Are you already familiar with 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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**Situation**

As a further development of the UNIUS platform the inspection electronics IUSE specially zeroes in on industrial applications. Besides the extension to 16 multiplexed transmitter/receiver channels a modular interface concept is provided which allows the application-specific selection of the host interface from Ethernet, USB 3.0 and a proprietary, optical technique. Moreover, IUSE by default provides established algorithms for pre-compression of measurement data at high cycle repetition-rates and the option for a position-dependent gain correction when operated in conjunction with a coordinate trigger unit.

**Technical Data**

**General**
- Power supply 19” chassis: 230 VAC
- Variant IUSE frontend: 24 VDC – 78 VDC or Power over Ethernet (PoE)

**Data Sampling**
- ADC: 14 Bit at a sampling rate of 240 MSamples/s
- 128 kSamples sampling depth
- Up to 511 averages
- Echo-start function
- Gate processing, up to 4 gates (overlap is possible)
- HF data, A-scan or compressed TD data

**Receiver**
- 90 dB dynamic range
- 17 MHz analog bandwidth
- 16:1 multiplexed receiver channel enables connection of up to 16 probes
- Up to 8 analog input filters (5 onboard + 3 pluggable)
- Run-time-dependent gain correction TGC (256 sampling points, 95 dB dynamics)
- Position-dependent gain correction PGC (128 sampling points, 95 dB dynamics)

**Transmitter**
- Onboard transmitter topology: Needle pulse, negative
- Transmission voltage 210 V at 50 Ω
- Shot repetition rate up to 10 kHz

**Ports**
- Flexibly configurable I/O ports (e.g. for control of external components)
- 128 MByte internal data cache for rapid measurements
- Communication interface, standard Ethernet 1 Gbit/s or 100 Mbit/s, alternatively USB 3.0 or proprietary optical interface

**Software Support**
- Inclusion in different frameworks (C++, C#, LabView, etc.) via integration toolkit (ITK)

**Applications**

IUSE is optimized for industrial use in automated inspection applications that request a high number of single channels at concurrently high repetition rate of the inspection cycle. The sturdy frontend design complements the default 19” chassis variant with a PoE-ready solution for near-sensor assembly. The integration toolkit simplifies embedding IUSE into customer-specific inspection systems by support of established software frameworks (C++, C#, LabView).