Classic

Benefits

- **Fast and precise cable fault locating**
- **Individual adaptation to operators needs**
- **High surge energy of 1750 or even 3500 joules**
- **Highest safety standard**

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System Classic

Modular, single or three phase test van system for testing and fault location in power distribution cables in low and medium voltage networks.

The System Classic offers maximum variability of the instrumentation variants of the test van system. There is a choice of two different central automatic control units to operate the modular system.

– centralised control panel with manual operation

– centralised control panel with automatic switching of phases and instruments in an SF6 HV-switch

Both control panels include an automatic monitoring of mains power supply and safety circuits.

The Classic System features flexibility to individually adapt key parameters for cable testing, surge energy for fault pinpointing, burning and sheath fault location to the operators needs.

Standard features of the Classic System are 80 kV DC test voltage, cable fault prelocating methods up to 32 kV. For maximum safety the system is split into two sections. The HV-compartment contains all HV modules, discharging unit, cable reels and safety contacts at the doors. The operators compartment contains all controls. The two compartments are separated by a window-wall.

Safety

The safety system meets highest expectations, monitoring the HV-compartment doors, emergency-off buttons as well as monitoring of earth loop resistance, touch voltage and dangerous voltage rise rates. The system will immediately shut off, ground and prevent re-energizing until safety is restored and confirmed by the operator. Interlocks prevent damage and wrong operations.

Automated Procedures

When using reflection methods, automatic functions of the Teleflex determine the end of the cable and set the ideal parameters for the measurement range and method. The fault location is automatically determined and, for all prelocation methods, is immediately shown by a marker.

Due to the consistent ongoing development of the proven high voltage prelocation methods and due to the high performance of the software systems, excellent results are produced, even on faults which were previously hard to locate.

Teleflex VX

The following test methods are available for the Classic system:

Standard	Optional
TDR Reflection measurement with integrated protocol logging and insulation test (3-phase)	-
ARM (Arc Reflection Method) passive, up to 32 kV	ARM active, with an additional powerful double surge
ICE (Impulse Current Method)	Three-phase current coupling
Decay - Voltage coupling up to 80 kV	Decay up to 130 kV
IFL Intermittent Fault Locating	-
-	Burning up to 15 kV with easyGO operation

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Test

VLF – Test

An integrated test with 0.1 Hz VLF (Very Low Frequency) voltage up to 54 kV allows non-destructive tests for the entire medium voltage range, especially on XLPE cables.

Available voltage shapes are sine wave voltage with an integrable TanDelta diagnosis, as well as the long-established cosine rectangular voltage for the largest testable cable capacitance possible.

DC voltage test

The DC test of up to 80 kV is a standard feature. Up to 130 kV is available optionally. In addition, the Classic system provides the option to integrate cable sheath testing, prelocation and pinpointing. The insulation test is conveniently operated from the Teleflex.

Burning

The digital control unit of the BPS 5000-d simplifies the logging and operating the test data.

For burning, 15 kV with up to 6 A DC and up to 110 A AC are available. The BPS is the central control unit for burning, direct current and VLF testing.

Prelocation

ARM (Arc Reflection Method)

Active and passive ARM prelocation have the great advantage to show a very detailed graph that corresponds directly with the result of a normal TDR reflection graph. This method is always the first choice in cable fault location. The main difference between active and passive methods is the weight and size of the instruments, where the active version is more powerful.

The simplest method is the passive ARM measurement. It will extend the duration of the discharge of the surge wave generator and thereby the HV-flashover at the fault location.

The ARM measurement with the active LSG 3-E arc stabilisation filter will also ignite the fault with the standard surge wave generator but the flashover will be extended by an additional 2 kV surge with an accordingly higher current.

ICE Impulse Current Equipment

This well established cable fault prelocation method is part of any Classic test van. The 3-phase-ICE is even able to locate cable faults in branched medium voltage networks where normal reflection measurements cannot be applied due to too many sources for reflections.

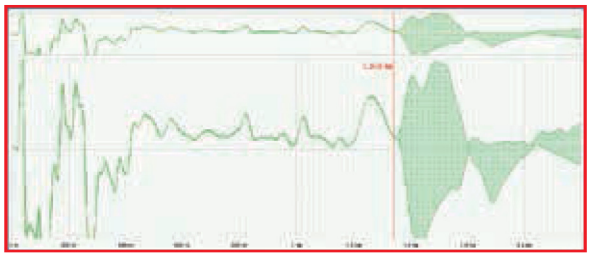
Decay Method

When encountering faults that need a higher flashover voltage than the typical 32 kV of a surge wave generator, the Classic System offers another possibility, applying the DC test equipment up to 130 kV and measuring a travelling wave for fault location.

IFL mode

For intermittent faults, the Classic System has an IFL mode available, which can save a lot of time, particularly in the area of branched low voltage distribution. Changes caused by short circuits that would only be visible as tiny reflections are clearly recognised by their envelope.

Therefore it is not necessary to know the exact time at which the change occurred as this is immediately and permanently visible. This technology allows the simple verification of the exact positions and branches in a branched low voltage network.



Typical IFL measurement

Sheath Fault Location

The latest sheath fault test and location systems can be integrated into the Classic system. It provides:

- High-performance cable testing up to 10 kV and 750 mA
- Bipolar prelocation for preventing incorrect readings due to thermo-electric and galvanic influences, which also ensures a quick and reliable sheath fault location even on long cables.
- Pinpointing with DC step voltage and also with audio frequency

... and all that with the convenient easyGO operation

easyGO by sebaKMT

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Method	Basic Module	Options
Pinpointing		
Acoustic Method with Surge Modules Surge rate	3 … 30 s	0 … 4 / 0 … 8 kV, 1200 J
		0 … 4 / 0 … 8 kV, 1750 J
		0 … 4 / 0 … 8 kV, 2400 J
		0 … 16 / 0 … 32 kV, 1280 J
		0 … 16 / 0 … 32 kV, 1750 J
		0 … 16 / 0 … 32 kV, 2560 J
		0 … 2 kV, 1200 J
Surge pulse receiver		digiPHONE+
Sheath fault pinpointing with DC step voltage	0 … 5 / 10 / 15 / 20 kV I_{max} 580 mA ± 20 mA	ESG step voltage receiver for sheath fault pinpointing
Duty cycle	1:3 / 1:6 / 1:12	
Audio Frequency		
Output power		200 W
Frequencies		491 Hz, 982 Hz, 8.44 kHz also with SignalSelect, Supermaximum
Impedance		0.5 Ω ... 1 kΩ / automatic impedance matching
Sheath fault pinpointing with AC audio frequency		Step voltage probe, direct or capacitive
HV Connections		
Single phase		**ECONOMY**: 50 m (manual cable drum)
		COMFORT: 50 m (motorised cable drum)
		PRO: 50 m (motorised slip-ring cable drum)
Connections Power Supply		
	Earth potential monitoring, 10 m (manual cable drum) Integrated safety system with FU/EP. Separation transformer Monitoring of: Voltage difference to protective earth Rise time of potential to protective earth Loop of protective earth to aux. earth Loop of cable shield to aux. earth	**ECONOMY**: Mains cable 50 m (manual slip-ring cable drum), Protective earth cable 50 m (manual cable drum)
		COMFORT: Mains cable 50 m (recoiling belt slip-ring cable drum), protective earth 50 m (recoiling belt cable drum)
		PRO: Mains cable 50 m (motorised slip-ring cable drum), Protective earth 50 m (motorised cable drum)
Teleflex Connection		3-phase coax cable, 50 m (manual, recoiling band or motorised drum)
Safety cable drum		Safety cable drum 50 m (manual, recoiling band or motorised) with emergency-OFF, key interlock and status indicating lights
Operating conditions		
Operating temperature	HV Unit: -25 °C ... +55 °C	
	Control Unit: -5 °C ... +55 °C	
Storage temperature	-25 °C ... +70 °C	
Weight		
	depending on options 900 ... 1300 kg	
Mains supply		
Mains voltage	230 V, 50 Hz (16 A connection)	120 V, 60 Hz
		Generator operation from vehicle engine
		Battery operation up to 4 hours
Power consumption	Separation transformer max. 3.6 kVA	Separation transformer 5 kVA with CEE connector for extended requirements such as ARM Burning, air condition etc.

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