40°C ambient temperature : 5 X 0.85 =4.25
: 4.0A (nearest)

AMBIENT TEMP.(°C) / MULTI-PLICATION FACTOR	-5°C	0°C	10°C	25°C	40°C	50°C	60°C
3A to 20A	1.4	1.3	1.2	1.0	0.85	0.8	0.7

Operating Characteristics @25°c :



Technical Data

Application type	: General Industrial Ref.CSA22.2 No.235-04
Function	: SPST
Standard Current Rating in(Amp)	: 7 , 8, 9,10, 12, 14,15,16 & 20 AC-Inductive DC-Resistive.
Rated Voltage	: 125 / 250V 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 Ω (DC500V)
Dielectric strength	: 1500V AC for 1 minute
Housing Material	: Thermoplastic
Slider Material	: Thermoset
Contact Material	: Silver alloy
Terminal Material	: Copper alloy
Fixing	: By a nut or snap fitting
Overload capacity	: 2 times rated current for 50 switching cycles min. Ref. : UL 1077 / EN 60934
Rated Short Circuit Capacity I_{cn} Ref. : EN60934	: Min 6 times the rated current (6 I_n) for 250V AC (Inductive) Min 4 times the rated current (4 I_n) for 50V DC (Resistive)
Rated Conditional Short Circuit Current Capacity I_{nc1}(PC1) with backup fuse As per EN 60934	: 1000A 125/250V AC 50V DC SC : 1kA, C1, 125/250V AC, 50V DC Ref.: CSA 22.2 No.235-04, UL1077
Weight	: approx. 17g
Applicable Standards	: UL-1077, CSA 22.2 No. 235-04, EN 60934
Approvals	:

Ordering Example :

TR 20 - C - 63 S - B 1 - A - 7.0A - 2

Product type

2 Mounting Bush
A Plastic 3/8"-27
C Plastic M11
W Wing clip

4 Terminal options
S Straight
L 90° Bend,Left side
R 90 Bend, Right side

6 Slider Marking
0 None
1 White, Vertical
2 Black, Vertical
3 White, Horizontal
4 Black, Horizontal

8 Std. Current Rating
3.0, 4.0, 5.0, 6.0, 7.0, 8.0,9.0, 10.0,11.0, 12.0, 14.0,15.0, 16.0, 20.0

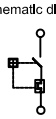
3 Terminal size
63 6.3 x 0.8mm

5 Slider Colour
B Black
WB White with trip indication

7 Mounting Nut
N None or wing clip
A Plastic knurled
B Metal knurled
C Metal Hex Nut
D Sealing knurled boot

9 Indicator plate
0 None
1 Black letters on Aluminium Background.
2 Silver Letters on Black Background.

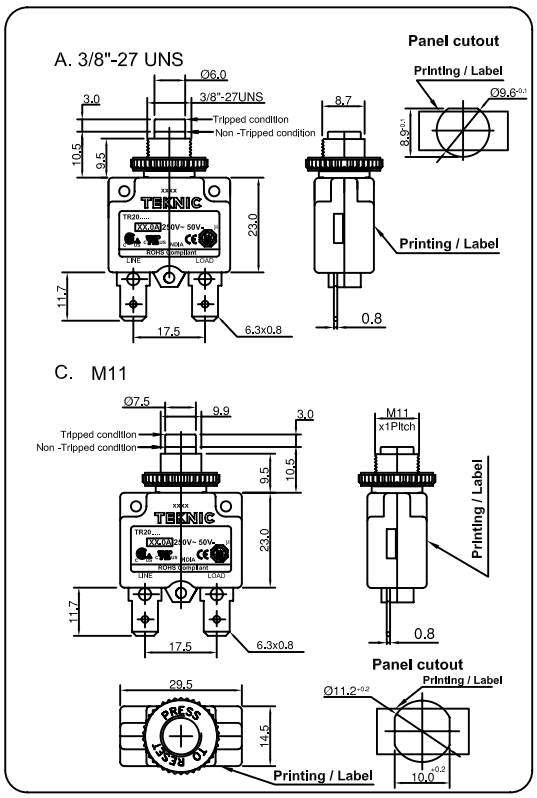
Schematic diagram



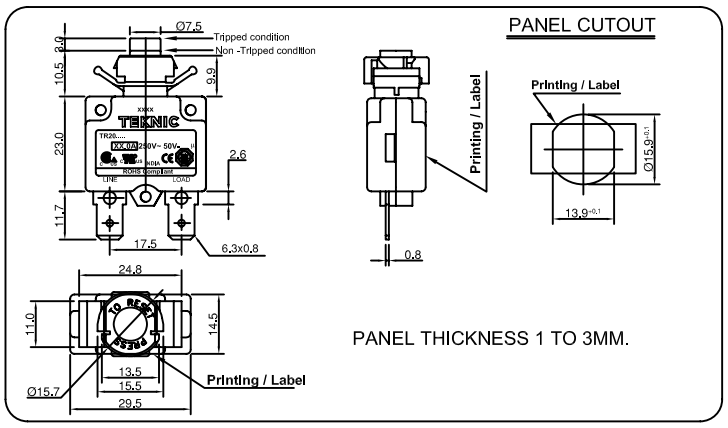
FM:MT:84 REV.: N

Mounting options:

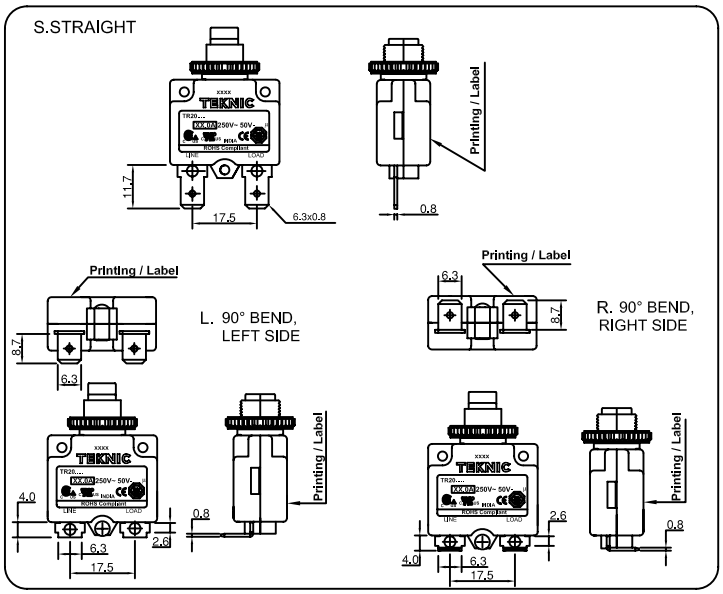
CENTRAL MOUNTING



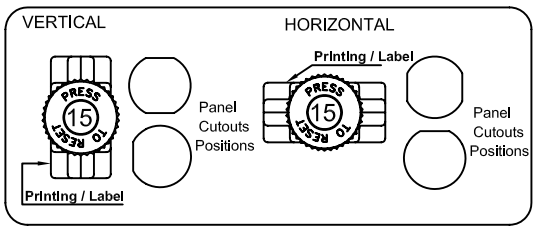
W. WING CLIP



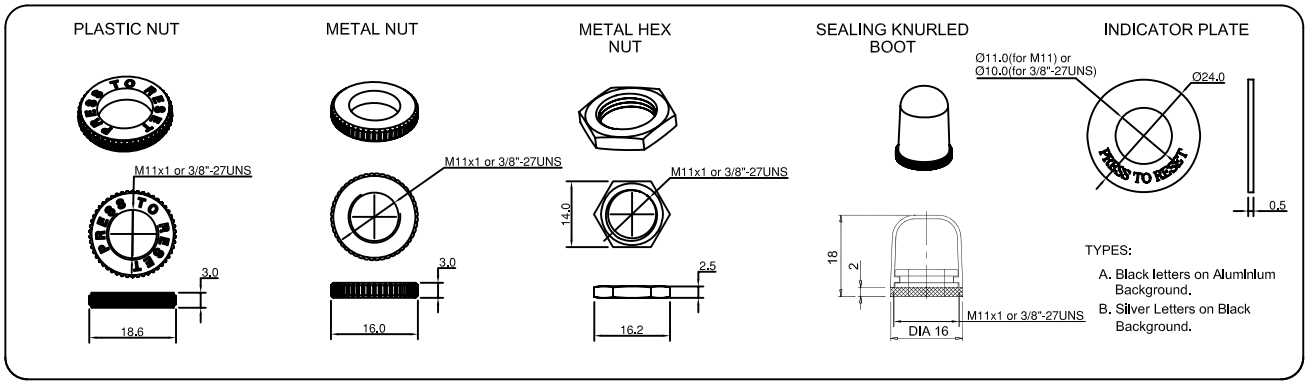
TERMINAL OPTIONS



SLIDER PRINTING FOR CURRENT RATING



ACCESORIES :



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Email : teknic@vsnl.com
Website: www.teknic.co.in

All dimensions are in 'mm'

FM:MT:84 REV.: N

TEKNIC

Circuit Breaker for equipment - NTR 30

The NTR 30 circuit breaker for eqiupment (CBE) is a single pole, thermally operated, snap action over load protector, with a manual push - to -reset mechanism , providing reliable `cycling trip free' operation on overloads & short circuits within maximum capacity specified. A high contact force is maintained till the contacts break due to overload through the snap action bimetal disc.

APPLICATION : Protection against overloads.
Used in home appliances, single phase motors/generators, marine products, UPS, power strips, portable gensets.

OPERATION: The entire mechanism of the circuit breaker is based on the use of a snap action cantilevered , thermo - bimetal disc profile with silver alloy contacts , designed to open in the event of a current flow in excess of the rated current, according to the time / current characteristic of the device. The contacts open and close with a positive snap action and the tripped state is clearly indicated by the extended projection of the reset button.

TIME & CURRENT CHARACTERISTICS :

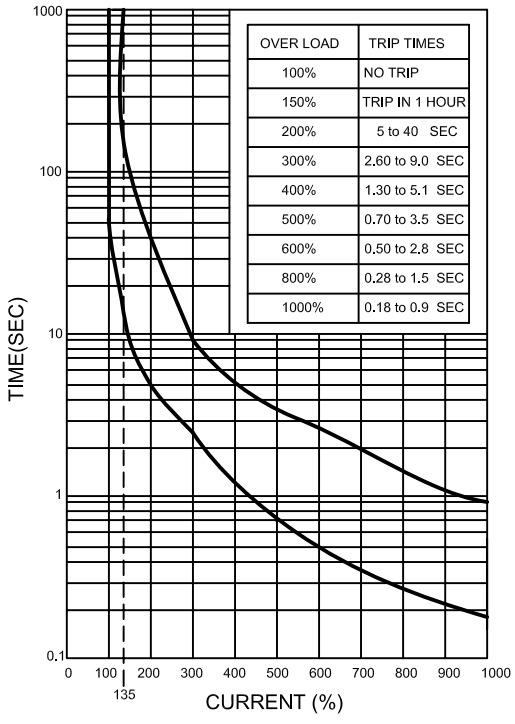
The standard characteristic is valid for an ambient temperature of 25 °C. If the device is to be used in an ambient temperature other than 25°C, allowance must be made when selecting the current rating according to the following guide lines.

Example :

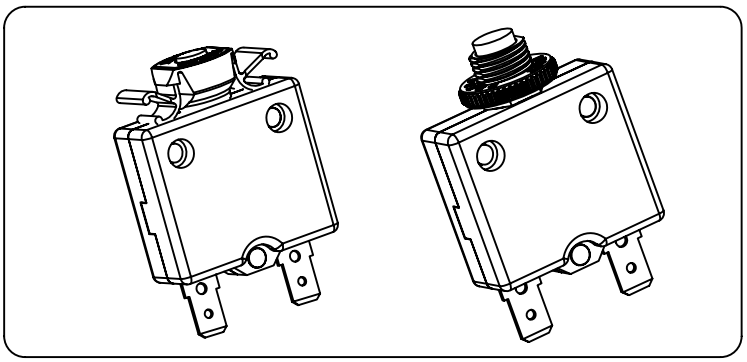
Normal continuous current : 25.0A
Ambient temperature : 40°C
Multiplication factor : 0.8
Selected rated current at +40°C ambient temperature : 25 X 0.8 =20.0
: 20.0A (nearest)

AMBIENT TEMP.(°C) / MULTIPLICATION FACTOR	-5°C	-0°C	10°C	20°C	25°C	30°C	40°C	50°C	60°C
20A to 30A	X1.3	X1.2	X1.1	X1.05	X1.0	X0.9	X0.8	X0.7	X0.6

Operating Characteristics :



OVER LOAD	TRIP TIMES
100%	NO TRIP
150%	TRIP IN 1 HOUR
200%	5 to 40 SEC
300%	2.60 to 9.0 SEC
400%	1.30 to 5.1 SEC
500%	0.70 to 3.5 SEC
600%	0.50 to 2.8 SEC
800%	0.28 to 1.5 SEC
1000%	0.18 to 0.9 SEC



Technical Data

Function	: SPST
Standard Current Rating in(Amp)	: 20A, 25A & 30A
Rated Voltage	: 125 / 250V 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 Ω (DC500V)
Dielectric strength	: 1500V AC for 1 minute
Impulse withstand voltage	: 2.5kV
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
Rated Conditional Short Circuit Current Capacity	: 2kA , 20 to 30A , 250VAC, (product not fit for use after short circuit)
Over load capacity	: 2 times rated current for 50 switching cycles min.
Weight	: approx. 25g

Ordering Example :

NTR 30 - C - 63 S - BR 1 - A - 20.0A - 2

Product type

2 Mounting Bush
A Plastic 3/8"-27UNS
B Plastic M11
C Metal 3/8"-27UNS
D Metal M11
W Wing clip

4 Terminal options
S Straight
L 90° Bend,Left side
R 90 Bend, Right side
SR Screw terminal

6 Slider Marking
0 None
1 Vertical
2 Horizontal
Note :
(colour of marking is standard)
On black slider -white marking
white slider-black marking)

8 Std. Current Rating
20A, 25A & 30A

3 Terminal size
63 6.3 x 0.8mm

5 Slider Colour
BR Brown

7 Mounting Nut
N None or wing clip
A Plastic knurled
B Metal knurled
C Metal Hex Nut
D Sealing knurled boot

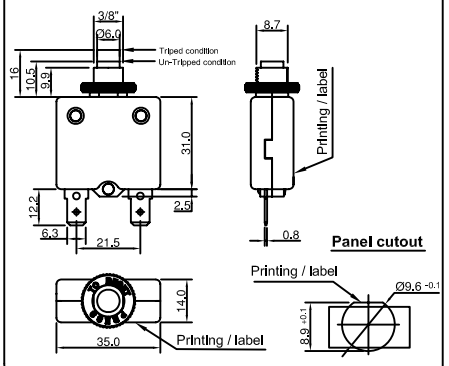
9 Indicator plate
0 None
1 Black letters on Aluminium Background.
2 Silver Letters on Black Background.

FM:MT:114 REV.: B

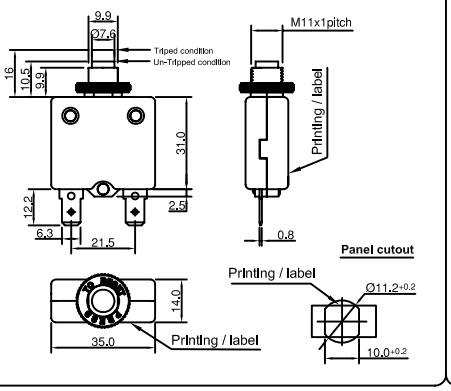
Mounting options:

CENTRAL MOUNTING

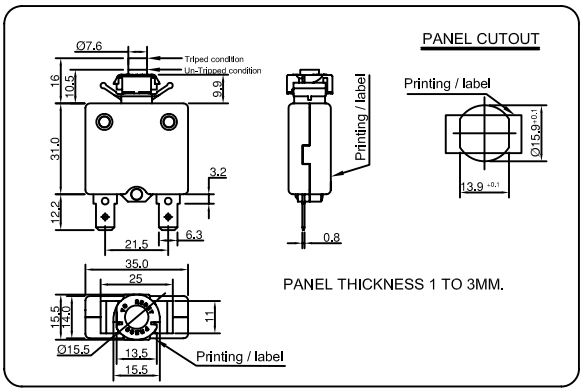
A/C. 3/8"-27 UNS



B/D. M11

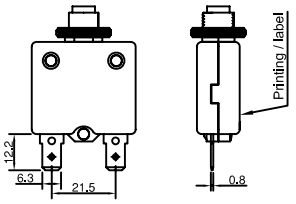


W. WING CLIP

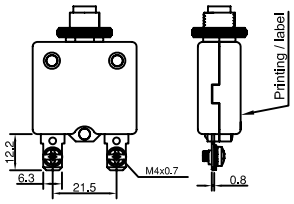


TERMINAL OPTIONS

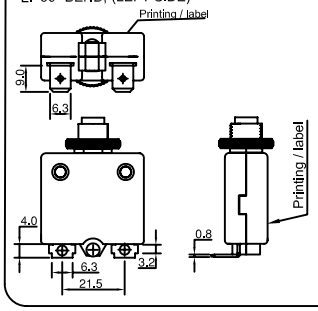
S.STRAIGHT



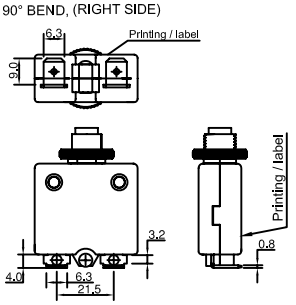
SR. SCREW TERMINAL



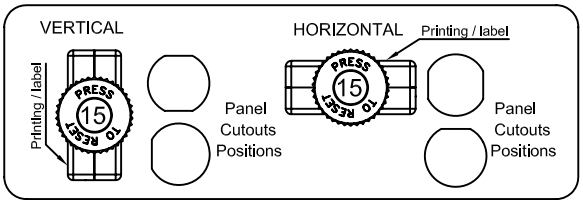
L. 90° BEND, (LEFT SIDE)



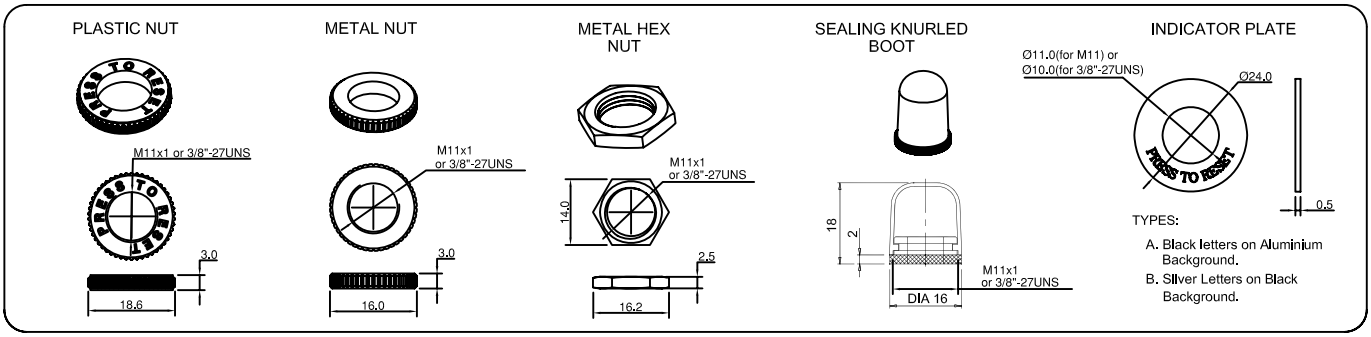
R. 90° BEND, (RIGHT SIDE)



SLIDER PRINTING FOR CURRENT RATING



ACCESSORIES



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E-mail : tepl_wks@teknic.co.in & planning@teknic-electromeconics.co.in
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Tel. 0091-22-42532500. Fax. 0091-22-26592391
Email : teknic@vsnl.com
Website: www.teknic.co.in

All dimensions are in 'mm'

FM:MT:114 REV.: B

TEKNIC

Supplementary Protector / Circuit Breaker for equipment - TR 30

The TR 30 circuit breaker for eqiupment (CBE) is a single pole, thermally operated, snap action over load protector, with a manual push - to -reset mechanism , providing reliable `cycling trip free' operation on overloads & short circuits within maximum capacity specified. A high contact force is maintained till the contacts break due to overload through the snap action bimetal disc.

APPLICATION : Protection against overloads.
Used in home appliances, single phase motors/generators, marine products, UPS, power strips, portable gensets.

OPERATION: The entire mechanism of the circuit breaker is based on the use of a snap action cantilevered , thermo - bimetal disc profile with silver alloy contacts , designed to open in the event of a current flow in excess of the rated current, according to the time / current characteristic of the device. The contacts open and close with a positive snap action and the tripped state is clearly indicated by the extended projection of the reset button.

TIME & CURRENT CHARACTERISTICS :

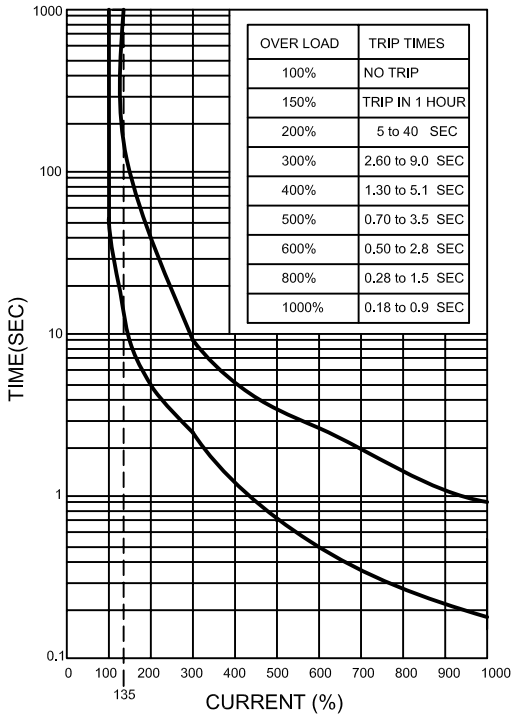
The standard characteristic is valid for an ambient temperature of 25 °C. If the device is to be used in an ambient temperature other than 25°C, allowance must be made when selecting the current rating according to the following guide lines.

Example :

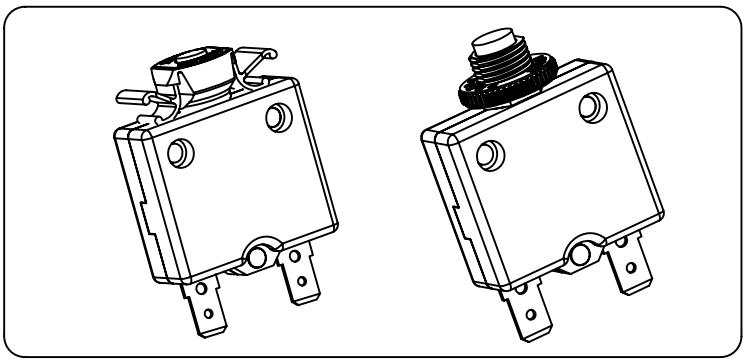
Normal continuous current : 25.0A
Ambient temperature : 40°C
Multiplication factor : 0.8
Selected rated current at +40°C ambient temperature : 25 X 0.8 =20.0
: 20.0A (nearest)

AMBIENT TEMP.(°C) / MULTI-PLICATION FACTOR	-5°C	-0°C	10°C	20°C	25°C	30°C	40°C	50°C	60°C
20A to 30A	X1.3	X1.2	X1.1	X1.05	X1.0	X0.9	X0.8	X0.7	X0.6

Operating Characteristics :



OVER LOAD	TRIP TIMES
100%	NO TRIP
150%	TRIP IN 1 HOUR
200%	5 to 40 SEC
300%	2.60 to 9.0 SEC
400%	1.30 to 5.1 SEC
500%	0.70 to 3.5 SEC
600%	0.50 to 2.8 SEC
800%	0.28 to 1.5 SEC
1000%	0.18 to 0.9 SEC



Technical Data

Application type	: General Industrial Ref.CSA22.2 No.235-04
Function	: SPST
Standard Current Rating in(Amp)	: 20A, 25A & 30A
Rated Voltage	: 125 / 250V 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 Ω (DC500V)
Dielectric strength	: 1500V AC for 1 minute
Housing & Slider Material	: Thermoset -- UL94-V0 flammability class
Contact Material	: Silver alloy
Terminal Material	: Copper alloy
Fixing	: By a nut or snap fitting
Rated Short Circuit Capacity I_{cn} Ref. : EN60934	: Min 6 times the rated current (6 I_n) for 250V AC (Inductive) Min 4 times the rated current (4 I_n) for 50V DC (Resistive)
Rated Conditional Short Circuit Current Capacity I_{nc1}(PC1) with backup fuse As per EN 60934	: 1kA , 125/250VAC, SC : 1kA, C1, 125/250V AC, 50V DC Ref.: CSA 22.2 No.235-04, UL1077
Overload capacity	: 2 times rated current for 50 switching cycles min.
Weight	: approx. 25g
Applicable Standards	: UL-1077, CSA 22.2 No. 235-04
Approvals	:
Ignition Protected	: Compliant as per UL 1500 (Standard for safety for Ignition protection test for Marine products)

Ordering Example :

TR 30 - C - 63 S - W 1 - A - 20.0A - 2

Product type

2 Mounting Bush
A Plastic 3/8"-27UNS
B Plastic M11
C Metal 3/8"-27UNS
D Metal M11
W Wing clip

4 Terminal options
S Straight
L 90° Bend,Left side
R 90 Bend, Right side
SR Screw terminal

6 Slider Marking
0 None
1 Vertical
2 Horizontal
Note :
(colour of marking is standard)
On black slider -white marking
white slider-black marking)

8 Std. Current Rating
20A, 25A & 30A

3 Terminal size
63 6.3 x 0.8mm

5 Slider Colour
W White
BB Black slider with white trip band

7 Mounting Nut
N None or wing clip
A Plastic knurled
B Metal knurled
C Metal Hex Nut
D Sealing knurled boot

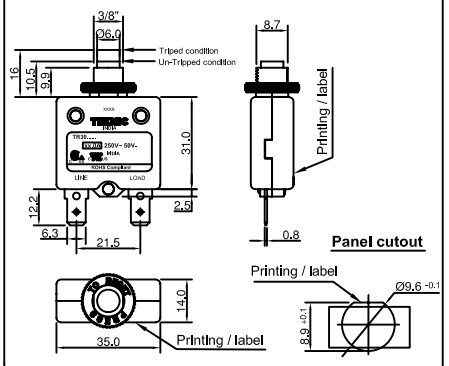
9 Indicator plate
0 None
1 Black letters on Aluminium Background.
2 Silver Letters on Black Background.

FM:MT:87 REV.: G

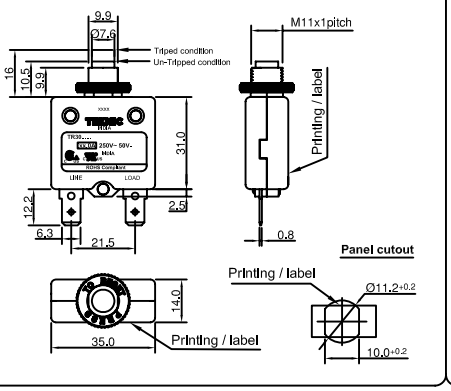
Mounting options:

CENTRAL MOUNTING

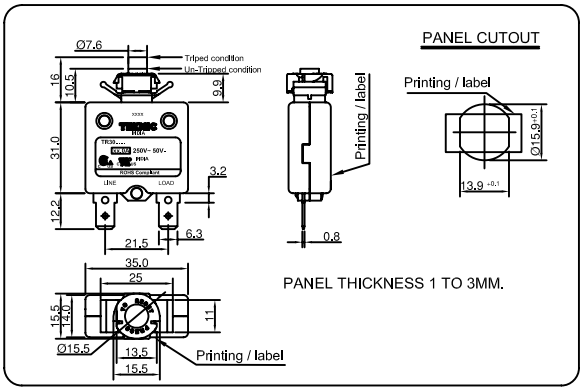
A/C. 3/8"-27 UNS



B/D. M11

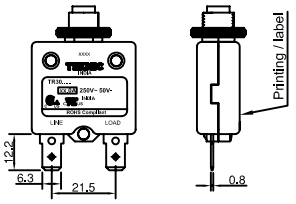


W. WING CLIP

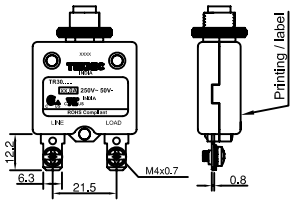


TERMINAL OPTIONS

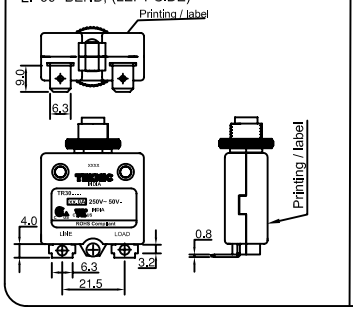
S.STRAIGHT



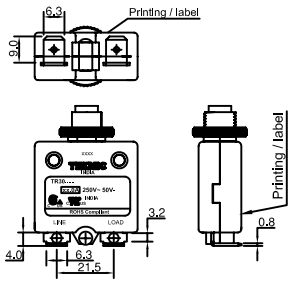
SR. SCREW TERMINAL



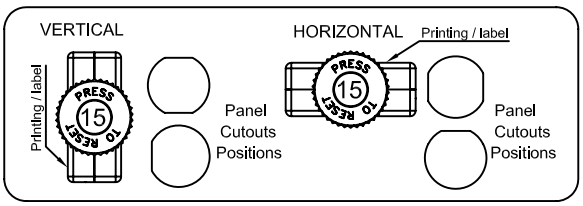
L. 90° BEND, (LEFT SIDE)



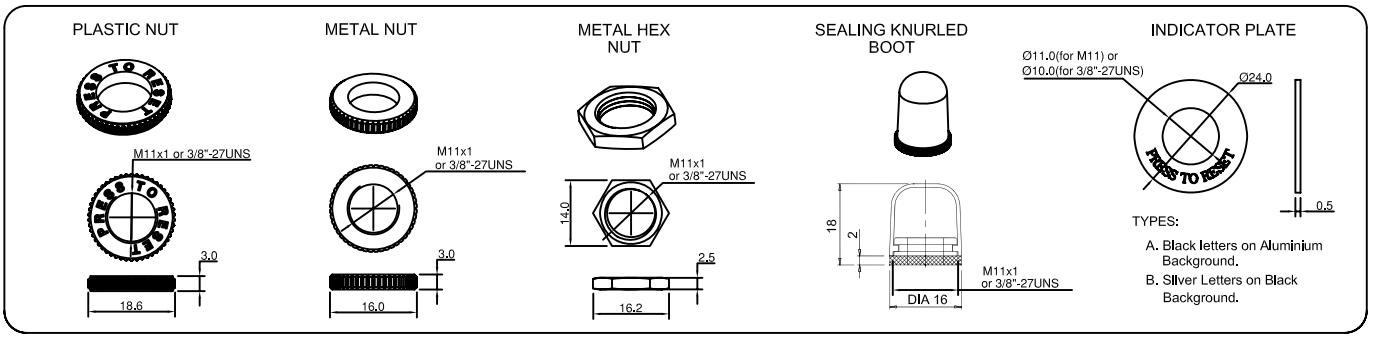
R. 90° BEND, (RIGHT SIDE)



SLIDER PRINTING FOR CURRENT RATING



ACCESSORIES



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All dimensions are in 'mm'

FM:MT:87 REV.: G