

Specifications

General	
Size	width 216 mm, height 138 mm, depth 60 mm
Weight	1,2 kg (including two batteries)
Input supply voltage	+15VDC
Battery operational time	5h
Number and type of batteries	2 Lilon battery packs, 1 for hot swap
Maximum power consumption	45 W
Compliance to UT standard	ISO 22232-1
Languages	English, German, French, Chinese, Japanese,
Operation	Touch screen or keys (left or right hand operation)

Display	
Screen size and resolution	7 inch wide, 1024 x 600 Pixel, touch screen
Range of sound velocities	250 m/s to 16000 m/s
Available views	A, B, C
Time base:	
Delay	-10 μ s to 3500 μ s
Depth	3 mm to 15000 mm (steel)
Digitization frequency	100 MHz
Digitization frequency with processing	400 MHz

Data acquisition	
Maximum number of samples per A-scan	1024 points
Data storage, internal	32GB
Data Logger size	3000 x 3000 (points including A-scan)

Receiver	
Maximum input voltage	40V _{pp}
Frequency response	0,2 MHz to 30 MHz (-3 dB)
Filters	12 bandpass and high pass filters
Dynamic range	110 dB (0,2 dB increments)
Time-corrected gain (TCG)	16 points, 100 dB dynamic, 90 dB/40 ns slope
Cross-talk between transmitter and receiver	>80 dB
Signal averaging	2, 4, 8, 16, 32
Linearity of vertical display	+/-2 %

Gates	
Number of gates	3 (one can be used as interface gate)
Measurement modes	flank, peak, zero crossing before, - after, J-flank, first peak
Characteristics of all gates:	
Threshold	5 % - 100 % (1% increments)
Start	0 to 15000 mm (steel)
Width	0 to 15000 mm (steel)
Resolution of TOF	2,5 ns
Measurement modes	flank, peak, zero crossing before, - after, J-flank, first peak
Measurement units	mm, inches, μ s, %, dB
Measurement procedures	TCG, DAC, DGS, AWS, API
Calibration procedures	for straight and angle beam probes

Transmitter	
Modes	dual, pulse echo, thru transmission
Pulse repetition frequencies	10 to 2000 Hz
Shape of transmitter pulse	negative unipolar pulse
Transmitter voltage	50 V - 350 V (10 V increments)
Pulse width	40 ns - 2500 ns (5 ns increments)
Damping	50 Ω and 400 Ω

Inputs/outputs	
Power input	Lemo 0S
Probe connectors	Lemo 00
Interface connector	Lemo 1B, 14 pin (Outputs: 1 alarm (horn), 1 analogue, trigger, Inputs: 2 encoder, 1 start/stop)
USB 2.0	Type A (also for Wifi dongle)
USB 3.0	Type C (also for video output)

Environmental	
Protection grade	IP 67
Storage temperature	-20 °C to 70 °C
Operating temperature	-10 °C to 50 °C
Shock	IEC 60068-2-27
Vibration	IEC 60068-2-6
Humidity	EN 60068-2-30:2005 Abs. 5a and 7.3 Variante 2
EMC	EN 61326-1, EN 55011
Low Voltage Directive	IEC 61010

Configurations

Part numbers	USM 100 Standard	USM 100 Pro*
Instruments	150M5734	150M5735
With ISO 22232-1 Certificate	150M5734C	150M5735C
InspectionWorks Subscription (1 year)	148M5840	148M5840
Instrument + InspectionWorks Package		150M5736
Instrument + InspectionWorks Package & ISO 22232-1 Certificate		150M5736C
Features		
Third Gate / IF Gate		X
Encoded B-Scan		X
Encoded C-Scan		X
Customizable Filter		X
USM Client - iOS App		X
M.PC Live		X
Waveform Averaging		X
A-Scan Saturation	200%	400%
Apps on device	max 3 apps	unlimited
InspectionWorks Package	3 months trial	3 months trial
Data Availability	3 months	3 months
Fleet Management	3 months	3 months
Private Store	3 months	3 months
Remote Collaboration*	3 months	3 months
DAC/TCG	X	X
JISDAC	X	X
CNDAC	X	X
Color leg	X	X
Square Wave Pulser	X	X
AWS D1.1/D1.5	X	X
DGS	X	X
Phantom PRF	X	X
Advanced Data Recorder	X	X
BEA - Back Echo Attenuator*	X	X
Analog Out*	X	X
API 5UE*	X	X
Guided Calibrations	X	X
Remote desktop	X	X
Touch Screen Interface	X	X
Timed B/C-Scan*	X	X
WiFi	O	O
Remote Calibration (Non EN)*	O	O

Individual product configurations subject to change

Note:

* Coming soon

O Optional features

⁽¹⁾ Not available for all countries

Optional accessories

- **USB C Hub (148M5843)** Multiport adapter⁽¹⁾
- **WiFi Dongle (148M5844)** External WiFi dongle⁽¹⁾
- **WiFi Router (151M4752)** WiFi router for remote inspection (only available for EU)
- **Magnet Holder (148M5852)** Detachable magnetic pipe stand
- **Belt Holster (148M5854)** Optional belt holster