

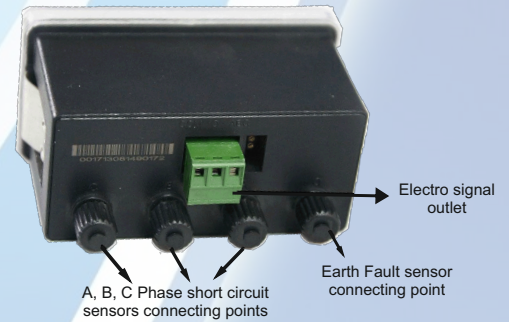
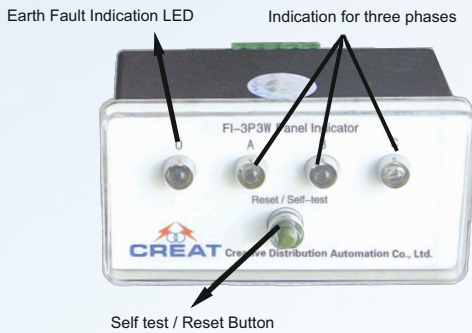
Underground Cable - Fault Indicator (Upto 35kV)

The Underground Type Fault Indicator consists of an indicator panel, short circuit current sensor and earth fault sensor. The fault is indicated clearly by the flashing of a Red LED.

When a fault is detected by a short circuit current sensor, it sends a signal to the indicator panel via a Fiber Optic cable, and the indicator panel will clearly indicate which cable is faulty. Similarly, when an earth fault occurs, the earth fault indicator will sense a zero sequence current signal and it will send a signal to the indicator panel via a Fiber Optic cable, and an indication will be visible in the panel.

Along with the visual indication, the indicator panel can also send an electro signal to a FTU or DTU by wire.

Panel Fault Indicator



The panel fault indicator can be installed on the enclosure of the switchgear and it connects with the sensors via a fiber optic cable.

The main features of the panel indicator are

a. Local LED Indication

There are 4 LED indicators in the front panel, they indicate the individual fault phase and earth fault.

b. Manual Self Test / Reset Function

A self test / reset button is present at the center of the front panel of indicator, pressing this button for more than 3 seconds starts a self test and the LED's start to flash, if the LED's do not start to flash, then we can assume that the fault indicator is malfunctioning. To reset the fault indicator, the button has to be pressed for one second.

c. Inner Battery Supply

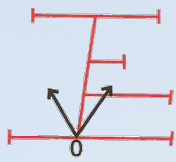
The internal battery used is International Standard ER14505M.

d. Electro Signal Transferring

The panel indicator converts the light signal into an electro signal and transmits it through the connector located at the back of the indicator via a 1.5mm² wire

Technical Parameters

Model	FI-3P30	Current Withstand	40 KA / 4 s
Line Voltage	Up to 35kV	Fiber Distance	5 m
Temperature Range	-35°C to 70°C	Reset Options	Time / Manual
Accuracy	±2% at 20°C	Reset Time	9 hours
Electric Switch Rated Voltage	DC / AC 12 to 250 V	Flash Interval	3 s
Electric Switch Rated Current	1 A	Weight	0.32 kg
Indication	4 Red LED	Visibility	300m at day, 500m at night
Battery Capacity	2Ah	Casing Material	UV stable polycarbonate

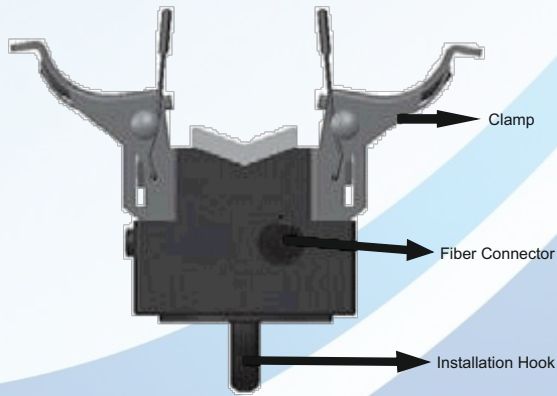


Short Circuit Fault Sensor

The short circuit fault sensor FI-3C1O-2 works on the principle that when there is a short circuit fault, it causes a big current surge and the switchgear in the up-stream will trip and the whole line will be cut off.

The sensor will be in a 15 seconds block status after installation, during this time the sensor will detect and confirm the load current, the minimum load current should be 3 A, if the load current is less than 3 A, the sensor will stay in block status until the load current is more than 3 A.

After the block period, the sensor is ready to detect the current surge, the required surge should be more than 120 A, the duration depends on the surge current, as they will be in accordance with the TCC characteristics. The minimum time is 20 ms.



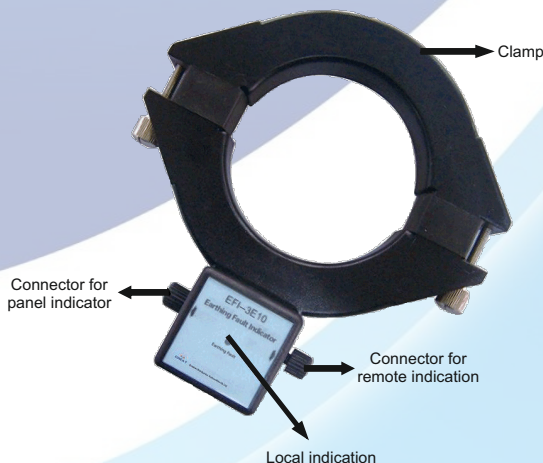
Technical Parameters

Model	FI-3C1O-2
Line Voltage	Up to 35kV
Temperature Range	-40°C to 85°C
Accuracy	±2% at 20°C
Current Reset	>3 A / 30 s
Minimum Load Current	3 A
Minimum Tripping Current	120 A
Indication	Optical Filter
Total Indication Time	2000 Hours
Flashing Frequency	22 per minute
Maximum Operation Voltage	40kV
Current Withstand	35kV / 4s
Adjacent Cables Immunity	12 inch @ 10 kA
Cable Diameter	8 mm to 42 mm
Reset Manners	Time / Current / Manual
Reset Time	4hr/6hr/8hr/12hr/24hr/48hr
Casing Material	UV stable polycarbonate
Weight	0.5 kg
Clamping Mechanism	Stainless Steel
Visibility	300 m at day, 600 m at night

Earth Fault Sensor

The earth fault sensor uses the over current principle, a tripping current will be set as default. The default current is 15A/ 450 ms and 60A/50 ms.

When the sensor will trip when it detects that the zero-sequence current meets the default values and duration time.



Technical Parameters

Model	FI-3E1O
Line Voltage	Up to 35kV
Temperature Range	-35°C to 70°C
Accuracy	±3% at 20°C
Application Cable	50 – 89 mm
Indication	1 Red LED
Battery Capacity	2Ah
Current Withstand	4KA / 4s
Weight	0.25 kg