

# DP-34

## features



### technical data

Aux Power	: 65~275 Vac (45~65 Hz); 90~300 Vdc (model 220a) : 18~72 Vdc (model 024d)
Fund. Frequency	: 50 or 60 Hz (software selectable)
Current Input (In)	: ..5A or ..1A (depending on model)
Burden	: < 0,3 VA @ In
Output Relay Rating	: SPDT 5A, 250V AC/DC
Consumption	: < 3 VA
Accuracy	: Current protection threshold ( $\pm 5\%$ ), Time delayed (+5% or 50ms)
Display	: 7-Segment LED (3 + 1 digit)
Indication (LEDs)	: phase, x10, pre-alarm, fault start event, fault, lo/hi-set trip
Operating Temp.	: 0°C ~ +55°C
Humidity	: 56 days at 93%RH, 40°C non-condensing
IP Rating	: IP54 (front panel)
Weight	: 275 g

### parameter setting

#### Phase Over Current

$I_p >$ (%) : lo-set trip	2% to 200% (step of 1%)
IDMT $I_p >$	6 IDMT + DTL
TMs $I_p >$ : Time multiplier for IDMT	0.05 ~ 1.00 (step of 0.01)
$t_p >$ (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)
$I_p >>$ (%) : hi-set trip	OFF or 20% ~ 2000%
$t_p >>$ (sec) : hi-set trip time delay	20% ~ 1000% (step of 10%) 1000% ~ 2000% (step of 100%) Instant or 0.02s ~ 0.50s (step of 0.01s)

#### Earth Fault

$I_e >$ (%) : lo-set trip	2% to 100% (step of 1%)
IDMT $I_e >$	6 IDMT + DTL
TMs $I_e >$ : Time multiplier for IDMT	0.05 ~ 1.00 (step of 0.01)
$t_e >$ (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)
$I_e >>$ (%) : hi-set trip	OFF or 20% ~ 1000% (step of 10%)
$t_e >>$ (sec) : hi-set trip time delay	Instant or 0.02s ~ 0.50s (step of 0.01s)

True RMS Measurement with SPARC<sup>1</sup> and DCOI<sup>2</sup> Algorithm  
Auto / Manual Scroll for Real Time Display of Phase Current and Earth Fault in %

6 Selectable IDMT Graphs + DTL

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

Fault Start Event Recording & LED Indication + Output<sup>3</sup>

Pre-Alarm LED Indication + Output<sup>3</sup>

Trip Event Memory

(non-volatile 7 previous records for 3 phases + earth)

Fault Start Event Memory

(non-volatile 4 previous records with phase info)

Selectable Frequency (50 / 60 Hz)

Programmable Relay Output Contacts for K2, K3\*, K4\*

Last Trip Elapsed Time (up to 99days)

Software Lock to Prevent Unauthorized Setting

Accessible only with A-03s (plug-in module) :

- Programmable Digital Input

- Dual Setting Parameters (activated by digital input function)

- Remote Reset Function (activated by digital input function)

Complies with :

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

ANSI Code: 50P, 50G, 51P, 51G

#### External Plug-in Module (items sold separately) :-

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

A-02s : RS-485 MODBUS RTU (isolated type)

+ 1 output contact (K3\*)

A-02sd : RS-485 MODBUS RTU (isolated type)

+ 1 digital output (optically isolated)

A-03s : RS-485 MODBUS RTU (isolated type)

+ 2 output contact (K3\* & K4\*)

+ 1 digital input (optically isolated)

### K1 output contact options

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

### K2/K3\*/K4\* output contact options

trP	: tripping output	Lc or nLc
LFS	: lo-set fault start signal - K2 & K3* only	Lc or nLc
AFS	: any fault start signal - K2 only	Lc or nLc
HFS	: hi-set fault start signal - K3* only	Lc or nLc
EFS	: earth fault start signal - K4* only	Lc or nLc
PFS	: phase over current start signal - K4* only	Lc or nLc
dUF	: device failure - K2 only	nLc only
CbF	: circuit breaker failure - K2 only	nLc only
ALr	: pre-alarm fault phase over current >90% of $I_p >$ earth fault >50% of $I_e >$	Lc or nLc
Eft	: earth fault trip	Lc or nLc
PhT	: phase over current trip	Lc or nLc
Lft	: lo-set fault trip - K3* & K4* only	Lc or nLc
Hft	: hi-set fault trip - K3* & K4* only	Lc or nLc

(Accessible only with A-02sd) digital output rating

Type : 24 VDC, max. 50mA (optically isolated)

(Accessible only with A-03s) digital input rating

Range : 60 ~ 130 Vdc (optically isolated)

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

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

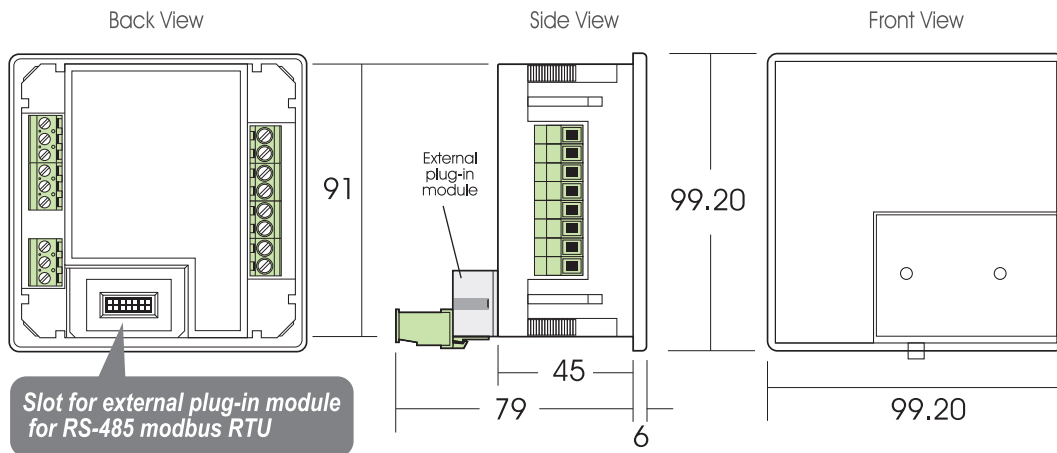
<sup>3</sup> Output on k2 dependent on the programmed options

K3\* digital output available only for model A-02sd

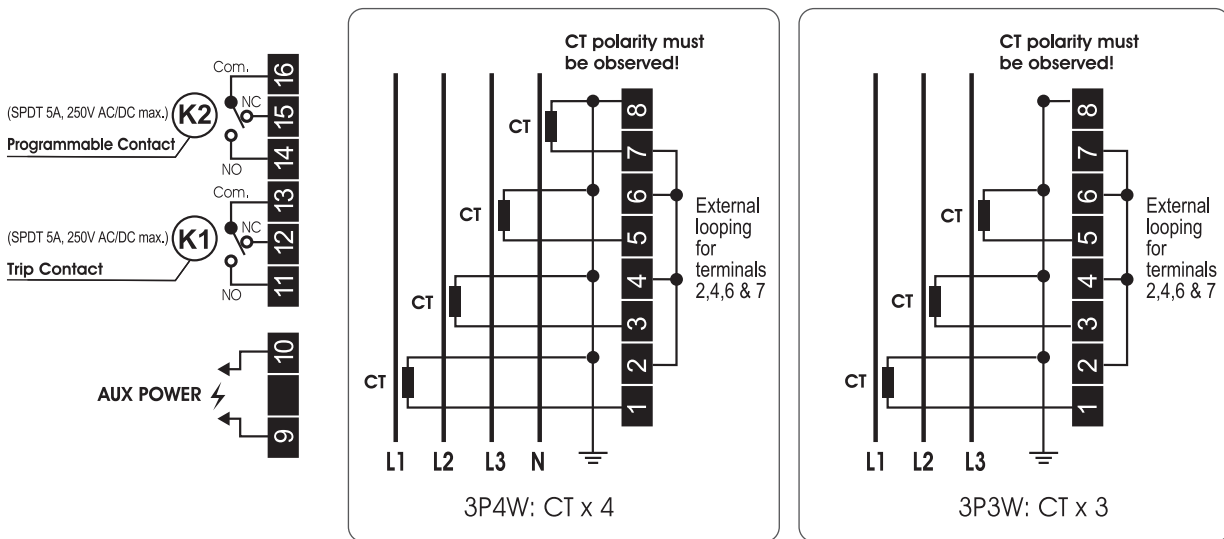
K3\* output contact available only for model A-02s or A-03s

K4\* output contact available only for model A-03s

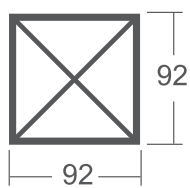
## casing dimension



## wiring diagram



## panel cut-out



## ordering information

Model	Description
DP-34-220c-5A	(CT.../5A) 65 ~ 275 Vac (45~65 Hz), 90~300 Vdc
DP-34-220c-1A	(CT.../1A) 65 ~ 275 Vac (45~65 Hz), 90~300 Vdc
DP-34-024d-5A	(CT.../5A) 18~72 Vdc
DP-34-024d-1A	(CT.../1A) 18~72 Vdc

Note: All measurement in mm.