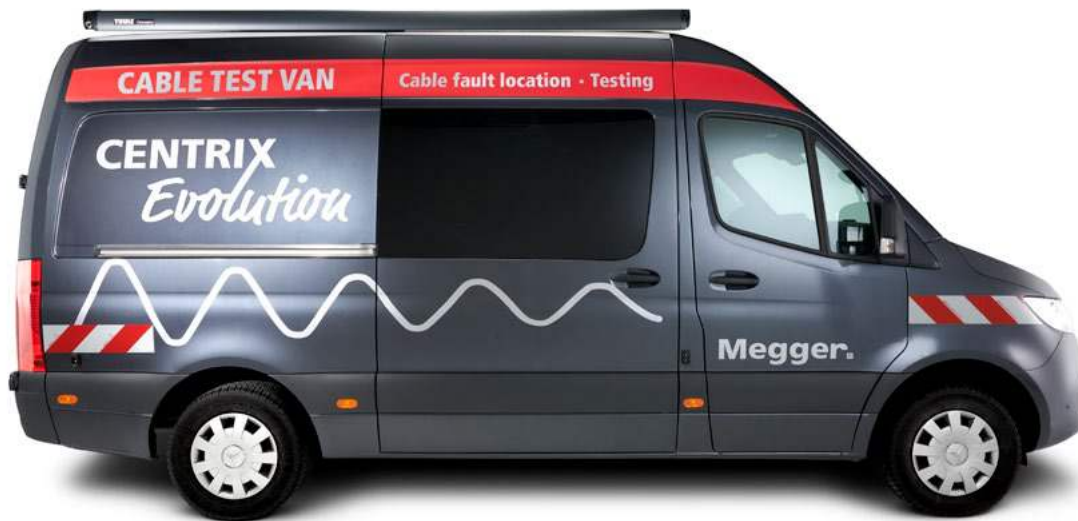


## CENTRIX EVOLUTION

Flagship system for state-of-the-art cable fault location, cable testing and cable diagnostics

**Megger**<sup>®</sup>



### Universal Base Module Fault Location

| General system character |  |
|--------------------------|--|
| <b>Type</b>              | Centrally controlled, fully automated, fully integrated, digital, software-based fault location system with options for the functional integration of Very Low Frequency (VLF) testing, Partial Discharge (PD) diagnostics and Tan Delta measurement |
| <b>Controls</b>          | Via one single control unit for all operating modes and system functions   |
| Graphic User Interface   | Evolution  |
| Operation                | Entirely by Multi-touch with Smartphone-inspired touchscreen gestures<br>Alternatively: Single rotary knob (jog dial) on control pad   |
| Operating system         | Linux  |
| Data management          | MeggerBook 3   |
| Data synchronisation     | USB 3.0; Online Cloud  |
| <b>Control unit</b>      |  |
| Display                  | Industrial grade TFT colour panel with LED backlighting  |
| Antiglare                | Yes  |
| Multi-touch              | Yes  |
| LCD size                 | 54.6 cm / 21.5"  |
| Resolution               | 1920 x 1080 Full HD  |
| <b>Automation</b>        | Fully automatic switching with motorised HV switches for HV mode selection, HV mode execution and HV range selection in all operating modes of fault location, VLF testing, PD diagnostics and Tan Delta measurement                                 |
| Safety                   |  |
| Compliance               | CE conformance; EN 61010, EN 50191, VDE 0104, VDE 0105, DGUV 203-034 (BGI 891)   |
| Discharge unit           | SafeDischarge technology, 32 kJ, discharge time constant <1 sec  |
| System status            | Live monitoring and indication   |
| Inherent safety          | Yes, immediate discharging and earthing in case of power loss  |
| F-U safety interlock     | Reference earth to vehicle chassis for monitoring of protective earth incl. voltage-time integral, monitoring of station earth and touch potentials  |
| F-Ohm safety interlock   | Connection monitoring for operational earth (HV Return)  |
| Safety functions         | Front panel: mains on-off, lockout-tagout key switch, emergency stop, residual voltage indicator;<br>Control pad: HV on, HV off, rotary knob (jog dial)  |
| Safety devices           | System earthing status indicator lights, mains input protection device NAS16, HV compartment monitoring via door contacts, external safety device  |
| Mains input monitoring   | Overvoltage protection, undervoltage protection, residual current device (RCD)   |
| Defined wiring           | Yes, distribution panel inside of the system   |
| Isolation transformer    | 3.6 kVA  |

## Flagship system for state-of-the-art cable fault location, cable testing and cable diagnostics

| Cable fault location   |  |
|--|--|
| <b>Technologies</b>  |  |
| DC test (DC hipot) with breakdown detection and insulation test for fault identification;<br>Radar and HV methods (ARM, ARM Conditioning, ARM Charging, ICE, Decay) for fault prelocation;<br>Burning for fault conversion;<br>Surge generator (thumper) for fault pinpointing;<br>DC test and voltage gradient method (step voltage method) for sheath fault testing and sheath fault pinpointing |  |
| General configuration and high voltage system output   |  |
| Voltage class 80 kV<br>Either single phase (Evo 1-80) or three phase (Evo 3-80)  |  |
| Fault identification   |  |
| DC test (hipot)  | 0 ... 80 kV, $I_n = 13$ mA continuous at 80 kV, $I_{max} = 550$ mA   |
| Insulation test  | 0 ... 1 kV in voltage ranges of 6 / 500 / 1000 V<br>Measuring range 1 $\Omega$ ... 2 G $\Omega$ ; for capacitance 0 ... 19.9 $\mu$ F   |
| Breakdown detection  | 0 ... 80 kV  |
| Cable radar (Time Domain Reflectometry, impulse echometry)   |  |
| Radar type   | Teleflex® RDR Unleashed, physically and functionally fully integrated  |
| Pulse generation   | Bipolar  |
| Pulse magnitude  | $\pm 250$ V adjustable   |
| Pulse width  | 20 ns ... 30 $\mu$ s   |
| Pulse power  | Unrestricted continuous operation and unrestrictedly fast pulse repetition with full power pulse of 30 $\mu$ s at $\pm 250$ V into any cable impedance   |
| Third-party certification  | Yes, pulse generation has been tested and DAkkS-certified  |
| Noise suppression  | Yes, innovative technology <i>Advanced Noise Suppression</i>   |
| Averaging  | Yes, innovative technology <i>Next-gen Averaging</i> with 3 modes  |
| Long range measurement   | Yes, innovative technology <i>Signature Boost</i>  |
| Dynamic range  | 115 dB   |
| ProRange   | Yes, +40 dB exponential distance-dependent de-attenuation  |
| Data rate  | 533 MHz  |
| Measuring range $X_R$  | 20 m ... 1280 km at VOP = 80 m/ $\mu$ s  |
| Signal gain $Y_G$  | 0 ... 100%   |
| Resolution   | 0.1 m at VOP = 80 m/ $\mu$ s   |
| Accuracy   | 0.1%   |
| Timebase accuracy  | < 50 ppm   |
| Velocity of propagation  | 10 ... 149.9 m/ $\mu$ s, can be expressed in m/ $\mu$ s or ft/ $\mu$ s or nominal  |
| Output impedance   | 50 $\Omega$  |
| Compensation   | No dedicated internal compensation necessary   |
| HV prelocation   |  |
| ARM Best Picture Multishot   |  |
| Technology   | Arc reflection method as per the original 1965 patent;<br>overlay and direct comparison of two distinct radar traces, one recorded by the Teleflex® RDR as low voltage reference trace, and another one recorded by the Teleflex® RDR as high voltage fault trace after the fault has been ignited by capacitor discharge through an arc reflection filter   |
| Surge voltage  | 0 ... 32 kV in multiple ranges   |
| Arc reflection filter  | Inductive, for superior arc ignition and arc stabilisation purposes  |
| Multishot  | Teleflex® RDR captures 32 HV fault traces per ARM surge  |
| Best Picture   | Teleflex® RDR analyses all 32 HV Multishot traces, picks the best one and directly displays it to the user   |
| ARM Conditioning   |  |
| Technology   | Modified version of ARM Best Picture Multishot; after the Teleflex® RDR has recorded the low voltage reference trace, the inductive arc reflection filter is switched off and the fault is conditioned by surging (thumping) the cable a certain number of times. Immediately thereafter, the inductive arc reflection filter will be activated again, so that the Teleflex® RDR can capture the 32 HV fault traces (Multishot). |
| Surge voltage  | 0 ... 32 kV in multiple ranges   |
| Conditioning shots   | Adjustable 5 ... 10  |
| ARM features   | See above ARM Best Picture Multishot   |

## Flagship system for state-of-the-art cable fault location, cable testing and cable diagnostics

|   |  |
|---|--|
| <b>ICE</b>  |  |
| Technology  | Impulse current decoupling; Teleflex® RDR captures the impulse current component of the travelling wave which is initiated after the fault has been ignited by capacitor discharge |
| Surge voltage   | 0 ... 32 kV in multiple ranges   |
| <b>Decay</b>  |  |
| Technology  | Voltage decoupling; Teleflex® RDR captures the voltage component of the travelling wave which is initiated after the fault has been ignited by DC charging                         |
| Voltage   | 0 ... 80 kV  |
| <b>Fault pinpointing</b>  |  |
| <b>Coincidence method (magnetic-acoustic pinpointing of main insulation faults)</b> |  |
| Surge generator (Thumper)   | CENTRIX Evolution  |
| Voltage ranges  | Standard version: 3 stages<br>0 ... 8 kV 2,000 J<br>0 ... 16 kV 2,000 J<br>0 ... 32 kV 2,000 J   |
| Surge rate (Thump rate)   | Adjustable: 3 ... 10 sec, single surge (single thump)  |
| Recommended receiver  | digiPHONE+2  |
| <b>Fault conversion</b>   |  |
| <b>Burning</b>  |  |
| Technology  | High frequency cascade burner  |
| Burn-down current   | 0 ... 8 kV, 550 mA; 0 ... 80 kV, 170 mA  |
| <b>Cable sheath testing</b>   |  |
| Sheath fault testing  | 0 ... 20 kV DC in voltage ranges of 5 / 10 / 20 kV   |
| Sheath fault pinpointing  | Voltage gradient method (Step voltage method)  |
| Pulsed DC voltage   | 0 ... 5 kV; 0 ... 10 kV; 0 ... 20 kV; $I_{max}$ 550 mA   |
| Pulse sequences   | 0.5:1, 1:3, 1:4, 1:6, 1:12   |
| <b>Weight</b>   |  |
| Standard version  | Single phase configuration starting at 300 kg, three phase configuration starting at 370 kg  |
| <b>Environmental</b>  |  |
| Operating temperatures  | HV unit: -25°C ... +55°C (-13°F ... +131°F)<br>Operator room: 0° ... +55°C (32°F ... 131°F)  |
| Storage temperatures  | -25°C ... +70°C (-13°F ... +156°F)   |
| <b>Mains input</b>  |  |
| Input voltage   | 230 V ± 10%, 50 Hz (also available 120 V, 60 Hz)   |
| Power consumption   | < 3.5 kVA  |
| <b>System connections and test leads</b>  |  |
| <b>HV system output – for single phase configurations</b>                           |  |
| Economy 1x1   | 1x single-phase T4 HV cable drum, 50 m or 80 m, manual   |
| Professional 1x1  | 1x single-phase T4 HV cable drum, 50 m or 80 m, motor-driven   |
| <b>HV system output – for three phase configurations</b>                            |  |
| Economy 3x1   | 3x single-phase T4 HV cable drum, stacked, 50 m or 80 m, manual  |
| Professional 3x1  | 3x single-phase T4 HV cable drum, stacked, 50 m or 80 m, motor-driven  |
| Professional 1x3  | 1x three-phase T4 HV cable drum, 50 m or 80 m, motor-driven  |
| <b>LV auxiliary functions</b>   |  |
| Economy   | 1x mains input cable drum, 50 m, manual, Schuko with NAS16<br>1x protective earth cable drum, 50 m, manual<br>1x 15 m reference earth lead for F-U safety interlock                |
| Comfort   | 1x mains input cable drum, 50 m, belt pull, Schuko with NAS16<br>1x protective earth cable drum, 50 m, belt pull<br>1x 15 m reference earth lead for F-U safety interlock          |
| Professional  | 1x mains input cable drum, 50 m, motor-driven, Schuko with NAS16<br>1x protective earth cable drum, 50 m, motor-driven<br>1x 15 m reference earth lead for F-U safety interlock    |

**Flagship system for state-of-the-art cable fault location, cable testing and cable diagnostics**

|   |   |
|---|---|
| <b>Radar output (dedicated TDR-LV connection)</b> |   |
| Economy   | 1x three-phase coaxial measurement cable, 50 m, manual                      |
| Comfort   | 1x three-phase coaxial measurement cable, 50 m, belt pull                   |
| Professional                                      | 1x three-phase coaxial measurement cable, 50 m, motor-driven                |
| <b>External safety device</b>                     |   |
| Standard  | 1x ESE signalling cable, 15 m, with external socket and storage compartment |
| Economy   | 1x ESE signalling cable, with external socket and cable reel, 50 m, manual  |

**System expansions – Optional packages for cable fault location**

|  |  |
|--|--|
| <b>Surge generator</b>   |  |
| <b>Versatility upgrade for Surging (Thumping) – LV extension</b> |  |
| Voltage ranges   | Additional 2 ranges for LV applications  |
| 0 ... 2 kV   | 2,000 J  |
| 0 ... 4 kV   | 2,000 J  |
| <i>alternatively</i>   |  |
| just 0 ... 4 kV  | 4,000 J  |
| <b>Performance upgrade for Surging (Thumping) – High energy</b>  |  |
| Voltage ranges   | Same 3 as base module  |
| 0 ... 8 kV   | 4,000 J  |
| 0 ... 16 kV  | 4,000 J  |
| 0 ... 32 kV  | 4,000 J  |
| <b>Prelocation</b>   |  |
| <b>Decay Plus</b>  |  |
| Technology   | Double surge method; Teleflex® RDR captures and overlays two traces, one is recorded as low voltage reference trace, and another one is recorded as high voltage fault trace after the fault has been ignited by DC charging while the arc is stabilized by an additional high energy discharge of an auxiliary capacitor. |
| Voltage  | 0 ... 80 kV  |
| Auxiliary capacitor  | 4 kV   |
| <b>Utility Location</b>  |  |
| <b>Audio frequency generator</b>                                 |  |
| Technology   | Class D amplifier for maximum active power   |
| System integration   | Functionally fully integrated, operation via CENTRIX control unit  |
| Power output   | 250 W  |
| Number of Frequencies  | 5  |
| Recommended receiver   | digiPHONE*2 NTRX set; alternatively: Ferrolux RX or CARLOC   |
| <b>Fault conversion</b>  |  |
| <b>VPK-1 burn-down unit with radar-based prelocation</b>         |  |
| Technology   | VPK-1 resonance burner; optimally regulated and continuously variable output over its full range (no fixed voltage-current ranges, no tap positions, no manual switching)  |
| System integration   | Physically and functionally fully integrated, operation via CENTRIX control unit   |
| Voltage and current  | 0 ... 20 kV DC; $I_{max}$ 25 A   |
| Prelocation  | ARM Live Burning (Burn Arc Reflection); 0 ... 20 kV DC   |
| <b>Sheath integrity</b>  |  |
| <b>MFM10 sheath fault location unit</b>                          |  |
| Technology   | High voltage bridge applying voltage drop method; suitable for sheath testing, sheath fault prelocation and sheath fault pinpointing   |
| Voltage  | ± 10 kV  |
| Current  | 750 mA, 0.4 kV; 200 mA, 1.5 kV; 60 mA, 5 kV; 30 mA, 10 kV  |
| Discharge capability   | 10 µF  |

**Flagship system for state-of-the-art cable fault location, cable testing and cable diagnostics**

**System expansions – Optional packages for cable testing and cable diagnostics**

| VLF Cable testing, in accordance with VDE 0276, CENELEC HD 620/621, IEC 60060, IEC 60502, IEEE 400.2 |  |
|--|--|
| <b>Testing BASIC</b>   |  |
| Technology   | 0.1 Hz VLF Sine  |
| System integration   | Functionally fully integrated, operation via CENTRIX control unit  |
| Voltage  | 0 ... 62 kV <sub>peak</sub> (0 ... 44 kV <sub>RMS</sub> )  |
| Test load  | 1 µF at standard-compliant frequency of 0.1 Hz and full output of 62 kV <sub>peak</sub><br>Up to 10 µF at lower voltage or frequency                       |
| <b>Testing PROFESSIONAL</b>  | <b>54</b> <span style="float: right;"><b>62</b></span>   |
| Technology   | 0.1 Hz VLF Cosine-Rectangular  |
| System integration   | Functionally fully integrated, operation via CENTRIX control unit  |
| Voltage  | 0 ... 54 kV <sub>RMS</sub> <span style="float: right;">0 ... 62 kV<sub>RMS</sub></span>  |
| Test load  | 5 µF at 54 kV <sub>RMS</sub> and 0.1 Hz <span style="float: right;">3.2 µF at 62 kV<sub>RMS</sub> and 0.1 Hz</span>  |
| <b>Testing AMBITION M</b>  |  |
| Technology   | 0.1 Hz VLF Cosine-Rectangular  |
| System integration   | Functionally fully integrated, operation from CENTRIX control unit   |
| Voltage  | 0 ... 40 kV <sub>RMS</sub>   |
| Test load  | 5 µF at standard-compliant frequency of 0.1 Hz and full output of 40 kV <sub>RMS</sub>   |
| <b>Testing AMBITION L</b>  |  |
| Technology   | 0.1 Hz VLF Cosine-Rectangular  |
| System integration   | Functionally fully integrated, operation from CENTRIX control unit   |
| Voltage  | 0 ... 60 kV <sub>RMS</sub>   |
| Test load  | 4.4 µF at standard-compliant frequency of 0.1 Hz and full output of 60 kV <sub>RMS</sub>   |
| Cable diagnostics, in accordance with IEC 60270 and IEEE 400   |  |
| <b>Diagnostics BASIC</b>   |  |
| Technology   | 0,1 Hz VLF Sine, with built-in dielectric loss factor measurement Tan Delta for service-aged cables  |
| System integration   | Functionally fully integrated, operation via CENTRIX control unit  |
| Voltage  | 0 ... 62 kV <sub>peak</sub> (0 ... 44 kV <sub>RMS</sub> )  |
| Test load  | 1 µF at 44 kV <sub>RMS</sub> and 0.1 Hz<br>Up to 10 µF at reduced test voltages and/or test frequencies  |
| Type of Tan Delta device   | Internal; suitable for dielectric loss measurement up to 2x U <sub>0</sub> on MV cables rated up to 36 kV  |
| Tan Delta range  | 10 <sup>-4</sup> ... 10 <sup>0</sup>   |
| Tan Delta accuracy   | 10 <sup>-4</sup>   |
| Tan Delta resolution   | 10 <sup>-5</sup>   |
| Automatic evaluation   | Yes, built-in evaluation of results as per IEEE 400.2  |
| <b>Diagnostics ADVANCED</b>  |  |
| Technology   | 0,1 Hz VLF Sine, with built-in dielectric loss factor measurement Tan Delta for service-aged cables, and sinewave-PD diagnostics                           |
| System integration   | Functionally fully integrated, operation via CENTRIX control unit or alternatively via external laptop   |
| Voltage  | 0 ... 62 kV <sub>peak</sub> (0 ... 44 kV <sub>RMS</sub> )  |
| Test load  | 1 µF at 44 kV <sub>RMS</sub> and 0.1 Hz<br>Up to 10 µF at reduced test voltages and/or test frequencies  |
| Type of PD coupling device   | PDS 62 Sine; IEC 60270-compliant external partial discharge detector with HV coupling capacitor, filters, quadrupole and calibrator; suitable for VLF Sine |
| Type of Tan Delta device   | Internal; suitable for dielectric loss measurement up to 2x U <sub>0</sub> on MV cables rated up to 36 kV  |
| Tan Delta range  | 10 <sup>-4</sup> ... 10 <sup>0</sup>   |
| Tan Delta accuracy   | 10 <sup>-4</sup>   |
| Tan Delta resolution   | 10 <sup>-5</sup>   |
| Automatic evaluation   | Yes, built-in evaluation of results as per IEEE 400.2  |

**Flagship system for state-of-the-art cable fault location, cable testing and cable diagnostics**

**System expansions – Optional packages for cable testing and cable diagnostics**

| <b>Cable diagnostics, in accordance with IEC 60270 and IEEE 400</b> |   |
|---|---|
| <b>Diagnostics DYNAMIC M</b>  |   |
| Technologies  | 0.1 Hz VLF Cosine-Rectangular for general cable testing<br>Slope for PD-monitored withstand testing during commissioning of new cables<br>DAC for non-destructive PD testing on service-aged cables   |
| System integration  | Functionally fully integrated, operation via CENTRIX control unit or alternatively via external laptop  |
| Voltages  | VLF CR, Slope<br>DAC<br>0 ... 40 kV <sub>RMS</sub><br>0 ... 40 kV <sub>peak</sub> ; suitable for PD diagnostics up to 1.7x U <sub>0</sub> on MV cables rated up to 25 kV  |
| Test loads  | VLF CR, Slope<br>DAC<br>5 µF at 40 kV <sub>RMS</sub> and 0.1 Hz<br>5 µF at 40 kV <sub>peak</sub>  |
| Type of PD coupling device  | PDS 60; IEC 60270-compliant external partial discharge detector with HV coupling capacitor, filters, quadrupole and calibrator; suitable for all waveforms VLF CR, Slope, DAC, VLF Sine   |
| <b>Diagnostics DYNAMIC L</b>  |   |
| Technologies  | 0.1 Hz VLF Cosine-Rectangular for general cable testing<br>Slope for PD-monitored withstand testing during commissioning of new cables<br>DAC for non-destructive PD testing on service-aged cables   |
| System integration  | Functionally fully integrated, operation via CENTRIX control unit or alternatively via external laptop  |
| Voltages  | VLF CR, Slope<br>DAC<br>0 ... 60 kV <sub>RMS</sub><br>0 ... 60 kV <sub>peak</sub> ; suitable for PD diagnostics up to 2x U <sub>0</sub> on MV cables rated up to 36 kV  |
| Test loads  | VLF CR, Slope<br>DAC<br>4.4 µF at 60 kV <sub>RMS</sub> and 0.1 Hz<br>4.6 µF at 60 kV <sub>peak</sub>  |
| Type of PD coupling device  | PDS 60; IEC 60270-compliant external partial discharge detector with HV coupling capacitor, filters, quadrupole and calibrator; suitable for all waveforms VLF CR, Slope, DAC, VLF Sine   |
| <b>Diagnostics ULTIMATE M</b>                                       |   |
| Technologies  | 0.1 Hz VLF Cosine-Rectangular for general cable testing<br>Slope for PD-monitored withstand testing during commissioning of new cables<br>DAC for non-destructive PD testing on service-aged cables<br>0.1 Hz VLF Sine with built-in dielectric loss factor measurement for service-aged cables |
| System integration  | Functionally fully integrated, operation via CENTRIX control unit or alternatively via external laptop  |
| Voltages  | VLF CR, Slope<br>DAC<br>VLF Sine<br>0 ... 40 kV <sub>RMS</sub><br>0 ... 40 kV <sub>peak</sub> ; suitable for PD diagnostics up to 1.7x U <sub>0</sub> on MV cables rated up to 25 kV<br>0 ... 45 kV <sub>peak</sub> (0 ... 32 kV <sub>RMS</sub> )   |
| Test loads  | VLF CR, Slope<br>DAC<br>VLF Sine<br>5 µF at 40 kV <sub>RMS</sub> and 0.1 Hz<br>5 µF at 40 kV <sub>peak</sub><br>0.6 µF at 45 kV <sub>peak</sub> (32 kV <sub>RMS</sub> ) and 0.1 Hz  |
| Type of PD coupling device  | PDS 60; IEC 60270-compliant external partial discharge detector with HV coupling capacitor, filters, quadrupole and calibrator; suitable for all waveforms VLF CR, Slope, DAC, VLF Sine   |
| Type of Tan Delta device  | Internal; suitable for dielectric loss measurement up to 2x U <sub>0</sub> on MV cables rated up to 25 kV or 1.5x U <sub>0</sub> on MV cables rated up to 36 kV   |
| Tan Delta range   | 10 <sup>-3</sup> ... 10 <sup>0</sup>  |
| Tan Delta accuracy  | 10 <sup>-3</sup>  |
| Tan Delta resolution  | 10 <sup>-4</sup>  |
| Automatic evaluation  | Yes, built-in evaluation of results as per IEEE 400.2   |

**Flagship system for state-of-the-art cable fault location, cable testing and cable diagnostics**

**System expansions – Optional packages for cable testing and cable diagnostics**

| <b>Cable diagnostics, in accordance with IEC 60270 and IEEE 400</b>         |   |   |
|---|---|---|
| <b>Diagnosics ULTIMATE L</b>  |   |   |
| Technologies  | 0.1 Hz VLF Cosine-Rectangular for general cable testing<br>Slope for PD-monitored withstand testing during commissioning of new cables<br>DAC for non-destructive PD testing on service-aged cables<br>0.1 Hz VLF Sine with built-in dielectric loss factor measurement for service-aged cables |   |
| System integration  | Functionally fully integrated, operation via CENTRIX control unit or alternatively via external laptop  |   |
| Voltages  | VLF CR, Slope<br>DAC<br>VLF Sine  | 0 ... 60 kV <sub>RMS</sub><br>0 ... 60 kV <sub>peak</sub> ; suitable for PD diagnostics up to 2x U <sub>0</sub> on MV cables rated up to 36 kV<br>0 ... 62 kV <sub>peak</sub> (0 ... 44 kV <sub>RMS</sub> ) |
| Test loads  | VLF CR, Slope<br>DAC<br>VLF Sine  | 4.4 µF at 60 kV <sub>RMS</sub> and 0.1 Hz<br>4.6 µF at 60 kV <sub>peak</sub><br>1 µF at 62 kV <sub>peak</sub> (44 kV <sub>RMS</sub> ) and 0.1 Hz  |
| Type of PD coupling device  | PDS 60; IEC 60270-compliant external partial discharge detector with HV coupling capacitor, filters, quadrupole, and calibrator; suitable for all waveforms VLF CR, Slope, DAC, VLF Sine  |   |
| Type of Tan Delta device  | Internal; suitable for dielectric loss measurement up to 2x U <sub>0</sub> on MV cables rated up to 36 kV   |   |
| Tan Delta range   | 10 <sup>-4</sup> ... 10 <sup>0</sup>  |   |
| Tan Delta accuracy  | 10 <sup>-4</sup>  |   |
| Tan Delta resolution  | 10 <sup>-5</sup>  |   |
| Automatic evaluation  | Yes, built-in evaluation of results as per IEEE 400.2   |   |
| <b>PD coupling device (always included in the associated options above)</b> |   |   |
| Type of PD coupling device  | PDS 60 V2   | PDS 62 Sine   |
| Suitable for waveforms  | VLF CR, Slope, DAC, VLF Sine  | VLF Sine (0.1 ... 0.01 Hz)  |
| Weight  | 30 kg   | 14.5 kg   |
| HV coupling capacitor   | 25 nF   |   |
| Sensitivity   | 2 pC ... >100 nC  |   |
| Inherent PD level (self-noise)  | < 2 pC  |   |
| PD impulse repetition rate  | 100 kHz   |   |
| PD localisation   | Single-ended travelling wave and runtime analysis   |   |
| Technology  | 0 ... 16 km (VOP = 80 m/µs)   |   |
| Measurement range   | 50 ... 120 m/µs   |   |
| Velocity of propagation (VOP, V/2)  | 125 MHz   |   |
| Sampling rate   | 25 MHz  |   |
| Bandwidth   | 1% of the cable length  |   |
| Accuracy  | ± 1 pC / ± 1 m  |   |
| Resolution  |   |   |
| PD calibrator   | Fully compliant with IEC 60270, calibration ranges 100 pC ... 100 nC  |   |
| PD pinpointing  | Yes, with external handheld device PD Loc   |   |

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