RELIABLE ULTRASONIC MEASUREMENT







CYGNUS SURFACE RANGE

ULTRASONIC THICKNESS GAUGES















STORAGE CIVIL SHIP TANKS ENGINEERING SURVEYS







THE CYGNUS SURFACE RANGE

Cygnus Mk5 Range consists of a base model for simple, accurate measurement through coatings; and three PLUS models with advanced features and additional measuring modes for extreme corrosion and extensive applications.

The Cygnus 1 Ex Ultrasonic Thickness Gauge is an intrinsically safe instrument designed for taking reliable thickness measurements in Zone 0 Explosive Atmospheres.



COMPANIES FOR CO

ACCURACY

Cygnus-Pioneered Multiple Echo Technique uses three return echoes to give a truly accurate, error-checked metal thickness measurement - ignoring coatings up to 20mm (0.8"). Accepted by all major Classification Societies.

Cygnus' Measurement Stability Indicator (MSITM) helps verify stable and reliable measurements in Single-Echo and Echo-Echo modes.

SIMPLE TO USE

With intuitive menus on a large front or bright end display, Cygnus gauges are easy to navigate and can be worn on wrist, neck, or belt - enabling efficient, hands-free operations. Auto-Log and min/max Limit & Alert features further enhance the convenience.

HIGHLY DURABLE

Rated to IP67 and the stringent US Military Standards 810G, the MK5 range is dust-tight, water-resistant and offers maximum impact protection against accidental drops and knocks. Supplied with a 3-year warranty.

VERSATILE

Three measuring modes to suit levels of corrosion, various materials and applications.

Multiple-Echo mode uses three error checked back wall echoes to provide the most reliable and accurate remaining thickness measurements, with no need to remove coatings (up to 20mm/0.8 in thick).

Single-Echo mode is ideal for measuring uncoated metals with heavy front and/or back-wall corrosion. Also effective on a range of cast metals, plastics and composites.

Echo-Echo mode works best for measuring heavily corroded metals through thin coatings of up to 1mm/0.04in thick, ideal for measuring painted metals with heavy back wall corrosion.

VARIETY OF PROBES

For different material thickness and various materials - coated or uncoated.





Single Crystal probes Twin Crystal probes

HIGH TEMPERATURE MEASUREMENT

Cygnus High Temperature probe enables efficient, accurate measurement on hot surfaces up to 300°C. No cooling period required.

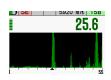
DATA LOGGING FACILITIES

To assist with recording, reporting and further analysis on a computer using CyqLink (Windows-based software).



A-SCAN & B-SCAN

To allow users to verify measurements visually in a real-time graphical display.





A-Scan

B-Scan



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CYGNUS 1 Ex KEY **FEATURES**





PRODUCT

- Certified Intrinsically Safe to ATEX, IECEx, UKEX for Zone 0 and NRTL for Class 1, Division 1
- 3 measuring modes for levels of corrosion, various materials and through-coat measurements
- Manual Measurement Mode allows gates and gain to be configured to suit your application
- Live A-Scans aid visual measurement verification
- Live B-scans give a quick, cross-sectional representation
- 4 function keys for easy controls and dynamic views
- Deep Coat function ignores thick coatings
- User Access feature protects records with correct user access levels
- Measurement setup can be saved and restored for a quick start
- Measurement Freeze function and Ref/Min/Max thickness limits
- A solid-state electronic instrument with a rugged IP67 rated enclosure
- Available as SC, TC, PLUS and PRO variants with options of upgradeable features

APPLICATIONS

Fuel depots, road and vessel tankers, mines, chemical plants, oil and gas, refineries, pipelines and hazardous storage tanks.









OUTDOOR READABLE DISPLAY

SOFTWARE

B-SCAN WITH

AUTO START/ FOR FURTHER PAUSE/CONTINUE VERIFICATION





SPECIFICATION

Feature	Description	
Measuring Mode	Single Echo with Twin Crystal Probes Echo-Echo with Twin Crystal Probes Multiple Echo with Singly Crystal Probes	
Materials	Sound velocity from 1000 m/s to 9000 m/s [0.0390 in/us to 0.3543 in/us]	
Accuracy	±0.1 mm (±0.004") or 0.1% of thickness m	easurement whichever is the greatest
Resolution	0.1mm, 0.05mm or 0.01mm depending o	on probe type
Probe Options	Single crystal and twin crystal probes	
Measurement Range in Steel	0.8mm to 250mm (0.031 in. – 10 in.) depe material and temperature	ending on selected probe and configuration,
Connector	Single Dual Coaxial Connector	
Power Supply	Rechargeable, removable Lithium-Ion ba	attery pack
Power Rating	2W	
Probe Sockets	Single Dual Coaxial Connector	
Battery Life	6-8 hours continuous measurement	
Display	3.5" VGA, sunlight readable colour display	
Size	270mm tall, 135mm wide, 80mm deep	
Weight	1 kg with battery	
Operating Temp.	-0°C to +50°C (32°F to 122°F)	
Storage Temp.	-10°C to +65°C (50°F to 149°F)	
Data Logging	10,000 measurements and A-scans per record	
Computer Software	CygLink allows remote logging and viewing of A-scan graphs. Survey and report generation to PDF file. Graphic analysis of data and statistical calculations. Bluetooth connection to transfer data to a Windows® computer with CygLink	
Certification	ATEX, IECEx and UKEX I M1 Ex ia Ma (Tamb = 0°C to +50°C) II 1G Ex ia IIC T4 Ga (Tamb = 0°C to +50°C) Certificate Numbers; ATEX: ExVeritas 21ATEX0860X UKEX: ExVeritas 21UKEX0861X IECEx: IECEX EXV 21.0035X	NRTL I.S. Class Zone 0 AEx ia IIC Ga T4 I.S. Class Division 1 Groups ABCD T4 (Tamb = 0°C to +50°C) NRTL / MET US Certification, Listing Number E115506
Environmental Protection	IP67 Pollution degree 3	
Standards	Designed for BS EN 15317:2000	
Warranty	3 years on gauge and 6 months on prob	е

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The Cygnus 2+ is specifically designed for hands-free use by displaying measurements via an end-mounted screen. With three measuring modes, it measures the wall thickness of a variety of materials (including plastics) and metals of any level of corrosion and pitting.

CYGNUS 2+ HANDS-FREE KEY FEATURES





- Multiple-Echo mode for accurate, through-coat measurements as specified by Classification Societies
- Echo-Echo and Single-Echo modes for heavily corroded metals with a thin or no coating
- Hands free operation: wrist, waist belt and harness mountable
- End-Mounted display shows thickness measurements ideal for rope access or climbing work
- Front display enables easy gauge setup
- Deep Coat function ignores coatings up to 20mm thick
- MSITM (Measurement Stability Indicator) verifies stable, reliable readings
- Intuitive easy to use menu
- Can be upgraded to 4+ or 6+ at an additional cost

APPLICATIONS

Ideal for ship surveys and hull UTM inspections, structural integrity inspection via rope access or climbing, heavily corroded metals with front/back wall pitting, irregular geometric shapes, attenuative materials, plastics, e.g. pipes and dredge pipes



SHOCK/







SHOCK/ IMPACT PROOF TO US MIL STD 810G

WATER &
DUST
TIGHT IP67
HOUSING

END-MOUNTED ROTATABLE DISPLAY

USE WITH
SINGLE & TWIN
CRYSTAL
PROBES





SPECIFICATION

Feature	Description
Measuring Modes	Multiple-Echo using 3 echoes to ignore coatings up to 20 mm thick Echo-Echo using 2 echoes to ignore coatings up to 1mm thick Single-Echo using 1 echo
Materials	Velocities from 1,000 - 9,000 m/s (0.0390 - 0.3543 in/us)
Accuracy	±0.05 mm (±0.002") - in Multiple-Echo measurement mode, when calibrated and measuring the same material as calibrated on. ±0.1 mm (±0.004") or 0.1% of thickness measurement whichever is the greatest - in Single-Echo & Echo-Echo measurement modes, when calibrated and measuring the same material as calibrated on.
Resolution	Multiple-Echo mode - 0.1 mm (0.005") or 0.05 mm (0.002") Single-Echo and Echo-Echo modes - 0.1 mm (0.005") or 0.01 mm (0.001")
Probe Options	Single crystal probes and Twin crystal probes
Measurement Range in Steel	0.8 – 250mm (0.031 in. – 10 in.) depending on selected probe and configuration, material and temperature
Connector	2 x Lemo 00
Power	3 x AA / R6 batteries
Battery Life	Approx. 10 hours continuous measurement
Electronics	Dual channel pulser
Display	End-mounted rotatable LCD, 25.58 mm (W) x 6.38 mm (H) - for measurements 2.4" QVGA LCD, 47 mm (W) x 37 mm (H) - for gauge setup only
Size	84mm x 130mm x 35mm (W x H x D) (3.3" x 5.1" x 1.4")
Weight	300g (10.5 oz.) (inc. batteries)
Operating Temp.	-10°C to 50°C (14°F - 122°F)
Environmental Rating	IP67 MIL STD 810G Method 501.6 (high temp +55°C (131°F)) MIL STD 810G Method 502.6 (low temp -20°C (-4°F)) MIL STD 810G Method 507.6 (humidity 95%) MIL STD 810G Method 512.6 (immersion 1 metre for 30 mins)
Shock and Impact	MIL STD 810G Method 514.7 (vibration) MIL STD 810G Method 516.7 (shock 20g) MIL STD 810G Method 516.7 (transit drop 1.22m)
Standards	Designed for EN 15317
Compliance	CE, UKCA, RoHS
Warranty	3 years on gauge and 6 months on probe

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- Multiple-Echo mode for accurate, through-coat measurements as specified by Classification Societies
- Deep Coat function ignores coatings up to 20mm thick
- Min/Max measurement limit functions
- Visual and vibrate alert
- Simple, one-point calibration no zeroing required
- Intuitive easy to use menu
- Large and bright front colour LCD display
- Extremely rugged enclosure shock and impact proof to US MIL STD 810G
- Environmental sealing (water and dust proof) to IP67 - US MIL STD 810G
- Can be upgraded to 4+ or 6+ at an additional cost

APPLICATIONS

Ideal for plant maintenance, civil engineering, oil and gas, storage tanks, shipping and marine inspections









MIN/MAX **LIMIT** AND ALERT **FUNCTIONS**

COMPATIBLE WITH SINGLE CRYSTAL PROBES

SHOCK/ IMPACT **PROOF** TO US MIL STD 810G

WATER & DUST **TIGHT IP67** HOUSING





SPECIFICATION

Feature	Description
Materials	Velocities from 1,000 - 9,000 m/s (0.0390 - 0.3543 in/us)
Accuracy	± 0.05 mm (± 0.002 ") - in Multiple-Echo measurement mode, when calibrated and measuring the same material as calibrated on.
Resolution	0.1 mm (0.005") or 0.05 mm (0.002")
Probe Options	Single crystal probes
Measurement Range in Steel	1 – 250mm (0.040 in. – 10 in.) depending on selected probe and configuration, material and temperature
Connector	2 x Lemo 00
Power	3 x AA / R6 batteries
Battery Life	Approx. 10 hours continuous measurement
Electronics	Dual channel pulser
Display	2.4" QVGA LCD, 47 mm (W) x 37 mm (H)
Size	84mm x 130mm x 35mm (W x H x D) (3.3" x 5.1" x 1.4")
Weight	300g (10.5 oz.) (inc. batteries)
Operating Temp.	-10°C to 50°C (14°F - 122°F)
Environmental Rating	IP67 MIL STD 810G Method 501.6 (high temp +55°C (131°F)) MIL STD 810G Method 502.6 (low temp -20°C (-4°F)) MIL STD 810G Method 507.6 (humidity 95%) MIL STD 810G Method 512.6 (immersion 1 metre for 30 mins)
Shock and Impact	MIL STD 810G Method 514.7 (vibration) MIL STD 810G Method 516.7 (shock 20g) MIL STD 810G Method 516.7 (transit drop 1.22 m)
Standards	Designed for EN 15317
Compliance	CE, UKCA, RoHS
Warranty	3 years on gauge and 6 months on probe



PRODUCT



CYGNUS 4+ **GENERAL PURPOSE KEY FEATURES**





PRODUCT

- Multiple-Echo mode for accurate, through-coat measurements as specified by Classification Societies
- Echo-Echo and Single-Echo modes for heavily corroded metals with a thin or no coating
- Temperature Compensation feature for measurement on hot materials
- Deep Coat function ignores coatings up to 20mm thick
- Manual and automatic gain control
- Min/max measurement limit functions with visual and vibrate alert
- Large front sunlight readable LCD Live A-scan display
- Water and dust tight IP67 housing
- Shock and impact proof to US MIL STD 810G
- Safe operation in explosive atmospheres: Class 1, Division 2, Group D locations only, as defined in NFPA 70, Art. 500
- One and two point calibration
- Can be upgraded to 6+ at an additional cost

APPLICATIONS

Ideal for plant maintenance, civil engineering, marine structures, ship surveys, oil and gas facilities, offshore platforms and windfarms, rail infrastructure, metals protected by thick/special coatings











MIN/MAX LIMIT AND ALERT **FUNCTIONS**

LIVE A-SCAN FOR FURTHER VERIFICATION

DATA LOGGING WITH AUTO-LOG

USE WITH SINGLE & TWIN CRYSTAL **PROBES**



SPECIFICATION

Feature	Description	
Measuring Modes	Multiple-Echo using 3 echoes to ignore coatings up to 20mm thick Echo-Echo using 2 echoes to ignore coatings up to 1mm thick Single-Echo using 1 echo	
Materials	Velocities from 1,000 - 9,000 m/s (0.0390 - 0.3543 in/us)	
Accuracy	±0.05 mm (±0.002") - in Multiple-Echo measurement mode, when calibrated and measuring the same material as calibrated on. ±0.1 mm (±0.004") or 0.1% of thickness measurement whichever is the greatest - in Single-Echo & Echo-Echo measurement modes, when calibrated and measuring the same material as calibrated on.	
Resolution	Multiple-Echo mode - 0.1 mm (0.005") or 0.05 mm (0.002") Single-Echo and Echo-Echo modes - 0.1 mm (0.005") or 0.01 mm (0.001")	
Probe Options	Single Crystal probes, Twin Crystal probes and High Temp probe	
Measurement Range in Steel	0.8 – 250mm (0.031 in. – 10 in.) depending on selected probe and configuration, material and temperature	
Connector	2 x Lemo 00	
Power	3 x AA batteries	
Battery Life	Approx. 10 hours continuous measurement	
Electronics	Dual channel pulser	
Display	2.4" QVGA LCD, 47 mm (W) x 37 mm (H)	
Size	84mm x 130mm x 35mm (W x H x D) (3.3" x 5.1" x 1.4")	
Weight	300g (10.5 oz.) (inc. batteries)	
Operating Temp.	-10°C to 50°C (14°F - 122°F)	
Data Logging	5000 measurements and A-scans per record. Max number records: 100	
Computer Software	CygLink allows remote logging and viewing of A-scan graphs Survey and report generation to PDF file Graphic analysis of data and statistical calculations	
Environmental Rating	IP67 Safe operation in Explosive Atmospheres: Class I, Division 2, Group D Locations only, as defined in the National Fire Protection Association Code (NFPA 70), Article 500. Tested using MIL-STD-810G, Method 511.5, Procedure I MIL STD 810G Method 501.6 (high temp +55°C (131°F)) MIL STD 810G Method 502.6 (low temp -20°C (-4°F)) MIL STD 810G Method 507.6 (humidity 95%) MIL STD 810G Method 512.6 (immersion - 1 metre for 30 mins)	
Shock and Impact	MIL STD 810G Method 514.7 (vibration - 1 hour each axis) MIL STD 810G Method 516.7 (shock 20g - 11ms half sine shock pulse, 40g 11ms in each axis) MIL STD 810G Method 516.7 (26 drops - transit drop 1.22 m)	
Standards	Designed for EN 15317	
Compliance	CE, UKCA, RoHS	
Warranty	3 years on gauge and 6 months on probe	

CYGNUS 6+ PRO



CYGNUS 6+ PRO KEY FEATURES





• Multiple-Echo mode for accurate, through-coat measurements as specified by Classification Societies

- Echo-Echo and Single-Echo modes for heavily corroded metals with a thin or no coating
- Temperature Compensation feature for measurement on hot materials
- Deep Coat function ignores coatings up to 20mm thick
- Manual and automatic gain control
- Min/max measurement limit functions with visual and vibrate alert
- Large front LCD display and end-mounted rotatable LCD display with grayscale setting for bright sunlight
- Safe operation in explosive atmospheres: Class 1, Division 2, Group D locations only, as defined in NFPA 70, Article
- Shock and impact proof to US MIL STD 810G

APPLICATIONS

Ideal for plant maintenance, civil engineering, marine structures, ship inspections, oil and gas facilities, offshore platforms and windfarms, rail infrastructure, metals protected by thick/special coatings



DATA LOGGING

WITH RADIAL

POINTS

ADVANCED



MOUNTED





ROLLING LIVE A-SCAN **B-SCAN** WITH FOR FURTHER FRONT & END AUTO START/ VERIFICATION STOP



SPECIFICATION

Feature	Description
Measuring Modes	Multiple-Echo using 3 echoes to ignore coatings up to 20mm thick. Echo-Echo using 2 echoes to ignore coatings up to 1mm thick. Single-Echo using 1 echo
Materials	Velocities from 1,000 - 9,000 m/s (0.0390 - 0.3543 in/us)
Accuracy	±0.05 mm (±0.002") - in Multiple-Echo measurement mode, when calibrated and measuring the same material as calibrated on. ±0.1 mm (±0.004") or 0.1% of thickness measurement whichever is the greatest - in Single-Echo & Echo-Echo measurement modes, when calibrated and measuring the same material as calibrated on.
Resolution	Multiple-Echo mode - 0.1 mm (0.005") or 0.05 mm (0.002") Single-Echo and Echo-Echo modes - 0.1 mm (0.005") or 0.01 mm (0.001")
Probe Options	Single Crystal probes, Twin Crystal probes and High Temp probe
Measurement Range in Steel	0.8 – 250 mm (0.031 in. – 10 in.) depending on selected probe and configuration, material and temperature
Connector	2 x Lemo 00
Power	3 x AA / R6 batteries
Battery Life	Approx. 10 hours continuous measurement
Electronics	Dual channel pulser
Display	Front LCD 2.4" QVGA 47 mm (W) x 37 mm (H); End-mounted LCD 25.58mm (W) x 6.38 (H)
Size	84mm x 130mm x 35mm (W x H x D) (3.3" x 5.1" x 1.4")
Weight	300g (10.5 oz.) (inc. batteries)
Operating Temp.	-10°C to 50°C (14°F - 122°F)
Data Logging	5000 measurements and A-scans per record. Max number records: 100 (soft limit)
Computer Software	CygLink allows remote logging and viewing of A-scan graphs Survey and report generation to PDF file Graphic analysis of data and statistical calculations
Environmental Rating	IP67 Safe operation in Explosive Atmospheres: Class I, Division 2, Group D Locations only, as defined in the National Fire Protection Association Code (NFPA 70), Article 500. Tested using MIL-STD-810G, Method 511.5, Procedure I MIL STD 810G Method 501.6 (high temp +55°C (131°F)) MIL STD 810G Method 502.6 (low temp -20°C (-4°F)) MIL STD 810G Method 507.6 (humidity 95%) MIL STD 810G Method 512.6 (immersion 1 metre for 30 mins)
Shock and Impact	MIL STD 810G Method 514.7 (vibration) MIL STD 810G Method 516.7 (shock 20g) MIL STD 810G Method 516.7 (transit drop 1.22 m)
Standards	Designed for EN 15317
Compliance	CE, UKCA, RoHS
Warranty	3 years on gauge and 6 months on probes



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CYGNUS

