

## PCUS<sup>®</sup> *pro* ARRAY II – PHASED-ARRAY ULTRASONIC FRONTEND

Full parallel phased-array frontend (128:128) for high-speed automated testing of weldings, wheelsets and CFRP structures.

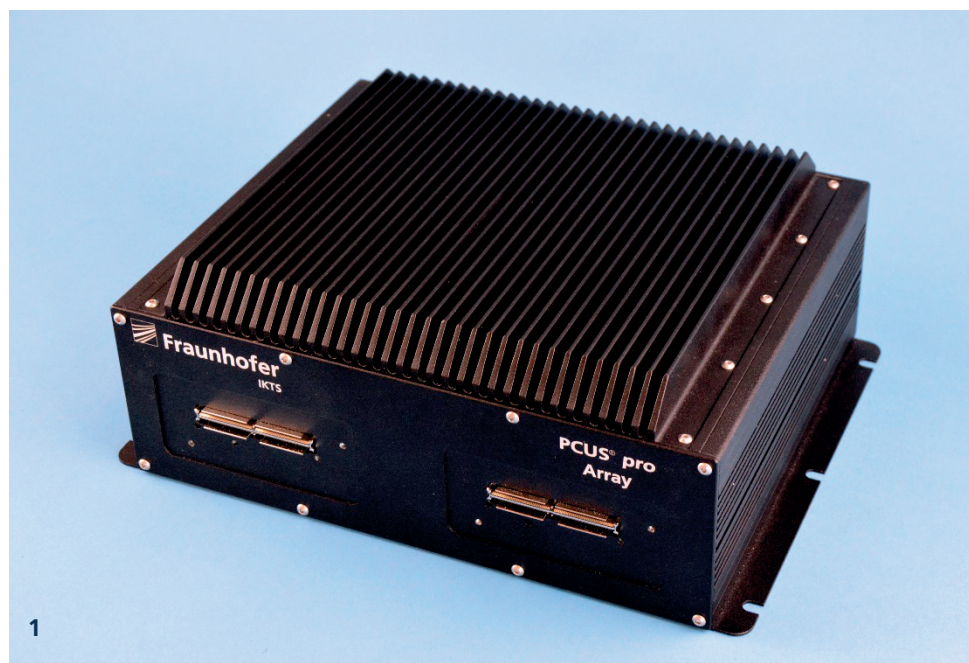
### UP TO 128 ELEMENTS FOR LARGE OR MULTIPLE PROBES

The PCUS<sup>®</sup> *pro* Array II is a complete phased-array ultrasonic frontend for use in automated and manual inspection systems using conventional or FMC/TFM techniques.

The integrated scanner interface and versatile connection options allows the direct connection of up to four incremental encoders and control signals. Testing at high speeds and with fully flexible parameterization is possible due to the high data transfer speed of up to 320 MB/s.

Due to the full parallel design the PCUS<sup>®</sup> *pro* Array II device is ready for high performance testing using newest and data intensive acquisition methods. The device can be used with the PCUS<sup>®</sup> *pro* Lab software or with .NET SDK (Software Development Kit), which enables customized solutions and get the total control over all hardware features.

All devices are calibrated and tested against the ISO 18563-1 ultrasonic standard. New features can be implemented with firmware updates.



1 PCUS<sup>®</sup> *pro* Array II frontend – front side.

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Category	Characteristics	Value
<b>General</b>	Dimensions (L, W, H)	272 x 222 x 90 mm <sup>3</sup>
	Weight	5.2 kg
	Operating temperature and humidity range	5...50 °C @ 75 % relative humidity (non-condensing)
<b>Transmitter</b>	Number of transmitters	Up to 128
	Transmitter pulse voltage into internal 50 Ω	±10 to ±85 V adjustable
	Pulse	Bipolar rectangle pulse
	Output impedance	< 10 Ω
	Pulse width	0 to 500 ns, in steps of 2 ns
	Pulse rise/fall time	< 9 ns
	Pulse delay	0 to 30 μs, in steps of 2 ns
	Pulse repetition frequency	Up to 15 kHz
<b>Receiver</b>	Number of receivers	Up to 128
	Input mode	Impulse/Echo
	Frequency range	500 kHz to 30 MHz
	Input impedance	50 Ω
	Filters	4 analog band filters, digital filter
	Preamplifier gain	0/20 dB switchable
	Main amplifier gain	0 to 80 dB, maximum input signal 2 V <sub>pp</sub> (100 % screen height)
	TGC	0...80 dB, max. 40 dB/μs
<b>Signal path</b>	Probe delay	0 to 524 μs, in steps of 8 ns
	Maximum recording length	65535 samples
	A/D converter	14 Bit, 125 MS/s
	Gates	One start gate and four measurement gates
	Rectification	None, positive-, negative-, or full-wave

<b>Interface and connectors</b>	Array transducer connector	1x I-Pex or 2x I-Pex
	PC interface	USB 3.0 super speed/high-speed/full speed, USB 3.0 B-type connector
	Trigger in/out	TTL level on DSUB 44 I/O connector
	General purpose I/O (GPIO)	3 digital inputs, 3 digital outputs, 2 auxiliary analog inputs on DSUB 44 I/O connector
	Scanner interface inputs	4 axis, RS422 level on DSUB 44 I/O connector
	Power supply	24 V DC, max. 8 A, Bulgin connector PX0412/3P
<b>Software</b>	Digitally signed drivers for Windows® (Windows® 7 or higher), x86 and x84	
	<b>For proper USB 3.0 operation, Windows 8.0 or higher is strongly recommended!</b>	
	Managed .NET SDK based on .NET 4.8	
<b>System conformity</b>	The PCUS® <i>pro</i> Array II system meets all relevant requirements of ISO 18563-1	

### Disclaimer

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