STX40-2000
High-end portable fault location system

- **True portable outdoor-ready unit, IP 43**
- **Very easy to use "turn&click" single rotary knob interface**
- **Surge/Thump energy 2,000 Joule**
- **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)**
- **Full TDR control of all HV functions**

DESCRIPTION

The STX40 is the most powerful and most modern portable fault location system in the market. It is ideally suited for proof testing, analysing, prelocating and pinpointing of faults on extruded low voltage and medium voltage XLPE- and EPR-insulated cables. With its 40 kV DC source and a potent high frequency burner it is also highly capable and effective on PILC cables as well.

The STX40 is fully automated with motorised HV switches controlled by either the rotary knob or the industry-grade colour touchscreen.

The key features at a glance

- Lightweight, rainproof outdoor field-ready design thanks to IP 43 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 voltage detection and ramp function
- Integrated radar/TDR and integrated prelocation with radar-based and transient prelocation methods
- Surging/Thumping at 8/16/32 kV with 2000 J, Optionally with additional 4 kV stage 1100 J
- Very effective high frequency burner for fault conversion with up to 40 kV and up to 850 mA

Prelocating methods

The STX40 provides the following different HV prelocating methods:

- **True inductive ARM Multishot:** The Arc Reflection Method overlays and compares a low voltage reference trace and a high voltage fault trace captured via capacitor discharge through an inductive (coil-type) filter.
  15 comparative measurements per ARM shot are displayed (Multishot feature), and the results are evaluated automatically.
- **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 and PILC cables.
- **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.

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 proof testing and fault breakdown 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	8 / 16 / 32 kV
	2,000 / 2,000 / 2,000 J
Additional surge levels	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 DECAY
	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.)

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/m² 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)

BENEFICIAL ACCESSORIES FOR FAULT LOCATING, ESPECIALLY PINPOINTING

digiPHONE+2

Surge wave receiver for magnetic-acoustic pinpointing of faults

digiPHONE+2 NT Set

Advanced functions of the digiPHONE+2 NT set:
This set, in addition to magnetic-acoustic cable fault location, allows the location of cable sheath faults using the voltage gradient method (step voltage method)

digiPHONE+2 NTRX Set

Advanced functions of the digiPHONE+2 NT RX set:
This set, in addition to magnetic-acoustic cable fault location, allows the location of cable sheath faults using the voltage gradient method (step voltage method) as well as line location and cable route tracing via audio frequency Ferrolux system

ORDERING PROCESS

SYSTEM SPECIFICATION FOR PORTABLE SYSTEM - 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/NEMA5 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 ciruit	F-U measuring lead, red, 5 m	820003013	
	Auxiliary earth rod	892479915	
	Nylon hammer	892517507	
Trolley	Coming soon	...	

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	
US	Coming soon	...	

OPTIONS			
External Safety Device ESE for STX40-P		2012574	
Lifting gear	Coming soon	...	
Loading rails	Coming soon	...	
Protective top	Coming soon	...	
Protective tarp	Coming soon	...	
Vehicle transport fixture	Coming soon	...	

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ISO 9001