



Photo courtesy of Tetra Drones - United Kingdom

Drone Ultrasonic Thickness Gauge

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Typical Applications

Shipping

Bridges

Storage Tanks

Phone Masts

Silos

Lighting Columns

Offshore Platforms

Wind Turbines

Wireless
Transmission
up to 500m



Photo courtesy of AAA Drone Inspection - France

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 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.



Photo courtesy of Eurodrone - Netherlands

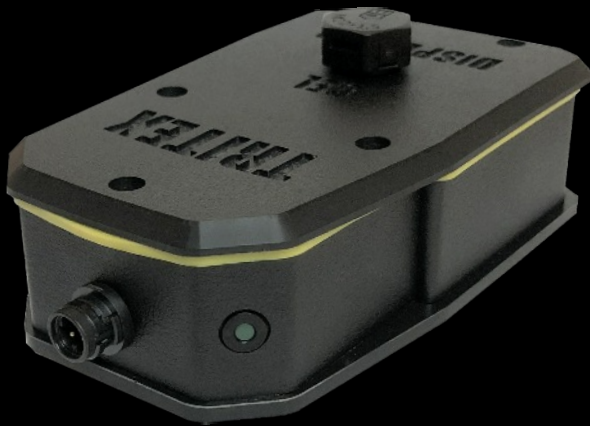


Photo courtesy of Aerialsolutions - Belgium

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.

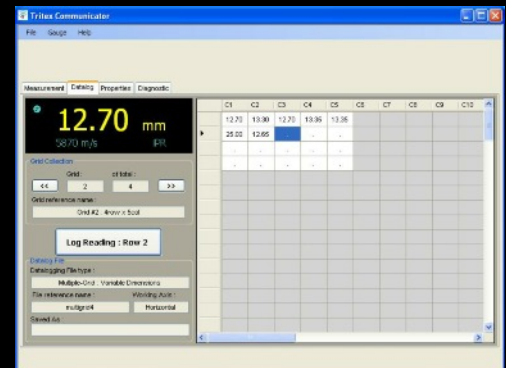


Features

- 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

A drone was developed 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

* 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		
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 (Lightweight Housing)	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)		

The 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
Dimensions (Without Cage Fitted)	Length: 370 mm / Width: 429 mm (from motor to motor)
Dimensions (With Cage Fitted)	Length: 650 mm / Width: 700 mm
Operating Voltage	14 to 16.8V Nominal
Battery Type	LiPo 4S (4 cell) / 6250 Mah / 92.5 Wh
Battery Configuration:	Dual
Motors	8 x T-Motor 2212-18 920KV
Motor Redundancy	Yes
Propeller Size	9 x 4.5" Folding
Propeller Type	Folding - Ready to use from the carry case
Flight Time	Up to 15 Minutes
Pilot Controller	Herelink Integrated Tablet & Joystick
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)
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
Service	100 Hours
Redundancy Measures	<ul style="list-style-type: none">• Dual Battery Power Supply• Motor Redundancy• Triple Redundant IMU's

Kit Contents (Drone Only):

- 1 x Drone
- 8 x Propellers
- 1 x Set of Batteries (2 batteries)
- 1 x Charger + Required Leads and Charge Bag
- 4 x Propeller Guards
- 1 x Allen Key Set
- 1 x Instruction Manual
- 1 x RC Controller with Integral Tablet
- 1 x Battery Checker
- 1 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,
Gel Dispenser,
Multigauge 6500 Drone.

3 YEAR WARRANTY
(Multigauge 6000 Only)

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