

ICMcompact Stand-alone PD detector



- Allows factory acceptance tests (FAT) and measurements according to IEC 60270
- User-friendly setup
- Available in three housing versions (half 19 inch desktop version, 19 inch rack mountable version, robust outdoor Explorer case)
- High modularity and robustness

DESCRIPTION

The ICMcompact is a digital compact partial discharge (PD) measuring device for the condition evaluation of medium and high voltage insulation. It is typically used for quality assurance and quality control, including factory acceptance tests (FAT), end-of-line testing, and post repair. It is also suitable for field use.

The ICMcompact is primarily intended for the following assets:

- Factory acceptance tests for MV and HV assets
- Distribution transformers
- Instrument transformers (voltage transformers and current transformers)
- MV and HV cables
- Electronic components (i.e., insulated-gate bipolar transistors)

The ICMcompact is available in three housing types, depending on your main purpose:

- Desktop version
- In-house device (integrated into a test bench)
- Portable version (Explorer)

YOUR ADVANTAGES

- Reducing failures and risks of total breakdowns

- Ensure quality assurance
- Flexible configuration with accessories and additional functions

OPTIONAL FEATURES

It is possible to equip the ICMcompact with extras and additional functions:

- PD spectrum analysis
- PD fault location for cables with digital storage oscilloscope (DSO) function
- Radio influence voltage (RIV) measurement
- High voltage measurement (HVM)
- Analogue gating
- Four- or twelve-channel multiplexer
- Battery-operated and cordless device with up to three hours operation time (Explorer case only)
- LAN and fibre optic serial link
- Auxiliary inputs for recording additional data such as power and temperature
- PC or laptop and control software
- Rugged case ICMoutlander for outdoor use under demanding conditions

TECHNICAL DATA

Mains supply	90–264 V AC, 47–440 Hz (automatic)
Line fuse	1.6 A (time-lag)
Power requirements	Approx. 40 VA
Battery (optional)	3 hours continuous operation
Display	Backlit LCD
Display size	120 mm x 64 mm
Display resolution	128 x 240 pixels b/w
Standard display modes	PD charge meter, oscilloscope-like display, phase-resolved PD pattern (PRPD)
Operation	5 menu supported buttons, 5 fixed function buttons (with multi-channel version) or remote controlled via software
Recorder output	0–10 V with $R_o = 100\ \Omega$ (re-converted analogue value of the meter reading)
Operation temperature	0–45 °C (non-condensing)
Input impedance	50 Ω 50 pF (AMP IN)
A/D converter (PD)	8 bits (unipolar) / ± 7 bits (bipolar)
Size (W x H x D)	236 x 133 x 300 mm ³ (desktop model, exclusive BNC connectors) 305 x 144 x 270 mm ³ (Explorer case, closed) 305 x 360 x 270 mm ³ (Explorer case, open) 482.5 x 133 x 345/310 mm ³ (19 inch rack mountable version)
Weight	~ 4 kg (½ 19 inch model) ~ 4.4 kg (Explorer case)

Standard PD mode

Lower cut-off (-6 dB)	40, 80, or 100 kHz (software-controlled)
Upper cut-off (-6 dB)	250, 600, or 800 kHz (software-controlled)
Input sensitivity	< 500 $\mu V_{rms}/5\ pC$ (without preamplifier)
Gain range	1, 2, 4, 8, 10, 20, ..., 200, 400, 800

Preamplifier

Input impedance:

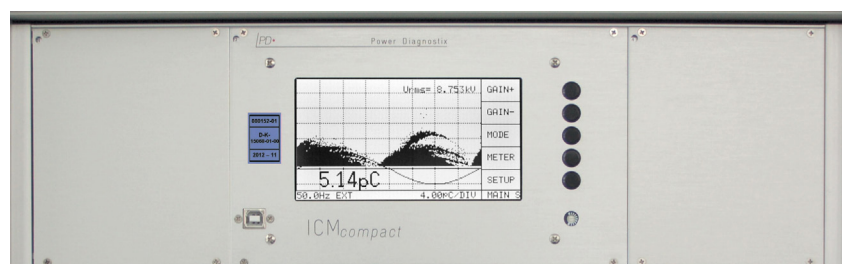
RPA1/RPA1D	10 k Ω 50 pF
RPA1L/RPA1H	1 k Ω 50 pF
RPA2	50 Ω 50 pF

Input sensitivity:

RPA1/RPA1D	< 50 $\mu V_{rms}/0.03\ pC$
RPA1L	< 15 $\mu V_{rms}/0.02\ pC$
RPA1H	< 40 $\mu V_{rms}/0.05\ pC$
RPA2	< 800 $\mu V_{rms}/1\ pC$

Bandwidth:

RPA1/RPA1D	40–800 kHz
RPA1L/RPA1H	40 kHz–20 MHz
RPA2	2–20 MHz



TECHNICAL DATA

Synchronisation/HVM

Synchronisation frequency	5–505 Hz/VLF (0.02/0.05/0.1 Hz)
Maximum voltage	200 V _{peak} (140 V RMS), 100 V RMS nom.
Input impedance	10 MΩ
A/D converter	±15 bits
Precision	Typ. < 1.5 %

Spectrum function

Input sensitivity	< 5 μV _{rms} /0.5 pC (270 kHz bandwidth); < 1 μV _{rms} /2 pC (9 kHz bandwidth)
Maximum input voltage	120 mV RMS (270 kHz bandwidth) 5 mV RMS (9 kHz bandwidth) 2.5 mV RMS (RIV)
Frequency range	10 kHz–10 MHz (in steps of 10 kHz)
Bandwidth	9 kHz or 270 kHz
Precision	Typ. < 5 %

LAN (RJ45)

PD fault location on cables

Trigger	0–100 % of input signal (in steps of 3.125 %)
A/D converter	± 7 bits
Samples	100 MSamples/s (T _{sample} = 10 ns)
Reduced sample rates	50 MS, 25 MS
Displayed time window	200 ... 8000 samples (2 ... 80 μs at 100 MS / 8 ... 320 μs at 25 MS)
Specimen cable length	0 to 5000 m (in theory), for 80 μs and v _c = 140 m/μs (Note: Localisation on cables longer than 3000 m is not possible because of pulse attenuation)
Localisation precision	1 m + 0.1 % of cable length

Available communication interfaces

USB

COM TTL (SUB-D male)

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ACCESSORIES

The ICMcompact can be combined with various accessories to perform an optimal measurement. The following accessories are recommended:

- Preamplifiers of RPA series
- Coupling capacitors
- Quadrupoles
- Current transformers
- Disturbance antenna DA1
- DAkKS certified calibration impulse generators

For more details, and ordering information on our accessories, please refer to our accessories catalogue.



ORDERING INFORMATION

Product	Order no.	Options	Order no.
One-channel ICMcompact, half 19-inch desktop housing	PX10104	RIV measurement (incl. four-channel multiplexer, requires spectrum analysis option)	PX10121
One-channel ICMcompact, 19-inch rack mountable housing	PX10126	Analogue gating	PX10102
One-channel ICMcompact, Explorer case	PX10127	High voltage measurement	PX10103
Four-channel ICMcompact, half 19-inch desktop housing	PX10129	Gating input for fibre optic cable	PX10124
Four-channel ICMcompact, 19-inch rack mountable housing	PX10130	External twelve-channel multiplexer	PX10107
Four-channel ICMcompact, Explorer case	PX10131	LAN interface	PX10122
Cable set for ICMcompact with one channel	PX17006	COM TTL interface for fibre optic communication cables	PX10123
Cable set for ICMcompact with four channels	PX17048	Four auxiliary inputs	PX10110
		Remote control computer system	PX90000
		IP65 protected rugged outdoor case ICMoutlander	PX10381
Software	Order no.	Transportation case for instruments with desktop housing and accessories	PX18122
Standard control software	PX19001	High transportation case for instruments with desktop housing and accessories	PX18126
Enhanced location software	PX19002	High transportation case for instruments with desktop housing, coupling capacitor, and accessories	PX18127
Update of standard control software to current revision	PX19034		
Update of enhanced location software to current revision	PX19035		
Options	Order no.	Set of measuring cables is NOT included with the instrument and must be ordered separately.	
Spectrum analysis	PX10120		
PD fault location for cables	PX10105		

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