



CYGNUS 1 Ex

INTRINSICALLY SAFE ULTRASONIC THICKNESS GAUGE



The Cygnus 1 Ex Ultrasonic Thickness Gauge is a rugged, handheld, intrinsically safe instrument designed for taking reliable thickness measurements in Zone 0 Explosive Atmospheres. It features a large colour LCD display and 3 measuring modes for through-coat measurements and various materials - including heavily corroded metals. Although designed for ease of use, the gauge boasts advanced datalogging and manual measurement mode.

IDEAL FOR
USE IN



FUEL
DEPOTS



ROAD & VESSEL
TANKERS



MINES



CHEMICAL
PLANTS



OIL AND
GAS

...refineries, pipelines and hazardous storage tanks.



CYGNUS 1 Ex KEY FEATURES



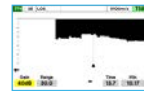
- **Certified Intrinsically Safe to ATEX, IECEx, UKEX for Zone 0 and NRTL for Class 1, Division 1**
- 3 measuring modes for levels of corrosion, various materials and through-coat measurements
- Manual Measurement Mode allows gates and gain to be configured to suit your application
- Live A-Scans aid 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



**LARGE 3.5"
OUTDOOR
READABLE DISPLAY**



**CYLINK
SOFTWARE**



**B-SCAN WITH
AUTO START/
PAUSE/CONTINUE**



**LIVE A-SCAN
FOR FURTHER
VERIFICATION**

CERTIFIED INTRINSICALLY SAFE TO:

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 I Zone 0 AEx ia IIC Ga T4

I.S. Class I Division 1 Groups ABCD T4
(Tamb = 0°C to +50°C)

NRTL / MET US Certification, Listing
Number E115506

Three Selectable Measuring Modes

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 many 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.

Exclusive to Cygnus, Measurement Stability Indicator (MSI™) ensures stable and therefore reliable measurements are displayed in Echo-Echo and Single-Echo modes.

SELECTABLE OPTIONS

Comprehensive Data Logging

- Datalogging: Basic (Linear lists) or Advanced (2D/3D Grids, Templates)

LEV	POS	North	East	South	West
LEV1	POS2	11.87	11.91	11.78	13.65
LEV2	POS3	11.92	11.71	13.45	13.74
LEV3	POS4	11.26	12.27	11.78	13.28
LEV4	POS5	12.83	14.24	12.65	12.13
LEV5	POS6	10.09			

Gain: 40dB, Logged: 21, Comp: 1%, min: 10.09

Next Point: LEV1.POS6.East

Buttons: Re-Take, Comment, Navigate, Finish

- Allows a maximum of 10,000 measurement points per record
- 16 grid patterns available
- Add radial points to any measurement (linear/grid) to further investigate immediately an area of interest or heavy corrosion
- 8 User-defined text comments to attach to any measurement point
- Auto-log feature
- Saves measurements and A-scans as records on internal memory



Cyglink Computer Software

Cyglink is a Windows® based application for computer use to display continuous A-Scan output and measurement data. Cyglink has the facility to log both data formats into a Survey file for report presentation, which can be emailed, exported as a PDF, or printed.

CYGNUS 1 Ex 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 measurement whichever is the greatest		
Resolution	0.1mm, 0.05mm or 0.01mm depending on probe type		
Probe Options	Single crystal and twin crystal probes		
Measurement Range in Steel	0.8mm to 250mm (0.031 in. – 10 in.) depending on selected probe and configuration, material and temperature		
Connector	Single Dual Coaxial Connector		
Power Supply	Rechargeable, removable Lithium-Ion battery 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	<table border="0"> <tr> <td style="vertical-align: top;"> <p>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)</p> <p>Certificate Numbers; ATEX: ExVeritas 21ATEX0860X UKEX: ExVeritas 21UKEX0861X IECEx: IECEx EXV 21.0035X</p> </td> <td style="vertical-align: top; padding-left: 20px;"> <p>NRTL I.S. Class I Zone 0 AEx ia IIC Ga T4 I.S. Class I Division 1 Groups ABCD T4 (Tamb = 0°C to +50°C)</p> <p>NRTL / MET US Certification, Listing Number E115506</p> </td> </tr> </table>	<p>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)</p> <p>Certificate Numbers; ATEX: ExVeritas 21ATEX0860X UKEX: ExVeritas 21UKEX0861X IECEx: IECEx EXV 21.0035X</p>	<p>NRTL I.S. Class I Zone 0 AEx ia IIC Ga T4 I.S. Class I Division 1 Groups ABCD T4 (Tamb = 0°C to +50°C)</p> <p>NRTL / MET US Certification, Listing Number E115506</p>
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Environmental Protection	IP67 Pollution degree 3		
Standards	Designed for BS EN 15317:2000		
Warranty	3 years on gauge and 6 months on probe		



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All information provided is subject to change without prior notice.

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Cygnus 1 Ex Variants

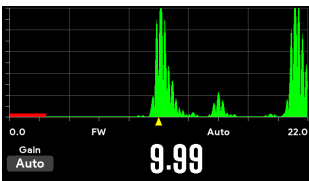
COMPARISON GUIDE

The Cygnus 1 Ex gauge is available to order in four variants. You can change the variant or add certain features at a later date by purchasing an update code from Cygnus.

Feature	Variants			
	SC	TC	PLUS	PRO
Measurement Units, Resolution, Velocity of Sound	✓	✓	✓	✓
Single Echo Measurements (SE)	*	✓	✓	✓
Echo-Echo Measurements (EE)	*	✓	✓	✓
Multiple-Echo Measurements (ME) including Deep Coat	✓	*	✓	✓
Measurement Limits	✓	✓	✓	✓
Material List	✓	✓	✓	✓
Calibration 1 & 2 Point	✓	✓	✓	✓
Indoor/Outdoor Display Colours	✓	✓	✓	✓
Measurement Freeze	✓	✓	✓	✓
Auto Probe Detection		✓	✓	✓
A-Scan Display	*	*	✓	✓
Manual Gain Control	*	*	✓	✓
High Temperature Measurement **	*	*	*	✓
Data Logging (Basic)			✓	
Data Logging (Advanced)	*	*	*	✓
B-Scan		*	✓	✓
Manual Gates (A & B)		*	*	✓
Fast Update Rate (32Hz)			✓	✓
Measurement Setups				✓
User Access Control				✓

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Gain 40dB Logged 21 Comp 1% min 10.09



* Feature can be purchased as an upgrade.

** With suitable high temperature Ex probe when available.