

UHF Partial Discharge Detector Handheld online PD substation surveying system



- **Non-invasive tool for online PD measurements in MV and HV substations**
- **Large colour touch-screen for easy operation**
- **Dual channel system for direct comparison between two sensors**
- **Synchronises with power frequency via internal, mains or external sensor for PRPD pattern recognition**

DESCRIPTION

The UHF PD Detector is the ideal tool for quick, non-invasive surveys in MV and HV substations and should be part of the toolbox for all maintenance and service teams. Thanks to high bandwidth, UHF measurements can accurately measure local online PD activity in frequencies above those of common disturbances. In addition, the high bandwidth together with PRPD (phase resolved partial discharge) pattern display, can categorise the different types of defect. Corona discharges and surface discharges can be easily distinguished from the dangerous internal partial discharges, which is another advantage of this type of technology.

Both MV and HV substations can be monitored using the UHF PD Detector thanks to the wide variety of sensors which can be connected to it. This combines with the unique benefit of having both RF and UHF measurement capabilities integrated into one single unit. Typical HV assets that can be diagnosed for partial discharges include cable end-terminations, surge arrestors, voltage transformers, isolators etc.

The standard UHF PD Detector comes with a di-pole antenna for UHF surveying. Inductive (HFCT) and capacitive (TEV) sensors for measuring MV cables and switchgears are available as optional extras. A UHF PD coupling sensor is also available, offering the most detailed and precise measurements for HV components like terminations. The sensor is applicable up to 500kV rated systems.

The dual channel functionality makes it possible to compare two phases or two types of UHF sensors with each other. This further increases the scope of use for the UHF Detector, making it the most unique and cost effective unit of its kind.

In order to get accurate and reliable PRPD patterns, synchronization with the power frequency is essential. Synchronization with the UHF PD detector is secured using the standard mains plug synchronization sensor or with help from the integrated synchronization sensor. An external synchronization sensor is also available to ensure the UHF PD detector is directly in phase with the test object.

The unit can either be operated via a foil keypad or via the large 6" color touch-screen. Menus and settings are kept to minimum and users are guided through the entire measurement process to increase the ease of use. Operating time of the unit is at least 10 hours, allowing a full day of surveying.

TECHNICAL DATA

UHF PD detector

Frequency range	
UHF	150 ... 1000 MHz
RF	100 kHz ... 70 MHz
Sensitivity	-90 dBm
Display	6 inch, color touch-screen, 640 x 480 pixels
Internal memory	10 Gb
Power supply	
Charger	Input voltage 100 ... 240 V, 50/60 Hz, output voltage 12 VDC
Internal battery	Li-Ion 7.4V/12.25 Ah
Battery life	> 10 hours
Charging time	± 6 hours
Interfaces	
Wireless	868 MHz (standard)
(mains sync)	913 MHz (US-version)
Data	USB 2.0 (host)
Temperature	
Operation	-20 °C ... 50 °C
Storage	-30 °C ... 70 °C
Relative humidity	93 % at 30 °C (non-condensing)
IP rating	IP 65 IP 67 (in transport case)
Weight	
UHF PDD	1.9 kg
Transport case	3.8 kg
Total weight	6.9 kg (incl. device, mains sync, charger, antenna and cables)
Dimensions (W x D x H)	
UHF PDD	25 x 19 x 10 cm
Transport case	46.5 x 28 x 34.5 cm

FEATURES

- Inbuilt synchronization sensor
- Dual channel
- Performs RF and UHF measurements
- For MV and HV substation surveying
- 6 inch color touch-screen
- Spectrum, time domain and PD level measurement
- Rugged hard-case for safe storage and transportation
- Inbuilt pulse-generator for sensitivity/ functionality check

ORDERING INFORMATION

Product	Order no.
UHF PDD standard version	1013299
UHF PD detector, mains synchronization sensor, UHF di-pole antenna, charger, BNC cable, mains cable, rugged transport-case	
UHF PDD US/ Canada version	1013300
UHF PD detector, mains synchronization sensor, UHF di-pole antenna, charger, BNC cable, mains cable, rugged transport-case	
Options:	
UHF external synchronization sensor	1007236
Stereo headphones	810002087
Optional sensors:	
UHF C1 PD termination sensor	138315730
Mounting kit flat	1004702
Mounting kit angled 90°	1004046
Connection cable UHF C1 PD – UHF PD Detector	90019342
UHF Duck antenna	90017365
Permanent mini HFCT 20	1006296
Split-able HFCT 40	1009667
Split-able HFCT 60	1012681
Connection cable HFCT – UHF PD Detector	502020108
TEV sensor, incl. 5m BNC connection cable	1009680

* We reserve the right to make technical changes.

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