

Data Telemetry Buoy

Model 750



A lightweight buoy for communication with Valeport instruments in coastal and estuarine environments

FEATURES

- Choice of radio or GSM telemetry module
- Allows direct PC control over instrument
- Built-in error checking of data
- Full bi-directional communications
- On board battery pack
- Constructed from 316 grade stainless steel
- Self contained solar powered flash lamp
- Armoured signal cable can also be used for mooring
- Telemetry module also sold separately for OEM applications

DESCRIPTION

The Valeport Model 750 Data Telemetry Buoy has been designed to provide users of Valeport equipment with a simple solution to the need for data telemetry. Originally designed for use with the Model 730 range of Wave and Tide Recorders, the Model 750 is now compatible with most Valeport instrumentation, and may be supplied in either radio or GSM formats. The bi-directional communications allow both presentation of real time data, and upload of recorded data.

The buoy itself is of classic spar design, with a rigid flotation unit. All electronics and batteries are held in a submerged stainless steel pod. The pod provides ballast for the buoy, mounting points for mooring, and connection to the instrument.

The buoy is fitted with a unity gain antenna, which is sufficient for the UHF radio version to give communications over a distance of up to 20km (with clear line of sight and no interference). The range of the GSM version is dependent on local coverage.

Communications are established using standard Valeport software packages provided with the instrument. The radio version of the Model 750 requires a receiver unit (multiple receivers can be used with a single transmitter), whilst the GSM version simply requires a standard PC modem.

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SPECIFICATION

BUOY

Overall Height:

3 metres (1.3m below water, 1.7m above).

Spar Diameter: 50mm

Buoyancy module:

Diameter: 0.60m

Spare Buoyancy (full submersion): 88kg

Additional 60 kg buoyancy module also available

Materials:

Spar: Stainless Steel
Electronics Pod: Stainless Steel
Buoyancy: Polyethylene with Polyurethane foam filling

Strain Connection:

2 off 10mm diameter holes, acetal lined, for shackles

Light:

Type: Solar powered marine light
Colour: Amber
Range: 1.6km
Flash rate: Factory set 10, 15 or 60 flashes per minute
Operating life: 5 to 8 years
Power source: Integral solar cell
Light source: High intensity LEDs

Battery:

Sealed 12v lead acid. 24 Ah capacity. [Yuasa NP24-12]. Safety pressure relief valve in spar mast.

Antenna:

Unity Gain omni-directional co-linear

UHF RADIO TRANSMITTER

Frequency:

458.5 to 458.9MHz

Channels: 35

Channel setting:

User selectable via switches

Channel spacing: 12.5KHz

Licence:

Conforms to MPT 1329 and European ETSI 300-220 standards

RF Power:

Factory set to 500mW nominal peak output to comply with MPT1329

Modem:

Input data rate: 19200 baud
Tx data rate: 9600 bits/sec
Interface: RS232

Power:

Input voltage: 12v DC nominal
Supply current: 410 mA (transmit)
120 mA (receive)
0.04 mA (quiescent)

UHF RADIO RECIEVER

Specifications as Transmitter, except:

Size: 200 x 180 x 70mm

Weight: 1.5 kg

Antenna:

3dB colinear omni-directional with 10m cable

Input voltage:

External 10 to 28vDC nominal. Power supply must not be a switched mode design as this can cause interference.

Supply current:

410 mA (transmit), 120 mA (receive)

Connector: 9 way D type

GSM TRANSMITTER

SIMM:

Customer Supplied (including Pay As You Go type)

Modem:

Input data rate: 19200 baud
Tx data rate: 9600 bits/sec
Interface: RS232

Power:

Input voltage: 12v DC nominal
Supply current: 305 mA (during call)
110 mA (standby)
0.04 mA (quiescent)

Control:

GSM controller is passive, so it must be dialled up - it cannot call out. Controller can be set to be on standby permanently, or to switch on (into standby mode) for set time periods (e.g for 30 mins every 6 hours).

ORDERING

0750001:

Model 750 Telemetry Buoy, fitted with selectable frequency UHF radio, unity gain omni-directional antenna, solar powered marine light and 12vDC sealed lead acid battery.

0750002:

Model 750 Telemetry Buoy, fitted with GSM data telemetry unit, unity gain omni-directional antenna, solar powered marine light and 12vDC sealed lead acid battery. Customer to supply SIMM card.

0740012:

Desktop radio receiver housing, fitted with selectable frequency UHF radio. Supplied with 3dB omni-directional antenna on 10m cable, 12vDC power lead and RS232 output lead.

0750006:

50m armoured signal cable with mechanical strain relief and electrical connections to buoy and instrument.

Valeport manufactures a wide range of oceanographic and hydrometric instruments including self-recording and direct reading multi-parameter current meters, sound velocity probes, CTD probes, wave recorders, tide gauges, open channel flow meters, water and plankton samplers, winches, sinker weights, connectors and accessories.

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