

PDM-600

Advanced Multi-Sensor Partial Discharge (PD) Monitoring System for Transformers and GIS



- Continuous PD monitoring
- Can be configured with up to 6 input channels (UHF, electrical (IEC 60270), acoustic, or TEV)
- Calibration acc. IEC 60270 and Cigré TB 861 (UHF) possible
- Platform-independent web GUI
- ModbusTCP, Relays, IEC 61850
- Integrated long-term PD data storage
- Optional BSS Monitoring Cloud uplink

PDM-600 2xUHF | 2xIEC | 2xAE

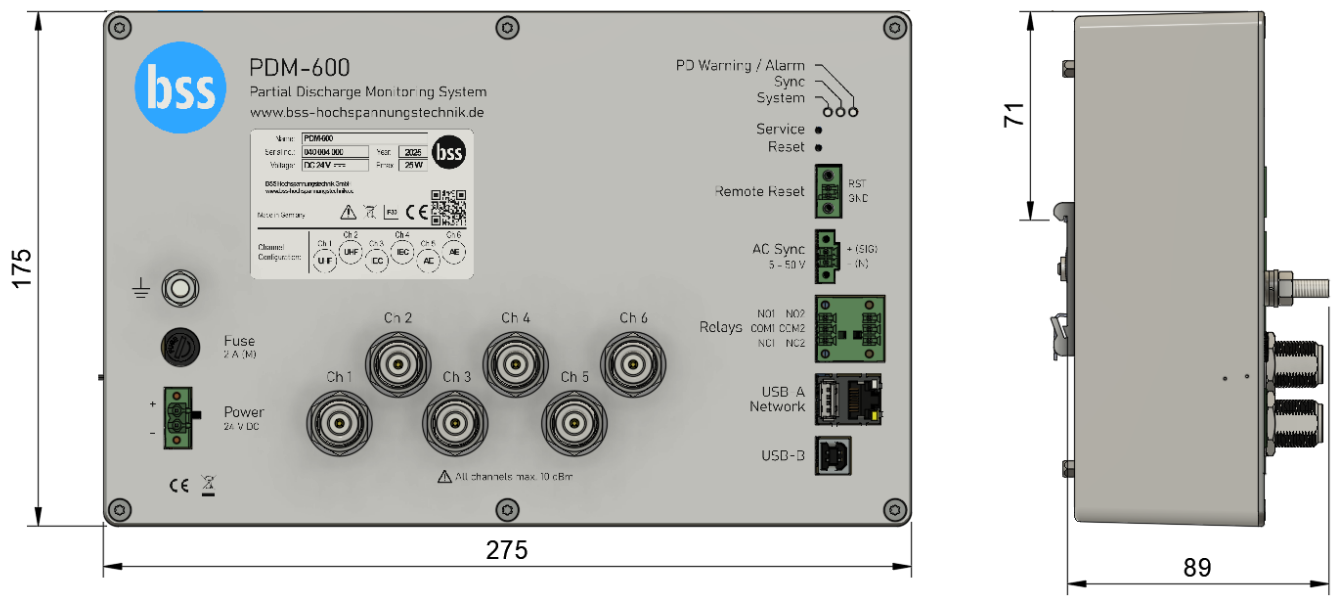
Technical Data

Channels	1 ... 6 (continuous parallel measurement), with N-connectors			
	UHF Electromagnetic PD measurement	IEC Charge-based electrical PD measurement	AE Acoustic PD Measurement	TEV Capacitive PD Measurement
Frequency range	200 MHz - 3 GHz	4 switchable input filters: • 100 - 500 kHz • 500 - 900 kHz • 1.25 - 1.75 MHz • 2.25 - 2.75 MHz	50 kHz – 500 kHz	5 MHz – 100 MHz
Sensitivity	-75 dBm	-80 dBm	-80 dBm	-80 dBm
Dynamic range	70 dB	90 dB	90 dB	90 dB
Typical PD measurement range ¹	1 mV/m ... 3 V/m (Cigré TB 861 calibrated)	1 pC ... 30 nC (IEC 60270 calibrated)	not applicable	not applicable
Vertical resolution	12 bit per channel (logarithmic)			
Input impedance	50 Ω	1 kΩ	10 kΩ	50 Ω
DC-Bias	not applicable	not applicable	20 V, max. 100 mA per channel, software controlled	not applicable

¹ Depends on calibration and noise environment.

Phase resolution (horizontal resolution)	1° for 50 Hz & 60 Hz systems (18 kS/s & 21,6 kS/s)	
Phase synchronization	external on AC voltage U_{rms} :	5 V ... 50 V
	frequency range:	12 ... 200 Hz & fallback to internal 50 Hz clock
Power supply	24 V DC $\pm 10\%$, 25 W	
Physical interfaces	RJ45 Ethernet, USB-A and USB-B, two relay contacts	
Communication protocols	Web-GUI (platform independent web interface) ModbusTCP IEC 61850 HTTP API (REST) and iFrames	
Dimensions PDM-600 for DIN rail (W x L x H)	275 mm x 175 mm x 89 mm	
Dimensions PDM-600 with mounting plate (W x L x H)	275 mm x 202 mm x 100 mm	
Weight	1.8 kg	
IP protection class	IP30 for installation inside enclosure	
Operation temperature	-25°C ... +70°C	
Storage temperature	-25°C ... +70°C	
Relative humidity	max. 95% (non-condensing)	
Maximum operating height	2000 m above sea level	

Dimensions



All measurements in mm

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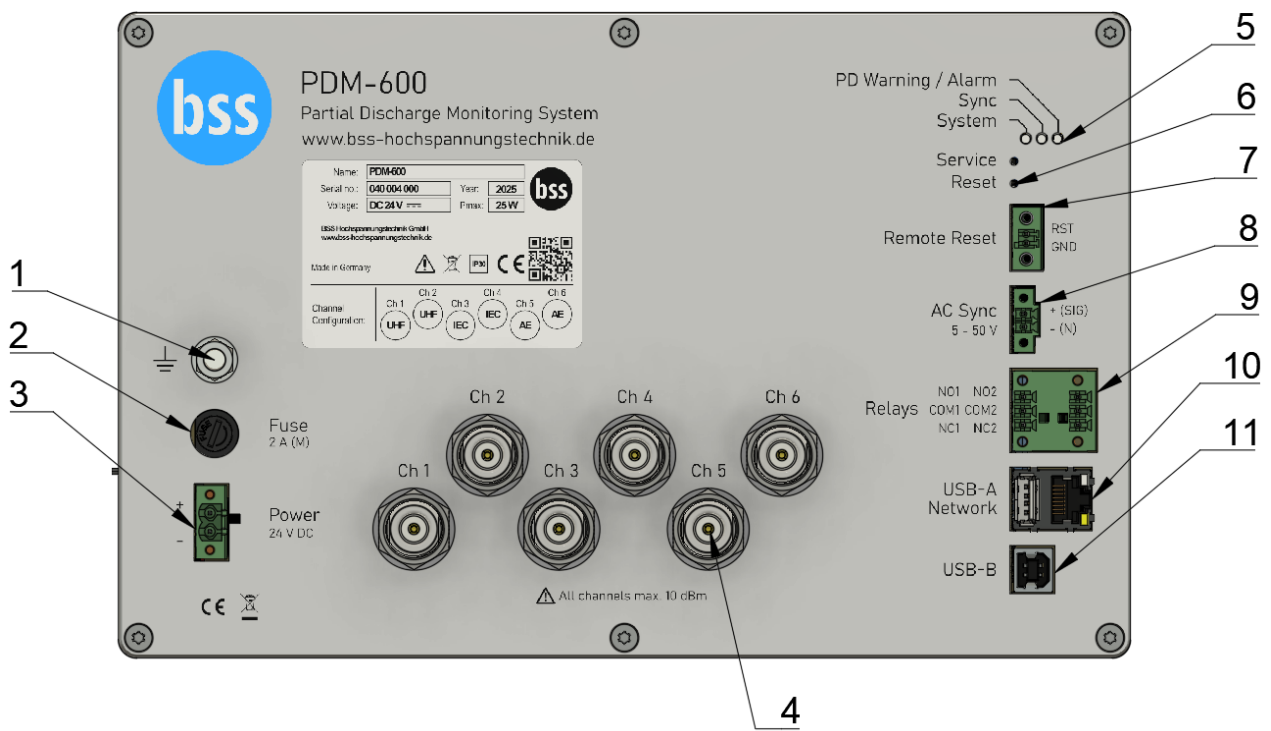
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Type Tests

CE conformity	EMC, RoHS
EMC	EN IEC 61326-1 Emission: CISPR 11 / EN IEC 55011 Immunity: EN IEC 61000-4-2 / EN IEC 61000-4-3 / EN IEC 61000-4-4 / EN IEC 61000-4-5 / EN IEC 61000-4-6 / EN IEC 61000-4-11
Environmental	Temperature ratings: EN IEC 60068-2-1 / EN IEC 60068-2-2 Mechanical ratings: EN IEC 60068-2-6 / EN IEC 60721-3-2 / EN IEC 60255-21-3 IP-Class Certification: ISO 20653

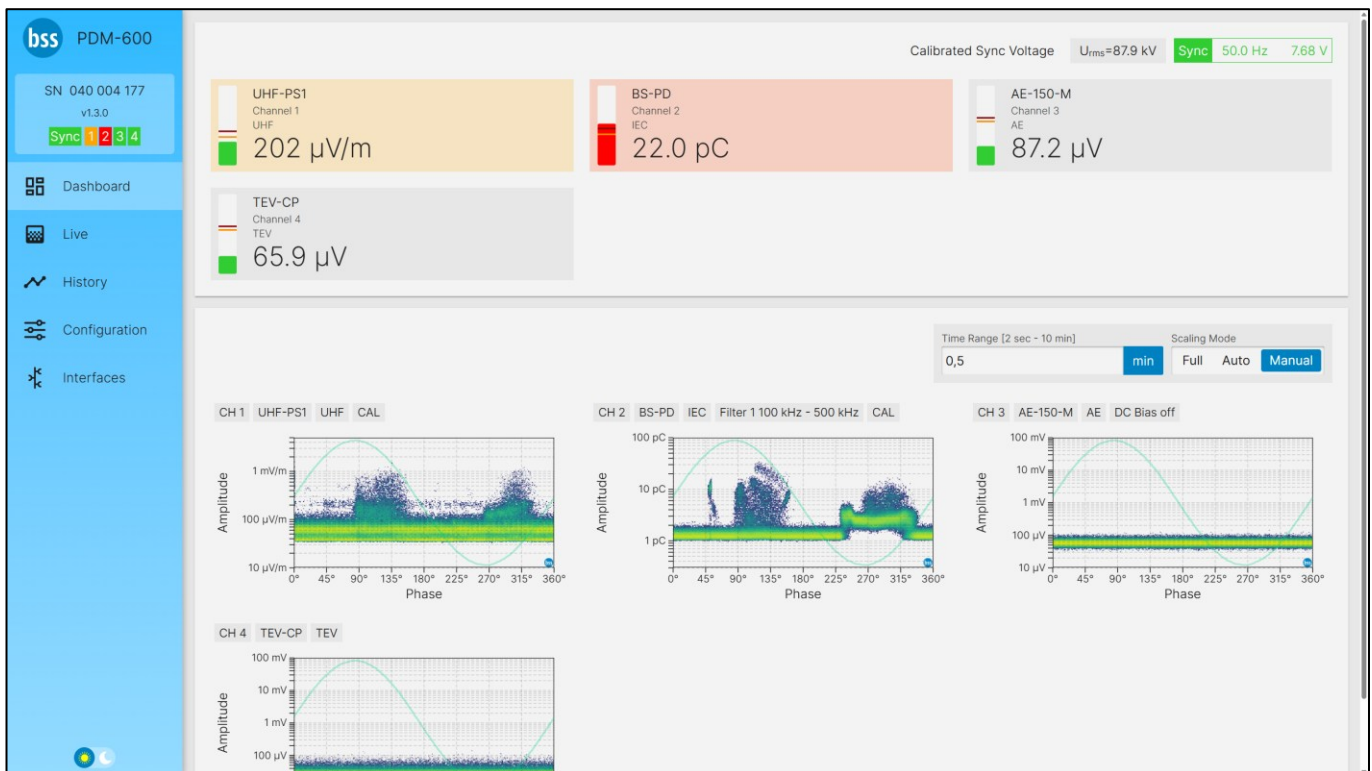
Design



1	M6 grounding screw with disc washer and nut	2	Fuse
3	24 V DC Supply Port	4	PD input channel ports (up to six)
5	Status LEDs	6	Service and reset button
7	Reset port	8	Synchronization port
9	Relay port	10	USB-A and RJ-45 network ports
11	USB-B port		

Web GUI

- Platform independent web interface with live PD levels, PRPDs (phase-resolved PD pattern), trends, and time domain PRPDs
- Automatic long-term PD data storage with intelligent retention policy up to 10 years
- Configuration of alarm and warning threshold levels, electrical IEC 60270 and UHF Cigré TB 861 calibration for all individual channels
- Setup of communication interfaces: IP configuration, Modbus TCP, IEC 61850, two Relays, and HTTP API and iFrames
- Access to the web GUI is included with the product purchase. No additional software license or subscription costs apply.



PDM-600 web interface

Scope of Delivery

PDM-600 Product No: BSSA000321-A-B-C-D

- PDM-600 with attached DIN-rail clips
- Routine test protocol including factory calibration certificate
- Quick reference guide
- Disc washer and nut for ground screw
- Terminal block connectors:
 - DC power supply plug cable mount: (Würth Elektronik part no 691343710002)
 - Remote reset plug cable mount: (Würth Elektronik part no. 691381030002)
 - AC sync plug cable mount: (Würth Elektronik part no. 691364100002)
 - Relay plug cable mount: (2 pcs. Würth Elektronik part no. 691364300003)

Order Information

Order code scheme: BSSA000321-A-B-C-D

A ... Number UHF PD input channels

B ... Number electrical (IEC) PD input channels

C ... Number acoustic (AE) PD input channels

D ... Number capacitive (TEV) PD input channels

Max. 6 channels in total. Typical order codes listed as examples in table below.

Channels: Number and Type	Order Code
2 ch. UHF	BSSA000321-2-0-0-0
3 ch. UHF	BSSA000321-3-0-0-0
4 ch. UHF	BSSA000321-4-0-0-0
3 ch. IEC	BSSA000321-0-3-0-0
6 ch. IEC	BSSA000321-0-6-0-0
3 ch. IEC & 2 ch. UHF	BSSA000321-2-3-0-0
3 ch. IEC & 2 ch. UHF & 1 ch. AE	BSSA000321-2-3-1-0
3 ch. IEC & 2 ch. UHF & 1 ch. TEV	BSSA000321-2-3-0-1
3 ch. IEC & 3 ch. AE	BSSA000321-0-3-3-0
3 ch. IEC & 1 ch. UHF & 1 ch. AE & 1 ch. TEV	BSSA000321-1-3-1-1

Available Accessories

Description	Order No.
Installation Accessories	
DIN rail AC/DC supply	BSSA001520
DIN rail AC transformer for sync voltages $U_{rms} > 50$ V	BSSA000289
Mounting plate (preinstalled mounting plate instead of DIN rail clips)	BSSA001514
UHF cable RG316D for installation in control cabinet, length 0.5 m	BSSA000292
UHF cable RG316D for installation in control cabinet, length 1.0 m	BSSA000293
UHF cable RG316D for installation in control cabinet, length 2.0 m	BSSA000294
UHF cable RG316D for installation in control cabinet, length 3.0 m	BSSA000295
Control cabinet feed-through N to N	BSSA000296
UHF cable LMR-400 (outdoor use)	BSSA001091
UHF cable HF 400 LSNH (indoor use, halogen free)	BSSA001085
UHF cable RG214	BSSA001083
N connector straight (suitable for RG214)	BSSA001084
N connector straight (suitable for HF 400 and LMR-400)	BSSA001086
PD Sensors	
Window-type UHF sensor UHF-PS1 standard aluminium version	BSSA000406
Window-type UHF sensor UHF-PS1 V4A stainless steel version	BSSA001506
Dielectric Window	BSSA000403
Welding Ring standard V2A version	BSSA000527
Welding Ring V4A version	BSSA001505
Drain valve UHF sensor UHF-DVS-25 for retrofit solutions	BSSA001186
Drain valve UHF sensor UHF-DVS-50 for retrofit solutions	BSSA000896
Bushing sensor BS-PD	see BS-PD datasheet
Acoustic sensor AE-150-M	BSSA001212
Reference Signal Generation	
IEC calibrator CAL-IEC (different models with selectable output range)	see CAL-IEC datasheet
UHF calibrator CAL-UHF	see CAL-UHF datasheet
UHF impulse generator HFIG-600	see HFIG-600 datasheet

Legal Information

A copy of the Declaration of Conformity, manual and other relevant documents are available by request from BSS Hochspannungstechnik GmbH: support@bss-hs.de

All information can be subject to error and change without notice.

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