Cable Testing & Diagnostics

Networks are sensitive. We help you to protect them.

**PHG 70/80**
- Test in accordance with standards
- User-friendly, individually programmable sequences
- Fully automatic testing
- Fastest possible results, automatic discharge mechanism
- Digital control with professional, self-explanatory multilingual software

**VIOLA / FRIDA**
- Testing electrical equipment and medium voltage cables
- Quicker and easier measurement structure
- Easy and intuitive operation
- Integrated measurement data storage
- Automatic discharging device

**PD Portable**
- Location of PD sources within 1% accuracy
- Display of PD activity over the cable length
- High noise suppression, completely insulated from main voltage
- Easily extendable to frida, viola or PHG at any time

**PGK HB**
- Absolute maintenance-free design
- Stepless adjustable output voltage
- Two continuously adjustable output voltage ranges with a 1:3 ratio
- Robust & long lasting
- 3 decades current ranges
Networks are sensitive.  
**We help you to protect them.**

Dissipation factor measurement. Non-destructive 0.1 Hz tan δ measurement enables significant deterioration diagnostics.

Partial discharge measurement and location. Mobile solutions integrated into VLF generators or modular designed for condition assessment.

State of the art VLF testing. World-class VLF* test procedures With truesinus® digital technology. Standard testing with especially compact and light devices give Reliable results quickly.

Traditional DC or AC voltage testing. PGK series: DC voltage up to 260 kV AC voltage (50 Hz) up to 190 kV rms.

Improved security and cost-effectiveness of cable networks.  
**High voltage testing and diagnostics with BAUR.**

Underground cable networks are expensive. Condition-based maintenance (CBM) is getting more important for operators of power cable networks. Precise knowledge about the condition of cable circuits becomes a competitive advantage. This is understandable if one realises that not only do setting up new circuits and replacing existing ones require huge investments, but also power supply interruptions involve enormous costs. Guaranteeing supply is by no means an insignificant argument for power suppliers in a scenario of ever-increasing competition for customers of electrical power. BAUR offers a verifiable profit-enhancing contribution for the cost-effective maintenance planning of cable networks with its testing and diagnostics technology. BAUR makes CBM possible, to a much greater extent than other systems do.

* VLF: Very Low Frequency, e.g., AC voltage with a frequency of 0.1 Hz
Most modern testing technology.

Expertise from the market leader.

Efforts spanning several decades in order to achieve technical progress for customers have made BAUR a world leader in cable testing and diagnostics. Technological progress and the benefits associated are the result of an intensive and long lasting examination of user and market requirements which increases the reliable partnerships and mutual exchanges. This “flow” is the basis for the innovation and expertise that BAUR provides.

BAUR. Ensuring the flow.

The world market leader for good reasons.
BAUR’s cable testing and diagnostics

BAUR’s corporate history is closely linked with the international development of testing technology. BAUR has been participating in the development and improvement of national and international standards for more than 60 years. BAUR experts work together with engineers from universities, laboratories, standardisation and test institutes to promote the development of cable testing and diagnostics. At the same time, as a long-term partner in the international electricity community, BAUR knows the requirements of its customers in detail. This expertise, general know-how and experience over six decades are incorporated into BAUR’s testing devices.

Cable testing

Underground cables should be tested before on-site commissioning or recommissioning. Although cables are tested by the manufacturer before delivery, they may be damaged while being laid. As well joints or terminations may be defective. Cable testing* is often compulsory for laying construction companies and network operators. In the past paper insulated cables have been tested with DC voltage with the leakage current being an indication of the circuits quality. Modern cables with EPR/XLPE insulation require a sinusoidal voltage (BAUR truesinus® VLF) and should be tested in accordance with the most recent national or international specifications. Such specifications define the voltage level and time for which the user performs the test. If at the end of the test time the circuit has withstood the applied voltage, then it gives the user a very high degree of confidence that when he switches it in it will operate satisfactorily. Such a test is limited in that it gives no information about the quality of the circuit. The test result is a simple “pass/fail” information. BAUR truesinus® test equipment can be used on both traditional and modern type cables.

Cable diagnostics

Cable diagnostics provide the user with information about quality and condition of the circuit. This goes far beyond the “pass/fail” information from cable testing. The diagnostic information that is available with the BAUR equipment gives “present and future analysis” of the insulation status of cable systems. BAUR’s cable diagnostics is used as a precautionary measure for protection against failures, it ensures optimal CBM. The target is to perform maintenance measures only if necessary. Maintenance planned purely based on operating time or error occurrence of a cable circuit is not optimal. Based on VLF test voltage, the dissipation factor (tan δ) measurement and partial discharge (PD) diagnostics give the necessary information without destructive testing. Results can be put into a database and provide trend analysis. BAUR diagnostics technology can be used to test all cable types like plastic cables or paper mass cables.

* VDE DIN 0276-620, IEEE P400.2, VDE DIN 0276-621, CENELEC HD 620 and CENELEC HD 621
Dissipation factor measurement \( \tan \delta \)

Losses in cable insulation accrue due to thermal overload, penetration of moisture or improperly treated joints or terminations. These losses accrue over a long time period. The dissipation factor measurement at 0.1 Hz, as integral measurement method, enables a safe differentiation between new, weak and very old cable systems. In this regard, absolute threshold values should be compared with the \( \tan \delta \) value when the systems are new, since they are strongly depending on the cable type. BAUR enables you to define individual evaluation criteria and to establish a reference database. An advantage of BAUR’s diagnostics system is the direct programming of the threshold value into the software making evaluation especially convenient.

Partial discharge diagnostics (PD)

BAUR’s partial discharge diagnostics allows a quick and reliable evaluation of partial discharge intensity and location of PD source in cable systems. Potential defects can be recognised early and further damage can be reduced. Important criteria for status evaluation are partial discharge inception voltage and absolute PD level of cable circuits. In addition, critical PD-sources have to be located precisely. Despite complex measurement technology, the quick and easy operation is an important feature. The graphical software interface guides the user through the overall measurement procedure and shows partial discharges clearly over the entire cable length. PD diagnostics can be carried out simultaneously with cable testing.

Highest quality and reliability along with latest technologies.

More than 60 years ago BAUR started developing devices for DC and AC testing in medium-voltage cables. Despite many innovations in the field of cables and testing technology such traditional test methods are still required. New installations of traditional paper-mass cable systems are rare. However existing networks still require maintenance for decades. Therefore BAUR offers simple and cost-effective as well as sophisticated devices. New cable systems such as EPR/XLPE cables, ask for AC testing. 50 Hz AC test equipment is bulky. VLF test equipment (Very Low Frequency, AC voltage with for example 0.1 Hz) is much smaller therefore more and more accepted in practice. In this domain BAUR has set the international standards with it’s truesinus® digital technology. BAUR’s VLF generators create the most modern and only true sinusoidal VLF high voltage in the market. This technology can be applied to all cable types, is compact and easy to handle. Defects are detected reliably and enable extensive and sophisticated diagnostics of the cable condition. BAUR truesinus® digital technology enables the most dependable detection of defective areas. Medium-voltage cables are tested with utmost care and according to standards *. Only BAUR truesinus® offers comparability of measurement results by highly modern digital control – without cable lengths influencing the test level and measurement result. A precise output basis for significant cable diagnostics is presented by the sinusoidal voltage characteristics defined by truesinus® digital technology. It enables reproducible tests, dissipation factor measurements \( \tan \delta \) and partial discharge diagnostics at any time. It is the best possible basis for maintenance planning.

* VDE DIN 0276-620, IEEE P400.2, VDE DIN 0276-621, CENELEC HD 620 and CENELEC HD 621
Compact, easy to use, meaningful.
The BAUR High voltage testing and diagnostics device.

frida, frida TD

The mobile BAUR testing and diagnostic device frida is used
• for testing medium-voltage cables and electrical equipment,
• for cable sheath testing,
• for cable diagnostics: integrated tan delta measurement, and/or partial discharge measurement and location in combination with BAUR’s partial discharge diagnostic system ‘PD Portable’

Features

• Testing electrical equipment and medium-voltage cables up to 15 kV
• Max. test voltage 24 kV_{rms}
• Cable testing according to: VDE DIN 0276-620/621 (CENELEC HD 620/621), IEEE P 400.2-2004, IEEE 400-2001
• VLF truesinus® test technology enables exact load-independent sinusoidal high voltage
• Cable sheath testing according to: IEEE 433, IEC 60502, VDE 0276-620
• Tan delta diagnostics for electrical equipment and medium voltage cables up to 20 kV (frida TD)
• Precise tan delta measurement with an accuracy of $1 \times 10^{-4}$ (frida TD)
• Quicker and easier measurement structure
• Fully automated and individually programmable diagnostic sequences incl. evaluation
• Easy and intuitive operation
• No additional external hardware required for tan delta measurements
• Integrated measurement data storage
• Data export via USB interface
• Management of test and measurement data with PC software
• Integrated cable compartment with connecting cable
• Automatic discharging device
• Optional partial discharge diagnostic system
• Small, compact and light
Powerful, compact, easy to use.
The BAUR High voltage testing and diagnostics device.

viola, viola TD

The viola mobile testing and diagnostic device is used
• for cable sheath testing and other tests of medium-voltage
cables and electrical equipment,
• for cable diagnostics: integrated tan delta measurement and/or
partial discharge measurement in combination with BAUR’s par-
tial discharge diagnostic system ‘PD Portable’

Available in two versions: viola (testing, cable sheath testing) and
viola TD (viola + tan delta diagnostics)

Features
• Testing electrical equipment and medium-voltage cables (PE,
VPE and paper insulated mass-impregnated cables) up to 35 kV
nominal voltage
• Max. test voltage 42.5 kV rms
• Cable testing according to: DIN VDE 0276-620/621
(CENELEC HD 620/621), IEEE P 400.2-2004, IEEE 400-2001
• VLF truesinus® test technology enables load-independent,
reproducible sinusoidal high voltage
• Cable sheath testing according to IEC 60502/IEC 60229
• Insulation testing on electrical equipment according to IEEE.433
• Tan delta diagnostics of electrical equipment and medium-
voltage cables up to 35 kV (viola TD)
• Precise tan delta measurement with an accuracy of
1 x 10^-4 (viola TD)
• Quick, easy measurement setup: no auxiliary equipment required
• Fully automatic, individually programmable diagnostic
sequences
• Fast, simple evaluation of measurement results
• Easy, intuitive operation
• Integrated measurement data storage
• Data transfer via USB interface
• Management of test and measurement data with PC software
• Integrated cable compartment with connecting cable
• Automatic discharging device
• Expandable to a partial discharge diagnostic system in
combination with BAUR PD Portable Built for demanding condi-
tions in the field
Modular diagnostics for maximum flexibility.

The BAUR Partial discharge diagnostics system

PD Portable

Partial Discharge (PD) testing is a proven diagnostic method for non-destructive cable testing for many years.

Using partial discharge measurement with source localisation, direct allocation of partial discharge activity on cable segments, joints or cable terminations is enabled.

The portable partial discharge localisation system is designed as a complement for BAUR VLF sine wave generators with output voltage up to 40 kVrms truesinus®.

Features

- Measurement of PD levels typically from 20 pC onwards
- Location of PD sources within 1 % accuracy
- Display of PD activity over the cable length
- Applicable with external high voltage up to 40 kVrms truesinus®
- Menu-controlled multilingual operating software
- A robust 15” laptop with Windows Operating System
- High noise suppression, completely insulated from the mains voltage
- Calibrator for the on-site PD calibration according to IEC 60270
- Weight, 19.5 kg (coupling capacitor) / 12.5 kg (measurement device) / 3.2 kg (laptop)
- Easily extendable to frida, viola or PHG at any time

Top performance VLF truesinus® technology.

BAUR high voltage testing systems

PHG 70 and PHG 80

The PHG (Programmable High voltage Generator) is a VLF truesinus® voltage source of the latest generation. The PHG system meets all requirements in respect of safety, robustness, ease of use, automation, documentation and can be applied universally for Cable testing, Sheath testing, Generator testing, Transformer testing and Testing of switchgears.

Features

- Test in accordance with standards
- VLF truesinus®, VLF square wave and DC in one device
- Nominal voltage PHG 70 of up to 38 kVrms truesinus®
  57 kV square wave and +/- 70 kV DC
- Nominal voltage PHG 80 of up to 57 kVrms truesinus®
  80 kV square wave and +/- 80 kV DC
- Maximum capacitive load up to 20 μF
- Frequency variation from 0.01 to 1 Hz
- User-friendly, individually programmable sequences
- Fully automatic testing
- Fastest possible results, automatic discharge mechanism
- Digital control with professional, self-explanatory multilingual software
- Weight 250 – 400 kg
Established, extensive analysis - cost-optimised maintenance.

BAUR cable diagnostics systems.

**PHG 70 TD/PD and PHG 80 TD/PD**

With the PHG TD / PD a multifunctional cable test and diagnostic system is available that has been specially designed and developed for medium voltage networks.

The PHG TD/PD system is the only cable test and diagnostic system with which a comprehensive complete overview on the quality and ageing of the test sample is obtained.

The TD and PD diagnostic methods complement each other ideally; on the one hand, the general condition of the sample can be determined, and on the other hand, individual faults are located.

**Features**

- High-performance VLF diagnostics system
- Comprehensive overview of the quality and aging condition of a medium-voltage cable systems up to 50 kV
- Fast assessment of all cable types (3-phase approx. 1 hour)
- Graphical multilingual software interface
- Integrated industrial PC (MS Windows) with 15.1” TFT display
- Cable database enables current and future analyses
- Fully automatic programmable testing and diagnostics
- Individual definition of interruption criteria in case of exceeding the threshold value
- Voltage range
  - PHG 70: 1 - 38 kV\textsubscript{rms}, truesinus®, +/- 70 kV DC
  - PHG 80: 1 - 57 kV\textsubscript{rms}, truesinus®, +/- 80 kV DC
- \( \tan \delta \): Accuracy : 1% from the measured value
  - Measuring range : 0,1 \( \times 10^{-3} \) bis 1000 \( \times 10^{-3} \)
  - Load range : > 10 nF (500 pF, optional)
  - Monitoring of parasitic currents, numerical and graphical \( \tan \delta \) presentation
- PD : Location accuracy to 1 % of the cable length
  - PD level : up to 20 pC
  - Sampling rate : 10 ns (100 Msamples/s)
  - Overview presentation of PD activity over the whole cable length
  - Resolution : 1 \( \times 10^{5} \)
Precisely locating PD defects.

**BAUR Partial discharge inductor.**

**Tracy**

The new BAUR Partial discharge inductor tracy is used for the exact location of partial discharge positions in cables and equipment (partial discharge pin-pointing).

**Features**

- Small, handy and robust
- Very easy to maintain, precise PD location
- IP 54 - Protection class
- Light weight - 550 g
- Rechargeable battery NiMH Mignon AA 2700 mAh
- Suitable for cables and electrical equipment
- Signal input without damaging the cable
- 10 current levels, 25 ns impulse width
- Comparison of the induced signal with the prelocation result in the partial discharge system

**Compact, mobile and universal.**

**BAUR Mobile high voltage testing device.**

**PGK 25**

PGK 25 is a compact set for DC voltage testing with negative polarity up to 25 kV. Because of its different power supplies, this instrument can be used anywhere:

a) incorporated mains supply unit and charging unit
   
   110 - 120 / 220 - 230 / 240 V; 50 - 60 Hz

b) incorporated battery 12 V

c) external 12 V DC supply source possible

**Features**

- Two continuously adjustable voltage ranges: 0 – 5 kV and 0 – 25 kV DC (negative polarity)
- Maximum discharge energy of 5000 Ws
- (16 μF/25 kV/interval of 20 min)
- Built-in rechargeable battery of 2 V 6.5 Ah – approx 30 minutes of operation
- Possibility of an external 12 V DC voltage source
- Testing time pre-selection - integrated timer of 1-30 min (± 1 min)
- Automatic limit stop and triggering of the discharge unit for maximum safety
- Short-circuit-proof
- μA-meter with 5-range switch 1 μA / 10 μA / 100 μA / 1 mA / 10 mA
- Minimum measurable current of 50 nA
- Voltage measurement directly at the high-voltage output
- Switch-on interlock of high voltage against unintended operation
- High-voltage plug with monitoring contact
- Recorder connection for current range (for earth-free entry) of 0 - 200 mV
- Weight 16.5 kg
High power, light weight.

BAUR high voltage testing devices.

PGK 50 and PGK 80

The portable high voltage devices PGK 50/80 for generation of negative high voltage up to 50, or 80 kV are designed for on-site testing of paper-insulated mass-impregnated cables in medium voltage networks. High voltage is generated by a high voltage transformer and a voltage multiplier. Thanks to an internal operating frequency of 20 kHz small dimensions are possible. Packaged in a handy carrying case with handles and carrying strap, the PGK units are portable and well equipped for field applications.

<table>
<thead>
<tr>
<th>Type</th>
<th>PGK 50</th>
<th>PGK 80</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. test voltage</td>
<td>50 kV DC</td>
<td>80 kV DC</td>
</tr>
<tr>
<td>at an output current of:</td>
<td>2 mA</td>
<td>0.8 mA</td>
</tr>
</tbody>
</table>

Features

- Continuously adjustable output voltage up to 50/80 kV DC negative
- Maximum discharge energy of 8000 Ws (interval of 15 min)
- Voltage measurement at the HV-output, display accuracy of +/- 2.5 %
- Timer of 1-30 min
- Sensitive current measurement in 6 ranges of 1 μA / 10 μA / 100 μA; 1 mA / 10 mA / 100 mA
- Minimum measurable current up to 20 nA
- Higher short-circuit current up to 25 mA
- Safety control unit in accordance with VDE 0104
- Travelling wave protection
- Connection possibility for electrical door contact, emergency-stop switch and external signal lamps
- Connection possibility for Y/t recorder for recording current flow
- Weight 25 kg
The standard for quality with highest voltages.
BAUR high voltage testing devices.

PGK HB

The two-part test sets PGK HB generate variable AC test voltages of mains frequency or DC voltages of positive or negative polarity.

The operating unit in 19” design has a voltage and current display, safety control elements according to VDE 0104 and a variable transformer for voltage adjustment.

The high voltage unit contains an oil insulated high voltage transformer and, depending on the desired operation mode, a rectifier rod or a resistor rod. The polarity of the DC test voltage can be changed by reversing the rectifier in the high voltage unit.

Features

- Testing of medium and high voltage cables
- DC voltage testing up to 260 kV output voltage with positive or negative polarity
- AC voltage testing up to 190 kV for switching systems, busbars and machines
- Absolute maintenance-free design
- Stepless adjustable output voltage
- Safety control unit in accordance with VDE 0104
- Short-circuit proof due to internal current limit
- Two continuously adjustable voltage ranges with a 1:3 ratio
- 3 decated current ranges
- Thermal overcurrent switch-off
- Different power options
- User friendly 2-part design
- Robust and long-lasting
## Technical Data

### frida

<table>
<thead>
<tr>
<th>Type</th>
<th>Output voltage</th>
<th>Output current</th>
</tr>
</thead>
<tbody>
<tr>
<td>PGK 25</td>
<td>0 - 25 kV DC</td>
<td>1 mA DC</td>
</tr>
<tr>
<td>PGK 50</td>
<td>0 - 50 kV DC</td>
<td>2 mA DC</td>
</tr>
<tr>
<td>PGK 80</td>
<td>0 - 80 kV DC</td>
<td>0,8 mA DC</td>
</tr>
<tr>
<td>PGK 70 HB</td>
<td>0 - 70 kV DC</td>
<td>3 mA DC</td>
</tr>
<tr>
<td></td>
<td>0 - 55 kV AC rms</td>
<td>7 mA AC</td>
</tr>
<tr>
<td>PGK 70/2,5 HB</td>
<td>0 - 70 kV DC</td>
<td>20 mA DC</td>
</tr>
<tr>
<td></td>
<td>0 - 55 kV AC rms</td>
<td>50 mA AC</td>
</tr>
<tr>
<td>PGK 110 HB</td>
<td>0 - 110 kV DC</td>
<td>5 mA DC</td>
</tr>
<tr>
<td></td>
<td>0 - 80 kV AC rms</td>
<td>14 mA AC</td>
</tr>
<tr>
<td>PGK 110/5 HB</td>
<td>0 - 110 kV DC</td>
<td>22 mA DC</td>
</tr>
<tr>
<td></td>
<td>0 - 80 kV AC rms</td>
<td>66 mA AC</td>
</tr>
<tr>
<td>PGK 150 HB</td>
<td>0 - 150 kV DC</td>
<td>4 mA DC</td>
</tr>
<tr>
<td></td>
<td>0 - 110 kV AC rms</td>
<td>9 mA AC</td>
</tr>
<tr>
<td>PGK 150/5 HB</td>
<td>0 - 150 kV DC</td>
<td>18 mA DC</td>
</tr>
<tr>
<td></td>
<td>0 - 110 kV AC rms</td>
<td>50 mA AC</td>
</tr>
<tr>
<td>PGK 260 HB</td>
<td>0 - 260 kV DC</td>
<td>4 mA DC</td>
</tr>
<tr>
<td></td>
<td>0 - 190 kV AC rms</td>
<td>9 mA AC</td>
</tr>
</tbody>
</table>

### viola

<table>
<thead>
<tr>
<th>Type</th>
<th>Output voltage</th>
<th>Output current</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHG 70</td>
<td>VLF truesinus®, VLF square wave, DC</td>
<td>For max. output voltage</td>
</tr>
<tr>
<td>PHG 80</td>
<td>VLF truesinus®, VLF square wave, DC</td>
<td>For max. output voltage</td>
</tr>
</tbody>
</table>

### PHG 70

<table>
<thead>
<tr>
<th>Form of voltage</th>
<th>Max. output voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>VLF truesinus®, VLF square wave, DC</td>
<td>24 kV rms (34 kV peak)</td>
</tr>
<tr>
<td>VLF truesinus®, VLF square wave, DC</td>
<td>42,5 kV rms (70 kV peak)</td>
</tr>
<tr>
<td>VLF truesinus®, VLF square wave, DC</td>
<td>38 kV rms (57 kV peak)</td>
</tr>
<tr>
<td>VLF truesinus®, VLF square wave, DC</td>
<td>57 kV</td>
</tr>
<tr>
<td>DC +/- 34 kV peak</td>
<td>DC +/- 60 kV peak</td>
</tr>
<tr>
<td>DC +/- 70 kV peak</td>
<td>DC +/- 80 kV peak</td>
</tr>
</tbody>
</table>

### PHG 80

<table>
<thead>
<tr>
<th>Form of voltage</th>
<th>Max. output voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>VLF truesinus®, VLF square wave, DC</td>
<td>42,5 kV rms (60 kV peak)</td>
</tr>
<tr>
<td>VLF truesinus®, VLF square wave, DC</td>
<td>38 kV rms (70 kV peak)</td>
</tr>
<tr>
<td>VLF truesinus®, VLF square wave, DC</td>
<td>57 kV</td>
</tr>
<tr>
<td>DC +/- 60 kV peak</td>
<td>DC +/- 80 kV peak</td>
</tr>
</tbody>
</table>

## Dissipation factor measurement tan delta

<table>
<thead>
<tr>
<th>Load range</th>
<th>frida viola</th>
<th>PHG 70</th>
<th>PHG 80</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥ 10 nF ... 8 μF</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measuring range</td>
<td>0.1 x 10-3 to 1000 x 10-3</td>
<td>0.1 x 10-3 to 1000 x 10-3</td>
<td>0.1 x 10-3 to 1000 x 10-3</td>
</tr>
<tr>
<td>Resolution</td>
<td>1 x 10-5</td>
<td>1 x 10-5</td>
<td>1 x 10-5</td>
</tr>
<tr>
<td>Accuracy</td>
<td>±1 x 10-4</td>
<td>±1 x 10-4</td>
<td>±1 x 10-4</td>
</tr>
<tr>
<td>Frequency range</td>
<td>0.01 ... 1 Hz</td>
<td>0.01 ... 1 Hz</td>
<td>0.01 ... 1 Hz</td>
</tr>
</tbody>
</table>

## Partial discharge with source location of PD

<table>
<thead>
<tr>
<th>Cable length range</th>
<th>frida PD Portable</th>
<th>viola PD Portable</th>
<th>PHG 70 PD</th>
<th>PHG 80 PD</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 – 12,800 m (max. 160 μs)</td>
<td>10 – 12,800 m (max. 160 μs)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sampling rate</td>
<td>10 ns (100 Msamples)</td>
<td>10 ns (100 Msamples)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PD detection limit</td>
<td>20 pC</td>
<td>20 pC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accuracy of location</td>
<td>1% of the cable length</td>
<td>1% of the cable length</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resolution</td>
<td>± 0.1 pC; ± 0.1 m</td>
<td>± 0.1 pC; ± 0.1 m</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Technical Data

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<thead>
<tr>
<th>Type</th>
<th>Output voltage</th>
<th>Output current</th>
</tr>
</thead>
<tbody>
<tr>
<td>PGK 25</td>
<td>0 - 25 kV DC</td>
<td>1 mA DC</td>
</tr>
<tr>
<td>PGK 50</td>
<td>0 - 50 kV DC</td>
<td>2 mA DC</td>
</tr>
<tr>
<td>PGK 80</td>
<td>0 - 80 kV DC</td>
<td>0,8 mA DC</td>
</tr>
<tr>
<td>PGK 70 HB</td>
<td>0 - 70 kV DC</td>
<td>3 mA DC</td>
</tr>
<tr>
<td></td>
<td>0 - 55 kV AC rms</td>
<td>7 mA AC</td>
</tr>
<tr>
<td>PGK 70/2,5 HB</td>
<td>0 - 70 kV DC</td>
<td>20 mA DC</td>
</tr>
<tr>
<td></td>
<td>0 - 55 kV AC rms</td>
<td>50 mA AC</td>
</tr>
<tr>
<td>PGK 110 HB</td>
<td>0 - 110 kV DC</td>
<td>5 mA DC</td>
</tr>
<tr>
<td></td>
<td>0 - 80 kV AC rms</td>
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<td></td>
<td>0 - 80 kV AC rms</td>
<td>66 mA AC</td>
</tr>
<tr>
<td>PGK 150 HB</td>
<td>0 - 150 kV DC</td>
<td>4 mA DC</td>
</tr>
<tr>
<td></td>
<td>0 - 110 kV AC rms</td>
<td>9 mA AC</td>
</tr>
<tr>
<td>PGK 150/5 HB</td>
<td>0 - 150 kV DC</td>
<td>18 mA DC</td>
</tr>
<tr>
<td></td>
<td>0 - 110 kV AC rms</td>
<td>50 mA AC</td>
</tr>
<tr>
<td>PGK 260 HB</td>
<td>0 - 260 kV DC</td>
<td>4 mA DC</td>
</tr>
<tr>
<td></td>
<td>0 - 190 kV AC rms</td>
<td>9 mA AC</td>
</tr>
</tbody>
</table>