

**Modular composite construction allows for infinite combinations of shapes maintaining high production rates.**

**Lightweight and high resistance.**

**Can incorporate large battery & payload section.**

**Excellent buoyancy & stability.**

**Easy to deploy & service.**

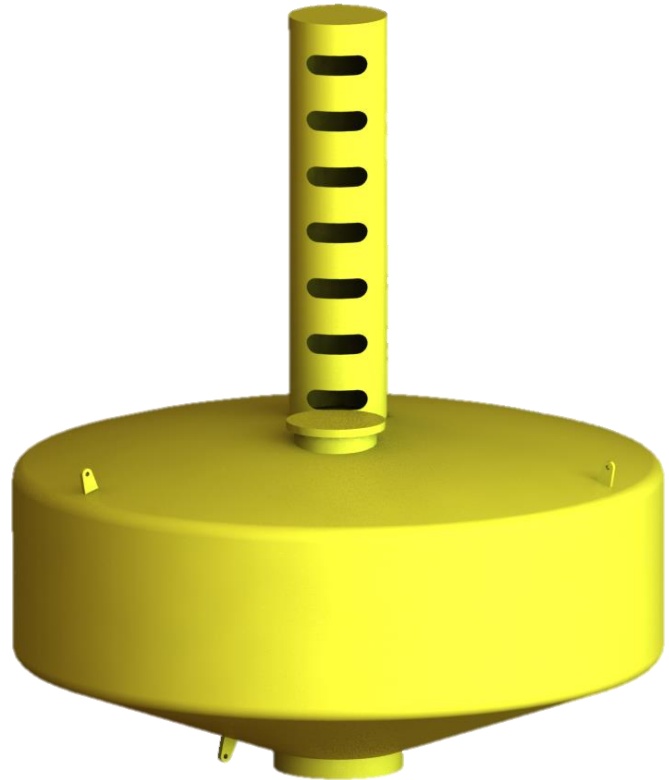
**Reduced Painting maintenance.**

**Cost effective & environmentally friendly.**

**Customizable lifting eyes to better suit your needs.**

### Highlighted features:

- Lighter weight
- Excellent buoyancy stability
- High Durability
- Customizable
- Low maintenance
- I.A.L.A. compliant
- Impact resistant
- Large Inner Volume



The Marker Guardian S4000SMN is a multi-purpose buoy that can be adapted to perform a range of tasks limited only by the costumers needs. S4000N has a large volume which allows it to be equipped with a considerable amount of batteries, and a large surface that can support the installation of solar panels. The excellent buoyancy allows install wind turbines which adds more energy independence and less maintenance operations. This energy can be then used to recharge UAV's operating nearby or maintain surveillance operations of ports entries, feed water quality monitoring devices, etc.

Water quality monitoring devices can be easily installed and readings can be taken either dependent or independently. Probes will function accurately and reliably in fresh, salt or brackish water.

S4000N and can be upgraded with up to 32 sensors, communication antennas, all protected inside the structure without loss of efficiency. Its' simplified modular structure and electronics allows for easy upgradability and maintenance. Devices can be installed to meet specific client needs, from low cost energy efficient sensors to high precision instruments devices can be installed to meet specific client needs.

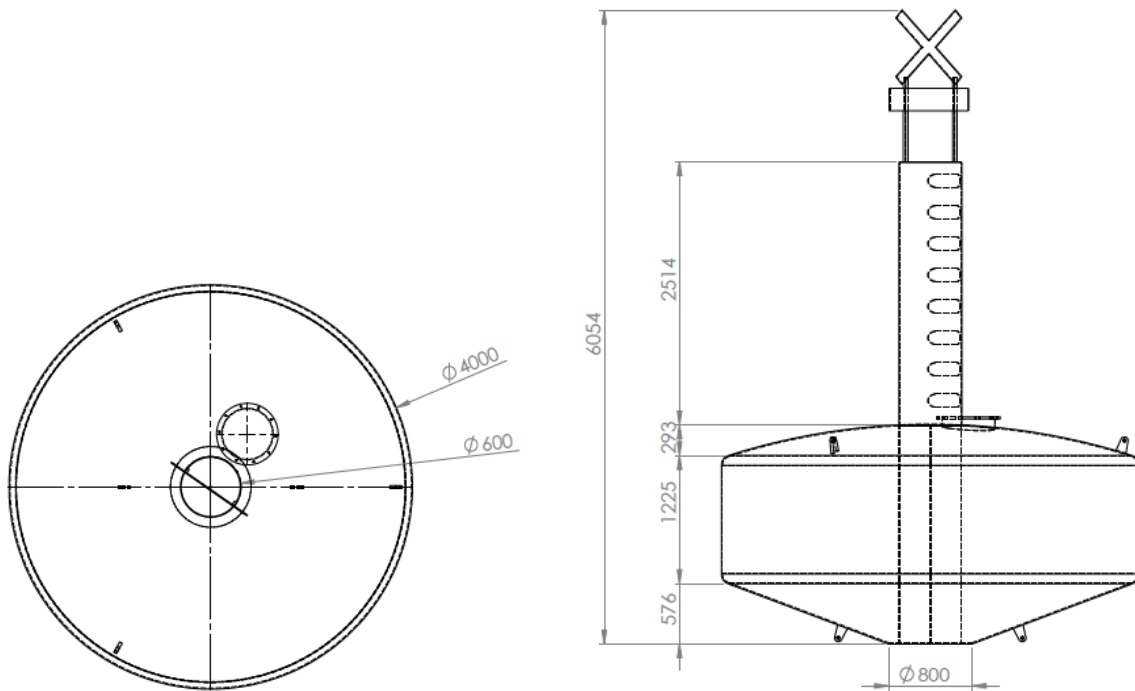
This Guardian can generate alerts and send them to mobile devices via Wi-Fi or Bluetooth. For monitoring of several devices radio frequency transmitter is used connecting many devices to 1 central server. This allows for a real time monitoring of multiple parameters, such as: dissolved oxygen, salinity, water level, temperature, pressure, position or live video.

The MG S4000SMN is fully built in composite, withstanding impacts, solar exposure, salt water and corrosion exemplary. Each section is laminated using UV-stabilized, isophthalic polyester resin reinforced with Kevlar\* and glass fibers to obtain maximum durability, crash resistance and water impermeability. With thicknesses ranging from 10 up to 15mm this structure is rigid durable and reliable.

The fully composite structure assures a rust free, low maintenance lifespan. No part of the structure requires painting at any stage of the product's life span. The MG can be supplied in all I.A.L.A. colors.

\*optional

## Marker Guardian S4000SMN



### Marker Guardian S4000SMN

#### General Characteristics

Available Colors	Red, Green, Yellow as per I.A.L.A. recommendations
Focal Plane Height (mm/in)	3360/132,3
Total Float Volume (L/gal)	20641/5453
Nominal Freeboard (mm/in)	1520/60
Freeboard, Minimum (mm/in)	300,0/11,8
Draft, Maximum (mm/in)	576,0 / 22,7
Nominal Draft (mm/in)	675/26,6
Reserve Buoyancy (Kg/lb)	6723/14820
Visual Area (m <sup>2</sup> /ft <sup>2</sup> )	7,5/80,7
Water Area (m <sup>2</sup> /ft <sup>2</sup> )	14/150,7
Ballast (Kg/lb)	1680/3704
Maximum Mooring Load (Kg/lb)	2017/4446
Safe Working Load, 1point (Kg/lb)	10000/22046
Safe Working Load, 2points (Kg/lb)	20000/44092
Submergence (Kg.cm <sup>-3</sup> /lb.in <sup>-3</sup> )	9,96/21,96

#### Physical Characteristics

Material	Isophthalic NPG Polyester resin reinforced with Kevlar and glass fiber; 316-grade SS fixtures
Height (mm/in)	6054/238,3
With (mm/in)	4000/157,5
Wall Thickness (mm/in)	10/0,39
Mass (Kg/lb)	2631/5800
Product Life Expectancy	>20 years
Certifications I.A.L.A.	Surface colors compliant to I.A.L.A. E-108
Intellectual Property Trademarks	Marker Guardian is a registered trademark of Composite Solutions, Lda.
Quality Assurance	ISO9001:2008
Warranty	1 year
Standard Equipment	Data logger with Bluetooth connectivity with upgradability up to 32 sensors 32Gb of data storage LCD display Adjustable measuring time intervals
Optional Equipment	Dissolved Oxygen Kit Electrical conductivity, temperature & depth sensor Kit GPS Temperature, humidity, wind & pressure Kit Surveillance camera/motion sensor Kit Solar Panels Upgraded battery capacity Status light Wi-Fi, VHF, Iridium, RF, GPRS, 3G & 4G

