IDMT Over Current Relay
DP-33

features

True RMS Measurement with SPARC[1] and DCOI[2] Algorithm

Auto / Manual Scroll for Real Time Display of Phase Current

6 Selectable IDMT Graphs + 1 DTL

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

Fault Start Event Recording & LED Indication + Output[3]

Pre-Alarm LED Indication + Output[3]

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 + 1digit)
Indication (LEDs)	:	x10, pre-alarm, fault, fault start event, Io / hi trip
Operating Temp.	:	$0^{\circ}C \sim +55^{\circ}C$
Humidity	:	56 days at 93%RH, $40^{\circ}C$ 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, 5 IDMT + 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-33-220a	:	65 ~ 275 Vac (45~65Hz), 90 ~ 300 Vdc
DP-33-024d	:	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)
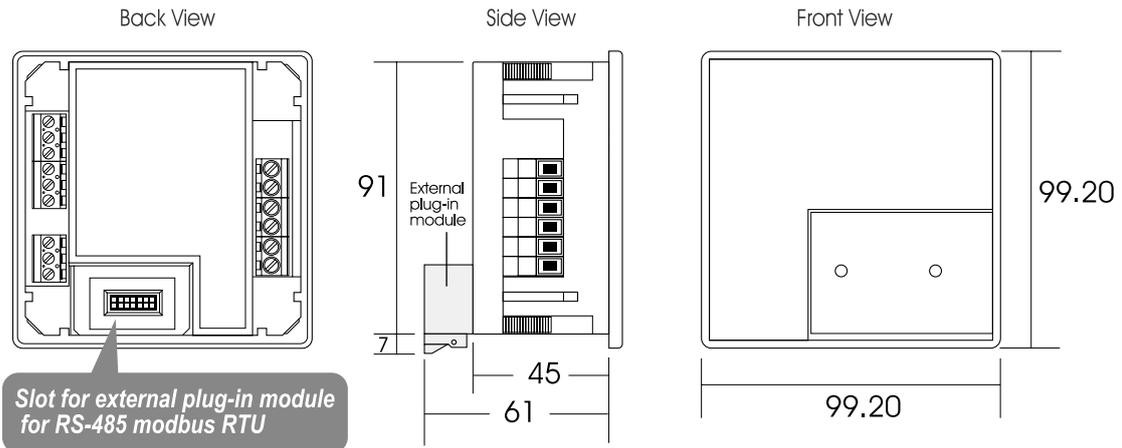dUF (device failure - Lc only)

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

[2]DCOI - dc offset independent algorithm:
  Cancels out dc signal caused by EMI and aging circuitry (Better Immunity against EMI)
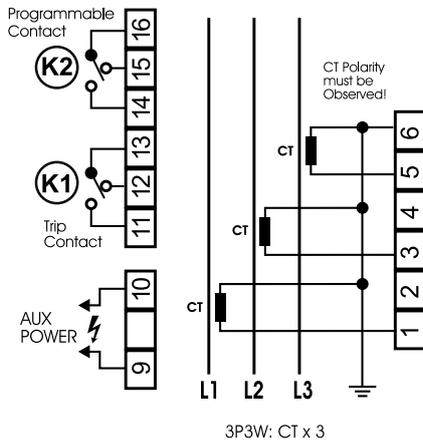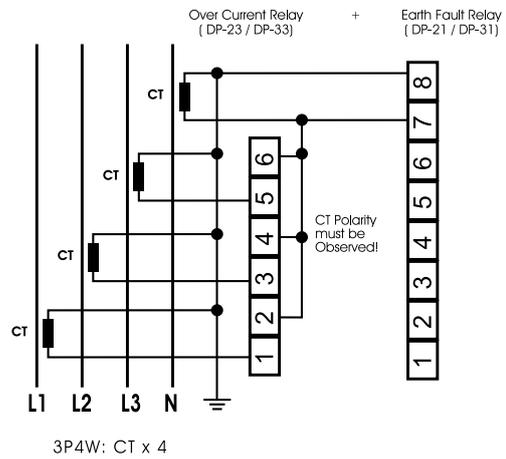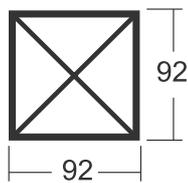
[3]Output on k2 dependent on the programmed options

Note: Specification subject to change without prior notification (please visit www.delab.com.my for latest specification)

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casing dimension

Back View

Side View

Front View

91

External plug-in module

7

45

61

99.20

99.20

Slot for external plug-in module for RS-485 modbus RTU

wiring diagram

When used without Earth Fault Relay

CT connection when used with Earth Fault Relay

Programmable Contact

K2 16 15 14

13

K1 12 11

Trip Contact

AUX POWER 10 9

CT Polarity must be Observed!

CT 6 5

CT 4 3

CT 2 1

L1 L2 L3

3P3W: CT x 3

Over Current Relay (DP-23 / DP-33) + Earth Fault Relay (DP-21 / DP-31)

CT 8 7

CT 6 5

CT Polarity must be Observed!

CT 6 5 4 3

CT 4 3 2 1

2 1

L1 L2 L3 N

3P4W: CT x 4

panel cut-out

92

92

Panel Cut-out : 92 x 92

ordering information

Model	Description
DP-33-220a-5A	(CT.../5A) 65 ~ 275 Vac (45~65 Hz), 90~300 Vdc
DP-33-220a-1A	(CT.../1A) 65 ~ 275 Vac (45~65 Hz), 90~300 Vdc
DP-33-024d-5A	(CT.../5A) 16~36 Vdc
DP-33-024d-1A	(CT.../1A) 16~36 Vdc

Note: All measurement in mm.

over current relay IDMT

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