



FEATURES

- Under current, Over current protection
- True RMS value measurement
- User selectable Power ON delay, Trip time delay and Recovery time delay
- Adjustable hysteresis
- Two alarm relays with NC or NO operation selectable

SPECIFICATIONS

DISPLAY

3 Digits, LCD with backlight

ELECTRICAL CONNECTION

1Ø – 2 wire

AUXILIARY SUPPLY

85 – 270V AC/DC

50 / 60Hz

POWER CONSUMPTION

4VA max

CT PRIMARY SETTING

1A / 5A–999A

CT SECONDARY SETTING

1A or 5A (Selectable)

TRIP SETTINGS

Under Current : 0 – 999A

(0-100% of CT Primary Setting)

Over Current : 0.5A – 1.19kA

(10-120% of CT Primary Setting)

TIME SETTINGS

Response Time : < 200ms

Trip time delay : 0 – 99.9sec.

Power ON Delay : 0.5 – 99.9sec.

Recovery Time : 0 – 99.9sec

MAXIMUM CURRENT INPUT

120% of CT Primary setting

HYSTERESIS

0.1 - 99.9A

RESOLUTION

0.01, 0.1, 1A, 0.01kA (Depends on CT setting)

ACCURACY

Current : $\pm 1\%$ of Setting, ± 2 digits

Time (Trip Time, Recovery Time,

Power ON Delay) : $\pm 5\%$ of setting ± 200 ms

OUTPUT SPECIFICATIONS

2 Relays : Relay1 : 1C/O (SPDT)

Relay2 : 1C/O (SPDT)

RELAY RATING

NO (5A, 250V AC)

NC (3A, 250V AC)

LED INDICATION

LED1(Red) : Relay1(Continuously ON after trip)

LED2(Red) : Relay2(Continuously ON after trip)

ENVIRONMENTAL SPECIFICATIONS

- Indoor use

- Altitude of up to 2000 meters

- Pollution degree II

Temperature : Operating : 0°C to 50°C

Storage : -20°C to 70°C

Humidity : Up to 95% RH, non-condensing

MECHANICAL SPECIFICATIONS

No. of Push Buttons : 3

Size : 35mm width

Mounting : 35mm Din Rail Mount

Wire Size (max) : 4 sq.mm

Screw tightening torque : 0.5 N-M

WEIGHT

150 gms.

SAFETY PRECAUTIONS

All safety related codifications, symbols and instructions that appear in this operating manual or on the equipment must be strictly followed to ensure the safety of the operating personnel as well as the instrument.

If the equipment is not used in a manner specified by the manufacturer it might impair the protection provided by the equipment.

If there is physical damage to the unit then do not use it.

Read complete instructions prior to installation and operation of the unit.

WIRING GUIDELINES

WARNING

1. To prevent the risk of electric shock power supply to the equipment must be kept OFF while doing the wiring arrangement.

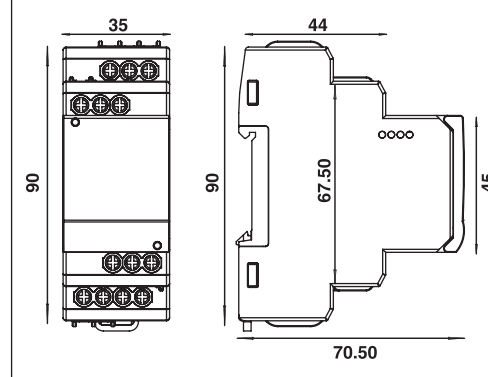
2. Wiring shall be done strictly according to the terminal layout with shortest connections. Confirm that all connections are correct.

CAUTION

1. To ensure the safe operation of unit, check the wiring and connections.

2. It is recommended to test the unit periodically to satisfy the regulations.

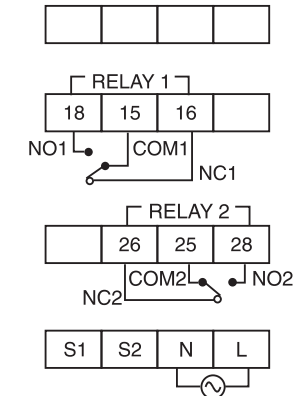
DIMENSIONS (All dimensions in mm)



LED INDICATION CHART

Various Conditions	'R1' LED	'R2' LED
No fault	OFF	OFF
Trip (Relay 1)	ON	OFF
Trip (Relay 2)	OFF	ON
Trip (If programmed for both relays)	ON	ON

TERMINAL CONNECTIONS



CONFIGURATION MENU

Press ▲ + ▼ for 3sec. to enter or exit configuration menu.

MAIN MENU

CT setting
[Ct]

Relay 1
[RL1]

Time Setting for Relay 1
[TM1]

Relay 2
[RL2]

Time Setting for Relay 2
[TM2]

Hysteresis
[HYS]

Password
[PW]

Factory set
[RST]

SUB MENU

CT Secondary setting
[CLS]

CT Primary Setting
[CLP]

Over current
[OC]

Over current setting
[SOC]

Under current
[UC]

Under current setting
[SUC]

Relay operation mode
[MOD]

Latch
[LCH]

Over current
[RLY]

Over current setting
[RYOC]

Under current
[RYUC]

Under current setting
[RYSUC]

Relay operation mode
[RYMOD]

Latch
[RYLCH]

Trip time delay
[TRP]

Recovery time delay
[REC]

Power ON delay
[PON]

Current
[CUR]

Password Enable / Disable
[PWE]

Set password
[SPW]

Factory set Yes / No
[RST]

TO SCROLL THROUGH MAIN MENU PRESS ● + ▲ OR ● + ▼ KEYS

Note : Appearance of shaded menus dependant on selection of other parameters

CT setting (CT)		Press ▲ to enter sub menu from main menu		
Press ▲ or ▼ to scroll through sub menu		Press ● + ▲ or ● + ▼ to change parameter value		
DISPLAY (For 1sec)	DESCRIPTION	DEFAULT VALUE	RANGE	CONDITION
[CLS]	CT Secondary setting	5 ^A	1A / 5A	
[CLP]	CT Primary setting	100 ^A	5 - 999A (If CT.S is 5A) 1 - 999A (If CT.S is 1A)	

Relay 1 (RL1)		Press ▲ to enter sub menu from main menu		
Press ▲ or ▼ to scroll through sub menu		Press ● + ▲ or ● + ▼ to change parameter value		
DISPLAY (For 1sec)	DESCRIPTION	DEFAULT VALUE	RANGE	CONDITION
[OC]	Over current	ON ^A _{R1}	ON / OFF	
[SOC]	Over current setting	110 ^A _{R1}	0.5A - 1.19kA 10-120% of CT Primary setting	This option will be prompted only when OC option is made ON in config. menu. OC setting cannot go below the UC setting. e.g. If UC is 50A, OC setting cannot go below 50A
[UC]	Under current	OFF ^A _{R1}	ON / OFF	
[SUC]	Under current setting	500 ^A _{R1}	0 - 999A 0 - 100% of CT Primary setting	This option will be prompted only when UC option is made ON in config. menu. UC setting cannot go above the OC setting. e.g. If OC is 100A, UC setting will be limited till 100A only.
[MOD]	Relay operation mode	OFF _{R1}	ON / OFF	ON : NO (During Trip) OFF : NC (During Trip)
[LCH]	Latch	OFF _{R1}	ON / OFF	If Latch is ON, user has to reset the unit manually when fault is removed

Time Setting for Relay 1 (TM1)		Press ▲ to enter sub menu from main menu		
Press ▲ or ▼ to scroll through sub menu		Press ● + ▲ or ● + ▼ to change parameter value		
DISPLAY (For 1sec)	DESCRIPTION	DEFAULT VALUE	RANGE	CONDITION
[TRP]	Trip time delay	30 ^s _{R1 t}	0.0 - 99.9s	
[REC]	Recovery time delay	0.5 ^s _{R1 t off}	0.0 - 99.9s	
[PON]	Power ON delay	5.0 ^s _{ton}	0.5 - 99.9s	

Relay 2 (RL2) Press ▲ to enter sub menu from main menu				
Press ▲ or ▼ to scroll through sub menu		Press ● + ▲ or ● + ▼ to change parameter value		
DISPLAY (For 1sec)	DESCRIPTION	DEFAULT VALUE	RANGE	CONDITION
RLY	Relay	RL1	RL1 / RL2	If RL1 is selected, all the settings done for RL1 & TM1 will be automatically set for RL2 and no other parameter of RL2 & TM2 will be prompted.
OC	Over current	ON	ON / OFF	
SOC	Over current setting	110	0.5A - 1.19kA 10-120% of CT Primary setting	This option will be prompted only when OC option is made ON in config. menu. OC setting cannot go below the UC setting. e.g. If UC is 50A, OC setting cannot go below 50A
UC	Under current	OFF	ON / OFF	
SUC	Under current setting	500	0 – 999A 0 – 100% of CT Primary setting	This option will be prompted only when UC option is made ON in config. menu. UC setting cannot go above the OC setting. e.g. If OC is 100A, UC setting will be limited till 100A only.
MOD	Relay operation mode	OFF	ON / OFF	ON : NO (During Trip) OFF : NC (During Trip)
LCH	Latch	OFF	ON / OFF	If Latch is ON, user has to reset the unit manually when fault is removed

Time Setting for Relay 2 (TM2) Press ▲ to enter sub menu from main menu				
Press ▲ or ▼ to scroll through sub menu		Press ● + ▲ or ● + ▼ to change parameter value		
DISPLAY (For 1sec)	DESCRIPTION	DEFAULT VALUE	RANGE	CONDITION
TRP	Trip time delay	30	0.0 - 99.9s	
REC	Recovery time delay	0.5	0.0 - 99.9s	

Hysteresis (HYS) Press ▲ to enter sub menu from main menu				
Press ▲ or ▼ to scroll through sub menu		Press ● + ▲ or ● + ▼ to change parameter value		
DISPLAY (For 1sec)	DESCRIPTION	DEFAULT VALUE	RANGE	CONDITION
CUR	Hysteresis for current	0.5	0.1 - 99.9A	

Password (PW) Press ▲ to enter sub menu from main menu				
Press ▲ or ▼ to scroll through sub menu		Press ● + ▲ or ● + ▼ to change parameter value		
DISPLAY (For 1sec)	DESCRIPTION	DEFAULT VALUE	RANGE	CONDITION
PW	Password	d15	ENB / DIS	Enable / Disable password protection option
S.PW	Set password	0	0-999	Will be prompted only when Password option is enabled
NOTE : PW option will be asked when the user enter the config. menu if PW option is enabled in the config menu and the user has to enter the password which he has set in the S.PW (set password) option.				

Factory set (RST) Press ▲ to enter sub menu from main menu				
Press ▲ or ▼ to scroll through sub menu		Press ● + ▲ or ● + ▼ to change parameter value		
DISPLAY (For 1sec)	DESCRIPTION	DEFAULT VALUE	RANGE	CONDITION
RST	Reset (Factory set)	NO	YES / NO	

TRIP VALUE SETTING (Online) Press ▲ key for 3 sec. to enter or exit Trip Value Setting menu :

Press ▲ or ▼ to scroll through main menu		Press ● + ▲ or ● + ▼ to change parameter value		
DISPLAY (For 1sec)	DESCRIPTION	DEFAULT VALUE	RANGE	CONDITION
LCK	LOCK	YES	YES / NO	This option will be prompted first when the user enters the trip setting menu. User has to set NO after which he can access the trip setting menu.
SOC	Over current setting (RLY 1)	110 ^A _{R1}	0.5A - 1.19kA 10-120% of CT Primary setting	This option will be prompted only when OC option is made ON in config. menu. OC setting cannot go below the UC setting. e.g. If UC is 50A, OC setting cannot go below 50A.
SOC	Over current setting (RLY 2)	110 ^A _{R2}	0.5A - 1.19kA 10-120% of CT Primary setting	This option will be prompted only when OC option is made ON in config. menu. OC setting cannot go below the UC setting. e.g. If UC is 50A, OC setting cannot go below 50A.
SUC	Under current setting (RLY 1)	500 ^A _{R1}	0 – 999A 0-100% of CT Primary setting	This option will be prompted only when UC option is made ON in config. menu. UC setting cannot go above the OC setting. e.g. If OC is 100A, UC setting will be limited till 100A only.
SUC	Under current setting (RLY 2)	500 ^A _{R2}	0 – 999A 0-100% of CT Primary setting	This option will be prompted only when UC option is made ON in config. menu. UC setting cannot go above the OC setting. e.g. If OC is 100A, UC setting will be limited till 100A only.
TRP	Trip time delay (RLY 1)	30 ^s _{R1 t}	0.0 - 99.9s	
TRP	Trip time delay (RLY 2)	30 ^s _{R2 t}	0.0 - 99.9s	
LCK	LOCK	NO	YES / NO, (In this option if YES is selected by the user, then whenever the user enters the Trip Value Setting, initially LOCK option will be prompted. The user will have to set NO after which he can access the trip setting menu. If the user wants to disable LOCK option, he can set NO when LOCK option is prompted after TRP option.)	

ONLINE KEYS Individual parameters can be viewed with every press of ▼ keys.

PARAMETER	SYMBOL
Current	L1 A

TRIP INDICATION Trip Indication on press of ▲ key : Trip value will be displayed till the key is pressed.

RESET Press ● key for 3sec. to reset manually (Applicable only if Latch is ON)

Master Password : 753

(Specifications subject to change as development is a continuous process.)

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