OP2061-V02

selec

EFR-341-2-CE
Operating Instructions



FEATURES

- Earth fault current monitoring in 1Ø and 3Ø systems
- True RMS value measurement (AC)
- User selectable Power ON Delay, Trip Delay and Recovery Delay
- 6 selectable IDMT characteristic curves
- Adjustable time multiplier
- Low set /High set earth fault current value selection with Definite, Indefinite & Instant time setting.
- Adjustable Hysteresis
- Feasible to work with normal CT
- Pre-alarm indication selectable
- Test and Reset via Front / Remote
- Trip relay with NO or NC operation selectable

SPECIFICATIONS

HMI
4 Digits, Seven Segment Display

ELECTRICAL CONNECTION
1Ø-2 wire, 3Ø-4 wire, 3Ø-3 wire

AUXILIARY SUPPLY
90-270V AC/DC

FREQUENCY RANGE
50 – 60Hz

VA RATING
<4VA

CT PRIMARY RANGE : 1A to 999A

CT SECONDARY RANGE : 1A & 5A Selectable

TIME SETTING
Power ON Delay : 0.5 - 99.9sec
Trip time delay : 0.5 - 999.9sec
Recovery Time : 0.0 - 99.9sec

HYSTERESIS
5 to 40% of Set Value {For eg., If set HYS is 10% & SV is 100mA, unit will allow untrip at 90mA}

RESOLUTION
Depends on trip setting as per range resolution will be,
< 100mA = 1mA i.e. 0.001A
< 10A = 0.01A
> 10A = 1A

ACCURACY
Current : ±5% of Set Value
Time : ±5% of Setting±100ms

OUTPUT SPECIFICATIONS
Relay : 2 X 2C/O (SPDT)

RELAY RATING
NO (5A, 250V AC/28VDC)
NC (5A, 250V AC/28VDC)

LED INDICATION
LED1 (Red) : R1 (For low trip indication)
LED2 (Red) : R2 (For Alarm / trip indication)
LED3 (Red) : 10x (For high trip indication)

RESET CONDITIONS
- Power ON reset
- Terminal reset (Y1 & Y2 short)
- Press RST key for 3 sec.
- Auto reset (as per setting)

TEST/RESET FUNCTION
Test / Reset function is used to check proper functioning of product. It includes
- Relay contact switching
- LED check
- Display check

TEST MODE
- Press TST key for 3 sec.
- Test through terminal (Y1 & Y2 short)

RESET MODE
- Press RST key for 3 sec.
- Reset through terminal (Y1 & Y2 short)

ENVIRONMENTAL SPECIFICATIONS
- Indoor use
- Altitude of up to 2000 meters
- Pollution degree II

Temperature : Operating : 0 to 60°C
Storage : -20 to 70°C
Humidity : Up to 95% RH, non-condensing

MECHANICAL SPECIFICATIONS
No. of Push Buttons : 3
Size : 96 x 96 mm
Mounting : Panel Mount
Wire Size (max) : 4 sq.mm
Screw tightening torque : 0.5 N-M

WEIGHT : 290gm approx.

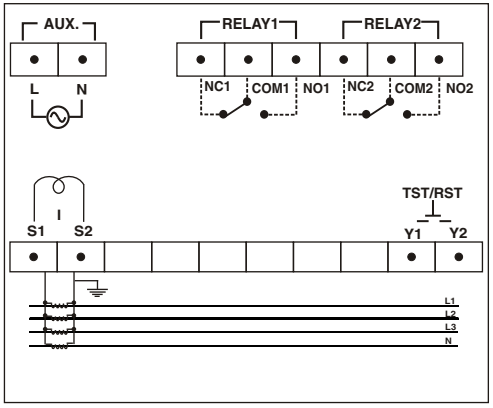
CE CERTIFICATION : IEC60947-2 (for EMI-EMC)
IEC 60255-151 (for IDMT)

LED INDICATION CHART

Conditions	'R1' LED	'R2' LED	'10x'LED
Healthy	OFF	OFF	OFF
Alarm	OFF	Blink	OFF
Trip	ON	Blink*/ON	OFF
10x current	ON	Blink*/ON	ON

*= Blink only when RLY2 used as Pre Alarm.

TERMINAL CONNECTIONS



ORDER CODE INFORMATION

PRODUCT	SUPPLY	CERTIFICATION	
		CE	UL
EFR-341-2-CE	90-270V AC/DC	●	—

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

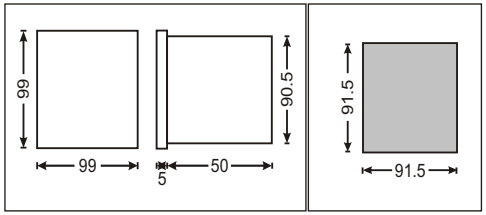
1. To prevent the risk of electric shock power supply to the equipment must be kept OFF while doing the wiring arrangement.
2. Wiring shall be done strictly according to the terminal layout with shortest connections. Confirm that all connections are correct.

CAUTION

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

MECHANICAL SPECIFICATIONS

OUTLINE Dimensions (in mm)	PANEL CUTOUT Dimensions (in mm)



CONFIGURATION MENU

Press ▲+▼ for 5sec. to enter or exit configuration menu.

Press ● to save value

Press ▲ or ▼ to scroll through menu

Press ● + ▲ or ● + ▼ to change parameter value

DISPLAY (For 1sec)	DESCRIPTION	DEFAULT VALUE	RANGE/Type	STEP SIZE	CONDITION
P.On.d	Power ON Delay	5.0	0.5 to 99.9sec	0.1sec	
Ct-P	CT Primary	1	1A to 999A	1A	
Ct-S	CT Secondary	1	1A or 5A	NA	
IdMt	Curve selection	EI.2	1.NI.1 : Normal Inverse 3/10 2.NI.2 : Normal Inverse 1.3/10 3.LTI : Long Time Inverse 4.VI : Very Inverse 5.EI.1 : Extremely Inverse 6.EI.2 : Extremely Inverse 0.65	NA	This function Can be Disable.
tMUL	Time multiplier	1.00	0.05 to 1.00	0.01	
EFtL	Earth fault low value	10	10% to 100% Primary Current	1%	
EFtH	Earth fault high value(10x)	100	1A : 10% to 1000% 5A : 10% to 300%	1%	EFVH should always greater than EFVL
EFtL	Earth fault low trip time	2.0	0.5Sec to 999.9Sec	0.1Sec	
EFtH	Earth fault high trip time	0.5	0.5Sec to 2.5Sec	0.1Sec	
rL 1.r	Recovery time Relay 1	0.5	0.0Sec to 99.9Sec	0.1Sec	
rL 1.M	Mode- Relay 1	On	ON/OFF	NA	ON: NC (During trip) OFF: NO (During trip)
LCH.1	Latch- Relay 1	OFF	ON/OFF	NA	If Latch is ON, User has to reset the unit manually when fault is removed.
rL2.F	Setting of Operation	PrE	PRE/RLY1/Disable	NA	If RLY1 is chosen, entire setting of RLY1will be applicable to Relay2. RLY2 setting options will be not displayed.
ALEn	Alarm	90	50% to 100% of Primary	1%	
rL2.t	Trip Time Relay 2	2.0	0.5Sec to 999.9Sec	0.1Sec	
rL2.r	Recovery time Relay 2	0.5	0.0Sec to 99.9Sec	0.1Sec	
rL2.M	Mode - Relay 2	On	ON/OFF	NA	ON: NC (During trip) OFF: NO (During trip)
LCH.2	Latch - Relay 2	OFF	ON/OFF	NA	If Latch is ON, User has to reset the unit manually when fault is removed
HyS	Hysteresis	10	5% to 40% of Primary Current	1%	Fault condition is removed when fault is H% less than the set value
S.Py	Set password	dIS	0 to 999/Disable	NA	Master Password: 753 This Function can be Disable.
rSt	Reset	no	YES/NO	NA	

TEST & RESET FUNCTION

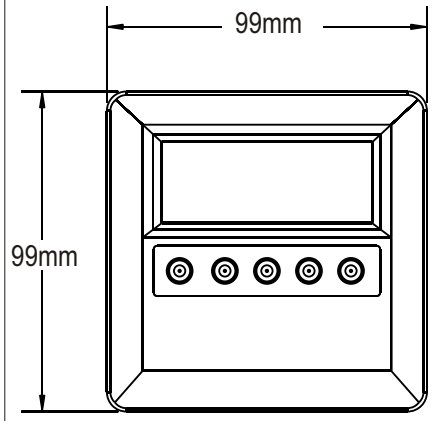
● LED ON ○ LED OFF

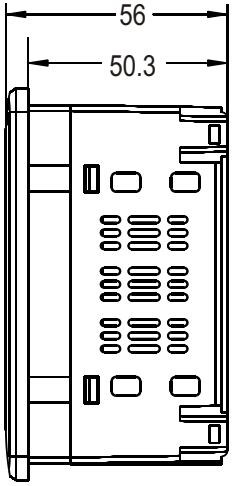
KEY	DESCRIPTION	DISPLAY (For 1sec.)	LED's	CONDITION
For TEST	Press TST key for 3 Sec.	tSt	○ ○ ○ R1 R2 10x	Test function is applicable only when unit is in healthy condition.
Test passed		Ok	● ● ● R1 R2 10x	If test is passed, OK will be displayed till reset button is pressed.
Test Failed		nOt	○ ○ ○ R1 R2 10x	----
RST	Press RST key for 3 Sec.	Actual Value	○ ○ ○ R1 R2 10X	----

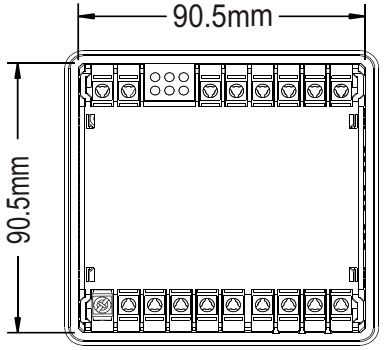
RESET	Press ▼ key for 3sec. to reset manually.
TRIP VALUE	On ▲ key press : Trip value will be displayed till the key is pressed.

In configuration menu, if no key pressed for 30 sec. then unit resumes online mode.

DIMENSIONS







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.

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

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