

STX40-P

High-end portable standalone cable fault location unit

Megger[®]



- **Field-ready outdoor unit, IP 43**
- **Single “turn & click” rotary knob user interface**
- **Fully automated operation via software controlled motorised switches**
- **Surge/Thump energy 2,000 Joule**
- **Integrated radar (Teleflex[®]-type TDR)**
- **DC testing up to 40 kV, surging/thumping up to 32 kV, burning up to 40 kV**
- **Prelocation methods: Inductive ARM with Multishot, ICE and DECAY**
- **Built-in safety circuits for earth connection monitoring (F-Ohm) and touch potential monitoring (F-Voltage)**

DESCRIPTION

With its single rotatory control knob (or touch screen) and fully automated motorized HV switches the STX40 is the most modern, powerful portable fault location system in the market. It is ideally suited for proof testing, analysing, prelocating and pinpointing of faults on low voltage and medium voltage XLPE or EPR insulated cables.

With its 40 kV DC source and a potent high frequency burner it is also highly effective on PILC cables as well.

The key features at a glance

- Lightweight, rainproof outdoor field-ready design, IP 43 rating and 118 kg (260 lbs)
- Bright, sunlight proof 10.1” color touchscreen
- To identify different types of faults: Insulation resistance evaluation up to 20 kV and 650 MΩ
- DC testing up to 40 kV, with automatic voltage breakdown detection and ramp function
- Integrated radar/TDR with ARM Multishot, ICE and DECAY prelocation methods
- Surging/Thumping at 8/16/32 kV with 2000 J, optionally with additional 4 kV stage 1100 J
- High frequency burner for effective fault conversion with up to 40 kV and up to 850 mA

Prelocating methods

The STX40 provides the following HV prelocating methods:

- **True inductive ARM Multishot:** The Arc Reflection Method overlays and compares a low voltage reference trace and up to 15 high voltage fault traces (Multishot feature) captured via capacitor discharge through an inductive (coil-type) filter. These 15 comparative measurements are then displayed for operator review.
- **ICE/Surge Pulse:** After fault ignition via capacitor discharge, the Impulse Current or Surge Pulse method measures the current component of the travelling wave. This technique is suitable for long cables, PILC cables and as a backup to ARM.
- **DECAY:** After fault ignition via HV DC source, the DECAY method measures the voltage component of the travelling wave. This technique is suitable for very long cables, HV transmission cables and faults with very high breakdown voltage.
- **IFL:** Intermittent Fault Locating; to find intermittent faults with temporarily changing characteristics like they often occur in street lighting systems and similar low voltage cables.

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SURGE WAVE GENERATOR PART
TECHNICAL DATA

Protection class	IP 43, weather-resistant and rainproof
Weight	118 kg (260 lbs) standard version 123 kg (271 lbs) extended version
Insulation test	Voltages of 1,000/2,500/5,000/10,000/20,000 V Measuring range of 650 MΩ
HV Source	40 kV DC breakdown testing and proof testing
Breakdown detection	0 - 40 kV
Burning	High frequency burner max 850 mA in 5 kV range max 400 mA in 10 kV range max 200 mA in 20 kV range max 100 mA in 40 kV range
Standard surge levels	0 - 8 / 0 - 16 / 0 - 32 kV 2,000 / 2,000 / 2,000 J
Additional surge levels	Optionally 4 kV with 1,100 J
Surge rate	3 seconds at full output of 32 kV and full energy; adjustable 3 ... 10 sec, and single shot
Sheath testing and	3 kV, 5 kV, 10 kV, 20 kV
Sheath fault pinpointing	0,5:1, 1:3, 1:4, 1:6
Built-in prelocation	32 kV true inductive ARM Multishot 32 kV ICE (Surge Pulse) 40 kV DECAFY IFL mode
Operating temperature	-20°C ... +55°C (-4°F ... +131°F)
Storage temperature	-40°C ... +70°C (-40°F ... +158°F)
Mains input supply	2.5 kW wide range power source 110 ... 230 V AC, 50/60 Hz Limited to 1.6 kW at 120 V AC (as per ANSI/NEMA 5)
Dimensions (L x W x H)	710 x 740 x 1,080 mm (27.9 x 29.1 x 42.5 in.)



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RADAR AND CONTROL UNIT



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/m ² directly bonded Anti-glare 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

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
- Display up to 6 traces simultaneously, ideal for phase comparison
- Automatic cable end recognition and flagging of fault position
- 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

FAULT LOCATION TECHNOLOGIES:

- ARM® Multishot
- ICE (impulse current decoupling)
- DECAY (voltage decoupling)
- TDR and Phase comparison
- IFL (intermittent fault locating)

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ORDERING PROCESS

SYSTEM SPECIFICATION FOR PORTABLE UNIT - YOU MUST CHOOSE ONE! ↓

Standard	STX40P-2000	8 / 16 / 32 kV with 2000 / 2000 / 2000 J	1011497	
Extended	STX40P-2000-4	4 / 8 / 16 / 32 kV with 1100 / 2000 / 2000 / 2000 J	1013011	



MAINS INPUT - YOU MUST CHOOSE ONE! ↓

EU	Europe	230 V AC, Schuko plug, 3 m	90028780	
UK	United Kingdom	220 V AC, Type G plug, 3 m	90034588	
US	North America	120 V AC, ANSI NEMA 5 plug, 2.5 m	90034589	
O	Do it yourself	Open end, no plug attached, 3 m	90034997	



CONNECTION LEADS - CHOOSE EITHER STANDARD OR TROLLEY ↓

Standard set			1013495	
HV connection	KTH H-STX40-25, HV cable drum, 25 m		2012308	
Earthing and F-Ohm safety circuit	KTE H-1625-T9, Earth cable drum, 25 m, 16 mm ²		2013151	
	EKM-T9, Extension lead from STX to reel		2013149	
F-U safety circuit	F-U measuring lead, red, 5 m		820003013	
	Auxiliary earth rod		892479915	
	Nylon hammer		892517507	
Trolley (fully assembled) ①			1013496	
Cable drum trolley	Rugged steel frame on air tires; with 1x HV cable drum KTH H-STX40-25, 1x earth cable drum KTE H-1625-T9 and 1x earth extension EKM-T9		2012707	
F-U safety circuit	F-U measuring lead, red, 5 m		820003013	
	Auxiliary earth rod		892479915	
	Nylon hammer		892517507	

EXTERNAL SAFETY DEVICE - YOU MUST CHOOSE YES (Y) OR NO (N) ↓

External Safety Device for portable standalone unit STX40-P ②	relevant for CENELEC countries in accordance with EN 50191:2010 , VDE 0104:2011 and DGVU 203-034 (BGI 891)	2012574	Y N
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CONNECTION ACCESSORIES - YOU MUST CHOOSE ONE!			
DE / EN / INT (International standard)	Crocodile clamp HKZ T9 f. HV, T9 Male red MC10	2013146	
	OE Adapter f. HV Return, T9 Female black MC10	2013148	



OPTIONS			
Lifting traverse	Heavy-duty rig for lifting STX 40-P by crane or hoist	90034843	
Loading rails 1	Pair of basic rails for loading and unloading of STX 40-P	90034844	
Vehicle transport fixture 2	Device to fix STX 40-P in place safely, for transportation by vehicle, comes with floor-mounted frame and ratchet straps	2013281	
Protective tarpaulin 3	Resilient tarp to cover STX 40-P from IP43 exceeding conditions, e.g. exposed transport on the back of an open truck going through heavy rain at freeway speeds	2013420	
Protective top 4	Additional protective top to prevent damage, e.g. from falling objects, when STX 40-P is stored or transported in working vehicles, trailers or containers	2013393	
Vehicle mount for cable drum trolley	Vehicle mount to fix connection leads choice Trolley 1013496 in place	2013364	



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PINPOINTING DEVICE DIGIPHONE+2

digiPHONE+2 set

surge wave receiver for magnetic-acousting pinpointing of main insulation cable faults



digiPHONE+2 NT set

for magnetic-acoustic pinpointing of main insulation cable faults, and location of cable sheath faults using the voltage gradient method (step voltage method)



digiPHONE+2 NTRX set

for magnetic-acoustic pinpointing of main insulation cable faults, and location of cable sheath faults using the voltage gradient method (step voltage method), as well as line location and cable route tracing via Ferrolux audio frequency system (note: audio frequency generator needs to be ordered separately, e.g. FLG12 1012522, FLG50 1012965)



ACCESSORIES		
Description		Order No.
digiPHONE+2 set	Includes: digiPHONE+2 display unit, digiPHONE+2 sensor unit, connection cable, telescopic handle, measuring tip 18 mm, measuring tip 75 mm, tripod, base plate, base plate with bitumen, sensor cable, stereo headphones, 6 pcs. battery 1.5 V, transport bag, insert for transport bag	1013124
digiPHONE+2 NT set	digiPHONE+2 plus additional: 2 pcs. earth rods, 2 pcs. contact sponges for earth rods, additional bag for earth rods, 2 m test lead (red with angled plug), 2 m test lead (black with angled plug), headphones Sennheiser HD 450BT Black (Bluetooth® & ANC)	1013126
digiPHONE+2 NTRX set	digiPHONE+2 NT set plus additional: sensor unit Ferrolux® IFS, Ferrolux® IFS connection cable for display unit	1013168

SALES OFFICE

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STX40_DS_EN_V02

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