

SMART MOORING

Technical Specifications

SMART MOORING

SENSOR OPTIONS:	Fully modular and interchangeable, wide range of available sensors supported.
REAL TIME DATA:	Iridium satellite, available in Spotter dashboard and Sofar API.
OPERATIONAL DEPTH:	10m - 100m

CABLE

AVAILABLE LENGTHS:	10m, 50m (interchangeable)
JACKETING:	Thermoplastic polyurethane, high-visibility yellow, UV stabilized, cut and abrasion resistant.
WORKING LOAD:	2000N, kevlar reinforced
DIAMETER:	10mm
MINIMUM BEND RADIUS:	80mm
MAXIMUM POWER LENGTH:	300m
CONDUCTORS:	2-conductor, 16ga (power + data)
TERMINATORS:	Either Sofar OP power + data connection or mooring shackle

SENSOR NODES:

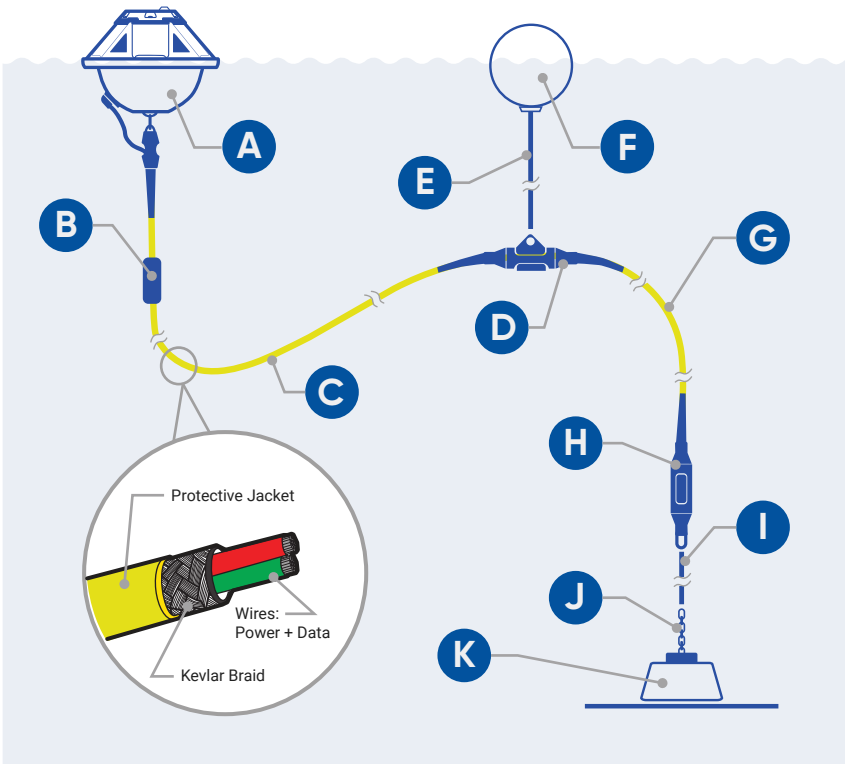
PLACEMENT:	Sensor nodes can be placed in series at any smart mooring cable termination.
COMMUNICATION:	Sofar OP
POWER PROVIDED:	3.3V, 5V, and 12V
NODES PER MOORING:	Recommended max of 10

TEMPERATURE SENSOR:

ACCURACY:	+/- 0.1 °C
RESOLUTION:	0.02 °C
RANGE:	-5 °C to 50 °C
DEPTH RATING:	100m

Smart Mooring Elements

- A** Spotter Buoy
- B** Clump Weight
- C** Mooring Line
- D** Temperature Sensor #1
- E** Adjustable Line
- F** Float
- G** Mooring Line
- H** Temperature sensor #2
- I** Adjustable Line
- J** Anchor Chain
- K** Anchor Weight (not included)





SPOTTER™

Technical Specifications

SIZE AND WEIGHT

EXTERNAL DIMENSIONS [W X H]	42cm x 31cm (16.4in x 12.2in)
WEIGHT (WITHOUT EXTERNAL BALLAST CHAIN)	5.3kg /11.6lbs (7.4kg /16.3lbs with external ballast chain)

CONNECTIVITY:

CONNECTIVITY	Iridium SBD (satellite)
--------------	-------------------------

BATTERY AND POWER:



PRIMARY POWER SOURCE	Solar Powered, 5x 2 Watt, 6 Volt solar panels
BATTERY	Lithium-ion, capacity 11,200 mAh, 3.7v (rechargeable)

MOTION SENSING:

MOTION DATA FORMAT:	x (easting), y (northing), z (vertical, positive up), latitude (deg), longitude (deg)
WAVE FREQUENCY RANGE:	0.03-1 Hz (30s to 1s)
WAVE DIRECTION RESOLUTION:	0 - 360 degrees (full circle)
SAMPLING RATE:	2.5 Hz (Nyquist @ 1.25Hz)
WAVE DISPLACEMENT ACCURACY:	Approximately +/- 2cm accuracy depends on field of view, weather conditions, and GPS system status.
SEA SURFACE TEMPERATURE (SST):	<i>Not available with Smart Mooring units.</i>
CALIBRATION:	Not needed, ever.






DATA STORAGE:

 ON-BOARD (SD CARD)	Records time series of 3D displacement data, ships with 16GB (256GB MAX capacity), FAT16 or FAT32 Format required
 CLOUD STORAGE (ONLINE DASHBOARD)	Access to online account that includes: Real-time and historical data outputs, Spotter configurations, alerts, maps and two-way communication.

DATA OUTPUTS:

* Can derive from SD card data.

	 STANDARD MODE	 SPECTRUM MODE	 ON DEVICE
SIGNIFICANT WAVE HEIGHT	X	X	X*
PEAK PERIOD	X	X	X*
MEAN PERIOD	X	X	X*
PEAK DIRECTION	X	X	X*
MEAN DIRECTION	X	X	X*
PEAK DIRECTIONAL SPREAD	X	X	X*
MEAN DIRECTIONAL SPREAD	X	X	X*
VARIANCE DENSITY SPECTRUM		X	X
DIRECTIONAL MOMENTS (a1, b1, a2, b2)		X	X
3D DISPLACEMENT TIME SERIES @ 2.5 Hz (x,y,z)			X
SEA SURFACE TEMPERATURE	<i>Not available with Smart Mooring units.</i>		
WIND SPEED	X	X	
WIND DIRECTION	X	X	X*
DRIFT SPEED			X*
DRIFT DIRECTION			X*
GEOGRAPHICAL COORDINATES (lat, lon)	X	X	X*



OTHER

SYSTEM MONITORING	Battery power status
ADVISED MOORING DEPTH	Any depth
Visibility LED	1 flash every 2.5 seconds, at least 1 mile visibility under normal conditions.
FIRMWARE UPGRADE	Standard micro-USB (cable included)
USABILITY	Magnetic on/off switch, Run/Idle mode, user LED's and integrated grab handles.