

MicroPulse *LT* Product Specification

Product Overview

Built on MicroPulse technology, MicroPulse LT is a high performance ultrasonic inspection system designed to be compatible with the existing Micropulse inspection system range. The Micropulse LT is implemented as a self contained unit designed to meet the requirements of IP67. It connects to a PC running the test application via Ethernet. It takes power from the Ethernet or from a separate 48V power source. It is available as a 2-channel, a 4-channel or an 8-channel version. It is suitable for use in pulse-echo, TOFD and immersion inspections where because of its small size it may be gantry mounted.

Software Platforms

Standard with Peak NDT's LTScan software with pulse-echo, TOFD and corrosion mapping. Also compatible with British Energy MIPS/GUIDE and Winspect/InspectionWare from UTEX. Open data format and long-established MicroPulse command language mean that the users have the option to write their own applications.

Contact Details

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NOTE: Peak NDT Ltd. reserves the right to change these specifications without notice.

Specification

	Parameter	Range	Step Size
Pulser	Pulser Type	Negative square wave	N/A
	Pulser Voltage	25 to 200Volts	25Volt
	Pulser Rise Time	~6ns	N/A
	Pulser Width	20nsec to 500nsec	2nsec
	Pulser Damping	50Ω to 660Ω in 8 steps	N/A
	Pulse Repetition Frequency	1Hz to 20kHz	1Hz
Receiver	Gain	- 12 to 70dB NB Max DAC plus main gain is 110dB	0.25dB
	Input Noise	2nV typical	N/A
	Gain Linearity	Better than 0.25dB	N/A
	Input Impedance	660Ω	N/A
	Bandwidth	0.75MHz to 25MHz (-3dB)	N/A
	Analogue Filters	0.75MHz to 12MHz (-3dB) Bandpass Filter 2.5MHz to 18MHz (-3dB) Bandpass Filter 3MHz to 22MHz (-3dB) Bandpass Filter 3MHz to 25MHz (-3dB) Bandpass Filter 0.5MHz Bandpass Filter 1MHz Bandpass Filter 2MHz Bandpass Filter 4MHz Bandpass Filter 5MHz Bandpass Filter 10MHz Bandpass Filter 5MHz 2 nd order TOFD Bandpass Filter 10MHz 2 nd Order TOFD Bandpass Filter	Discrete selection
	Channel Crosstalk	< 60dB between channels at 2MHz	
Distance Amplitude Correction	DAC Dynamic Range	0 to 70dB NB Max DAC plus main gain is 110dB	0.25dB
	DAC Trigger	Transmit pulse or material interface echo	User selectable
	No of DAC curves	256 utilising up to 32kbytes	N/A
	DAC update	40dB/μsec	N/A
	DAC Clock Rate	1.5625MHz to 25Mhz	5 settings
Digitiser and Digital Processing	ADC Resolution	12 bits, 14bit ready	N/A
	ADC Rate	25, 50, and 100MHz	N/A
	Rectification	No Rectification Fullwave +ve halfwave -ve halfwave	Discrete selection
	Post Rectification Filter	None and 7 selectable settings	N/A
	Gates	4 gates utilising up to 32kbytes	
	Gate Delay	64k sample points from trigger or I/F echo	
	Interface Echo	Hardware interface trigger for gate and DAC	
	Hardware Peak Processing	Up to 80 peaks (N + largest), first peak, largest peak	
	Averaging	2 to 256 realtime	
	Output Options	Peak processed data or full digitised waveform	
	Threshold	160 to 4095	1
	Gain Reduced Firing	Selectable to be triggered on saturation with programmable adjustment level	

General Specifications

Connectors and Interfaces etc	UT Connectors	Coaxial LEMO EPS 00.250.NTN
	Control Connector	IP67 rated 9-pin D-type
	Encoder Connector	LEMO EXG.1B.310
	Aux. Power Connector	Via Ethernet port using modified adaptor
	Control Interface	100 Base-T Ethernet
	Digital Encoders	2 axes of 32 bit inputs accepting 5Volt encoders at rates of up to 700kHz
	Analogue Encoders	2 channels. 0-5V (1M Ω input impedance) up to 100Hz signal bandwidth.
	Case Size	160mm x 45mm x 108.5mm
	Power Supply	48V DC from Ethernet (Class 3) or separate supply (48V 300mA)
	Power Consumption	10W Max
Environmental	Weight	550g
	Enclosure	IP67 (No dust ingress, temporary immersion up to 1m depth)
	Temperature	0 - 40°C
	EMC	EN61326
	Safety	EN61010

