

Multigauge 5500

The Multigauge 5500 has been designed for hands free use when climbing on staging, ladders, scaffolding or when accessing by rope. Whether it's onboard a ship, on large storage tanks, climbing on top of a road tanker or inspecting underneath a bridge, the 5500 will make the job much easier. The moulded soft rubber surround feels comfortable, looks good and provides extra protection against knocks and scrapes. All probes have Intelligent Probe Recognition (IPR), which automatically adjusts settings in the gauge at the same time as transmitting recognition data - the result is a perfectly matched probe and gauge for enhanced performance. Additionally, the Automatic Measurement Verification System (AMVS) ensures only true measurements are displayed, even on the most heavily corroded metals.

Features

- Ignores coatings up to 6 mm thick using Multiple Echo.
 Coating Plus+ ignores coatings up to 20 mm.
- Automatic Measurement Verification System (AMVS).
- Mounts onto waist belt or chest harness for hands free use.
- No zeroing required.
- Single crystal soft faced probe protected by a membrane.
- Easy calibration with menu driven buttons.
- Intelligent Probe Recognition (IPR).
- Echo strength indicator.
- 3 year warranty.
- Free calibration for the life of the gauge.

simple . accurate . robust







Typical Applications

- Shipping Bridges Pilings Storage Tanks Industry Quality Control Leisure Craft
- Pipelines Road Tankers Offshore Platforms Lighting Columns Phone Masts Lock Gates Barges

About Multiple Echo

All Ultrasonic Thickness Gauges should be calibrated to the velocity of sound of the material being measured. Coatings have a different velocity of sound than metal and it is important they are not included in the measurement. Multiple Echo ensures all coatings, up to 6mm thick, are completely eliminated from the measurement.



How it works:

A transmitted ultrasound pulse travels though both the coating and the metal and reflects from the back wall. The returned echo then reverberates within the metal, with only a small portion of the echo travelling back through the coating each time. The timing between the small echoes gives us the timing of the echoes within the metal, which relate to the metal thickness. The returned echoes need not be consecutive as the gauge will interpret them automatically and calculate the thickness. A minimum of three echoes are checked each time.

This is referred to as the Automatic Measurement Verification System (AMVS).

Specification

Sound Velocity Range	From 1000 m/s to 80	From 1000 m/s to 8000 m/s (0.0394 in/µs to 0.3150 in/µs)			
Single Crystal Soft Faced Probe Options	2.25 MHz	3.5 MHz	5 MHz		
Probe Measurement Range	3 - 250 mm (0.120" to 10")	2 - 150 mm (0.080" to 6")	1 - 50 mm (0.040" to 2")		
Probe Sizes	13 mm (0.5") & 19 mm (0.75")	13 mm (0.5")	6 mm (0.25") & 13 mm (0.5")		
Resolution	0.1 mm (0.005") or 0.	0.1 mm (0.005") or 0.05 mm (0.002")			
Accuracy	± 0.1 mm (0.005") or	± 0.1 mm (0.005") or ± 0.05 mm (0.002")			
Coatings Range	Up to 6mm (Standard	Up to 6mm (Standard Mode)*; up to 20mm (Coating Plus+)*			
Display	Red 4 character 7 se	gment LED			
Batteries	3 x disposable AA all	aline batteries or recha	argeable NiMH / NiCD		
Battery Life	Up to 50 hours contin	nuous use using alkalin	e batteries		
Gauge Dimensions	147 mm x 90 mm x	147 mm x 90 mm x 28 mm (5.75" X 3.5" X 1")			
Gauge Weight	320 g (11.3 ounces) i	320 g (11.3 ounces) including batteries			
Environmental	Case rated to IP65. F	Case rated to IP65. RoHS and WEEE compliant			
Operating Temperature	-10°C to +50°C (14°F	-10°C to +50°C (14°F to 122°F)			
Storage Temperature	-10°C to +60°C (14°F	to 140°F)			





Kit Contents:

Multigauge 5500 gauge, probe, probe lead, spare membranes, membrane oil, belt clip, ultrasonic gel, 15mm test block, membrane key, batteries, manual, calibration certificate, carry case. Optional leather case.

3 YEAR WARRANTY



[•] Figures relate to most coaling type: The Tritex Multigauge 5500 has been manufactured to comply with British Standard BS EN 15317:2007, which covers the characterisation and verification of ultrasonic thickness measuring equipment.

Contact

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Tritex sales 02 - Issue 4 - October 2013



Multigauge 5600

The Multigauge 5600 is a simple, robust ultrasonic thickness gauge designed for most common thickness gauging applications. The easy to use keypad allows operator interface whilst the bright LCD display can be used in all light conditions. The moulded soft rubber surround feels comfortable, looks good and provides extra protection against knocks and scrapes. All probes have Intelligent Probe Recognition (IPR), which automatically adjusts settings in the gauge at the same time as transmitting recognition data - the result is a perfectly matched probe and gauge for enhanced performance. Additionally, the Automatic Measurement Verification System (AMVS) ensures only true measurements are displayed, even on the most heavily corroded metals.







Features

- Ignores coatings up to 6 mm thick using Multiple
 Echo. Coating Plus+ ignores coatings up to 20 mm.
- Automatic Measurement Verification System (AMVS).
- Large colour LCD display giving user information.
- No zeroing required.
- Single crystal soft faced probe protected by a membrane.
- Easy calibration with menu driven buttons.
- Intelligent Probe Recognition (IPR).
- Echo strength indicator.
- 3 year warranty.
- Free calibration for the life of the gauge.

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 IPROBE
 Measuring
 Battery

 21/4
 MHz
 Image: Constraint of the second second

Easy Menu System

Typical Applications

- Shipping Bridges Pilings Storage Tanks Industry Quality Control Leisure Craft
- Pipelines Road Tankers Offshore Platforms Lighting Columns Phone Masts Lock Gates Barges

About Multiple Echo

All Ultrasonic Thickness Gauges should be calibrated to the velocity of sound of the material being measured. Coatings have a different velocity of sound than metal and it is important they are not included in the measurement. Multiple Echo ensures all coatings, up to 6mm thick, are completely eliminated from the measurement.



How it works:

A transmitted ultrasound pulse travels though both the coating and the metal and reflects from the back wall. The returned echo then reverberates within the metal, with only a small portion of the echo travelling back through the coating each time. The timing between the small echoes gives us the timing of the echoes within the metal, which relate to the metal thickness. The returned echoes need not be consecutive as the gauge will interpret them automatically and calculate the thickness. A minimum of three echoes are checked each time. This is referred to as the **Automatic Measurement Verification System (AMVS)**.

Specification

Sound Velocity Range	From 1000 m/s to 80	00 m/s (0.0394 in/µs to	0.3150 in/µs)		
Single Crystal Soft Faced Probe Options	2.25 MHz	3.5 MHz	5 MHz		
Probe Measurement Range	3 - 250 mm (0.120" to 10")	2 - 150 mm (0.080" to 6")	1 - 50 mm (0.040" to 2")		
Probe Sizes	13 mm (0.5") & 19 mm (0.75")	13 mm (0.5")	6 mm (0.25") & 13 mm (0.5")		
Resolution	0.1 mm (0.005") or 0.	0.1 mm (0.005") or 0.05 mm (0.002")			
Accuracy	± 0.1 mm (0.005") or	± 0.1 mm (0.005") or ± 0.05 mm (0.002")			
Display	Colour LCD	Colour LCD			
Coatings Range	Up to 6mm (Standard	Mode)*; up to 20mm ((Coating Plus+)*		
Batteries	3 x disposable AA all	aline batteries or recha	argeable NiMH / NiCD		
Battery Life	Up to 50 hours contin	nuous use using alkalin	e batteries		
Gauge Dimensions	147 mm x 90 mm x	147 mm x 90 mm x 28 mm (5.75" X 3.5" X 1")			
Gauge Weight	325 g (11.5 ounces) i	325 g (11.5 ounces) including batteries			
Environmental	Case rated to IP65. F	Case rated to IP65. RoHS and WEEE compliant			
Operating Temperature	-10°C to +50°C (14°F	-10°C to +50°C (14°F to 122°F)			
Storage Temperature	-10°C to +60°C (14°F	to 140°F)			





Kit Contents:

Multigauge 5600 gauge, probe, probe lead, spare membranes, membrane oil, ultrasonic gel, 15mm test block, membrane key, batteries, manual, calibration certificate, carry case.

Optional leather case.

3 YEAR WARRANTY



The Tritex Multigauge 5600 has been manufactured to comply with British Standard BS EN 15317:2007, which covers the characterisation and verification of ultrasonic thickness measuring equipment.

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Multigauge 5300 / 5350 GRP

The Multigauge 5300 is a simple, robust ultrasonic thickness gauge designed to check the condition of Glass Reinforced Plastic (GRP) or Engineering Plastics. It can also be used on uncoated metal. The easy to use keypad allows operator interface, whilst the bright colour LCD display can be used in all light conditions. The moulded soft rubber surround feels comfortable, looks good and provides extra protection against knocks and scrapes.

All probes have Intelligent Probe Recognition (IPR), which automatically adjusts settings in the gauge at the same time as transmitting recognition data - the result is a perfectly matched probe and gauge for enhanced performance.



Features

- Measures GRP or all types of engineering plastic
- Large colour LCD display giving user information.
- No zeroing required.
- Single crystal hard faced probe.
- Easy calibration with menu driven buttons.
- Intelligent Probe Recognition (IPR).
- Echo strength indicator.
- Datalogging version with wireless data transmission.
- 3 year warranty.
- Free calibration for the life of the gauge.

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Typical Applications

Leisure Craft Yachts Potable Water Tanks GRP Storage Tanks Marine Surveying Engineering Plastics Non Coated Metal

Datalogging (Multigauge 5350)

Measurements can be logged using a grid or string format. The gauge will store up to 895 files, each containing 100 records. Each record can store either a string of 250 or grid of 16 x 16 measurements. The simple, easy to use menu guides the user through intuitive setup procedures.

The gauge uses wireless technology to transmit the measurements to the PC where dedicated Communicator software allows the analysis of the results or easy production of templates using wizards. Measurements are stored in a .txt format so that they can be opened in other applications.

Measurements can also be displayed remotely on a PC up to 1000 metres away.

Create ▲ New File using Wizard New File using Template ▼ New Template ■ QUIT ✓ OK SAVE ■ QUIT ✓ OK SAVE

Record: 1 of 2 Grid: 10R x 3C

R4

Specification

Sound Velocity Range	From 1000 m/s to 8000 m/s (0.0394 in/µs to 0.3150 in/µs)
Single Crystal Hard Faced Probe	1 MHz
Probe Measurement Range	2 - 300 mm (0.080" to 11")
Probe Sizes	19 mm (0.75")
Resolution	0.1 mm (0.005")
Accuracy	± 0.1 mm (0.005")
Display	Multi character colour LCD
Batteries	3 x disposable AA alkaline batteries or rechargeable NiMH / NiCE
Battery Life	Up to 50 Hours continuous use using alkaline batteries
Gauge Dimensions	147 mm x 90 mm x 28 mm (5.75" X 3.5" X 1")
Gauge Weight	325 g (11.5 ounces) including batteries
Environmental	Case rated to IP65. RoHS and WEEE compliant
Operating Temperature	-10°C to +50°C (14°F to 122°F)
Storage Temperature	-10°C to +60°C (14°F to 140°F)
Multigauge 5350 Datalogger Only	
Storage capacity	32 Mb
Data Transmission	Wireless RF

The Tritex Multigauge 5300 and Multigauge 5350 gauges have been manufactured to comply with British Standard BS EN 15317:2007, which covers the characterisation and verification of ultrasonic thickness





Kit Contents:

Multigauge 5300 or Multigauge 5350 gauge, hard faced probe, probe lead, ultrasonic gel, 15mm test block, batteries, manual, calibration certificate, carry case.

Optional leather case.

Multigauge 5350 Datalogger Only Transceiver, Communicator software

Contact

measuring equipment.

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3 YEAR WARRANTY



Tritex Sales 55 - Issue 1 - April 2016



Multigauge 5700 Datalogger

The Multigauge 5700 is a simple, robust ultrasonic thickness gauge designed for most common thickness gauging applications with the added benefit of being able to store measurements within the gauge. The easy to use keypad allows operator interface whilst the bright LCD display can be used in all light conditions. The moulded soft rubber surround feels comfortable, looks good and provides extra protection against knocks and scrapes. All probes have Intelligent Probe Recognition (IPR), which automatically adjusts settings in the gauge at the same time as transmitting recognition data - the result is a perfectly matched probe and gauge for enhanced performance. Additionally, the Automatic Measurement Verification System (AMVS) ensures only true measurements are displayed, even on the most heavily corroded metals. The gauge can store measurements in either a grid or string format which can then later be used in other proprietary programs.







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Typical Applications

- Shipping Bridges Pilings Storage Tanks Industry Quality Control Leisure Craft
- Pipelines Road Tankers Offshore Platforms Lighting Columns Phone Masts Lock Gates Barges

Features

- Ignores coatings up to 6 mm thick using Multiple
 Echo. Coating Plus+ ignores coatings up to 20 mm.
- Automatic Measurement Verification System (AMVS).
- Large colour LCD display giving user information.
- No zeroing required.
- Wireless data transmission.
- Single crystal soft faced probe protected by a membrane.
- Easy calibration with menu driven buttons.
- Intelligent Probe Recognition (IPR).
- Echo strength indicator.
- 3 year warranty.
- Free calibration for the life of the gauge.

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About Multiple Echo

All Ultrasonic Thickness Gauges should be calibrated to the velocity of sound of the material being measured. Coatings have a different velocity of sound than metal and it is important they are not included in the measurement. Multiple Echo ensures all coatings, up to 6mm thick, are completely eliminated from the measurement.

How it works:

A transmitted ultrasound pulse travels though both the coating and the metal and reflects from the back wall. The returned echo then reverberates within the metal, with only a small portion of the echo travelling back through the coating each time. The timing between the

small echoes gives us the timing of the echoes within the metal, which relate to the metal thickness. The returned echoes need not be consecutive as the gauge will interpret them automatically and calculate the thickness. A minimum of three echoes are checked each time. This is referred to as the **Automatic Measurement Verification System (AMVS)**.

Datalogging

Measurements can be logged using a grid or string format. The gauge will store up to 895 files, each containing 100 records. Each record can store either a string of 250 or grid of 16 x 16 measurements. The simple, easy to use menu guides the user through intuitive setup procedures.

The gauge uses wireless technology to transmit the measurements to the PC where dedicated Communicator software allows the analysis of the results or easy production of templates.



Specification

The Tritex Multigauge 5700 has been manufactured to comply with British Standard BS EN 15317:2007, which covers the characterisation and verification of ultrasonic thickness measuring equipment.

Sound Velocity Range	From 1000 m/s to 800	00 m/s (0.0394 in/µs to	0.3150 in/µs)	
Single Crystal Soft Faced Probe Options	2.25 MHz	3.5 MHz	5 MHz	
Probe Measurement Range	3 - 250 mm (0.120" to 10")	2 - 150 mm (0.080" to 6")	1 - 50 mm (0.040" to 2")	
Probe Sizes	13 mm (0.5") & 19 mm (0.75")	13 mm (0.5")	6 mm (0.25") & 13 mm (0.5")	
Resolution	0.1 mm (0.005") or 0.05 mm (0.002")			
Accuracy	± 0.1 mm (0.005") or ± 0.05 mm (0.002")			
Display	Colour LCD			
Storage capacity	32 Mb			
Data Transmission	Wireless RF			
Coatings Range	Up to 6mm (Standard	Mode)*; up to 20mm ((Coating Plus+)*	
Batteries	3 x disposable AA alk	aline batteries or recha	argeable NiMH / NiCD	
Battery Life	Up to 50 hours contin	uous use using alkalin	e batteries	
Gauge Dimensions	147 mm x 90 mm x 28 mm (5.75" X 3.5" X 1")			
Gauge Weight	325 g (11.5 ounces) including batteries			
Environmental	Case rated to IP65. RoHS and WEEE compliant			
Operating Temperature	-10°C to +50°C (14°F	-10°C to +50°C (14°F to 122°F)		
Storage Temperature	-10°C to +60°C (14°F	to 140°F)		

Contact

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Kit Contents:

Multigauge 5700 gauge, probe, probe lead, spare membranes, membrane oil, ultrasonic gel, 15mm test block, membrane key, batteries, manual, calibration certificate, carry case.

Optional leather case.

3 YEAR WARRANTY



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Tritex Sales 48 - Issue 1 - April 2014





Multigauge 5650 / 5750 Surveyor Gauge

The Multigauge 5650 Surveyor / 5750 Surveyor Datalogger are simple, robust ultrasonic thickness gauges designed specifically for ship and small craft surveyors. The user has a choice of Multiple Echo, Echo to Echo or Single Echo to cover all requirements. The gauges can be used for metal, GRP or plastic measurement and they automatically switch modes and settings depending on the type of probe fitted. The easy to use keypad allows operator interface whilst the bright LCD display can be used in all light conditions. All probes have Intelligent Probe Recognition (IPR), which automatically adjusts settings in the gauge at the same time as transmitting recognition data - the result is a perfectly matched probe and gauge for enhanced performance. Additionally, the Automatic Measurement Verification System (AMVS) used with multiple echo ensures only true measurements are displayed, even on the most heavily corroded metals.







Features

- Ignores coatings up to 6 mm thick using Multiple Echo. Coating Plus+ ignores coatings up to 20 mm.
- Single crystal soft faced probes protected by a membrane and single crystal hard faced probes for linear accuracy.
- Automatic Measurement Verification System (AMVS) in multiple echo mode.
- Echo Echo mode for enhanced performance.
- Inspect GRP for osmosis.
- Large colour LCD display giving user information.
- No zeroing required.
- Easy calibration with menu driven buttons.
- Intelligent Probe Recognition (IPR).
- Echo strength indicator.

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Easy Menu System



About Multiple Echo

All Ultrasonic Thickness Gauges should be calibrated to the velocity of sound of the material being measured. Coatings have a different velocity of sound than metal and it is important they are not included in the measurement. Multiple Echo ensures all coatings, up to 6mm thick, are completely eliminated from the measurement.

How it works:

A transmitted ultrasound pulse travels though both the coating and the metal and reflects from the back wall. The returned echo then reverberates within the metal, with only a small

portion of the echo travelling back through the coating each time. The timing between the small echoes gives us the timing of the echoes within the metal, which relate to the metal thickness. A minimum of three echoes are checked each time. This is referred to as the Automatic Measurement Verification System (AMVS).

Datalogging (Multigauge 5750)

Measurements can be logged using a grid or string format. The gauge will store up to 895 files, each containing 100 records. Each record can store either a string of 250 or grid of 16 x 16 measurements. The simple, easy to use menu guides the user through intuitive setup procedures.

The gauge uses wireless technology to transmit the measurements to the PC where dedicated Communicator software allows the analysis of the results or easy production of templates using wizards. Measurements are stored in a .txt format so that they can be opened in other applications. Measurements can also be displayed remotely on a PC up to 1000 metres away.

Specification

The Tritex Multigauge range has been manufactured to comply with British Standard BS EN 15317:2013, which covers the characterisation and verification of ultrasonic thickness measuring equipment.

Sound Velocity Range	From 1000 m/s t	From 1000 m/s to 8000 m/s (0.0394 in/μs to 0.3150 in/μs)				
Single Crystal Probe Options	1 MHz	1 MHz 2.25 MHz 3.5 MHz 5 MHz				
Probe Type	Hard Faced	Soft Faced	Soft Faced	Soft Faced		
Probe Measurement Range	2 - 300 mm (0.080" to 11")	3 - 250 mm (0.120" to 9")	2 - 150 mm (0.080" to 6")	1 - 50 mm (0.040" to 2")		
Probe Sizes	19 mm (0.75")	13 mm (0.5") 19 mm (0.75")	13 mm (0.5")	6 mm (0.25") 13 mm (0.5")		
Resolution	0.1 mm (0.005") or 0.05 mm (0.002")					
Accuracy	± 0.1 mm (0.005	± 0.1 mm (0.005") or ± 0.05 mm (0.002")				
Display	Multi character C	Multi character Colour LCD				
Batteries	3 x disposable A	3 x disposable AA alkaline batteries or rechargeable NiMH / NiCD				
Battery Life	Up to 50 Hours of	continuous use us	ing alkaline batte	eries		
Gauge Dimensions	147 mm x 90 mi	m x 28 mm (5.75	" X 3.5" X 1")			
Gauge Weight	325 g (11.5 ound	ces) including batt	eries			
Environmental	Case rated to IP	65. RoHS and WE	EEE compliant			
Operating Temperature	-10°C to +50°C (′14°F to 122°F)				
Storage Temperature	-10°C to +60°C (′14°F to 140°F)				
Multigauge 5750 Datalogger Only						
Storage capacity	32 Mb					
Data Transmission	Wireless RF					
			* Fic	ures relate to most coating type		

Contact UK Office:

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Kit Contents:

Multigauge 5650 or Multigauge 5750 datalogger gauge, soft faced probe, hard faced probe, probe lead, spare membranes, membrane oil, ultrasonic gel, 15mm test block, membrane key batteries, manual, calibration certificate, carry case.

Optional leather case.

Multigauge 5750 Datalogger Only Transceiver, Communicator software

3 YEAR WARRANTY



Tritex Sales 52 - Issue 2 - April 2016



Underwater Ultrasonic Thickness Gauge



"We have a lot of experience using underwater thickness gauges, but my team insist on using only the Tritex gauges now. The Multigauge 3000 gives stable measurements and locks onto readings instantaneously"

SeaTech Commercial Diving Services Ltd - United Kingdom

Typical Applications

Shipping Bridges Pipelines Dockyards Offshore Platforms Wind Turbines Pilings Dock Gates

Multigauge 3000 Diver

The Multigauge 3000 Underwater Gauge is a simple, robust ultrasonic thickness gauge designed for most common underwater thickness gauging applications. The gauge is pressure tested to 500m and has the option to transfer measurements to a surface display unit with the simple addition of a replacement end cap. It has been designed and built to survive extremely harsh conditions that exist in the offshore and underwater industries worldwide. The gauge uses multiple echo, which means measurements can be easily taken without the need to remove coatings, and the large bright LED display ensures the display can be seen by the diver, even in poor visibility.

The gauge is equipped with **Intelligent Probe Recognition (IPR)**, which automatically adjusts settings in the gauge for enhanced performance and **Automatic Measurement Verification System** (**AMVS**) to ensure only true measurements are displayed, even on the most heavily corroded metals.



Robust Probe & Cable



Features

- Large 10mm display for poor visibility
- Ignores coatings using multiple echo
- Pressure tested to 500m
- Integral battery with 55 hour runtime on one fast charge. No need for a spare battery
- Easy to use
- No fuss upgrade option to a topside repeater
- Rugged and robust
- Intelligent probe recognition (IPR)
- Automatic measurement verification (AMVS)
- No zeroing required
- Free calibration for the life of the gauge



Surface Display Unit

The Surface Display Unit is used with the Multigauge 3000 Underwater Thickness Gauge to verify the measurements that the diver is getting, by either a class surveyor or supervisor. Also, readings can be clearly taken on the surface if the diver is operating in zero visibility. The Surface Display Unit has bi-directional communication with the Multigauge 3000 Underwater Thickness Gauge – This means that settings can be adjusted in the Multigauge 3000 without having to break the 'O' ring seals. Settings, such as calibration for different metal types, can be adjusted from the surface whilst the diver is underwater using the Multigauge 3000 Underwater Thickness Gauge.





"The gauge gives quick and accurate readings, requires far less surface preparation than other makes we have used and locks on much faster. It can speed up the survey process by a factor of at least two."

Harbour & Marine Diving Contractors Ltd - United Kingdom

Communicator Software

Tritex Communicator software displays live measurement results from the Multigauge 3000 onto either a laptop or PC. Templates can be preset based on a grid or string of measurements. This gives maximum versatility for a wide range of applications including measurements on pipelines, pilings or ship hulls.

As well as storing measurement data, Communicator software also has the option to store the time, date and an identifying label for each measurement. In addition, various settings within the gauge can be changed from the software to optimise performance.

The stored data is saved in a standard TXT format allowing importation into standard analysing programs.





Features

- Displays real time measurements from the Multigauge 3000 Ultrasonic Thickness Gauge
- Easy to install and very user friendly
- Datalogging with grid or string templates, or a combination of both
- Bi-directional to allow settings in the gauge to be changed when the Multigauge 3000 is being used underwater
- Accepts RS232 or RS422 input
- Time, date and a label can be added to each measurement value
- Common output interface (.txt)
- Easy to use wizards for template programming

Specifications

Multigauge 3000 Gauge

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Sound Velocity Range	From 1000 m/s to 8000 r	m/s (0.0394 in/µs to 0.315	i0 in/μs)	
Single Crystal Soft Faced Probe Options	2.25 MHz	3.5 MHz	5 MHz	
Probe Measurement Range	3 - 250 mm (0.120" to 10")	2 - 150 mm (0.080" to 6")	1 - 50 mm (0.040" to 2")	
Probe Sizes	13 mm (0.5") & 19 mm (0.75")	13 mm (0.5")	13 mm (0.5")	
Resolution	0.1 mm (0.005") or 0.05	mm (0.002")		
Accuracy	± 0.1 mm (0.005") or ± 0.	.05 mm (0.002")		
Coatings Range	Up to 6 mm (Standard Mode)*; up to 20 mm (Coating Plus+)*			
Display	10mm Red 4 character 7	' segment LED		
Pressure Tested	500 metres			
Batteries	1 x Rechargeable 7.2V 2	2.3Ah NiMH battery pack		
Battery Life	55 Hours continuous use	9		
Gauge Dimensions	235 mm x 80 mm (9.25	" x 3.15")		
Gauge Weight	1110 g (38.85 ounces) ft	ully assembled		
Environmental	RoHS and WEEE compl	iant		
Operating Temperature	-10°C to +50°C (14°F to	122°F)		
Storage Temperature	-10°C to +60°C (14°F to	140°F)		

Kit Contents

* Figures relate to most coating types

Multigauge 3000, probe, spare membranes, membrane oil, 15mm test block, membrane key, spare 'O' rings, Molykote grease, nose cone release bar, battery charger with appropriate power lead, manual, calibration certificate, carry case

3 YEAR WARRANTY

The Tritex Multigauge 6000 has been manufactured to comply with British Standard BS EN 15317:2013, which covers the characterisation and verification of ultrasonic thickness measuring equipment.

Surface Display Unit

Display:	Multi character LCD with white backlight
Batteries:	3 x disposable AA alkaline batteries or rechargeable NiMH / NiCD
Battery Life:	Up to 50 Hours continuous use using alkaline batteries
Gauge Dimensions:	147 mm x 90 mm x 28 mm (5.75" X 3.5" x 1")
Gauge Weight:	330 g (11.6 ounces)
Environmental:	Case rated to IP65. RoHS and WEEE compliant
Operating Temp:	-10°C to +50°C (14°F to 122°F)
Storage Temp:	-10°C to +60°C (14°F to 140°F)



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Multigauge 4000 series ROV Gauge

The Multigauge ROV 4100 and 4400 Underwater Gauges are simple, robust ultrasonic thickness gauges designed to be mounted onto all types of work class ROV's. There are two models in the range, the Multigauge ROV 4100 which has a depth rating of 1000m and the Multigauge ROV 4400 which has a depth rating of 4000m. Both gauges have been designed and built to survive extremely harsh conditions that exist in the offshore and underwater industries worldwide. The gauges use multiple echo which means measurements can be easily taken without the need to remove coatings, up to 6mm thick, and the selectable RS232 or RS422 output makes connection to most ROV's simple. The gauge is equipped with Intelligent Probe Recognition (IPR), which automatically adjusts settings in the gauge for enhanced performance and Automatic Measurement Verification System (AMVS) to ensure only true measurements are displayed,









Features:

- Ignores coatings up to 6mm thick using multiple echo.
 Coating Plus+ ignores coatings up to 20mm
- Depth rating to 1000m and 4000m
- Easy to use datalogging software
- Compatible with most ROV's
- RS232 or RS422 output
- Optional probe holder for correct presentation of the probe
- Rugged and robust
- Intelligent Probe Recognition (IPR)
- Automatic Measurement Verification (AMVS)
- No zeroing required
- Free calibration for the life of the gauge

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Multigauge 4400 4000 m

About Multiple Echo

All Ultrasonic Thickness Gauges should be calibrated to the velocity of sound of the material being measured. Coatings have a different velocity of sound than metal and it is important they are not included in the measurement. Multiple Echo ensures all coatings, up to 6mm thick, are completely eliminated from the measurement.



How it works:

A transmitted ultrasound pulse travels though both the coating and the metal and reflects from the back wall. The returned echo then reverberates within the metal, with only a small portion of the echo travelling back through the coating each time. The timing between the small echoes gives us the timing of the echoes within the metal, which relate to the metal thickness. The returned echoes need not be consecutive as the gauge will interpret them automatically and calculate the thickness. A minimum of three echoes are checked each time. This is referred to as the **Automatic Measurement Verification System (AMVS)**.

Specification

Sound Velocity Range	From 1000 m/s to 800	From 1000 m/s to 8000 m/s (0.0394 in/µs to 0.3150 in/µs)			
Single Crystal Soft Faced Probe Options	2.25 MHz	3.5 MHz	5 MHz		
Probe Measurement Range	3 - 250 mm (0.120" to 10")	2 - 150 mm (0.080" to 6")	1 - 50 mm (0.040" to 2")		
Probe Sizes	13 mm (0.5") & 19 mm (0.75")	13 mm (0.5")	13 mm (0.5")		
Resolution	0.1 mm (0.005") or 0.	05 mm (0.002")			
Accuracy	± 0.1 mm (0.005") or ± 0.05 mm (0.002")				
Coatings Range	Up to 6mm (Standard Mode)*; up to 20mm (Coating Plus+)*				
Output	RS232 or RS422 Use	er Selectable			
Pressure Tested	1000 metres (Multiga	uge 4100) & 4000m (N	lultigauge 4400)		
Power	9Vdc - 30Vdc @ 150	тA			
Gauge Dimensions	145 mm x 72 mm (5	.71" x 2.83")			
Gauge Weight	Multigauge 4100 ROV: 465 g (16.40 ounces) Multigauge 4400 ROV: 2500g (151.68 ounces)				
Environmental	RoHS and WEEE cor	mpliant			
Operating Temperature	-10°C to +50°C (14°F	to 122°F)			
Storage Temperature	-10°C to +60°C (14°F	to 140°F)			





Kit Contents:

Multigauge 4000 gauge, probe, spare membranes, membrane oil, 15mm test block, membrane key, spare 'O' rings, Molykote grease, nose cone release bar, manual, calibration certificate, carry case, communicator software, RS422 -RS232 converter, Impulse connector with fly lead, ROV test cable, power supply for use with test cable.

3 YEAR WARRANTY



* Figures relate to most coating typ The Tritex Multigauge 4000 series has been manufactured to comply with British Standard BS EN 15317:2007, which covers the characterisation and verification of ultrasonic thickness measuring equipment.

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Multigauge 4000 series Probe Holder

The Multigauge ROV Probe Holder has been designed to accurately present the ROV probe onto the surface being measured, whether it is curved or flat. The ingenious design means there are no moving parts to get clogged with silt and seaweed and yet there is a 75° freedom of movement in all directions - there are no axial restrictions.

The probe can be mounted slightly recessed into the holder to prevent damage to the probe if a collision with the surface occurred. Measurements are unaffected by the small water gap due to the Multiple Echo technology used by all Tritex gauges, which ignores the water gap as if it were a coating.







Features:

- Automatically aligns probe on flat and curved surface.
- No moving parts to get jammed from silt and seaweed.
- Universal front plate can be fitted with lugs for pipelines or flat bars for ships hulls.
- Standard 'T-bar' and 'fishtail' compatible.
- * Allows the probe to be recessed to prevent damage to the probe face.
- Rugged and robust.
- * Can be used with most types of ROV.

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Communicator Software

For use with the Topside Repeater and ROV Gauges

Tritex Communicator software displays live measurement results from either the Multigauge 3000 Underwater Thickness Gauge or the Multigauge 4000 series ROV Thickness Gauges onto either a laptop or PC.

Templates can be preset based on a grid, string of measurements or a combination of both. This gives maximum versatility for a wide range of applications including measurements on pipelines, pilings or ship hulls.

As well as storing measurement data, Communicator software also has the option to store the time, date and an identifying label for each measurement. In addition, various settings within either gauge can be changed from the software to optimise performance.





Features:

- Displays real time measurements from the Multigauge 3000 or Multigauge 4000 gauges.
- **Easy to install and very user friendly.**
- Datalogging with grid or string templates, or a combination of both, easily setup with a wizard.
- Bi-directional to allow settings in the gauge to be changed.
- * Accepts RS232 or RS422 input.
- Time, date and a label can be added to each measurement value.
- * Common output interface (.csv).

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Drone Ultrasonic Thickness Gauge





Multigauge 6000 Drone

The Multigauge 6000 Drone Gauge uses Multiple Echo technology to ignore coatings up to 6 mm thick, just the metal substrate is measured. Measurements are transmitted wirelessly in real time to a PC or laptop up to 500 metres away. The system is made up of a Gauge, Gel Dispenser and Probe Holder, all designed to be very lightweight to maintain battery power. All probes have Intelligent Probe Recognition (IPR), which automatically adjusts settings in the gauge at the same time as transmitting recognition data - the result is a perfectly matched probe and gauge for enhanced performance. Additionally, the Automatic Measurement Verification System (AMVS) ensures only true measurements are displayed, even on the most

heavily corroded metals. The gauge can store measurements in either a grid or string format which can then later be used in other proprietary programs.

> Lightweight Probe

Features

- Ignores coatings up to 6 mm thick using Multiple
 Echo. Coating Plus+ ignores coatings up to 20 mm.
- · Easily installs onto most work class drones.
- Automatic Measurement Verification System (AMVS).
- Wirelessly transmits measurements up to 500 m.
- Works with Tritex Gel Dispenser.
- Lightweight.
- No zeroing required.
- 10 Vdc 32 Vdc input supply.
- Single crystal soft faced probe.
- Easy calibration.
- Intelligent Probe Recognition (IPR).
- 3 year warranty.
- Free calibration for the life of the gauge.

"We are writing this as a testament to the quality of performance of the Multigauge 6000 Drone Thickness Gauge. Our technical team has given it high praise due its high accuracy and durability. It has impacted our field work positively."

Group Director, Oil and Gas, AERODYNE Group



Drone Probe Holder

The Probe Holder has been designed to accurately present the probe onto the surface being measured. The connecting spring allows flexibility in all directions and the cone shaped guard ensures the probe is aligned flat onto the surface. A damping compression spring means the probe cannot be driven onto the surface too hard causing damage. The lightweight construction can be used with most drones. It is supplied with two 250 mm x 16 mm diameter carbon tubes to extend the probe out beyond the drones rotors. A specially designed system allows couplant to be pumped onto the surface of the probe using the Tritex Gel Dispenser.

Gel Dispensing Hole

Tritex Gel Dispenser

Ultrasonic Thickness Gauges rely on good coupling to the surface being measured and the best option for doing this is to use a gel couplant specifically designed for the job. However, up until now, it has always been a challenge to do this when taking measurements by drone because it has to be applied before each measurement.

The Tritex Gel Dispenser allows for a small amount of gel to be pumped onto the surface of the probe wirelessly by clicking a button on the Communicator software. It is connected to the Multigauge 6000 Drone gauge which receives the signal from Communicator and in turn sends a signal to the pump within the gel dispenser for a preset time. Gel is pumped from the internal reservoir onto the face of the probe at the optimum time.



Features

- Pumps couplant directly to the probe face only when needed.
- Wireless control from Communicator software.
- Lightweight.
- Large 70 ml couplant reservoir.
- Facility to mount onto most drones.

Communicator Software

The Multigauge 6000 Drone gauge uses wireless technology to transmit the readings to the PC or laptop, where dedicated Communicator software displays the measurements in real time. Each measurement can also be stored in a .txt file format which can be opened in proprietary programs to produce reports.



Tritex Multigauge 6500 Drone

Tritex NDT have developed a drone to specifically carry the Multigauge 6000 Drone Thickness Gauge. It has been configured as a coaxial octocopter, offering multiple motor redundancy, whilst keeping the airframe size to a minimum with an all up weight of 3.5kg, including the gauge. Two batteries provides additional redundancy and flight times up to 15 minutes. The yellow canopy can be quickly removed, allowing the user to access the Thickness Gauge and Gel Dispenser.





A carbon fibre cage provides protection during internal inspections and the on-board camera allows the user to record up to 1080p at 60fps. The drone can be easily operated using the user-friendly controller with an integrated 7" tablet, which displays a live video feed and flight data.

The Pixhawk flight control system removes operating limitations, by not restricting flight areas, allowing qualified users to operate in any location. The drone, gauge and all accessories are easily transported, ready-to-fly, inside a Peli travel case with a custom foam insert.

Specifications

Multigauge 6000 Gauge

			rightee relate to most obtaining types	
Sound Velocity Range	From 1000 m/s to 8000	m/s (0.0394 in/µs to 0.31	50 in/µs)	
Single Crystal Soft Faced Probe Options	2.25 MHz	3.5 MHz	5 MHz	
Probe Measurement Range	3 - 250 mm (0.120" to 10")	2 - 150 mm (0.080" to 6")	1 - 50 mm (0.040" to 2")	
Probe Sizes	13 mm (0.5")	13 mm (0.5")	13 mm (0.5")	
Resolution	0.1 mm (0.005") or 0.05	mm (0.002")		
Accuracy	± 0.1 mm (0.005") or ± 0.05 mm (0.002")			
Display	Communicator software on PC or laptop			
Data Transmission	Wireless RF, 2.4 GHz. Internationally Acceptable			
Coatings Range	Up to 6 mm (Standard N	/lode)*; up to 20 mm (Coa	ating Plus+)*	
Power Supply	10 Vdc - 32 Vdc. Polarit	y Protection		
Wireless Transmission Range	Up to 500 Metres			
Dimensions (Including switches and connectors)	139 mm x 62 mm x 31	mm (5.47" X 2.44" X 1.22	2")	
Gauge Weight	150 g (5.3 ounces)			
Probe Weight (Lightweight Housing)	25 g (0.88 ounces)	25 g (0.88 ounces)		
Probe Cable Weight (1.5 m)	65 g (2.3 ounces)			
Environmental	IP65. RoHS and WEEE compliant			
Operating Temperature	-10°C to +50°C (14°F to 122°F)			
Storage Temperature	-10°C to +60°C (14°F to	140°F)		



* Eigurea relata ta maat aaating tura

The Tritex Multigauge 6000 has been manufactured to comply with British Standard BS EN 15317:2013, which covers the characterisation and verification of ultrasonic thickness measuring equipment.

Probe Holder

Dimensions (Flexible Cage)	110 mm x 82 mm (4.33" x 3.23")
Weight (with 2 x 250 mm sections)	105 g (3.7 ounces)

Multigauge 6500 Drone

Configuration	Coaxial Octocopter	
Weight	3.5 Kg AUW / 4 Kg MTOW	7
Dimensions (Without Cage Fitted)	Length: 370 mm / Width: 429 mm (from motor to motor)	
Dimensions (With Cage Fitted)	Length: 650 mm / Width: 700 mm	Ki
Operating Voltage	14 to 16.8V Nominal	1 x
Battery Type	LiPo 4S (4 cell) / 6250 Mah / 92.5 Wh	8 x 1 x
Battery Configuration:	Dual	1 x 4 x
Motors	8 x T-Motor 2212-18 920KV	1 x 1 x
Motor Redundancy	Yes	1 x 1 x
Propeller Size	9 x 4.5" Folding	1 x
Propeller Type	Folding - Ready to use from the carry case	7
Flight Time	Up to 15 Minutes	7
Pilot Controller	Herelink Integrated Tablet & Joystick	7
Drone Flight Controller	Pixhawk 4 Cube	
Operating Frequency	2.4 GHz	
Control Range	Up to 20 Km	
Autonomous Flight	Yes (Outside Only)	
GPS Positioning	Yes (Outside Only)	
Altitude Control	Yes (Outside Only)	7
Camera	Foxeer Box 1080p 60fps Recording – Wifi	
Video Link	HD up to 1080p 60Fps	
Propeller Guard	Yes - Full All Round Protection	
Weather	Dry / Light Rain	7
Service	100 Hours	7
Redundancy Measures	 Dual Battery Power Supply Motor Redundancy Triple Redundant IMU's 	

Kit Contents (Drone Only):

1 x Drone

- x Propellers
- x Set of Batteries (2 batteries)
- x Charger + Required Leads and Charge Bag
- 1 x Propeller Guards
- 1 x Allen Key Set
- . x Instruction Manual
- 1 x RC Controller with Integral Tablet
- 1 x Battery Checker
- x Anti-Collision Cage

Gel Dispenser

Power Supply	6 Vdc taken from Multigauge 6000 Drone Gauge
Reservoir Volume	70 ml
Flow Rate (water)	90 ml / min
Pressure (water)	9 psi
Tubing	Silicon, 2.4 mm (0.1")
Dimensions (Including switches and connectors)	110 mm x 68 mm x 45 mm (4.33" x 2.67" x 1.77")
Weight including 1.5 m Tubing (Empty)	180 g (6.35 ounces)
Environmental	IP65. RoHS and WEEE compliant
Operating Temperature	-10°C to +50°C (14°F to 122°F)
Storage Temperature	-10°C to +60°C (14°F to 140°F)



Photo courtesy of Raptor Drones - United Kingdom



Kit Contents (Multigauge 6000):

Multigauge 6000 Drone gauge, probe, probe lead, spare membranes, membrane oil, ultrasonic gel, 15mm test block, membrane key, power supply, power - XT30 connector lead, manual, calibration certificate, carry case.

Optional: Flexible Probe Holder, Tritex Gel Dispenser, Multigauge 6500 Drone.

3 YEAR WARRANTY (Multigauge 6000 Only)





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