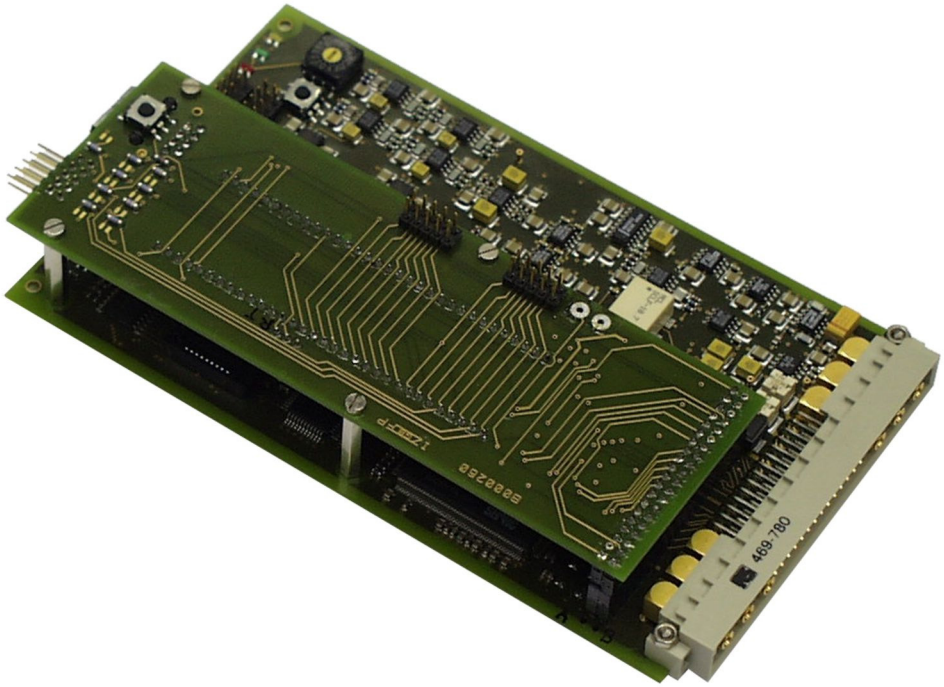
WS98-EN™
Eddy Current PCB
Technical Information

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



All hardware and firmware functions are software controlled. The software package, running under Windows9*, WindowsNT© or Windows2000® consists of three individual software components: 1) PC Software for setup and control of the eddy current system, data acquisition, data display and data analysis; 2) Slave Software for buffering and transferring data between PC and DSP via Ethernet; 3) DSP Firmware 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 and diagnostics for hardware and firmware functions.

Features

- Modular hardware and firmware design
- Interfacing to the WS98 board via Ethernet connection
- Extensive use of numerical processing replacing conventional analog circuitry
- High long-term stability, dynamics, and reproducibility of ECT signals
- Test frequencies ranging from 10 Hz to 10 MHz
- A/D conversion at 16 bit (156 kHz cycle frequency)
- Time-multiplexing mode for sensors and/or frequencies at 2.5 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 suppression of disturbing signals and calibration of inspection targets (PC Software)

Options

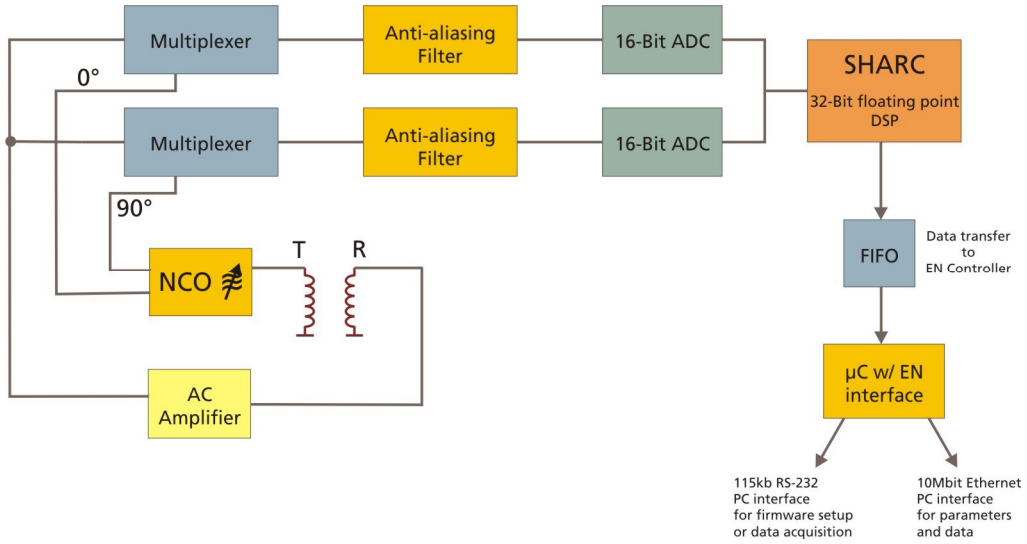
- Single-board and multi-board systems w/ up to 16 boards (max. 64 sensors)
- Multi-Channel MUX
- Active sensor drivers for sensor-to-instrument distances exceeding 5 yards

PC Interfaces

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

- Ethernet Interface

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



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