



True RMS Measurement with SPARC¹ and DCOI² Algorithm

Auto / Manual Scroll for Real Time Display of Phase Current

1 LTI Inverse + 1 Definite Time Delay

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)

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

ANSI Code: 50P, 51P

External Plug-in Module for :-

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

technical data

Current Input (In)	: ..5A or ..1A
Frequency	: Software selectable 50 or 60 Hz
Burden	: <0,3 VA @ In
Output Relay Rating	: SPDT 5A, 250V AC/DC
Display	: 7-Segment LED (3 + 1 digit)
Indication (LEDs)	: x10, 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	: 260 g

parameter setting

I>: lo-set	2% ~ 200% (step of 1%)
TM >: lo-set time Multiplier	0,05 ~ 1,00 (step of 0,01, 1 LTI + 1 DTL)
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>>: hi-set	OFF or 20%~2000%
	20%~1000% (step of 10%) 1000%~2000% (step of 100%)
t>>: hi-set trip delay time	0,03s~0,5s

aux power

DP-23-220a	: 65 ~ 275 Vac (45~65Hz), 90 ~ 300 Vdc
DP-23-024d	: 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

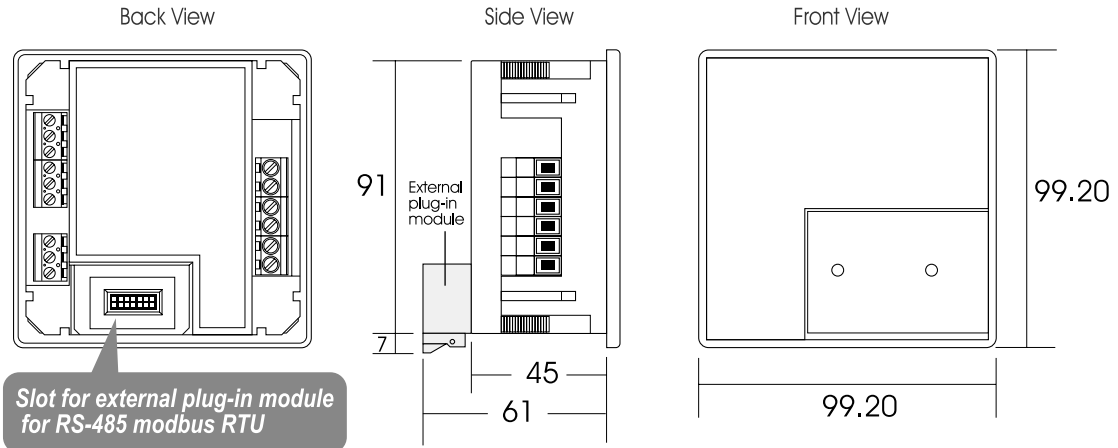
CbF (circuit breaker Failure - nLc only)
A50 (pre-fault 50% of I> - Lc or nLc)
A90 (pre-fault 90% of I> - Lc or nLc)
trP (tripping output - Lc or nLc)
LFS (lo fault start signal - Lc or nLc)
HFS (hi fault start signal - Lc or nLc)
AFS (all fault start signal - Lc or nLc)
dUF (device failure - Lc only)

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)

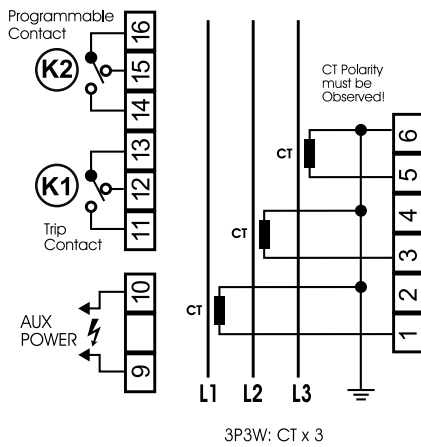
³Output on k2 dependent on the programmed options

casing dimension

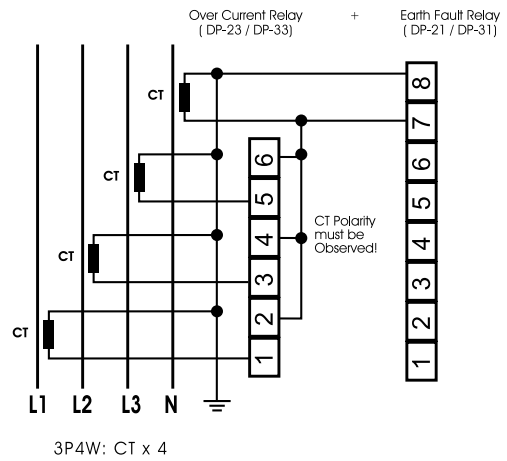


wiring diagram

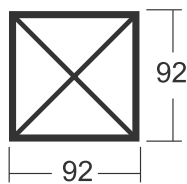
When used without Earth Fault Relay



CT connection when used with Earth Fault Relay



panel cut-out



Panel Cut-out : 92 x 92

ordering information

► Refer to page 26 for IDMT graphs

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) 16~36 Vdc
DP-23-024d-1A	(CT.../1A) 16~36 Vdc

Note: All measurement in mm.