power arbor

Vehicle-based Systems

ETL-40VP & ETL-80VP

Application

ETL-40VP is a modular 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 customer's specific requirements.

Vehicle-based system ETL-40VP allows:

- DC cable testing up to 40 kV with 300 mA max. current
- Burning up to 20 kV / 1 A
- Surge energy up to 2400 J
- Precise fault prelocating using Time-Domain Reflectometer RIF-9P working in:
  - TDR mode
  - Arc-Reflection mode
  - Impulse Current Mode
  - Voltage coupling mode
  - Automatic test procedure
- Fault location using step voltage mode (optional)

Safety

Grounding control unit (GCU) monitors a voltage between a grounded bar and safety earthing. Once this voltage level reaches 48 V a high-voltage lead out disconnects from a voltage source automatically. Control panel software will not permit to operate with faulty earthing.

This unit monitors a resistance between operating earth connector and safety earth connector. It automatically switches off the high-voltage if this resistance reaches 8 Ohm.

Grounding control unit

Visible shorting bar makes you sure, that high-voltage lead out is grounded at the end of operation.

Emergency stop button disconnects high-voltage lead out from a voltage source mechanically, independently from a firmware.

Special position of a mechanic mode switch gives a possibility to ground a high-voltage lead out and disconnect it from a voltage source at the end of operation.

Control panel software will not operate if a mode switch is set to ground position.

Visible shorting bar

The equipment is mounted inside the vehicle. Basic vehicle for installation Ford Transit custom van. Auxiliary equipment:

Package contents

Component	Quantity
Silent power generator 7 kVA	1
Air conditioner, mounted on vehicle roof	1
Cable drum set, which includes 50 m of the following cables:	
• HV testing cable	1 set
• Safety grounding cable	1 set
• Control grounding cable	1 set
• Feeding cable	1 set
Operating desk wih drawers for tools	1
Additional 230V CEE16 outlets for auxiliary devices connection	2
Van auxiliary LED lighting	1 set
Cable route length meter	1
5 kV insulation tester	1
Discharging stick	1
Warning lamps (red and green) for operating condition indication	1
Isolating transformer 4 kVA	1

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Vehicle-based Systems **ETL-40VP & ETL-80VP**

Technical specifications

Parameter	Value ETL-40VP (80VP)
GENERAL parameter	
Input voltage, V	230 ± 10 %
Frequency, Hz	50 ± 1
Power consumption, kVA, max	2.0 (3.0)
TEST MODE	
Output DC voltage range, kV	0 – 40 (0 – 80)
Output DC current range, mA	0 – 300 (0 – 580)
BURN MODE	
Output DC voltage range, kV	0 – 20
Output DC current range, mA	0 – 1000 (0 – 40)
SURGE MODE	
Ranges, kV	4 / 8 / 16 / 32
Output energy, J, max	2000 (2560) at each range
Timer set (automatic surge mode)	5 – 15 seconds (3 – 15 seconds)
Manual single surge	✓
Flexible voltage change during automatic operation	✓
Pinpointing with an acoustic receiver	✓
PRELOCATION MODE	
Methods	TDR / Arc reflection/ Impulse current/ Voltage coupling
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 50W audio-frequency generator with frequencies 491/ 982/ 8446 Hz with a receiver	✓

Parameters for a ETL-80VP model are given in parenthesis.

Application

The ETL-80VP is a modular system, which is used for the following purposes:

- DC cable testing up to 80 kV.
- Converting high-resistive cable faults into low-resistive with a use of burn generator.
- Prelocating faulty places with a use of Time Domain Reflectometer RIF-9P.
- Cable route tracing with a use of 200 W low-frequency generator and receiver.
- Precise pinpointing using a surge wave generator with a ground microphone.

ETL-40VP & ETL-80VP Vehicle-based Systems

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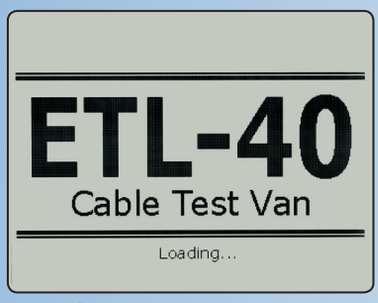
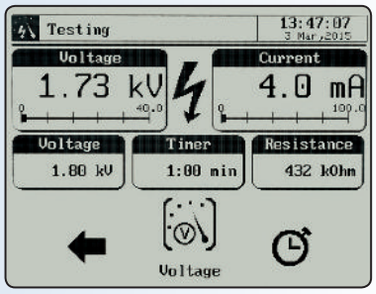
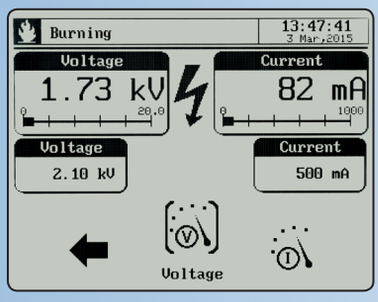


Starting up program

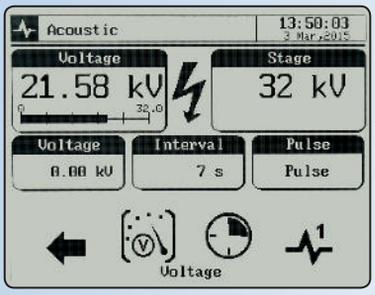
Language selection



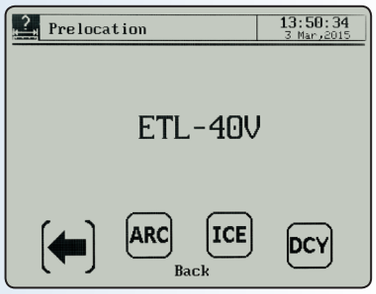
Testing Mode



Burning Mode



Acoustic Mode



Prelocation Mode