

Digital DTL Over Current Relay DP-23



features



technical data

Current Input (In)	: .. /5A or .. /1A
Fundamental Frequency	: Software selectable 50 or 60 Hz
Burden	: <0.3 VA @ In
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)	: phase, x10, pre-alarm, fault start event, lo / hi-set trip, fault
Operating Temp.	: 0°C ~ +55°C
Humidity	: 56 days at 93%RH, 40°C non-condensing
IP Rating	: IP54 (front panel)
Weight	: 260 g

parameter setting

$I_p > (\%)$: lo-set trip	2% ~ 200% (step of 1%)
IDMT $I_p >$	LTI + DTL
TMs $I_p >$: Time multiplier for IDMT	0.05 ~ 1.00 (step of 0.01)
$t_p > (\text{sec})$: lo-set trip time delay for DTL	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)
$I_p \gg (\%)$: hi-set trip	OFF or 20% ~ 2000% 20% ~ 1000% (step of 10%) 1000% ~ 2000% (step of 100%)
$t_p \gg (\text{sec})$: hi-set trip time delay	Instant or 0.02s ~ 0.5s (step of 0.01s)

True RMS Measurement with SPARC¹ and DCOI² Algorithm

Auto / Manual Scroll for Real Time Display of Phase Current in (%)

LTI + DTL

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

Fault Start Event Recording & LED Indication + Output³

Pre-Alarm LED Indication + Output³

Trip Event Memory
(non-volatile 7 previous records for all phases)

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

Selectable Frequency (50 /60 Hz)

Programmable Relay Output Contact for K2

Last Trip Elapsed Time (up to 99days)

Software Lock to Prevent Unauthorized Setting

Complies with :

IEC-60255-26/27 ; BS EN 50121-5 Standards

ANSI Code: 50P, 51P

External Plug-in Module for :-

A-01s / A-01sp (RS-485 MODBUS RTU) isolated type

aux power

DP-23-220a	: 65 ~ 275 Vac (45~65Hz), 90 ~ 300 Vdc
DP-23-024d	: 18 ~ 72 Vdc
Consumption	: < 3VA

K1 output contact options

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

K2 output contact options

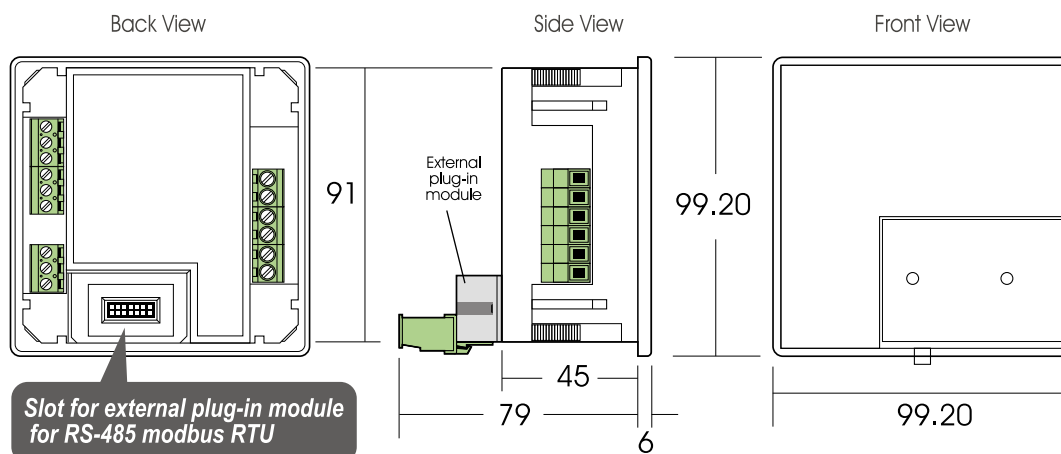
trP (tripping output)	Lc or nLc
LFS (lo-set fault start signal)	Lc or nLc
HFS (hi-set fault start signal)	Lc or nLc
AFS (any fault start signal)	Lc or nLc
dUF (device failure)	nLc only
CbF (circuit breaker failure)	nLc only
A90 (pre-alarm fault) >90% of $I_p >$	Lc or nLc
A95 (pre-alarm fault) >95% of $I_p >$	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)

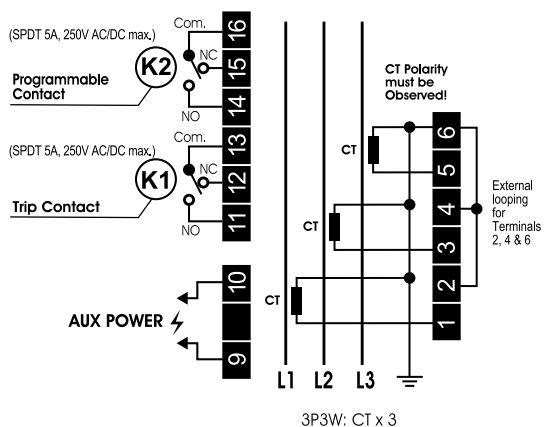
³Output on k2 dependent on the programmed options

casing dimension

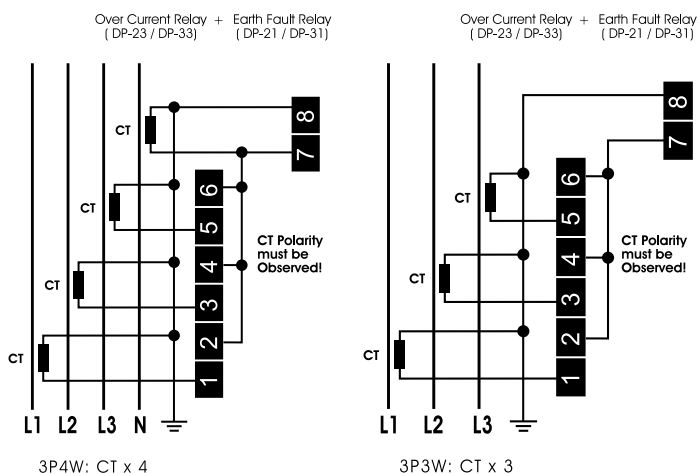


wiring diagram

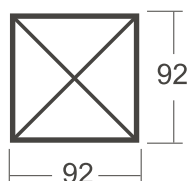
When used without Earth Fault Relay



CT connection when used with Earth Fault Relay



panel cut-out



Panel Cut-out : 92 x 92

ordering information

Model	Description
DP-23-220a-5A	(CT.../5A) 65 ~ 275 Vac (45~65 Hz), 90~300 Vdc
DP-23-220a-1A	(CT.../1A) 65 ~ 275 Vac (45~65 Hz), 90~300 Vdc
DP-23-024d-5A	(CT.../5A) 18~72 Vdc
DP-23-024d-1A	(CT.../1A) 18~72 Vdc

Note: All measurement in mm.