Meridian Gyrocompasses
Marine navigation systems

The Meridian gyrocompass product range is suitable for the ever-changing needs of a modern integrated navigation bridge system. This includes highly accurate performance with low cost of ownership and system flexibility. Due to the Meridian's small size and fast settle time of less than 45 minutes, there are no limits to the type of vessel for which it is suitable.

The Meridian gyrocompass can be installed as a standalone unit or, together with any of the Meridian range of repeaters and ancillaries, it becomes a single, dual or triple gyro system. The Meridian can also be used to replace many existing gyrocompasses as a retrofit unit.

Specifications

Product	Meridian Gyrocompasses marine navigation systems
Country of origin	USA
Manufacturer	Teledyne Marine

For simple installation the Meridian offers a large array digital and analogue outputs plus easy to use set-up and self-test modes that are activated via the control unit. The versatility and flexibility of the Meridian can be clearly demonstrated with the remote control unit option which gives freedom to install the main unit in the most convenient location whilst installing the remote control unit where it can be seen and regularly used.

Unlike other marine navigation gyrocompass currently available, the Meridian has a maintenance-free dry element with a meantime between failure of more than 30,000 hours; and post- installation there are no scheduled annual maintenance and servicing costs.

Product features

- Type approved to marine equipment directive
- Economic one-box solution
- Fast initial settle time
- Subsea variants also available
- Small, lightweight and versatile
- High dynamic heading accuracy
- Versatile range of repeaters and ancillaries

Meridian standard

The heart of the Meridian gyrocompass is the element, which is a dynamically tuned gyroscope (DTG). The DTG is a high precision technology which, due to its size, accuracy, reliability and shock resistance, is used in many different applications. The guaranteed accuracy of the Meridian gyrocompass is obtained through specialised high quality engineering. This gives exceedingly stable heading and means that the gyro will follow a high turn rate of up to 200°per second.

Meridian surveyor

The Meridian Surveyor boasts a wide range of interfaces to enable use on any marine vessel. The unit utilises a DTG gyro element which provides exceptional performance with an accuracy unmatched by even the latest fibre optic designs.

Bearing repeater product features

- Precision 360° rotating compass card
- Automatic synchronisation with master compass
- Gimbal mounted
- Integrated illumination control
- Accepts true and magnetic heading data
- Suitable for use with either prism or vane type azimuth sights
- Pedestal stand and bulkhead bracket mounting options available

Specifications

Power supply input	18 - 36Vdc (15W)
Signal inputs	1 x IEC 61162 (NMEA 0183) 1 x step (5-70Vdc)
Signal outputs	1 x IEC 61162 (NMEA 0183)
Environmental and EMC	Meets or exceeds IEC 60945 weather exposed equipment
Physical	Dimensions: 287mm x 388mm x 388mm

Data repeater product features

- Clear vacuum fluorescent graphics display
- User selection of displayformat -simulated 360° tape/digital heading/digital ROT
- Suitable for steering repeater
- Integral illumination control
- Accepts true and magnetic heading sentences Second input for magnetic correction
- Supplied with swivel bracket for bulkhead or table mounting
- DIN front panel for console mounting

Specifications

Power supply input	18 - 36Vdc (15W)
Signal inputs	1 x IEC 61162 (NMEA 0183) 1 x step (5-70Vdc)
Signal outputs	1 x IEC 61162 (NMEA 0183)
Environmental and EMC	Meets or exceeds IEC 60945 weather exposed equipment
Physical	Dimensions: 96mm x 192mm x 145mm

Digital repeater product features

- 4-digit LED heading display
- LED turning indicator
- Integral illumination control
- Accepts true and magnetic heading sentences
  Second input for magnetic correction
- Supplied with swivel bracket for bulkhead or table mounting
- DIN front panel for console mounting
  options available

Specifications

Power supply input	18 - 36Vdc (15W)
Signal inputs	1 x IEC 61162 (NMEA 0183) 1 x step (5-70Vdc)
Signal outputs	1 x IEC 61162 (NMEA 0183)
Environmental and EMC	Meets or exceeds IEC 60945 weather exposed equipment
Physical	Dimensions: 96mm x 192mm x 145mm

Data repeater product features

- Precision 360° rotating compass card
- Automatic synchronisation with master compass
- Integrated illumination control
- Integral illumination control
- Supplied with swivel bracket for bulkhead or table mounting
- DIN front panel for console mounting

Specifications

Power supply input	18-31.6 Vdc (6W) - 36Vdc (15W)
Signal inputs	1 x IEC 61162-1 (NMEA 0183), Baud rate 4800, 9600, 19200, 38400
Environmental and EMC	Meets or exceeds IEC 60945 weather protected equipment
Physical	Dimensions: 44mm x 144mm x 100mm including connector Weight: 1.25 Kg Connector: 15-waysubminature plug (2.5m cable supplied) Dial marking:1°, 5°, 10°, 45°

Heading repeater product features

- Large,clear vacuum fluorescent graphics display
- User selection of displayformat -simulated 360° tape/digital heading/digital ROT
- Dual input -compass comparator display
- Suitable for steering repeater
- Integral illumination control
- DIN front panel for console mounting
- Supplied with swivel bracket for bulkhead or table mounting

Specifications

Power supply input	18 - 36Vdc (15W)
Signal inputs	2 x IEC 61162 (NMEA 0183) 1 x Step (5-70Vdc) 1 x Synchro (option)
Signal outputs	1 x IEC 61162 (NMEA 0183)
Environmental and EMC	Meets or exceeds IEC 60945 weather protected equipment
Physical	Dimensions: 144mm x 288mm x 130mm

Step retransmission unit product features

- Converts 5V step code from gyrocompass to 24V, 35V, 50V or 70V power output
- Isolated input
- 4 output channels each independently protected against overloads
- Unit operates from 24Vdc – step supplyinternally generated

Specifications

Power supply input	18 - 36Vdc (15W)
Signal inputs	1 x step (5Vdc) 6 steps per degree
Signal outputs	4 x step (24V, 35V, 50V or 70V) 1 x step (5Vdc) 1 x alarm relay(voltage free contacts)
Environmental and EMC	Meets or exceeds IEC 60945 weather protected equipment
Physical	Dimensions: 400mm x 300mm x 120mm

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Specifications

		Display	Display
Display		360° compass card and digital display	
Performance	Settle point error Settle point repeatability Static accuracy1	0.25° secant latitude 0.25° secant latitude 0.10° RMS secant latitude	0.10° secant latitude 0.10° secant latitude 0.05° RMS secant latitude
	Dynamic accuracy	0.30° secant latitude latitude scorsby/ intercardinal motion	0.20° secant latitude scorsby/intercardinal motion
	Follow-up speed	~200°/second	
	Settling time	<45 minutes to within 0.70° (from initial 30°)	
Outputs	S' type Synchro Serial data	1 x Step by Step (5V TTL), 6 steps per degree 1 x 26V 400Hz sector value 360° (1:1 ratio) 11.8V line to line 11 x RS422, NMEA 0183 (IEC 61162-1/2)	5 x RS422, NMEA 0183 (IEC 61162-1/2)
		5 x RS422, NMEA 0183 1 x printer port, NMEA 0183 5 x 20mA current loop 1 x ROT (±10V)	
	Status/alarm	5V TTL power fail/gyro fail 5V TTL system ready Potential free status and alarm relays	
Inputs	Latitude Speed	Automatic -via RS232 or RS422, NMEA 0183 from GPS or manual Automatic -via RS232 or RS422, NMEA 0183 from log or pulse/contact closure at 100, 200 or 400/NM from log or manual	
Compensation	Latitude Speed	80°N to 80°S 0-90 knots	
Environmental	Ambient operating temperature Storage temperature Gimbal limits	0°C – 45°C (–15°C – +55°C with reduced accuracy) –25°C – +80°C ±45° roll and pitch	
	Mean time between failures Shock(survival)	>30,000 hours (calculated); >100,000 hours (in service data) 10g	
Operating Voltage	Input voltage	24Vdc (19-36Vdc)	
Power	Start-up	>3A at switch on / <1.5A in ready mode	
Dimensions	Size Weight	344mm (h) x 267mm (w) x 440mm (d) 15.5 Kg	
Accessories	Included	Operator handbook,spare fuse	Operator manual, transit case,spare connector
	Optional	Remote control unit,various repeaters and accessories	
Standards		IMO A424(X1), IMO A821(19), IEC 60945, ISO 8728, ISO 16328, IEC 62288,Marine Equipment Directive 96/98/EC	
Warranty		24 months international warrantyincluding parts and labour.	