

SALES INFORMATION

AVL DiTEST Multisense 1000



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General Description

AVL DiTEST MULTISENSE 1000 (MS 1000) is an accessory for the **AVL DiTEST SCOPE 1200/1400**. (and will also be available for the AVL DiTEST SCOPE 8400)

The AVL MS 1000 is:

- an ignition timing stroboscope for the timing of ignition points
- an LED flashlight with dimming function
- a dynamic luxmeter to measure luminous intensity and sensitivity
- an optical light reflex sensor that can, for instance, be used for speed recognition, motion detection or reference mark determination
- a dynamic microphone to detect an analogue acoustic signal for signal analysis and relative noise measurement
- a stethoscope to display relative hardware-based (mechanical) vibration
- a magnetic field detector to record signals from installed magnetic sensors, for instance to define the magnetic sensor side in the case of wheel bearings. (in removed state)

The AVL DiTEST Multisense 1000 offers practical handling, intuitive operation and multiple mounting options. Its functionality is strengthened by haptic and acoustic feedback from certain signals and set-up operations.

Communication and data provision runs through the measuring device AVL DiTEST SCOPE 1200/1400, in the future also for AVL DiTEST Scope 8400.

The following describes the AVL DiTEST Multisense 1000's individual functions and some of its application possibilities.

Ignition timing stroboscope for the timing of ignition points

The Multisense 1000's stroboscope function turns the measurement equipment into a full-fledged engine tester.

On modern engines, it can be used for real-time ignition point control. Thus, it can, through the ignition points' stability, draw conclusions on worn-out timing mechanisms (e.g. timing chains). In the case of older engine technology, it can be used to time the ignition points precisely and easily.

Advantages such as the exact triggering of the flash or the attachment of the trigger pliers on the primary ignition circuit or on the injection valve actuation circuit, add to its scope of application.

Thanks to state-of-the-art LED technology, one can clearly distinguish between the engine marks, even at diffuse lighting conditions.



LED flashlight with dimming function

Of course, the Multisense is equipped with a full-fledged LED flashlight one can turn on any time through pressing a button.

A dimming function operated via an adjustment dial prevents being dazzled by light bouncing off reflecting metal parts in the engine bay.

Dynamic luxmeter to measure luminous intensity and sensitivity

The measuring device for relative luminous intensity and light pulse progression displays light emissions as progressing graphs on the screen.

Thus, one can, for instance, visualize the PWM triggering signals of modern headlamps and compare the luminous intensity of light sources. (comparison of the luminous intensity of left vs. right headlamp) and much more

Light reflex sensor for speed recognition or motion detection

Its light reflex sensor function turns the AVL DiTEST Multisense into a pulse generator.

Through attaching a reflector tag to a rotating part and positioning the ray of light emitted by the Multisense 1000 on the reflector tag, the reflected ray of light is converted into a pulse.

The pulse frequency is equal to the rotating speed of the measured rotating component. Placing the reflector tag precisely at the upper dead point of the crankshaft turns the pulse into a reference mark.

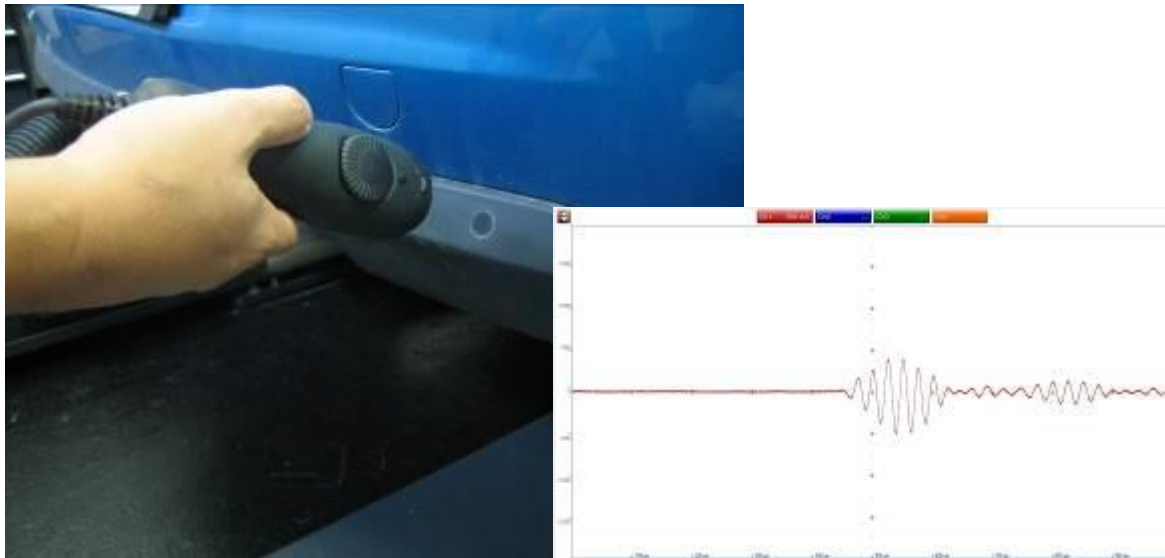


Dynamic microphone to detect an analogue acoustic signal for signal analysis and relative noise measurement

The AVL DiTEST Multisense's active high-resolution microphone allows for entirely new test and diagnostic possibilities.

First, a microphone helps detecting and documenting noises coming from vehicles and secondly, its graphic representation of noises and vibration – in the audible and for humans non-audible range – helps significantly in detecting and assessing functions.

E.g.: the 40kHz signal of a park distance control sensor, non-audible for humans



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Stethoscope for the display of relative hardware-related (mechanical) vibration

The AVL DiTEST Multisense's stethoscope function allows for the visualization of the tiniest and high-frequency vibration in components.

The visualization of vibration behavior helps in assessing and understanding mechanical functions. (bearings, wheel bearings, timing chains, valves...)

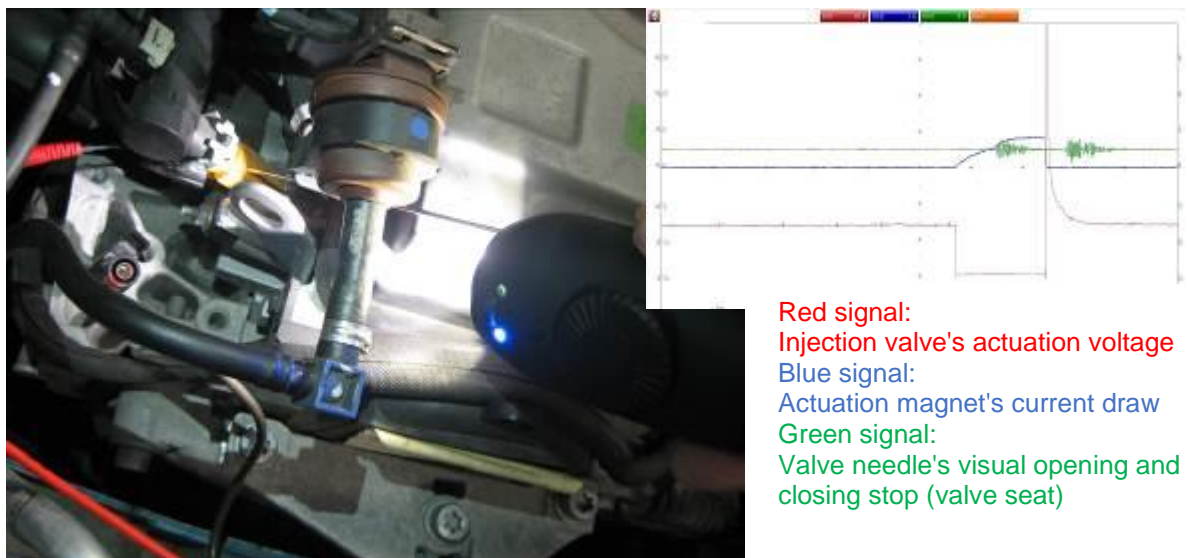
e.g.:

The fact that an electronically triggered actuator works perfectly does not mean that the mechanical operating side works perfectly, too.

e.g.: the injection valve of a gasoline engine controls tiny amounts of

fuel, especially on idle. Should a valve's mechanical function (operating side) be limited by a stuck valve needle or the like, barely detectable errors occur.

Through simply holding the stethoscope pin to the injection valve housing, one can clearly visualize the opening and closing of the valve needle.



Magnetic field detector to record signals from installed magnetic sensors, for instance to define the magnetic sensor side in the case of wheel bearings. (in removed state)

A magnetic field sensor is installed behind the AVL DiTEST Multisense 1000's flat housing part. This sensor can be used to visualize magnetic fields which allows one to assess them.

For instance, one can use it to analyze the condition and continuity of transmitter magnets of a wheel bearing or pulse generator wheel (removed state).

The relative current flow of a live line (as is generally known, the electrical current flow creates a magnetic field) can also be visualized using this function.

