

**NEW**

# Elcometer 204, 304 & 307 Ultrasonic Thickness Gauges

Accurate & easy to use  
material & precision thickness gauges

- Rugged, fast and easy to use, no training required
- Measure up to 500mm (20") with  $\pm 1\%$  accuracy
- Wide range of intelligent transducers



- Display readings, statistics, run charts, bar graphs
- In thickness, differential or scan mode
- Measure using Pulsed Echo (PE), Echo Echo (EE), Echo Echo ThruPaint™ (EE), Interface Echo (IE), Plastic Mode (PLAS) or Speed of sound / Velocity Mode (VM)

Made for

 iPod  iPhone  iPad

**Android™** 

available with  
 **Bluetooth®**  
wireless technology

compatible with  
 **ElcoMaster.**

## Elcometer Material & Precision Thickness Gauges

The Elcometer 204, 304 & 307 ultrasonic material and precision thickness gauges are rugged, fast and incredibly easy to use.

Display readings, selected statistics, bar graph, run chart or differential mode

Large, easy to read scratch and solvent resistant colour screen displays readings in Metric or Imperial units

Dust & waterproof rugged design equivalent to IP54

Integrated zero disc ensures accurate results

Wide range of intelligent single & dual element transducers (see pages 9 & 13)



Elcometer 304 & 307: Made for iPhone 6 Plus, iPhone 6, iPhone 5s, iPhone 5c, iPhone 5, iPhone 4s, iPhone 4, iPad Air 2, iPad mini 3, iPad Air, iPad mini 2, iPad (3rd and 4th generation), iPad mini, iPad 2, and iPod touch (4th and 5th generation). "Made for iPod," "Made for iPhone," and "Made for iPad" mean that an electronic accessory has been designed to connect specifically to iPod touch, iPhone, or iPad, respectively, and has been certified by the developer to meet Apple performance standards. Apple is not responsible for the operation of this device or its compliance with safety and regulatory standards. Please note that the use of this accessory with iPod touch, iPhone, or iPad may affect wireless performance.



- Measurement modes include:
- Pulsed Echo (PE)
- Echo Echo (EE)
- Echo Echo ThruPaint™ (EE)
- Interface Echo (IE)
- Plastic Mode (PLAS)
- Velocity Mode (VM)

Reading stability indicator to ensure reliable readings



Transfer data via USB or Bluetooth® to ElcoMaster® PC or Mobile App for instant analysis & report generation

Automatic transducer recognition, ensures correct probe is identified when transducer is changed



## Elcometer Material & Precision Thickness Gauges

### Intelligent Dual & Single Element Transducers



Dual Element



Single Element

Elcometer has a wide range of single and dual element intelligent transducers available for use with the Elcometer 304 & 307. When connected to the gauge it instantly recognises which transducer has been attached.

When selecting a transducer it is important to choose one which will meet the specific application's needs. The type of material to be tested, the measurement range, the shape of the substrate (curved or flat) and the size of the material should be considered when selecting the appropriate transducer.

For more information please see pages 9 & 13.

### Create instant reports with ElcoMaster®

ElcoMaster® is a fast, easy to use PC & Mobile App for all your data management, reporting and quality assurance needs.

Simply connect either one of the Elcometer Ultrasonic Thickness Gauges to your PC, Android™ or iOS mobile device via Bluetooth® or USB & download your data for further analysis or instant report generation.\*



### Display Modes



Statistics



Run Chart



Bar Graph



Differential Mode



Scan Mode

\* Model dependent.

\*\* Elcometer 204, 304 & 307 gauges are supplied with a one year warranty against manufacturing defects. Gauge warranty can be extended to two years via [www.elcometer.com](http://www.elcometer.com).

## Elcometer 204

## Steel Ultrasonic Material Thickness Gauge

new

Pre-calibrated for ease of use, the Elcometer 204 steel ultrasonic thickness gauge provides fast, accurate measurement of the thickness of steel.

Measures steel thickness from 0.63mm up to 500mm (0.025 - 20")

Pre-set reading rate of 4Hz (4 readings per second) provides faster readings

The Elcometer 204 is supplied with a 5MHz ¼" Potted Right Angle Dual Element Thickness Transducer



Pre-calibrated for measuring steel only

Supplied with everything required for use

Measures the material thickness when there is access to only one side

Integrated zero disc, ensures maximum accuracy

Transfer live readings via USB to ElcoMaster®

Intelligent transducer attached with auto recognition, ensures correct probe is identified when transducer is changed

PE  
Pulsed Echo

### STANDARDS:

ASTM E 797, EN 14127, EN 15317



# Steel Ultrasonic Material Thickness Gauge

## Elcometer 204

### Key Features Explained

- Displays key statistics**

In addition to the material thickness measurement, the Elcometer 204 displays key statistical values required to assess the overall material thickness; number of readings (n), the average material thickness ( $\bar{x}$ ), the lowest (Lo) and highest (Hi) material thickness, the standard deviation ( $\sigma$ ) and the coefficient of variation (CV%).

- Zero Point calibration for accuracy**

The Elcometer 204 has zero point calibration, ensuring accurate thickness measurements on steel surfaces.

- Live data output to PC**

As each measurement is taken, the Elcometer 204 transmits the thickness values via USB straight into an inspection application or into ElcoMaster®, for instant report generation.



Ideal for measuring steel pipes where there is only access to one side.



Ideal for measuring uncoated steel materials.

### Technical Specification

C

Part Number	Description	Certificate
<b>C204C-TXC</b>	Elcometer 204 Steel Ultrasonic Material Thickness Gauge with 5MHz ¼" Right Angle Dual Element Transducer	•
Transducer Probe Type	Dual Element	
Measurement Mode	Pulsed Echo (PE)	
Range <sup>1</sup> & Accuracy <sup>2</sup>	0.63 - 500mm    ±0.1mm (0.63-19.99mm) (0.025 - 20")    ±0.5% (20.00-500.00mm)	±0.004" (0.025-0.787") ±0.5% (0.788-20.00")
Resolution	0.1mm (0.01")	
Reading Rate	4Hz (4 readings per second)	
Operating Temperature	-10 to 50°C (14 to 122°F)	
Data Output	USB	
Power Supply	2 x AA batteries	
Battery Life <sup>3</sup>	Alkaline: 15 hours    Lithium: 28 hours	
Gauge Weight	210g (7.4oz) - including batteries, without transducer	
Gauge Dimensions	145 x 73 x 37mm (5.7 x 2.87 x 1.46"), without transducer	
Packing List	Elcometer 204 steel ultrasonic material thickness gauge, transducer, ultrasonic couplant, carry pouch, screen protector, wrist harness, 2 x AA batteries, operating instructions, calibration certificate & 2 year warranty extension card.	

<sup>1</sup> Dependent on material being measured & transducer being used.

<sup>2</sup> On steel.

<sup>3</sup> Approximate battery life, when in continuous reading mode at a reading rate of 4Hz. Rechargeable batteries may differ.

• Calibration Certificate supplied as standard.

## Elcometer 304

## Ultrasonic Material Thickness Gauge

new

The Elcometer 304 ultrasonic material thickness gauge is ideal for measuring the material thickness or material sound velocity of virtually any material such as metals, plastics, glass, epoxies & ceramics in a wide range of applications.

Stores up to 100,000 readings in up to 1,000 sequential batches for further analysis & downloading to a PC or mobile device

Up to 3 programmable calibration memories, allows the user to select a saved calibration method without the need to recalibrate the gauge

Selectable reading rate of 4, 8, 16Hz (4, 8, 16 readings per second)

Scan mode at 16Hz, ideal for measuring a large surface area

The Elcometer 304 is supplied as a gauge only, without transducer.

Transducers must be ordered separately.

(Wide range of transducers available - see page 9-9)



Hi & Lo limit indicators provides indication of problem areas

2-Point, 1-Point, Material, Velocity, Thickness Set & Factory calibration options, allows accurate measurements of a wide range of materials

Integrated zero disc, ensures maximum accuracy

USB & Bluetooth® data output to ElcoMaster® PC or ElcoMaster® Mobile App for instant report generation

Intelligent transducer attached with auto recognition, ensures correct probe is identified when transducer is changed

<b>PE</b> Pulsed Echo	<b>EE</b> Echo Echo ThruPaint™	<b>VM</b> Velocity Mode
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**STANDARDS:**  
ASTM E 797, EN 14127, EN 15317

Made for  
iPod iPhone iPad

Android™

available with  
Bluetooth®  
wireless technology

compatible with  
ElcoMaster®

Elcometer 304: Made for iPhone 6 Plus, iPhone 6, iPhone 5s, iPhone 5c, iPhone 5, iPhone 4s, iPhone 4, iPad Air 2, iPad mini 3, iPad Air, iPad mini 2, iPad (3rd and 4th generation), iPad mini, iPad 2, and iPod touch (4th and 5th generation). "Made for iPod," "Made for iPhone," and "Made for iPad" mean that an electronic accessory has been designed to connect specifically to iPod touch, iPhone, or iPad, respectively, and has been certified by the developer to meet Apple performance standards. Apple is not responsible for the operation of this device or its compliance with safety and regulatory standards. Please note that the use of this accessory with iPod touch, iPhone, or iPad may affect wireless performance.



# Ultrasonic Material Thickness Gauge

## Elcometer 304

### Key Features Explained

- Measures uncoated & coated surfaces**

Flexible & easy to use, the Elcometer 304 doesn't just measure uncoated surfaces but can also measure coated surfaces. Using Echo Echo ThruPaint™ mode (EE), coatings up to 2mm (80mils) are ignored.

- Choose & customise the reading display**

The Elcometer 304 has a choice of display modes allowing the user to select the most appropriate for their needs; Readings, Selected Statistics, Bar Graph, Run Chart & Differential Mode.

- User definable limits for pass/fail indication**

Limits can be set on the Elcometer 304 for individual readings or for each batch with audible & visual pass/fail warnings.

- Store each measurement for further analysis**

Up to 100,000 readings can be saved into the gauge memory as each measurement is taken, which can be downloaded later into an inspection application or into ElcoMaster® for further analysis and reporting.

- Data output to PC, Android™ or iOS† mobile device**

Connect the Elcometer 304 via Bluetooth® or USB to a PC, Android™ or iOS† mobile device & download the data into an inspection application or into ElcoMaster® for instant report generation.



Ideal for measuring uncoated steel materials.



Ideal for measuring the material thickness of coated materials, ignoring the paint thickness (EE mode).

### Technical Specification

C

Part Number	Description	Certificate	
<b>C304CDL</b>	Elcometer 304 Ultrasonic Material Thickness Gauge	•	
Transducer Probe Type	Dual Element		
Measurement Mode	Range <sup>1</sup>	Accuracy <sup>2</sup>	
Pulsed Echo (PE)	0.63 - 500mm (0.025 - 20.00")	±0.05mm (0.63-9.99mm) ±0.5% (10.00-500.00mm)	±0.004" (0.025-0.393") ±0.5% (0.394-20.00")
Echo Echo ThruPaint™ (EE)	2.54 - 20.00mm (0.100-0.787")	±0.05mm (2.54-9.99mm) ±0.5% (10.00-20.00mm)	±0.004" (0.100-0.393") ±0.5% (0.394-0.787")
Velocity Mode (VM)	1,250-10,000 m/s (0.0492 - 0.3937in/μs)		
Resolution	0.1mm (0.01") or 0.01mm (0.001") switchable		
Reading Rate	4, 8 & 16Hz (4, 8 & 16 readings per second)		
Operating Temperature	-10 to 50°C (14 to 122°F)		
Data Output	USB & Bluetooth®		
Power Supply	2 x AA batteries		
Battery Life <sup>3</sup>	Alkaline: 15 hours Lithium: 28 hours		
Gauge Weight	210g (7.4oz) - including batteries, without transducer		
Gauge Dimensions	145 x 73 x 37mm (5.7 x 2.87 x 1.46"), without transducer		
Packing List	Elcometer 304 Ultrasonic Material Thickness Gauge, ultrasonic couplant, plastic transit case, carry pouch, 3 x screen protectors, wrist harness, 2 x AA batteries, operating instructions, calibration certificate, 2 year warranty extension card, ElcoMaster® software CD & USB cable.		

<sup>1</sup> Dependent on material being measured & transducer being used.

<sup>2</sup> On steel.

<sup>3</sup> Approximate battery life, when in continuous reading mode at a reading rate of 4Hz. Rechargeable batteries may differ.

• Calibration Certificate supplied as standard.

† Compatible with iPod, iPhone and iPad.

**Product Features**

Model			Elcometer 204	Elcometer 304
Part Number			C204C-TXC	C304CDL
Easy to use menu structure in multiple languages			■	■
Tough, impact, waterproof & dust resistant; <i>equivalent to IP54</i>			■	■
Bright colour screen; <i>with automatic or manual brightness adjustment</i>			■	■
Scratch and solvent resistant display; 2.4" (6cm) TFT			■	■
Large positive feedback buttons			■	■
USB power supply via PC			■	■
Gauge software updates <sup>1</sup> via ElcoMaster <sup>®</sup> Software			■	■
Data Output				
USB; <i>to PC</i>			■	■
Bluetooth <sup>®</sup> ; <i>to PC, Android™ &amp; iOS<sup>+</sup> devices</i>				■
ElcoMaster <sup>®</sup> PC software				■
2 year gauge warranty <sup>2</sup>			■	■
Limits; <i>40 definable audible &amp; visual pass/fail warnings</i>				■
Auto transducer recognition & 'V-path' correction			■	■
Reading Rate			4Hz	4, 8, 16Hz <sup>3</sup>
Measurement Mode	Range <sup>4</sup>	Accuracy <sup>5</sup>		
Pulsed Echo (PE)	0.63-500mm (0.025-20")	±0.1mm (0.63-19.99mm) ±0.5% (20.00-500.00mm)	±0.004" (0.025-0.787") ±0.5% (0.788-20.00")	■
Pulsed Echo (PE)	0.63-500mm (0.025-20")	±0.05mm (0.63-9.99mm) ±0.5% (10.00-500.00mm)	±0.004" (0.025-0.393") ±0.5% (0.394-20.00")	■
Echo Echo ThruPaint™ (EE)	2.54-20.00mm (0.100-0.787")	±0.05mm (2.54-9.99mm) ±0.5% (10.00-20.00mm)	±0.004" (0.100-0.393") ±0.5% (0.394-0.787")	■
Velocity Mode (VM)	1,250-10,000m/s (0.0492 - 0.3937in/μs)			■
Measurement Units;				
mm or inches			■	■
m/s, inch/μs				■
Repeatability / Stability Indicator			■	■
Display Modes				
Reading			■	■
Selected statistics, Scan thickness bar graph, Run Chart, Readings & Differential (from nominal)				■
Selectable Reading Resolution				
Lo; 0.1mm (0.01 inch), 10m/s (0.001 in/μs)			■	■
Hi; 0.01mm (0.001 inch), 1m/s (0.0001 in/μs)				■
Statistics				
Number of readings (n), Mean (average) ( $\bar{x}$ ), Standard deviation ( $\sigma$ ), Lowest reading (Lo), Highest reading (Hi), Coefficient of Variation (CV%)			■	■
Low / High limit value, Reading Range Value, Nominal Value, Number of readings below low limit, Number of readings above high limit				■
Calibration Options				
Zero (using the integrated zero disc)			■	■
1-Point & 2-Point				■
Material selection; 39 preset materials (see list on page 9-15)				■
Factory; resets to the factory calibration				■
Velocity (speed of sound)				■
Known Thickness Value				■



## Material Thickness Gauges

## Elcometer 204 & 304

Model	Elcometer 204	Elcometer 304
<b>Calibration Features</b>		
Calibration memories; 3 programmable memories with optional PIN calibration lock		■
Measurement outside calibration warning		■
<b>Data Logging</b>		
100,000 readings in 1,000 alphanumeric batches		■
Fixed Batch Size mode; with batch linking		■
Date & time stamp, Review, Clear & Delete batches		■
Batch review graph		■

### Dual Element Thickness Transducers



When selecting a transducer it is important to choose one which will meet the specific application's needs. The type of material to be tested, the measurement range, the shape of the substrate (curved or flat) and the size of the material should be considered when selecting the appropriate transducer. All part numbers starting with 'TXC' are Potted Right Angle transducers and are supplied with a calibration certificate.

Part Number	Description	Damping *	Hi Temp	ThruPaint™	Cast Iron	Plastics	Thin Plastics	Glass Fibre	Thin Glass Fibre	Steel	Glass	Aluminium	Titanium	Elcometer 304
TXC1M00EP-2	1.00 MHz ½" Diameter Transducer	S			■	■		■						■
TXC2M25CP-2	2.25 MHz ¼" Diameter Transducer	S			■	■			■					■
TXC2M25EP-2	2.25 MHz ½" Diameter Transducer	S			■	■			■					■
TXC3M50EP-1	3.50 MHz ½" Diameter Transducer	CT,HD			■	■	■		■					■
TXC5M00BP-4	5.00 MHz ⅜" Diameter Transducer	CT,HD			■		■			■	■			■
TXC5M00CP-4	5.00 MHz ¼" Diameter Transducer	S					■			■	■			■
TXC5M00CP-6	5.00 MHz ¼" Diameter Transducer	CT,HD			■		■			■	■			■
TXC5M00CP-8	5.00 MHz ¼" Diameter Transducer	HD	■	■			■			■	■			■
TXC5M00EP-3	5.00 MHz ½" Diameter Transducer	S					■			■	■			■
TXC5M00EP-4	5.00 MHz ½" Diameter Transducer	CT,HD			■		■			■	■			■
TXC7M50BP-3	7.50 MHz ⅜" Diameter Transducer	CT,HD			■		■			■	■	■		■
TXC7M50CP-4	7.50 MHz ¼" Diameter Transducer	S					■			■	■	■		■
TXC7M50CP-5	7.50 MHz ¼" Diameter Transducer	CT,HD			■		■			■	■	■		■
TXC10M0BP-1	10.0 MHz ⅜" Diameter Transducer	S								■		■	■	■
TXC10M0CP-4	10.0 MHz ¼" Diameter Transducer	S								■		■	■	■

### Transducer Adaptor



This adaptor allows dual element, 'non-intelligent' and other transducers with Lemo Connectors from Elcometer and other manufacturers to be used with the Elcometer 204 & 304. For a full list of transducers, please visit our website [www.elcometer.com](http://www.elcometer.com).

Part Number	Description
T92024911	Dual Element Transducer Adaptor

\* HD - Highly damped transducer CT - Damped coating thickness transducer S - Standard undamped transducer

<sup>1</sup> Internet connection required. \*Visit [www.elcometer.com/sdk](http://www.elcometer.com/sdk) to find out how to integrate Elcometer's MFi certified products to your App.

<sup>2</sup> Elcometer 204 & 304 gauges are supplied with a one year warranty against manufacturing defects. The warranty can be extended to two years via [www.elcometer.com](http://www.elcometer.com).

<sup>3</sup> User selectable, default setting in scan mode is 16Hz.

<sup>4</sup> Dependent on the material being measured and the transducer being used.

<sup>5</sup> On steel.

**Elcometer 307**

**Ultrasonic Precision Thickness Gauge**

new

The Elcometer 307 ultrasonic precision thickness gauge is designed to provide accurate measurements of thin materials.

Stores up to 100,000 readings in up to 1,000 sequential batches for further analysis & downloading to a PC or mobile device

Up to 3 programmable calibration memories, allows the user to select a saved calibration method without the need to recalibrate the gauge

Selectable reading rate of 4, 8, 16Hz (4, 8, 16 readings per second)

Scan mode at 16Hz, ideal for measuring a large surface area

The Elcometer 307 is supplied with or without a 15MHz ¼" Microdot Right Angle Single Element Thickness Transducer.

(Wide range of transducers available - see page 9-13)

Hi & Lo limit indicators provides indication of problem areas

2-Point, 1-Point, Material, Velocity, Thickness Set & Factory calibration options, allows accurate measurements of a wide range of materials

USB & Bluetooth® data output to ElcoMaster® PC or ElcoMaster® Mobile App for instant report generation

Intelligent transducer attached with auto recognition, ensures correct probe is identified when transducer is changed



<b>IE</b> Interface Echo	<b>EE</b> Echo Echo	<b>PLAS</b> Plastic
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**STANDARDS:**  
EN 14127, EN 15317

Made for  
 iPod iPhone iPad

**Android™**

available with  
**Bluetooth®**  
wireless technology

compatible with  
**ElcoMaster®**

Elcometer 307: Made for iPhone 6 Plus, iPhone 6, iPhone 5s, iPhone 5c, iPhone 5, iPhone 4s, iPhone 4, iPad Air 2, iPad mini 3, iPad Air, iPad mini 2, iPad (3rd and 4th generation), iPad mini, iPad 2, and iPod touch (4th and 5th generation). "Made for iPod," "Made for iPhone," and "Made for iPad" mean that an electronic accessory has been designed to connect specifically to iPod touch, iPhone, or iPad, respectively, and has been certified by the developer to meet Apple performance standards. Apple is not responsible for the operation of this device or its compliance with safety and regulatory standards. Please note that the use of this accessory with iPod touch, iPhone, or iPad may affect wireless performance.

# Ultrasonic Precision Thickness Gauge

## Elcometer 307

### Key Features Explained

- Measures thin materials with pinpoint accuracy**  
 Flexible & easy to use, the Elcometer 307 has a measurement range of 0.15mm (0.006") to 25.40mm (1.000") with  $\pm 1\%$  accuracy, across three measurement modes; Interface Echo (IE), Echo Echo (EE) & Plastic mode (PLAS).
- Choose & customise the reading display**  
 The Elcometer 307 has a choice of display modes allowing the user to select the most appropriate for their needs; Readings, Selected Statistics, Bar Graph, Run Chart & Differential Mode.
- User definable limits for pass/fail indication**  
 Limits can be set on the Elcometer 307 for individual readings or for each batch with audible & visual pass/fail warnings.
- Store each measurement for further analysis**  
 Up to 100,000 readings can be saved into the gauge memory as each measurement is taken, which can be downloaded later into an inspection application or into ElcoMaster<sup>®</sup> for further analysis and reporting.
- Data output to PC, Android™ or iOS† mobile device**  
 Connect the Elcometer 307 via Bluetooth<sup>®</sup> or USB to a PC, Android™ or iOS† mobile device & download the data into an inspection application or into ElcoMaster<sup>®</sup> for instant report generation.



Ideal for measuring the material thickness of thinner materials such as plastics.



Ideal for measuring the material thickness of thinner sheets of uncoated metal and other thin, metal substrates.

### Technical Specification

C

Part Number	Description	Certificate
C307CDL	Elcometer 307 Ultrasonic Precision Thickness Gauge	•
C307CDL-TXC	Elcometer 307 Ultrasonic Precision Thickness Gauge with 15MHz ¼" Microdot Right Angle Single Element Transducer	•
Transducer Probe Type	Single Element	
Measurement Mode	Range <sup>1</sup> Accuracy <sup>2</sup>	
Interface Echo (IE)	1.65 - 25.40mm (0.065 - 1.00") $\pm 0.015\text{mm}$ (1.65-2.99mm) $\pm 0.5\%$ (3.00-25.4mm)	$\pm 0.0006"$ (0.065-0.117") $\pm 0.5\%$ (0.118-1.000")
Echo Echo (EE)	0.15 - 10.15mm (0.006 - 0.400") $\pm 0.015\text{mm}$ (0.15-2.99mm) $\pm 0.5\%$ (3.00-10.15mm)	$\pm 0.0006"$ (0.006-0.117") $\pm 0.5\%$ (0.118-0.400")
Plastic Mode (PLAS)	0.15 - 5.00mm (0.006 - 0.197") $\pm 0.015\text{mm}$ (0.15-2.99mm) $\pm 0.5\%$ (3.00-5.00mm)	$\pm 0.0006"$ (0.006-0.117") $\pm 0.5\%$ (0.118-0.197")
Resolution	0.1mm (0.01") or 0.01mm (0.001") switchable	
Reading Rate	4, 8 & 16Hz (4, 8 & 16 readings per second)	
Operating Temperature	-10 to 50°C (14 to 122°F)	
Data Output	USB & Bluetooth <sup>®</sup>	
Power Supply	2 x AA batteries Battery Life <sup>3</sup> Alkaline: 15 hours Lithium: 28 hours	
Gauge Weight	210g (7.4oz) - including batteries, without transducer	
Gauge Dimensions	145 x 73 x 37mm (5.7 x 2.87 x 1.46"), without transducer	
Packing List	Elcometer 307 Ultrasonic Precision Thickness Gauge, 15MHz transducer (C307CDL-TXC only) ultrasonic couplant, carry pouch, 3 x screen protectors, wrist harness, 2 x AA batteries, user guide, plastic transit case, calibration certificate, 2 year warranty extension card, ElcoMaster <sup>®</sup> software CD & USB cable.	

<sup>1</sup> Dependent on material being measured & transducer being used.

<sup>2</sup> On steel.

<sup>3</sup> Approximate battery life, when in continuous reading mode at a reading rate of 4Hz. Rechargeable batteries may differ.

• Calibration Certificate supplied as standard.

† Compatible with iPod, iPhone and iPad.



## Product Features

Model			Elcometer 307	
Precision Thickness Gauge			C307CDL	
Precision Thickness Gauge with 15MHz ¼" Single Element Transducer			C307CDL-TXC	
Easy to use menu structure in multiple languages			■	
Tough, impact, waterproof & dust resistant; <i>equivalent to IP54</i>			■	
Bright colour screen; <i>with automatic or manual brightness adjustment</i>			■	
Scratch and solvent resistant display; 2.4" (6cm) TFT			■	
Large positive feedback buttons			■	
USB power supply via PC			■	
Gauge software updates <sup>1</sup> via ElcoMaster® Software			■	
Data Output				
USB; <i>to PC</i>			■	
Bluetooth®; <i>to PC, Android™ &amp; iOS+ devices</i>			■	
ElcoMaster® PC software			■	
2 year gauge warranty <sup>2</sup>			■	
Limits; <i>40 definable audible &amp; visual pass/fail warnings</i>			■	
Auto transducer recognition			■	
Measurement Rate			4, 8, 16Hz <sup>3</sup>	
Measurement Mode	Range <sup>4</sup>	Accuracy <sup>5</sup>		
Interface Echo (IE)	1.65-25.40mm (0.065-1.000")	±0.015mm (1.65-2.99mm) ±0.5%(3.00-25.40mm)	±0.0006" (0.065-0.117") ±0.5% (0.118-1.000")	■
Echo Echo (EE)	0.15 - 10.15mm (0.006 - 0.400")	±0.015mm (0.15-2.99mm) ±0.5% (3.00-10.15mm)	±0.0006" (0.006-0.117") ±0.5% (0.118-0.400")	■
Plastic Mode (PLAS)	0.15 - 5.00mm (0.006 - 0.197")	±0.015mm (0.15-2.99mm) ±0.5% (3.00-5.00mm)	±0.0006" (0.006-0.117") ±0.5% (0.118-0.197")	■
Measurement Units;				
mm or inches			■	
m/s, inch/µs			■	
Repeatability / Stability Indicator			■	
Display Modes			■	
Reading			■	
Selected statistics, Scan thickness bar graph, Run Chart, Readings & Differential (from nominal)			■	
Selectable Reading Resolution				
Lo; <i>0.1mm (0.01 inch), 10m/s (0.001 in/µs)</i>			■	
Hi; <i>0.01mm (0.001 inch), 1m/s (0.0001 in/µs)</i>			■	
Statistics				
Number of readings (n), Mean (average) ( $\bar{x}$ ), Standard deviation ( $\sigma$ ), Lowest reading (Lo), Highest reading (Hi), Coefficient of Variation (CV%)			■	
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; <i>39 preset materials (see list on page 9-15)</i>			■	
Factory; <i>resets to the factory calibration</i>			■	
Velocity (speed of sound)			■	
Known Thickness Value			■	

# Precision Thickness Gauge

Elcometer 307

Model	Elcometer 307
<b>Calibration Features</b>	
Calibration memories; 3 programmable memories with optional PIN calibration lock	■
Measurement outside calibration warning	■
<b>Data Logging</b>	
100,000 readings in 1,000 alphanumeric batches	■
Fixed batch size mode; with batch linking	■
Date & time stamp, Review, Clear & Delete batches	■
Batch review graph	■

## Single Element Transducers



When selecting a transducer it is important to choose one which will meet the specific application's needs. The type of material to be tested, the measurement range, the shape of the substrate (curved or flat) and the size of the material should be considered when selecting the appropriate transducer. All part numbers starting with 'TXC' are Microdot Right Angle transducers and are supplied with a calibration certificate.

Suitable for measuring

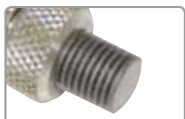
Part Number	Description	Damping*	Thin Plastics	Steel	Aluminium	Titanium
TXC15M0CM	15.0 MHz 1/4" Diameter Transducer	S	■	■	■	■
TXC20M0CM	20.0 MHz 1/4" Diameter Transducer	S	■	■	■	■

## Delay Lines



Acrylic Delay Line

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. These are available to purchase as optional accessories.



Graphite Delay Line

Part Number	Description	Diameter	Length
T92016528	Acrylic Delay Line	1/4"	9mm
T92016529	Acrylic Delay Line	1/4"	12mm
T92023853-4	Graphite Delay Line	1/4"	3/8"

## Transducer Adaptor



This adaptor allows single element, 'non-intelligent' and other transducers with Lemo Connectors from Elcometer and other manufacturers to be used with the Elcometer 307 product range. For a full list of transducers, please visit our website [www.elcometer.com](http://www.elcometer.com).

Part Number	Description
T92025657	Single Element Transducer Adaptor

\* S - Standard undamped transducer

<sup>1</sup> Internet connection required.

<sup>\*</sup> Visit [www.elcometer.com/sdk](http://www.elcometer.com/sdk) to find out how to integrate Elcometer's MFi certified products to your App.

<sup>2</sup> Elcometer 307 gauges are supplied with a one year warranty against manufacturing defects. The warranty can be extended to two years via [www.elcometer.com](http://www.elcometer.com).

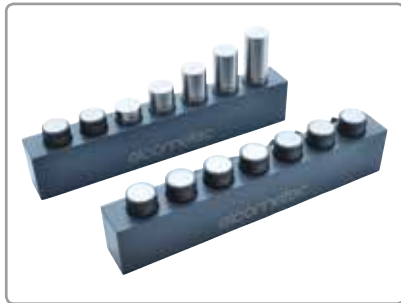
<sup>3</sup> User selectable default setting in scan mode is 16Hz.

<sup>4</sup> Dependent on the material being measured and the transducer being used.

<sup>5</sup> On steel.

## Elcometer 204, 304 & 307 Accessories

### Calibration Standards



Calibration standards 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  $\pm 0.1\%$  of the nominal thickness and are supplied complete with calibration certificates.

Part Number	Description
<b>T920CALSTD-SET1</b>	Calibration standard set; Nominal Thickness 2-30mm (0.08-1.18") <sup>1,2</sup> Comprising of; 2, 5, 10, 15, 20, 25 & 30mm (0.08, 0.20, 0.39, 0.59, 0.79, 0.98 & 1.18"), complete with holder & calibration certificate.
<b>T920CALSTD-SET2</b>	Calibration standard set; Nominal Thickness 40-100mm (1.57-3.94") <sup>1,2</sup> Comprising of; 40, 50, 60, 70, 80, 90 & 100mm (1.57, 1.97, 2.36, 2.76, 3.15, 3.54 & 3.94"), complete with holder & calibration certificate.
<b>T920CALSTD-HLD</b>	Calibration Holder; for thicknesses up to 100mm (3.94").
<b>T920CALSTD-2</b>	Individual Calibration Standard, Nominal Thickness 2mm (0.078") <sup>1</sup>
<b>T920CALSTD-5</b>	Individual Calibration Standard, Nominal Thickness 5mm (0.196") <sup>1</sup>
<b>T920CALSTD-10</b>	Individual Calibration Standard, Nominal Thickness 10mm (0.393") <sup>1</sup>
<b>T920CALSTD-15</b>	Individual Calibration Standard, Nominal Thickness 15mm (0.590") <sup>1</sup>
<b>T920CALSTD-20</b>	Individual Calibration Standard, Nominal Thickness 20mm (0.787") <sup>1</sup>
<b>T920CALSTD-25</b>	Individual Calibration Standard, Nominal Thickness 25mm (0.984") <sup>1</sup>
<b>T920CALSTD-30</b>	Individual Calibration Standard, Nominal Thickness 30mm (1.181") <sup>1</sup>
<b>T920CALSTD-40</b>	Individual Calibration Standard, Nominal Thickness 40mm (1.574") <sup>1</sup>
<b>T920CALSTD-50</b>	Individual Calibration Standard, Nominal Thickness 50mm (1.966") <sup>1</sup>
<b>T920CALSTD-60</b>	Individual Calibration Standard, Nominal Thickness 60mm (2.362") <sup>1</sup>
<b>T920CALSTD-70</b>	Individual Calibration Standard, Nominal Thickness 70mm (2.755") <sup>1</sup>
<b>T920CALSTD-80</b>	Individual Calibration Standard, Nominal Thickness 80mm (3.149") <sup>1</sup>
<b>T920CALSTD-90</b>	Individual Calibration Standard, Nominal Thickness 90mm (3.543") <sup>1</sup>
<b>T920CALSTD-100</b>	Individual Calibration Standard, Nominal Thickness 100mm (3.937") <sup>1</sup>

### Ultrasonic Couplant

Elcometer supplies a viscous gel to work on both horizontal and vertical surfaces. The temperature range for regular couplant is -15 to 104°C (5 to 220°F). The Elcometer high temperature gel has a range of up to 398°C (750°F) for use with high temperature transducers.



Part Number	Description	Part Number	Description
<b>T92015701</b>	Ultrasonic Couplant; 120ml (4fl oz)	<b>T92015701-5</b>	Ultrasonic Couplant; 120ml (4fl oz), Pack of 5 Bottles
<b>T92024034-7</b>	Ultrasonic Couplant; 300ml (10fl oz)	<b>T92024034-8</b>	Ultrasonic Couplant; 500ml (17fl oz)
<b>T92024034-3</b>	Ultrasonic Couplant; 3.8 litres (1 US Gallon)	<b>T92024034-9</b>	High Temperature Couplant*; 60ml (2fl oz)
<b>T92024034-10</b>	High Temperature Couplant*; 60ml (2fl oz), Pack of 2		

<sup>1</sup> Imperial values for information purposes only. Calibration standards are manufactured and measured in millimetres.

<sup>2</sup> Elcometer 307 nominal thickness is only 2 - 25mm.

\*For use with high temperature transducers up to 398°C (750°F)



## Material & Precision Thickness Gauges

## Elcometer 304 & 307

Velocity Chart for the preset choice of 39 materials in the Elcometer 304 & 307

Elcometer Material Number	Material Description (Chemical Symbol/ Grouping)	Material Name	Sound Velocity (m/sec)	Sound Velocity (in/μsec)	Source of Value <small>NPL = National Physics Laboratory ASNT = The American Society for Non destructive Testing Industry = Industry knowledge</small>
1	Fe	Iron (soft)	5960	0.235	NPL
2	Fe	Iron Cast	4990	0.196	NPL
3	Al	Aluminium (7075-T6)	6350	0.250	ASNT
4	Ti	Titanium	6100	0.240	ASNT
5	Mg	Magnesium	5790	0.228	ASNT
6	Ni	Nickel	5630	0.222	ASNT
7	W	Tungsten	5180	0.204	ASNT
8	Cu	Copper	4660	0.183	ASNT
9	Zn	Zinc	4190	0.165	NPL
10	Ag	Silver	3600	0.142	Industry
11	Sn	Tin	3380	0.133	NPL
12	Pt	Platinum	3260	0.128	NPL
13	Au	Gold	3240	0.128	NPL
14	Cd	Cadmium	2780	0.109	NPL
15	Bi	Bismuth	2180	0.086	Industry
16	Pb	Lead	2160	0.085	ASNT
17	Cobalt-chromium Alloy	Stellite	6990	0.275	Industry
18	Iron Alloy	Steel (Carbon 1018)	5920	0.233	Industry
19	Iron Alloy	Steel (Alloy 4340)	5850	0.230	Industry
20	Nickle-chromium Alloy	Inconel (625)	5820	0.229	Industry
21	Silver Alloy	Stainless Steel, (Austentic 304)	5660	0.233	ASNT
22	Copper Alloy	Constantan	5180	0.204	NPL
23	Non-metal	German Silver	4760	0.187	Industry
24	Non-metal	Brass (Naval)	4430	0.174	ASNT
25	Non-metal	Glass (Quartz)	5930	0.233	ASNT
26	Non-metal	Glass (Crown)	5660	0.223	NPL
27	Non-metal	Glass (Flint)	5260	0.207	NPL
28	Non-metal	Porcelain	5840	0.230	Industry
29	Non-metal	Plexiglas	2760	0.109	Industry
30	Non-metal	Glass Fibre	2740	0.108	Industry
31	Non-metal	Nylon	2680	0.106	NPL
32	Non-metal	Epoxy Resin	2540	0.100	Industry
33	Non-metal	Polystyrene	2350	0.093	NPL
34	Non-metal	PVC	2330	0.092	NPL
35	Non-metal	Rubber (Butyl)	1830	0.072	Industry
36	Non-metal	Rubber (Natural)	1600	0.063	NPL
37	Non-metal	Polyurethane	1780	0.070	Industry
38	Non-metal	Teflon	1400	0.055	NPL
39	Non-metal	Water	1490	0.059	ASNT



**elcometer**<sup>®</sup>  
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Elcometer 304 & 307: Made for iPhone 6 Plus, iPhone 6, iPhone 5s, iPhone 5c, iPhone 5, iPhone 4s, iPhone 4, iPad Air 2, iPad mini 3, iPad Air, iPad mini 2, iPad (3rd and 4th generation), iPad mini, iPad 2, and iPod touch (4th and 5th generation). "Made for iPod," "Made for iPhone," and "Made for iPad" mean that an electronic accessory has been designed to connect specifically to iPod, iPhone, or iPad, respectively, and has been certified by the developer to meet Apple performance standards. Apple is not responsible for the operation of this device or its compliance with safety and regulatory standards. Please note that the use of this accessory with iPod, iPhone, or iPad may affect wireless performance.

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