

**SPECIFICATIONS OF SATELLITE COMPASS
SC-70**

1 GENERAL

- 1.1 Receiving frequency 1575.42 MHz (GPS/GALILEO), 1602.5625 MHz (GLONASS)
- 1.2 Tracking code C/A code (GPS), E1B (GALILEO), 1OF (GLONASS)
- 1.3 Positional accuracy (dependent on ionospheric activity and multipath)
 - GPS 10 m approx. (2drms, HDOP<4)
 - DGPS 5 m approx. (2drms, HDOP<4)
 - MSAS 7 m approx. (2drms, HDOP<4)
 - WAAS 3 m approx. (2drms, HDOP<4)
- 1.4 Ship's speed accuracy (SOG)
 - 0.2 kn rms (tracking satellites 3 or 4)
 - 0.02 kn rms (tracking satellites 5 or more)
- 1.5 Ship's speed accuracy (VBW, speed on ground)
 - 2.0% of ship's speed or 0.2 kn whichever is the greater (tracking satellites 3 or 4)
 - 0.2% of ship's speed or 0.2 kn whichever is the greater (tracking satellites 5 or more, at antenna position)
 - 0.2% of ship's speed or 0.8 kn whichever is the greater (tracking satellites 5 or more, at another position)
- 1.6 Course accuracy 0.4° RMS
- 1.7 Course resolution 0.1°, 0.01° or 0.001° (select from menu)
- 1.8 Attitude resolution 0.1°, 0.01° or 0.001° (select from menu)
- 1.9 Rate of turn 0.1°/s, 0.01°/s or 0.001°/s (select from menu)
- 1.10 Tracking bearing 40°/s
- 1.11 Position fixing time 90 s approx. (typical)
- 1.12 Attitude accuracy Pitch/ Roll: 0.4° RMS

2 DISPLAY UNIT

- 2.1 Screen 4.3-inch color LCD, 95.04 mm (W) x 87.12 mm (H)
- 2.2 Resolution 480 x 272 dots (WQVGA)
- 2.3 Brilliance 600 cd/m² typical
- 2.4 Contrast 17 levels
- 2.5 Display mode Heading, Nav data, Rate of turn and Speed (Non-IMO mode only)
- 2.6 Visible distance 0.65 m nominal

3 INTERFACE (JUNCTION BOX)

- 3.1 Number of ports (junction box)
 - IEC61162 (NMEA0183) IEC61162-2: 1 port, IEC61162-1: 8 ports (I/O: 4, O: 4)
 - External beacon input (DATA5 port):
RTCM SC-104 V2.3 (RS-485), ITU-R M823
 - CANbus 1 port
 - AD-10 4 ports, for heading output
 - RS-485 1 port, for display unit connection
 - LAN 2 ports, Ethernet, 100Base-TX, RJ45 connector (IEC61162-450 and for maintenance)
 - USB 1 port for maintenance

3.2 Data sentences

DATA ports

Input	ACK, ACM, ACN, HBT, HDT, MSK, MSS, THS, VBW* ² , VDR* ²
Output	ALC, ALF, ALR, ARC, DTM, GBS, GGA, GLL, GNS, GRS, GSA, GST, GSV, HBT, HDG* ² , HDM* ² , HDT* ¹ , HRM* ² , MSK, POS, RMC, ROT, THS, VBW* ² , VDR* ² , VHW* ² , VLW* ² , VTG, XDR* ² , ZDA

NETWORK port

Input	ACK, ACM, ACN, HBT
Output	ALC, ALF, ALR, ARC, DTM, GBS, GGA, GLL, GNS, GRS, GSA, GST, GSV, HBT, HDG, HDM, HDT* ¹ , HRM* ² , POS, RMC, ROT, THS, VBW* ² , VDR* ² , VHW* ² , VLW* ² , VTG, XDR* ² , ZDA

*¹: Not used for new SOLAS vessels.

*²: for Non-IMO types only.

3.3 Output proprietary sentences

PFEC	GPatt, GPhve, GPimu, pidat, pireq
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3.4 PGN

Input	059392/904, 060928, 061184, 126208/720/996
Output	059392/904, 060928, 061184, 065280, 126208/464/720/992/996, 127250/251/252/257/258, 129025/026/029/033/291/539/540/545/547, 130310/312/314/316/577/578/822/823/842/843/845/846

3.5 IEC61162-450 transmission group

Input	MISC, SATD, NAVD, PROP
Output	Arbitrary (default: SATD)

3.6 Other network function excepted IEC61162-450

NTP, HTTP

4 POWER SUPPLY

4.1 Junction box	12-24 VDC: 2.1-1.1 A (included antenna unit and display unit)
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4.2 Rectifier (PR-240, option)	100-115/220-230 VAC, 1 phase, 50/60Hz and 24VDC
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5 ENVIRONMENTAL CONDITIONS

5.1 Ambient temperature

Antenna unit	-25°C to +55°C (storage: -25°C to +70°C)
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Display unit/ Junction box	-15°C to +55°C
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5.2 Relative humidity	95% or less at +40°C
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5.3 Degree of protection

Antenna unit	IP56
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Display unit	IP22 (IP35: option)
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Junction box	IP20 (IP22: bulkhead mount)
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5.4 Vibration	IEC 60945 Ed.4
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6 UNIT COLOR

6.1 Antenna unit	N9.5
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6.2 Display unit/ Junction box	N2.5
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