



RESIDUAL CURRENT CIRCUIT BREAKER

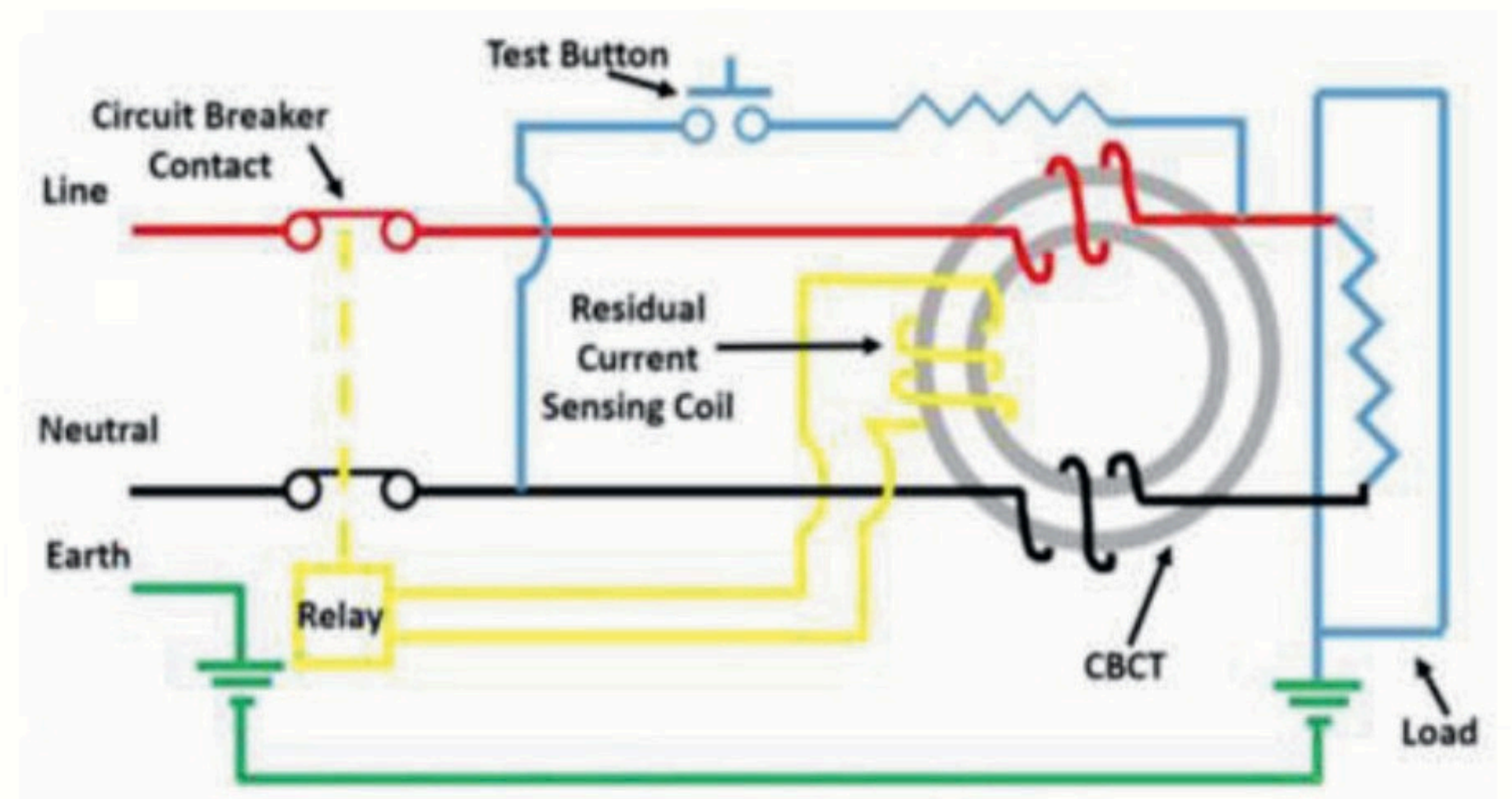
INTRODUCTION AND USAGE

Residual Current Protection devices ensure injury is not fatal in case a person accidentally touches a live wire. Axon Residual Current Circuit breakers-RCCB is extremely crucial in providing real-time protection against earth fault as well as any leakage current. A properly set RCCB will ensure that a person does not suffer a fatal injury even in case of an accidental touch to any live wire. RCCB's are highly useful in protecting personnel against electrocution risks, in homes, offices, factories and all types of business establishments. In the event of a mishap, an RCCB disconnects supply to the load within a fraction of a second, and saves the life of a person exposed to the risk of electrical shock. RCCB's are also highly useful in preventing electrical fires.

FUNCTIONING

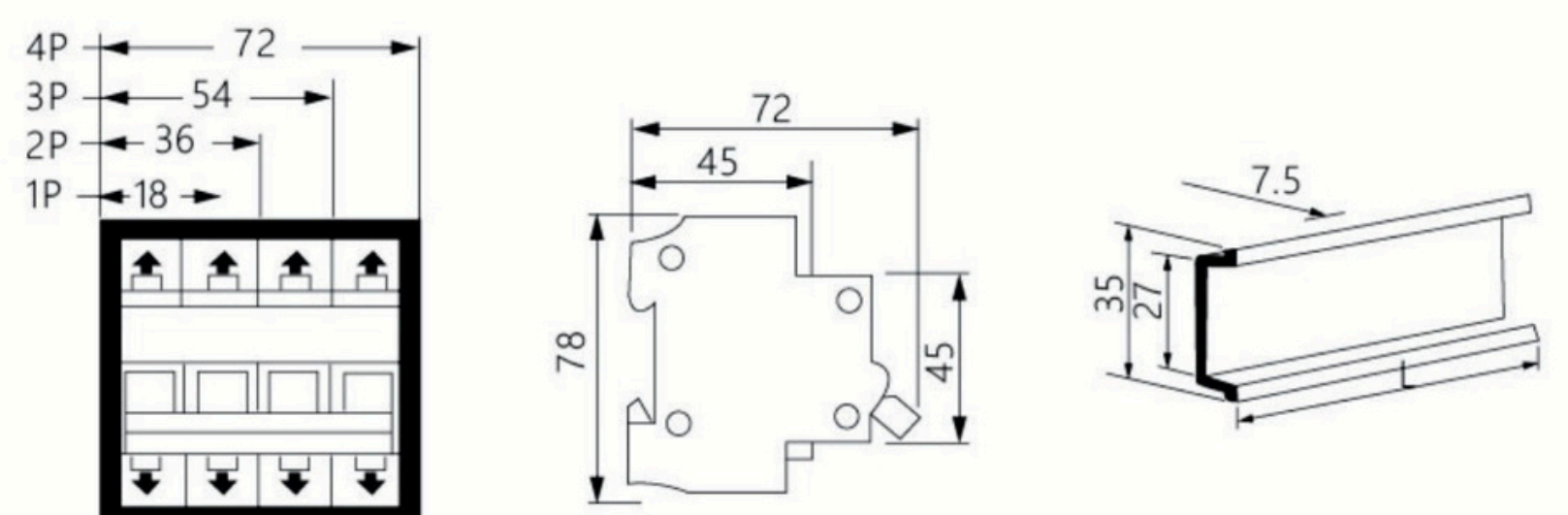
Axon RCCB will monitor the residual values of the current flowing in the line (s) and neutral continuously through the current transformer (CT). This CT are very sensitive because of its high permeability these CT's can sense variations in the order of milli-amp's. According to Kirchoff's law-The current flowing into a node or a (junction) must be equal to the current flowing out of it. Any variation in current is carefully monitored and quickly turns on a PM relay to de-energises the switching mechanism thus isolates the power to the appliance and prevents human from getting electrical shocks. If we observe the impact of electrical shock on human body, more 10mA leakage currents are dangerous to have physical contact .Hence provides protection from 10mA leakage onwards. Below 30mA device are portable or mounted along with power sockets as these are very high sensitive to low leakage current. Hence these devices are mounted very close to the appliances like Geysers, Wet grinders, Air conditioners refrigerators etc. 30mA and above are DB/Din rail mountable 30mA tripping current designed for additional protection against direct contact, or where specially required by the Indian wiring regulations, the 30mA RCCB protects against leakage currents and indirect contact with earth loop impedance upto 1667 Ohms: for use as additional protection against direct contact, residual tripping current must not exceed 30mA 100mA Tripping current is suitable for protection against indirect contact and leakage currents for larger installations; the 100mA RCCB's operate within 40ms, but do not provide the same level of personal protection as the 30mA units; the 100mA RCCB protects against leakage currents and indirect contact with earth loop impedance upto 500Ω

300mA- A less sensitive protection suitable for large installations having high levels of leakage current ;300mA RCCB's protect against leakage current and indirect contact upto 167ohms earth loop impedance



DIMENSION AND MOUNTING ARRANGEMENT

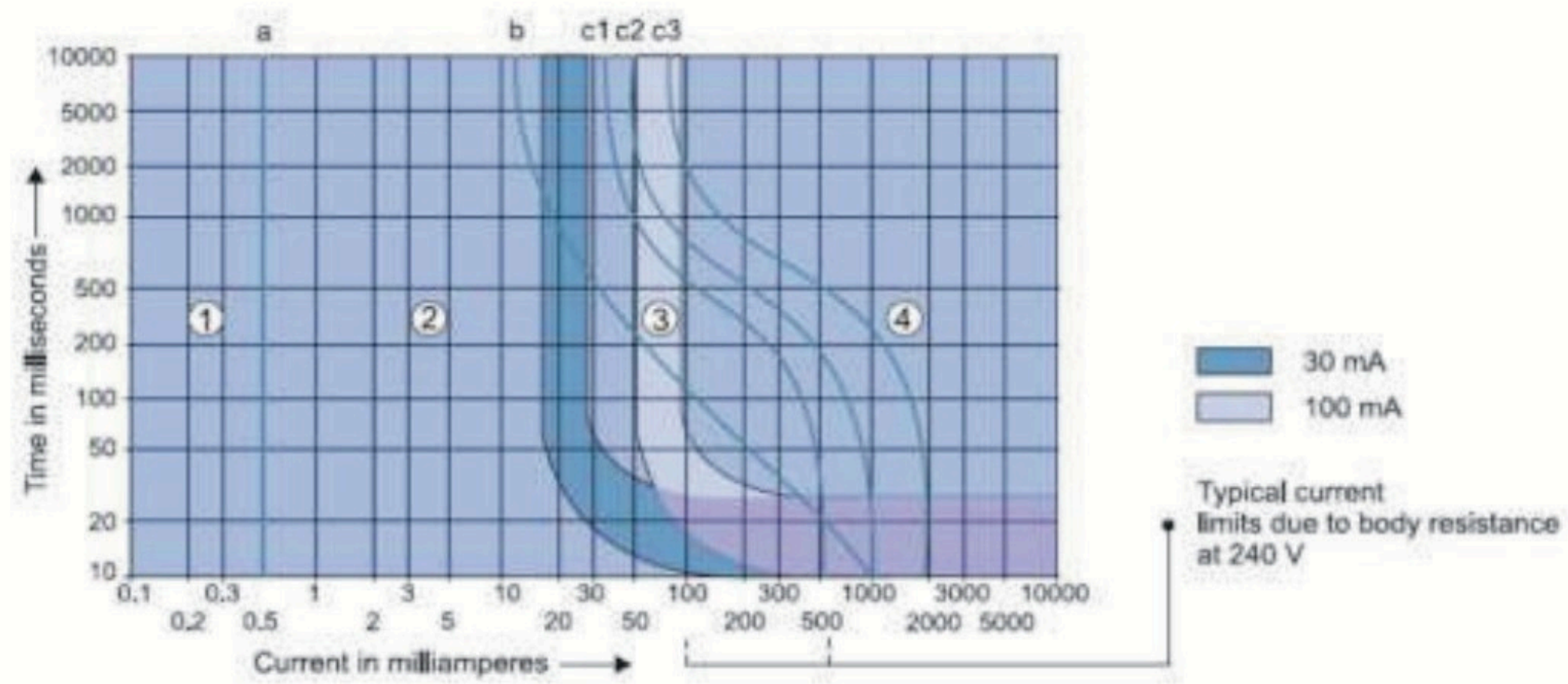
DIMENSIONS



SALIENT FEATURES

- IS 12640-(Part 1):2016/IEC 61008-1:2012
- Sensitivity 30mA,100mA and 300mA
- Rated current-16, 25, 32, 40 and 63A
- Configuration- 2 pole and 4pole
- Available in type AC, Can be fixed onto standard Din Rail in all types of MCB Distribution boards. Terminal can accept Bus bars as well as cables for external connections.
- Clearly visible ON/OFF flag indicator
- Advance neutral
- Simple and Robust operating.
- Test button for periodic checkup.
- IP20 protection

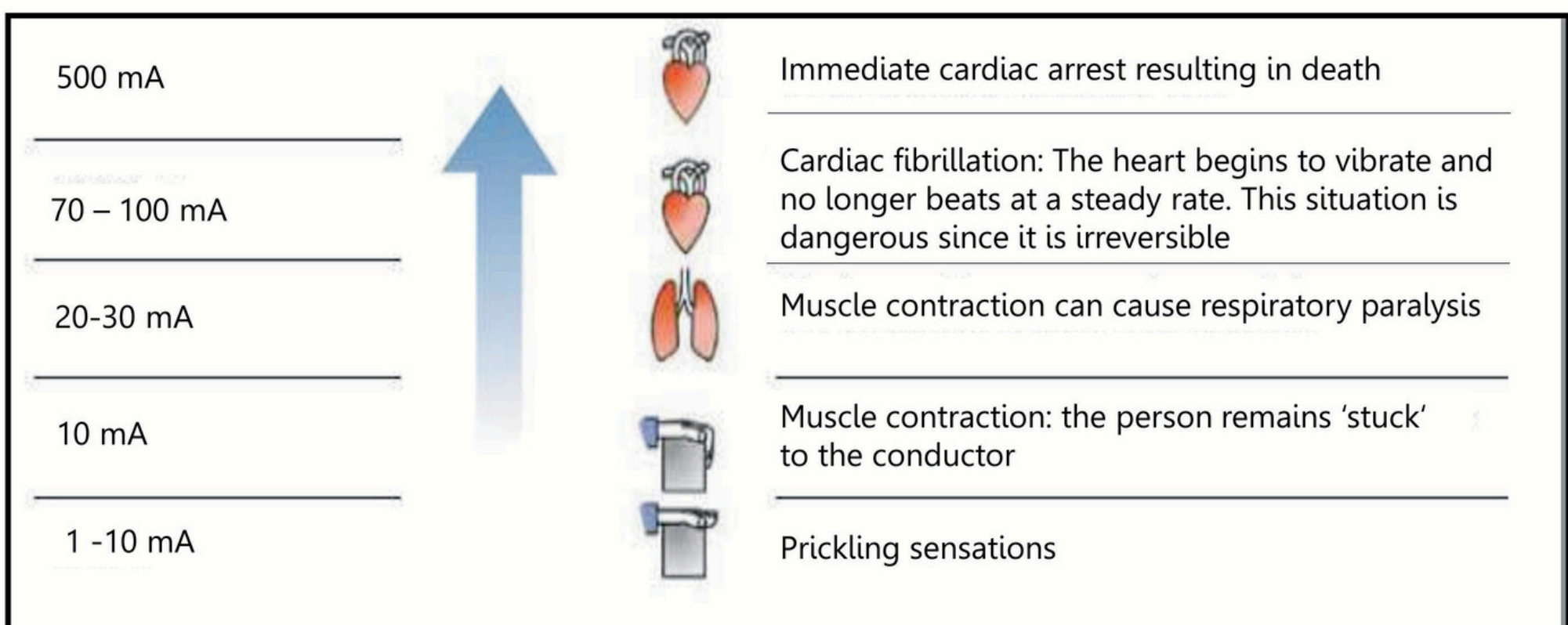
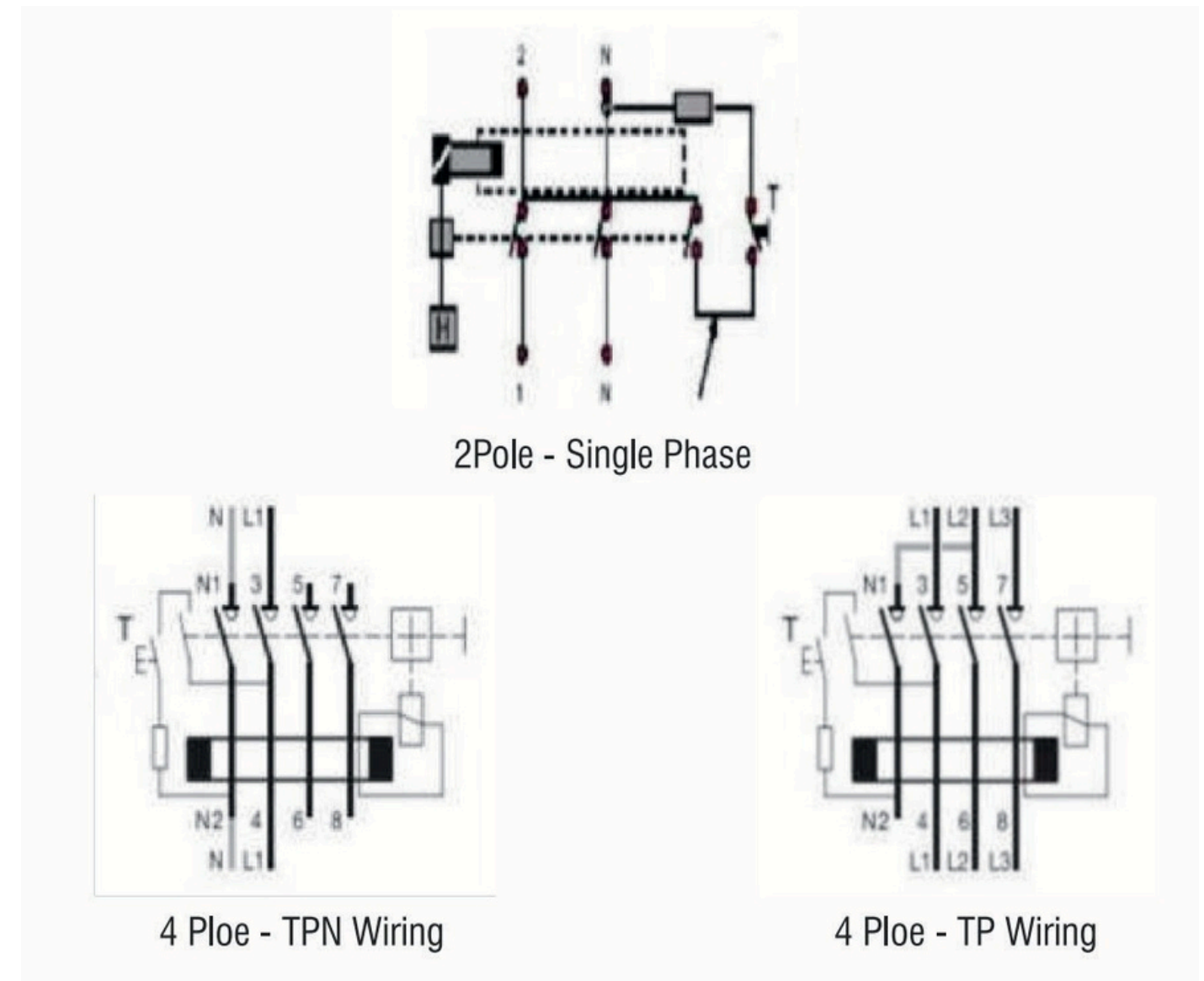
SELECTION METHOD



TECHNICAL SPECIFICATIONS

RCCB WIRING DIAGRAM

Product Standard	IS 12640-1:	
System Certification	ISO 9001:2015 / ISO 14001:2015 / ISO 45001:2018	
ELECTRICAL FEATURES		
Poles	2P (1P + N)	4P (3P + N)
Residual Current Protection Type	Electromagnetic	Electromagnetic
Residual Current Working Type	AC Type	AC Type
Rated Current I_n	6 to 32A	6 to 32A
Rated Residual Operating Current I_{cn}	30mA, 100mA, 300mA	30mA, 100mA, 300mA
Rated Voltage U_e	240V AC	240V AC
Insulation Voltage U_i	500V	500V
Max. Working Voltage U_{max}	453V	453V
Min. Working Voltage U_{min}	12V	12V
Rated Impulse withstand Voltage U_{imp}	6kV	6kV
Dielectric Test Voltage	2.5kV	2.5kV
Rated Frequency	50/60 Hz	50/60 Hz
Pollution Degree	2	2
Rated Residual Conditional Short Circuit I_{nc}	6kA	6kA
Rated Making & Breaking Capacity I_m	600A, 630A	600A, 630A
Rated Making & Breaking Capacity I_{cm}	500A (Upto 40A) 630A (for 63A)	500A (Upto 40A) 630A (for 63A)
Rated Residual Conditional Short Circuit Current I_c	6kA	6kA
Electrical Life	>4000	>4000
Mechanical Life	>10000	>10000
Contact Position Indicator	YES	YES
Fault Indicator	---	---
INSTALLATION		
Protection Degree - RCC Body	IP - 20	IP - 20
Protection Degree - installed in DB	IP - 20	IP - 20
Reference Temp. Setting (25° C) for thermal setting	25° C	25° C
Ambient Temp. (with daily Average)	40° C	40° C
Storage Temp.	-25° C / +70° C	-25° C / +70° C
Terminal Connection Type	Cable / Bus Bar	Cable / Bus Bar
Cable Size	25 Sq. mm	25 Sq. mm
Tightening Torque	3 Nm	3 Nm
Connection	Top / Bottom	Top / Bottom



LEVELS OF ELECTRICAL SHOCKS

The flow of current through the human body is dangerous beyond certain limits and hence the Electricity regulatory Authority established safe limits as shown above.