

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 new range of 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)

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

2 YEAR**
WARRANTY



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.

Elcometer 204

Steel Ultrasonic Material Thickness Gauge

Pre-calibrated for ease of use, the new 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-calibrated for measuring steel only

Supplied with everything required for use

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

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®

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

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

compatible with
ElcoMaster®

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elcometer®

Steel Ultrasonic Material Thickness Gauge

Elcometer 204

Key Features Explained

- Displays key statistics**

In addition to the material thickness measurement, the new 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 (σ) and the coefficient of variation (CV%).

- Zero Point calibration for accuracy**

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

- Live data output to PC**

As each measurement is taken, the new 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 |
|--|---|-------------|
| C204C-TXC | Elcometer 204 Steel Ultrasonic Material Thickness Gauge with 5MHz ¼" Right Angle Dual Element Transducer | • |
| Transducer Probe type | Dual Element | |
| Measurement & Thickness range ¹ | Pulsed Echo (PE): 0.63 - 500mm (0.025 - 20") | |
| Measurement Accuracy | ±1% or 0.1mm - whichever is the greater | |
| Resolution | 0.1mm (0.01") | |
| Measurement 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 ² | Alkaline: Approx. 15 hours Lithium: Approx. 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. | |

For a complete range of accessories see pages 9 & 14



¹ Dependent on material being measured & transducer being used ² 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

The new 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 measurement 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)

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

| | | |
|-------------------|-------------------------------|---------------------|
| PE Pulsed Echo | EE Echo Echo ThruPaint™ | VM Velocity Mode |
|-------------------|-------------------------------|---------------------|

STANDARDS:
ASTM E 797, EN 14127, EN 15317



Ultrasonic Material Thickness Gauge

Elcometer 304

Key Features Explained

- Measures uncoated & coated surfaces**
 The new flexible, easy to use 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 new 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 new 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 new 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 |
|--|--|-------------|
| C304CDL | Elcometer 304 Ultrasonic Material Thickness Gauge | • |
| Transducer Probe type | Dual Element | |
| Measurement & Thickness range ¹ | Pulsed Echo (PE): 0.63 - 500mm (0.025 - 20") Echo Echo ThruPaint™ (EE): 2.54 - 25.40mm (0.100-1") | |
| Measurement & Velocity Range | Velocity Mode (VM): 1,250-10,000 m/s (0.0492 - 0.3937in/μs) | |
| Measurement Accuracy | ±1% or 0.05mm (0.002") - whichever is the greater | |
| Resolution | 0.1mm (0.01") or 0.01mm (0.001") switchable | |
| Measurement 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 ² | Alkaline: Approx. 15 hours Lithium: Approx. 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. | |

For a complete range of transducers & accessories see pages 13 & 14



¹ Dependent on material being measured & transducer being used ² When in continuous reading mode at a reading rate of 4Hz. Rechargeable batteries may differ.

• Calibration Certificate supplied as standard.

Product Features

| | Elcometer 204 | Elcometer 304 |
|--|---------------------------|----------------------------|
| Model Number | | |
| Material Thickness Gauge | - | C304CDL |
| Material Thickness Gauge with 5MHz ¼" Dual Element Transducer | C204C-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 ¹ via ElcoMaster® Software | ■ | ■ |
| Data Output | | |
| USB; <i>to PC</i> | ■ | ■ |
| Bluetooth®; <i>to PC, Android™ & iOS+ devices</i> | | ■ |
| ElcoMaster® PC software | | ■ |
| 2 year gauge warranty ² | ■ | ■ |
| Limits; <i>40 definable audible & visual pass/fail warnings</i> | | ■ |
| Auto transducer recognition & 'V-path' correction | ■ | ■ |
| Measurement Modes | | |
| Pulsed Echo (PE) | ■ | ■ |
| Echo Echo ThruPaint™ (EE), Velocity Mode (VM) | | ■ |
| Measurement Rate | 4Hz | 4, 8, 16Hz ³ |
| Thickness Range; ⁴ | | |
| Pulsed Echo (PE); 0.63 - 500mm (0.025-20") | ■ | ■ |
| Echo Echo ThruPaint™ (EE); 2.54 - 25.40mm (0.100-1") | | ■ |
| Velocity Range; <i>1,250-10,000m/s (0.0492 - 0.3937in/μs)</i> | | ■ |
| Measurement Accuracy (whichever is the greater) | ±1% or ±0.1mm (0.004") | ±1% or ±0.05mm (0.002") |
| 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 | | ■ |
| 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 (<i>n</i>), Mean (average) (\bar{x}), Standard deviation (σ), Lowest reading (<i>Lo</i>), Highest reading (<i>Hi</i>), Coefficient of Variation (<i>CV%</i>) | ■ | ■ |
| 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; <i>39 preset materials (see list on page 15)</i> | | ■ |
| Factory; <i>resets to the factory calibration</i> | | ■ |
| Velocity (speed of sound) | | ■ |
| Known Thickness Value | | ■ |

Material Thickness Gauges

Elcometer 204 & 304

| Model Number | Elcometer 204 | Elcometer 304 |
|--|---------------|---------------|
| Calibration Features | | |
| Calibration memories; 3 programmable memories with optional PIN calibration lock | | ■ |
| Measurement outside calibration warning | | ■ |
| Data Logging | | |
| 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 'TX' 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 ¾" 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 ¾" 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 ¾" 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.

| Part Number | Description |
|-------------|---------------------------------|
| T92024911 | Dual Element Transducer Adaptor |

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

¹ Internet connection required. [‡] Visit www.elcometer.com/sdk to find out how to integrate Elcometer's MFi certified products to your App.

² 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.

³ User selectable, default setting in scan mode is 16Hz.

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

Elcometer 307

Ultrasonic Precision Thickness Gauge

The new 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 measurement 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 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

| | | |
|-----------------------------|------------------------|------------------------|
| IE Interface Echo | EE Echo Echo | PLAS Plastic |
|-----------------------------|------------------------|------------------------|

STANDARDS:
EN 14127, EN 15317



Ultrasonic Precision Thickness Gauge

Elcometer 307

Key Features Explained

- Measures thin materials with pinpoint accuracy**

The new flexible, easy to use 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 new 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 new 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[®] for further analysis and reporting.

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

Connect the new Elcometer 307 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 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 & Thickness range ¹ | Interface Echo (IE): 1.65 - 25.40mm (0.065 - 1") Echo Echo (EE): 0.15 - 10.15mm (0.006 - 0.4") Plastic Mode (PLAS): 0.15 - 5.00mm (0.006 - 0.197") | |
| Measurement Accuracy | $\pm 1\%$ or 0.015mm (0.001") - whichever is the greater | |
| Resolution | 0.1mm (0.01") or 0.01mm (0.001") switchable | |
| Measurement 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 ² Alkaline: Approx. 15 hours Lithium: Approx. 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, 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 [®] software CD & USB cable. | |

For a complete range of transducers & accessories see pages 13 & 14



¹ Dependent on material being measured & transducer being used ² When in continuous reading mode at a reading rate of 4 Hz. Rechargeable batteries may differ.

• Calibration Certificate supplied as standard.

Product Features

| | Elcometer 307 |
|--|-----------------------------|
| Model Number | C307CDL |
| 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 ¹ via ElcoMaster® Software | ■ |
| Data Output | |
| USB; <i>to PC</i> | ■ |
| Bluetooth®; <i>to PC, Android™ & iOS* devices</i> | ■ |
| ElcoMaster® PC software | ■ |
| 2 year gauge warranty ² | ■ |
| Limits; <i>40 definable audible & visual pass/fail warnings</i> | ■ |
| Auto transducer recognition | ■ |
| Measurement Modes | |
| Interface Echo (IE), Echo-Echo (EE), Plastic Mode (PLAS) | ■ |
| Measurement Rate | 4, 8, 16Hz ³ |
| Thickness Range; ⁴ | |
| Interface Echo (IE); 1.65 - 25.40mm (0.065 - 1") | ■ |
| Echo-Echo (EE); 0.15 - 10.15mm (0.006 - 0.4") | ■ |
| Plastic Mode (PLAS); 0.15 - 5.00mm (0.006 - 0.197") | ■ |
| Measurement Accuracy (whichever is the greater) | ±1% or ±0.015mm (0.001") |
| 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 | ■ |
| 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) (x̄), Standard deviation (σ), 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; 39 preset materials (see list on page 15) | ■ |
| Factory; resets to the factory calibration | ■ |
| Velocity (speed of sound) | ■ |
| Known Thickness Value | ■ |

Precision Thickness Gauge

Elcometer 307

| | |
|--|---------------|
| Model Number | Elcometer 307 |
| Calibration Features | |
| Calibration memories; 3 programmable memories with optional PIN calibration lock | ■ |
| Measurement outside calibration warning | ■ |
| Data Logging | |
| 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 'TX' are Microdot Right Angle transducers and are supplied with a calibration certificate.

Suitable for measuring

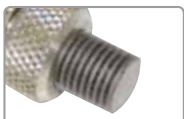
| Part Number | Description | Damping* | Thin Plastics | Steel | Aluminium | Titanium |
|------------------|-----------------------------------|----------|---------------|-------|-----------|----------|
| TXC15M0CM | 15.0 MHz 1/4" Diameter Transducer | S | ■ | ■ | ■ | ■ |
| TXC20M0CM | 20.0 MHz 1/4"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

| Part Number | Description |
|------------------|-----------------------------------|
| T92025657 | Single Element Transducer Adaptor |

* S - Standard undamped transducer

¹ Internet connection required.

⁴ Visit www.elcometer.com/sdk to find out how to integrate Elcometer's MFi certified products to your App.

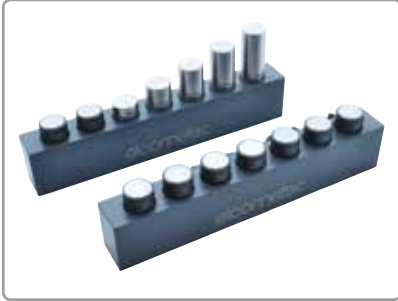
² Elcometer 307 gauges are supplied with a one year warranty against manufacturing defects. The warranty can be extended to two years via www.elcometer.com.

³ User selectable default setting in scan mode is 16Hz.

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

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 |
|------------------------|---|
| T920CALSTD-SET1 | Calibration standard set; Nominal Thickness 2-30mm (0.08-1.18") ^{1,2} 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. |
| T920CALSTD-SET2 | Calibration standard set; Nominal Thickness 40-100mm (1.57-3.94") ^{1,2} 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. |
| T920CALSTD-HLD | Calibration Holder; for thicknesses up to 100mm (3.94"). |
| T920CALSTD-2 | Individual Calibration Standard, Nominal Thickness 2mm (0.078") ¹ |
| T920CALSTD-5 | Individual Calibration Standard, Nominal Thickness 5mm (0.196") ¹ |
| T920CALSTD-10 | Individual Calibration Standard, Nominal Thickness 10mm (0.393") ¹ |
| T920CALSTD-15 | Individual Calibration Standard, Nominal Thickness 15mm (0.590") ¹ |
| T920CALSTD-20 | Individual Calibration Standard, Nominal Thickness 20mm (0.787") ¹ |
| T920CALSTD-25 | Individual Calibration Standard, Nominal Thickness 25mm (0.984") ¹ |
| T920CALSTD-30 | Individual Calibration Standard, Nominal Thickness 30mm (1.181") ¹ |
| T920CALSTD-40 | Individual Calibration Standard, Nominal Thickness 40mm (1.574") ¹ |
| T920CALSTD-50 | Individual Calibration Standard, Nominal Thickness 50mm (1.966") ¹ |
| T920CALSTD-60 | Individual Calibration Standard, Nominal Thickness 60mm (2.362") ¹ |
| T920CALSTD-70 | Individual Calibration Standard, Nominal Thickness 70mm (2.755") ¹ |
| T920CALSTD-80 | Individual Calibration Standard, Nominal Thickness 80mm (3.149") ¹ |
| T920CALSTD-90 | Individual Calibration Standard, Nominal Thickness 90mm (3.543") ¹ |
| T920CALSTD-100 | Individual Calibration Standard, Nominal Thickness 100mm (3.937") ¹ |

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 (5 to 220°F). The Elcometer high temperature gel has a range of up to 510°C (950°F) for use with high temperature transducers.



| Part Number | Description | Part Number | Description |
|--------------------|--|--------------------|--|
| T92015701 | Ultrasonic Couplant; 120ml (4fl oz) | T92024034-8 | Ultrasonic Couplant; 500ml (17fl oz) |
| T92024034-7 | Ultrasonic Couplant; 300ml (10fl oz) | T92024034-3 | Ultrasonic Couplant; 3.8 litres (1 US Gallon) |
| T92024034-9 | High Temperature Couplant; 60ml (2fl oz) <i>For use with high temperature transducers up to 510°C (950°F)</i> | | |

¹ Imperial values for information purposes only. Calibration standards are manufactured and measured in millimeters.

² Elcometer 307 nominal thickness is only 2 - 25mm.

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 |



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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 Air, 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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