ESI - EARTH FAULT & SHORT CIRCUIT INDICATOR

Technical Catalogue

Description

ESI is used for the detection of fault in medium voltage underground networks. The current information that is received from the three current transformers (separate for each phase) connected to the underground network cables detect the phase and earth faults and show the fault status information with the indicators on the main unit and external signal lamp

Features

- Compatible with TEDAŞ-MYD/2002-043.A
- External Signal Lamp
- Internal Battery
- User Friendly LCD Interface
- Real Time Event Recording
- Automatic and Manual Reset
-Modbus RTU Communication

Structure and Working Principles

Earth Fault & Short Circuit Indicator detects faults in phase and ground faults in underground networks. It generates a fault signal when the currents exceed the adjustable fault current threshold value and again during the adjustable fault current detection period.

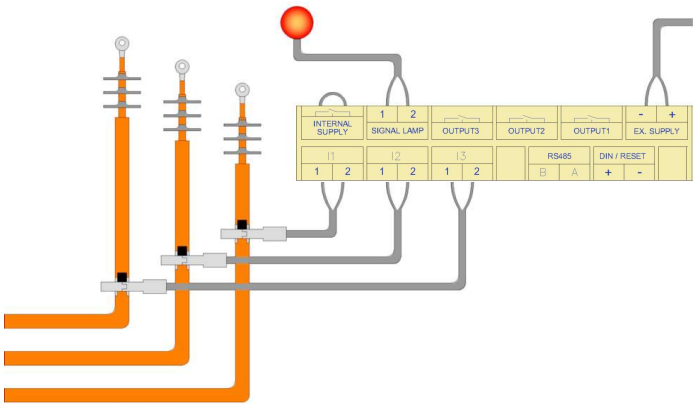
When the fault current occurs, internal signal LED, LCD display and external signal lamp give an information to the user.

The fault information can be transferred with dry contact(s) on the device via SCADA or other utility applications.

The signal LEDs flash for 2 seconds in the first half of the reset period and 4 seconds in the second half of the reset period and the phase current or earth current symbol for the fault flashes at the same period as LED at the main page.

After the fault current is removed, the device is automatically reset after 3 seconds. The operator can also reset the device via digital input (remote reset), interface or communication. The digital input is optically isolated.

The last 20 events are listed together in the event page with the fault current value, the phase at which the fault occurred, date and time information.



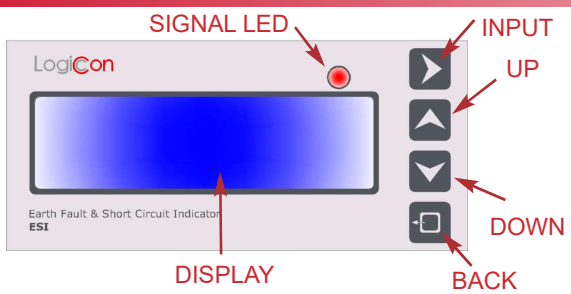
Safety Instructions and Precautions

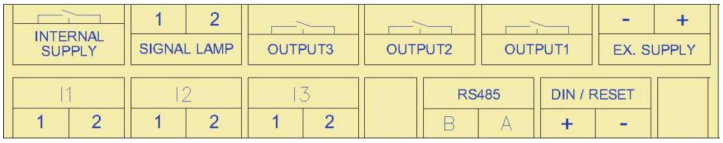
1.The installation and commissioning must be done by qualified electrical stuff.
2.Do not work with live conductors.
3.Device must be protected against hu midity.

Installation and Operation

1. The device must be fixed before the electrical connec tions are done.
2. Open a cross section with size 94x46mm for assem bling the device.
3. The device is inserted to the panel from front side and tightened via the fixing apparatus.
4. Be sure that not working with the live conductors dur ing cabling.
5. It is recommended the using cable lug for healthy ca bling operation.
6. Connect the external feed to the external supply ter minals.
7. When mounting the current transformer, be sure that the wires are placed tightly in the terminals and the directions of the transformers are the same.
8. External signal lamp can be connected in two ways depending on the type of internal or external supply. When making a connection, be sure that you have se lected the appropriate connection for your device (See User Manual).
9. The digital input requires an external 24V power sup ply. Positive and negative connection points must be connected as shown.
10. The terminals "Internal Supply 1-2" must be shunted for the internal lithium battery to be activated.
11. Set and save the device parameters as specified in

User Panels and Terminals

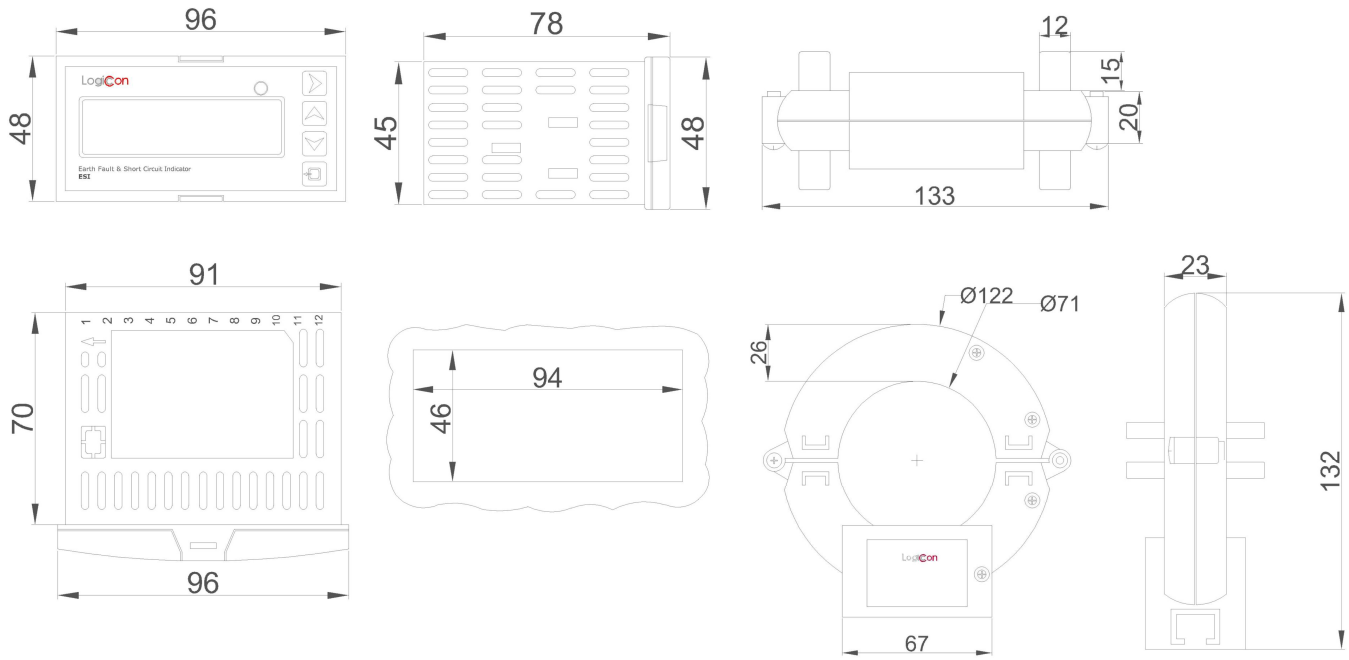


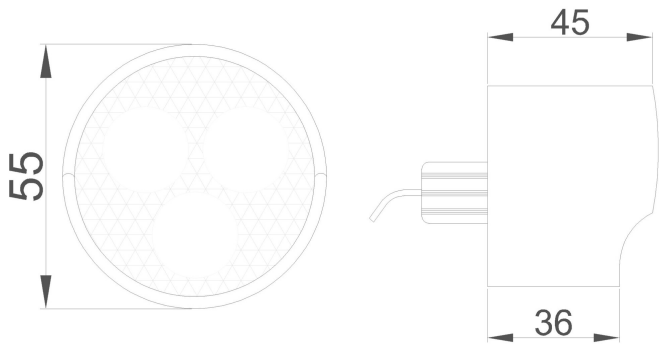


Technical Specifications

Auxiliary Feed	
Voltage Source	30-265VAC / 24V-310VDC
Power Consumption	< 3W
Backup Source	
Battery	Lithium- Ion – 3600mAh 3.6V
Inputs	
Current Inputs	3 Phase
Measuring Range	0-900 Amper
Digital Input	24VDC
Output Specification	
Number of Output	1-3 (Optional)
Contact Type	SPST - NO
Contact Current	1A
Measurements	
Parameters	Three Phase Currents (Ia, Ib, Ic), Neutral Current (In)
Accuracy	± %3
Communication	
Communication Protocol	Modbus RTU
Communication Line	RS485
Supported Data Communication Speed (baud)	4800, 9600, 19200, 38400
Mechanical Specification	
Dimensions (mm)	96x48x78
Montage	Panel Montage(Front)
Weight (gr)	560
Terminals	0.5 - 2.5mm2, Screwed
Protection Class	IP65 (Front Panel)
Operation Temperature	-10 +70°C
Relative Humidity	Max. 95%
User Interface	
Measurement and Settings	LCD, 128x32 One color LCD display, 4 button
Fault Indicator	Internal LED, External Signal Lamp
Other Specification	
Language Options	English, Turkish
Current Transformer	
Type	Split Type(3)
Dimensions	96x48x78
Cable Radius	70mm
Nominal Current	600A

Device Dimension (mm)





Packet Content

1 ESI
3 Current Transformers
1 External Signal Lamp
User Manual
Warranty Certificate

Ordering Code

ESI -3I -600 -1NO -INT

MODEL

EXTERNAL SIGNAL LAMP

-INT Internal Supply
-EXT External Supply

OUTPUT CONTACTS

-1NO 1NO Contact
-2NO 2NO Contact
-3NO 3NO Contact

CURRENT TRANSFORMER

-600 600

CURRENT CHANNEL NUMBER

-3I 3I

Warranty Terms and Conditions

Elektrolojik Energy Tech. Ltd. Co. warrants a trouble free operation of the ESI device within 24 months from the date of sale, on condition that following terms are provided:

1.The proper connection and operation

2.The integrity of case, no trace of opening, cracks, spalls etc.

3. The warranty shall not apply to malfunctions or damages resulting from accidents or user supplied faults.

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