

liona

BAUR online PD spot tester



Figure: liona incl. accessory case and the optionally available iPD transponder

Reliable, cost saving, easy to use

- Online PD testing of cable routes during normal cable network operation
- Automatic evaluation of the PD: no expert knowledge necessary
- Unique new technology based on artificial reflections for online PD mapping*

liona is a portable online PD spot tester for measuring and locating partial discharges in cables and switchgear during normal mains operation.

liona lets you test cable systems and switchgear online without switching off partial discharge activities, and then generate trend analyses. Even a PD spot test (duration: 2 – 3 minutes) is capable of reliably assessing the current status of your system. This keeps you constantly informed of when in it necessary to intervene and further maintenance is required, e.g. comprehensive offline diagnostic measurements.

Using the DeCIfer® algorithm, the core of the software, the unit is able to clearly differentiate between noise signals and partial discharges. liona therefore provides meaningful results even in environments with high noise levels.

With the iPD transponder – available as an optional extra – it is possible to precisely locate partial discharges and determine the cable length.

* In combination with the optionally available iPD transponder

Functions and features

liona

- Easy and fast performance of an online PD test for inspecting the cable route for partial discharges (in just 2-3 minutes)
- Automatic partial discharge detection with the DeCIfer® algorithm
- Online PD testing possible even with high noise levels
- Can be used on medium- and high-voltage cables
- Continuous monitoring of a cable route for PD activity for up to 30 days
- 24-hour commissioning testing in accordance with IEC 60840
- Regular PD monitoring of critical cable routes (e.g. industrial assets) by permanently installed sensors
- Simultaneous evaluation of 4 measurement channels
- Compact and light equipment that is easy to transport
- Measurements also possible without mains supply in battery mode

liona and iPD

- Online cable length measurement for medium- and high-voltage cables
- Automatic, precise online PD mapping thanks to the DeCIfer® algorithm and a new technology based on artificial reflections
- Length measurement also possible on cables with cross-bonding joints
- Simple application thanks to the special, automatic AUTO SWEEP trigger mode
- Optimal device protection and transportation to the test site thanks to the practical transport case for liona, iPD and accessories.
- Measurements also possible without mains supply in battery mode

Technical data

Iona	
Measurement range for cable PD	5 pC – 1,000 nC
PD analysis	<ul style="list-style-type: none"> • PRPD (PD pattern analysis) • Waveform (analysis of individual PD pulses)
Number of input channels	4
Sensor types	TEV HFCT
Overvoltage protection	500 V
Sampling rate	100 MSamples/s
Resolution	14 bit
Trigger sources	Mains (internal) External (TTL) FM (Sync transmitter)
Analogue input voltage range	±1.0 V (resolution ±61 µV)
Software operating modes	<ul style="list-style-type: none"> • PD TEST mode: used for routine and repetitive testing • Scope mode: used for in-depth investigation
Noise separation and PD classification	DeCIfer® algorithm
Reporting	On screen, PDF
Data interface	USB 2.0, Ethernet
Safety and EMC	CE-compliant in accordance with Low Voltage Directive (2014/35/EU) and EMC Directive (2014/30/EU)
General	
Input voltage	90 – 264 V, 50/60 Hz
Rechargeable battery	Lithium-ion-polymer battery 8 Ah; DC 12.6 V; 96 Wh
Battery life	Min. 3 hours
Batteries for sync transmitter	2 x alkaline batteries 1.5 V IEC LR6
Ambient temperature (operational)	-10°C to +45°C
Storage temperature	-20°C to +60°C
Humidity	≤ 90%, non-condensing
Dimensions (W x H x D)	550 x 350 x 225 mm
Weight	
Transport case	Approx. 13.5 kg
Accessory case	Approx. 6.5 kg
Degree of protection	IP67 in closed state
Software available in	English, German, French, Portuguese, Russian, Spanish, Chinese

iPD transponder (optional for PD mapping, cable length measurement)

Pulse voltage	Max. 500 V
Trigger modes	<ul style="list-style-type: none"> • AUTO SWEEP • LEVEL TRIGGER
Delay of the artificial reflection	<ul style="list-style-type: none"> • 10 µs • 100 µs (for cable <800 m)
Rechargeable battery	Lithium-Polymer battery 4 Ah; 12 V DC
Battery life	Approx. 15 hours
Charging time	Approx. 4 hours
Degree of protection	IP67 in closed state
Dimensions (W x H x D)	295 x 146 x 347 mm
Weight (with transport case)	Approx. 6 kg

HFCT sensors

General

Load impedance (recommended)	50 Ω
Signal output	BNC port

HFCT sensor 100/50

Transfer function	4.8 V/A
Frequency range	60 kHz – 70 MHz
Diameter	Internal: 48 mm, External: 107 mm
Weight	Approx. 0.5 kg

HFCT sensor 140/100

Transfer function	4.7 V/A
Frequency range	50 kHz – 80 MHz
Diameter	Internal: 96 mm, External: 150 mm
Weight	Approx. 1 kg

TEV sensor

Frequency range	5 – 80 MHz
Dimensions (Diameter x H x D)	68x 78 x 27mm
Load impedance (recommended)	50 Ω
Signal output	BNC port
Weight	Approx. 0.1 kg
Coupling	magnetic
Housing part	High-temperature silicone rubber

Standard delivery

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- liona online PD spot tester in transport case, incl.:
 - Laptop with installed liona software
 - User manual
 - Pocket guide (PDF)
- Accessory case
 - 3 x inductive HFCT sensor 100/50 mm
 - 1 x inductive HFCT sensor 140/100 mm
 - 2 x capacitive TEV sensor
 - 3 x BNC coaxial cable, 1.5 m
 - 3 x BNC coaxial cable, 4 m
 - 10 x BNC connector
 - Sync transmitter incl. batteries
 - Earth cable, 2 m, with earth terminal
 - Mains supply cord, 2.5 m

Accessories and options

- iPD transponder in transport case, incl.:
 - 1 x BNC coaxial cable, 4 m
 - 1 x inductive HFCT sensor 100/50 mm
 - Earth cable, 2 m, with earth terminal
 - Mains supply cord, 2.5 m
 - User manual
- Inductive HFCT sensor 100/50 mm
- Inductive HFCT sensor 140/100 mm
- Capacitive TEV sensor

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