

Ultracompact single-channel ultrasonic frontend for manual and automated testing of weldings, thickness measurements, education and test labs.

## Unreached signal to noise ratio and high dynamic ranger

The PCUS<sup>®</sup> pro Single ultrasonic frontend enables manual or automated inspections with a single conventional probe (single or dual element). Main focus of this system is manual inspection in lab and education and simple automated systems.

The cost-efficient solution turns every PC or laptop running Windows operating system into a fully-featured ultrasonic testing system. Powered from the USB port, the device can optionally be equipped with an external scanner interface to operate with mechanical scanning systems in order to create B, C and D scans. The PCUS<sup>®</sup> pro Single hardware can be used with the PCUS<sup>®</sup> pro Lab software or with .NET SDK (Soft-ware Development Kit), which enables customized solutions and total control over all hardware features.



PCUS<sup>®</sup> pro Single frontend – front side.

### PCUS<sup>®</sup> pro Single Details

Category	Characteristics	Value
General	Dimensions (L, W, H)	120 x 100 x 36 mm <sup>3</sup>
	Weight	480 g
	Operating temperature and humidity range	5...50 °C @ 75% relative humidity (non-condensing)
Transmitter	Number of transmitters	1
	Transmitter pulse voltage into internal 50 Ω	50 to 250 V
	Pulse	Positive rectangle pulse
	Output impedance	< 14 Ω
	Pulse width	0 to 500 ns, in steps of 2.5 ns
	Pulse fall time	< 12 ns
	Pulse delay	0 to 40 μs, in steps of 2.5 ns

## PCUS® pro Single Details

Category	Characteristics	Value
	Pulse repetition frequency	<ul style="list-style-type: none"> <li>■ Externally powered: up to 20 kHz, depending on recording length, pulse width, sampling rate and transmitter voltage</li> <li>■ USB bus powered: up to 10 kHz, depending on recording length, pulse width, sampling rate and transmitter voltage</li> </ul>
Receiver	Number of receivers	1
	Input mode	Pulse/Echo or Transmit/Receive mode
	Frequency range	500 kHz to 30 MHz (-3 dB)
	Input impedance	50 Ω
	Filters	Up to four analog band filters (user-selectable frequencies)
	Preamplifier gain	0/40 dB
	Main amplifier gain	0...80 dB, maximum input signal 10 Vpp (100 % screen height)
	TGC	0...80 dB, max. 40 dB/μs
Signal path	Probe delay	0 to 655 μs, in steps of 10 ns
	Maximum recording length	65,535 samples per channel
	A/D converter	14 bit, max. 100 MS/s
	Gates	One start gate and four measurement gates
	Rectification	None, positive-, negative-, or full-wave
Interface and connectors	Transducer connector	Lemo 00
	PC interface	USB 2.0 high-speed, USB-B connector, power consumption: max. 5 V/500 mA
	Trigger in/out	<ul style="list-style-type: none"> <li>■ Input: TTL high or low active, pulse width &gt; 100 ns, opto-coupled (MCX)</li> <li>■ Output: LVTTTL high active (MCX)</li> </ul>
	I/O Interface	Trigger IN/OUT, analog in, +5 V/50 mA out: LEMO EPG307-0B
	Scanner interface inputs	Optional with external interface
	Power supply	USB bus powered, optional 12 V DC
Software	Digitally signed drivers for Windows® (Windows® 7 or higher), x86 and x64	
	Managed Windows® SDK based on .NET 4.8	
System conformity	The PCUS® pro Multi system meets all relevant requirements of ISO 22232-1	

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