

ELOTEST PL600

Pioneering eddy current testing



- ▶ Maximum stability with unsurpassed signal purity for best results with classical eddy current and harmonic analysis
- ▶ Suitable for all types of eddy current testing:
Crack, heat treatment, material mix-up and grinding burn testing
- ▶ Maximum test reliability through comprehensive system and sensor monitoring
- ▶ Application-specific user interfaces for simplest operation
- ▶ Full integration through extensive I/O functions with field-bus connection
- ▶ Modular design allows flexible expansion with easy maintenance

General

The ELOTEST PL600 is a digital eddy current test instrument which leaves no wish unfulfilled. A flexible software system allows components to be inserted which are customised for each application, so that the operation can be carried out quickly and reliably. A licensing system allows you to match the performance of the device to the task and makes it a safe investment at an affordable entry price. A sound concept for replacement parts and service reduces operating and maintenance costs and enables maximum availability.

Technical Data for basic unit

- ▶ 16 slots for functional modules
- ▶ Available module types:
 - ▶ Test channel module CHM600 (one included in the basic price)
 - ▶ Fieldbus I/O module with fast quadrature inputs (optional)
 - ▶ 24 V I/O module with fast quadrature inputs (optional)
 - ▶ 8-channel analogue I/O module (option)
 - ▶ Many of the plug-in cards for the ELOTEST PL500 are compatible

Screen shot

- ▶ Widescreen colour TFT display in IPS technology, 1280 x 800 pixels, 256 mm (10.1") diagonal
- ▶ HDMI output for external Full HD monitors (via USB also with touch screen operation)

Test channel module CHM600

Test frequency range

- ▶ 10 Hz - 12 MHz
- ▶ Driver output +/- 10 Vs; max 1000 mA
- ▶ Measurement and control of the sensor current
- ▶ Voltage/current controlled operation
- ▶ Continuous monitoring of transmitter coils for wire breakage and interturn short circuiting

Sensor input stages

- ▶ Two input channels per module
- ▶ Differential inputs with 90 dB common mode rejection
- ▶ Continuous monitoring of receiver coils for wire breakage
- ▶ Low-noise, digitally adjustable preamplifier with multiplex capability
- ▶ 2 x 18-bit ADC with 5 MSps conversion rate
- ▶ Fully digital demodulation and FPGA-based signal processing at 250 kSps Sample Rate

Digital signal processing

- ▶ High-performance signal processing chain in FPGA with
 - ▶ Digital sine wave generator 10 Hz - 12 MHz
 - ▶ Two independent levels of digital demodulation
 - ▶ Digital signal processing chain with
 - ▶ Distance compensation without auxiliary channel (option „Advanced“)
 - ▶ Signal Filter HP/LP independently adjustable 1 Hz - 100 kHz in 29 logarithmic increments per decade
 - ▶ Phase adjustment 0-359.5° in 0.5° increments
 - ▶ Various real time evaluation thresholds depending on application and licensing

Sensor connection

- ▶ 26-pin HD sub connector for connection of all sensor types, compatible with the ELOTEST PL500 series
- ▶ Connection for active sensor arrays with up to 64 sensors per channel
- ▶ Connection for external sensor multiplexer for up to 64 sensors per channel
- ▶ Intelligent TriggerAll input for processing a wide variety of trigger signals

Integrated I/O processor

- ▶ Central, high-speed I/O processor integrated in the basic unit
- ▶ Shift register, end suppression, FIFO functionality, configurable I/O functions
- ▶ Access to the outside world via I/O boards (fieldbuses, 24V-I/O) or via programmable channel-related I/O ports

Expansion via licensing system (later purchase possible)

Basic License (included in the basic price of the channel)

- ▶ Full bandwidth and (100 kHz) full signal quality
- ▶ One parameter set per channel

Advanced License (option, per channel)

- ▶ Parameter and sensor multiplexing for up to 64 virtual MuxChannels per channel
- ▶ Complete eddy current parameterisation per MuxChannel
- ▶ Multiplex rate up to 250 kHz (switch rate MuxChannel to MuxChannel)
- ▶ Internal sensor Multiplexer for two sensors
- ▶ External sensor multiplexer control (multiplex rate from sensor to sensor up to 125 kHz, depending on the test frequency)
- ▶ 3rd generation distance compensation with full bandwidth, without additional hardware
- ▶ Advanced evaluation thresholds (including multi-sector threshold and tolerance band threshold)
- ▶ Advanced sensor monitoring (noise monitor)
- ▶ Harmonic analysis up to 2 MHz test frequency (5th harmonic) e.g. for recognition of grinding burn

Advanced Plus License (option, per channel)

- ▶ Fast multi-frequency sorting with multi-lot function (multi-batch sorting) and harmonic analysis
- ▶ Fast single frequency sorting with automatic turning point determination and harmonic analysis
- ▶ Automatically activated teaching of sort functions with good parts
- ▶ Figure-of-merit evaluation of all gate types (separation number)

Remote control capability/ PC software

- ▶ Remote control via Full HD touch panel with virtual front panel (up to 100 m)
- ▶ Remote control and remote maintenance via TCP/IP and supplied PC client (Windows, Linux, MAC)
- ▶ Remote control via customised software with an open TCP/IP protocol

General instrument information:

Housing data:

Housing
Protection class IP30

Dimensions:

Width: 448.8 mm (19")
Depth: 375 mm + 35mm
Height: 177 mm (4HE)

Weight:

10.5 kg
(basic instrument with test channel)