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# TM series Intelligent distribution line status monitor (system)

## Outline

As an important part of smart grid construction, the big problems faced by intelligent distribution network are how to monitor the operation status of the distribution network line and how to locate fault area quickly and accurately when a line fault occurs. The intelligent distribution line status monitor of TM series, launched by TENPRO ELEC – POWER SCI – TECH LLC, solves this problem with features of low input, accurate monitor and quick localization.

The intelligent distribution line status monitor (system) of TM series is composed of three acquisition units (TG) and one collection communication terminal (TC). It is a technologically innovative distribution line intelligent monitoring product for 10KV distribution network overhead lines or cable lines. Through accurate measuring and high – speed recording of line current, the line fault type can be accurately monitored and the fault area can be quickly located, thereby shortening the time of line fault response and disposal and improving the reliability of power supply.

## Model Description

TM – 123

T: enterprise code (TENPRO Power Technology)

M/TG/TC: intelligent distribution line status detector/ acquisition unit/ collection communication terminal

1/2: overhead line type/ cable line type

1/2/3: localized type/ remote transmitted type/ synthesizing type

1/2/3/4: external signal type/ transient characteristic type/ steady – state characteristic type/ transient recording type

Intelligent line status monitor of external signal type

Intelligent line status monitor of external signal type monitors by installing a signal source collector at the substation grounding neutral or bus or outgoing line. When a short circuit or ground fault occurs in the distribution line, the collector will automatically collect the signal and automatically input the dynamic resistive load in a short time, generate a special current signal between the substation and the fault point, and generate the coded signal current superimposed on the load current through the controlling of the resistance of the resistor. And the monitor installed on the line detects the current signal and gives indication information, thereby realizing rapid localization of the fault point.

Intelligent distribution line status monitor of transient characteristic type

Intelligent distribution line status monitor of transient characteristic type can monitor line current and ground electric field to earth to realize fault detections such as inter-phase short circuit and ground fault and flip or flash the light sign. Meanwhile, the relevant information is reported to the monitoring main station to help the power supply department to quickly locate fault points, handle faults and shorten power outage time, improving power supply reliability.

Intelligent distribution line status monitor of transient recording type

Intelligent distribution line status monitor of transient recording type is a kind of monitor, relying on the innovative small current self-powering technology and wireless communication technology, records the current and electric field waveforms before and after the fault when the line is abnormal. It reports the monitoring data in real time, so that the electric power staffs can master the line conditions at any time, and analyzes the line conditions such as line fault, line load and power quality with the help of big data distribution line comprehensive analysis technology to provide comprehensive and reliable data support for optimizing the distribution network structure.

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## Collection communication terminal (TC)

Collection communication terminal (TC) is the core sensing unit of the intelligent distribution line status monitor of TM series and is the bridge to interact with the system master station. It uses hybrid networking technology of short-range wireless and remote wireless to achieve the capabilities of system channel monitoring, switching and fault alarm; it supports system diagnostics, self-healing and data retransmission function after communication interruption recovery. It ensures a stable and reliable system by using a highly reliable power supply system that adopts solar energy and maintenance-free battery power supply. Through it, the electric power staffs can monitor the line status information and fault information in real time. And it helps to analyze the line conditions such as line fault, line load and power quality with the help of big data distribution line comprehensive analysis technology to provide comprehensive and reliable data support for optimizing the distribution network structure.

Product link : <https://www.onlinemadeinchina.com/?p=1101>