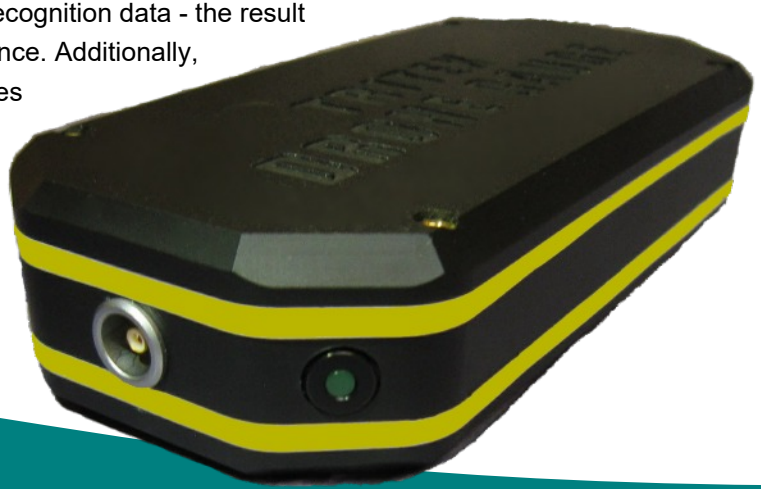
Photo courtesy of Semadrones - France

Drone Ultrasonic Thickness Gauge

tritex ndt

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. An optional A-scan output is alos available.



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.
- A-scan output - Optional
- 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.

"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

Photo courtesy of Sensorem - Australia

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.

Photo courtesy of Eurodrone - Netherlands

Photo courtesy of Aerialsolutions - Belgium

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.

A purge feature allows the operator to fill the tube quickly and easily prior to flight and the dispensing time can be set to apply the correct amount of gel each 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.
- A vent plug prevents a vacuum from forming inside the dispenser.

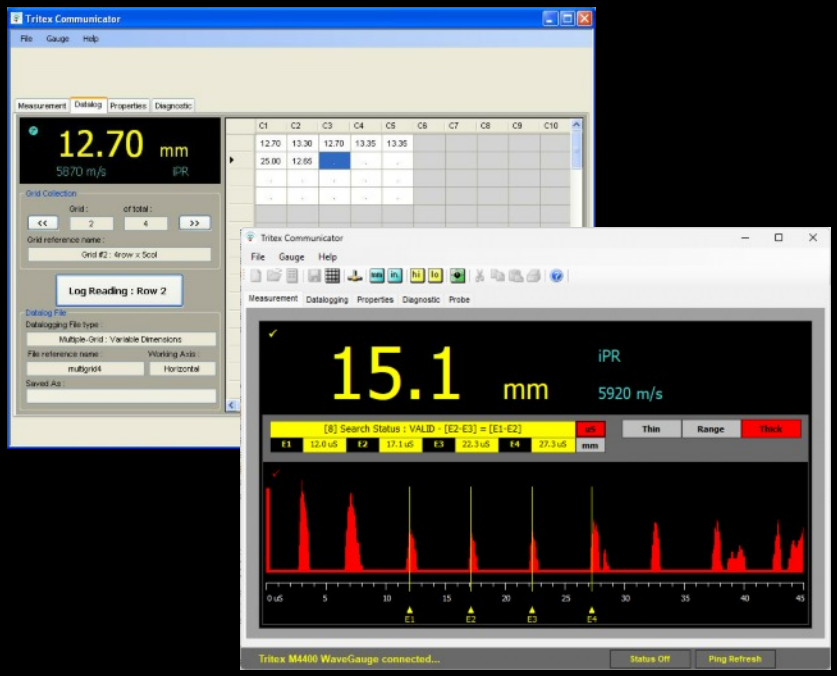
Communicator Software

Tritex Communicator software displays live measurement results from the Multigauge 6000 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 ship hulls, pipelines, masts, storage tanks and chimney stacks.

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.

Optional A-scan displays measurements in real time for a graphical representation of the thickness measurement. The gauges also boast various output formats, including NMEA, ASCII and Tritex for compatibility into third party software and to integrate into robotic systems.

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



Features

- Displays real time measurements from the Multigauge 6000 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 and to also apply couplant when needed
- Real time A-scan - Optional
- Accepts RS232 or RS422 input
- Autologging to capture all measurements
- 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 6000 Gauge

** Figures relate to most coating types*

Sound Velocity Range	*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")*	*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*		
Output Format	*Tritex (for use with Communicator), NMEA or ASCII. Optional A-scan*		
Coatings Range	*Up to 6 mm (Standard Mode)*; up to 20 mm (Coating Plus+)**		
Power Supply	*10 Vdc - 32 Vdc. Polarity 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")*		
Gauge Weight	*150 g (5.3 ounces)*		
Probe Weight	*50 g (1.8 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)*		

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)*

It is the responsibility of the user to ensure that all equipment is securely attached to the drone prior to flight and that all flights are carried out in a safe manner by a qualified pilot. Tritex NDT cannot be held responsible for any damage caused to the drone or by the drone to any person, structure or otherwise, whilst using the Tritex Multigauge 6000 Drone Thickness Gauge.

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, USB - XT30 power supply, mini USB - USB adaptor, 2 x mounting clamps, manual, calibration certificate, carry case.

Optional: Flexible Probe Holder
Tritex Gel Dispenser.
A-scan output

3 YEAR WARRANTY

Contact

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