



UltraTEV Alarm™

The Partial Discharge (PD) activity early warning system
Continuous monitoring of substation switchgear. Identifies faults and safety issues
BEFORE they lead to failures



Benefits

- Early warning of faults prevents failures
- Enables timely interventions when maintenance is required
- Warns personnel if switchgear is in a dangerous condition
- Excellent cost/benefit justification

Features

- Effective continuous monitoring with both ultrasonic and Transient Earth Voltage (TEV) sensors
- Multi-node sensor units can monitor 100+ assets simultaneously
- Receive alerts anywhere, via email or text message
- Simultaneously measures local humidity and temperature conditions
- Central Hub unit LED indicators provide immediate indication of PD problems

Operation

- Measure the surface activity using the ultrasonic mode, and compare the result with those taken from other similar assets
- Listen to the surface PD activity from the audio output (the system heterodynes the ultrasonic signal for this purpose)
- Nodes are linked to the Alarm Hub which indicates when PD activity in one or more assets is at critical level
- LEDs on the individual sensor nodes indicate which assets are affected
- Audible/visible alarms can be mounted outside the substation for added safety
- Ultrasonic Contact Probe detects PD activity in sealed cable boxes
- Can be used as a portable system or installed permanently

Specification

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ALARM NODE	
Signal Input	Built in TEV sensor plus input for external ultrasonic sensor
TEV Pass band	3 – 80 MHz
Ultrasonic Centre Frequency	40 kHz
INDICATORS	
Power/Running LED	Bi-colour Red/Green LED
Current TEV Alarm	Bi-colour Red/Green LED
Historic TEV Alarm	Bi-colour Red/Green LED
Current Ultrasonic Alarm	Bi-colour Red/Green LED
Historic Ultrasonic Alarm	Bi-colour Red/Green LED
CONNECTORS	
Power and Alarm Signals	2 off four-way terminal block
Ultrasonic Sensor	Lemo socket
CONTROLS	
Reset Input	Recessed Push-button
Test Signal	Recessed Push-button
OUTPUTS	
Alarm Signals	Pulse Code Modulation
DIMENSIONS	
Size	105 x 105 x 50 mm
Weight	0.26 Kg
POWER SUPPLY	
Low Voltage DC	24V 36 mA
ENVIRONMENTAL	
Operating Temperature	0 - 55°C
Humidity	0 - 90% RH non-condensing
IP Rating	53
EMC	
Safety Class	SELV
EMC Immunity	Industrial Levels
EMC Emissions	Domestic Levels

accessories and options

MODEL	DESCRIPTION
Hub with GPRS Option	Receive condition alerts instantly via SMS text messages or email, with this GPRS enabled version of the hub
Hub without GPRS Option	Volt-free contacts for optional SCADA connection
Additional Sensor Nodes	Built in TEV sensor complete with airborne ultrasonic microphone
Ultrasonic Node	Works directly with the Alarm Hub, monitoring ultrasonic PD emissions only. Can be daisy-chained
Short Microphone with Magnetic Base	
Long Microphone with Magnetic Base	
Close Coupled Ultrasonic Sensor	
Alarm Node Calibration Checker™	Instantly checks that your Alarm Nodes are operating within specification
Portable 10 Node System Case	Waterproof, robust, pull along case with foam inserts
Ultrasonic Contact Probe	Detects surface discharge activity through ultrasonic vibrations



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