

Earth Leakage Relay DP-10

features



True RMS Measurement with SPARC¹ and DCOI² Algorithm

Fundamental Signal Detection³

Real Time Display of $I_{\Delta n}$ in mA/A

Fault / lo-set & hi-set Trip LED Indication

Fault Start Event Recording & LED Indication + Output⁴

Pre-Alarm LED Indication + Output⁴

Trip Event Memory
(non-volatile 7 previous records)

Fault Start Event Memory
(non-volatile 4 previous records)

Programmable Relay Output contact for K2

Last Trip Elapsed Time (up to 99days)

Software Lock to Prevent Unauthorized Setting

Complies with IEC-60255-26 Standards

External Plug-in Module for :-
A-01s (RS-485 MODBUS RTU) isolated type

technical data

Current Input ($I_{\Delta n}$)	: ZCT (multiple sizes from ID of 25~200mm)
Measurement Range	: 0.005 ~ 30.0 A
Output Relay Rating	: SPDT 5A, 250V AC/DC
Display	: 7-Segment LED (3 + 1 digit)
Indication (LEDs)	: mA, pre-alarm, fault, fault start event, lo / hi trip
Operating Temp.	: 0°C ~ +55°C
Humidity	: 56 days at 93%RH, 40°C non-condensing
IP Rating	: IP54 (front panel)
Weight	: 230 g

parameter setting

$I_{\Delta n} >$: lo-set	30mA ~ 5.00A 0.03 ~ 1.00A (step of 0.01A) 1.00 ~ 5.00A (step of 0.05A)
t>: lo-set trip delay time	0.03s ~ 20.0s 0.03s ~ 0.10s (step of 0.01s) 0.10s ~ 1.00s (step of 0.02s) 1.0s ~ 20.0s (step of 0.1s)
$I_{\Delta n} >>$: hi-set	OFF or 0.1A ~ 20.0A (step of 0.1A)
t>>: hi-set trip delay time	fixed @ 30ms

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

aux power

DP-10-220a	: 65 ~ 275 Vac (45~65Hz), 90 ~ 300 Vdc
DP-10-024d	: 16 ~ 36 Vdc
Consumption	: < 3VA

fundamental frequency

50 or 60Hz Selectable

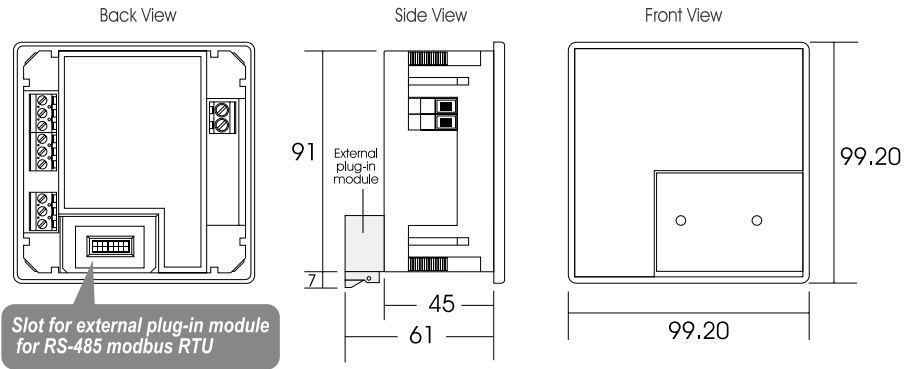
K1 output contact options

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

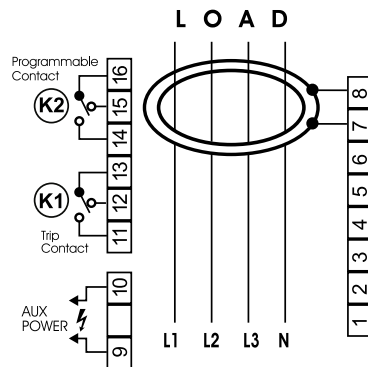
K2 output contact options

CbF (circuit breaker Failure - nLc only)
A50 (pre-fault 50% of $I_{\Delta n} >$ - Lc or nLc)
A90 (pre-fault 90% of $I_{\Delta n} >$ - Lc or nLc)
trP (tripping output - Lc or nLc)
LFS (lo fault start signal - Lc or nLc)
HFS (hi fault start signal - Lc or nLc)
AFS (all fault start signal - Lc or nLc)
dUF (device failure - Lc only)

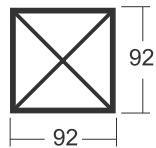
casing dimension



wiring diagram



panel cut-out



Panel Cut-out : 92 x 92

ordering information

Model	Description
DP-10-220a	65 ~ 275 Vac (45~65Hz), 90 ~ 300 Vdc
DP-10-024d	16 ~ 36 Vdc

Note: All measurement in mm.