

P-scan 4+

High-end, Expandable, Remotely Operated, Automatic Inspection System



P-scan 4+ basis unit is designed for ultrasound inspection techniques. Its capacity can easily be expanded to include eddy current techniques by connecting an optional external eddy current module. The system is built around the PSP-4+ processing unit.

PSP-4+ features

- All-in-one basis unit with 8 US channels
- Ultrasonic probes, scanners, and peripheral units as water pumps and remote control units are directly connected on the front plate
- Integrated scanner control system - Interfaces with all FORCE Technology digital scanners without additional hardware
- The external eddy current module is connected on the front plate
- Eddy Current Module
- The compact external eddy current module can be equipped with 8 - 32 channels.

P-scan System 4 software features

- Runs with a standard PC under Microsoft Windows™ operating system
- Ultrasound: P-scan, T-scan, Through Transmission, TOFD and A-scan recording
- Eddy Current: C-scan, XY plot and strip chart view
- All modes (both US and EC) can be operated concurrently, controlled from the same software shell
- Data from all modes (both US and EC data) can be visualized and analysed in the same window.

Applications

- In-service inspection
- Industrial production control.

Technical specifications for PSP-4+

Ultrasound Specifications:

Channels	Number of channels:	8 full channels (for single or twin crystal probes)
Transmitter	Pulse type	Rectangular
	Amplitude	30V - 300V (individually programmable per probe and inspection)
	Rise time	7 ns
	Width	20 ns - 1µs (individually programmable per probe and inspection)
Receiver	Dynamic range	120 dB @ 1MHz; > 100 dB @ 10 MHz
	Linearity	± 1 dB in any 60 dB range
	Frequency range	0.1 - 30 MHz
	Frequency filters	Selectable filters, individually programmable per probe and inspection
	Input noise	2.6 nV/√Hz
Digitization	Sampling rate	120 MHz
	Resolution	10 bit, corresponding to 0.25 dB

Eddy Current Option Specifications:

Channels	Number of channels	8 (32 channels option)
	Number of frequencies	Up to 4 per channel
	Frequency range	50 kHz - 5 MHz (Low frequency option)
Modes	Measuring modes	Eddy Current

Physical Specifications:

Length, width, height	346 x 174 x 109 mm (13.6 x 6.8 x 4.3 inch)
Weight	6 kg (13 lb)
Temperature range	0 - 50° C (32 - 122° F) (operating)
Environmental protection	IEC class IP54 (protected against dust and splashing water)

Cables:

PC/PSP-4+	Standard cable Length	Combined Ethernet/power for PSP-4+ + scanner. Up to 100 m (330 ft)
	Ethernet cable Length	Twisted pair or optical fibre (PSP-4+ powered separately). >1 km (>0.6 mile)
PSP-4+/Scanner	Signals	Ultrasonic signals, power, control signals
	Standard length	25 m (80 ft)

Conformity with:

EN 12668-1	Ultrasonic examination - Characterization and verification of equipment - Part 1: Ultrasonic Instruments
CE marking	The CE marking assures the conformity applicable directives and standards of the European Community, ie. Electrical safety (EN 61010), Machine safety and EMC (EN 61000-6-2, EN 61000-6-3)

Quality standard	ISO 9001:2000	Manufacturing in accordance to ISO 9001:2000
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System Features:

Compatibility	100% compatible with P-scan System 4 software
Imaging modes	P-scan, T-scan, and Through Transmission mode. Possibility of full 3D registration of P-scan and T-scan images for off-line section view
A-scan modes	A-scans for TOFD and for off-line reconstruction of Images
Concurrent recording	Data from multiple inspections can be recorded concurrently. Imaging and A-scan data for the same inspection can be recorded at the same time
Documentation	Facilities for reporting and printout

Further information

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