M32

Portable all-in-one fault locating system 32kV

The M32 provides an easy to use all-in-one solution for troubleshooting, pre-locating and pinpointing of cable faults in complex MV & HV cable networks. Menu guided computerised operation allows to detect and precisely locate any possible fault for even unexperienced users. Featuring a large coloured 10,4" screen the M32 can display measurement curves, settings and message codes simultaneously. Integrated full scale TDR capability including the high voltage ARTi mode will isolate and pre-locate low and high resistance faults with outmost precision. Consequently, precise pinpointing will take much less time. Fast HV surge pulse cycles of 3 sec. with up to 2500 Joule energy provide for even the most demanding locating jobs. The multi-dimensional safety system PROSAFE 3D ensures maximum safety for the instrument, the operator and DUT. The optional pinpointer Kamphone and Locator S are used for flash-over faults or cable sheath faults respectively.

+ Integrated & Automatic System
+ High 2500 Joule Multi-Range Output
+ Portable With Low Weight

APPLICATIONS & FEATURES

- Comprehensive fault locating in underground MV & HV networks;
- Optimal solution for 10 to 15kV and 20 to 35kV cable systems;
- Comprehensive covering full cycle from trouble-shooting to isolating and precise fault pinpointing;
- One central unified control unit for all measurement modes and settings;
- App-style based user interface for easy operation;
- Rotary encoder operation for precise parameter setting;
- Multilayer PROSAFE protection & safety system;
- Possibility to upgrade to fully equipped cable test van.

SPECIFICATIONS

Analysis & test of faults:	
HV DC mode	0 to 32kV (proof test)
Sheath test mode	0 to 10kV
Isolation of faults:	
TDR range	95km
TDR impulse / widths	160V / 50ns to 10µs
TDR resolution	0,2m
TDR impedance matching	25 to 1600Ω
pre-location TDR-LV mode	1-phase over HV cable
Optional	3-phase over LV cable
Optional	Intermittent Fault Scanning
pre-location TDR-HV mode	ARTi: 32kV (Arc Reflection)
Optional	SCC: 32kV (Surge Current)
fault conditioning	220mA
Optional	1A
Mapping of faults:	
max. Surge voltage levels	8/16/32kV
max. Surge energy	1000J (per level)
Optional	max. 2500J (per level)
range Surge pulse cycles	2500J @ 3s to 10s; single shot
Sheath pinpointing (opt.)	0 to 10kV; 1:3, 1:6, 3:1, 6:1
GENERAL DATA	
safety	PROSAFE 3D or 5D system
dimensions	1150 x 516 x 1120mm
IP rating	IP42
weight	196kg
mains supply	230V, 50Hz
operating temperature	-10°C to +55°C

SCOPE OF SUPPLY

M32 (Basic)
Set of connection cables (5m) incl. cable bag
FU/EP sensor kit
User manual on CD

OPTIONS

HV DC test option 40kV with leakage current recording
Pinpointer: Kamphone & Locator S
Connection Kits: 25m or 50m (HV+LV)

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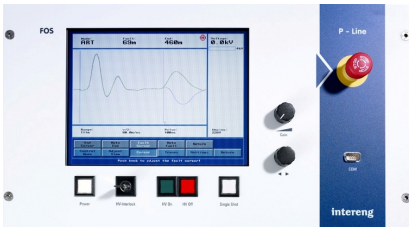
made in Germany
ISO 9001 Certified

M32 Highlights



SMART USER INTERFACE

All measurement modes and system settings are controlled by one control unit. The intuitive app-style organised software interface will guide inexperienced as well as experienced users alike. Operation is simple with a menu following the standard algorithm of fault locating. A rotary encoder helps to set precise measurement values. The clear and concise 10.4” display shows extensive information at all time with plain fault messages indicating operating mistakes or internal device failures.

PROSAFE 3D SAFETY

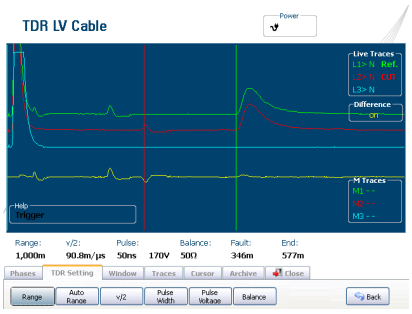
The advanced multi-layer safety system coveres the following dimensions:

PROSAFE 3D (STANDARD)
- **1D** Integrated emergency switch off & safety key lock
- **2D** Guarded Discharge Technology
- **3D** Faulty ground conditions monitor (FU/EP)

PROSAFE 5D (OPTIONAL)
- **4D** Separation transformer
- **5D** Extra residual voltage monitor

TOOLS FOR ANALYSIS & TESTING

Accurate troubleshooting of cable faults will increase the efficiency of subsequent fault locating procedures. Moreover, it helps to avoid stress on the cable resulting from employing less suitable locating technologies.
The following analytical modes are available:
- Insulation resistance measurement (opt.)
- HV test with leakage current measurement and recording (40kV DC modul)
- Sheath fault test mode with current recording



TOOLS FOR ISOLATION & PRE-LOCATION

The integrated precision TDR can pre-locate high resistance faults within a narrow range by employing inductive Arc Reflection Technology (ARTi). A major advantage is the no-loss HV impulse voltage & energy conversion and thus full application to the cable fault.
The following additional options are available:
- TDR-3phase mode for simultaneous multiphase analytics
- TDR-IFS mode for intermittent fault scanning
- High current (1A) fault conditioning for “wet” faults

TOOLS FOR MAPPING & PINPOINTING

Effective fault isolation is mandatory for complex cable faults. After that precise pinpointing using the acoustic discharge method will be an easy procedure. Simple computerized setting of parameters and high surge energies of up to 2500 Joule will allow to find faults fast. The following additional options are available:
- Kamphone pinpointer for flash-over faults
- Dedicated sheath fault pinpointing mode (SFP) and pinpointer Locator S for cable sheath faults

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