By the way, you already know our industrial grade accredited inspection services?

- Accredited laboratory in line with DIN EN ISO / IEC 17025, to qualify and validate new non-destructive testing (NDT) processes for industrial applications
- Accelerated time-to-market and opportunity for qualified, norm-compliant deployment in industrial applications as well as for complete new in-house developments or custom adaptation of innovative NDT technologies, even in fields where norms have not been established
- Certification of the corresponding quality management system in accordance with DIN EN ISO 9001

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Realization

To reduce electromagnetic interference, the transmission path between base unit and manipulator was implemented entirely digitally. Therefore, it was necessary to integrate the ultrasonic electronics as a miniaturized frontend system into the manipulator. Ultrasonic transmitter and receiver, preamplifier, filters, digitization and FPGA unit for fast preprocessing of the signals have been specially developed for this application and adapted to the small space available in the manipulator housing.

When choosing the housing highly modular design was emphasized. The basic unit of the UER system comprises a terminal housing with integrated 19-inch TFT screen, the computer and the power supply unit. The result of the automatic stress evaluation is clearly displayed by signal lamps.

When ordering the system, the customer can choose which design of the terminal housing is best suited for integration into its working environment. A floor-mounted pedestal version, the attachment to a movable arm, or the delivery of the equipment on a mobile trolley are available. The trolley can be optionally equipped with a battery power supply, and thus flexibly be used in the plant at different locations.

Integrated into the network structure of the workshops, the system software allows a wide variety of documentation options. The log report can be generated customer-specific with or without the display of the measured stress curves or as an XML log file on a server in the factory network.

Results

Nowadays, considering practical experience the stress measurement systems are optimally adapted to the needs of modern workshop infrastructure. By miniaturization of electronic components, it was possible to integrate the basic unit into a terminal shell that is available with either pedestal, swivel arm, or a mobile trolley. While maintaining ease of use for the inspection personnel many opportunities for customer-specific documentation and log preparation were added. An optionally retrofittable software evaluation module specially designed for testing newly manufactured wheels in correspondence to DIN EN13262 is available.