



CABLE TEST VAN FOR ACCEPTANCE TESTING AND MV CABLE DIAGNOSTICS

COMPLETE MOBILE LABORATORY FOR ACCEPTANCE TESTING AND ADVANCED DIAGNOSTICS OF MV
POWER CABLES BASED ON VLF 0.1 HZ/TAN Δ AND DAC PD/TAN Δ



At Power Arbor, we integrate known and highly valued tools into complete stationary and mobile laboratories. In the field of mobile tools for servicing extensive cable networks, we manufacture a number of measurement vans for voltage and diagnostic testing and cable fault locating.

SPK-30/60 | SPK-40 | SPK-40VLF | SPK-60VLF Cable test van

Our modern test van is equipped with the following tools:

- Voltage testing VLF 0.1 Hz / tangens δ diagnostics
- Voltage testing DAC 20...300 Hz / tangens δ diagnostics
- Diagnostics of partial discharges (PD)
- Visualisation, control and automatic reporting system PA-OP room
- Reflectometer for measurement of cable line lengths
- Cable tracing field system
- Cable identification system for a cable bundle (for instance, in excavation)
- Pinpointing measurement system for Partial Discharges using the capacitive-inductive method (for instance, uncovered cable joints before cutting out)
- Identification system of Partial Discharge sources to determine the place of digging (identification of PD sources in cable insulation)

**RANGE UP TO 33 km
OF CABLE LENGTH
FOR XLPE 20 KV**



The mobile measurement laboratory is based on a Ford Transit L3H2 with an all-wheel drive system (4x4) allowing it to reach construction sites (new installations) as well as already-operated stations (cables in service). On request, it is possible to build a custom-made van.

Basic and optional adaptation of the van includes:

- Thermal insulation of side walls, ceiling and side and back doors with cladding with flame retardant and Dibond/Tuplex-type shielding material
- Floor from water-resistant plywood coated with anti-sliding material
- Internal lighting with natural (warm) or cold colour of light
- External warning lighting, electrically lifted roof system warning about occupation of a road lane
- Webasto/Eberspacher type parking heating, electric heating, roof air conditioner

Ready for work with extensive cable networks

Advantages:

- Integrated equipment, one common software
- Central control system based on the well-known MS Windows operating system
- Common software for VLF/tan δ and DAC/tan δ /PD
- Common reporting and printout generating system
- High loadability (up to 10 uF – approximately 33 kilometres long line with XLPE 20 kV) in basic version of equipment.
- Fast start of work without any elements operating outside the vehicle
- Ready for operation in all weather conditions

Due to quadrupole head integrated in the measurement van, the use of coupling devices (capacitors) for measurement is not necessary. It is very important when performing measurements of cables from pole stations and at heights.

Measurement equipment

At Power Arbor, we attach special importance to national and international standards in the field of cable testing. We manufacture our laboratories based on the state-of-the-art and available measuring equipment from renowned companies as well as of our production. The main measurement module consists of fifth-generation DAC series and MultiMode (VLF & DAC) device systems. The use of integrated systems makes it possible to use one common software for controlling equipment, data collection and their subsequent processing and reporting.



Operator compartment, PA-OP room

Designed by our team, the operator compartment was prepared together with operators of other systems with multi-year experience in measurements. Due to that we have created ergonomic operator compartment containing:

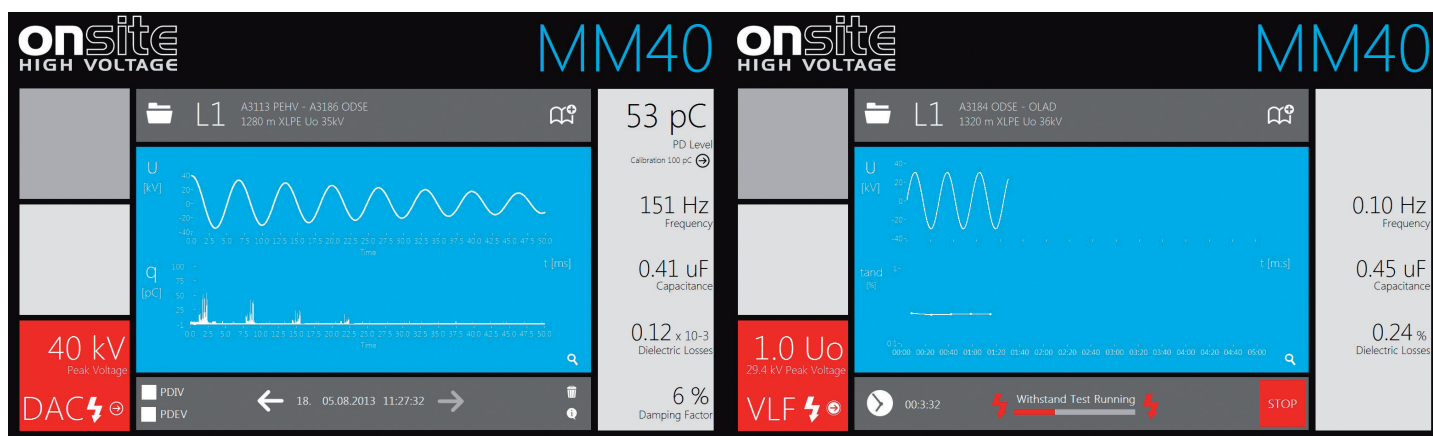
- Space for long hours of work / large Plexi partition between the compartments
- High class lighting LED of high intensity and cold (or warm) colour of light
- Large OLED-class monitor with high brightness and contrast
- Military-type GEATC series laptop with docking station / keyboard, mouse and wireless calibrator
- Well-known and highly-valued MS Windows software
- Laser printer for generating measurement reports
- Comfortable rotating operator chair fastened to the floor during ride / comfortable, large desk with drawers and cabinets for documents
- Electric heating with air flow on legs, parking heating with air flow on the back, roof air-conditioner with ventilation channels over the head

Range up to 33 km cable length with XLPE 20 kV / 10 uF

High voltage compartment PA-HV room contains:

- Cable drums with 25m or 50m connecting cables
- State-of-the-art measurement and testing equipment
- Charger for automatic charging of the van battery
- Separation transformer with 3.6 or 5 kVA power
- Overcurrent and overvoltage protection system
- Cable outlet in the back door
- Individual lighting in the HV compartment
- Furniture with drawers for storing connecting elements and mobile meters

**CONNECTION WITH
HV CABLE WITHOUT
ADDITIONAL
CAPACITOR**



On the left: Diagnostic module DAC, on the right testing module VLF. One common software for control, analysis and reporting. No additional connecting elements except HV cable in comparison to other solutions available on the market.

Type	SPK-30/60	SPK-40	SPK-40VLF	SPK-60VLF
Recommended van FORD Transit	L2H2, 3.5t 2.2 TDCI, 4x4	L2H2, 3.5t 2.2 TDCI, 4x4	L3H2, 3.5t 2.2 TDCI, 4x4	L3H2, 3.5t 2.2 TDCI, 4x4
Test system VLF	-	-	MultiMode 40 kV	VLF 60P - 62kV
DAC diagnostic system	DAC MV30 - 30 kV DAC MV60 - 60 kV	DAC MV40 - 40 kV		DAC MV60 - 60 kV
Cable fault modul	option SWG 12/1100 J or ETL-40P	option SWG 12/1100 J or ETL-40P	option SWG 12/1100 J or ETL-40P	option SWG 12/1100 J or ETL-40P
DC voltage	NO	NO	NO	YES 0..60 kV
Measurement cables	25 m Option: 50 m	25 m Option: 50 m	25 m Option: 50 m	25 m Option: 50 m
FUNCTIONS				
VLF 0.1Hz tests	-	-	YES, monitored	YES, monitored
DAC 20...300 Hz tests	YES, monitored	YES, monitored	YES, monitored	YES, monitored
Tg delta measurement	YES with DAC	YES with DAC	YES with VLF and DAC	YES with VLF and DAC
PD measurement	YES, with detection	YES, with detection	YES, with detection	YES, with detection
Resistance of wires and cables measurement	option	option	option	option
Capacitance measurement	option	YES	YES	YES
Resistance of insulation measurement	option	option	option	option
Sheath DC measurement	NO	NO	NO	YES
TDR Reflectometer	option	option	option	option
Control	automatic	automatic	automatic	automatic
Reporting	automatic	automatic	automatic	automatic
TE-PDS identifier	option	option	option	option
Tracy	option	option	option	option
Insulation defects localization	option	option	option	YES
Software	In English	In English	In English	In English
Ports	USB	USB	USB	USB
Peripheries	Keyboard + mouse	Keyboard + mouse	Keyboard + mouse	Keyboard + mouse
Documentation	In English	In English	In English	In English
Training	In operation 3 days	In operation 3 days	In operation 4 days	In operation 4 days
Warranty	24 months	24 months	24 months	24 months

THE POWER ARBOR TEAM WELCOMES YOU TO WORK WITH US!

CONTACT:

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**SPK-xxVLF SERIES
INNOVATIONS
IN MEASUREMENTS**