

FEATURES

- Leakage current monitoring in 1Ø and 3Ø systems
- RMS value measurement (AC)
- CBCT detection
- User selectable Power ON Delay, Trip Delay and Recovery Delay
- · Adjustable hysteresis
- Two separate relays with NO or NC operation selectable
- Test and Reset via Front / Remote

SPECIFICATIONS

DISPLAY

3 Digits, Liquid Crystal Display with backlight **DISPLAY CURRENT RANGE: 15mA-33A**

NETWORK CONNECTION

1Ø-2 wire, 3Ø-3 wire, 3Ø-4 wire

AUXILIARY SUPPLY

230V AC (±15%)

FREQUENCY RANGE

50 - 60Hz **VA RATING**

3VA max

TRIP SETTINGS

Leakage Current Range: 30mA - 30A

INSTANTANEOUS TRIP FOR CURRENT

ON / OFF (5 times of set current)

TIME SETTINGS

Power ON Delay: 0.5 - 99.9sec

Trip Time: 0-99.9sec (NA for 33mA RNG)

Recovery Time: 0-99.9sec

Response Time:

< 30ms (if trip current 5 x set value &

Instantaneous trip is ON)

< 50ms (if trip current = 1 x set value)

HYSTERESIS

5 to 40%

For eq., If set HYS is 10% & SV is 100mA Unit will allow untrip at 90mA

RESOLUTION

0.1mA, 1mA, 0.01A, 0.1A (Depends on trip Setting)

CBCT DETECTION

Yes, when CBCT absent or short

ACCURACY

Current: ±5% of Setting

Time Parameters: ±5% of setting ± 100ms

OUTPUT SPECIFICATIONS

No. of Relay Contacts: Relay1: 1C/O (SPDT) Relav2: 1C/O (SPDT)

RELAY RATING

5A@250V AC(NO) 3A@250V AC(NC)

LED INDICATION

LED1 (Red): Relay 1 LED2 (Red): Relay 2

ENVIRONMENTAL SPECIFICATIONS

- Indoor use
- Altitude of up to 2000 meters
- Pollution degree II
- Impulse withstand voltage(Uimp): 4kV

Degree of protection: IP20: Terminals IP30: Housing

IP50: Faceplate

Temperature: Operating: 0°C to +50°C Storage : -20°C to +70°C

: Up to 95% RH, non-condensing Humidity

MECHANICAL SPECIFICATIONS

No. of Push Buttons: 3 Size: 35mm width

Mounting: 35mm Din Rail Mount Wire Size (max): 4sq.mm Screw tightening torque: 0.5N.m

WEIGHT

217ams

CE CERTIFICATION: IEC60947-2

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.

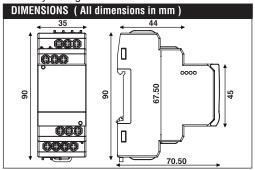
WIRING GUIDELINES

WARNING

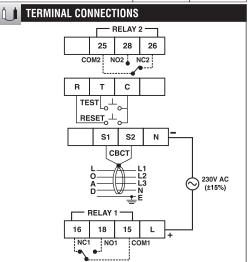
- 1. To prevent the risk of electric shock power supply to the equipment must be kept OFF while doing the wiring arrangement.
- 2. Wiring shall be done strictly according to the terminal layout with shortest connections. Confirm that all connections are correct.

A 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.



LED INDICATION CHART						
Conditions	'R1' LED	'R2' LED				
No fault	OFF	OFF				
Trip (if RLY2 Programmed for RLY1)	ON	ON				
Pre-Alarm (if RLY2 Programmed for PRE)	OFF	ON				
CBCT error	BLINKING	BLINKING				



NOTE FOR CONNECTION

For single phase applications, only the live and neutral needs to be passed through the CBCT.

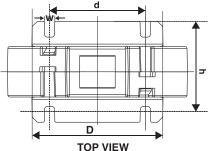
The Earth MUST NOT pass through the CBCT.

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

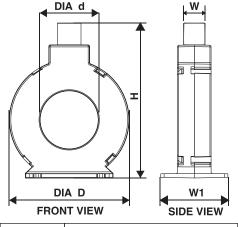
Use screen, shielded cable or twisted pair cable between the unit and CBCT for long distance (Greater than 1m).

ACCESSSORY

CORE BALANCED CURRENT TRANSFORMER



TOP VIEW						
СВСТ	Dimensions (mm)					
TYPE	D	d	h	w		
35-1	52.50	38	40	4		
70-1	87	38	40	4		
120-1	122	38	40	4		
210-1	199.80	120	55	6.60		
310-1	300	200	66	6.60		
TOLERANCE	Linear Tolerance : ±0.1mm					



СВСТ	Dimensions (mm)						
TYPE	D	d	Н	W	W1		
35-1	71.30	35	97	15	40		
70-1	107.50	70	133	15.50	40		
120-1	158	120	184.50	15.50	40		
210-1	268	210	270	25	55		
310-1	377	310	379	25.50	65		
TOLERANCE	Linear Tolerance: ±0.1mm						

CT TYPE ZPC (Zero Phase Current)

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CONFIGURATION MENU Press ▲ + ▼ for 3sec. to enter or exit configuration menu. Set Value (Earth leakage) **MAIN MENU** SUB MENU operation mode Relay 1 settings trip Setting Range KNE 51 MOd ▼ KEYS Recovery for Relay 1 delay delay time LM Relay operation mode OR Relay Functions Relay 2 **4** MOd TO SCROLL THROUGH MAIN MENU PRESS Time Setting Trip time Recovery for Relay 2 delay time REC Hysteresis Setting Hysteresis Password Enable | Disable Set password Password Factory set Factory set Yes No

Note: Appearance of shaded menus depends on selection of parent parameter.

SUB MENU

SOR MEN	U			
Relay 1 (R	L1) settings		Press ▲ to enter sub	menu from main menu
	Press A or ▼ to scroll through sub menu Press ● + ▲ or ● + ▼ to change parameter value & then press ▲ to set value			
DISPLAY (For 1sec)	DESCRIPTION	DEFAULT VALUE	RANGE	CONDITION
KND	Trip Current Range	55 <u>0</u>	33.0mA / 550mA / 5.50A / 30.0A	Depending upon this selection, the set trip value will be prompted. If this setting is changed the default trip value is loaded. 'OVR' will be displayed; if input current is greater than selected Range.
51	Set trip value for earth leakage	Rt MA	SV can be programmed between 30.0mA to 30A irrespective of the selected range. Default SV for different ranges are: 33.0mA: 30.0mA 550mA: 100mA 5.50A: 1.00A 30.0A: 10.0A	If SV exceeds max limit of specified range then next range will automatically be made applicable. For eg.If SV is set 40mA, range will get changed from 33mA to 550mA automatically.
IN5	Instantaneous trip selection	EI .	OFF / ON (5 times of set current)	If INS = ON and leakage current ≥5 times the set value, the relay trips instantaneously irrespective of trip time delay
MOd	Relay operation mode	RI	ON / OFF (In ON mode, contact will be in changed over state in normal condition)	In Healthy condition, ON: NO OFF: NC
LEH	Latch		ON / OFF	If Latch is ON, user has to reset the unit manually when fault is removed
Time Setti	ng for Relay 1	(TM1)	Press ▲ to enter sub	menu from main menu
Press ▲or through su	▼ to scroll b menu	Press • + A	or ● + ♥ to change parameter value & th	nen press▲ to set value
DISPLAY (For 1sec)	DESCRIPTION	DEFAULT VALUE	RANGE	CONDITION
LRP	Trip Time Delay	R1 t	0.0 - 99.9 Sec.	(NA for 33mA range)
REC	Recovery Time Delay	R1 t off	0.0 - 99.9 Sec.	
P.ON	Power ON Delay	S. S	0.5 - 99.9 Sec.	Applicable for Relay 1 & Relay 2

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Relay 2 (F	Relay 2 (RL2) Press ▲ to enter sub menu from main menu				
Press ▲ or through su	▼ to scroll b menu	Press ● + ▲ or ● + ▼ to change parameter value & then press ▲ to set value			
DISPLAY (For 1sec)	DESCRIPTION	DEFAULT VALUE	RANGE	CONDITION	
KLA	Relay 2 Functions	P.C.E	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.	
PRE	Pre-Alarm	F2 %	50 to 100% for 33.0mA range & 60 to 100% for all other ranges	Will be prompted only when RL2 = PRE	
MOd	Relay operation mode		ON / OFF	In Healthy condition, ON : NO OFF : NC	
LEH	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 through su	▼ to scroll b menu	Press ● + ▲ or ● + ▼ to change parameter value & then press ▲ to set value			
DISPLAY (For 1sec)	DESCRIPTION	DEFAULT VALUE	RANGE	CONDITION	
FLL	Trip time delay	R2 t	0.0 - 99.9 Sec.	(NA for 33mA range)	
KEC	Recovery time delay	R2 t off	0.0 - 99.9 Sec.		

Hysteresis	s (HYS)	Press ▲ to enter sub menu from main menu		
Press ▲or through su		Press ● + ▲ or ● + ♥ to change parameter value & then press ▲ to set value		
DISPLAY (For 1sec)	DESCRIPTION	DEFAULT VALUE RANGE CONDITION		
H Y 5	Hysteresis	1 III	5 to 40%	

Password (PW) Press ▲ to enter sub menu from main menu					
Press Aor ▼ to scroll through sub menu		Press ● + ▲ or ● + ▼ to change parameter value & then press ▲ to set value			
DISPLAY (For 1sec)	DESCRIPTION	DEFAULT VALUE	RANGE	CONDITION	
PW	Password	di 5	ENB / DIS	Enable / Disable password protection option	
5.PW	Set password		0-999	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				menu from main menu	
Press Aor ▼ to scroll □					

Factory se	et (RST)	Press ▲ to enter sub menu from main menu			
Press ▲or through su		Press ● + ▲ or ● + ▼ to change parameter value & then press ▲ to set value			
DISPLAY (For 1sec)	DESCRIPTION	DEFAULT VALUE RANGE CONDITION			
rs _E	Reset (Factory set)	NO	YES / NO		

TRIP VALUE SETTING	Press ▲ key for 3 sec. to enter or exit Trip Value Setting menu :
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	or ♥ to scroll main menu	Press • +	or ● + ♥ to change parameter value & t	then press▲ to set value
DISPLAY (For 1sec)	DESCRIPTION	DEFAULT VALUE	RANGE	CONDITION
LEK	LOCK	YES	YES / NO	This option will prompted first when the user enters the trip setting menu. User has to set NO after which he can access the trip setting menu.
5ľ	Set trip value for earth leakage	R1 MA	SV can be programmed between 30.0mA to 30A irrespective of the selected range. Default SV for different ranges are: 33.0mA: 30.0mA 550mA: 100mA 5.50A: 1.00A 30.0A: 10.0A	If SV exceeds max limit of specified range then next range will automatically be made applicable. For eg.lf SV is set 40mA, range will get changed from 33mA to 550mA automatically.
Pre	Pre-Alarm	90 %	50 to 100% for 33.0mA range & 60 to 100% for all other ranges	This option will be prompted only when PRE is selected for Relay2 in the config. menu.
FLL	Trip time delay for Earth Leakage	R1 t	0.0 - 99.9 Sec.	(NA for 33mA range)

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DISPLAY (For 1sec)	DESCRIPTION	DEFAULT VALUE	RANGE	CONDITION
FKP	Trip time delay for Pre Alarm.	R2 t	0.0 - 99.9 Sec.	This option will not be prompted if RL1 is selected for RL2 in config. menu. (NA for 33mA range)
LEK	LOCK	NO	YES / NO, (In this option if YES is selected by the use enters the Trip Value Setting, initially LOC The user will have to set NO after which he menu. If the user wants to disable LOCK o LOCK option is prompted after TRP option	K option will be prompted. can access the trip setting ption, he can set NO when

TEST & RESET FUNCTION



KEY	DESCRIPTION	DISPLAY (For 1sec.)	LED's	's CONDITION	
For TEST	Press TST key for >2 Sec.	Ł5Ł	O O R1 R2	Applicable only when unit is in healthy condition.	
Test passed		۵ĸ	• • R1 R2	If test is passed, OK will be displayed till reset button is pressed.	
Test Failed		ER2	O O R1 R2		
RST	Press RST key for >2 Sec.	Actual Value	O O R1 R2	If current is in mA then "mA" will be indicated.	

CBCT DETECTION	If CBCT error is there, display will show CT.E and all LED's will be blinking.			
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

WARRANTY / LIMITATIONS OF LIABILITY

Selec warrants the products to be free from defects in the materials and workmanship for a period of one year (or other period specified, if any) from the date of sale by Selec.

The warranty does not apply to defects resulting from any action of the buyer, including but not limited to improper handling, operating the product outside the specification limits or unauthorized disassembling / altering of the product. The warranty shall be VOID if the product shows evidence of having been tampered or being damaged due to usage in corrosive environment; or current, heat, moisture or vibration; improper specification; wrong usage in an application misuse or other operating conditions outside of Selec's control.

Selec shall not be responsible for special, indirect or consequential damages, loss of profits or commercial loss in any way connected with the products, whether such claim is based on contract, warranty, negligence or strict liability.

In no event shall the responsibility of Selec for any act exceed the individual price of the product on which liability is asserted.

In no event shall Selec be responsible for warranty or other claims regarding the products unless Selec's analysis confirms that the products were properly handled, stored, installed and maintained and not subject to contamination, abuse, misuse or inappropriate modification or repair.

ORDER CODE INFORMATION					
PRODUCT	SUPPLY	CERTIFICATION			
		C€	CULUS		
900ELR-2-230V-CE	230VAC (±15%)	•	_		

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

Selec Controls Pvt. Ltd., India

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