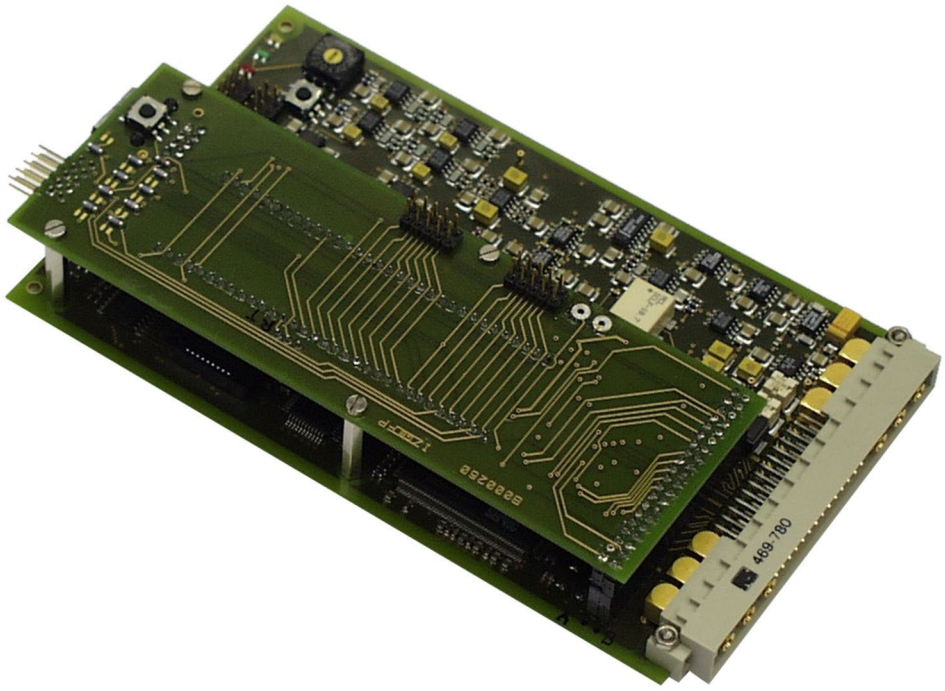
WS98-EN™
Eddy Current PCB
Technical Information

IZFP's WS98-EN Eddy Current board is designed for PC-aided eddy current testing. In combination with suitable software, the WS98-EN is a complete multi-frequency eddy current instrument. By using the modular design concept, the board permits multi-channel operations with a multitude of sensor and frequency channels. The broad analog bandwidth and subsequent numerical filters allow for contemporary signal processing algorithms and new testing concepts with high-speed multiplexing. Powerful data processing, real-time numerical filtering, and regression integrations are provided by the onboard digital signal processor (SHARC).



All hardware and firmware functions are software controlled. The software package, running under Windows9*, WindowsNT©, Windows2000®, or Windows XP® and consists of three software components: 1) PC software for setup and control of the eddy current system; 2) Master software managing the slave-specific ET parameters, handling of the time-multiplexing, processing of the SHARC data, and data transfer to the computer; 3) Slave software providing digital data filtering (data reduction, high-pass, low-pass, regression analysis), fast multiplexing of sensors and/ or test frequencies, setup of hardware functions (e.g., frequency generation, gain, A/D conversion, etc.), communication with data interfaces (serial port, Ethernet, etc.), and diagnostics for hardware and firmware functions.

Features

- Modular hardware and firmware design
- Extensive use of numerical processing replacing conventional analog circuitry
- High long-term stability, dynamics, and reproducibility of the EC signals
- Test frequency ranging from 10 Hz to 10 MHz
- A/D conversion at 16 bit (250 kHz cycle frequency)
- Time-multiplexing mode for sensors and/or frequencies at 8 kHz above 100 kHz test frequency (300 Hz at 500 Hz test frequency)
- High and low pass digital filters
- Online signal processing in multi-frequency mode for noise suppression and calibration of inspection targets
- Active, in-line cable and sensor drivers for sensor-to-instrument distance of more than 5 yards

Options

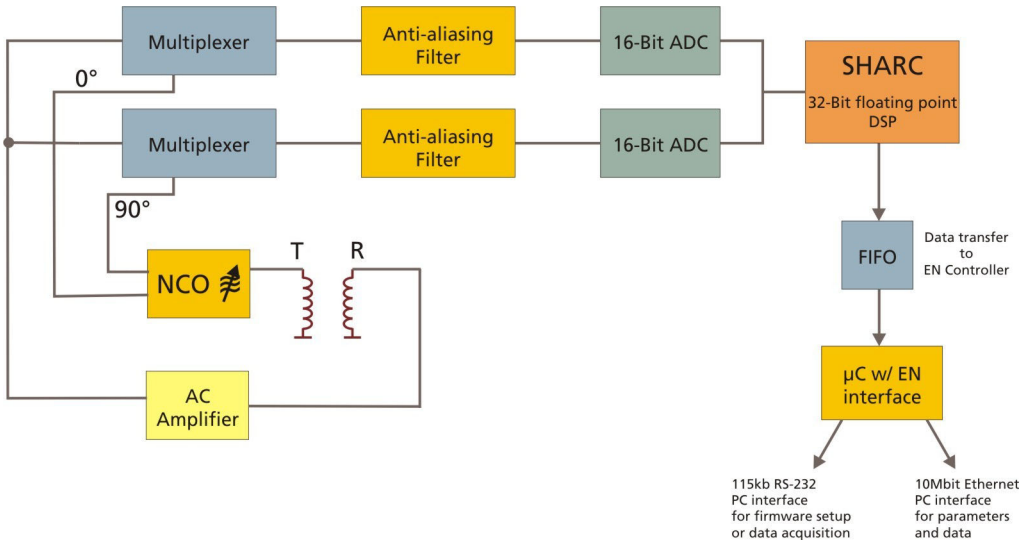
- External single-board and multi-board system
- Compact PC-integration with back plane BUS interface
- PCI-BUS single or multi-board system

PC Interfaces

To operate the WS98-EN board, the board is interfaced with a computer running under Windows9*, WindowsNT©, Windows2000®, or Windows XP®.

- Ethernet Interface

  The block diagram below shows the Base module and the EN module outlining the analog component (including the A/D converter), the digital module with the SHARC processor, and the Ethernet controller. The functions of the WS98-EN board are detailed in the analog and digital signal processing modules. The Ethernet controller is placed on the stacked M-Module board.



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