

# SB-138P

Sentinel® Buoy



TIDELAND ENGINEERED

The SB-138P Sentinel® buoy is a product of Tideland Signal's continued commitment in developing new higher performance, low maintenance, cost effective marine aids to navigation.

Deployed in over 40 countries, the SB-138P buoy utilises the benefits of the latest in materials, manufacturing processes and technology. Providing a rugged, lightweight buoy with exceptional station-keeping and long life, while reducing the long term maintenance expense typically associated with floating aids to navigation.

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## FEATURES

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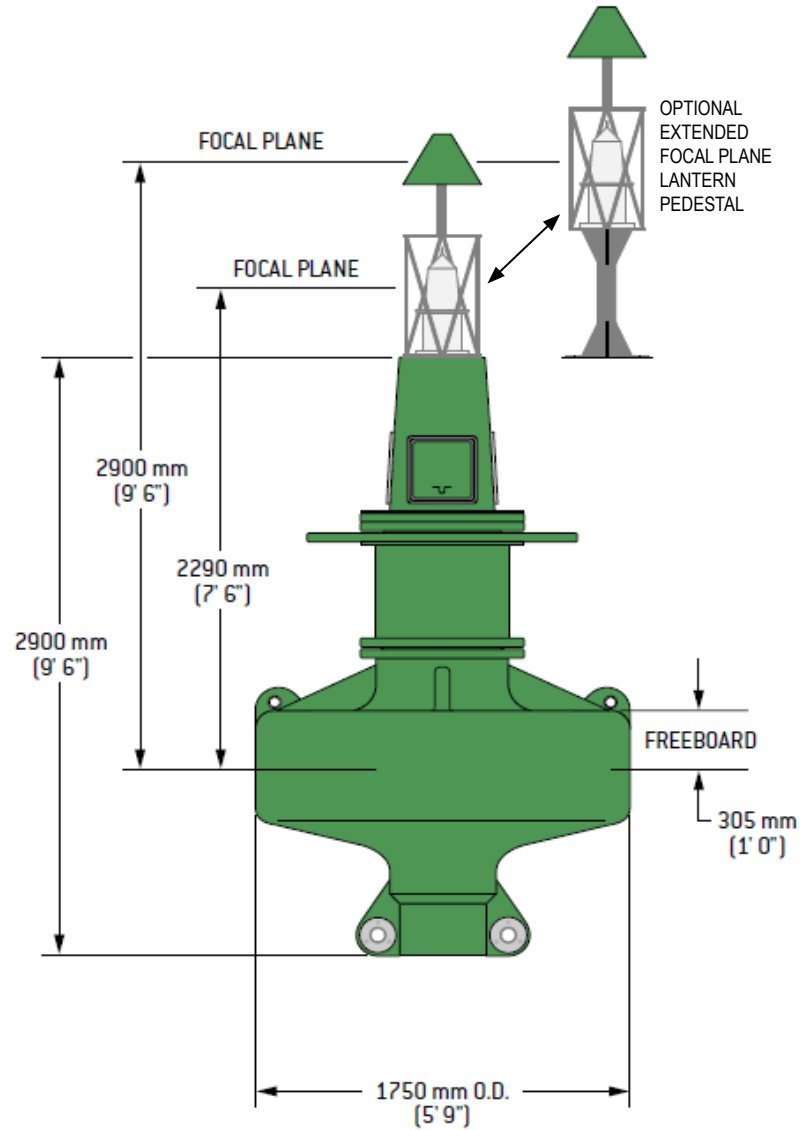
- UV-STABILISED POLYETHYLENE – Rotationally moulded to form a seamless body, 9.5 mm thick. Through a unique mould design and a controlled process, an increased thickness is formed at major stress points.
- DIVIDED INTO THREE SECTIONS – A float section, battery section and a navaid section form an abrasion resistant, shock absorbing buoy able to withstand knocks and/or collisions. The float section has a moulded in slip resistant surface, providing an added safety precaution for on station maintenance.
- MATCHING OR ALTERNATING SECTIONS – Easily makes bifurcation buoys, either red or green as required. Cardinal boys 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.



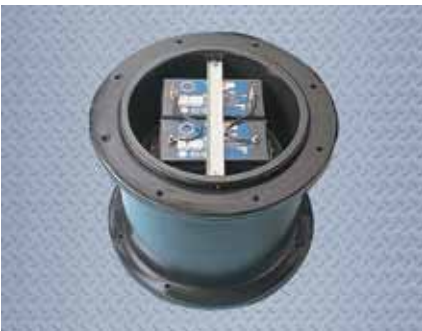
SB-138 fitted with MLED-120sc

## FEATURES (cont.)

- **LONG-TERM STRENGTH AND SECURITY** – The float section is internally cross-braced with stainless steel rods that are connected to stainless steel bushings in mooring and lifting eyes. Mooring eyes are fitted with a replaceable stainless steel wear bushing.
- **STABILITY** – Achieved by filling float section with a calculated amount of reinforced concrete as ballast. Then the entire float section is filled with polystyrene beads. The float is 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 of polystyrene completely filling all voids, preventing water ingress in the event of puncture, adding ruggedness to an already tough floating aid.
- **POWER**– Configured for 12V or 24V nominal, the power system for the lantern and optional equipment is housed in the battery section, which also forms part of the tower for the lantern.
- **NAVAID SECTION** – Has provision for four 10 peak watt solar modules or up to three 20 peak and one ten peak watt solar modules. Configurations of solar modules can vary depending on electrical load and average insolation for area of deployment. This section also includes an internal high gain passive reflector (10m<sup>2</sup>) and lantern guard (if needed). Access to battery section and all equipment is through a hinged, tamper resistant, watertight service hatch, located in the navaid section.



The SB-138P Sentinel buoy has a float section of 1.75 metres in diameter, a draft of 751 mm and a focal plane height of 2.29 metres or 2.90 metres if utilising optional extended lantern guard.



The service hatch provides easy entry to energy cells. The battery section will hold one or two energy cells depending on power requirements. The entire power system is above the waterline and designed to avoid corrosion, vibration and battery spillage.



A variety of items are available for minor repairs and can be ordered separately.

## SPECIFICATIONS

Construction	Rotationally moulded in medium density UV-stabilised virgin polyethylene, 9.5 mm thick
Foam Filling	16kg/m <sup>3</sup> expanded polystyrene foam
Air Weight	1000 lb (454 kg) (including two 38 mm (1½ in) shackles)
Diameter	5 ft 9 in (1750 mm)
Focal Plane Height	7 ft 6 in (2290 mm)
Optional Extended Focal Plane	9 ft 6 in (2900 mm)
Draft	2 ft 6 in (751 mm)
Freeboard	1 ft (305 mm)
Submergence	138 lb/in (24.7 kg/cm)
Radar Reflector	10 m2 (X-band)
Radar Range, nominal	3 to 4 NM
Visual Area	
with daymark panels (can shape)	17.2 ft2 (1.6 m2)
with daymark panels (nun shape)	16.1 ft2 (1.5 m2)
Surface Colour	As Specified
Maximum Mooring Load	1400 lb (636 kg)
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. (lbs)
35	45 ft (½)	1¼ in	4,000
35-50	90 ft (1)	1 in	4,000
50-80	135 ft (1½)	1 in	4,000
80-120	180 ft (2)	¾ in	4,000
120-160	225 ft (2½)	¾ in	4,000
160-200	315 ft (3½)	½ in	4,000

### CURRENT 2 – 4 KNOTS

Water Depth (ft)	Chain Length (Shot)	Chain size	Sinker Air Wt. (lbs)
35	90 ft (1)	1¼ in	4,000
35-50	90 ft (1)	1 in	4,000
50-80	135 ft (1½)	1 in	5,000
80-120	225 ft (2½)	¾ in	5,000
120-160	450 ft (5)	¾ in	5,000
160-200	450 ft (5)	½ in	6,000

### CURRENT 4 – 6 KNOTS

Water Depth (ft)	Chain Length (Shot)	Chain size	Sinker Air Wt. (lbs)
35	90 ft (1)	1¼ in	5,000
35-50	135 ft (1½)	1 in	5,000
50-80	180 ft (2)	1 in	6,000
80-120	270 ft (3)	¾ in	7,000
120-160	–	–	–
160-200	–	–	–

## NOTES

- Minimum recommended chain size 13mm (1/2").
- Recommended chain weight: minimum 140 kg (300 lbs); maximum 636 kg (1400 lbs).
- Mooring depth: minimum 1.8 m (6 ft); maximum 60 m (200 ft).
- Bridle weight included. Chain weight is used for partial ballast of buoy. At shallow mooring depths, use larger than minimum diameter chain for increased stability.
- Bridle size (diameter x length) 22mm x 3 m (1" x 10 ft). Air weight with shackle and swivel 41 kg (90 lb).
- Concrete sinker air weight (min.) 1816 kg (4000 lb). For rocky and coral bottom, add 30%.

WHEN ORDERING MOORINGS, SPECIFY SITE CONDITIONS.

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ISO 9001:2008  
 Certificate  
 Number: 30061

ISO 9001:2008

Tideland Signal Corporation maintains ISO 9001:2008 accreditation. It is company policy to provide products and services that meet the highest standards of quality in the industry.

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