

UG20DL Underwater Thickness Gauge

Features

P-E

E-E

EEV

PECT

AGC

A-Scan

- 300 metre (1000 ft.) depth rating
- Single membrane & dual element probe transducers
- Automatic probe recognition & zero function
- Pulse-Echo, Pulse-Echo w/Coating, Echo-Echo
- Data Storage: Alpha Numeric & Sequential w/ID
- Data output and storage: 5,000 readings
- Download to ElcoMaster® data management software



The UG20DL is an underwater material and coating thickness gauge ideal for offshore inspections.

Waterproof to a depth of 300 metres (1,000 feet) the UG20DL offers many features and benefits of the CG100 series in an easy to use brightly lit gauge.

Offering both dual & single element transducers the UG20DL's memory allows users to store up to 5,000 individual readings, together with the A-Scan waveform which can be downloaded to the data management software for further analysis on dry land.

For a full range of transducers, please refer to the Underwater Gauge Transducers data sheet.

UG20DL Measurement Modes Explained

Pulse - Echo Mode (PE):

The normal display mode, measures the total thickness from the base of the transducer probe to the material density boundary (typically the back wall). Ideal for pit and flaw detection.

Echo - Echo Mode (EE):

Also known as the ThruPaint™ Mode, EE ignores the coating thickness, displaying the material thickness from the top surface of the material to the material density boundary.

Pulse - Echo Coating Mode (PECT):

Displays both the material thickness (PE) and the coating thickness (CT) at the same time.

UG20DL Underwater Thickness Gauge

Model & Part Number	UG20DL
Display Mode: Material thickness digits display	•
Measurement Mode¹	Dual Element: PE, EE (ThruPaint™), PECT Single Element: EEV (ThruPaint™)
Measurement Rate: Manual	4 readings per second
Measuring Range²	PE: 0.63 - 500mm (0.025 - 19.999 inches) EE: 2.54 - 102mm (0.100 - 4.000 inches) PECT: 0.63 - 500mm (0.025 - 19.999 inches) PECT: 0.01 - 2.54mm (0.001 - 0.100 inches) EEV: 1.00 - 150mm (0.040 - 6.000 inches)
Measurement Accuracy²	± 1% or ±0.1mm whichever is the greater
Measurement Resolution	0.01mm (0.001 inches)
Velocity Calibration Range	1250 - 13,995m/s (0.0492 - 0.5510in/ms)
Additional Features: A-Scan	stored in memory with each reading for review on PC
Calibration setups	1 user programmable & 8 pre-calibrated velocities for: aluminium, cast iron, iron, PVC, polyurethane, polystyrene, stainless steel & steel
Waterproof - depth rating	maximum depth 300 metres (1,000 feet) - equivalent to IP68
Pulser Type	dual square wave pulsers
Gain	automatic gain control (AGC) with 100dB range, or selectable gain: vlow, low, medium, hi or vhi
Timing	precision 25MHz TCXO with single shot 100MHz 8bit ultra low power 8 bit digitizer
Data Logging	5,000 with A-scan image & gauge settings in one batch sequential and grid logging alpha numeric batch identification
Calibration Options	velocity & material type
Transducer Probe Type	dual and single element
Transducer Frequency Range	1 - 10MHz
Transducer Recognition	custom automatic (dual transducers) & manual - selectable from a list
V-path / dual path error correction	automatic
Probe Zero	automatic (dual transducers) & manual (via integrated probe disk)
Display	12.7mm (1/2") 4.5 digit LCD
Display Refresh Rate	25Hz
Units (selectable)	mm or inches
Backlight	on / off / auto
Repeatability / Stability Indicator	•
Battery Type	3 x AA alkaline
Battery Life (approximate)	50 hours (15 hours with backlight on)
Low Battery Indicator	•
Battery Save Mode	auto
Operating Temperature	-30 to 60°C (-20 to 140°F)
Size (length x diameter)	229.0 x 60.33mm (9.0 x 2.4 inches)
Weight (including batteries)	680g (24.0oz)
Case Design	high strength transparent plastic housing with single, magnetically coupled, multifunction switch
Transducer Connector Type	LEMO underwater connectors
RS232 Interface	Bi-directional
Packing List	Elcometer NDT UG20DL gauge, couplant, carry case, user manual, test certificate, 3 x AA batteries, ElcoMaster® software, transfer cable, spare gaskets and lubrication set

¹ PE: Pulse-Echo Mode, EE: Echo-Echo (ThruPaint™) Mode, PECT: Pulse-Echo Coating Thickness Mode

² Measuring range & accuracy depends on material, surface conditions and the transducer selected