selec

OP611-V05



900ELR

Operating Instructions

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 : 4mA - 30A NETWORK CONNECTION 1Ø-2 wire, 3Ø-3 wire, 3Ø-4 wire AUXILIARY SUPPLY 230V AC (±15%)(For: 900ELR-2-230V-CE) 110V AC (±15%)(For: 900ELR-2-110V-CE) FREQUENCY RANGE

50 - 60Hz

VA RATING

3VA max

TRIP SETTINGS

Leakage Current Range: 10mA - 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 \ge 5 x set value & Instantaneous trip is ON)

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

5 to 40%

For eg., 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)

LED1 (Red): Relav 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
- Humidity :Up to 95% RH, non-condensing

MECHANICAL SPECIFICATIONS No. of Push Buttons : 3

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

217gms

CE CERTIFICATION : IEC60947-2

A 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

3 WARNING

 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.

L 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

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

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).

ACCESSSORY

CORE BALANCED CURRENT TRANSFORMER



Dimensions (mm)									
Α	в	С	D	Е	F	G	н	J	
51.7	40	NA	38	1	13	6.25	4	31.5	
85.1	40	62	38	1	13	6.25	4	31.5	
120.1	40	70	38	1	13	6.25	4	31.5	
199.15	55	NA	120	NA	NA	11	6.6	39.6	
299	65	NA	200	NA	NA	16	6.6	39.6	
Linear Tolerence : ±0.1mm									
	51.7 85.1 120.1 199.15 299	51.7 40 85.1 40 120.1 40 199.15 55 299 65	A B C 51.7 40 NA 85.1 40 62 120.1 40 70 199.15 55 NA 299 65 NA	B C D 51.7 40 NA 38 85.1 40 62 38 120.1 40 70 38 199.15 55 NA 120 299 65 NA 200	A B C D E 51.7 40 NA 38 1 85.1 40 62 38 1 120.1 40 70 38 1 199.5 55 NA 120 NA 299 65 NA 200 NA	A B C D E F 51.7 40 NA 38 1 13 85.1 40 62 38 1 13 120.1 40 70 38 1 13 199.15 55 NA 120 NA NA 299 65 NA 200 NA NA	A B C D E F G 51.7 40 NA 38 1 13 6.25 85.1 40 62 38 1 13 6.25 120.1 40 70 38 1 13 6.25 199.15 55 NA 120 NA NA 11 299 65 NA 200 NA NA 16	A B C D E F G H 51.7 40 NA 38 1 13 6.25 4 85.1 40 62 38 1 13 6.25 4 120.1 40 70 38 1 13 6.25 4 199.15 55 NA 120 NA NA 11 6.6 299 65 NA 200 NA NA 16 6.6	



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)



CONFIGURATION MENU

Press \blacktriangle + \checkmark for 3sec. to enter or exit configuration menu.

SUB MENU

LEH

Relay 1 (R	RL1) settings		Press 🔺 to enter sub	menu from main menu
Press A or through su	✓ to scroll b menu	Press 🌒 + 🔺	or \bullet + \forall to change parameter value & the set of th	nen press 🔺 to set valu
DISPLAY (For 1sec) DESCRIPTION		DEFAULT VALUE	CONDITION	
RNG	Trip Current Range	55Ô	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.
51	Set trip value for earth leakage		SV can be programmed between 10.0mA 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.
1115	Instantaneous trip selection		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		ON / OFF (In ON mode, contact will be in changed over state in normal condition)	In Healthy condition, ON : NO OFF : NC
LEH			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 A to enter sub	menu from main menu
Press Aor through su	▼ to scroll b menu	Press 🔵 + 🔺	or \bullet + \checkmark to change parameter value & the set of th	nen press 🔺 to set valu
DISPLAY (For 1sec)	DESCRIPTION	DEFAULT VALUE	RANGE	CONDITION
FLb	Trip Time Delay	R1 t	0.0 - 99.9 Sec.	(Not Applicable for 33m. range)
REE	Recovery Time Delay	R1 t off	0.0 - 99.9 Sec.	
P.ON	Power ON Delay	5.0	0.5 - 99.9 Sec.	Applicable for Relay 1 & Relay 2



Note 1 : Appearance of shaded menus depends on selection of parent parameter. Note 2 : The product will display overrange(OVR), if applied leakage current is greater than twice the set current value(SV) or if exceeds the maximum set current value(SV), whichever is less.

										-
	Relay 2 (R	RL2)		Press 🔺 to enter	sub menu from main menu	Password	Password (PW) Press A to enter sub menu			
	Press A or through su		Press • +	• or • + \forall to change parameter valu	e & then press ▲ to set value		Press \land or \lor to scroll through sub menuPress \bigcirc + \land or \bigcirc + \lor to change parameter			then press A to set value
	DISPLAY (For 1sec)	DESCRIPTION	DEFAULT VALUE	RANGE	CONDITION	DISPLAY (For 1sec)	DESCRIPTION	DEFAULT VALUE	RANGE	CONDITION
	RLY	Relay 2 Functions	P 75 12	RL1 / PRE	If RL1 is selected, all the settings done for RL1 will be automatically set for RL2 and no other parameter of	РЫ	Password	dI 5	ENB / DIS	Enable / Disable password protection option
				00 to 100% (cr 00 0m to more 1	RL2 will be prompted.	S.PW	Set password		0-999	Will be prompted only when Password option is enabled
	PRE	Pre-Alarm	R2 %	60 to 100% for 33.0mA range & 50 to 100% for all other ranges	Will be prompted only when RL2 = PRE	PW	Main Menu Password		NOTE : PW option will be asked when the us if PW option is enabled in the config menu a	nd the user has to enter the
	MDd	Relay operation	OFF	ON / OFF	In Healthy condition, ON : NO				password which he has set in the S.PW (set	password) option.
		mode	R2		OFF : NC	Factory s	· · /	i	Press A to enter sub	menu from main menu
		Lateh	ncc	ON / OFF	If Latch is ON, user has to reset the unit	Press ▲or through su	▼ to scroll b menu	Press • +	or \bullet + \forall to change parameter value &	then press A to set value
		Latch			manually when fault is removed	DISPLAY (For 1sec)	DESCRIPTION	DEFAULT VALUE	RANGE	CONDITION
		ing for Relay 2	(TM2)	Press A to enter s	ub menu from main menu	RSE	Reset (Factory set)	ND	YES / NO	
	Press A or through su		Press 🔵 + 🌶	or ● + ¥ to change parameter valu	e & then press A to set value					
	DISPLAY (For 1sec)	DESCRIPTION	DEFAULT VALUE	RANGE	CONDITION	TRIP VALU		Press 🔺	key for 3 sec. to enter or exit Trip Valu	ue Setting menu :
			s			through m		Press ▲ or ▼ to scroll through main menu Press ● + ▲ or ● + ▼ to change parameter value		
	FKb	Trip time delay	0.0 - 99	0.0 - 99.9 Sec.	(Not Applicable for 33mA range)	DISPLAY (For 1sec)	DESCRIPTION	DEFAULT VALUE	RANGE	CONDITION
	REE	Recovery time delay	R2 t off	0.0 - 99.9 Sec.		LEK	LOCK	985	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.
+	Hysteresis Press ▲or	. ,			sub menu from main menu				SV can be programmed between 10.0mA	If SV exceeds max limit of specified range then
	through su	b menu	DEFAULT	♦ or ● + ♥ to change parameter valu RANGE	CONDITION	51	Set trip value for earth		to 30A irrespective of the selected range. Default SV for different ranges are : 33.0mA : 30.0mA	next range will automatically be made applicable.
	(For 1sec)	Hysteresis		5 to 40%			leakage	R1	550mA : 100mA 5.50A : 1.00A 30.0A : 10.0A	For eg.If SV is set 40mA, range will get changed from 33mA to 550mA automatically.
			H %			PRE	Pre-Alarm	90 ⁸² %	60 to 100% for 33.0mA range & 50 to 100% for all other ranges	Applicable only if RLY2 is programmed as PRE-Alarm
						FLE	Trip time delay for Earth Leakage		0.0 - 99.9 Sec.	(Not Applicable for 33mA range)

DISPLAY (For 1sec)	DESCRIPTION	DEFAULT VALUE	RANGE	CONDITION
FLA	Trip time delay for Pre Alarm.	R2 t	0.0 - 99.9 Sec.	Applicable only if RLY2 is programmed as PRE (Not Applicable for 33mA range)
LEK	LOCK	ND	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 of LOCK option is prompted after TRP option	K option will be prompted. e can access the trip setting ption, he can set NO when

TEST & RESET FUNCTION

● LED ON ○ LED OFF

KEY	DESCRIPTION	DISPLAY (For 1sec.)	LED's	CONDITION		
For TEST	Press TST key for >2 Sec.	٤SE	○ ○ R1 R2	Applicable only when unit is in healthy condition.		
Test passed	sed		• • R1 R2	If test is passed, OK will be displayed till reset button is pressed.		
Test Failed		EK5	○ ○ R1 R2			
RST	Press RST key for >2 Sec.	Actual Value	○ ○ R1 R2	If current is in mA then "mA" will be indicated.		
CBCT DETE	CTION	If CBCT error is t	there, displa	ay will show CT.E and all LED's will be blinking.		
TRIP INDIC	ATION	Trip Indication on press of A key : Trip value will be displayed till the key is pressed.				
RESET		Press key for	3sec. to res	set manually		
Master Pas	sword : 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	PRODUCT SUPPLY CERTIFICATION					
		€	CUL US			
900ELR-2-230V-CE	230VAC (±15%)	•	_			
900ELR-2-110V-CE	110VAC (±15%)	•				

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

Selec Controls Pvt. Ltd.

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