LINAM® TPVS

Test Point Voltage Sensor

Economically monitor voltage and detect outages

- Dependably detect voltage from capacitive test points in distribution source transfer schemes.
- Easily retrofit systems without cutting cables or directly connecting to medium-voltage conductors.
- Simplify integration with IEEE 386-compliant elbows and T-bodies with test points in all distribution voltage classes.

Key Features

Monitor Voltage and Detect Outages

Use the LINAM TPVS in place of other voltage measurement devices, like potential transformers and elbow voltage sensors, to detect system voltage loss where exact system voltage measurement reporting is not required. The sensor's embedded logic provides voltage detection from test points, monitoring the test point voltage of each phase independently and eliminating the need for relay analog inputs for voltage sensors. The sensor provides status information to a follow-on device (e.g., a relay) in a pad-mounted or underground distribution equipment via an auxiliary contact.

Easily Initiate Self-Calibration

The sensor's simple and powerful self-calibration feature eliminates the need to factory-calibrate it to specific separable connectors. Within 30 seconds of initiating self-calibration via the mode selector switch, the TPVS adapts to the unique voltage output of each test point and stores the calibration set points within its nonvolatile memory.

Simplify Integration and Inventory Needs

The TPVS is universally compatible with IEEE 386-compliant elbow and T-body test points. It has two phase sensor ordering options—basic insulating plug or capacitive test point—to cover all applications. Its wide dynamic sensing range accommodates various elbow voltage ratings and underground medium-voltage distribution systems from 2.5 to 35 kV_{L-L}.

Quickly and Safely Retrofit Systems

Use industry-standard hot-line tools to attach the TPVS to capacitive test points or to basic insulating plugs without having to disconnect a distribution separable connector. The control box magnetically attaches to a pad-mounted enclosure or can be fastened to a vault wall. Safely and easily connect the sensors to distribution system test points without cutting existing cables or directly connecting equipment to medium-voltage conductors.

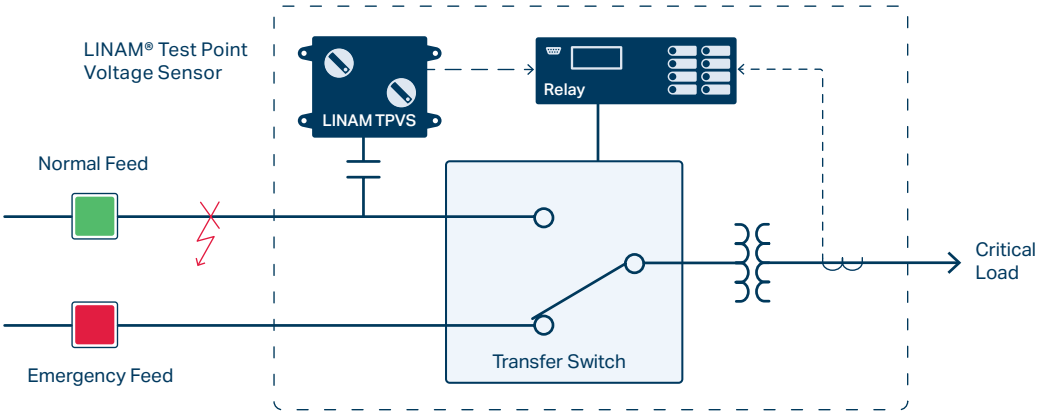
Ensure Operation

The TPVS continuously monitors itself to notify the relay of device or voltage tracking errors. The alarm contact provides the follow-on device (e.g., a relay) with error status used to block the output contact status in the event of a system or device error.

Application

Automatically Transfer Sources

Apply the TPVS in automatic source transfer applications to trigger the operation of the source transfer switchgear upon a loss of voltage. When the sensor detects a loss of system voltage on the primary source that feeds mission-critical loads, it opens its auxiliary contact and signals a relay to initiate a transfer to an alternate source, restoring power to the critical load.



Overview

Mode selector to initiate self-calibration and select operating modes

LEDs to indicate calibration state, phase loss and presence, and output contact state

I/O cable to power the TPVS and communicate status of output and alarm contact.

Voltage loss threshold selector to choose one of four voltage loss thresholds

Three sensors with two ordering options: basic insulating plug or capacitive test point

Specifications

General	
Separable Connector Voltage Ratings	15, 25, 28, and 35 kV_{L-L}
Distribution System Voltage Range	2.5—35 kV_{L-L}
Separable Connector Types	Elbow or T-body
Test Point Style	Capacitive test point or basic insulating plug
Separable Connector Manufacturer Compatibility	Elbow or T-body per IEEE 386
Power Supply	Rated supply voltage: 24—48 Vdc
Default Voltage Presence Threshold	5% (±1%) above the selected voltage loss threshold
Voltage Loss Threshold Settings	50%, 60%, 75%, and 85%
Operating Modes	Voltage loss of any phase or voltage loss of three phases
Voltage Detection Time	Loss and presence: 10 cycles (±2 cycles)
Nominal System Frequency	40—66 Hz
Contacts (electromechanical)	Form C supported
Dimensions (control box)	168.7 × 254.5 × 62.2 mm (6.64 × 10.02 × 2.45 in)
Operating Temperature	—40° to +85°C (—40° to +185°F)

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