



EECC Fault Indicator Datasheet

Datasheet V1.1
WWW.EECL.SA

General description of devices

EECC-FI, is a Smart Fault Indicator developed by EECC, widely used in various ring main unit (RMU) equipment for underground power cables. Underground fault indicator devices are essential tools used in electrical power systems to detect and locate earth faults (ground faults) and short circuit faults in underground cables. These devices help in maintaining the reliability and safety of the electrical distribution network by quickly identifying fault locations, thereby reducing downtime, and facilitating faster repair times.

EECC-FI technology uses electromagnetic induction signal processed using an intelligent MCU. It is equipped with AC power loss indication, battery low power alarm indication; low-power design, high-capacity lithium battery power supply, external structure designed with external bracket for easier mounting.

- ▶ **Earth Fault Alarm Indication:** When an earth fault current is detected, where the zero-sequence current is higher than equal to or equal to the tripping current threshold, the display unit will indicate the event using Earth Fault LED blinking.
- ▶ **Short Circuit Fault Alarm Indication:** When a short circuit fault current is detected, the display unit will indicate the event using the corresponding Phase RED LED blinking.
- ▶ **Power Loss Alarm Indication:** When the AC supply is lost, the Fault Indicator activates a YELLOW colored blinking LED to indicate the Power Loss Alarm.
- ▶ **Low battery Alarm Indication:** When the battery voltage is low, while the AC supply is available, the Fault Indicator activates a BLUE colored blinking LED to indicate the Low Battery Alarm.





- ▶ **Test Mode:** If no fault is active, press the "Test/Reset" button and hold for at least 2 seconds, to check the LED indicators, and relay output.
- ▶ **Reset Mode:** If any fault is active, press the "Test/Reset" button and hold for at least 2 seconds, to clear the active faults and release the flip the relay pins.
- ▶ **Phases Current Measurements:** Phases Current Measurements reported through MODBUS RTU protocol using RS485 port.
- ▶ **Technical Specifications:**

Parameters	Specifications
Types of recorded Faults	<ul style="list-style-type: none"> - Earth Faults. - Double & triple phase short-circuit.
Earth Fault Detection Range	10 ~ 2000 A
Short Circuit Detection Range	200 ~ 2000 A
Current Measurement Range	1 ~ 6000 A
Current Measurement Accuracy	Calibrated: +/- 0.5% Uncalibrated: +/- 5%
Voltage Ratings	0.11-70 kV
Visual indication	<ul style="list-style-type: none"> - High Intensity LED
Main Power supply	<ul style="list-style-type: none"> - 100~270 VAC. - 9~14VDC (Power Supply / 16W Solar Panel).
Power Consumption	<ul style="list-style-type: none"> - 3mA@12V
Battery Type	<ul style="list-style-type: none"> - 2 PCS 3.7V 3000mAh 18650 Size
Indication Backup Supply	<ul style="list-style-type: none"> - > 900 hours of Indication
Resetting the fault indication	<ul style="list-style-type: none"> - Remotely From SCADA - Timer Reset. (Configurable time). - Automatic Voltage Restoration Reset. - Automatic Transient Reset (can be switched off). - Manual Test/Reset Button.
Trigger control	<ul style="list-style-type: none"> - Visual. - Relay output
Connection	RS-485 MODBUS RTU
Earth Fault Response Time	60 - 300 ms
Installation Location	At the side of switchgear, Ring Main Unit (RMU), and Substation (Distribution Transformer)
Sensors Type	<ul style="list-style-type: none"> - Rogowski coil 85mV/kA 50Hz.
Temperature range	Standard from -40 °C ~ +85 °C
Device protection degrees	IP 65 by GOST14254-2015 (IEC 60529:2013)

