# LineTracker<sub>systems</sub>

**Pole Mounted Fault Monitoring Solution** 

- Reliable Fault Indication
- Time Stamped Fault Records
- Wireless Downloading
- Solar & Battery Powered
- Remote Notification

The self-powered LineTracker Pole Mount System (PMS) detects, classifies, logs and visually identifies faults on overhead distribution networks and assists electricity utilities with:

- Rapid line restoration through accurate fault detection indication
- Post event analysis with fault description and time stamp data reports
- Troubleshooting momentary interruptions, finding the cause of the fault
- Outage Management support with a real-time SCADA alarm interface
- Improvement of network reliability and power quality



# LineTrackersystems Pole Mounted Fault Monitoring Solution

The intelligent line fault indicator accurately detects, logs and visually indicates disturbances to the line crew for quick fault isolation and line restoration.

The LineTracker Pole Mounted System incorporates adaptive fault triggering algorithms that compare changes in both the electromagnetic and electric fields from the distribution line to accurately detect a variety of faults.

Under a faulted condition the PMS provides visual fault indication and logs the fault signature which includes event time stamping, fault ratios, protection activity, device and line status information. The fault history records are downloaded wirelessly on-site to assist in troubleshooting poor performing circuits by identifying the fault path and finding the cause of the fault.

#### System Architecture & Components

- 1. Sensing & Detection: Fault detection, logging and indication
- 2. On-site Wireless Communications:
  - a. LT30PMS, Infra-red handheld used to configure, download and view events.b. LT40PMS, LT-DataLINK radio transceiver used to configure and download events.
- **3. Remote Monitoring:** Fault contact relay output (RS232) for connection to a Remote Terminal Unit (RTU) or cellular modem.

#### 4. LineView Viewing and Analysis Software:

- a. LT30PMS, Export event data to excel for post event and analysis
- LT40PMS, LineView analysis software provides graphical and tabular viewing of LT40 download files.

### ECHNICAL SPECIFICATION

| Network Installation                                      | Overhead 3 Wire , single or 3 phase radial distribution lines   |
|---|---|
| Line Voltage  | Up to 69kV Phase-to-Phase   |
| Fault Detection Range                                     | Phase-Ground and Phase-Phase faults from 10amps to 25,000 amps  |
| Fault Trigger Principle                                   | Algorithms based on electromagnetic current and electric field ratios with<br>adaptive sensing filters that auto adjust to the line signature (load and voltage<br>history) with fault and inrush discrimination  |
| Visual Indication<br>Xenon Strobe<br>Red LED<br>Amber LED | Xenon Strobe, high intensity Red and Amber LED<br>Permanent fault indication, flash every 4 (day) or 8 (night) seconds<br>Transient & Self-Clearing fault indication, flash every 10 seconds<br>Device & Line Status indication, flash every 30 seconds |
| Fault Indication Reset                                    | On successful line restoration and / or timed reset programmable from 1 hour to 4 weeks   |
| Event Record Data   | Event Type (Permanent, Transient and Self-Clearing), date/time, fault ratios, duration, cycles to trip, number of trips, and device health data   |

|                              | LT30PMS   | LT40PMS   |
|------------------------------|---|---|
| Event Log Memory (Total)     | 15 events   | 100+ events   |
| Fault Events                 | 10 events   | 50+ events  |
| Outage Events                | 5 events  | 50+ events  |
| Local On-Site Communications | Infra Red, range 35ft                             | Radio Frequency, range 150ft                        |
| Remote Communications        | RS232 contact relay output                        | RS232 contact relay output                          |
| Fault Alarm                  | Contact Relay                                     | Contact Relay                                       |
| Health Check                 | N/A   | Contact Relay                                       |
| Energy Storage               | 1x2v 8Ah rechargeable Sealed<br>Lead Acid Battery | 2x2V 2.5Ah rechargeable Sealed<br>Lead Acid Battery |
| Typical Battery Life         | 7 years   | 5 years   |

## **ENVIRONMENTA**

Power Source Operating Temperature Range Housing Material Dimensions Weight

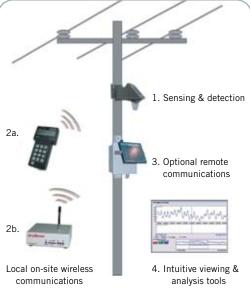


0.5W solar cell -20°C (-4°F) to +80°C (+176°F) Foam Luran S, IP68 weatherproof rating 280x200x240mm, 11"x8"x9" (LxWxH) 3kg (6.6lbs) shipped weight

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Device Configuration Screen

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