

DIN-rail type
Digital Earth Leakage Relay
TM-18c/*18R Auto-reset type



features



- True RMS Measurement with SPARC¹ and DCOI² Algorithm
- Fundamental Signal Detection³
- Real Time Display of I_{Δn} in Ampere
- Fault / lo-set & hi-set Trip LED Indication
- Fault Start Event Recording + (Output⁴ : TM-18c only)
- Pre-alarm Output⁴ (TM-18c only)
- Trip Event Memory (non-volatile 7 previous records)
- Fault Start Event Memory (non-volatile 4 previous records)
- Selectable Frequency (50/60 Hz)
- Programmable Relay Output contact for K2 (TM-18c only)
- *Trip Lock-out contact for K2
- Last Trip Elapsed Time (up to 99days)
- *Self Reclosing / Auto-reset
- *Re-start Interval Setting
- Auto Z.C.T. Detection
- Software Lock to Prevent Unauthorized Setting
- 35mm wide DIN Rail Mount
- Complies with : IEC-60255-26/27; BS EN 50121-5 Standards

technical data

Current Input (I _{Δn})	: ZCT (multiple sizes from ID of 30~300mm)
Fundamental Frequency	: Software selectable 50 or 60 Hz
Measurement Range	: 0.01 ~ 30.0 A
Output Relay Rating	: SPDT 5A, 250V AC/DC
Accuracy	: Current protection threshold (±5%) Time delayed (+5% or 50ms)
Display	: 7-Segment LED (3 + 1 digit)
Indication (LEDs)	: Fault, lo / hi-set trip
Operating Temp.	: 0°C ~ +55°C
Humidity	: 56 days at 93%RH, 40°C non-condensing
IP Rating	: IP55 (Mounted at relay front) IP52 (Mounted at relay rear)
Weight	: 200 g

parameter setting

I _{Δn} > (A) : lo-set trip	0.03~30.0 A
t > (sec) : lo-set trip time delay	0.03 ~ 20.0 sec
I _{Δn} >> (A) : hi-set trip	OFF or 0.1~30.0 A
t >> (sec): hi-set trip time delay	fixed @ 30ms
*Trip-lockout >	1 ~ 10 times
*Auto-reset timer	3~200 sec
*Re-start interval	OFF or 5 mins~24hrs

aux power

TM-18c / 18R-220a	: 65 ~ 275 Vac (45~65Hz), 90 ~ 300 Vdc
TM-18c / 18R-024d	: 18 ~ 72 Vdc
Consumption	: < 3VA

K1 output contact options (TM-18c only)

Latching (Lc) or non-latching (nLc) trip

K2 output contact options (TM-18c only)

trP (tripping output)	Lc or nLc
LFS (lo-set fault start signal)	Lc or nLc
HFS (hi-set fault start signal)	Lc or nLc
AFS (any fault start signal)	Lc or nLc
dUF (device failure)	nLc only
CbF (circuit breaker failure)	nLc only
A50 (pre-alarm fault) >50% of I _{Δn} >	Lc or nLc
A90 (pre-alarm fault) >90% of I _{Δn} >	Lc or nLc

¹SPARC - sampling progressive algorithm for RMS Computation: Computation of multiple rms values/cycle (Superior response in short circuit situation)

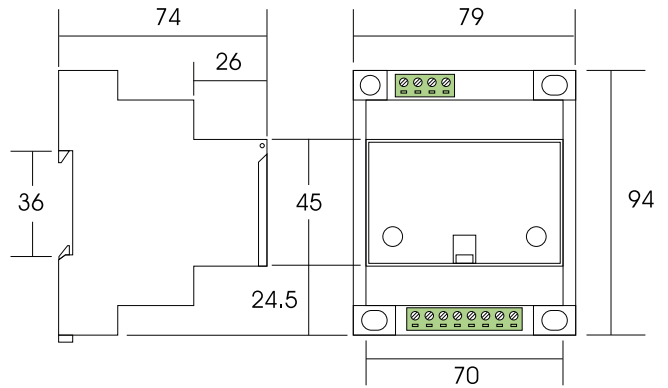
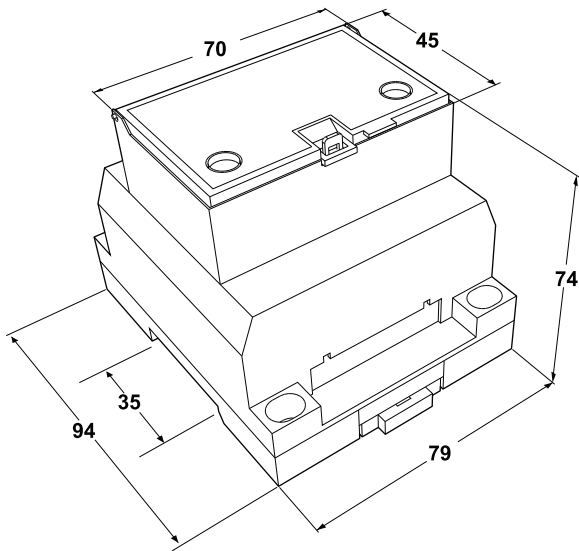
²DCOI - dc offset independent algorithm: Cancels out dc signal caused by EMI and aging circuitry (Better Immunity against EMI)

³Fundamental Signal Detection: To discriminate between signal and noise and eliminate nuisance tripping

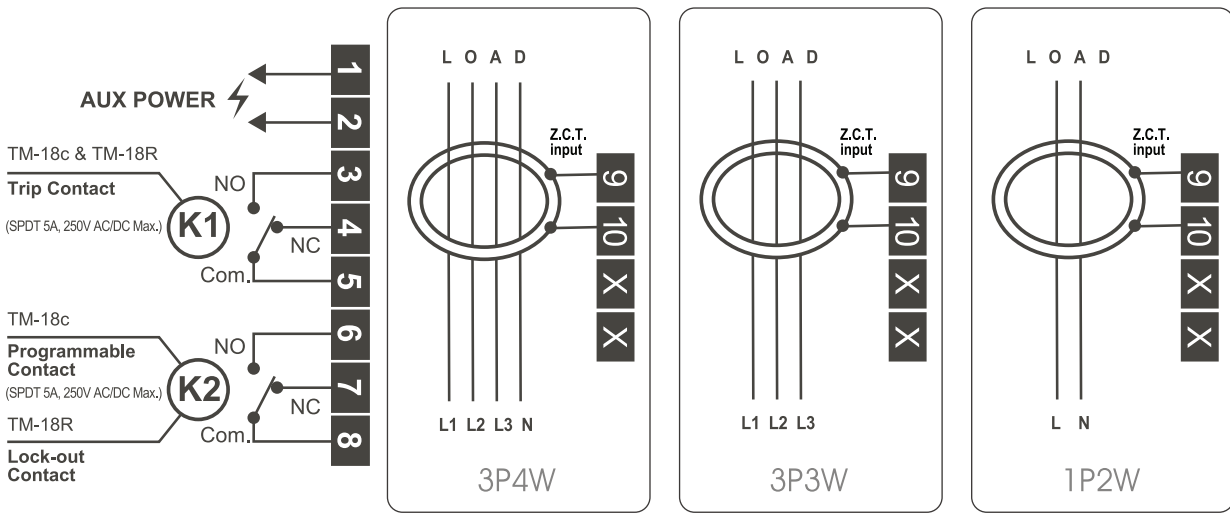
⁴Output on k2 dependent on the programmed options

* Available only for model TM-18R (Auto-reset type)

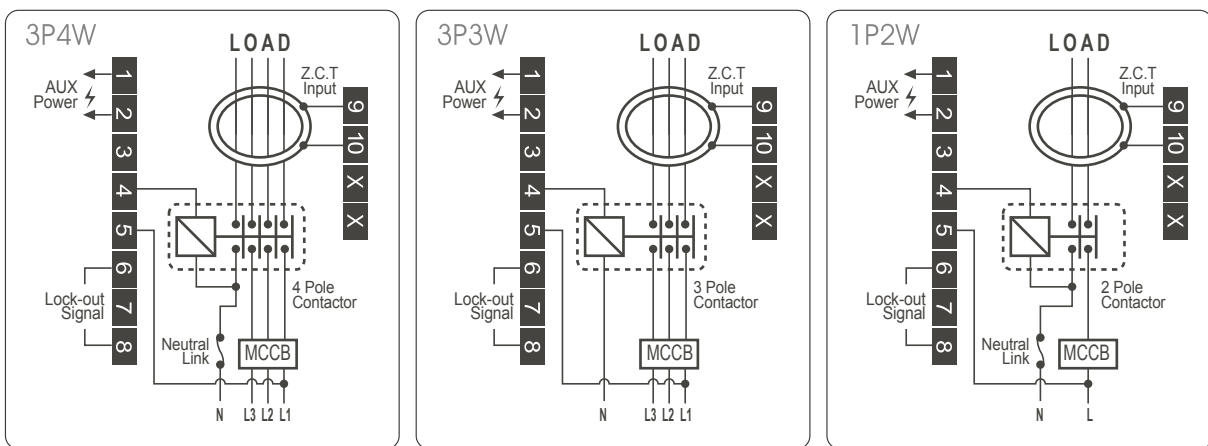
casing dimension



wiring diagram



auto-reset wiring diagram



ordering information

Model	Description	Model	Description
TM-18c-220a	65 ~ 275 Vac (45~65Hz), 90 ~ 300 Vdc	TM-18R-220a	65 ~ 275 Vac (45~65Hz), 90 ~ 300 Vdc
TM-18c-024d	18 ~ 72 Vdc	TM-18R-024d	18 ~ 72 Vdc

Note: All measurement in mm.