PASSION INNOVATES FUTURE

AVL DITEST

Clear diagnosis with precise measurement technology.

AVL DiTEST SCOPE
Precision automotive measurement device

AVLDiTEST.com

The quickest way to reliable results.

AVL DiTEST SCOPE – AUTOMOTIVE MEASUREMENT DEVICES

The number of electronic components in motor vehicles has multiplied over the last 15 years; they have become essential to the overall functioning of today's vehicles. Analysing these components is a complex and challenging task – the AVL DiTEST Scope 1200 and 1400 are the ideal precision measurement devices for the job. They guide the user through a professional fault diagnostics process in three simple steps. Being able to locate faults precisely saves time and materials, because it allows you to pinpoint and replace only the faulty parts. AVL DiTEST – the best way to quickly and reliably detect vehicle faults. Multi-brand diagnostics with clear added value.

THE BEST WAY TO VISUALISE ELECTRICAL SIGNALS IN THE WORKSHOP

› Vehicle electrical systems (starter, battery, generator, other electrical devices, wiring harness, light systems)
› Bus systems (FlexRay, CAN, LIN)
› Sensors (voltage, power and frequency-based – pressure, airflow, power), actuator systems (electric drive systems, valves, pumps)

INTELLIGENT MEASUREMENTS SAVING YOU TIME, MONEY & STRESS.
AVL DiTEST Scope – these intelligent workshop measurement systems enable fast and professional fault diagnostics by examining electronic components to clearly identify the cause of any fault. Their robust technology and wide range of accessories guarantee precise measurements for all engine types and electronic vehicle components. Thanks to the device's user-friendly input and operating software staff can use the digital, high-resolution two/four-channel Scope module for automotive signal measurements without any additional training. The AVL DiTEST Scope is a reliable and highly accurate device for your measuring needs.

STATE-OF-THE-ART HARDWARE:
› galvanic isolation between the measurement unit and PC prevents short circuiting
› differential measurement channels mean channels operate without cross-interference
› stimuli generator for active signal application
› active probe supply with colour guide aids connection of sensor cables
› automatic zero adjustment and de-magnetisation (degaussing)
› guaranteed five-year measurement accuracy without the need for calibration
› automotive sensors
› tough and ultra-light magnesium housing with rubber protectors for challenging workshop environments

SOPHISTICATED SOFTWARE:
› intuitive and easy to use
› over 400 pre-configured measurement functions – obtain reliable results quickly and easily
› automatic sensor recognition with colour guide ensures correct settings and connections
› step-by-step instructions included for all measurements, complete with connection guides and detailed descriptions
› conclusive display and evaluation of curves thanks to automatic
› measurement range configuration
› direct reference curve comparison for immediate measurement review
› curve recording function for logging signals

WHY USE MEASUREMENT TECHNOLOGY IN THE WORKSHOP?

› ‘Making the invisible visible’ – visual representation of physical values such as voltage, power and pressure makes it easier to see complex interconnections when diagnosing faults

› To log highly dynamic signals in short-term error patterns that are difficult to reproduce
› To fill gaps where no on-board diagnostics analyses are available
› To log long-term measurements showing unusual or significant changes (e.g. residual power consumption)
› To examine the quality of data transmission in data bus systems.
› To compare the specified nominal curve with the signal pattern actually measured
› To make it easier to gain a deeper understanding of the system, regardless of vehicle type
› To achieve a demonstrable reduction in the time and work required to identify and repair faults

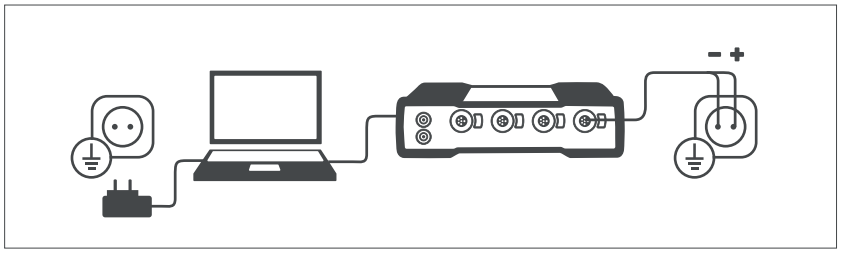
WHAT IS THE ADDITIONAL VALUE MEASUREMENT TECHNOLOGY PROVIDES BEYOND ON-BOARD DIAGNOSTICS?

› Diagnostics will give you an error pattern – measurement technology will take you to the root cause
› Lower warranty costs – only faulty parts are replaced
› On-board diagnostics can be quickly expanded to include obtain additional measuring processes

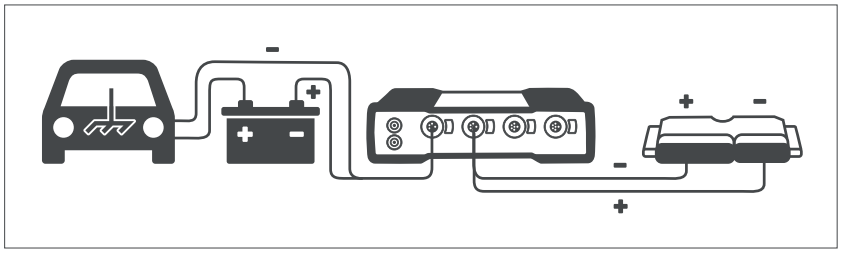
› Clear, systematic fault identification enables:
  - a reduction in overall repair times
  - reduced costs for workshops and end clients
  - repair on the first visit to the workshop (‘right first time’)
  - increased customer satisfaction
› Configurable measurement set-ups include sensor selection, range set-up and reference curves, and
  - ensure the measurement device is correctly set up for the task at hand
  - can be quickly and easily allocated to other systems
  - make working with our measurement technology a more enjoyable experience
› Logging and visual representation of the exact signal sequence thanks to higher scanning frequency and bandwidth in comparison to on-board diagnostics (no information loss due to data reduction)

THE AVL DiTEST SCOPE RANGE – THE BEST MEASUREMENT DEVICES FOR YOUR WORKSHOP

› Tough, almost indestructible oscilloscope
› 'Care-free measurement' thanks to short-circuit protection, galvanic separation and differential operation of individual channels



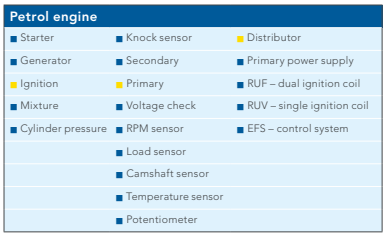
Galvanic separation prevents ground loops, among other things.



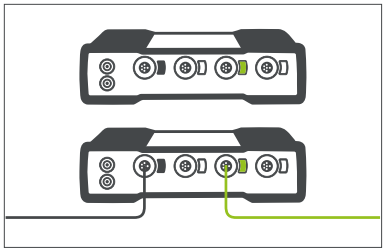
Easily measure voltages from various sources with reversed polarity.

› Wide measurement range (0–600 V) using standard measurement connections – no probes required
› Built-in active power supply to all sensors
› Guided selection and configuration of measurement set-ups:
- the device guides you through the measurement step-by-step
- over 400 pre-configured measurement set-ups cover most relevant measurements – no further scope settings required
› New measurement set-ups can be easily created by the user
› Integrated stimuli (signal generator) for:
- sensor simulation
- simulation of actuator systems
- retrieval of recorded measurement sequences

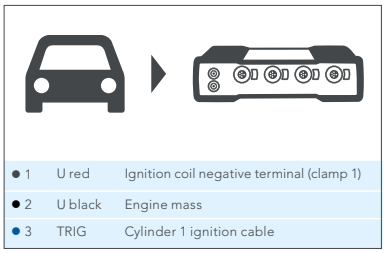
We'll help you get the right results



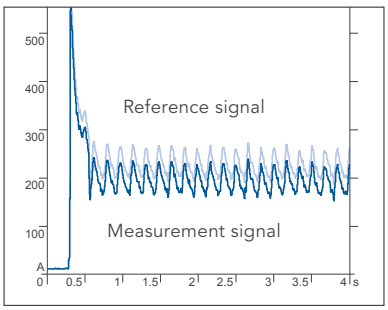
Select your required measurement from a menu featuring a wide range of practical pre-sets.



Colour guide in software and hardware guides the user through automatic sensor recognition.



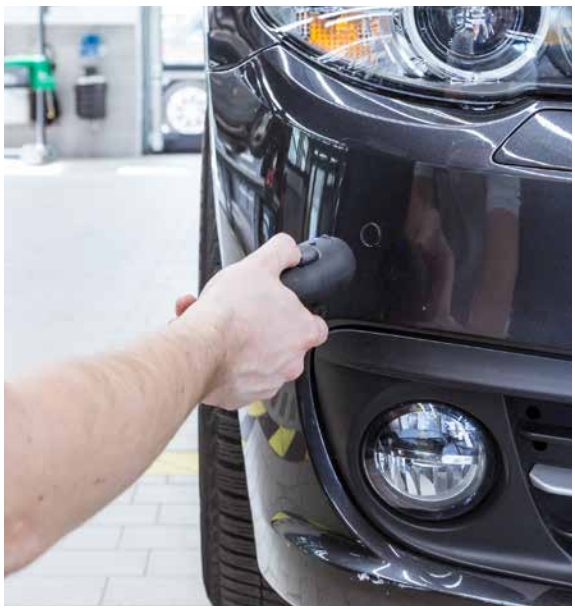
Detailed explanations and measurement descriptions help you when connecting the measuring adapter.

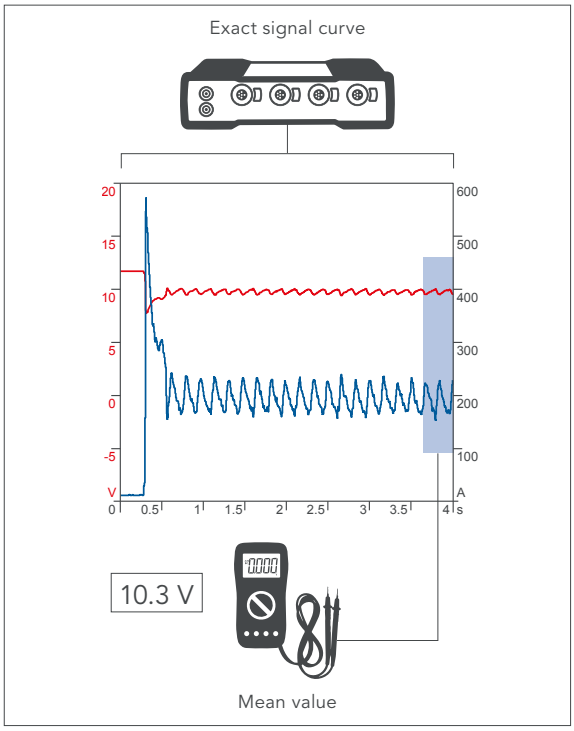


Automatic measurement configuration and accessible reference curves allow immediate comparison with target performance.

MULTISENSE 1000 – THE PERFECT ADDITION

A comprehensive range of sensors in one device:
› stroboscope
› magnetic field detector
› stethoscope
› dynamic microphone
› optical light reflex sensor
› dynamic luxmeter
› accelerometer





Exact, logged signal sequence includes additional information compared to the mean value.

OSCILLOSCOPE OR MULTIMETER – MEASUREMENT SERIES OR MEAN VALUE?

An oscilloscope shows the exact signal sequence, while a multimeter only shows the mean value.

As an example, take measuring voltage/power in the battery when the engine is started. Additional information can be obtained from looking at the exact signal sequence:
› a voltage drop in the battery is indicative of its internal state
› Fluctuating power in the starter is connected to engine compression

AVL DiTEST SCOPE SOFTWARE – INTUITIVE AND EASY TO USE

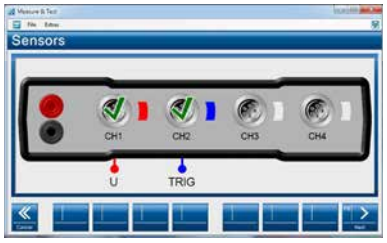
The proven AVL DiTEST Scope software user interface is intuitive to use and requires no specific training. All measurements are supported by step-by-step instructions, connection guides and detailed descriptions. With automatic sensor recognition and a colour guide, the unit ensures that no connection or setting errors occur.

OUR SOFTWARE MAKES DIAGNOSIS EASIER

› Intuitive operation regardles of Display and output devices used
› Designed for touch-screen operation
› Reference curves (correct signals) for each pre-defined measurement scenario
› User-defined reference curves can be set and saved in just a few simple steps
› All settings pre-installed: no manual settings required
› Over 400 pre-set measurement settings so reliable results are obtained quick and easy
› Automatically scaled reference curve diagrams allow measurements to be compared directly
› Measurement recorder and management function allows previous results to be displayed and sequences re-played
› Look back through up to 100 screens in your history
› Retrieve recorded signals and send measurement signal sequences
› Several measurements can easily be read at a glance
› Clear and precise information saves time

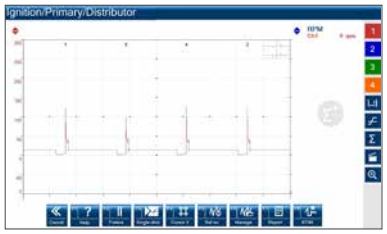
We'll help you get the right results

Select your required measurement from a menu featuring a wide range of practical pre-sets



Colour guide in soft and hardware leads the user through automatic sensor recognition

Assistance for connecting the measurement adaptervia detailed explanations and measurement descriptions



Automatic measurement configuration and accessible reference curves allow immediate comparison between actual and target performance

AVL DITEST SCOPE – PRODUCT PACKAGES

Each measurement device has been specially developed for demanding day-to-day tasks in the workshop:
› robust, waterproof and dust-proof
› impact resistant
› oil and acid-proof.

AVL DiTEST SCOPE 1200

› Two differential, galvanically separated measurement channels
› Bandwidth (10 MHz) and measurement frequency (40 MS/s) remains constant on any channel
› Voltage measurement from 0–600 V DC (no probes needed)
› Voltage measurement from 1 mA to 1800 A DC
› Resistance measurement from 0.1 Ω to 10 MΩ
› SPI for synchronous serial data buses
› Resolution: Scope: 14 bit, digital multimeter: 16 bit
› Active probe supply with colour guide

AVL DiTEST SCOPE 1400

› Four differential, galvanically separated measurement channels
› Bandwidth (10 MHz) and measurement frequency (40 MS/s) remains constant on any channel
› Voltage measurement from 0–600 V DC (no probes needed)
› Voltage measurement from 1 mA to 1800 A DC
› Resistance measurement from 0.1 Ω to 10 MΩ
› SPI for synchronous serial data buses
› Resolution: Scope 14 bit, digital multimeter 16 bit
› Active probe supply with colour guide
› Signal generator: max. 600mA, 18V, up to 10kHz

COMPONENT PARTS

› Current probe I1800
› Current probe I100
› Pressure sensor: -1 bar to 100 bar
› Temperature sensor: -20°C to 200°C
› Multisense 1000
› Trigger probe
› kV clip
› DPM 800 pressure spark plug and pressure glow plug
› Accelerometer
› Flux Gate current probe – for highly-accurate mA measurements

Published by: Headquarters: AVL DiTEST GmbH
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PA7426E
01/2025. May be subject to change