

# TEKNIC

## CONTROLGEAR



## MCB, RCCB

## **MCB, RCCB**

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## MINIATURE CIRCUIT BREAKERS

**TEKNIC** introduces **teksafe** MCBs, RCCBs. These are mechanical switching devices able to switch, conduct and switch-off the current under normal conditions and able to switch, conduct and automatically switch-off the current under abnormal circuit conditions such as short circuit.

They are used to protect house installations and industrial electric distributions and devices against over currents.

They are designed to operate by untrained persons and are maintenance-free.

They ensure fast efficient extinguishing of the arc, which enables the limiting of the short circuit before it goes to its peak.

The time  $T_e$  (tripping response time between the short-circuit occurrence and the separation of the contacts) is very short by virtue of the electromagnetic mechanism.

### Salient features of Teksafe MCBs:

- Handles of circuit breakers with tripping characteristic B, C and DC ratings are supplied in blue color.
- There is an optical state indicator on the front side of the circuit breaker indicating operational state of the device (red indication = closed contacts, green indication = open contacts).  
The state indicator is directly connected to the device contact system and it does not depend on the handle position. Please note that the circuit breaker can also switch-off when the handle is sealed (Corresponding with safe switch-off conditions).
- Lower interlock for fastening to Din Rail strip 35 x 7,5 in accordance with EN 60 715. It allows us to take out the circuit breaker from the line of devices together connected by lower busbar strip without interrupting adjacent current circuits.
- Connection:
  - conductors 1,5-25 mm<sup>2</sup>
  - busbar strip - top and low terminal allows connecting of pin and fork busbar strip.
  - simultaneous connection of conductors and busbars
- Method of connection:  
For AC MCBs the feature of interchangeability of terminals is possible. Input and output terminals can be interchanged.  
For DC MCBs, the polarity of terminals has to be observed.

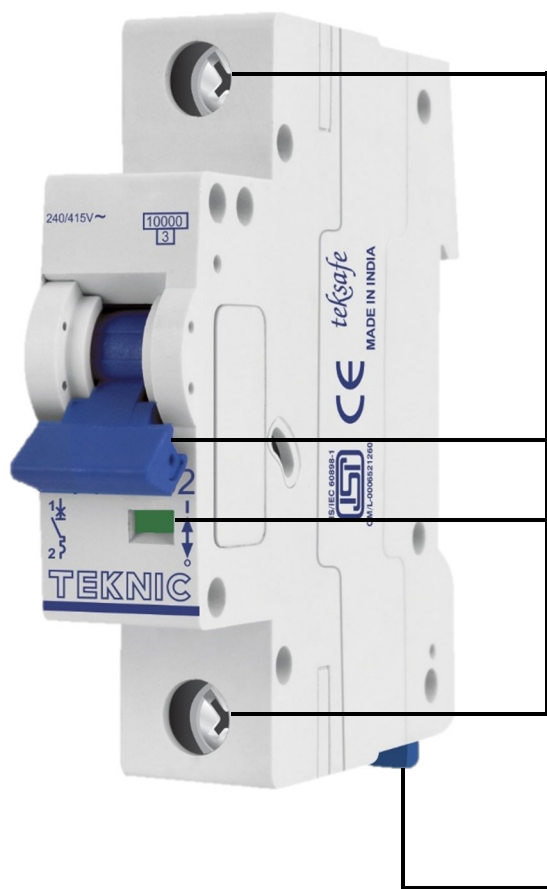
### Applications of Teksafe MCBs:

The **TEKNIC** MCBs with a tripping curve range of B and C covers a wide range of applications including the following:

- Housings, Buildings, Hospitals
- Industries
- Control Panels
- Machine Applications
- Elevators in Buildings etc
- Telecommunication
- Railways
- Marine
- Air Craft

MINIATURE CIRCUIT BREAKERS

Current Range : 1 Amps – 63 Amps



**Combined terminal** with a secured screw on both sides of the miniature circuit breaker makes it possible to connect the busbar and conductor. The busbar and conductor can be connected by a single screw.

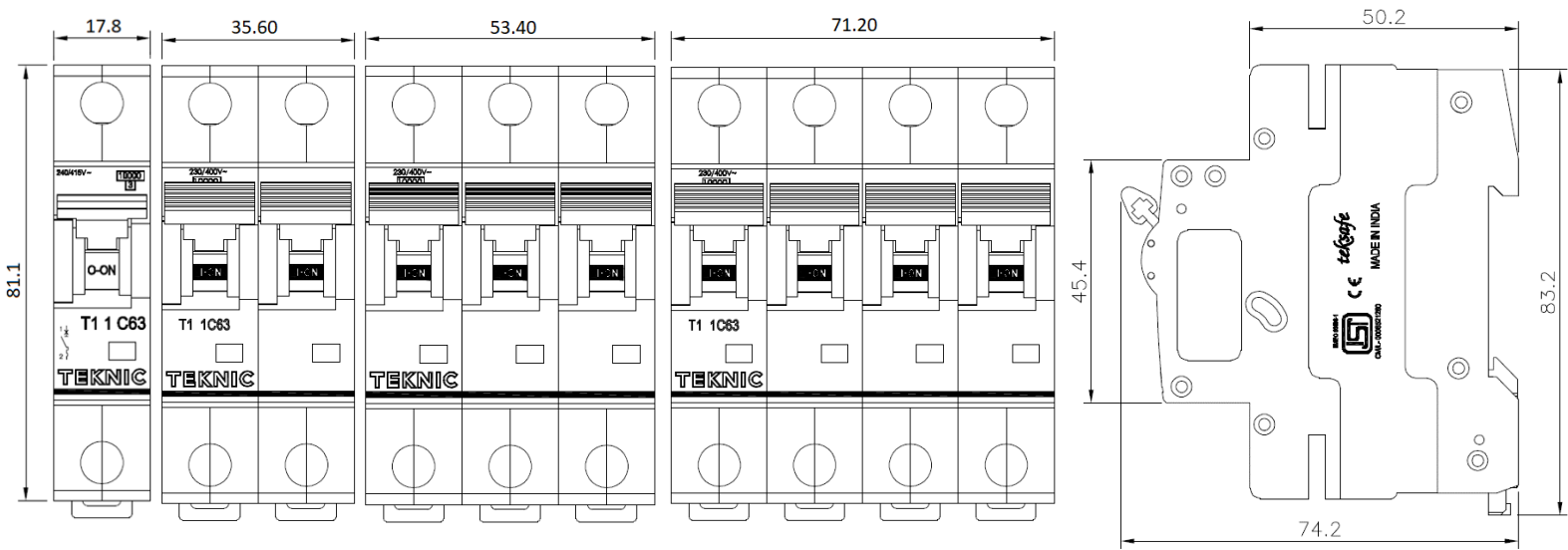
**Control lever colour** in blue colour

**Position indicator** indicates optically the operating status of the device. It is directly connected with the contact system of the device and is independent on the control lever position (the device trips and indicates operating status even if the control lever is loaded, this meeting the requirements for safe disconnection).

Indicator colour	Device status
Red	ON
Green	OFF

**Lower sliding latch** enables mounting on the rail DIN EN 50 022, width 35 mm. In the fixed withdrawn position it facilitates the side shift on the instrument board.

Dimensioal drawing of T1 Series



MINIATURE CIRCUIT BREAKERS – AC MCB

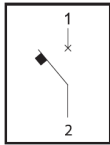
Technical Data

Device Series	T1
Poles description	1, 2, 3, 4
[In] Rated current	For B curve – 6, 10, 16, 20, 25, 32, 40, 50 & 63 Amps For C curve – 1, 2, 4, 5, 6, 10, 16, 20, 25, 32, 40, 50 & 63 Amps
Network type	AC
Trip unit technology	Thermal-magnetic
Curve code	B & C
Frequency	50/60 Hz
[Ue] Rated operational voltage	240 V AC 50/60 Hz 380...415 V AC 50/60 Hz
Breaking capacity	10000 A Icn at 240 V AC 50/60 Hz conforming to EN/IEC 60898-1 10000 A Icn at 415 V AC 50/60 Hz conforming to EN/IEC 60898-1
[Ui] Rated insulation voltage	500 V AC 50/60 Hz conforming to EN/IEC 60947-2
Contact position indicator	Yes
Control type	Toggle
Local signalling	ON/OFF indication
Mounting mode	Clip-on
Mounting support	on DIN rail 35x7,5 EN 60 715 on panel
Length	83.2 mm
Width	17.8 mm
Depth	74.2 mm
Colour	White
Mechanical Endurance	100000 cycles
Electrical Endurance	20000 cycles
Connecting wires	1.5 - 25 mm <sup>2</sup> for Cu conductors 2.5 - 25 mm <sup>2</sup> for Al conductors
Dolly Colour	Blue
Standards	EN/IEC 60947-2 EN/IEC 60898-1
Product certifications	ISI
IP degree of protection	IP20 conforming to IEC 60529
Pollution degree	3
Operating temperature range	-25°C to + 55 °C

MINIATURE CIRCUIT BREAKERS – AC MCB

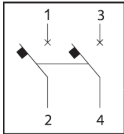
Part No

1 Pole



SINGLE POLE MCB	
B CURVE	C CURVE
TYPE NO.	TYPE NO.
	T1 1 C1/2/3/4/5
T1 1 B6	T1 1 C6
T1 1 B10	T1 1 C10
T1 1 B16	T1 1 C16
T1 1 B20	T1 1 C20
T1 1 B25	T1 1 C25
T1 1 B32	T1 1 C32
T1 1 B40	T1 1 C40
T1 1 B50	T1 1 C50
T1 1 B63	T1 1 C63

2 Pole



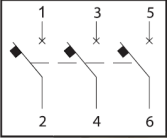
DOUBLE POLE MCB		SPN MCB
B CURVE	C CURVE	C CURVE
TYPE NO.	TYPE NO.	TYPE NO.
	T1 2 C2/4	
T1 2 B6	T1 2 C6	T1 1N C6
T1 2 B10	T1 2 C10	T1 1N C10
T1 2 B16	T1 2 C16	T1 1N C16
T1 2 B20	T1 2 C20	T1 1N C20
T1 2 B25	T1 2 C25	T1 1N C25
T1 2 B32	T1 2 C32	T1 1N C32
T1 2 B40	T1 2 C40	T1 1N C40
T1 2 B50	T1 2 C50	T1 1N C50
T1 2 B63	T1 2 C63	T1 1N C63



MINIATURE CIRCUIT BREAKERS – AC MCB

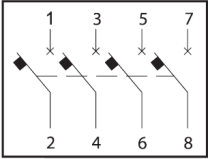
Part No

3 Pole



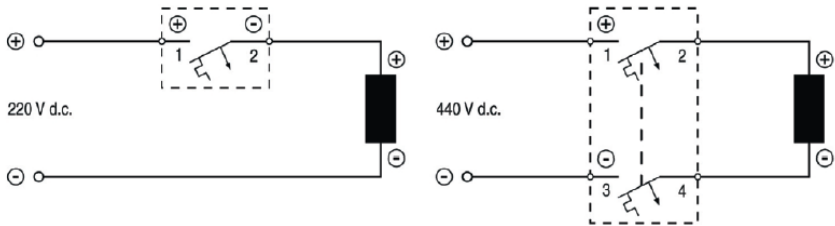
THREE POLE MCB	
B CURVE	C CURVE
TYPE NO.	TYPE NO.
T1 3 B6	T1 3 C6
T1 3 B10	T1 3 C10
T1 3 B16	T1 3 C16
T1 3 B20	T1 3 C20
T1 3 B25	T1 3 C25
T1 3 B32	T1 3 C32
T1 3 B40	T1 3 C40
T1 3 B50	T1 3 C50
T1 3 B63	T1 3 C63

4 Pole



FOUR POLE MCB		TPN MCB
B CURVE	C CURVE	C CURVE
TYPE NO.	TYPE NO.	TYPE NO.
T1 4 B6	T1 4 C6	T1 3N C6
T1 4 B10	T1 4 C10	T1 3N C10
T1 4 B16	T1 4 C16	T1 3N C16
T1 4 B20	T1 4 C20	T1 3N C20
T1 4 B25	T1 4 C25	T1 3N C25
T1 4 B32	T1 4 C32	T1 3N C32
T1 4 B40	T1 4 C40	T1 3N C40
T1 4 B50	T1 4 C50	T1 3N C50
T1 4 B63	T1 4 C63	T1 3N C63

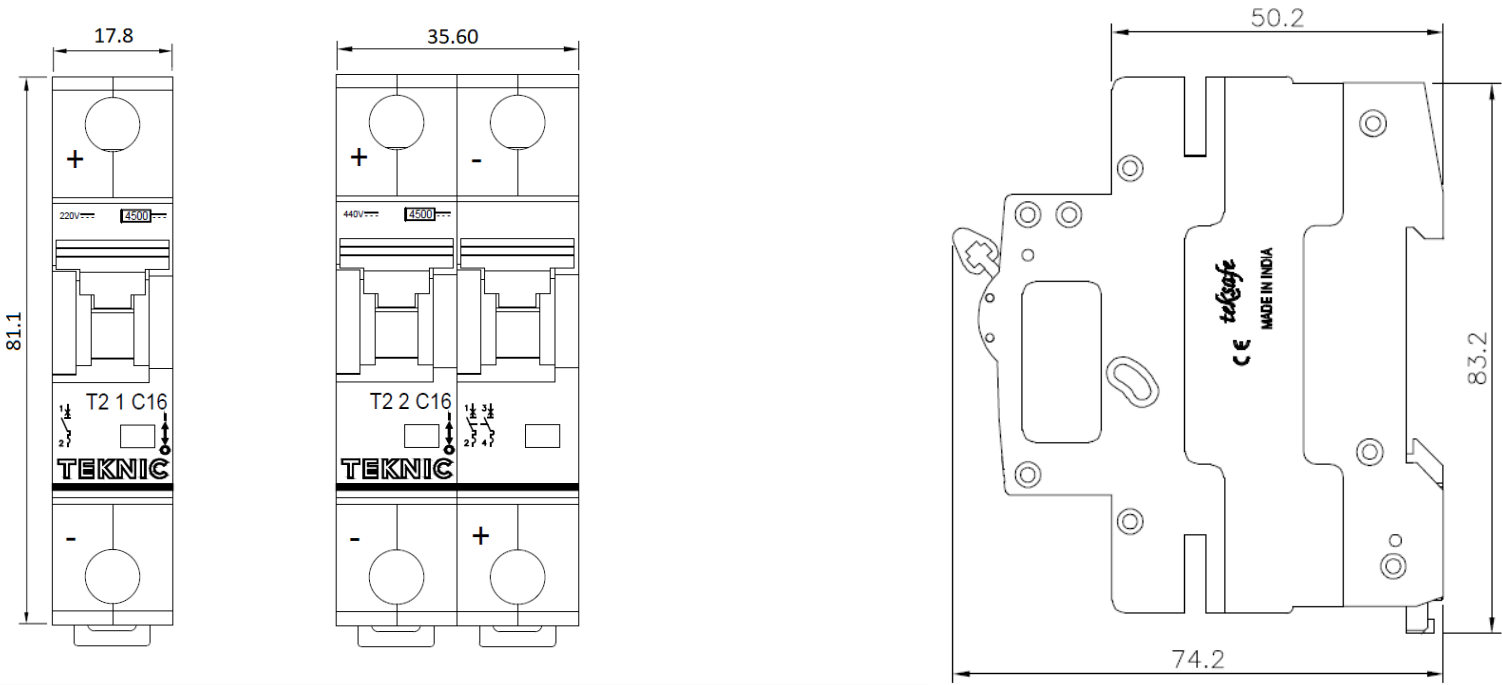
MINIATURE CIRCUIT BREAKERS – DC MCB



Technical Data

Device Series	T2
Poles description	1, 2
[In] Rated current	For C curve – 2, 4, 6, 10, 16, 20, 25, 32 & 63 Amps
Network type	DC
Trip unit technology	Thermal-magnetic
Curve code	C
Frequency	50/60 Hz
[Ue] Rated operational voltage	220/440V DC
Breaking capacity	4.5 kA 75 % conforming to EN 60947-2 - 220 V DC 4.5 kA 75 % conforming to IEC 60947-2 - 440 V DC
[Ui] Rated insulation voltage	500 V DC conforming to IEC 60947-2
Contact position indicator	Yes
Control type	Toggle
Local signalling	ON/OFF indication
Mounting mode	Clip-on
Mounting support	on DIN rail 35x7,5 EN 60 715 on panel
Length	83.2 mm
Width	17.8 mm
Depth	74.2 mm
Colour	White
Mechanical Endurance	100000 cycles
Electrical Endurance	20000 cycles
Connecting wires	1.5 - 25 mm <sup>2</sup> for Cu conductors 2.5 - 25 mm <sup>2</sup> for Al conductors
Dolly Colour	Blue
Standards	EN/IEC 60947-2 EN/IEC 60898
IP degree of protection	IP20 conforming to IEC 60529
Pollution degree	3
Operating temperature range	-25°C to + 55 °C

Dimensional Drawing of T2 Series

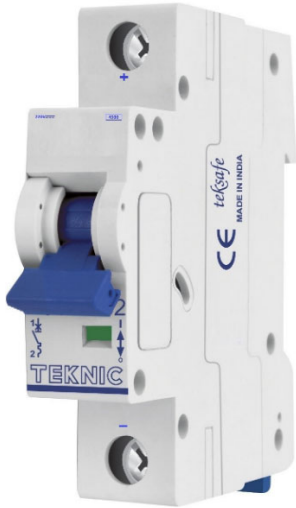
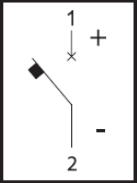




MINIATURE CIRCUIT BREAKERS – DC MCB

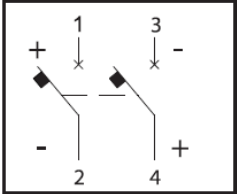
Part No

1 Pole



SINGLE POLE MCB C CURVE
TYPE NO.
T2 1 C2/4
T2 1 C6/10
T2 1 C16
T2 1 C20
T2 1 C25
T2 1 C32
T2 1 C63

2 Pole



DOUBLE POLE MCB C CURVE
TYPE NO.
T2 2 C2/4
T2 2 C6/10
T2 2 C16
T2 2 C20
T2 2 C25
T2 2 C32
T2 2 C63

## RESIDUAL CURRENT CIRCUIT BREAKERS

WITH A RESIDUAL CURRENT CIRCUIT BREAKER (RCCB) THE FOLLOWING PROTECTIVE MEASURES ARE AVAILABLE:

- Protection against indirect contact
- Fire protection
- Additional protection in the event of direct contact

### FEATURES

When designing residual current devices, manufacturing technology and type of routine tests the IEC 61008, EN 61008 standards were considered.

Important features are:

- Up-to-date design
- User-friendly connection of conductors and bus bars
- Resistance to current surges; unwanted tripping excluded
- Simple and solid fixing to a 35 mm mounting rail in compliance with EN 60715
- Additional colour display of main contacts position (red: contacts closed, green: contacts open)

### PROTECTION AGAINST INDIRECT CONTACT

Protection level against indirect contact does not depend on the value of residual operating current of RCCB.

Only the following condition should be fulfilled:

$$R_e < \frac{\text{Conventional touch voltage } U_L}{\text{rated residual operating current } I_{\Delta N}}$$

With specified residual current protection as a protective measure against indirect contact the sensitivity of RCCB can be selected regarding rated residual operating current. It is necessary to consider the installation leakage currents. In case of more complex installation it is recommended to envisage more RCCBs in order to prevent damage of complete system.

### FIRE PROTECTION

RCCB with rated residual operating currents  $I_{\Delta N} < 300$  mA provide protection against fire caused by fault currents. In case of fault currents  $I_{\Delta N} < 300$  mA or larger, which are disconnected by a circuit breaker in less than 0,2 seconds, the dissipated heat in the system is not sufficient to ignite materials which are usually used in civil works.

### ADDITIONAL PROTECTION IN THE EVENT OF DIRECT CONTACT

This is the latest protection mode, which is required or recommended for installation in areas with particularly high electric shock hazard (sockets in bathrooms, camping sites, caravans, rooms used for medical purposes etc.) The additional RCCB with rated residual operating current  $I_{\Delta N} < 30$  mA protects the user also against dangerous effects of electric current if both below stated measures fail:

- protection against direct contact (removed covers, damaged housings, etc.),
- protection against indirect contact (interruption of a protective conductor, accidentally transposed protective and live conductor, damaged insulation of electrical device, etc.)

In case of direct contact the fault current flows through the human body and disconnection occurs before the current reaches a dangerous limit.

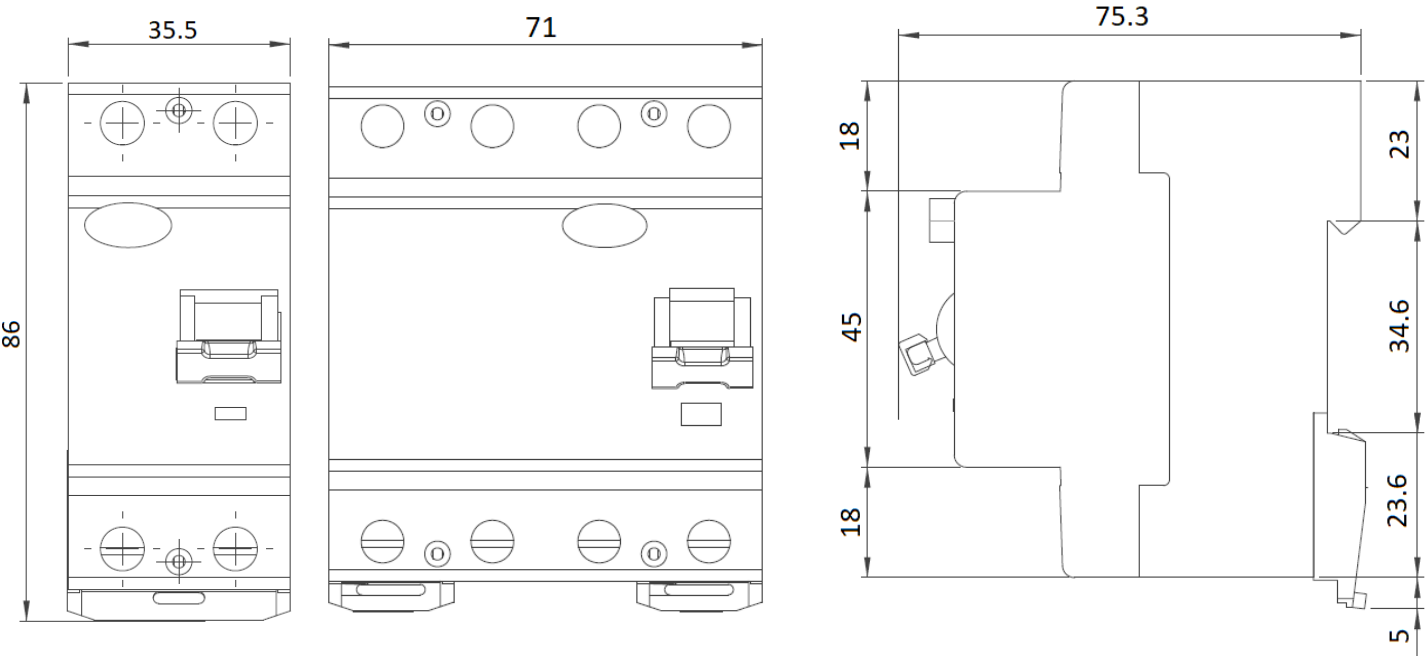
However, additional protection should not - under any circumstances - be regarded as a basic protection measure.

RESIDUAL CURRENT CIRCUIT BREAKERS

Technical Data

Device Series	T4
Poles description	2, 4
[In] Rated current	25, 40, 63, 100A
Earth Leakage Sensitivity	30, 100, 300 mA
Network type	AC
Frequency	50/60 Hz
[Ue] Rated operational voltage	230/400 – 240/415V AC
Breaking capacity	4.5 kA
Earth-leakage protection time delay	Instantaneous
Earth-leakage protection class	Type AC
Rated breaking and making capacity	500 A conforming to EN/IEC 61008-1
Suitability for isolation	Yes
Rated insulation voltage (Ui)	500 V AC 50 Hz
Control type	Toggle
Mounting mode	Clip-on
Mounting support	on DIN rail 35x7,5 EN 60 715 on panel
Length	83.2 mm
Width	35.6 mm & 71.2 mm
Depth	74.2 mm
Colour	White
Mechanical Endurance	4000 cycles
Electrical Endurance	4000 cycles
Connecting wires	1.5 - 25 mm² for Cu conductors 2.5 - 25 mm² for Al conductors
Wire stripping length	14 mm for top or bottom connection
Tightening torque	3.5 N.m top or bottom
Dolly Colour	Blue
Standards	IEC/EN 61008: IS 12640-1: 2008
Product certifications	ISI
IP degree of protection	IP20, IP 40 from front panel
Pollution degree	2
Operating temperature range	-25°C to + 55 °C
Connections	From Top and Bottom sides

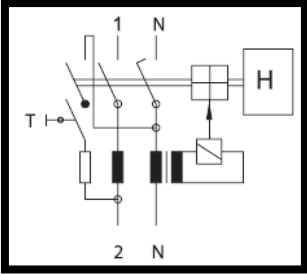
Dimensional drawing of RCCB



RESIDUAL CURRENT CIRCUIT BREAKERS

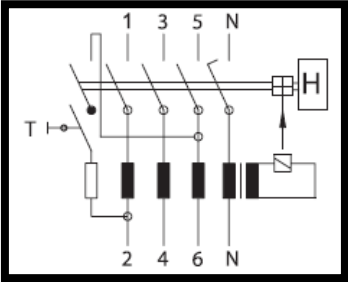
Part No

2 Pole



RATED CURRENT (A)	EARTH LEAKAGE SENSITIVITY (mA)	MODULE WIDTH 18 mm/MOD	PART NO
25A	30	2	T2P 25/0.03
	100	2	T2P 25/0.1
	300	2	T2P 25/0.3
40A	30	2	T2P 40/0.03
	100	2	T2P 40/0.1
	300	2	T2P 40/0.3
63A	30	2	T2P 63/0.03
	100	2	T2P 63/0.1
	300	2	T2P 63/0.3

4 Pole



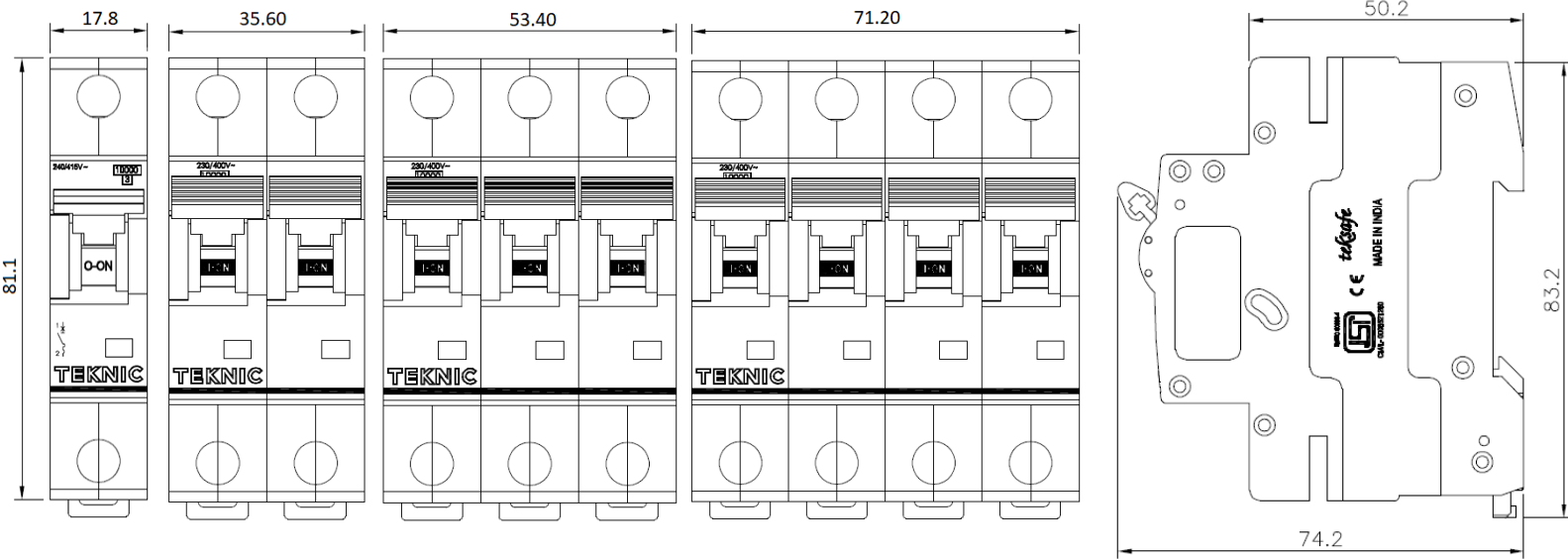
RATED CURRENT (A)	EARTH LEAKAGE SENSITIVITY (mA)	MODULE WIDTH 18 mm/MOD	PART NO
25A	30	4	T4P 25/0.03
	100	4	T4P 25/0.1
	300	4	T4P 25/0.3
40A	30	4	T4P 40/0.03
	100	4	T4P 40/0.1
	300	4	T4P 40/0.3
63A	30	4	T4P 63/0.03
	100	4	T4P 63/0.1
	300	4	T4P 63/0.3
100A	300	4	T4P 100/0.3

ISOLATORS

Technical Data

Device Series	T3
Poles description	2, 3, 4
[In] Rated current	40, 63, 100A
Utilisation category	AC-22A
Frequency	50/60 Hz
[Ue] Rated operational voltage	230/400 – 240/415V AC
Short-Circuit Breaking Capacity	4.5 kA
Control type	Toggle
Mounting mode	Clip-on
Mounting support	on DIN rail 35x7,5 EN 60 715 on panel
Length	83.2 mm
Width	17.8 mm
Depth	74.2 mm
Colour	White
Mechanical Endurance	100000 cycles
Electrical Endurance	1500 cycles
Connecting wires	1.5 - 25 mm² for Cu conductors 2.5 - 25 mm² for Al conductors
Dolly Colour	Red
Standards	IS/IEC 60898-1, STN EN 60947-2
Product certifications	ISI
IP degree of protection	IP20, IP 40 from front panel
Pollution degree	3
Operating temperature range	-25°C to + 55 °C

Dimensioal drawing of Isolators



ISOLATORS

Part No



TWO POLE MCB
TYPE NO.
T3 2 25/40A
T3 2 63A
T3 2 100A



THREE POLE MCB
TYPE NO.
T3 3 25/40A
T3 3 63A
T3 3 100A



THREE POLE MCB
TYPE NO.
T3 4 25/40A
T3 4 63A
T3 4 100A



THREE PHASE LED INDICATOR DIN MOUNTING



Single & Three Phase Indicator lamps are designed to display a clear indication on the status of a circuit, an associated device or for phase monitoring. These are long lasting Indicator lamps designed for saving space & power in various applications.

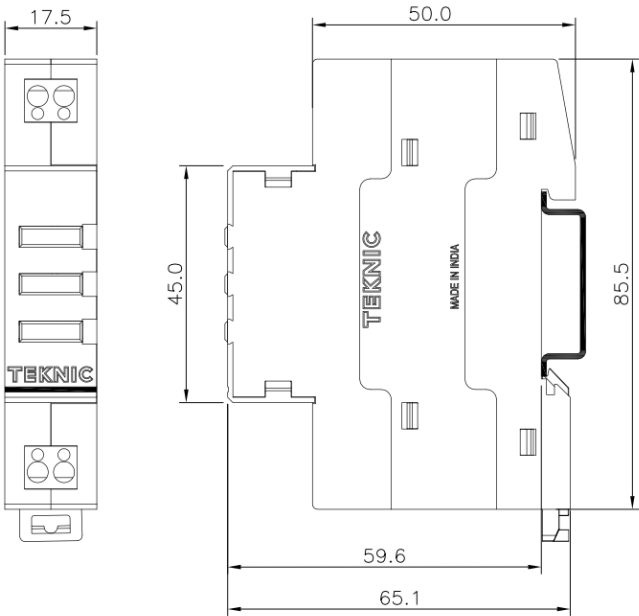
Ordering Code:

Cat. No.	Description
T6 230AWL	1 Phase LED Indicator Single WHITE
T6 230AGL	1 Phase LED Indicator Single GREEN
T6 230ARL	1 Phase LED Indicator Single RED
T6 230AAL	1 Phase LED Indicator Single AMBER
T6 230ABL	1 Phase LED Indicator Single BLUE
T6 230ACL	1 Phase LED Indicator Single CLEAR
T6 230AYL	1 Phase LED Indicator Single YELLOW
T6 230ARGL	2 Phase LED Indicator RED GREEN
T6 230ARYL	2 Phase LED Indicator RED YELLOW
T6 230AYGL	2 Phase LED Indicator YELLOW GREEN
T6 230ARYBL	3 Phase LED Indicator RED YELLOW BLUE
T6 230ARYGL	3 Phase LED Indicator RED YELLOW GREEN

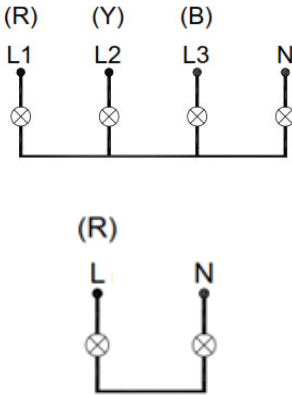
Applications:

Applicable for use in electrical control panels, PLC panels, temporary DBs and solar ACDB applications. Other applications include a wide range of mimic panels, switch boards, testing & instrumentation panels, plug socket distribution panels, load line panels & meter boxes. Easy to detect phase availability in areas with frequent power fluctuations and disruptions.

Dimensional Drawing & Wiring Diagram (mm):




WIRING DIAGRAM



### Salient Features:

- Compact, Robust & Aesthetically Elegant Design
- Quick installation
- Reliable & safe operation
- Available for Single, Two and Three Phase indication combinations
- LED technology for longer life
- Suitable for DIN rail 35x7.5 EN60715 on panel

### General Specification:

Item Type	: 3 Phase LED Indicator DIN Mounting
Standard Voltage	: 230 VAC Voltages available on request: 24VAC/DC, 48VAC/DC, 110VAC/DC & 220VDC
Brand	: TEKNIC
Colour	: White
Suitable Location	: Mount in a dry area/location for best results.
Application Area	: Suitable for both indoor installations
Usage	: To be fitted on the DIN rail. Input and Output wiring to be connected.
Warranty	: 12 months from the date of supply against any manufacturing defects
Recommendation	: To be installed by qualified/licensed electrical personnel/contractor
Applicable Standards	: IEC/EN 60947-5-1
Product Certification	: 
Country Of Origin	: INDIA

### Electrical Specification:

Voltage Rating	: 230 VAC, Single & Three Phase
Frequency	: 50 Hz
Description	: Single & Three phase DIN mounted RYB Lamps
Number of LEDs	: 2 nos Non-Replaceable LEDs per colour
LED Colours	: WHITE, GREEN, RED, AMBER, BLUE, CLEAR, YELLOW, RY, RG, YG, RYB & RYG
Polymeric Parts	: UL-Recognized material

### Electrical Specification of Contact:

Rated Insulation Voltage	: 500 VAC
Rated Thermal Current	: 10 A
Dielectric Test	: 2.5 KV
Short Circuit Protection	: 10A HRC cartridge fuse, rated for resistive loading at 1000A prospective Current, as per IEC 60947-5-1

### Mechanical Specification:

Protection Class	: IP20 for Terminals IP30 for Enclosure IP40 for front side
Degree Of Pollution	: 3
Operating Temperature	: -25 ° C to +70 ° C
Storage Temperature	: -25 ° C to +40 ° C
Terminal Capacity	: Maximum 2x1.5mm <sup>2</sup> or 1x2.5mm <sup>2</sup> : Minimum 1x0.5mm <sup>2</sup>
Terminal Marking	: Markings provided on wiring terminal L1/L2/L3/N
Contact Material	: Electrolytic Copper (ECu); Tin Plated; : Chrome nickel spring steel (CrNi)
Terminal Torque	: 0.5 Nm Screw head compatible with posidrive or Philips screw driver
Mechanical Life	: over 50000 hours
Length	: 85.5 mm
Breadth	: 17.5 mm
Depth	: 65.1 mm

# Our Presence

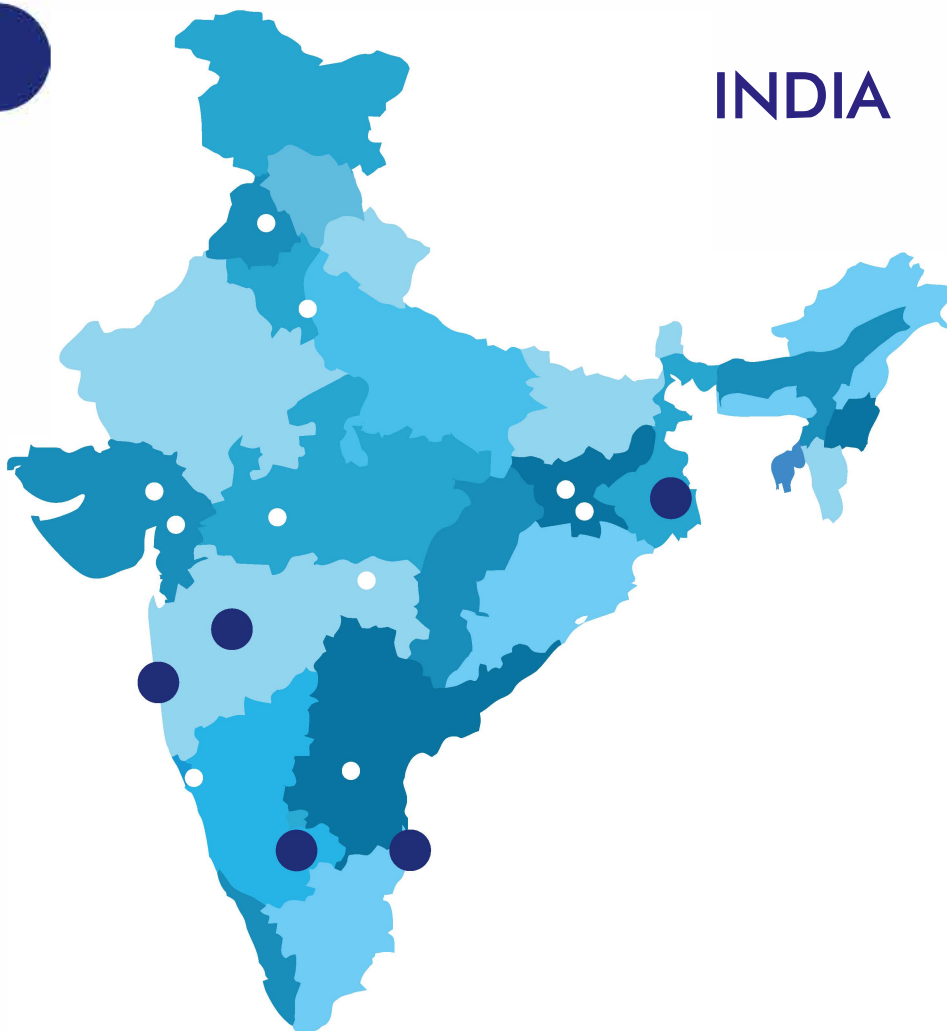
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## GLOBAL



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