Elcometer PTG6 Ultrasonic Precision Thickness Gauge

Can be used in accordance with:
EN14127, EN15317

When precision is key, the PTG6 has a measurement range of 0.15mm to 25.40mm with ±1% accuracy, across three measurement modes, Interface Echo (I-E), Echo-Echo (E-E), and Plastic Mode (PLAS). This gauge allows users to take measurements with pinpoint accuracy.

Calibration Options

The PTG6 has a number of 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.

The PTG6 also offers the additional calibration options of 2-Point & Velocity.

Data Output

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

Features

- Interface Echo (I-E) Echo-Echo (E-E)) & Plastic Mode (PLAS) measurement modes
- Measurement range from 0.15mm to 25.40mm
- 2-Point, 1-Point, Material, Thickness Set and Factory Calibration options
- User selectable measurement rate; 4,8,16 readings per second
- User selectable reading resolution; 0.1mm or 0.01mm
- USB output to ElcoMaster® Software

Technical Specifications

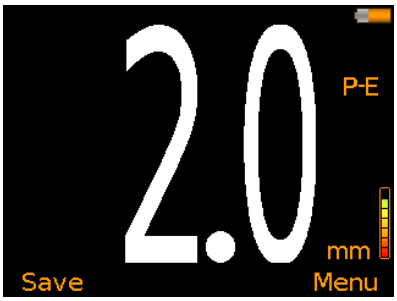
Part Number (with Transducer)[1]				PTG6-TXC	PTG8BDL-TXC
Part Number (gauge only)				**PTG6**	**PTG8BDL**
Easy to use menu structure in multiple languages				■	■
Tough, impact, waterproof and dust resistant equivalent to IP54				■	■
Bright colour screen with permanent backlight				■	■
Ambient light sensor, with adjustable brightness				■	■
Scratch and solvent resistant display; 2.4" (6cm) TFT				■	■
Large positive feedback buttons				■	■
USB power supply via PC				■	■
Gauge software updates2 via ElcoMaster® Software				■	■
2 year gauge warranty[3]				■	■
Limits: 40 definable audible & visual pass/fail warnings					■
Measurement Rate				4, 8, 16Hz	4, 8, 16Hz[4]
Measurement Mode	**Range[5]**	**Accuracy[6]**			
Echo-Echo (E-E)	0.15-10.15mm	±0.015mm (0.15-2.99mm)		■	■
		±0.5% (3.00-10.15mm)	±0.5%		
Interface Echo (I-E)	1.65-25.40mm	±0.015mm (1.65-2.99mm)		■	■
		±0.5%(3.00-25.4mm)	±0.5%		
Plastic Mode (PLAS)	0.15-5.00mm	±0.015mm (0.15-2.99mm)		■	■
		±0.5% (3.00-5.00mm)	±0.5%		
Measurement Units				mm	mm
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; 0.1mm				■	■
Hi; 0.01mm				■	■
Statistics					
Number of readings, n; Mean average, x ; Standard deviation, σ.					■
Lowest reading, Lo; Highest reading, Hi					■
Low / high limit value					■
Reading Range Value					■
Nominal Value					■
Number of readings below low limit					■
Number of readings above high limit					■
Calibration Options					
1 - point				■	■
2 - point				■	■
Material selection; 39 preset materials[7]				■	■
Factory; resets to the factory calibration				■	■
Velocity (speed of sound)				■	■
Calibration Features					
Calibration lock; with optional PIN Lock				■	■
Test calibration feature				■	■
Calibration memories: 3 programmable memories					■
Measurement outside calibration warning					■
Data Logging					
Number of readings					100

Number of batches		1,000
Sequential batching		■
Grid batching		■
Fixed batch size mode; with batch linking		■
Obstruct entry; add 'obst' into grid location		■
Delete last reading		■
Date & time stamp		■
Review, clear & delete batches		■
Alpha numeric batch names; user definable		■
Batch review graph		■
Data Output		
USB to PC	■	■
Bluetooth® to PC, Android™ & iOS devices		■
ElcoMaster® Software	■	■
Transducer Probe Type	■	■
Single Element		
Auto transducer recognition	■	■
Auto V-path correction	■	■
Battery Type[8]	2 x AA	
Battery Life[8]	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)	210g	

1 PTG supplied with 15MHz 1/4" Microdot right angle single element transducer
2 Internet connection required
3 The Elcometer MTG range is extendable within 60 days from date of purchase, free of charge to two years
4 User selectable default setting in scan mode is 16Hz
5 Dependent on the material being measured and the transducer being used
6 On steel
7 See separate page for lists of preset materials
8 Supplied with Alkaline, Lithium and rechargeable can be used with the gauges, continuous use at 1 reading per second

Displays explained

The PTG range has a choice of measurement modes allowing the user to select the most appropriate for their application.



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 are available, depending on the measurement mode selected. A stability indicator shows clearly both the strength and reliability of the ultrasonic signal.

Plastic Mode

Plastic mode is specifically designed for measuring very thin plastics.

Transducers

The PTG range of intelligent single element transducers has an automatic transducer recognition which ensures correct probe identification even when the transducer is changed.

				Suitable for measuring				Suitable for
Part Number	Probe Diameter	Probe Characteristic	Damping	Thin Plastics	Steel	Aluminium	Titanium	PTG6 PTG8
15.0 MHz Single Element Transducer								
TXC15M0CM	1/4"	Right Angle	S	■	■	■	■	■
20.0 MHz Single Element Transducer								
TXC20M0CM	1/4"	Right Angle	S	■	■	■	■	■

Packing List

Elcometer PTG6 Ultrasonic Precision Thickness Gauge
15MHz 1/4" Microdot right angle single element transducer
Couplant
Wrist Strap
3 x Screen Protector
Protective Case
Plastic Transit Case
2 x AA Batteries
Calibration Certificate
Two year Warranty extension card
Operating Instructions

Video

YouTube Video - How to measure thin materials accurately using the Elcometer PTG8 Ultrasonic Thickness Gauge
(Click on the image to the left to view the video)

When it comes to measuring the thickness of small, thin, or intricate components, how do you quickly and non-destructively measure the thickness of the material, when you don't have access to both sides. Typically, using an ultrasonic precision thickness gauge.

Accessories

Calibration Standards

Calibration blocks are available as a set or individually, allowing users to select the most appropriate thickness for their application. Elcometer calibration standards are manufactured from 4340 steel to a tolerance of ± 0.1% of the nominal thickness and are supplied complete with calibration certificates. The nominal thicknesses below are in mm.

Calibration Standard Sets

Part Number	Description	Nominal Thickness Range	Nominal Thicknesses
T920CALSTD-SET1	Calibration Standard Set	2-30mm	2, 5, 10, 15, 20, 25 & 30mm
T920CALSTD-SET2	Calibration Standard Set	40-100mm	40, 50, 60, 70, 80, 90 & 100mm
T920CALSTD-HLD	Calibration Holder; for thicknesses up to 100mm		

Individual Calibration Standards

Part Number	Nominal Thickness mm
T920CALSTD-2	2
T920CALSTD-5	5
T920CALSTD-10	10
T920CALSTD-15	15
T920CALSTD-20	20
T920CALSTD-25	25
T920CALSTD-30	30
T920CALSTD-40	40
T920CALSTD-50	50
T920CALSTD-60	60
T920CALSTD-70	70
T920CALSTD-80	80
T920CALSTD-90	90
T920CALSTD-100	100

Ultrasonic Couplant

Elcometer has developed a viscous gel to work on both horizontal and vertical surfaces. The temperature range for regular couplant is -15 to 104°C. The Elcometer high temperature gel has a range of up to 398°C for use with high temp transducers.

Part Number	Description	Volume
T92015701	Ultrasonic Couplant	120ml
T92015701-5	Ultrasonic Couplant; Pack of 5 Bottles	120ml
T92024034-7	Ultrasonic Couplant	300ml
T92024034-8	Ultrasonic Couplant	500ml
T92024034-3	Ultrasonic Couplant	3.8l
T92024034-9	High Temperature Couplant	60ml
T92024034-10	High Temperature Couplant 398°C; Pack of 2	60ml

Transducer Adaptors

This adaptor allows dual element, 'non-intelligent' and other transducers with Lemo Connectors from Elcometer and other manufacturers to be used with the MTG product range.

Part Number	Description	Suitable for	
		PTG6	PTG8
T92025657	Transducer Adaptor Single Element[2]	●	●

2 This adaptor allows single element, 'non-intelligent' and other transducers with Lemo Connectors from Elcometer and other manufacturers to be used with the PTG product range.

Delay Lines

Each single element transducer is supplied complete with 9mm and 12mm acrylic delay lines suitable for measuring on steel, aluminium and titanium. If measuring on thin plastics using Plastic Mode (PLAS), a graphite delay line must be used.

Part Number	Description
T92016528	Acrylic Delay Line; ¼" Diameter x 9mm
T92016529	Acrylic Delay Line; ¼" Diameter x 12mm
T92023853-4	Graphite Delay Line; ¼" Diameter

Protective Case

The benefit of keeping the instrument in a good condition can improve the return on the long term cost of investment. Helping to reduce case damage and increase the lifetime of the gauge.

Part Number	Description
T99931812	Plastic Protective Case