



# 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 Intrinsicly 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**    **CYGLINK SOFTWARE**    **B-SCAN WITH AUTO START/ PAUSE/CONTINUE**    **LIVE A-SCAN FOR FURTHER VERIFICATION**



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## 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	11.76	13.65
LEV2	POS3	11.92	11.71	13.45	13.74
LEV3	POS4	11.26	12.27	11.76	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



### Cymlink 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 INTRINSICALLY SAFE SPECIFICATION

Feature	Description		
<b>Measuring Mode</b>	Single Echo with Twin Crystal Probes Echo-Echo with Twin Crystal Probes Multiple Echo with Singly Crystal Probes		
<b>Materials</b>	Sound velocity from 1000 m/s to 9000 m/s [0.0390 in/us to 0.3543 in/us]		
<b>Accuracy</b>	±0.1 mm (±0.004") or 0.1% of thickness measurement whichever is the greatest		
<b>Resolution</b>	0.1mm, 0.05mm or 0.01mm depending on probe type		
<b>Probe Options</b>	Single crystal and twin crystal probes		
<b>Measurement Range in Steel</b>	0.8mm to 250mm (0.031 in. – 10 in.) depending on selected probe and configuration, material and temperature		
<b>Connector</b>	Single Dual Coaxial Connector		
<b>Power Supply</b>	Rechargeable, removable Lithium-Ion battery pack		
<b>Power Rating</b>	2W		
<b>Probe Sockets</b>	Single Dual Coaxial Connector		
<b>Battery Life</b>	6-8 hours continuous measurement		
<b>Display</b>	3.5" VGA, sunlight readable colour display		
<b>Size</b>	270mm tall, 135mm wide, 80mm deep		
<b>Weight</b>	1 kg with battery		
<b>Operating Temp.</b>	-0°C to +50°C (32°F to 122°F)		
<b>Storage Temp.</b>	-10°C to +65°C (50°F to 149°F)		
<b>Data Logging</b>	10,000 measurements and A-scans per record		
<b>Computer Software</b>	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		
<b>Certification</b>	<table border="0"> <tr> <td style="vertical-align: top;"> <p><b>ATEX, IECEx and UKEX</b> 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><b>NRTL</b> 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><b>ATEX, IECEx and UKEX</b> 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><b>NRTL</b> 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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<b>Environmental Protection</b>	IP67 Pollution degree 3		
<b>Standards</b>	Designed for BS EN 15317:2000		
<b>Warranty</b>	3 years on gauge and 6 months on probe		



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