

## PDtect<sup>®</sup> 4-fixed

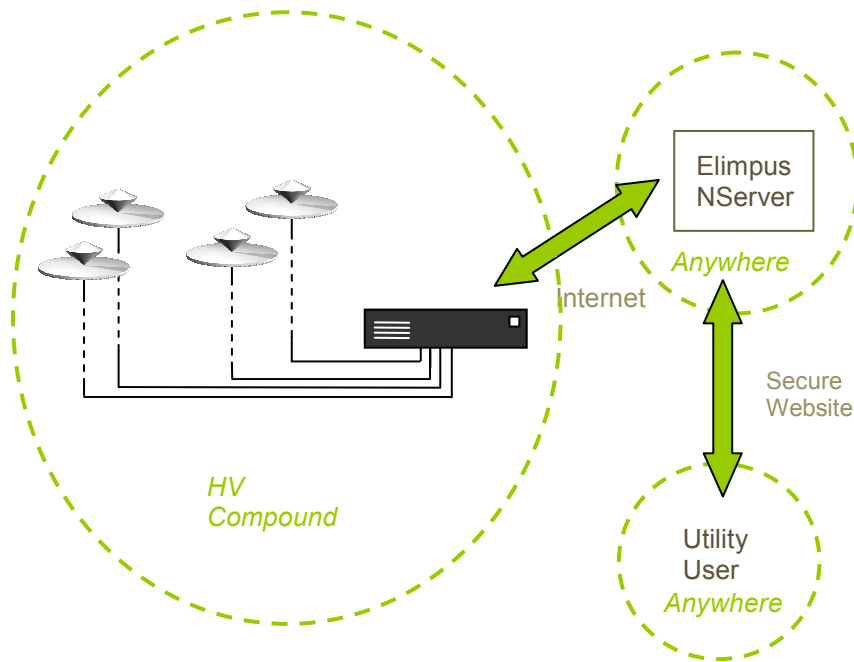
Radiometric PD detection and location system suitable for air-insulated substations. Permanently fixed monitoring equipment in the high-voltage compound continuously monitors for PD. The results are communicated to a server where the PD locations can be accessed and viewed by the user.



### **PDtect<sup>®</sup> technology**

The Elimpus PDtect<sup>®</sup> series of radiometric PD locators detect the presence of partial discharge (PD) through the reception of radio frequency impulses emitted from stressed insulation. Due to the ultra-high bandwidth (0.01 – 0.75 GHz) and ultra-high speed sampling rate (1.5 G samples per second), the locator is able to determine the direction of arrival of a PD impulse by tracing its propagation across a four antenna array. Thus, by computer analysis of the recorded signals, the source of the PD can be located and its severity assessed.

## PDtect<sup>®</sup>4-fixed – an introduction



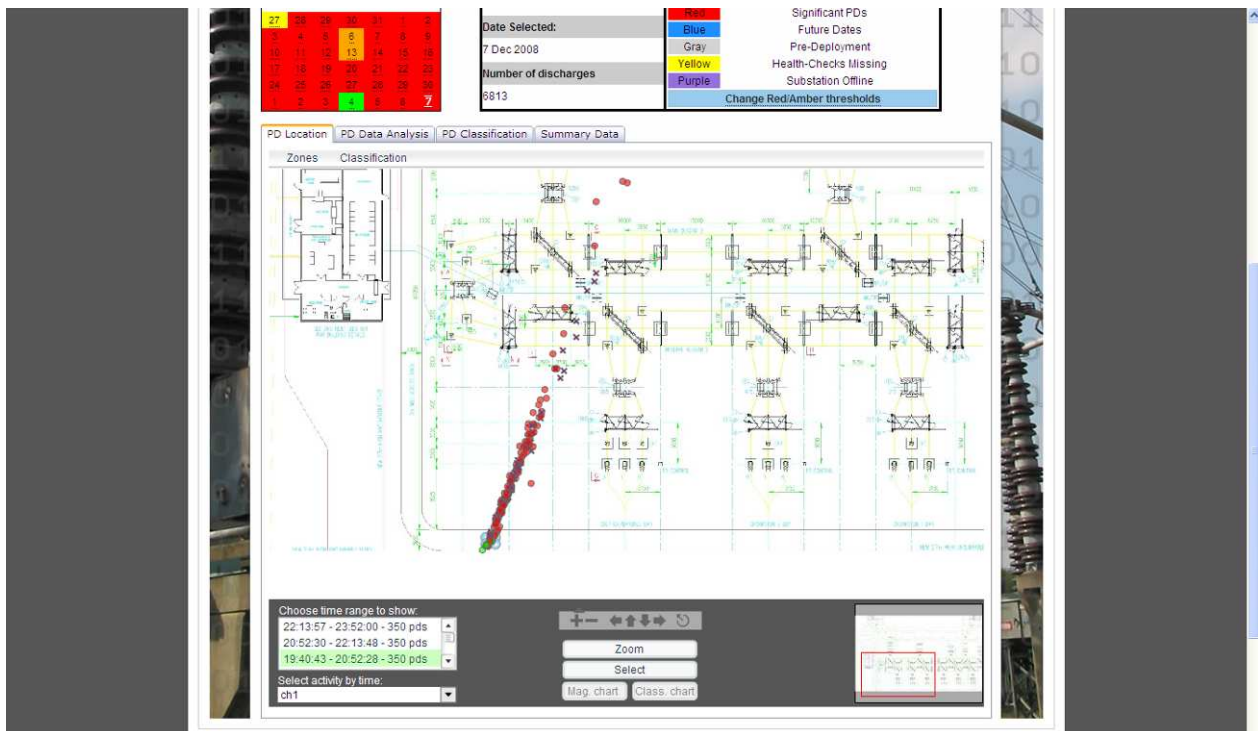
### PDtect4-fixed overview

The PDtect<sup>®</sup>4-fixed is the flagship of the Elimpus' PDtect<sup>®</sup> technology range. PDtect<sup>®</sup>4-fixed provides continuous monitoring for PD effects within the local high-voltage compound. Using internet technology, data recorded from PDtect<sup>®</sup>4-fixed is up-loaded every 90 seconds to a web server running the Elimpus NServer software. NServer calculates the PD position which is served to the user using secure, password protected accounts. NServer allows the user to see the PD position superimposed onto a plan view of the local substation, along with other PD metrics including time of capture and amplitude. Additionally, the user can set alerts for a variety of PD behaviour patterns; the alerts are communicated by either email, or SMS message. The use of internet technology allows the user to log into NServer from any location, along with the flexibility to site the NServer hardware in the most convenient and appropriate location, e.g. in the substation, in the Head Office, or contracted out to a third party.

## PDtect® 4-fixed – main features

The salient features of PDtect® 4-surveyor are:

- Permanently installed antenna array fixed in, or close, to the high-voltage compound.
- Large array dimensions – typically > 5 m – give good location resolution.
- Wideband diskcone antennas give high sensitivity to PD impulses.
- On site recording hardware monitors for PD 24 hours a day, 365 days a year.
- NServer web software collects site recorded data and processes PD positions.
- Site recorded data uploaded to NServer every 90 seconds for near real-time PD display.
- Ability to set alerts for PD rate of emission and amplitudes metrics



Screenshot of NServer web screen showing PDtect® 4-fixed results

## PDtect®4-fixed – component parts

Component parts of PDtect®4-fixed:

1. Diskcone antennas (4 off)
2. Antenna poles (4 off)
3. Antenna pole brackets (4 off)
4. Recording unit (1 off)
5. Antenna connection leads (4 off)

Depending on the installation:

- UPS (1 off)
- GPRS moden (1 off)
- NServer software
- NServer hardware



Installation pictures

## PDtect® 4-fixed – specifications

Array	Array dimensions	TBD*
	Antenna type	Diskcone
	Antenna pole diameter	50 mm
Recording box	Weight	4 kg
	Supply voltage	230 Vac
	Current drawn	<1 A
	Number of channels	4
	Sampling rate per channel	1.5 GSps
Connection to NServer	GPRS modem	TBD*
	Directly wired	TBD*
Leads	Antenna lead length	TBD*
Certification	Tested to IEC61010-1:2001, CE marked	
Environmental	Operating temperature range	0°C to +40°C
	Storage temperature range	-10°C to +50°C

\* Installation recommendations are subject to a site survey.

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