

# ELOTEST PL500

*The Ultimate Eddy Current Test System  
for Use during Production*

**PRELIMINARY  
LEAFLET**



## **Fastest Material Sorting and High-Resolution Crack Detection**

- **Extremely fast**
  - 100kHz bandwidth for the test signal
  - Inspection at 100m/sec and a resolution of 1mm
- **Extremely low noise + stable**
  - fully digitized signal processing
- **Extremely variable**
  - up to 256 channels/functional modules

**General**

The main feature of the new family of V5-instruments is the completely digital signal processing chain on the LF-side (after demodulation) with an extremely great bandwidth of 100kHz and ultra-fast multiplexing capability featuring a multiplexing rate of 50kHz (probe to probe).

The full dynamics of 96dB (digital) across the frequency range from 10Hz to 12.5MHz speak for themselves.

The display is something special, too:

The display of an analog tube is simulated in a digital manner with adjustable persistence and so far unmatched definition and brilliance—simply the best analog display, if it wasn't digital and thus a low-key combination of traditionally proven and modern technology.

**Technical Data****for the basic unit**

- 16 slots for functional modules (4 available; 1 of them is taken)
- Available module types:
  - Test channel module (may also be used as lift-off compensation)
  - Probe multiplex module
  - Input/output module

**Screen display**

- Color TFT display, 800 x 480 pixel (WVGA), 229mm (9") diagonally, 16:9 format
- Simultaneous display of up to 8 signals with a display rate of 250,000 signal dots per second for each channel (in real time)

**Frequency Range**

- 10Hz - 12.5MHz
- Driver output: +/-10Vs; max. 300mA

**Bandwidth of the demodulated signal**

- 100kHz

**Operating features**

- Fully digitized signal processing; featuring a digitizing rate of 250kHz with a resolution of 2 x 16bit

**Gain**

- 0 – 60dB adjustable in 0.5dB-increments
- Additional 0 – 30dB axis spread for the X- or the Y-axis

**Pre-amplification**

- 0 – 60dB adjustable in 0.5dB-increments

**Signal filter**

- HP/LP independently adjustable from 0Hz to 100kHz in 20 logarithmic steps per decade => a total of 100 filter steps

**Phasing**

- 0 - 359.9° in 0.1° increments

**Real time gates for evaluation**

- 2 x circle, 4 x X, 4 x Y (per channel)

**Connection standard probes to the test channel module**

- 26-pin HD-Sub-connector to connect all probe types (Note: no rotor power supply for hand-held rotors)

**Input/output connector on the test channel module**

- 1 5-pin HD-Sub-connector; opto-decoupled
- 4 x programmable gate outputs
- 1 x test enable
- 1 x synchronization input (counter, trigger)
- 1 x multifunction output
- 1 x error message

**Analog output**

- Max. ± 10 V amplitude

**Multiplex operation**

Two (2) types of multiplex operation are possible:

**1. Parameter multiplex ("frequency multiplex")**

In the test channel various parameters such as frequency, gain, phase, filter etc. may be set successively for one and the same probe during probe multiplex operation. Depending on the selected test frequency, the change-over frequency may be up to 50kHz. The parameter-multiplex operation is a standard feature of the test instrument.

**2. Probe multiplex**

During probe-multiplex operation one and the same channel may be switched to several probes in rapid succession. Depending on the selected test frequency, the change-over frequency may be up to 50kHz.

For the probe-multiplex operation at least one (1) probe-multiplex module (optional) will be required.

**Probe-multiplex modul:**

Basic configuration:

- 8 symmetrical probe connectors ("double ended") or
- 16 asymmetrical probe connectors ("single ended") (max. 16 probes)
- 2 slots + test channel = 3 slots
- 1 probe connector 50-pin D-Sub-connector

May be expanded to:

- 32 symmetrical probe connectors ("double ended") or
- 64 asymmetrical probe connectors ("single ended") (max. 64 probes)
- 5 slots + test channel = 6 slots
- 4 probe connectors 50-pin D-Sub-connector

Up to 16 probe multiplex modules may be directly operated on a single PL500; in the master-slave configuration up to 256 probe multiplex modules may be operated.

**Housing data****Housing**

- IP30 protective systems

**Dimensions**

Width: 448.8mm (19")

Depth: 358mm (14.1")

Height: 177mm (4HU)

**Weight (basic unit with one test channel)**

10.5kg (23.15lbs)