

Eddy Current Instrument and Systems

M³ ELOTEST

**Handy 2-frequency eddy current instrument
with large 5,7" display**

**PRELIMINARY
INFORMATION**



User-Interface ELOTEST M3

- Pictograph-based operation via key pad with key-click
- 7 languages: English, German, French, Italian, Swedish, Spanish and Chinese
- Direct-function keys for offset- and liftoff-compensation
- Programmable function key
- Intuitive operation using only one submenu-level

Probe Connection

- 11-pin Fischer socket, compatible with the 8-pin Rohmann connector
- BNC connector for parametric probes (resonant probes)
- OEM probes to be connected via an adapter or directly to the BNC connector
- Speed control for rotor (torque compensated) in 10 steps (corresponds to approx. 900rpm to 2700rpm using Rohmann standard rotors)

Activ Probe Compensation

- Compensation of the probe response signal for optimum signal dynamics
- Automatic test frequency selection using the probe characteristics
- Automatic balancing of single-coil probes using finely graduated, internal compensating loads (no external elements required)

Frequency Range

- 10Hz to 12MHz, continuously adjustable, quartz stabilized, display in Hz, kHz, MHz
- Adjustable driver current to 100% in 2% steps, (100% ≈ +/-10V at I_{max}=0.3A)
- Dual-frequency operation in multiplex-mode (on one probe)

Gain

- Preamplification 0 to 60dB in 0.5dB steps (0 to 40dB in 100kHz range)
- Gain 0 to 60dB in 0.5dB steps
- Axis spread 0 to 20dB in 1dB steps
- Automatic selection of preamplification and gain

Phase

- 0-359.5° in 0.5° steps; step size adjustable

Filter

- Low-pass filter 1.3Hz to 10kHz in 40 steps
- High-pass filter 0Hz to 10kHz in 40 steps
- Band-pass filter 0Hz to 10kHz, combination of HP and LP
- Selectable automatic filter for rotor operation

LCD – Display

- LCD featuring long-life LED backlight, 120 x 89mm (4.72" x 3.5")
- Temperature-compensated contrast setting
- Resolution 320 x 240pixel, refresh rate 75Hz,
- 220.000 data samples/second, no signal delay
- Signal display covering 100% of the screen; over 89% with menu displayed
- 80° viewing angle

Display Modes

- Impedance plane/spot display (X/Y), available for all probes
- Time-base/sweep display (Y/t) 5ms bis 60s in 17 steps, synchronized
- Simultaneous X/Y- and Y/t-display (dual-screen mode)
- Reference signal may be displayed in the background
- 2 screen grid sizes with adjustable intensity
- Selectable display range: X/Y center – X/Y center bottom – X/Y center right
- Freely positionable zero point
- Automatic trigger during rotor operation
- Simultaneous multi-signal display during multi-frequency operation
- Persistence: 0.1s to 70s adjustable in 12 steps
- On-screen signal storage; cleared manually or via auto-erase (2s - 80s)

Gates/Aarm

- Alarm: optical and acoustic
- Active in all display modes; may be inverted
- Adjustable gates: +Y-gate, Box-gate, Circle-gate with adjustable flat in the Y-direction

Parameter Settings/Image Memory

- 99 user settings may be programmed, stored and recalled
- 50 application-related factory default settings (cannot be overwritten)
- 32 signal memories incl. parameter settings for documentation
- Parameter setups and images may be named using alphanumeric characters
- Long-term recording (strip chart) of X- and Y-signals, from 20s to 24hrs; 90.000min/max-values (envelope, without data-loss)
- Data storage maintained (backup-battery)

Conductivity Measurement

- Measurement in % IACS or MS/m from 1% IACS to 110% IACS
- Measuring frequency 60kHz
- Calibration using 2 individually adjustable calibration points

Coating Thickness Measurement

- Measurement of non-conductive layers on conductive non-ferromagnetic materials
- Measurement range up to 1000µm or 40mils

Multi-Frequency Operation

- 2-frequency multiplex
- Multiplex rate up to 1kHz
- Both frequencies fully adjustable, independent of each other
- Signal mix-function to suppress unwanted effects

Interfaces

- Bluetooth for wireless communication (optional)
- RS232-interface for PC or printer (HP Laserjet and Epson LX80)
- Analog output for X- and Y-signals (optional)
- OPTO I/O - opto decoupled inputs and outputs

Operation with Lithium-Ionen Accu

- Without rotor: approx. 4.5 hrs
- With rotor: approx. 3.5 hrs
- Indication of remaining charge capacity
- Acoustic and optical alarm for low battery
- Charge time Li-Ion Accu from 0% to 70% - approx. 1 hour
- Charge time Li-Ion Accu from 0% to 100% - approx. 6 hours
- Accu may be replaced in less than 10 seconds

Ambient Conditions

- Operation between -20°C (-4°F) and 50°C (122°F) at max. 85% rel. humidity (non-condensating)
- Storage between -30°C (-22°F) and 80°C (176°F) at max. 85% rel. humidity (non-condensating)
- Accu charge between 0°C (32°F) and 40°C (104°F) at max. 85% rel. humidity (non-condensating)

Dimensions

- Height: 180mm
- Width: 200mm
- Depth: 76mm
- Weight: 1.2 kg

Power Supply (Options)

- Li-Ion Accu (14.8 V/1.95 Ah)
- Mains operation via wide-range charger (100 - 250VAC)

Setting Manager

- PC-software to archive settings, generate test reports and screen shots

