

TELEFLEX[®] VX-PT V2 High-end time domain reflectometer



- Three-phase TDR measurement
- Stand-alone operation or operation in conjunction with surge generators (thumpers)
- Control via single rotary knob (jog dial) and piechart graphic user interface
- Smart auto mode or full expert mode
- Remote access and remote control via ethernet and TeamViewer
- Rugged, durable, outdoor field-ready case
- ProRange technology: dynamic, distance-dependent de-attenuation for significantly improved detection of distant reflections
- Supports all HV prelocation methods
- Supports ARM Multishot with 15 HV fault traces per ARM shot

DESCRIPTION

The Teleflex[®] VX-PT V2 is a portable, stand-alone, three-phase time domain reflectometer (TDR) designed for fault location on power cables encompassing all voltage levels, such as low voltage (LV), medium voltage (MV), and high voltage (HV) applications. Its primary focus is on long HVAC and HVDC installations, whether they utilise paper insulation or solid dielectric insulation.

With its straightforward graphic user interface, featuring a single rotary knob (jog dial) and the well-known piechart navigation, the Teleflex[®] VX-PT V2 ensures operator comfort and enables efficient operation. The device incorporates a large, bright color touchscreen that enhances ease of use and facilitates quick and accurate readings.

The Teleflex[®] VX-PT V2 is powered exclusively from mains. Its rugged and robust casing provides durability, making it suitable for use in adverse conditions.

In addition to its comprehensive fault location features, the Teleflex[®] VX-PT V2 supports proper fingerprint measurements. The ability to perform accurate fingerprinting proves particularly beneficial during the commissioning of newly installed long HV cables, as it establishes an impedance baseline. This baseline serves as a crucial reference for future comparisons in the event of cable faults.

When combined with a surge generator and suitable separation devices, the Teleflex[®] VX-PT V2 supports all

HV prelocation methods (e.g., ARM, ICE, DECAY etc.). Its adaptive trigger technology ensures optimal timing of TDR measurements for most accurate results.

With the well-established ARM Multishot technology, the Teleflex[®] VX-PT V2 can capture up to 15 HV fault traces per arc reflection shot, allowing operators to select the most suitable trace. This feature proves especially beneficial for challenging faults on PILC cables, extended HV and MV cables, as well as wet faults.

To overcome the issue of exponential signal attenuation, the Teleflex[®] VX-PT V2 incorporates the ProRange technology. This dynamic and distance-based de-attenuation enhances the clear visibility of distant reflections without distorting the near field. It is imperative for effective TDR measurements on long HV cables, especially submarine cables and transnational interconnectors.

The Teleflex[®] VX-PT V2 is accompanied by MeggerBook Lite, a stand-alone reporting software that allows for easy import, analysis, and printing of stored traces and simple test reports.

With a Linux-based operating system known for its reliability and strong cyber security measures, the Teleflex[®] VX-PT V2 ensures system integrity and protection against potential threats. It also offers the convenience of remote access and full control via Ethernet port and TeamViewer.

KEY BENEFITS AT A GLANCE

- Large 39.6 cm (15.6 inch) touchscreen color display
- Easy to operate because of its straightforward piechart graphic user interface
- Optimal support of all arc reflection methods via adaptive trigger technology Delta-U trigger and low-to-high edge trigger
- Support for ARM Multishot technology: Capturing 15 HV fault traces per arc reflection shot instead of just one
- ProRange technology: Compensating the exponential cable attenuation by applying a dynamic distance-dependent de-attenuation for significantly improved images of distant reflections
- Display of up to 6 traces simultaneously, ideal for phase comparison
- Auto-ranging cable end recognition and auto-find cursor to fault position
- Compatible with all fault location systems (thumpers)
- Mains only, wide-range input 100...240 V AC
- High quality measurement with a very fast data rate of 533 MHz
- No internal compensation necessary anymore
- Automatic immediate storage of all measurement data for 90 days in the History and memory, permanent storage may be selected by the user
- Large memory for permanently storing more than 100 000 measurements
- USB port for export, import, and transferring data to MeggerBook Lite for analysis, printing, and reporting
- Export into the CSV data format is possible
- Many different language versions available

TELEFLEX® SUPPORTS THE FOLLOWING MODES

- Three-phase TDR measurement
- Asymmetrical measurement L1-N, L2-N, L3-N; forming the differences L1-L2, L2-L3, L3-L1
- Phase comparison, superposition of live traces and/or traces recalled from the memory
- All arc reflection methods
- ARM Live Burning (Burn Arc Reflection)
- All transient methods, i.e. impulse current decoupling (ICE) and voltage decoupling (DECAY)
- Mode for prelocating intermittent faults (IFL)
- Partial discharge pinpointing

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TECHNICAL DATA

Display	Industrial grade colour TFT panel	Velocity of propagation	10 ... 149.9 m/μs, can be expressed in m/μs or ft/μs or nominal (nvp)
LCD size	39.6 cm (15.6 inch)	Output impedance	50 Ω
Aspect ratio	16:9	Compensation	No compensation needed
Resolution	1920 x 1080 (Full HD)	ARM trigger	Adaptive, with automatic adjustment (Delta-U, L to H edge)
Backlight	LED	External voltage	Dielectric strength < 300 V
Luminance	450 cd/m ² directly bonded	Energised LV cables	Up to 440 V AC, but only with dedicated separation filter
Impulse generation	Unipolar	Memory	64 GB SSD
Impulse amplitude	150 V, adjustable	Connections	More than 100 000 measurements
Impulse width	20 ns ... 10 μs		3x BNC for TDR measurement
Impulse power	Unrestricted continuous operation and unrestrictedly fast pulse repetition with full power pulse of 10 μs at 150 V into any cable impedance		3x BNC for HV prelocation methods
Third-party certification	Yes, impulse generation has been tested and DAkkS-certified		1x three-phase Lemosa
Dynamic range	115 dB	Protection class	1x USB for data export/import
ProRange	+40 dB distance-dependent de-attenuation	Supply	1x Ethernet for remote access
Data rate	533 MHz		IP 65 enclosed, IP 54 open and exposed
Measuring range X_r	20 m ... 1280 km at VOP = 80 m/μs	Dimensions (W x H x D)	Mains only
Signal gain Y_G	0 ... 100 %, adjustable		Wide range 100 ... 240 V AC, 50/60 Hz
Resolution	0.1 m at VOP = 80 m/μs		525 x 220 x 445 mm
Accuracy	0.1 %	Weight	(20.7 x 8.7 x 17.5 inch)
Timebase accuracy	< 50 ppm (< 0.005 %)	Operating temperature	18 kg (40 lbs)
Hardware filters	4500 kHz, 2100 kHz, 1000 kHz, 450 kHz, 250 kHz	Storage temperature	-10 °C ... +50 °C (+14 °F ... +122 °F)
			-20 °C ... +60 °C (-4 °F ... +140 °F)

ORDERING INFORMATION

Product	Order no.
Teleflex® VX-PT V2 standalone unit with basic set of leads	1014407
Connection set for HV cables, 5 m	2004385
Connection set for HV cables, 12 m	2005067
Separation filter for reflectometry on energised (live) LV cables, up to 440 V AC	1015307

EXPANSIONS AND COMPATIBLE OPTIONS

- Overhead line measurement system for time domain reflectometry on HV transmission power lines with shield wire/overhead earth wire
- LDE 800 long distance measuring system as range extender for time domain reflectometry on long HVAC and HVDC power cables, especially submarine cables and transnational interconnectors > 800 km

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