



FEATURES

- Leakage current monitoring in 1Ø and 3Ø systems
- RMS value measurement (AC)
- CBCT detection
- User selectable power ON delay, response delay and delay on release
- Adjustable hysteresis
- Two separate alarm relays with NO or NC operation

SPECIFICATIONS

DISPLAY

3 Digits, Liquid Crystal Display with backlight
1Ø-2 wire, 3Ø-4 wire

AUXILIARY SUPPLY

110V AC / 230V AC (Factory set)

FREQUENCY RANGE

45 - 65Hz

VA RATING

3VA max

TRIP SETTINGS

Leakage Current : 10mA - 30A

INSTANTANEOUS TRIP FOR CURRENT

OFF / 2 / 3 / 4 / 5 times of set current

TIME SETTINGS

Power ON Delay : 0.5 - 99.9sec

Response Delay (Trip time delay) : 0 - 99.9sec

Delay ON Release : 0 - 99.9sec

Response Time : < 50ms

Recovery Time : ≤ 300ms

(On removal of fault)

HYSTERESIS

0.5mA – 9.9A (Depends on trip setting)

RESOLUTION

0.1, 1mA, 0.01A, 0.1A

(Depends on trip setting)

CBCT DETECTION

Every 3sec. when leakage current < 5mA

ACCURACY

±5% of Setting

OUTPUT SPECIFICATIONS

No. of 2 Relays : Relay 1 : 1C/O (SPDT)

Relay 2 : 1C/O (SPDT)

RELAY RATING

NO (5A, 250V AC)

NC (3A, 250V AC)

LED INDICATION

LED1 (Green) : Power ON

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

LED3 (Red) : Pre - Alarm

(Continuously ON during pre alarm condition)

NOTE - LED1 and LED2 blink during CBCT error

ENVIRONMENTAL SPECIFICATIONS

- Indoor use

- Altitude of up to 2000 meters

- Pollution degree II

Temperature : Operating : 0 to 55°C

Storage : -20 to 75°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

190 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

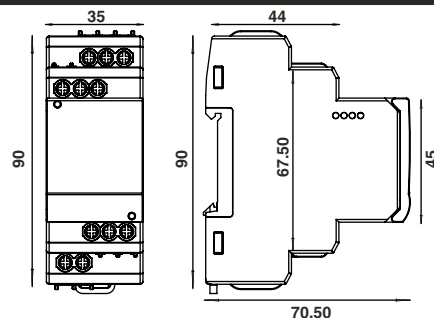
WARNING

- To prevent the risk of electric shock power supply to the equipment must be kept OFF while doing the wiring arrangement.
- Wiring shall be done strictly according to the terminal layout with shortest connections. Confirm that all connections are correct.

CAUTION

- To ensure the safe operation of unit, check the wiring and connections.
- It is recommended to test the unit periodically to satisfy the regulations.

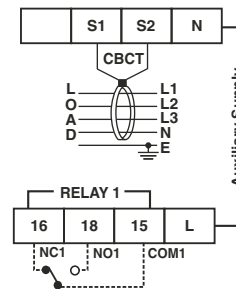
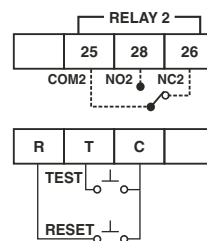
DIMENSIONS (All dimensions in mm)



LED INDICATION CHART

Various Conditions	Power ON	'R1' LED	'R2' LED
No fault	ON	OFF	OFF
Trip (if Programed for Relay 1)	ON	ON	OFF
Pre-Alarm	ON	OFF	ON
Trip (if Programed for both relays)	ON	ON	ON
CBCT error	BLINKING	BLINKING	BLINKING

TERMINAL CONNECTIONS



NOTE FOR CONNECTION

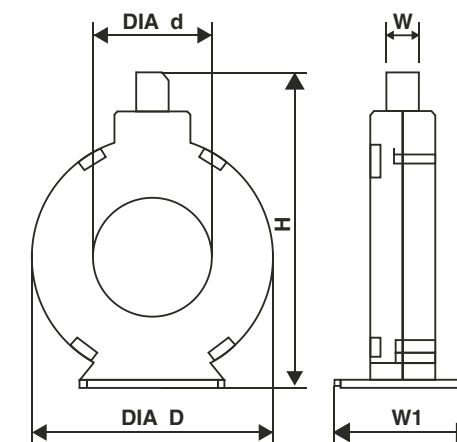
For single phase applications, only the live and neutral needs to be passed through the CBCT. The Earth **MUST NOT** pass through the CBCT.

The distance between relay and CBCT should be kept as short as possible

Use screen, shielded cable or twisted pair cable between the unit and CBCT for long distance (Greater than 1m).

ACCESSORY

CORE BALANCED CURRENT TRANSFORMER

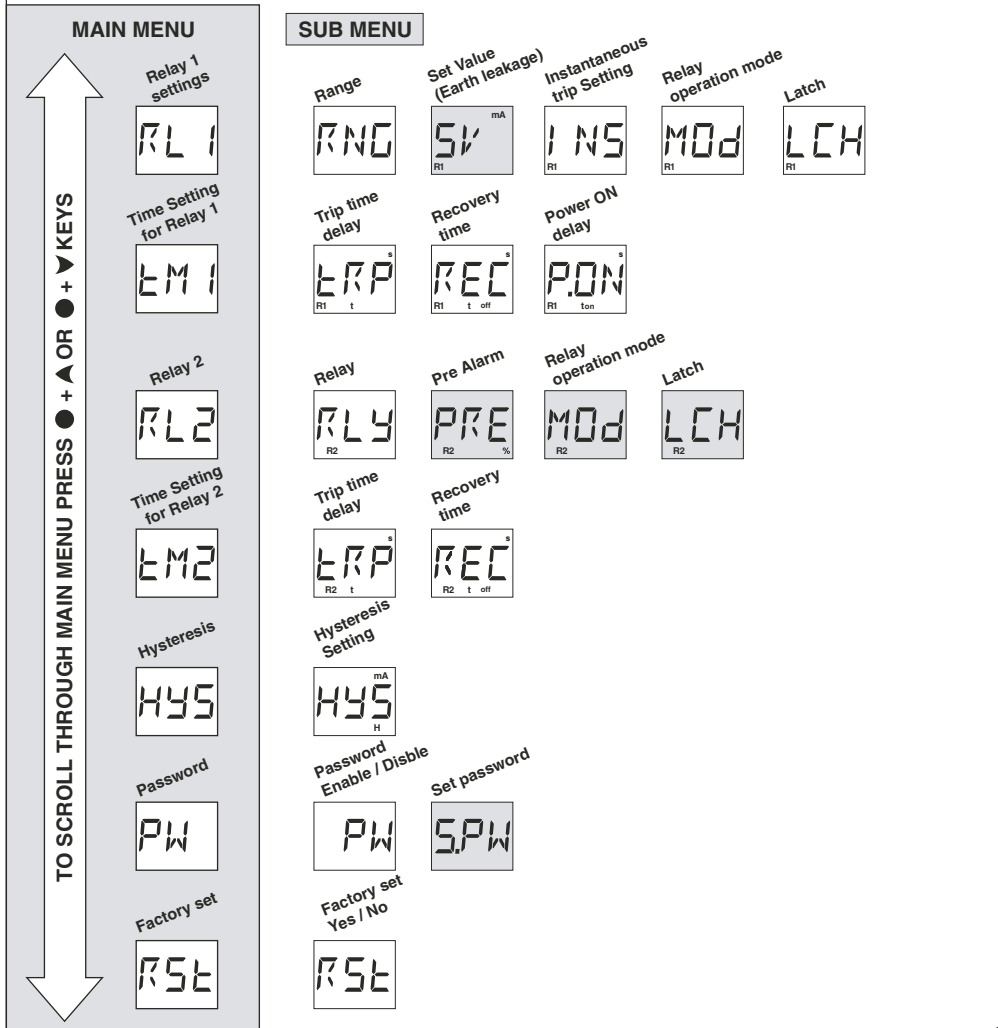


CBCT TYPE	Dimensions (mm)				
	D	d	H	W	W1
35	64	45	96	13	52.5
70	98	82	131	13	87
120	149	125	184	13	122
STD. TOL.	2 - 3	5 - 6	-	1.5 - 2	-

CT TYPE ZPC (Zero Phase Current)

CONFIGURATION MENU

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



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

SUB MENU

Relay 1 (RL1) settings		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
RNG	Range	999 ^{mA}	33.0mA / 550mA / 5.50A / 30.0A	Depending upon this selection, the range for earth leakage setting will be prompted
SV ^{mA}	Set trip value for earth leakage	100 ^{mA}	33.0mA: 10.0 - 33.0mA(Default : 30.0mA) 550mA : 100mA - 550mA(Default : 100mA) 5.50A : 1.00A - 5.50A(Default : 1.00A) 30.0A : 10.0 - 30.0A (Default : 10.0A)	Set trip value setting depends upon range selection
INS ^{R1}	instantaneous trip	5	OFF / 2 / 3 / 4 / 5 times of set current	
MOD ^{R1}	Relay operation mode	ON	ON / OFF (In ON mode, contact will be in changed over state in normal condition)	ON : NC OFF : NO
LCH ^{R1}	Latch	OFF	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 ^{R1 t}	Trip time delay	30	0.0 - 99.9s	
REC ^{R1 t off}	Recovery time	05	0.0 - 99.9s	
PON ^{R1 ton}	Power ON delay	50	0.5 - 99.9s	Applicable for Relay 1 & Relay 2

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 ^{R2}	Relay	PRE ^{R2}	RL1 / PRE	If RL1 is selected, all the settings done for RL1 will be automatically set for RL2 and no other parameter of RL2 will be prompted.

DISPLAY (For 1sec)	DESCRIPTION	DEFAULT VALUE	RANGE	CONDITION
	Pre Alarm		50 to 100%	
	Relay operation mode		ON / OFF	ON : NC OFF : NO
	Latch		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
	Trip time delay		0.0 - 99.9s	
	Recovery time		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
	Hysteresis		33.0mA : 0.5 to 9.9mA (Default : 1.0mA) 550mA : 1 to 99mA (Default : 10mA) 5.50A : 0.01 to 0.99A (Default : 0.1A) 30.0A : 0.1 to 9.9A (Default : 1A)	

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
	Password		ENB / DIS	Enable / Disable password protection option
	Set password		000-999	Will be prompted only when Password option is enabled

PW **Main Menu Password**
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
	Reset (Factory set)		YES / NO	



TRIP VALUE SETTING 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
	LOCK		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.
	Set trip value for Earth Leakage.		33.0mA: 10.0 - 33.0mA (Default: 30.0mA) 550mA: 100mA - 550mA (Default: 100mA) 5.50A: 1.00A - 5.50A (Default: 1.00A) 30.0A: 10.0 - 30.0A (Default: 10.0A)	The SV settings will be seamless and will not be limited to range selection. SV made to default whenever range is modified
	Pre Alarm		50 to 100%	This option will be prompted only when PRE is selected for Relay2 in the config. menu.
	Trip time delay for Earth leakage		0.0 - 99.9sec.	
	Trip time delay for Pre Alarm.		0.0 - 99.9sec.	This option will not be prompted if RL1 is selected for RL2 in config. menu.
	LOCK		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 TR2 option.)	

TEST & RESET FUNCTION

● LED ON ○ LED OFF

KEY	DESCRIPTION	DISPLAY (For 1sec.)	LED's	CONDITION
For TEST	Press TST key for >2sec.		● R1 ● R2	Blinking at the rate : 1time per sec. After the test is over, it will display the current page (Online page) but all the LED's will remain ON
Test passed		Actual Value	● R1 ● R2	Display will display the actual current till reset button is pressed. If CBCT error is there, display will show C.T.E and all LED's will be blinking.
Test Failed			○ R1 ○ R2	Press RST button for >2sec to reset.
RST	Press RST key for >2sec.	Actual Value	○ R1 ○ R2	If current is in mA then "mA" will be indicated.

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

Master Password : 753

(Specifications are subject to change, since development is a continuous process)

Selec Controls Pvt. Ltd.

Tel. No. : +91-22-40394200 / 40394202

Fax No. : +91-22-28471733 | Toll free : 1800 227 353

Website: www.selec.com | Email : sales@selec.com