

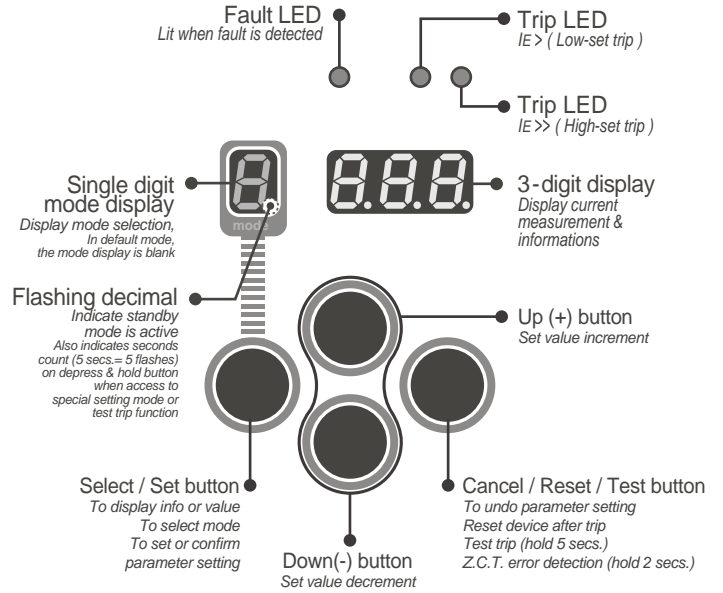


features

- True RMS measurement
- Low set & High set
- Operation hour recording
- Fault & Trip LED indication
- Trip value recording (3 memory)
- Selectable 6 IDMT graphs
- Programmable relay output
- Programmable software lock
- Selectable frequency (50 / 60 Hz)
- Flush mount

Panel Description

Overview / Button Functions



Technical Specification

Technical data / Setting range

TECHNICAL DATA	Measurement	True RMS Ampere
	Power supply	240 VAC (± 10%)
	Rated current	./5A
	Rated frequency	50 / 60 Hz (selectable)
	Relay operation level	$\geq 1.10 \times$ (IDMT), $\geq 1.0 \times$ (DTL)
	C.T. burden@5A	< 0.5 VA
	Tripping contact	SPDT 5A / 240 VAC
	Weight	~ 450 g
	Operating temp.	0° C ~ +55° C
	Standard	IEC : 61000-4-2/4-4/4-5/255-5:1

SETTING RANGE	Current Setting (I_E)	2% ~ 50%
	High-set ($I_E >>$)	OFF or 20% ~ 990%
	Time setting ($t >$)	0.05 ~ 20.0 sec. (DTL model)
	Time setting ($TM_{I_E} >$)	0.05 ~ 1.00 sec. (time multiplier)
	High-set time ($T_{I_E} >>$)	30 ms Fixed (DTL model)
		0.03 ~ 20.0 sec. (IDMT model)

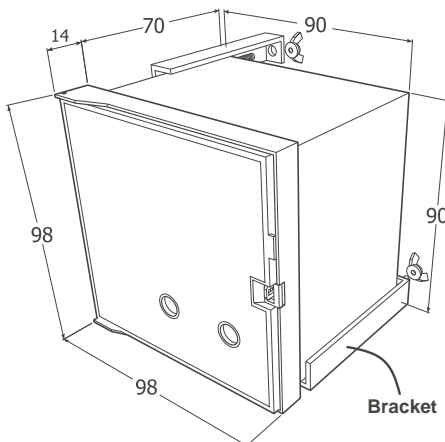
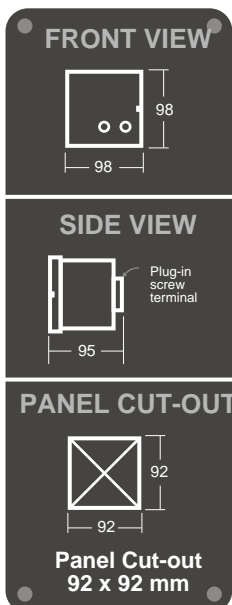
Parameter Modes

Modes definition

	mode	description
SETTING	1 $I_E >$	To set fault current (DTL and IDMT model)
	2 $t >$	Selectable IDMT curves (DTL model)
	3 Characteristic $I_E >$	Selectable IDMT curves (IDMT model)
	4 $I_E >>$	To set high set fault (DTL model)
	5 $TM_{I_E} >$ or $T_{I_E} >$	To set trip time (Time Multiplier) (IDMT model)
INFO	9 Operation hr.	Device operated in hours (x 1000 hr.)
	8 Trip mem.1	Most recent trip value
	6 Trip mem.2	Trip value before (Trip mem.1)
	7 Trip mem.3	Trip value before (Trip mem.2)
SPECIAL SETTING MODE	7 Software lock	Keypad lock : ON or OFF
	7 1 TripRelay K1 response type	Latching or Non-latching
	7 2 Output relay K2 function	Programmable relay output
	7 2 TripRelay K2 response type	Latching or Non-latching
	7 Network frequency	Selectable as : 50 Hz or 60 Hz
	8 Standby mode	Running LED bar : ON or OFF

Casing Dimension

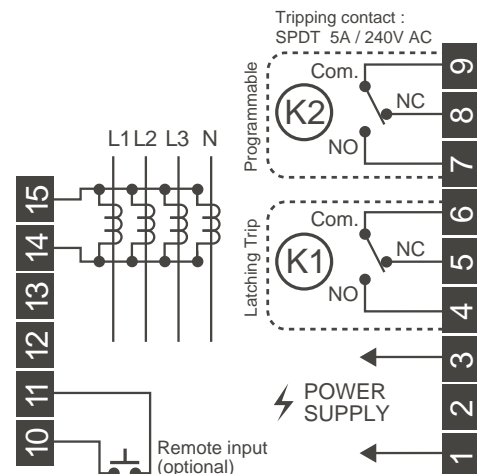
35 mm wide DIN Rail mount



All measurement in millimeters

Wiring Diagram

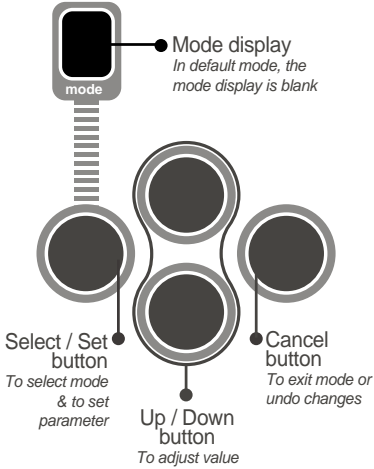
Wiring connection



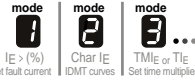
How to do setting

Step by step instruction

When mode display is blank, press [Select] button to access to parameter setting mode.



1 Press [Select] button while in default mode to access to parameter setting mode:



To scroll thru modes, just press & release the [Select] button

2 Press [Up] or [Down] button to adjust desire value

For fast increment or decrement, press and hold the UP or Down button

3 Press [Set] to store new value and proceed to the next mode.

Press [Cancel] button to exit mode or undo changes.

All modes exit automatically if left untouched for more than 20 secs.

Setting Parameters

Modes 1 2 3 4 5

1 IE > : To set fault current (%) DTL & IDMT

- Step 1 :** Press [Select] once to enter mode 1.
Display will show the existing set value. (Range : 2% ~ 50%)
- Step 2 :** Select the desired fault current using the [Up / (+)] or [Down / (-)] button.
Newly selected value will flash.
- Step 3 :** Press [Select] to store / confirm new value and advance to mode 2 or press [Cancel] to undo changes.

2 t > : To set fault current trip time (sec.) DTL

- Step 1 :** Press [Select] until mode 2 is displayed.
Display will show the existing set value. (Range : 0.03 ~ 10.0 sec.)
- Step 2 :** Select the desired IDMT curve using the [Up / (+)] or [Down / (-)] button.
Newly selected value will flash.
- Step 3 :** Press [Select] to store / confirm new value and advance to mode 3 or press [Cancel] to undo changes.

2 Char IE : To select IDMT curves IDMT

- Step 1 :** Press [Select] until mode 2 is displayed.
Display will show the existing set value. (refer to IDMT Graph)
- Step 2 :** Select the desired IDMT curve using the [Up / (+)] or [Down / (-)] button.
Newly selected value will flash.
- Step 3 :** Press [Select] to store / confirm new value and advance to mode 3 or press [Cancel] to undo changes.

3 IE >> : To set High-set fault current (%) DTL

- Step 1 :** Press [Select] until mode 3 is displayed.
Display will show the existing set value. (Range : OFF or 20 ~ 2000%)
- Step 2 :** Select the desired value using the [Up / (+)] or [Down / (-)] button.
Newly selected value will flash.
- Step 3 :** Press [Select] to store / confirm new value and advance to mode 4 or press [Cancel] to undo changes.

3 TME or TIE : To set Time-Multiplier IDMT

- Step 1 :** Press [Select] until mode 3 is displayed.
Display will show the existing set value. (Range : 0.05 ~ 1.0 time-multiplier)
- Step 2 :** Select the desired value using the [Up / (+)] or [Down / (-)] button.
Newly selected value will flash.
- Step 3 :** Press [Select] to store / confirm new value and advance to mode 4 or press [Cancel] to undo changes.

4 IE >>> : To set High-set fault current (%) IDMT

- Step 1 :** Press [Select] until mode 4 is displayed.
Display will show the existing set value. (Range : OFF or 20 ~ 990%)
- Step 2 :** Select the desired value using the [Up / (+)] or [Down / (-)] button. Newly selected value will flash.
- Step 3 :** Press [Select] to store / confirm new value and advance to mode 5 or press [Cancel] to undo changes.

5 TIE >>> : To set High-set trip time (sec.) IDMT

- Step 1 :** Press [Select] until mode 5 is displayed.
Display show : --- (Disabled -> Mode 4 is set to OFF)
- When mode 4 is not set to OFF :-
Display will show the existing set value (Range : 0.03 ~ 20.0 sec.)
- Step 2 :** Select the desired value using the [Up / (+)] or [Down / (-)] button.
Newly selected value will flash.
- Step 3 :** Press [Select] to store / confirm new value and advance to mode 5 or press [Cancel] to undo changes.

Viewing Info

Modes 9 / 0 0 0 0

9 View operation hour x 1000 e.g. 0.05 x 1000 = 50 hours

This mode is not adjustable. For user to view the no. of hour the device in operation. Press [Select] until mode 9 is displayed.
Display will show the total number of hour device operated. To exit, press [Cancel].

ABC View trip memory : 3 tripping memories

This mode is not adjustable. For user to view tripped value only.

Press [Select] until mode A is displayed.

The display will show the most recent tripped value.

Press [Select] again to go to mode B, the display will show the tripped value before A.

Press [Select] again to go to mode C, the display will show the tripped value before B.

To exit, press [Cancel].

Special Setting Modes

Modes 0 0 0 0 0 0 0 0

User can lock the keypad on the device to avoid unauthorized or accidental adjustment to the settings and to do special settings.

When NO mode is selected (mode display is blank),

- Press [Select] and [Cancel] button simultaneously and hold for 5 seconds.
- Press [Up / (+)] or [Down / (-)] button to select or modify
- Press [Set] button to confirm and proceed to next mode

Software keypad lock

OFF : Parameters modification : Allowed
On : Parameters modification : Not Allowed

Trip relay K1 response type

Lc : Latching trip signal
nLc : Non-Latching trip signal

Output relay K2 function

ALr : Alarm output (Lc/nLc)
OFF : Device failure output
ELs : Earth leakage start signal output(nLc)
ErP : Tripping output (Lc/nLc)

K2 response type

Lc : Latching trip signal
nLc : Non-Latching trip signal
nA : Not Available

Electrical network system frequency

Electrical network frequency setting:
50 = 50 Hz 60 = 60 Hz

Standby option

OFF : De-activate On : Activate

A flashing decimal on the mode display indicate standby mode is enable. After about 3 minutes of idle and no leakage is detected, running LED bar will be displayed instead of the real time leakage current. Standby mode automatically exits on leakage detection or when any button is depressed. When device trips, standby mode is temporary de-activated until device is reset.

Alternatively, simply press [Cancel] button when powering up the device to activate or de-activate standby function.

After Standby mode, the display will show : End->Set. Press [Set] to confirm all of the above settings or press [Cancel] to go back one previous mode. Press & hold [Cancel] for 3 seconds to exit and abort the modification without saving (previous setting unchanged). New setting only takes effect when [Set] button is pressed during End->Set is displayed.

Manual ' test trip '

Test device for fault in tripping

Manual test trip allows the user to test the device for any fault in tripping. To do a manual test trip, follow the instruction below:

When NO mode is selected (mode display is blank),

- Press & hold [Test] button for 5 seconds.
The mode display decimal will flash 5 times to indicate 5 seconds count.
- Release the button when the display show : E-t
- Mode starts to count down from 5 and trips at zero. The display will show : ErP

To abort test when mode has not counted down to zero, press the [Cancel] button.

Reset Trip Memory

Reset recorded trip memories or total trip count

Press [Select] button until mode [A] is displayed.

If the display show --- (NO tripping has occurred), no resetting is required.

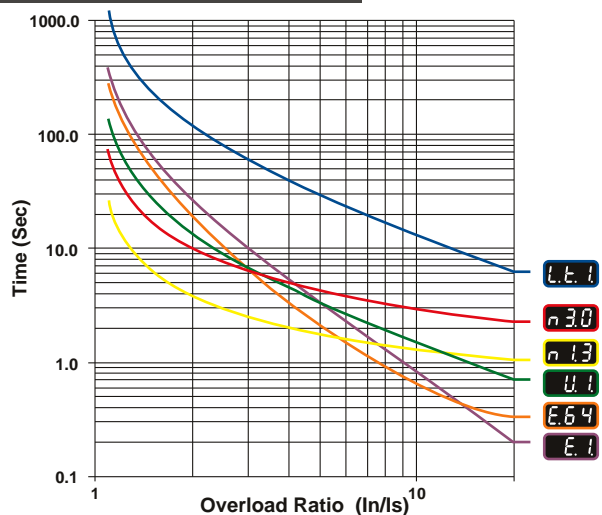
If the display show a certain value (tripping has occurred), then follow the steps below:-

Press [Cancel] button and hold for 3 seconds in current mode -> mode A
(The mode display decimal will flash 3 times to indicate 3 seconds count)

The display will reset to show Lc. To exit, press the [Cancel] button.

IDMT Graph

Time graph based on Time Multiplier 1.0



Characteristics (IE)

E.1 Extremely Inverse
n.3.0 Normal Inverse 3.0 /10
E.6.4 Extremely Inverse (0.64 sec)
n.1.3 Normal Inverse 1.3 /10
L.t.1 Long Time Inverse
U.1 Very Inverse
d.t.t. Definite Time