



BRIDGE MATE™ BY MARINE TECHNOLOGIES



BRIDGE MATE CYSCAN

AN ADVANCED LOCAL POSITION REFERENCE SENSOR FOR ALL VESSELS

Bridge Mate CyScan is a high-performance local position reference sensor specifically engineered for marine dynamic positioning (DP) applications. CyScan accurately measures the range and bearing of retro-reflective targets allowing the calculation of vessel position and heading. It can serve as a primary or back-up sensor and is compatible with virtually any type of vessel.

The CyScan is available with all Marine Technologies DP systems.

SYSTEM OPERATION

The Bridge Mate CyScan contains a laser scanner connected to the vessel's DP system and is operated from a computer console installed on the vessel's bridge. The rotating laser sensor calculates the range and bearing of the reflections from one or more retro-reflective targets installed on the target platform or vessel. If multiple targets are used, the vessel's heading can also be calculated. This information is fed directly to the vessel's DP system.



The new CyScan dashboard is features an innovative touchscreen interface as an alternative solution to the traditional console.

KEY FEATURES

- Triple type approved
- Operating range up to 8,202 feet (2,500 meters)
- Close range operation from 33 feet (10 meters)
- Full 360° scanning
- Automatic wave compensation
- Available for extremely low temperatures of -40°F (-40°C)
- Suitable for applications using both fixed and mobile structures

FOR SHIP OWNERS CONCERNED WITH QUALITY AND SAFETY





Bridge Mate CyScan Sensor

BRIDGE MATE CYSCAN CONSOLE

The Cyscan console's clear display and intuitive user interface enables DP operators to use CyScan safely and effectively. The same user interface is used on the RadaScan console, helping to make sure that RadaScan-trained operators will already be familiar with CyScan controls.

The CyScan sensor and console computer are connected via a standard, networked ethernet link, enabling multiple control stations to be installed, if required.

NEW BRIDGE MATE CYSCAN

The latest Bridge Mate CyScan has evolved using the expertise gained from over 12 years of designing marine positioning sensors. Developed from our existing field-proven sensor, it offers even better performance, accuracy and reliability.

DOUBLE-SPEED ROTOR

The new CyScan's 120 rpm double-speed rotor option makes it suitable for use on board smaller, more maneuverable vessels.

IMPROVED ACCURACY AND PRECISION

The twice-per-second scan resolution gives increased accuracy to larger vessels that have traditionally used CyScan. Upgraded optics also allow better tracking of dirty or damaged target reflectors.

QUICK AND SIMPLE INSTALLATION

CyScan's integral PSU enables it to be installed quickly and easily as a single unit. The sensor can be linked to the vessel's DP system using either ethernet or serial connections.

INCREASED RELIABILITY AND REDUCED DOWNTIME

Fewer moving parts make the latest CyScan even more reliable than its predecessor. Its modular design and onboard fault diagnosis allow servicing to be performed quickly and simply. Additionally, CyScan's new robust, all-metal housing protects it from harsh marine environments.

TARGETS

The sensor operates with inexpensive flat, cylindrical or prism targets. Multiple targets give the system a high degree of redundancy. This allows it to cope with the sudden loss of a target, e.g., a target obscured by another vessel, while still supplying accurate positional data to the DP system.

AUTOMATIC LEVELLING SYSTEM

An automatic levelling system compensates for the pitch and roll of the vessel, ensuring that the sensor maintains target-lock in high sea states.

RELIABLE TARGET LOCK

A rotating scan pattern, combined with advanced mathematical algorithms, enables CyScan to differentiate between real targets and false reflections. For example, CyScan can differentiate its targets from personnel wearing retro-reflective clothing or life jackets.

USER BENEFITS

- Increased Accuracy – Upgraded optics give better tracking of dirty targets and an extended operating range.
- Better Maneuverability – Adjustable rotor speeds up to 2 Hz (120 rpm) allows CyScan to be used on smaller, faster, more maneuverable vessels.
- Improved Reliability – Fewer moving parts increase sensor lifespan and reliability.
- Quick and Simple Installation – The integrated CyScan unit does not require an additional PSU. Bow/stern-facing installations are configured by a simple two-way switch.
- Faster Servicing – Modular components can be swapped quickly and easily.
- Easier Upgrades – Fast software upgrades are conducted using USB memory sticks or via the console/service PC.
- Faster Fault Resolution – Diagnostic messages are shown on the integrated status display.
- Improved Service History – Electronic IDs and runtime statistics are recorded for all electronic components.
- Choice of Connections – Choose between dual opto-isolated RS-422 (serial) or dual ethernet.
- Compatibility – CyScan is compatible with all modern DP systems using industry-standard data protocols.
- Ease of Use – CyScan features intuitive controls for quick set-up and simple operation.

SPECIFICATIONS

SENSOR

Laser Type	Pulsed (minimum 30 kHz) laser diode
Laser Classification	Eye safe to Class 1 IEC60825
Operating Range (nominal)	10 m to 2,500 m (33 ft to 8,202 ft) – <i>dependent on target type and environmental conditions</i>
Range Resolution	8.5 mm (0.33 in) – <i>< 30 ps time of flight</i>
Angular Resolution	(typical) 0.012° (0.2 mrad)
Levelling Optics	Single active axis
Beam Shape (nominal)	12° vertical, 0.13° horizontal
Tilt Compensation	-20° to +20° roll and pitch
Total Vertical Angular Coverage	52° – <i>mechanical + optical</i>
Wave Motion Compensation	(typical) ±5 for 5 s wave period

TARGET DETAILS

Target Type Typical Range	1.9 m cylindrical 10 m to 250 m (6.2 ft cylindrical 32.8 ft to 820.2 ft) 2 m flat 10 m to 400 m (6.6 ft flat 32.8 ft to 1,312.3 ft)
Extended Operating Range	Prism clusters 10 m to 1,250 m (6.2 ft to 4,101 ft) – <i>standard</i> Prism clusters up to 2,500 m (8,202 ft) – <i>long range license</i>

VESSEL INTERFACE

Power Requirement	85-264VAC, 45-65 Hz, 1.2 A
Sensor Control and DP Feed I/O	2 x RS422, 2 x ethernet 100Base-T Auto MDI/X
Supported DP Systems	Includes Beier Radio, GE Energy, (Converteam), Kongsberg, L-3, Marine Technologies, Navis and Rolls Royce
Supported DP System Configurations	Serial console (single) with serial DP (single) Ethernet console (master and slaves) with ethernet DP (single) Ethernet console (master and slaves) with serial DP (single, dual)
Supported Ethernet Protocols	TCP/IP+multicast (console), UDP/IP unicast (console and DP)
Supported DP Telegram Formats	NMEA0183R, NMEA0183P, ASCII17, MDL standard (single and multi target), BCD, Artemis, Marine Technologies and Rolls Royce custom strings

ENVIRONMENTAL

Temperature Range (operating)	-25°C to 70°C (-13°F to +158°F) -40°C (-40°F) <i>option available</i>
Marine Certification	IEC 60945 (IE10) and IMO Resolution A962 (23) 'GREEN PASSPORT'
Marine Type Approval	ABS, DNV and Lloyds Register
EMC Certification	CE Certified, FCC Part 15(a)
Water and Dust Protection	IP66 Rated

SENSOR DIMENSIONS

Width	405 mm (15.94 in)
Depth	407 mm (16.02 in)
Height	456 mm (17.95 in)
Weight	25 kg (55 lb)

FLIGHT CASE WEIGHT AND DIMENSIONS

System Dimensions	680 mm x 570 mm x 780 (26.77 in x 22.44 in x 30.71 in)
System Weight	61 kg (134.5 lb) – <i>with typical accessories such as computer, monitor and mouse</i>

*Marine Technologies, LLC reserves the right to alter or amend the published specifications without notice.



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