

Elcometer MTG4 Ultrasonic Material Thickness Gauge

Can be used in accordance with:
ASTM E797, EN 14127, EN15317



With a choice of calibration options and measurement modes, the MTG4 is ideal for taking readings on a wide range of coated and uncoated materials.

As well as all the features of the MTG2, the MTG4 has two calibration options. Using an uncoated sample of test material of a known thickness, the gauge can be calibrated using 1-Point calibration. Alternatively, the user can select one of 39 pre-set materials stored within the gauge including aluminium, steel, stainless steel, cast iron, plexiglass, PVC, polystyrene and polyurethane.

Features

- Pulsed-Echo (P-E) and Echo-Echo ThruPaint™ (E-E) modes
- 1-Point, Material and Factory calibration options
- Pre-set measurement rate of 4 readings per sec
- USB data output to PC or similar device

Measurement Mode

Echo-Echo ThruPaint™ (E-E) measurement mode enables readings to be taken on coated materials with a thickness range up to 20.00mm. In Echo-Echo ThruPaint™ mode, the coating thickness is ignored and the material thickness from the top surface of the material to the material density boundary is displayed.

Data Output

Compatible with ElcoMaster® software, individual readings can be downloaded via USB to PC or similar device for further analysis.



Video



YouTube Video - How to measure material thickness using the Elcometer MTG4 Ultrasonic Thickness Gauge
 (Click on the image to the left to view the video)

Capable of measuring almost any coated or uncoated material, for a wide range of applications – including steel pipelines and storage tanks, porcelain basins, plastic piping, or rubber linings

Introducing the Material Thickness Gauge MTG

Ergonomic, rugged, accurate and easy to use, the Elcometer NDT MTG range of Ultrasonic Material Thickness Gauges is ideal for measuring and recording material thickness from just 0.2mm to 500mm.



Easy

The MTG range of ultrasonic thickness gauges have been designed specifically to make them easy to use, calibrate, take readings, and create inspection reports.

Accurate

With a measurement accuracy of $\pm 1\%$ up to 500mm in Pulsed-Echo (P-E) mode and 25mm in Echo-Echo ThruPaint™ (E-E) mode, accurate and repeatable readings can be taken on smooth, rough, curved and coated or uncoated surfaces. The stability indicator provides a visual indication of both the strength and reliability of the ultrasonic signal.



Efficient

The MTG4 has a set measurement repetition rate of 4Hz (4 readings per second).

Powerful

Compatible with ElcoMaster® software, individual readings can be downloaded via USB to PC or similar device for further analysis.



Rugged

With a scratch and solvent resistant display, sealed, heavy duty and impact resistant design - dust and waterproof equivalent to IP54 - the MTG range is suitable for use in the harshest of environments.

The Display



All gauges have a fully customisable, scratch and solvent resistant colour LCD display. Measurement modes available include Pulsed-Echo (P-E), Echo-Echo ThruPaint™ (E-E) and Velocity mode (for more information on measurement modes, see page 19). A choice of measurement units is available, depending on the measurement mode selected. A stability indicator shows clearly both the strength and reliability of the ultrasonic signal.

Technical Specifications

	MTG2	MTG4	MTG6	MTG8
Easy to use menu structure in multiple languages	•	•	•	•
Tough, impact, waterproof and dust resistant equivalent to IP54	•	•	•	•
Bright colour screen with permanent backlight	•	•	•	•
Ambient light sensor, with adjustable brightness	•	•	•	•
Scratch and solvent resistant display; 2.4" (6cm) TFT	•	•	•	•
Large positive feedback buttons	•	•	•	•
USB power supply via PC	•	•	•	•
Low battery indicator	•	•	•	•
Emergency light	•	•	•	•
Tap awake from sleep	•	•	•	•
Gauge software updates ¹ via ElcoMaster® Software	•	•	•	•
2 year gauge warranty ²	•	•	•	•
Limits: 40 user definable audible & visual pass/fail warnings				•
Measurement Mode				
Pulsed Echo (P-E)	•	•	•	•
Echo-Echo ThruPaint™ (E-E)		•	•	•
Velocity Mode (VM)			•	•
Measurement Rate				
4, 8, 16Hz	4Hz	4Hz	4, 8, 16Hz ³	4, 8, 16Hz ³
Thickness Range⁴				
P-E: 0.63-500mm	•	•	•	•
E-E: 2.54 – 20.00mm		•	•	•
Velocity Range				
			1250 - 10,000m/s	
Measurement Accuracy⁵				
	±1% or ±0.1mm		±1% or ±0.05mm	
Measurement Units (selectable)				
	mm		mm or m/s	
Repeatability / Stability Indicator				
	•	•	•	•
Display Mode:				
Reading	•	•	•	•
Selected statistics			•	•
Scan thickness bar graph			•	•
Run Chart			•	•
Readings and Differential				•
B-Scan cross sectional display				•
Selectable Reading Resolution				
Lo; ie 0.1mm, 10m/s	•	•	•	•
Hi; ie 0.01mm, 1m/s			•	•
On Screen Statistics				
Number of readings n; mean average \bar{x} ; standard deviation σ			•	•
Lowest reading Lo; Highest reading Hi			•	•
Low limit value				•
High limit value				•
Number of readings below low limit				•
Number of readings above high limit				•
Nominal Value x				•
Range				•
Calibration Options				
Zero set: using the integral zero disc	•	•	•	•
1 - point		•	•	•
2 - point			•	•
Material selection; present choice of 39 materials		•	•	•
Factory; resets to the factory calibration		•	•	•
Velocity (speed of sound)			•	•

Known thickness value			•	•	
Calibration Features					
Calibration lock: with optional PIN code unlock			•	•	
Test calibration feature			•	•	
Calibration memories: 3 - programmable memories				•	
Measurement outside calibration warning			•	•	
Data Logging					
Number of readings			1,500	100,000	
Number of batches			1	1,000	
Reading save function			•	•	
Sequential batching; a listed-based storage of readings			•	•	
Grid batching; reading storage in a 2 dimensional array				•	
Fixed batch size mode; with batch linking				•	
Obstruct entry; add 'obstruct' label into grid location				•	
Delete last reading			•	•	
Date & time stamp			•	•	
Review, clear & delete batches			•	•	
Alpha numeric batch names; user definable				•	
Copy batches and calibration settings				•	
Live reading trend graph in batching mode				•	
Batch review graph				•	
Data Output					
USB; to computer	•	•	•	•	
Bluetooth® to computer, Android™ & iOS devices			•	•	
ElcoMaster® Software			•	•	
Transducer Probe Type					
Dual element	•	•	•	•	
Auto transducer recognition	•	•	•	•	
Auto V-path correction	•	•	•	•	
Battery Type			2 x AA		
Battery Life (approximate) ⁶					
Alkaline: 15 hours	•	•	•	•	
Lithium: 28 hours	•	•	•	•	
Operating Temperature			-10 to 50°C		
Size (w x h x d)			145 x 73 x 37mm		
Weight (including batteries, without transducer)			210g		
Part Number (with Transducer) ⁷		MTG2-TXC	MTG4-TXC	MTG6DL-TXC	MTG8BDL-TXC
Part Number (gauge only)			MTG4	MTG6DL	MTG8BDL

1 Internet connection required

2 The Elcometer MTG range is extendable within 60 days from date of purchase, free of charge to two years

3 User selectable default setting in scan mode is 16 Hz

4 Dependent on the material being measured and the transducer being used

5 On steel

6 Supplied with Alkaline, Lithium and rechargeable can be used with the gauges, continuous use at 1 reading per second.

7 5MHz 1/4" right angle transducer supplied

Packing List

- Elcometer MTG4 Ultrasonic Material Thickness Gauge
- 5Mhz 1/4" Right Angle Dual Element Transducer (MTG4-TXC only)
- Ultrasonic Couplant
- Carry Pouch
- Screen Protector
- Wrist Harness
- 2 X AA Batteries
- Calibration Certificate
- 2 Year Warranty Extension Card
- Operating Instructions

