

SB-285P Sentinel[®] Buoy



TIDELAND SIGNAL CORPORATION

The SB-285P Sentinel[®] is Tideland Signal's large sea buoy companion to the very successful SB-138P Sentinel buoy. This buoy meets Tideland's goal in developing high performance, low maintenance marine aids to navigation. Deployed in over 50 countries, this buoy utilises the latest in materials, manufacturing processes and technology, which provides a rugged, lightweight buoy with exceptional stationkeeping and long life, while reducing the long term maintenance expense of floating aids to navigation.

FEATURES:

- **UV-STABILISED POLYETHYLENE** – Rotationally moulded to form a tough, 12.7 mm thick body. Prior to moulding, colour pigment is blended into polyethylene material eliminating the need for costly sandblasting and continued painting. Through a unique mould design and a controlled process, an increased thickness is formed at major stress points. This polyethylene material will also repel marine growth.
- **DIVIDED INTO THREE SECTIONS** – A float section, middle superstructure section and top section form an abrasion resistant, shock absorbing buoy able to withstand knocks and/or collisions. In event of damage, individual sections can be easily replaced on the deck of a buoy tender, at sea.
- **MATCHING OR ALTERNATING SECTIONS** – Bifurcation buoys can be easily made, either red or green as needed. Cardinal buoys can be assembled using the same method with yellow and black sections. Fairway or Safe Water buoys are produced using a process of moulded in colour graphics, resulting in red and white vertical striping.

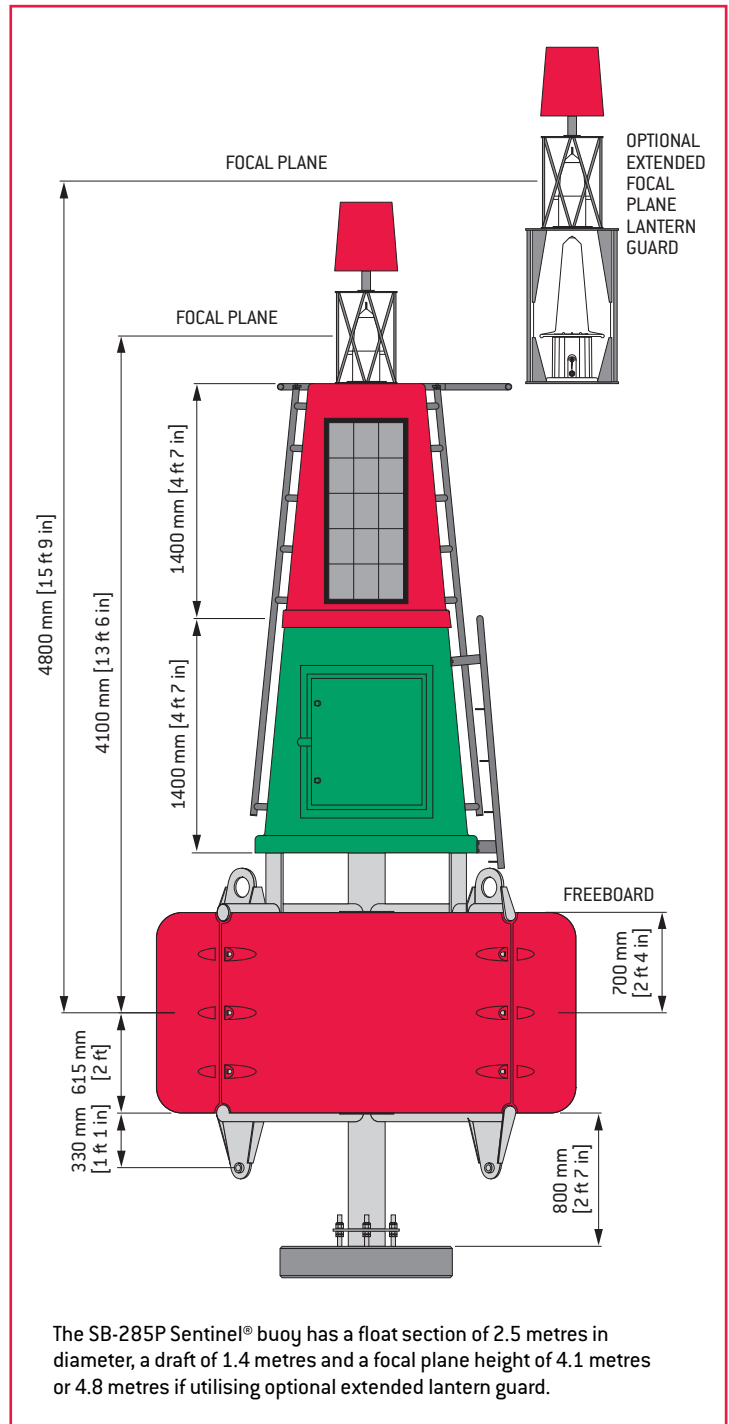


FEATURES (cont):

- 2.5 METRE DIAMETER FLOAT SECTION** – Utilises 316 stainless steel tube ‘skeleton’ to support (4) 1/4 float sections with 12.7 mm thick walls. These unsinkable sections are filled with polystyrene beads. The float sections are then sealed and placed into a steam-chest to expand the foam beads to maximum size, fusing the beads together. This process results in one solid piece, completely filling all voids, preventing water ingress in the event of puncture, adding toughness to an already rugged floating aid.
- POWER** – Eight (8) AGM spill-proof batteries configured for 12 volts are housed in middle superstructure section. This section includes a hinged, tamperproof, watertight service hatch.
- NAVAID TOP SECTION** – This section can support (4) 90 watt solar modules. Configurations of solar modules can vary depending on electrical load and average solar insulation for area of deployment. An internal high gain passive radar reflector (10m²) and hard-anodised aluminium lantern guard, if needed, are also included. All additional internal optional equipment is also fitted into this section.



Cutaway of a float section shows it completely filled with expanded polystyrene foam that prevents water ingress in the event of damage.



The SB-285P Sentinel® buoy has a float section of 2.5 metres in diameter, a draft of 1.4 metres and a focal plane height of 4.1 metres or 4.8 metres if utilising optional extended lantern guard.



REPAIR KIT (optional)

Includes heat gun, UV polyethylene welding rods and spin-on patches for fast and easy minor repairs.

STANDARD AND OPTIONAL EQUIPMENT FOR THE SB-285P SENTINEL® BUOY

GPS ANTENNA (not shown)
A marine grade antenna that is weatherproof and waterproof. Performance is enhanced using band pass filters to improve immunity to other RF signals and still provide 35-dB of signal gain.

VHF RADIO ANTENNA (not shown)
Constructed from tough marine epoxy and stainless steel connectors, the antenna provides a strong, clear signal on all broadcast frequencies.

V-TRACK™ INFORMER™
Provides AIS equipped vessels with real time buoy information. AIS compliant display chart will receive buoy target flag along with navigational light data. Informer will broadcast an alert message if buoy goes off-station. Informer™ can also transmit remote monitoring information of Tideland Signal lanterns and also lanterns of other manufacturers.

MAN-GUARD

PHOTOVOLTAIC SYSTEM
12 volt nominal based on solar modules.

RMC-3
Tideland's newest technology for remote monitor and control functions is ideal for buoy applications due to its small footprint and low power consumption of < 1 AH per day. The RMC-3 is field upgradeable and can be polled or diagnosed on-station using a laptop computer.

MIDDLE SUPERSTRUCTURE SECTION

HANDRAIL(S)

ACCESS HATCH

BRIDLE AND MOORINGS (not shown)
As required for various applications.

TOPMARKS
IALA-recommended topmarks are rotationally moulded using the same compounded UV polyethylene as the SB-285P buoy.

LANTERN GUARD
A marine grade, hard-anodised aluminium provides durable protection for the buoy lantern. An extended focal plane version (shown) is available.

LANTERN OPTIONS
Tideland recommends the following lantern options, which produce a wide vertical divergence to compensate for buoy roll: ML-140 MaxLumina® (shown), MLED-120, MLED-120SC, SolaLED-215 and MLED-215. The ML-140 MaxLumina®, MLED-120 and MLED-120SC are equipped with Tideland's MicroPower OMNIBUS® II technology for remote monitor and control capability.

SEABEACON® 2 SYSTEM 6 RACON
A frequency agile radar beacon, providing dependable service to all marine radars. SeaBeacon 2 is unequaled in power efficiency, frequency matching and constant pulse-by-pulse responses.

NAVAID SECTION

INTERNAL RADAR REFLECTOR
A maintenance-free high gain 10m² passive radar reflector is located inside the navaid section, providing maximum radar reflection height from the water surface.

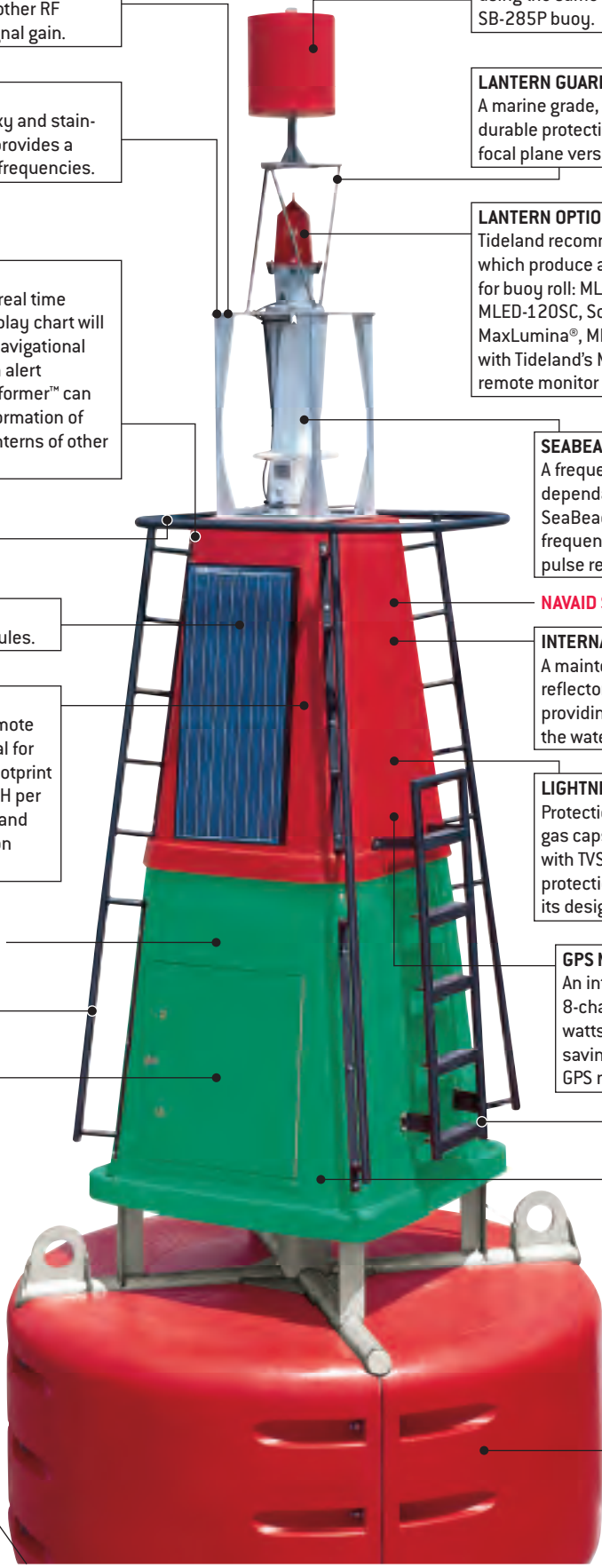
LIGHTNING PROTECTION MODULES
Protection at the antenna is accomplished with a gas capsule module or a quarter-wave tuned filter with TVS clamping devices. Robust lightning protection is available through the RMC-3 due to its design for extremely harsh environments.

GPS MODULE
An internal GPS plug-in module provides 8-channel tracking while consuming only 0.47 watts with continuous operation. Further power savings can be gained by cycling power to the GPS module (0.08 watts).

LADDER

POWER SYSTEM
Configured for 12 volts with either one or two VIVA® secondary AGM spill proof type batteries. Entire power system is above waterline.

FLOAT SECTION



SPECIFICATIONS

Construction	Rotationally moulded in low density UV-stabilised virgin polyethylene, covering a 316 marine grade stainless steel frame
Foam Filling	16 kg/m ³ expanded polystyrene foam
Air Weight	2400 kg (5300 lb)
Diameter	2500 mm (8 ft 2 in)
Nominal Focal Plane Height	4100 mm (13 ft 6 in)
Optional Extended Focal Plane	4800 mm (15 ft 9 in)
Draft	1400 mm (4 ft 6 in)
Freeboard	700 mm (2 ft 4 in)
Submergence	51 kg/cm (286 lb/in)
Radar Reflector	10 m ² (X-band)
Radar Range, nominal	4 to 5 NM
Visual Area	
with daymark panels (can shape)	5.5 m ² (61 ft ²)
with daymark panels (nun shape)	4.5 m ² (40 ft ²)
Colour	As Specified
Maximum Mooring Load	1575 kg (3500 lb)
Maximum Current	6 knots

NOTE: Specifications are subject to change.



RECOMMENDED MOORINGS

CURRENT LESS THAN 2 KNOTS

Water Depth ft	Chain Length [Shot]	Chain Size	Sinker Air Wt. lb
35	45 ft (1/2)	1 1/2 in	6000 steel 8000 concr
35-50	90 ft (1)	1 1/2 in	6000 steel 8000 concr
50-80	135 ft (1 1/2)	1 1/8 in	6000 steel 8000 concr
80-120	135-180 ft (1 1/2-2)	1 in	6000 steel 8000 concr
120-200	180-270 ft (2-3)	3/4-7/8 in	6000 steel 8000 concr

CURRENT 2-4 KNOTS

Water Depth ft	Chain Length [Shot]	Chain Size	Sinker Air Wt. lb
35	90 ft (1)	1 1/2 in	6000 steel 8000 concr
35-50	90 ft (1)	1 1/2 in	6000 steel 8000 concr
50-80	180 ft (1 1/2)	1 1/8 in	6000 steel 8000 concr
80-120	135-180 ft (1 1/2-2)	1 in	6000 steel 8000 concr
120-200	180-270 ft (2-3)	3/4-7/8 in	6000 steel 8000 concr

CURRENT 4-6 KNOTS

Water Depth ft	Chain Length [Shot]	Chain Size	Sinker Air Wt. lb
35	90 ft (1)	1 1/2 in	6000 steel 8000 concr
35-50	135 ft (1 1/2)	1 1/2 in	6000 steel 8000 concr
50-80	180 ft (2)	1 1/8 in	6000 steel 8000 concr
80-120	180-225 ft (2-2 1/2)	1 in	6000 steel 8000 concr
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NOTES:

1. Minimum recommended chain size 19 mm (3/4 in).
2. Recommended chain weight: minimum 320 kg (700 lb); maximum 1575 kg (3500 lb).
3. Mooring depth: minimum 6 m (20 ft); typical maximum 61 m (200 ft), 4 knots. Depths over 61 m (200 ft) on application. Combinations of chain, synthetic (rope) and chain may be suggested.
4. Depending on site conditions, shallow mooring may require heavier than noted chain size to provide needed stability.
5. Bridle weight: 136 kg (300 lb) approximate. Material size 38 mm (1-1/2 in) minimum with 42 mm (1-5/8 in) end and swivel ring material.

WHEN ORDERING MOORINGS, SPECIFY SITE CONDITIONS.

V-Track Informer is a trademark and MaxLumina, MicroPower OMNIBUS, SeaBeacon, Sentinel and VIVA are registered trademarks of Tideland Signal Corporation.

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Tideland Signal Corporation maintains ISO 9001:2000 accreditation. It is company policy to provide products and services that meet the highest standards of quality in the industry.

Membership Organisations



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