# Teleflex® SX-1
## Portable Radar/Time Domain Reflectometer

Megger



- **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 measurement**
- **ProRange distance-dependent exponential 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**

## 康高特-MEGGER Teleflex SX 时域反射仪
## DESCRIPTION

The **Teleflex® SX-1** is a portable 2-channel cable radar or time domain reflectometer (TDR), designed to provide quick, effective, accurate and safe prelocation of faults in cable installations.
The instrument is operated via a **single jog dial** and an intuitive, well-proven **piechart user interface.** Its large and bright colour display with touchscreen functionality further enhances operator comfort and supports quick and accurate field work. A **Linux-based operating system** provides the highest standard of stability and reliability.

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.

The **ProRange technology** is a distance-dependent exponential de-attenuation mode. It counteracts the exponential attenuation caused by the cable's filter characteristics, and thus ProRange greatly improves distant reflections without distorting the near field. It is a very beneficial feature for cables with many joints (splices), for very long cables, and for cables with high attenuation.

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

The **ARM® Multishot technology** is capable of capturing 15 fault traces per arc reflection measurement, of which the operator can select the best trace. This is particularly beneficial on wet faults, PILC cables, and longer cables.

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

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# Portable Radar/Time Domain Reflectometer

## TECHNICAL DATA

| | |
|---|---|
| **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 directly bonded Anti-glare touchscreen |
| **Pulse generation** | Unipolar |
| **Pulse amplitude** | 50 V fixed |
| **Pulse width** | 20 ns ... 10 µs |
| **Measuring range $X_R$** | 20 m ... 160 km at VOP = 80 m/µs |
| **Resolution** | 0.1 m at VOP = 80 m/µs |
| **Accuracy** | 0.1% |
| **Timebase accuracy** | Better than 100 ppm |
| **Data rate** | Faster than 400 MHz |
| **Dynamic range** | More than 96 dB |
| **ProRange** | More than +22 dB (distance-dependent de-attenuation) |
| **Velocity of propagation** | 10 ... 149.9 m/µs VOP settable to m/µs or ft/µs or nvp |
| **Output impedance** | 50 Ω No dedicated internal compensation necessary |
| **ARM® trigger** | ΔU trigger technology with automatic adjustment |
| **External 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) |

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

- All arc reflection methods
- ARM® Multishot, ARM® Burning (Live Burn Arc Reflection)
- ICE (impulse current decoupling) and Loop On Loop Off
- DECAY (voltage decoupling)
- Phase comparison and Difference measurement
- Symmetrical and unsymmetrical measurement
- IFL mode for intermittent faults
- Partial discharge pinpointing

## BENEFITS AND FEATURES AT A GLANCE

- Large 10.1" sunlight readable touchscreen colour display
- Very easy to operate because of its intuitive and straightforward piechart user interface
- Automatic smart measurement mode with no user intervention necessary, but full expert control whenever desired
- ARM® Multishot technology: 15 HV fault traces are captured per each arc reflection measurement
- ProRange technology: Distance-dependent exponential de-attenuation of more than +22 dB for improved measurement of far-away impedance changes
- Optimised support for all arc reflection methods by Delta-U 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
- Compatible with all fault location systems (thumpers)
- Li-Ion battery-operated
- High quality measurement with very fast data rate of more than 400 MHz
- Dedicated internal output impedance compensation not required anymore thanks to sophisticated and advanced signal path design
- Automatic storage of all measurement data and large memory for storing > 100,000 radar measurements
- USB port for export/import data transfer and protocol printing via Reporting Edition software package
- Many different language versions available

## OPTIONS

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

## ORDERING INFORMATION

| Product | Order no. |
|---|---|
| Teleflex SX-1-VS sales set | 1012747 |
| Teleflex SX-1 calibration certificate | 90029860 |
| Separation filter TF-VX | 1010520 |

* We reserve the right to make technical changes.

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