FOERSTER

SIGMATEST 2.070

Accurate and reliable conductivity measurement

Great measurement quality made easy

The SIGMATEST 2.070 is a portable eddy current instrument which measures the electrical conductivity of non-ferromagnetic metals based on the complex impedance of the measuring probe. The measuring range for the instrument is established by calibration.

converts the complex impedance value to an electrical conductivity value. The electrical conductivity value is indicated on the instrument's LCD display.

Your advantages at a glance

- Easy operation
- Wide frequency range to measure several material thicknesses
- Temperature compensation for stable results also at variating temperatures
- Automatic distance compensation up to 0.75 mm for measurement of items in bags or measuring through painting
- Correction factors for measuring on curved surfaces
- Increased measurement accuracy also at high frequencies (480 kHz) of +/- 0.5 %
- Shielded probes to avoid edge effects
- Long wearing probes with titan protection to reduce wear
- Robust design for on-site usage

Non-destructive eddy current testing

Quality control inspection

The SIGMATEST 2.070 determines physical and technical material properties. It is typically used to control the quality of manufactured products, testing material combinations, and sorting metals, alloys, and scrap metal. The unit is also used for the maintenance of aircrafts, determining heat damage, and in-process controls during production and processing in the metallurgy sector.

It features five different excitation frequencies and extremely high measuring accuracy. The unit retains this high level of accuracy even at a high frequency of 960 kHz, making it possible to measure very thin workpieces with great precision. The measuring instrument is able to automatically standardize the measured value of the electrical conductivity to 20 °C due to an integrated temperature compensation. The measurement quality meets Boeing's (BAC 5651) and Airbus' standards.

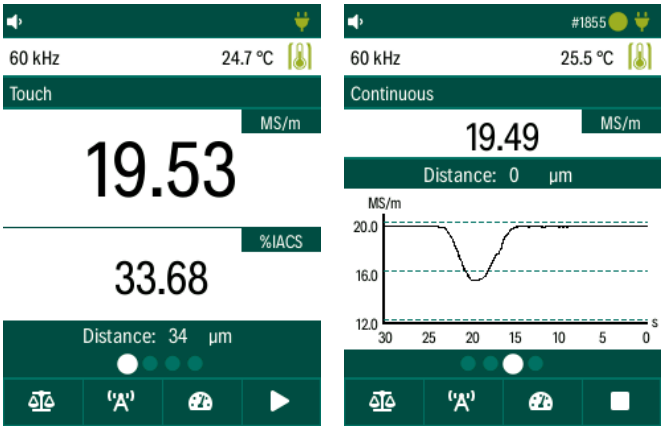
Higher test accuracy

- The SIGMATEST 2.070 offers frequencies of up to 960 kHz. This high frequency makes it possible to perform accurate electrical conductivity measurement on very thin test pieces.
- Probe characteristics are now directly saved on the probe and automatically read by the device.
- SD-card slot for saving nearly an unlimited amount of test data.
- Remote control by an external PC is possible via Ethernet standard RJ45. The interface allows complete control over the instrument and an integration in automated systems.
- The operator interface supports multiple languages.

Testing with SIGMATEST 2.070

Operating Modes

The SIGMATEST 2.070 is capable of operating in either Touch or Continuous mode. Use Continuous mode to scan surfaces and display the measurement values in a time chart or Touch to measure single values. Use the recording function to save all measurements.



Correction factor

Variations in the material geometry can produce a measurement error. One example is measurement on test pieces with curved (either concave or convex) surfaces. If the conductivity value of the test piece is known, the error caused by the curvature of the surface can be corrected by using a correction factor. The measured value is multiplied by the correction factor and the corrected value is displayed on the LCD.

The SIGMATEST 2.070 "remembers"

The SIGMATEST 2.070 now automatically receives the correct calibration curve from the probe. This feature is especially useful when using both 8 mm and 14 mm probe with the same instrument.

Temperature compensation

The SIGMATEST 2.070 compensates for temperature related electrical conductivity variations. A default temperature coefficient is installed in each instrument. In addition, the user can define a specific temperature coefficient to optimize the results for specific applications.

Temperature measurement is performed using either the temperature sensor which is integrated into the probe or by connecting an external temperature sensor. An external temperature sensor is recommended when the temperature of the test piece differs from the probe temperature.

Feature	SIGMATEST 2.070
Measuring range	0.5 to 65 MS/m or 1 to 112 % IACS
Absolute accuracy	+/- 0.7 % of measured value at 60 kHz, 14 mm probe
Resolution	+/- 0.1 % of measured value
Automatic distance compensation	Up to 750 µm (0.03 inch)
Operating frequencies	60 / 120 / 240 / 480 / 960 kHz
LCD display	480 x 640 pixel
Power supply	5V DC / 3000 mA
Operating time per set of batteries	4 h
Operating voltage	Power supply and battery charger adaptable to the operating voltage in any country
Interfaces	10 pin LEMO connector, SD card slot, Ethernet RJ45 100 Mbit/s
Temperature range	0 °C to +40 °C (32 °F to 104 °F)
Humidity	5 % to 85 %
Dimension	211 x 102 x 40 mm
Weight	0.62 kg
Standards	DIN 50994, ASTM E 1004, DIN EN 2004-1

FOERSTER

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