Teleflex® SX-1
Portable Time Domain Reflectometer

- **Standalone operation or operation in conjunction with surge wave generators (thumpers)**
- **Single jog dial operation with piechart interface and No-User-Intervention Auto mode**
- **ARM® Multishot technology with 15 fault traces per arc reflection shot**
- **ProRange distance-dependent de-attenuation for significantly improved images of far-away reflections**
- **Supports all existing HV prelocation methods**
- **Auto-ranging cable end recognition, Auto-find cursor to fault position**
- **Rugged, robust, outdoor field-ready case**

DESCRIPTION

The **Teleflex® SX-1** is a portable 2-channel time domain reflectometer (TDR) designed to provide quick, effective, accurate and safe prelocation of faults in cable installations.

Operation of the instrument is via a single jog dial and an intuitive, well-proven piechart interface. The large and bright colour display with touchscreen functionality further enhances operator comfort and supports rapid and accurate results.

The Teleflex SX-1 is powered from its internal rechargeable battery and may be operated in battery only mode or via smart charger connected to a mains power supply.

It is housed in a rugged, robust, field-proven case making it suitable for use in hostile or challenging environments.

By combining the Teleflex SX-1 with a surge wave generator (thumper) and separation filter, all methods of high voltage fault prelocation are possible. The Teleflex SX-1 is compatible with all fault location systems, and the **ΔU Trigger technology** always provides the most optimally timed trigger.

The standalone software package **MeggerBook Cable Reporting Edition** is available for the Teleflex SX-1. This package allows import, analysis and protocol printing of saved traces.

The **ARM® Multishot technology** records 15 fault traces per arc reflection shot, allowing for the operator to select the best trace. This is particularly beneficial on PILC cables, long cables and wet faults.

The **ProRange technology** is a distance-dependent de-attenuation. It counteracts the exponential attenuation of the cable, and therefore enhances distant events without distorting the near field. It is a very benficial feature for very long cables and cables with high attenuation.

Via CAN bus interface, the Teleflex SX-1 becomes the control and radar unit of the most sophisticated **SPG 40 fault location system**, allowing fully automated operation of all high voltage functions, using the same single jog dial.

The Linux-based operating system offers the highest standard of reliability.

TECHNICAL DATA

Teleflex SX-1

Display	Industrial grade colour TFT panel
LCD size	10.1"
Aspect ratio	16:10
Resolution	1,280 x 800 (WXGA)
Backlight	LED
Luminance	1000 cd/m² direct bonded
	Anti-glare capacitive touchscreen
Measuring range	20 m ... 160 km at VOP = 80 m/µs
Pulse width	20 ns ... 10 µs
Pulse amplitude	10 ... 50 V
Resolution	0.1 m at VOP = 80 m/µs,
Accuracy	0.1%
Timebase Accuracy	100 ppm
Sampling rate	true 400 MHz
Dynamic range	96 dB, with adjustable ProRange
	(Distance-dependent De-attenuation)
Velocity of propagation	10 ... 149.9 m/µs (or ft/µs or nvp)
Output impedance	50 Ω
	10 Ω ... 500 Ω, adjustable
ARM® trigger	ΔU trigger technology with
	automatic adjustment
Proof voltage	< 400 V, only with separation filter
Memory	4 GB for program and data
Connections	USB, BNC, CAN
Protection class	IP 65 enclosed, IP 54 open
Battery	12 V Li-Ion rechargeable battery
	Overload protection
	Deep Discharge protection
	Smart charger 110 ... 240 V, 50/60 Hz
	10 ... 17 V DC, 3.8 A
	6 hrs of operating time on full charge
	4 hrs recharge time
Dimensions (W x H x D)	362 x 195 x 305 mm
	(14.2 in. x 7.6 in. x 12 in.)
Weight	7.8 kg (17.1 lbs)
Operating temperature	- 10 °C ... + 50 °C (14 °F ... +122 °F)
Storage temperature	- 20 °C ... + 60 °C (-4 °F ... +140 °F)

ORDERING INFORMATION

Product	Order no.
Teleflex SX-1	1003393
Teleflex SX-1 calibration certificate	90029860
Separation filter TF-VX	1010520

BENEFITS AND FEATURES AT A GLANCE

- Large 10.1" sunlight proof touchscreen colour display
- Very easy to operate because of its intuitive and straightforward piechart interface
- ARM® Multishot technology with 15 measurements per arc reflection shot
- ProRange technology; distance-dependent de-attenuation for improved images of far-away reflections
- Optimised support of all arc reflection methods by ΔU trigger or Low-High edge trigger
- Two-phase TDR mode and display of up to 6 traces simultaneously, ideal for phase comparison
- Automatic cable end recognition and flagging of fault position
- Fully automated control of SPG40 (via CAN bus)
- Compatible with all fault location systems (thumpers)
- Li-Ion battery-operated
- High quality measurement with very fast true sampling rate of 400 MHz
- Internal compensation for undistorted measurements in the near field (close range)
- Automatic storage of all measurement data
- Large memory for storing > 100,000 measurements
- Export/import function
- Test reports in PDF format
- USB port for transferring data and printing
- Many different language versions available

THE TELEFLEX SX-1 SUPPORTS THE FOLLOWING FAULT LOCATION TECHNOLOGIES:

- All arc reflection methods
- ARM® Multishot
- ARM® Burning
- ICE (impulse current decoupling)
- DECAY (voltage decoupling)
- Differential measurement and phase comparison
- Symmetrical & unsymmetrical TDR measurement
- Two-channel TDR measurement
- IFL (intermittent fault locating)
- Partial discharge pinpointing

OPTIONS

- Separation filter TF-VX (for the operation on live circuits up to 600 V, CAT IV)
- PD pinpointing

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