EECC Earth Fault Indicator

Datasheet V1.2

WWW.EECL.SA

General description of devices

The EECC-EFI is an Earth Fault Indicator widely utilized in various ring main unit (RMU) equipment. These underground fault indicator devices play a crucial role in electrical power systems by detecting and pinpointing earth (ground) faults in underground cables. By a sharp identification of trip current faults, it enhances the reliability and safety of electrical distribution networks, minimize blackouts, and enable faster repairs.
The EECC-EFI employs electromagnetic induction technology processed through a high-performance MCU. It features AC power loss indication, a low-battery power alarm, and a low-power design supported by a high-capacity lithium battery, ensuring a long service life of over 10 years. Its external structure includes a specially designed bracket for easy installation and mounting.

- **Earth Fault Alarm Indication:**

  The device triggers a RED LED blinking when an earth fault is detected, indicating that the ground current is higher than or equal to the set tripping current threshold.

- **Low Voltage Battery Indication:**

  Battery status can be checked by pressing the Test/Reset button for 5 seconds, which will cause a BLUE LED blinking to indicate low battery status.

- **Power Loss Indication:**

  When the AC supply is lost, the EFI activates a YELLOW LED blinking to indicate the Power Loss Alarm.

- **Automatic Time Fault Reset:**

  After an earth fault occurs, the EFI automatically resets the alarm after a settable period if the fault is no longer active, helping to reset the system without manual intervention.

- **Automatic Power Restoration Fault Reset:**

  After an earth fault occurs causing the power supply to be lost, the EFI automatically resets the alarm after the power supply has been restored, helping to reset the system without manual intervention.

- **Automatic Reset Upon Transients:**

  In Automatic mode, the EFI performs automatic transient fault rest within 10s by observing the availability of AC power supply.

- **Manual Reset:**

  The earth fault indication can be manually reset by pressing the Test/Reset button once, allowing for easy reset after the fault has been cleared.

- **Remote Control Features:**

  The EECC-EFI Earth Fault Indicator allows for manual fault test/reset and battery status check remotely by connecting the EFI DI/DO signal ports to a remote-control system or SCADA Monitor.

- **Long Battery Life:**

  The device is equipped with a high-capacity lithium battery that provides more than 10 years of battery life, offering long-term reliability and reducing the need for frequent maintenance.

- **Low Power Design:**

  The EECC-EFI is designed with low-power consumption, ensuring efficient use of energy over time, especially in remote or hard-to-reach installations.

- **External Mounting Bracket:**

  The device's external structure is designed with a bracket for easier and more flexible mounting in various setups.

Technical Specifications

Voltage Range		AC100V-40.5KV	Battery life		≥10 year
Frequency		50HZ/60HZ	Low voltage alarm of battery		≤2.5V
Earth fault alarm current		10-25-50-80-100 -125-250A.	Earth fault sensor copper cable length		5m, or customized
Alarm current accuracy		±10%	Response time of Earth fault		20-40-70-80-100 ms.
Rated frequency withstand voltage		2KV/1min			
Reset time (settable)		1-2-4-8-12H	Work Environment	Temperature	-40℃~+85℃
				Humidity	≤95%RH
Battery Type	ER14505	(LiSOCl2) 3.6V/2700mAh	Earth fault sensor (Cable, Diameter)	A	CT100 (Special Order)
Current Consumption	Standby	10μA		B	CT150 Standards
	Working	≤1mA			
Protection Level	Display unit	IP 65		C	CT300 (Special Order)
	Sensor CT	IP 67			

CT over current Protection	800A overcurrent threshold protection		
CT encapsulation	Taking A, B epoxy resin sealing with durable, chemically inert, UV	CT belt material	Stainless steel SS430.
Indication Visibility Distance	Night: 80 m Day: 10 m	Voltage Surge Protection	Taking Optical Coupler isolation between display unit and CT for 45kv
CT Voltage	45kv Max.		
Terminal Connectors	2.54mm		
RTU Connector Type	JST PH 2.0MM 7P		