



AIS AtoN  
Type 1  
Model N321



AIS AtoN  
Type 3  
Model N323



Sensor Box (option)  
Model SB-305



»» Specification P3

The Widelink N321/N323 is an internationally type-approved AIS AtoN with the world's lowest power consumption. Building on the success of the Mando AIS AtoN system, the N321/N323 offers a full range of advanced features, including the broadcasting of virtual/synthetic AtoN targets, remote configuration, chaining and impact detection by built-in G sensor. N321/N323 can integrate lanterns and racons, and a variety of sensors directly. An optional sensor box as an accessory is also available to extend the connectivity.

The ruggedized enclosure is designed for reliable operation in even the most extreme environments from the equator to the Antarctic. Its small form factor ensures easy installation in even the tightest of compartments.

## Features

- Available as AIS AtoN Type 1 or Type 3
- World's lowest power consumption in all operation modes
- World's smallest form factor for easy installation
- Best-in-Class receiving sensitivity (better than -112 dBm)
- Best operational reliability and performance
- IP68 waterproof with environmental robustness
- Versatile sensor interfaces with scalability through optional sensor box
- Built-in multi GNSS receiver



### Versatile sensor interfaces

The N321/N323 incorporates 2\*NMEA 0183 ports, 3\*digital inputs and wake-up port to enable connectivity with lantern and sensors at minimum power consumption.

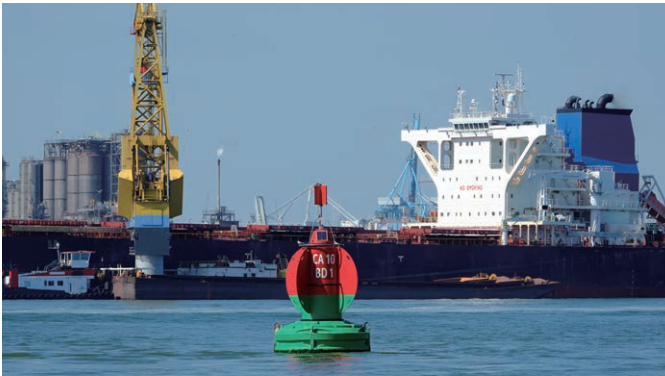


### World's most power-saving AIS AtoN

N321 consumes <0.037 Ah/day under FATDMA mode, while N323 only needs <0.764 Ah/day under RATDMA mode

## G-sensor built-in:

The 6-Axis 3D accelerometer sensor allows the AIS AtoN to detect possible impacts by vessels



## Virtual AIS AtoN support:

configurable to warn of a danger or to transmit relevant information to mariners



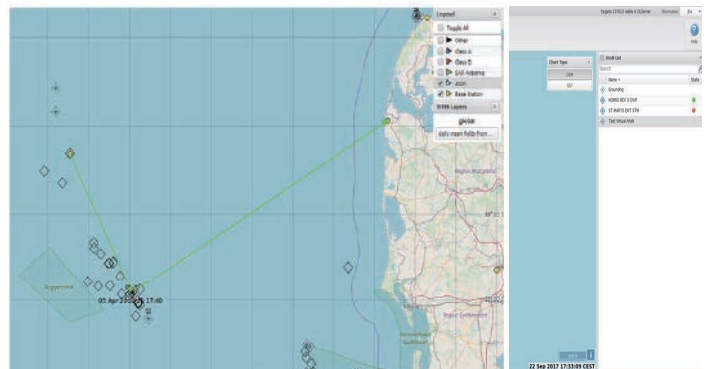
## Alarm function integrated:

outputs NMEA 0183 ALR sentences by exceeded VSWR, Tx malfunction, Rx malfunction or lost synchronization for improved monitoring and maintenance



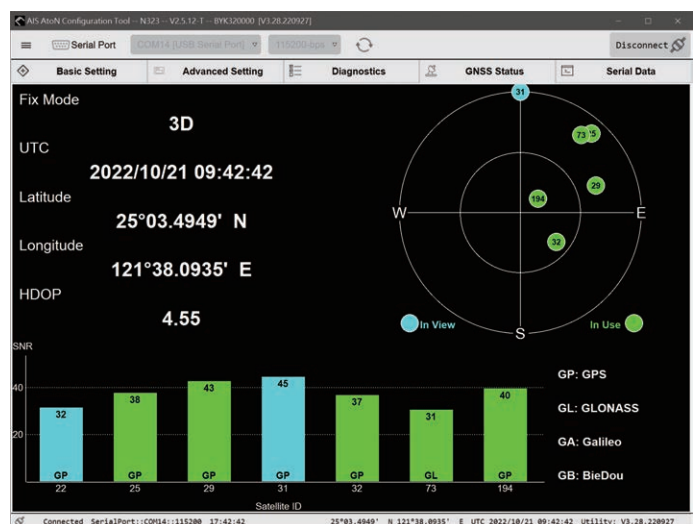
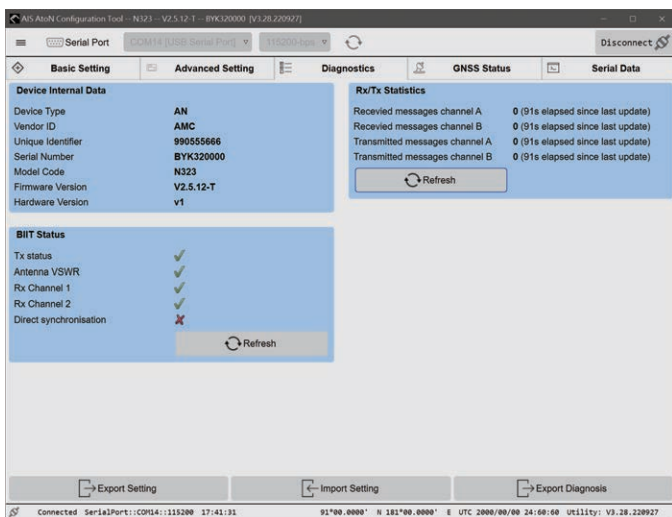
## Chaining function enabled:

extend the VDL commands beyond the range of an AIS shore station, which is a function introduced by the latest IEC 62320-2 Ed. 2.0:2016








## User-friendly configuration interface:

mouse-hover to reveal the name and function for eased configuration



# Technical Specifications

AIS AtoN (Aids-to-Navigation)					
	N Series		MANDO Series		MANDO-303P
	Type 1 (N321)	Type 3 (N323)	Type 1 (301)	Type 3 (303)	Type 3
					
<b>STANDARDS</b>					
	IEC 62320-2 Ed. 2.0: 2016 IEC 60945 Ed. 4.0: 2002 IEC 61108-1 Ed. 2.0: 2003 IEC 61162-1 Ed. 5.0: 2016 ITU-R M.1371-5: 2014				
Access Scheme	FATDMA only	Support FATDMA and RATDMA	FATDMA only	Support FATDMA and RATDMA	
<b>VHF TRANSCEIVER</b>					
Frequency Range	156.025 MHz ~ 162.025 MHz				
Tx Output Power	2 / 5 / 12.5 Watt (33 / 37 / 41 dBm +/- 1.5 dB), configurable				
<b>AIS RECEIVER</b>					
Receive Frequency	N.A.	156.025 MHz ~ 162.025 MHz	N.A.	156.025 MHz ~ 162.025 MHz	
Rx Sensitivity	N.A.	better than -107 dBm @ 20% PER	N.A.	better than -107 dBm @ 20% PER	
<b>GNSS RECEIVER</b>					
Receiving Channels	72 channels		50 channels		
Supported GNSS	GPS, GLONASS, BeiDou & Galileo		GPS		
Position Accuracy	< 2.5 m Autonomous, < 2.0 m SBAS				
<b>CONNECTION INTERFACE</b>					
Antenna Connector	GPS ant con: TNC (female); VHF ant con: SO-239 (female)		GPS ant con: TNC (female); VHF ant con: SO-239 (female)		GPS built-in; VHF con: PL-259
Data & Control	18-pin connector: NMEA 0183 #1 (Tx/Rx); NMEA 0183 #2 (Rx only); Isolated digital input x 3; Wake up input; Wake up output		CON1 (LTW 12 pins); CON2 (LTW 8 pins)		Data (LTW 8 pins)
Power	7 pins power cable		3 pins power cable		
<b>ENVIRONMENTAL</b>					
Operating Temperature	-25°C to +55°C		-20°C to +55°C		
Waterproof Rating	IP68		IP67		IP68
<b>POWER SUPPLY</b>					
Power Input Requirement	12~24V DC (9.6 ~ 31.2V DC) / 3A at 12 V DC		12V DC (9.6 ~ 15.6V DC) / 3.2A max		
Power Consumption	< 0.037 Ah/day*	RATDMA <0.764 Ah/day*	< 0.288 Ah/day*	FATDMA: < 0.432 Ah/day* ; RATDMA: < 1.656 Ah/day*	

Note: "\*" At 12.5W, transmission scheduled every 3 minutes.