

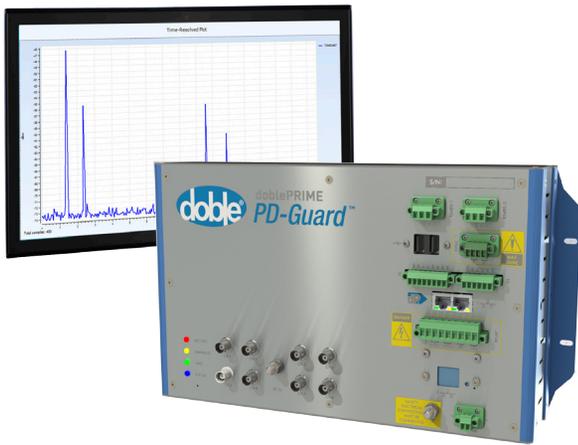
DOBLE ON-LINE MONITORING

doblePRIME PD-GUARD

Partial Discharge Analyzer

FOR THE CONTINUOUS MONITORING OF PARTIAL DISCHARGE

The doblePRIME PD-Guard continuously monitors partial discharge (PD) in transformers, rotating machines, cables and switchgear including GIS and metal clad. It analyzes both PD and EMI emissions in HF, VHF and UHF ranges, providing actionable alerts when insulation deterioration is detected. The doblePRIME PD-Guard provides local alarms and will communicate data and notifications across standard interface channels and through to networked supervisory systems. The doblePRIME PD-Guard includes multiple analysis capabilities, including IEC 60270 consistent measurements, Qiec, and an enhanced IEC measurement more suitable for field applications, Qhf. The built in Peak-to-Average-Power Ratio (PAPR) tool trends PD/EMI severity, and alerts when deeper diagnostics of Phase Resolved, level resolved or time resolved signal analysis is recommended. The doblePRIME PD-Guard works with a variety of sensors including antenna for airborne PD, CTs for individual or bundled conductors, UHF drain valve probes for in-tank applications, and bushing tap sensors. Designed to fit your monitoring program, the doblePRIME PD-Guard can operate as a standalone device or as part of a doblePRIME Condition Monitoring Platform.

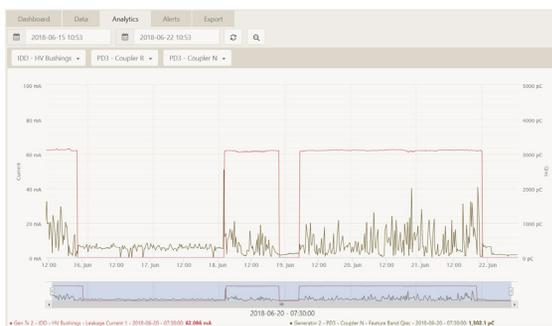


FEATURES

- An independent PD monitoring system, configured via computer, tablet or web-enabled device
- Built-in visual alert status indication
- Built in PD/EMI severity analysis summarizes and trends PD/EMI levels and indicates when to use the detailed diagnostic tools available
- Alarm relays for external notification
- Broadband RF signal detection including peak, average and quasi-peak
- Quasi-peak detector designed for CISPR 16-1-1:2010 EMI Standard
- Extensive diagnostic tools including QIEC (IEC 60270 compliant), quadratic rate, phase resolved analyses and PAPR, which extends the range of QIEC to broaden diagnostic capabilities

BENEFITS

- Monitor PD in critical and high-risk assets
- Save costly equipment by quickly reacting to rapid insulation deterioration warnings
- Identify problem areas, diagnose the severity of the situation and plan action and intervention
- Plan for further testing, maintenance and replacements in a proactive, risk management approach
- Use as a standalone product, networked to existing SCADA system, or as part of a doblePRIME Condition Monitoring Platform



doblePRIME PD-GUARD TECHNICAL SPECIFICATIONS

DATA ACQUISITION	
TUNERS (BOTH)	
Inputs	4 or 8 channels, multiplexed
Connector	BNC
Input impedance	50 Ω
Maximum Input	+10 dBm for reading (+25 dBm with optional attenuation)
Dynamic range	60 dB
Detection types	Peak, quasi-peak and average detector
Sweep processing	Continuous, Average, Max Hold and differential
RFI TUNER 1	
Bandwidth	50 kHz to 50 MHz
Resolution Bandwidth	9 kHz / 120 kHz
Noise floor	Approximately -90 dBm for peak detect or -100 dBm for average detect (RBW 9 kHz)
RFI TUNER 2	
Bandwidth	50 MHz to 1000 MHz
Accuracy	\pm 100 kHz
Resolution bandwidth	120 kHz / 1 MHz / 6 MHz
Noise floor	Approximately -80 dBm for peak detect or -90 dBm for average detect (RBW 6 MHz)
EMI MODE	
Bandwidth	50 kHz to 100 MHz
Resolution bandwidth	9 kHz / 120 kHz
AC SYNCHRONISATION	
Wired sync to external AC source	
MEASUREMENT MODES	
RF modes	Spectrum Oscilloscope (Time resolved) Level meter
Results output	IPwr (Integrated Power) PAPR (Peak-Average Power Ratio) PRPD (Phase Resolved PD) QIEC (IEC 60270 compliant) Quadratic rate (QR)
CPU, MEMORY AND BUSES	
Host CPU	ARMv8 1.2GHz
Memory	1 GB RAM, 4GB Flash

PRIME GATEWAY	
CPU, MEMORY AND BUSES	
Host CPU	ARMv8 1.2GHz
Memory	1 GB RAM, 4GB Flash
STORAGE	
32GB eMMC Flash for application and data storage	
PERIPHERALS	
USB 2.0 2x Isolated RS485 (Modbus, DNP3) 10/100 BaseT Ethernet (DNP3, Modbus, HTTP) Alert LED (Status, Info, Warning, Action) Status Relay, 240VAC 5A (Status, Info, Warning, Action) IEC61850 option	
ENVIRONMENTAL	
Humidity	0-95% non-condensing
TEMPERATURE*	
Operating temperature	-20°C to +50°C
Extended temperature	-40°C to +60°C
Storage temperature	-20°C to +70°C
MECHANICAL DATA	
Height	200mm / 7.9 in
Width	330mm / 13.0 in
Depth	82mm / 3.2 in
Weight	2kg / 4.4 lbs
Construction	Anodized aluminum
POWER SUPPLY	
External supply	24 V DC @ 1 A
An optional power adapter can be supplied to suit global mains voltage	

*Note: Temperature is extended when using a climate controlled enclosure



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Specifications are subject to change without notice.
Doble is ISO certified.
Doble is an ESCO Technologies Company.
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