

# SWG-32

## MOBILE CABLE TEST AND FAULT LOCATION SYSTEM



- **Detachable reflectometer with touch screen control**
- **Powerful 2000 J surge generator**
- **ARC single shot / ARC multi-shot pre-location**
- **Surge levels ... 8 / 16 / 32 kV**
- **Fault conditioning (burning) with up to 100 mA @ 32 kV**
- **Advanced safety systems**

### Description

SWG-32 is a 1-phase mobile cable test and fault location system, made in a form of a trolley. It is designed for:

- **testing medium-voltage cables** with direct current voltage up to 32 kV;
- **fault conditioning** by burning faulty cable insulation with current up to 100 mA @ 32 kV;
- **pre-locating cable faults** with the reflectometer RIF-9 based on the low-voltage pulse reflection method (TDR), high-voltage decay method (DECAY), arc reflection method (ARC single shot / ARC multi-shot), and current pulse method (ICE);
- **pinpointing cable faults** with the acoustic method with 2000 J surge generator and a suitable signal receiver.

Detachable reflectometer RIF-9 is equipped with extra-bright display with touch screen technology, which makes fault pre-location quick, easy and efficient.

Powerful 2000 J surge generator is accompanied with a surge voltage level switch allowing to receive maximum surge power at 8, 16 and 32 kV. High surge energy enhances the possibilities of fault pinpointing by providing a stronger signal in the conditions of high interference, deep cable burial or long distance to the place of fault.

SWG-32 provides a reliable, safe and comprehensive solution for a complete servicing of medium-voltage voltage cables.



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<b>High-voltage testing (DC)</b>	Output voltage range	0 ... 32 kV
	Output current range	0 ... 10 mA
	Voltage adjustment type	Continuous
	Indication	Analogue output voltage and leakage current in real time
	Measurement error	± 3 %
<b>Fault conditioning (Burn)</b>	Output DC voltage range	0 ... 32 kV
	Output current range	0 ... 100 mA
	Voltage adjustment type	Continuous
	Indication	Analogue output voltage and leakage current in real time
	Measurement error	± 3 %
<b>Fault pre-location (RIF-9)</b>	Pre-location methods	<ul style="list-style-type: none"> <li>■ TDR</li> <li>■ ARC single shot</li> <li>■ ARC multi-shot</li> <li>■ ICE</li> <li>■ DECAV</li> </ul>
	Measurement ranges (for shortening coefficient of 1.50 or $v/2 = 100$ m/ $\mu$ s)	0 ... 60 / 120 / 250 / 500 / 1000 / 2000 / 5000 / 10,000 / 20,000 / 50,000 / 120,000 m
	Resolution:	
	<ul style="list-style-type: none"> <li>■ for shortening coefficient of 1.5 (<math>v/2 = 100</math> m/<math>\mu</math>s)</li> <li>■ for shortening coefficient 1.87 (<math>v/2 = 80.2</math> m/<math>\mu</math>s)</li> </ul>	0.5 m 0.4 m
	Distance measurement accuracy	0.2 % of measurement range
	Sampling rate	200 MHz
	Time mark accuracy	0.01 %
	Output impedance range	2 ... 100 $\Omega$ , resolution 2 $\Omega$
	Probe pulse parameters:	
	<ul style="list-style-type: none"> <li>■ voltage</li> <li>■ width range</li> </ul>	45 V 10 ns ... 100 $\mu$ s
	Gain range	- 21 ... + 69 dB
	Shortening coefficient range	0.750 ... 3.000, resolution 0.001
	Propagation velocity $v/2$ range	50.0 ... 200.0 m/ $\mu$ s, resolution 0.1 m/ $\mu$ s
Probe pulse parameters:		
<ul style="list-style-type: none"> <li>■ reflectograms with parameters</li> <li>■ data on cable shortening coefficients</li> </ul>	1000 500	
<b>Fault pinpointing (Surge)</b>	Surge voltage range levels	<ul style="list-style-type: none"> <li>■ 0 ... 8 kV</li> <li>■ 0 ... 16 kV</li> <li>■ 0 ... 32 kV</li> </ul>
	Voltage adjustment type within each level	Continuous
	Surge energy at each level	up to 2000 J
	Surge rate	<ul style="list-style-type: none"> <li>■ Single discharge, manually triggered</li> <li>■ 4 ... 12 surges/min, automatic mode</li> </ul>
	Indication	Analogue output voltage in real time

<b>Controls and interfaces</b>	Connection interfaces	<ul style="list-style-type: none"> <li>USB-A (user memory stick, formatted under FAT32)</li> <li>USB-B (service only)</li> </ul>
	Graphical display <ul style="list-style-type: none"> <li>Reflectometer RIF-9</li> </ul>	10.4" TFT, 800 × 600 px, colour, resistive touch
	Operating modes switch	Manual
	Surge voltage levels switch	Manual
	Secondary control interface	Rotary encoder
	Internal memory	10,000 test results
<b>Connections</b>	HV cable KEP-40DC	10 m
	Power supply cable	10 m
	TDR connection cable RG-58, 1-phase	2.4 m
	Protective earthing cable KEP-10GCt, copper 10 mm <sup>2</sup> , transparent	10 m
	Earthing control cable (red)	10 m
<b>Safety</b>	Protection	<ul style="list-style-type: none"> <li>Operating against auxiliary grounding control</li> <li>Chassis potential control</li> <li>Oversvoltage, overcurrent, overheating protection</li> <li>EMERGENCY STOP button, automatic discharge</li> <li>Operator lockout key</li> </ul>
<b>Power supply and consumption</b>	Supply voltage	230 V ±10 % AC, single phase
	Supply frequency	50 Hz
	Power consumption	2.0 kVA
<b>Physical</b>	Dimensions, H × W × D (with RIF-9)	1215 × 764 × 675 mm
	Total weight (with RIF-9, connection cables)	185 kg
	Protection rating (as per EN 60529)	IP 30

Specifications are subject to change without notice.  
Pictures for are for illustration purposes only.



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