

CFM-BL Product Description

CFM-BL is one of a family of real-time Cable Fault Monitoring products that are designed to assist in the rapid location and isolation of faults on MV cable networks.

A CT split core current transformer measures the imbalance in the feeder in the case of an earth fault. Once a fault is detected, the unit will immediately communicate the fault over the web to the customer's monitoring network, or if desired, the GridWatch server. The status of

the CFMs is continuously monitored and any faulty CFM unit is automatically detected by the GridWatch Server Application.

Optional features include:

- Remote setting of trip current level
- Alarm switch input for site security monitoring

Cable faults or security alarms can automatically be reported to field service engineers via SMS if desired. A fault is also indicated by a flashing red LED on the unit.

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Installation & Commissioning

Installing the CFM-BL device on a cable network is a straightforward procedure involving the following steps:

- Fix the CFM-BL unit in place with the mounting screws provided or secure with suitable tie wraps.
- Attach the split-core CT to the cable being monitored
- Open the unit and insert a SIM Card into the holder provided
- Power up the unit by inserting the battery provided
- Press the TEST button on the Earth Fault Indicator to verify communications with the GridWatch Server

Server Application

Using one of the approved standard based communications protocols the CFMs communicate directly with a server application running on the utility's own network or the dedicated GridWatch Server. On detecting a valid Earth Fault the CFM immediately report the fault to the GridWatch server application. A dedicated algorithm identifies the location of the fault from the list of CFM fault messages received and, if required, transmits an SMS message (email optional) to a pre-selected list of field service engineers indicating the location of the fault. The status of each ring network is continuously indicated on a dashboard screen.

The GridWatch application also supports Plug&Play deployment of the CFMs, Remote setting of the trip level (if available) and alarm signal input (if installed).

Technical Specifications

General

| | |
|----------------------------|--|
| Power Source: | 1 Lithium Cell C size 5.8Ah (Typical Life Expectancy 5 years) |
| Network voltage range: | 1-36kV AC |
| Impulse voltage withstand: | 10kV, 1.2/50µs waveform |

Sensor

| | |
|--------------------------|---|
| Type: | Standard Split-core CT Type |
| Trip current: | 50A ±10% (Factory options) Optional: Remote trip level setting |
| Minimum fault duration: | 2.5 cycles (50ms@50Hz 40ms@60Hz) |
| Fault current withstand: | 25kA for 1s |

Fault Indicator

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|-----------------------|------------------------------|
| Fault Indicator Type: | Flashing Red LED |
| Unit Reset | Manual Reset or automatic 4H |
| Test/Reset button: | Manual push button |

Communication

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|------------------|--|
| Type: | GPRS Network. (Options: CDMA & EDGE) |
| Antenna Options: | Internal, Stub or remote mount on 3 meter lead |
| Fault Detection: | Immediate alert |

Alarm Switch Input (Optional)

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|------|---------------------------|
| Type | Switch, switching 5V@10mA |
|------|---------------------------|

Environment

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|-----------------------|---------------|
| Humidity range: | 0 - 100% RH |
| Temperature range: | -20°C to 60°C |
| Degree of Protection: | IP65 |

Physical

| | |
|-------------|--------------------|
| Dimensions: | 15mm x 90mm x 55mm |
| Weight: | 250g |