



# DigAtoN



DigAtoN  
AIS Aids to Navigation

**DIGITAL**  
DEEP SEA

# AIS AtoN Technology

DigAtoN AIS AtoNs fit to marine structures, hazards, buoys or can be configured to represent a virtual or synthetic point if mounted remotely from a physical location.

AIS equipped vessels and shore stations can then not only identify the position of these marks but also read data (such as weather and instruments) collected by the AtoN.

The DigAtoN is available as a Class 1 device (transmit only) or a Class 3 device (transmit and receive). Class 1 devices require a local AIS base station to be operating in the same area as the AtoN whereas Class 3 devices can internally allocate slots for transmission allowing them to be placed anywhere. Class 3 devices can also be configured and queried remotely and wirelessly “chained” together for extended range configuration.

DigAtoN products are also available with an additional sensor interface installed to allow extended monitoring and digital switching capability

## Core capability

- Adds **AIS** capability to a buoy, lighthouse, marine structure, wreck or virtual point
- Allows positive identification by any vessel or shore station equipped with AIS
- Local data from meteorological or hydrological sensors can be transmitted by the DigAtoN to other AIS users
- Digital and analogue switching and sensing capability for the local structure
- 1 local DigAtoN can cover multiple physical or virtual structures

# DigAtoN Class 1 Products



- Transmit only device using FATDMA (fixed access time division multiple access) technology
- Requires the DigAtoN to be within VHF range of an AIS base station for correct operation
- Pre-configured for specific transmission time slots allocated by the AIS base station

# DigAtoN Class 3 Products



- Physically similar to the Class 1 product
- Transmit and receive device using FTDMA or RATDMA (random access time division multiple access) technology
- DigAtoN Class 3 can internally allocate time slots for transmission so no need for a local AIS Base Station
- Effectively allows installation “anywhere”
- AIS receive capability also allows for device to be remotely configured and queried for status via AIS messages from a shore station (VDL configuration)
- Wireless chaining also possible to allow extension of control and configuration from AIS base station using multiple DigAtoNs

# Features - At a glance

- Available as a Class 1 or Class 3 device
- Ultra tough and waterproof to IPX7
- Approved for global use
- Internal GPS sensor and antenna with external antenna option available
- Best in class power consumption (important for self powered structures)
- Class 3 devices support chaining and remote (VDL) configuration and monitoring
- Additional S models feature extended digital and analogue I/O capability
- Virtual and synthetic capability (up to 5)
- Adjustable transmit power (1 to 12.5W)
- Highly configurable for all AtoN applications with full range of interface solutions from Digital DeepSea



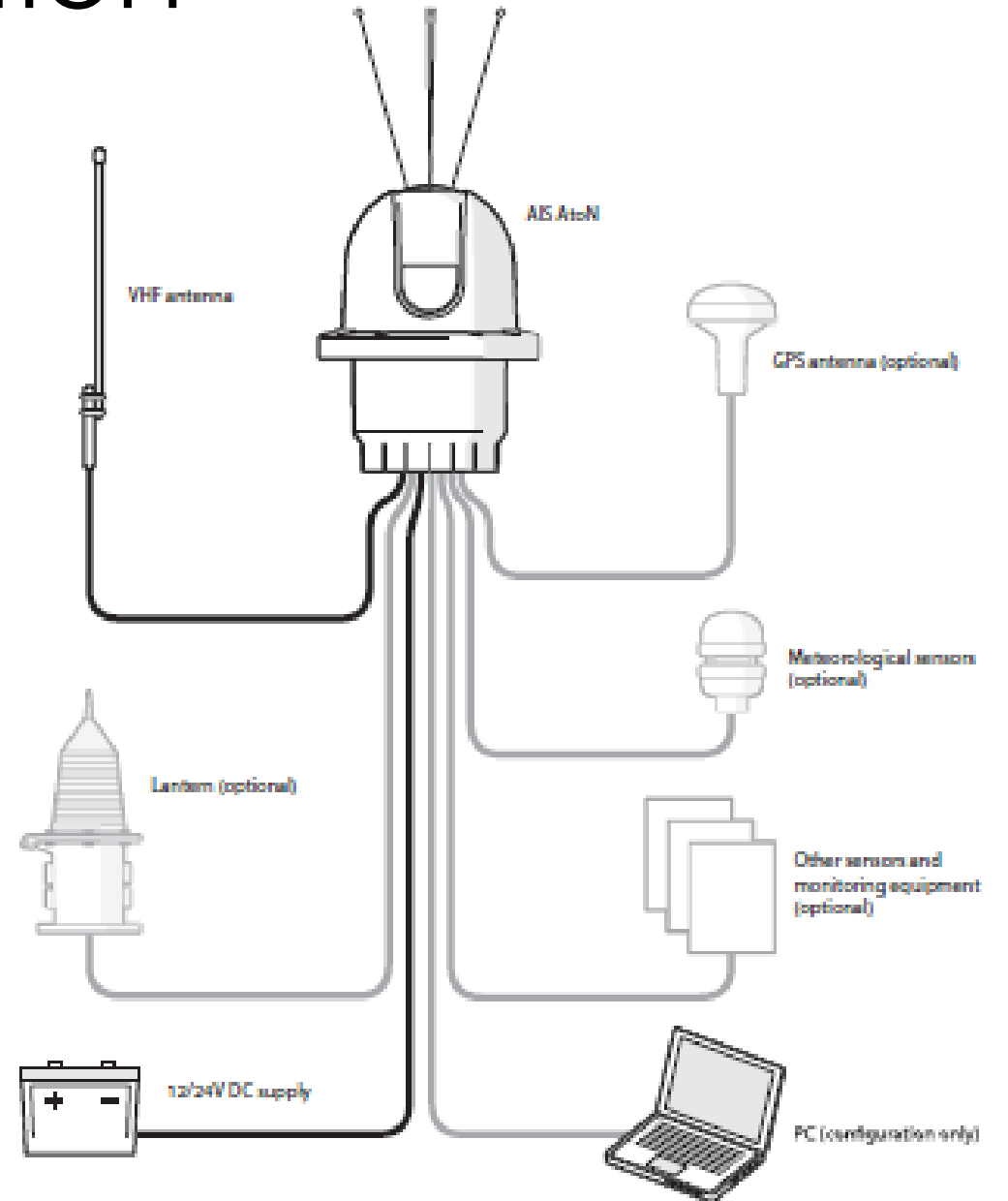
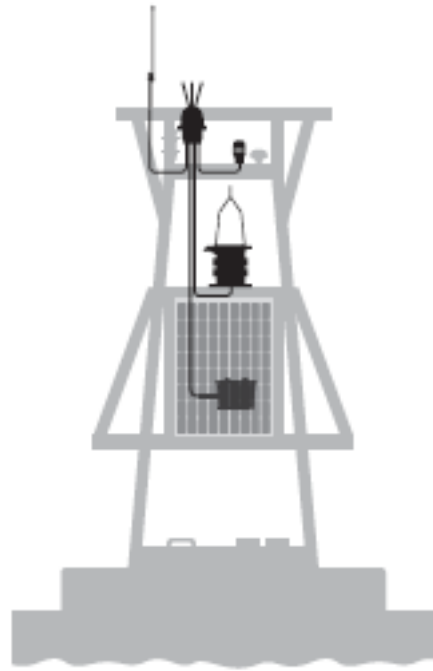
## Interfacing - S Model (With additional sensor interface)

- All models feature:
  - Dual NMEA interfaces
  - 4 User IOs for light or racon health status
- **S Models** feature additional interface card with:
  - Current sense
  - Three non-isolated analogue inputs and two isolated analogue inputs
  - 5 isolated digital I/Os and 5 non-isolated digital I/Os
  - Two RS232 ports and a fully isolated RS422/NMEA port
  - Two relay drive outputs
  - SDI-12 serial bus (note only 1 RS232 port available if this interface is utilised)
  - Input voltage monitor (no external connection required)

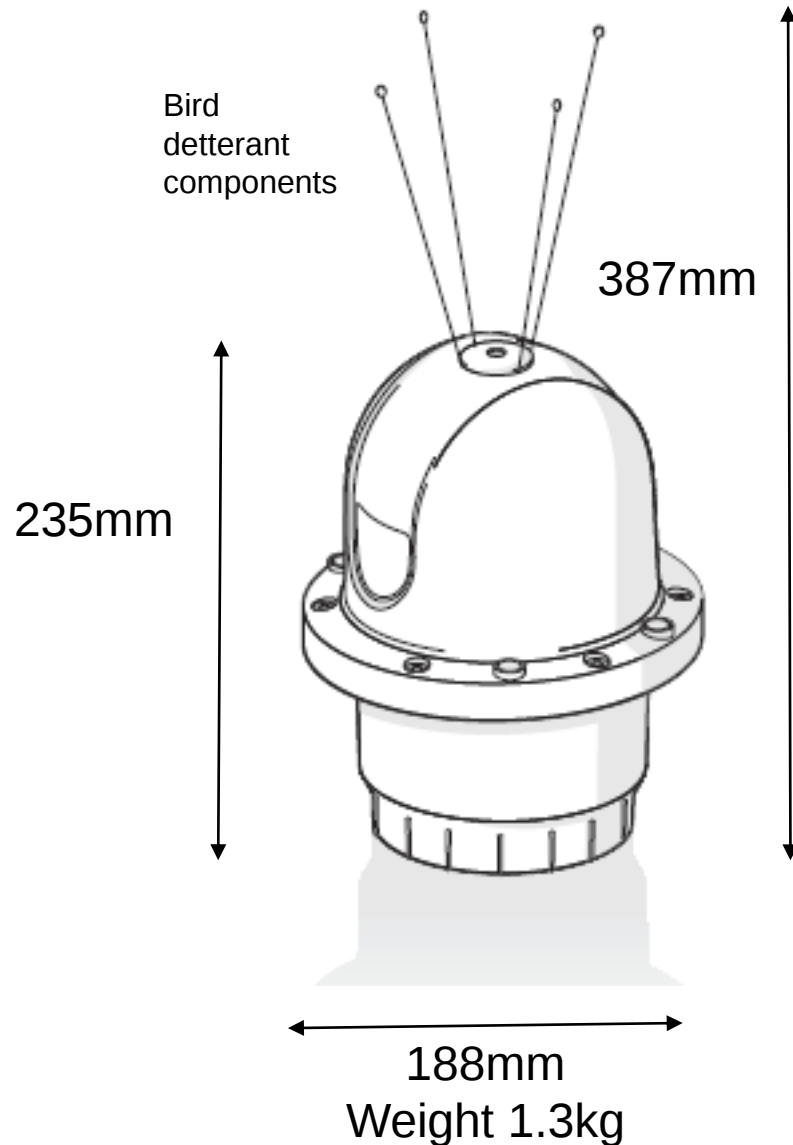
# Typical configuration

DigAtoN incorporates an internal GPS antenna and our MA800 antenna can be used as an external option if required.

DigAtoN requires a suitable VHF antenna ideally tuned specifically to 162MHz. Our CX4A 1.2m is ideal



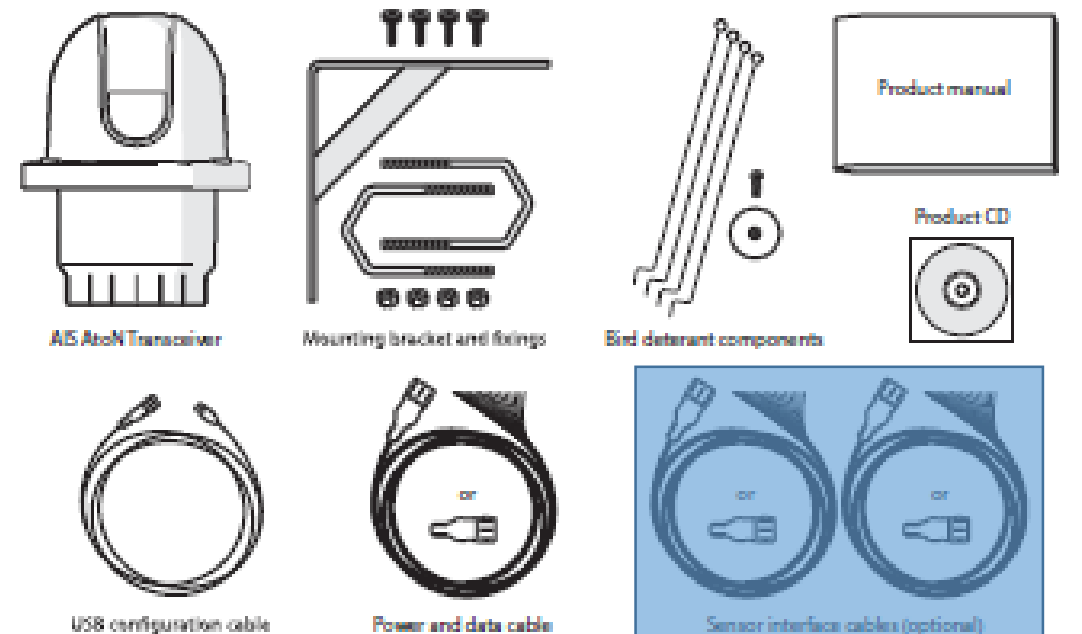
# Physical



## Power consumption

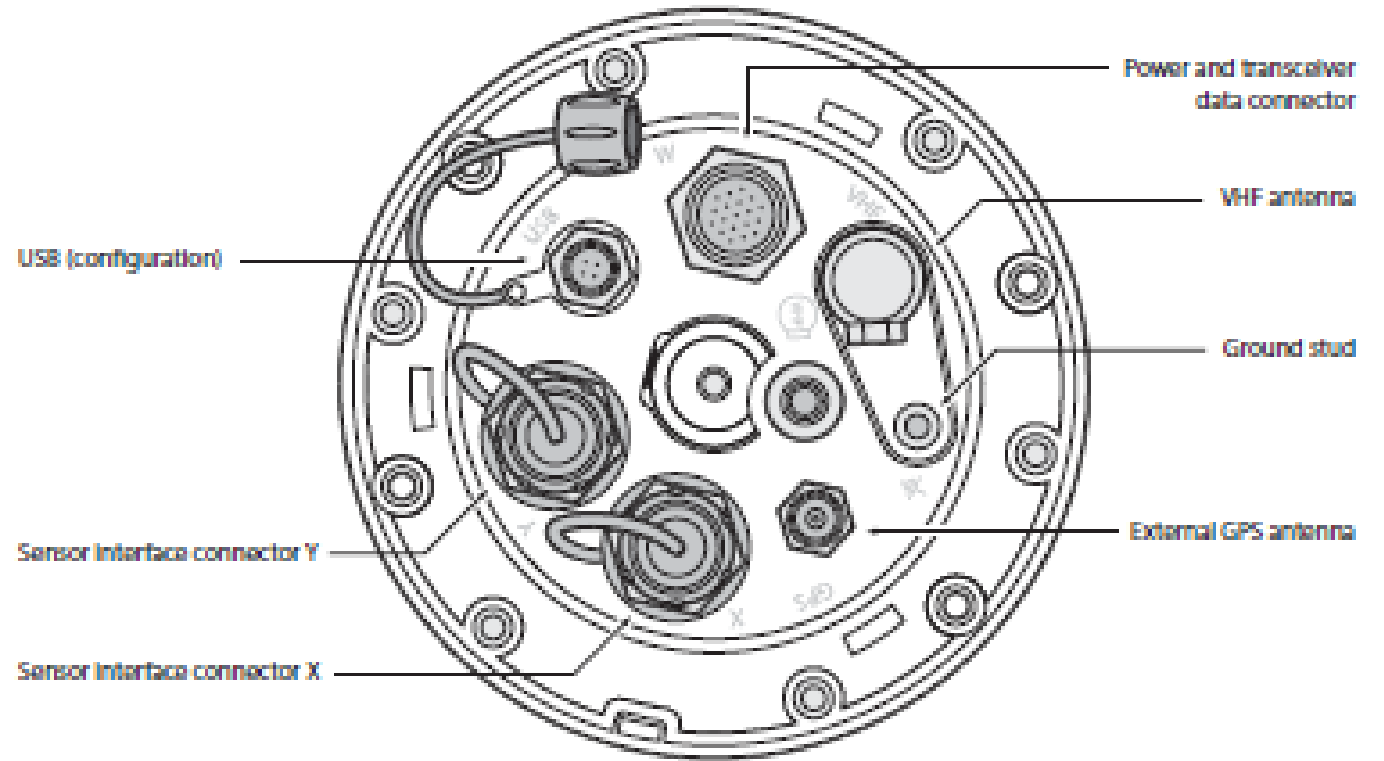
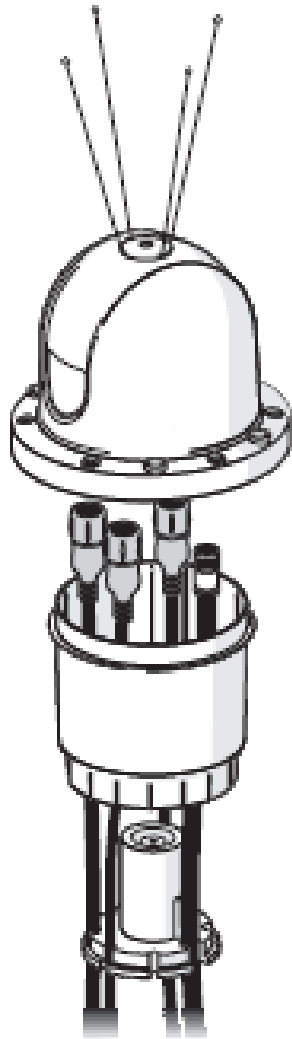
| Type          | 12V DC with message #21 transmission every 3 mins |
|---------------|---------------------------------------------------|
| Type 1 FATDMA | 0.1Ah/day                                         |
| Type 3 RATDMA | 1.0Ah/day                                         |

## What's in the box



Additional connectors with S variants

# Typical connections



The unit is waterproof to IPX7 and all base mounted connectors are certified to a minimum of IPX6. Additional protection can be applied if required

# Applications

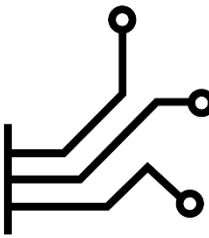
Potential applications include:

- Marking offshore structures, wind farms, wrecks, points of interest or danger areas
- Transfer of local meteorological conditions such as wind, pressure, wave height
- Custom data transmission to base stations such as electrical status, tide, current, salinity etc measurements
- Localised tide and current information
- Use virtual or synthetic AtoN capability to mark 5 virtual points (ideal for yacht club racing or movable marks)

# Custom Configurations

Digital Deep Sea have an extensive range of sensors and interface modules designed to interface with the DigAtoN range. We offer custom AIS filtering alarms, AISNET base station receivers, serial data multiplexers and a full line up of rate, attitude and heading sensors

We can supply DigAtoN pre configured for your application as well as fabricate specialist interfaces, sensors and mounting kits

**NavDevX**   
OEM Navigation Solutions

