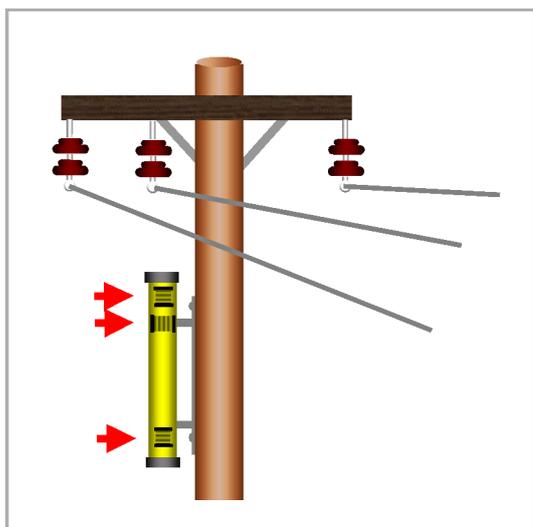




suparule



Remote Line Monitor

- Low-cost, quick and convenient, non-contact measurement of line currents.
- Suitable for any combination of current behaviour, wire geometry, and number of wires.
- Real-time measurement of individual phase currents, phase angles, positive, negative and zero sequence currents, harmonics, wave shapes and frequency.
- Accuracy to less than 5% error.

DESCRIPTION

Suparule Systems Ltd. has developed a new and unique technology, called Remote Line Monitor, for the remote and safe measurement of ac current in overhead high-, medium-, and low-voltage, transmission and distribution lines.

The patented technology involves the detection and measurement of the magnetic field associated with the currents flowing in the wires.

The Remote Line Monitor instrument measures and logs the currents in an overhead power-line by sampling the magnetic field under the line and performing calculations based on the wire geometry. It thus provides quick, convenient, non-contact, and safe measurements of the line currents. The Remote Line Monitor instrument measures and logs the currents in an overhead power-line by sampling the magnetic field under the line and performing calculations based on the wire geometry. It thus provides quick, convenient, non-contact, and safe measurements of the line currents.

does so in digital form. More sophisticated digital algorithms can be applied to differentiate extraneous effects and to cope with various forms of high impedance earthed networks. In this way, digital fault indication can be applied to match the level of functionality of the digital source protection. The technology therefore provides a higher level of sensitivity, reliability and functionality than is currently available.

Power Quality / Disturbance Recording

The current data provided by the sensors can be analysed to provide additional information on harmonics, unbalance, etc. This power quality data can be logged to memory and down loaded to a PC to support power quality monitoring applications. Furthermore the complete network current waveforms can be stored once a disturbance event is triggered. Such disturbance recording applications can provide invaluable data when investigating recurring or transient faults or protection mal-operations.

APPLICATIONS

Load Recording

This application logs the current data over time. The currents for each phase are integrated over defined intervals, e.g. of 10 minutes. This data is logged in memory over a period of several weeks. It can be downloaded to a PC, directly or over a comms link, for analysis and archival. The sensors and logger are combined in a single battery powered instrument.

A current profile is provided for each phase. This provides valuable information on the load shape, phase balance, etc. This information can assist with assessing spare capacity in networks for accommodating new loads, phase balancing, loss analysis, optimising network sectionalising, etc.

Fault Indication

Fault indicators are a key element in network automation. The remote current sensing technology measures the currents in a line with good accuracy. Once set-up, it can extract fault currents independently of wire geometry or background load current. Furthermore it provides more extensive current information, similar to a set of CTs, and

SPECIFICATIONS

Installation:	Pole-mounted
Wire Height Range:	2.5 - 3.5 m from instrument
Measurements Logged:	Rms values for positive, negative, and zero sequence currents, and their relative phase angles
Current Range:	0 - 500 amps
Current Accuracy:	5%
Current Resolution:	1 amp
Wire Configuration:	3 Wire (Three Phase), 2 Wire (Single Phase)

Suparule Systems Ltd.,
Suparule House,
Holland Road,
National Technology Park,
Limerick, Ireland.

Ph.: +353 (0) 61 201030
Fax.: +353 (0) 61 330812
Email: info@suparule.com
Web: www.suparule.com