

VLF 80 kV test system

High-performance VLF test system for up to 46 and 66 kV rated cables



- Test with 3 U_0 for 46 kV cables or 2 U_0 for 66 kV cables
- Can function as a stand alone system or be integrated into the Centrix Test Van
- Ideal for standard compliance testing of long cables such as submarine cables
- Reporting, breakdown recognition and leakage current measurement
- Integrated discharge system

DESCRIPTION

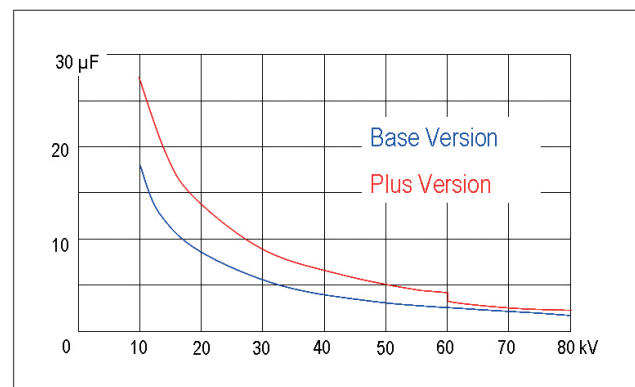
This high-performance 0.1 Hz VLF test system for cables with cosine-rectangular voltages works in accordance with VDE, IEC and IEEE standards.

According to most regulations, cables and joints must be tested after installation or repair. The VLF 80kV test system can be used to test cables with 3 U_0 with operating voltage levels up to 46 kV. The system consists of a control unit and an HV unit. The high test capacity of 2.5 μF can simultaneously test all three phases with the standardized 0.1 Hz test frequency. Positive and negative DC testing of cables and connected switchgears can be carried out by switching over to DC Mode. Aside from cable and sheath testing, the system can also be used to precisely pinpoint sheath faults (in combination with a step voltage probe like the ESG NT).

Using 0.1 Hz cosine-rectangular voltage, weak spots in the cable can be safely brought to break-down. The benefits of the VLF method with 0.1 Hz cosine-rectangular voltage have been confirmed by extensive scientific research as well as practical field tests. The proven voltage is recommended by Cenelec 620/621, IEC 60502-2 and IEEE 400.2 standard.

The VLF 80kV test system can be used as stand-alone system (permanently installed in a transportation container for operations such as cable testing on offshore wind-farms) or fully integrated into a test and fault location system. The integrated safety system and breakdown recognition software maximise safety.

Furthermore, the leakage current measurement enables a qualitative assessment of the cable cable, and the protocol function allows test data to be stored for further reporting purposes.



Testable capacities

TECHNICAL DATA*

VLF 80 kV

0.1 Hz VLF operation

	Base	Plus
Wave shape	Cosine-Rectangular	
Output voltage	0 ... 80 kV _{rms}	0 ... 80 kV _{rms}
Output current	0 ... 12.5 mA	10.5 mA @ 80 kV (resolution 10 µA)
Frequency	0.1 Hz	
Testable cable capacitance	2.0 µF @ 0.1 Hz and 80 kV _{RMS}	2.5 µF @ 0.1 Hz and 80 kV _{RMS}

DC operation

Output voltage	0 ... -80 kV	0 ... ±80 kV
Breakdown recognition	Integrated	
Leakage current measurement	Integrated	
Reporting	Integrated	
Sheath fault pinpointing	0 ... 10 kV / Duty cycle 1:3, 1:5, 1:9	
Input voltage	115 V / 230 V ± 10 %, 50/60 Hz, 1900 VA	
Dimensions (W x H x D)	1350 x 1250 x 1100 (1500**) mm	
Weight	380 kg	
Protection class	IP20	
Operating temperature	-25 °C ... +55 °C	
Storage temperature	-40 °C ... +70 °C	

FEATURES

- Ideal for testing long 36/45 kV submarine cables
- High test capacity
- Maximises user safety through automatic discharge of the test object and earth loop monitoring
- Breakdown recognition
- VLF, DC and sheath fault pinpointing in one device

MAXIMUM TEST LENGTH	VLF CR-80-B	VLF CR-80-P
10 kV XLPE cable $U_t = 18 \text{ kV}_{\text{RMS}}$	Single phase 36 km Three phase 12 km	Single phase 60 km Three phase 20 km
20 kV XLPE cable $U_t = 36 \text{ kV}_{\text{RMS}}$	Single phase 18 km Three phase 6 km	Single phase 30 km Three phase 10 km
36 kV XLPE cable $U_t = 60 \text{ kV}_{\text{RMS}}$	Single phase 12 km Three phase 4 km	Single phase 18 km Three phase 6 km
45 kV XLPE cable $U_t = 78 \text{ kV}_{\text{RMS}}$	Single phase 9 km Three phase 3 km	Single phase 11 km Three phase 3,6 km
66 kV XLPE cable $U_t = 76 \text{ kV}_{\text{RMS}}$ $U_t = 2 U_0$	Single phase 10 km Three phase 3,3 km	Single phase 12 km Three phase 4 km

ORDERING INFORMATION

Product	Order no.
VLF CR-80-B incl. manual operated LV and HV cable drum, 50 m	890012125-S
VLF CR-80-P incl. manual operated LV and HV cable drum, 50 m	890012124-S
Options:	
Container incl. installation costs	138315319
HV cable drum, 50 m, motor driven	890017195
De-humidifier VLF 60/80 kV***	890018889

* We reserve the right to make technical changes; **Depending on position of HV output;

***For operation in off shore and humid environment of essential importance

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