

An Integral Cable Test & Fault Locating System

ETL-40V



MAIN FEATURES:

- DC cable testing up to 40 kV with 100 mA max. current
- Burning up to 20 kV / 1 A
- Surge energy up to 2400 J (option)
- Precise fault prelocating using Time-Domain Reflectometer RIF-9 working in:
 - TDR mode
 - Arc-Reflection mode
 - Impulse Current Mode
 - Voltage coupling mode
 - Automatic test procedure



Inside Van

VTA

- Easy user friendly interface
- High safety level
- Multistep self fault protection
- Flexible auxiliary equipment integration

> CABLE TEST VANS > An Integral Cable Test & Fault Locating System



high voltage
testing equipment



► Application

ETL-40V is a diagnostic and test equipment, which is designed for testing and fault location of both LV and MV cables. The key parameters are designed flexible to satisfy customers specific requirements.



Starting up program

Language selection

Testing Mode

Burning Mode

Surge Wave Mode

Prelocation Mode

Overall technical specifications

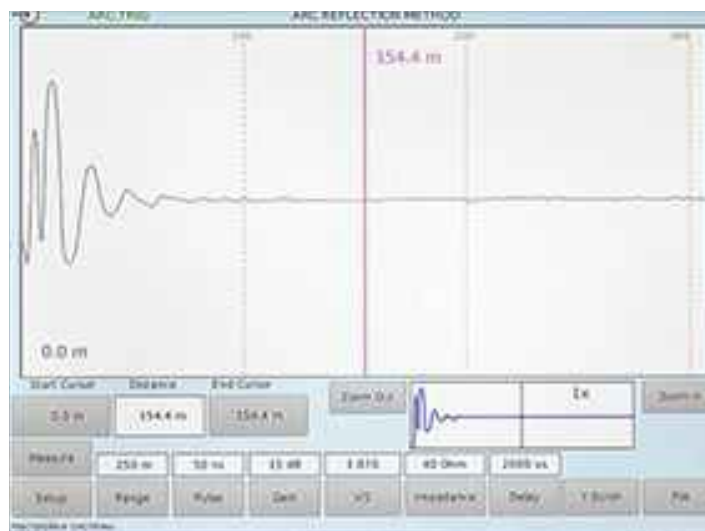
Parameter	Value
GENERAL parameter	
Input voltage, V	230 ± 23
Frequency, Hz	50 ± 1
Power consumption, kVA, max	2.0 (2.5 for 40A burn generator)
[⚡] TEST MODE	
Output DC voltage range, kV	0 40
Output DC current range, mA	0 10 / 0 100
[🔥] BURN MODE	
Output DC voltage range, kV	0 20
Output DC current range, mA	0 1000
[⚡] SURGE MODE	
DC voltage ranges, kV	4 / 8 / 16 / 32
Output energy, J, max	2000 (2400 - as an option)
Timer set (automatic surge mode), seconds	5 15
Manual single surge	✓
Flexible voltage change during automatic operation	✓
Pinpointing with an acoustic receiver	✓
[?] PRELOCATION MODE	
Methods	TDR / Arc reflection/ Impulse current/ Voltage coupling/ Arc reflection + burn
Automatic distance measuring	✓
Saving cable parameters into Reflectometer non-volatile memory	✓
Saving reflectograms either to Reflectometer non-volatile memory or USB flash drive	✓
CABLE TRACING MODE	
Cable tracing using 50 W audio-frequency generator with frequencies 491/ 982/ 8440 Hz* with a receiver	✓

* – other frequency set is an option upon request



► Time Domain Reflectometer

Parameter	Value
Distance measurement ranges, m @ v/2 = 100 m/μs	60; 120; 250; 500; 1000; 2000; 5000; 10000; 20000; 50000; 120000
Resolution:	
– 0.5 @ v/2	100 m/μs
– 0.4 @ v/2	80 m/μs
Sampling rate, MHz	200
Gain, dB	-33 104
Output impedance (10 Ω steps), Ω	10 500
Propagation velocity (v/2), m/μs	50.0 150.0
Averaging reflectograms number, max.	64
Time domain accuracy, % of FS	± 0.2
Pulse amplitude, V	45
Propagation velocity (V/2) resolution	0.1 m/us
Pulse width, ns	10 100 000
Operation modes	TDR; ARC; ICE; Decay
Control	Touchscreen and control knob
Connectivity	RS-485, USB
Internal data storage	4 Gb (not less than 1000 reflectograms with data)
Display	10.4, 800x600 TFT, touch-sensitive



Low-frequency Generator ◀

Parameter	Value
Operating frequencies, Hz	491 / 982 / 8440 (other - on request)
Max. Frequencies count, operated simultaneously	3
Output power range, W	0 50
Output power regulating step, W	2.5
Frequency selection	manual
Operating modes	continuous / pulse
Loop impedance matching range, Ω	0.5 1000
Maximum output voltage (RMS), V	300
Loop impedance matching mode	auto
Measured parameters ranges:	
output voltage, V RMS	0.1 300
output current, A RMS	0.01 9.99
load resistance, Ohm	0.5 1000
phase angle, $^{\circ}$	0 90
pulse duty cycle, %	50
Measurement error, %, of FS	5
Pulse repetition frequency, Hz	1
Power supply:	
input voltage, V	230 \pm 10 %
input voltage frequency, Hz	50
power consumption from mains, VA, max	100
external supply DC voltage, V	12 15
Internal battery:	
type	LiFePO4
operating voltage, V DC	12
battery life, hours	not less than 1
average charging time, hours	3
Dimensions (W x H x D), mm	366 x 227 x 270
Net weight, kg, max	8



▶ Tracer

Fast and accurate search for power cables and other communications, identification of coating defects and the depth, followed by mapping.

Parameter	Value
Operating frequencies, Hz	491 / 982 / 8440
Bandwidth:	
RADIO mode, kHz	10 – 36
ONLINE mode, Hz	48 – 10 000
Sensitivity, μV	1
Track depth measurement error, %, max	5
Dimensions, mm	700 × 300 × 140
Weight, kg, max	2.4



