



CYGNUS SURFACE RANGE

ULTRASONIC THICKNESS GAUGES



IDEAL FOR
USE IN



OIL AND
GAS



MARINE
STRUCTURES



STORAGE
TANKS



CIVIL
ENGINEERING



SHIP
SURVEYS



EXPLORE THE SURFACE RANGE



CYGNUS INSTRUMENTS WHO WE ARE

Trusted by engineers and inspectors worldwide since 1983, Cygnus manufactures truly reliable ultrasonic measurement equipment to suit a broad spectrum of user needs across various industries.

Always taking an application-driven approach, Cygnus has designed its range of surface gauges for ease-of-use, accuracy and with practical functionalities.

Cygnus gauges are renowned for their durability. As such, Cygnus service centres are strategically placed across the globe to provide professional and efficient service throughout the 3-year warranty period and beyond.



INTRODUCING THE CYGNUS SURFACE RANGE

Cygnus 1 Intrinsically Safe measures wall thickness through coatings and is certified intrinsically safe for use in Zone 0 & Zone 1 hazardous areas.



Cygnus Mk5 Range consists of 2 base models for simple, accurate measurement through coatings; and 3 PLUS models with advanced features and additional measuring modes for extreme corrosion and extensive applications.

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 (MSI™) 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

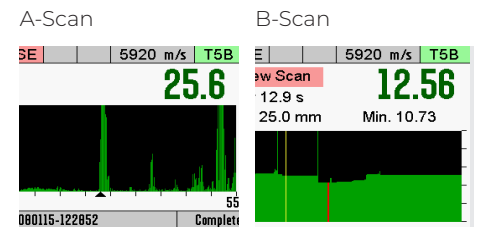
DATA LOGGING FACILITIES

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



A-SCAN & B-SCAN

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





The Cygnus 1 Intrinsically Safe is a simple and tough ultrasonic thickness gauge for safely measuring remaining metal thickness in hazardous/potentially explosive atmospheres. The gauge employs the Multiple-Echo technique to give accurate, self-verified measurements without removing protective coatings.



CYGNUS 1 INTRINSICALLY SAFE KEY FEATURES



GO TO
PRODUCT
PAGE

- For use in Zone 0, Zone 1 hazardous areas
- No plant shutdown or hot work permit necessary
- Approved for use in mines
- Stable calibration - no zero adjustment
- Two rechargeable battery packs with charger
- Echo strength indicator to aid measurement
- Metric / imperial switchable
- Stable calibration, linear accuracy, no zero adjustment
- Self-verification of the measurements to ensure maximum accuracy
- Two rechargeable battery packs with charger
- Displays sound velocity settings

APPLICATIONS

Ideal for chemical plants, oil and gas production infrastructure and pipelines, storage tanks, dry dust environments, LPG vessels, mines, road tankers, grain processing plants, fuel depots and many more.



**BRIGHT LED
DISPLAY WITH
POLARISED
FILTER**



**MULTIPLE
PROBE
OPTIONS
AVAILABLE**



**HEAVY-DUTY
SEALED
UNIT IP65
RATED**



**RUGGED,
DURABLE,
SHOCK-PROOF
CONSTRUCTION**

CERTIFIED INTRINSICALLY SAFE TO:

ATEX

{Ex} II 1 G Ex ia IIC T6 Ga
(Tamb = -20°C to 40°C)

{Ex} M 1 Ex ia I Ma

CSA Class 1 Group A, B,
C & D Division 1

IECEx

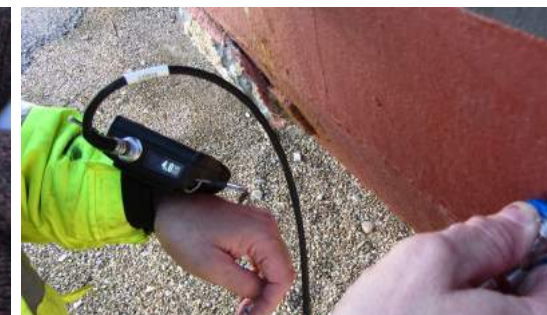
Ex ia IIC T2/T3/T6 Ga
Ex ia I Ma



SPECIFICATION

Feature	Description
Measuring Mode	Multiple-Echo using 3 echoes to ignore coatings
Materials	Velocities from 2000 - 7000 m/s (0.059 and 0.31 in/us) - covers virtually all common engineering materials
Accuracy	±0.1mm (±0.004") or 0.1% of thickness measurement, whichever is greatest, when calibrated in accordance with Cygnus Instruments calibration procedure
Resolution	0.1mm (0.004") or 0.05mm (0.002") (selectable)
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
Power	NiMH rechargeable battery pack
Battery Life	12 hours' continuous operation
Display	Bright LED display
Size	235 x 75mm (9.252" x 3.000") (H x W)
Weight	910g (32 oz) with remote probe (inc. batteries)
Operating Temp.	-10°C to +50°C (14°F to 122°F)
Certification	ATEX {Ex} II 1 G Ex ia IIC T6 Ga (Tamb = -20°C to 40°C) {Ex} I M 1 Ex ia I Ma (Tamb = 0°C to 45°C) IECEx Ex ia IIC T6 Ga Ex ia I Ma CSA Class 1 Group A, B, C, D Division 1
Environmental Protection	IP65
Standards	Designed for EN 15317
Warranty	3 years on gauge and 6 months on probe

The Cygnus 2 Hands-Free uses the Multiple-Echo technique to reliably measure metal thickness through coatings. The gauge is small and lightweight, yet very rugged and extremely simple to operate with its intuitive menu.



CYGNUS 2 HANDS-FREE KEY FEATURES



- **Multiple-Echo mode for accurate, through-coat measurements as specified by Classification Societies.**
- **Hands free operation: wrist, waist belt and harness mountable**
- Deep Coat function ignores coatings up to 20mm thick
- Simple, one-point calibration – no zeroing required
- End-mounted rotatable LCD display for convenient hands-free operation
- Intuitive easy to use menu
- Extremely rugged enclosure - shock and impact proof to US MIL STD 810G
- Environmental sealing (water and dust proof) to IP67 – US MIL STD 810G

APPLICATIONS

Ideal for ship surveys and hull UTM inspections, and structural integrity inspection via rope access or climbing.



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



**WATER &
DUST
TIGHT** IP67
HOUSING



**END-
MOUNTED
ROTATABLE
LCD DISPLAY**



**USE WITH
SINGLE
CRYSTAL
PROBES**

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. ±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	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	1 x Lemo 1
Power	3 x AA batteries
Battery Life	10 hours minimum
Electronics	Dual channel pulser
Display	End-Mounted LCD (rotatable)
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 - 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



**GO TO
PRODUCT
PAGE**

The Cygnus 4 General Purpose thickness gauge uses the Multiple-Echo technique to accurately measure metal thickness without removing protective coatings. This compact gauge is light but tough and truly simple to use with its intuitive menu.

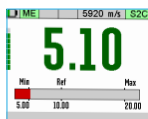


CYGNUS 4 GENERAL PURPOSE KEY FEATURES

- **Multiple-Echo mode for accurate, through-coat measurements as specified by Classification Societies**
- **Deep Coat function ignores coatings up to 20 mm thick**
- Min/Max measurement limit functions
- Visual & 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 810GG

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. ±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	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	1 x Lemo 1
Power	3 x AA batteries
Battery Life	10 hours minimum
Electronics	Dual channel pulser
Display	2.4" quarter VGA LCD
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 - 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



**GO TO
PRODUCT
PAGE**

The Cygnus 2+ is the advanced version of the Hands Free model, incorporating three measuring modes to measure 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**
- Deep Coat function ignores coatings up to 20 mm thick
- MSI™ (Measurement Stability Indicator) verifies stable, reliable readings
- Intuitive easy to use menu

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/ IMPACT PROOF TO US MIL STD 810G	WATER & DUST TIGHT IP67 HOUSING	END- MOUNTED ROTATABLE DISPLAY	USE WITH SINGLE & TWIN CRYSTAL PROBES



GO TO
PRODUCT
PAGE

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 1 mm 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	Twin Lemo 00
Power	3 x AA batteries
Battery Life	10 hours minimum
Electronics	Dual channel pulser
Display	Cygnus 2+: End-Mounted LCD (rotatable)
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 - 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

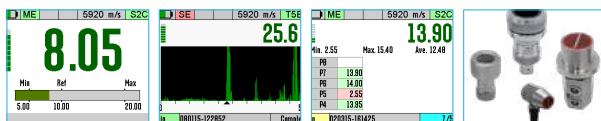


CYGNUS 4+ GENERAL PURPOSE KEY FEATURES

- **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**
- **Sequential data logging, records saved on SD card**
- Add comments to any measurement point
- Deep Coat function ignores coatings up to 20 mm thick
- Manual & automatic gain control
- Min/max measurement limit functions with visual & vibrate alert
- MSI™ (Measurement Stability Indicator) verifies stable, reliable readings
- Available with Cygnus High Temperature probe for measurement on hot surfaces

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



GO TO PRODUCT PAGE

The Cygnus 4+ General Purpose thickness gauge is a light, tough multi-mode thickness gauge. It features a sunlight readable LCD display with Live A-scan, intuitive menu and sequential data logging for easy reporting & analysis (CSV or PDF format).

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	Twin Lemo 00
Power	3 x AA batteries
Battery Life	10 hours minimum
Electronics	Dual channel pulser
Display	2.4" quarter VGA LCD
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

*except high temperature measurements



CYGNUS 6+ PRO KEY FEATURES

The Cygnus 6+ PRO thickness gauge boasts a full range of useful features for professional users, including A-scan, B-scan and comprehensive data logging. The gauge can switch between 3 measuring modes and use different probes to suit levels of front/back wall corrosion and pitting or measure a variety of materials such as plastics, cast metals and composites.

- 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
- Comprehensive data logging: linear, grid and template
- Radial Points allow immediate further investigation around defect areas
- MSI™ (Measurement Stability Indicator) verifies stable, reliable readings
- Deep Coat function ignores coatings up to 20 mm thick
- Manual & automatic gain control
- Min/max measurement limit functions with visual and vibrate alert
- Temperature Compensation for hot surfaces
- Used with Cygnus High Temperature probe for high-temperature measurement

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



ADVANCED DATA LOGGING
WITH RADIAL POINTS

DUAL LCD DISPLAY – FRONT & END MOUNTED

ROLLING B-SCAN WITH AUTO START/STOP

LIVE A-SCAN FOR FURTHER VERIFICATION



GO TO PRODUCT PAGE

Visit www.cygnus-instruments.com to explore our full product range

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	Twin Lemo 00
Power	3 x AA batteries
Battery Life	10 hours minimum
Electronics	Dual channel pulser
Display	2.4" quarter VGA LCD and end-mounted LCD (rotatable)
Display Info.	Thickness value, A-scan and B-scan
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 probes

*except high temperature measurements

Call our team today on +44 (0) 1305 265 533 for expert product advice

HOW TO PLACE YOUR ORDER



1 IS

2

2+

4

4+

6+

No cable options*

1

CHOOSE YOUR GAUGE

2

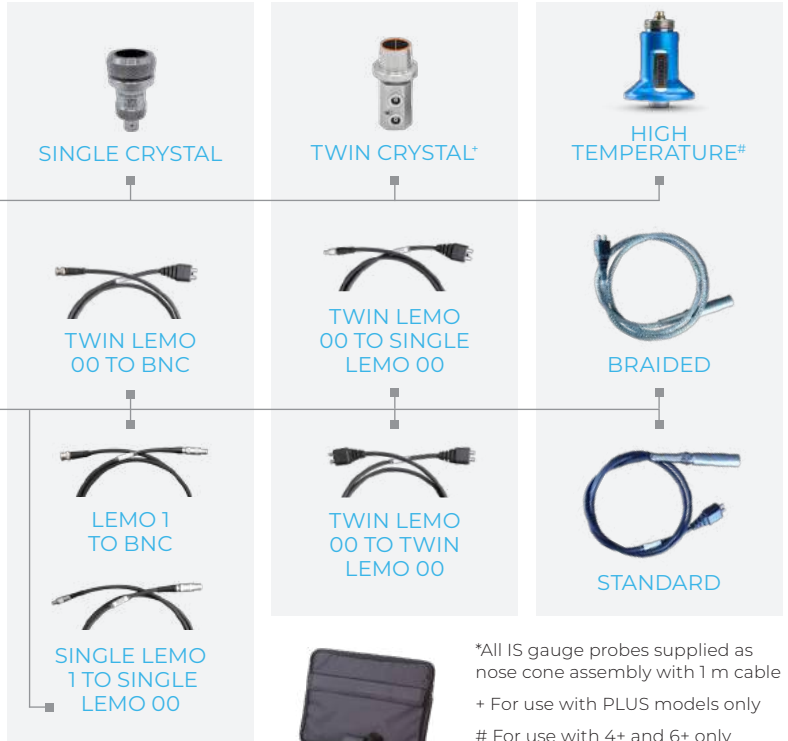
CHOOSE YOUR PROBE

3

CHOOSE YOUR CABLE

4

YOUR KIT IS COMPLETE



*All IS gauge probes supplied as nose cone assembly with 1 m cable
 + For use with PLUS models only
 # For use with 4+ and 6+ only



Cygnus Instruments Ltd.
 Cygnus House
 30 Prince of Wales Road
 Dorchester
 Dorset DT1 1PW
 United Kingdom



Cygnus Headquarters

Call +44 (0) 1305 265 533
 Email sales@cygnus-instruments.com
 Visit cygnus-instruments.com

Cygnus UAE

Call +971 50 3459305
 Email ribu@cygnus-instruments.com
 Visit cygnus-instruments.com

Cygnus USA

Call +1 (410) 267 9771
 Email sales@cygnusinstruments.com
 Visit cygnus-instruments.com/us/

Cygnus Singapore

Call +65 6252 5909
 Email sales@cygnus-instruments.sg
 Visit cygnus-instruments.com/sg/