

i-ais-TBCS

AIS Class B CS VHF Transponder Device

User Manual and Installation Guide



Manufacturer Information

iDeal Technologies Inc.

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1. Installation, Maintenance, Repair and Use Warnings


Installation:

	<p>Warning: AIS Transponder device does not operate with AC electricity. Never connect device to AC or city electricity source. It can cause serious fire, electric shock or injury.</p>
	<p>Attention: AIS Transponder device operates with 12 V DC. In installation phase, check power supply voltage and never connect power poles inversely. AIS Transponder device may broke because of inverse or high power.</p>
	<p>Attention: Electricity connection should be made over fuse box.</p>
	<p>Warning: AIS Transponder device operates between -15°C / +55°C temperatures. Do not install AIS Transponder device in regions which are outside these temperature values.</p>
	<p>Warning: AIS Transponder device is NOT % 100 water proofs. It has IP54 protection class. Install transponder to dry regions which are not contacted with direct marine water.</p>
	<p>Warning : Do NOT install AIS Transponder device in situations below;</p> <ul style="list-style-type: none">• Prevent vessel's control,• Prevent your movement,• Causes injuries or accidents,• Obstructs emergency exits

Usage:

	Warning: AIS Transponder's surfaces may become hot while operating. Never remove the protection cover while AIS Transponder is operating.
	Warning: Never remove protection cover while AIS Transponder device is off. Only authorized service personnel can open the device.
	Warning: Never remove VHF and GPS Antenna connections of AIS Transponder device.
	Warning: Never touch to VHF and GPS Antenna cables of AIS Transponder device.
	Warning: If covers of AIS Transponder device removed, guarantee will become invalid.

Maintenance:

	Attention: Solvents, abrasives or similar chemical cleaners may damage device or its cover. Only clean with wet cloth or special electronic device cleaners.
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2. Carriage and Transportation Warnings

- Always carry the device within its box and with packaging materials.
- First installation should be made by the technicians of the company which device has purchased from.

3. Information about Situations Where Device may be Harmful to Human and Environment Health

Device meets the requirements of International Electrotechnics Committee – IEC 62287, IEC 61108–1, IEC 61162-1 (optional), Safety IEC 60945/ EN 60950, EMC IEC 60945/ EN 60945 standards.

4. Information about Improper Use

- Never change the location of device while operating.
- Never remove/add components of device. Always apply to technical service in such cases.
- If unauthorized people try to open device cover, serious system faults may occur and system's guarantee will become invalid.
- Attempts to change device antennas, electricity connections, device inside or shut down of device will be evaluated as user-fault.

5. Basic Information about Device

Instructions:

Automatic Identification System – AIS defined with the terms of SOLAS 74 conventions and the performance recommendations in 1997 by International Maritime Organization – IMO is a system which is mandatory for vessels in order to increase the navigation safety and security since 2004.

Automatic Identification System is based on automatic periodical broadcasting of vessel's static and dynamic data over AIS-VHF channels.

AIS Class B CS VHF Transponder Device

iDeal AIS Class-B CS Transponder is an AIS transponder which is developed fully compatible with AIS Class-B CS Equipment Requirements of T.C. Under secretariat for Maritime Affairs. Also, AIS Class-B CS Transponder is expandable to meet the future requirements with its optional components.

Especially, iDeal AIS Class-B CS Transponder is designed in order to meet AIS System whose carriage requirements will be mandatory by 2008. When compared to its foreign competitors, with expandability features, iDeal Class-B CS Transponder has great advantages such as domestic service network and TCO (Total Cost of Ownership).

Technical Specifications

- Operating Temp.: -15°C - +55°C
- Humidity Between: 15% - 90%
- VHF Transmitter: 2W / 12.5W
- VHF Receiver: -107dBm
- Channel : 70, 87B, 88B
- Protocol: TDMA
- Modulation: GMSK
- GPS: Internal GPS Receiver
- Position Precision: 2.5m CEP
- Service Interface: RS-232
- Voltage Power: 12V DC
- Connection Interface: 2 x RS-422 & 2 x Relay Contact

Standards:

Fully compatible with Turkish Republic Undersecretariat for Maritime AIS Class-B CS Requirements

- International Maritime Organization IMO
 - MSC.74(69) A.3

- International Telecommunication Union
 - ITU-R M.1371-1
 - ITU-R M.825-3
 - ITU-R M.1084-3

- International Electrotechnical Commission
 - IEC 62287
 - IEC 61108-1
 - IEC 61162-1
 - Safety IEC 60945/ EN 60950
 - EMC IEC 60945/ EN 60945
 - NMEA 0183

National Functions

- Adaptive Operations / Traffic Arrangement Messages (TAM)
- Transmitter Output Power Setting
- Power Failure Protection
- Black Box Feature
- DSC Channel Listening (Channel 70)
- Smart Card Integration
- Additional Applications for Fishing Vessels
- Collision Prevention Warning
- SAR Feature
- NMEA 0183 Communication Port
- Future Improvements

6. User Maintenance and Cleaning

- Periodic maintenance will be determined according to device operating conditions.
- Cover should be cleaned with a soft cloth in case of oil, liquid etc. spill.

7. Connection and Installation Information

Installation Materials:

- 1 x AIS Class B CS VHF Transponder Device
- 1 x BNC VHF Antenna Connector
- 1 x TNC GPS Antenna Connector
- 1 x AIS VHF Antenna
- 1 x AIS GPS Antenna

Required special AIS VHF and GPS cable will be supplied by authorized dealers and services.

AIS Installation Diagram



Mechanical Installation Details

Position:

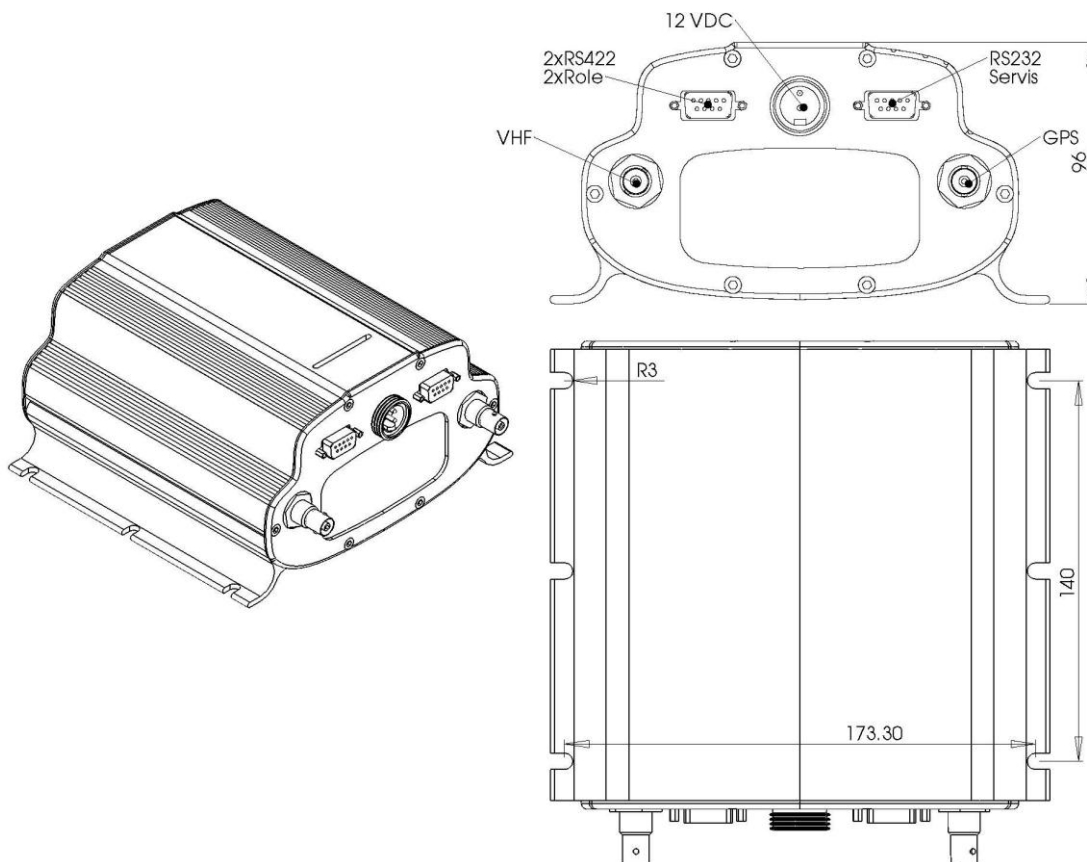
AIS Transponder device operates between -15°C / +55°C temperatures. Do not install AIS Transponder device in regions which are outside these temperature values.

AIS Transponder device is NOT % 100 water proofs. It has IP54 protection class. Install transponder to dry regions which are not contacted with direct marine water.

AIS Transponder should NOT be installed in situations below;

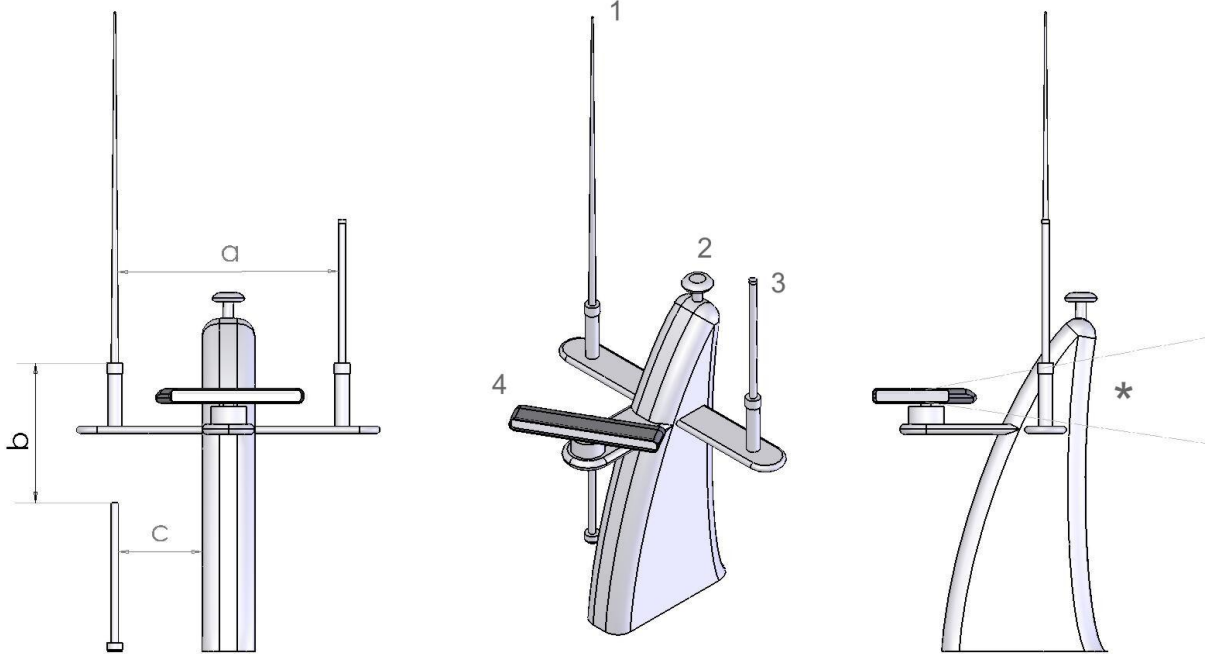
- Prevent vessel's control,
- Prevent your movement,
- Causes injuries or accidents,
- Obstructs emergency exits

AIS Transponder Dimensions:



Antennas

AIS VHF and GPS antennas should be installed on vessels as shown examples below. Sample drawings indicate the minimum distances between antennas.



a= min 2m.

b= min 1m.

c= min 1m.

1. VHF Radio Antenna

2. GPS Antenna

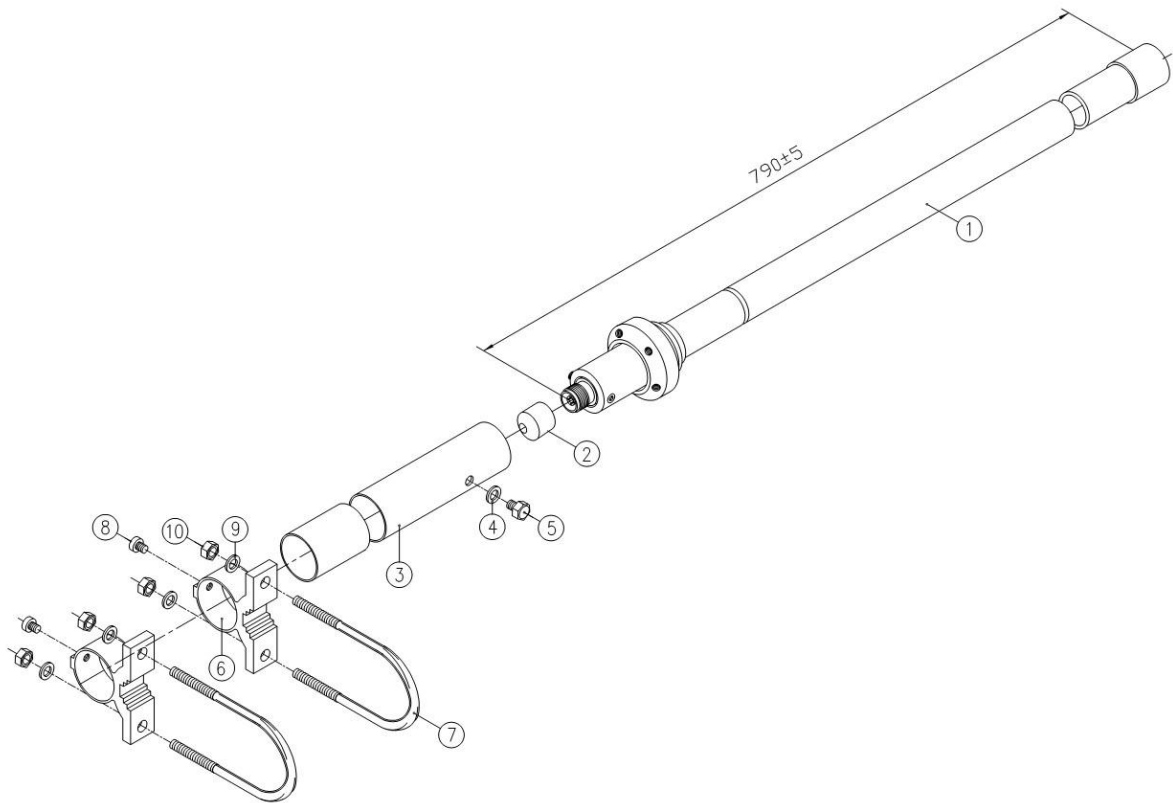
3. VHF AIS Antenna

4. Radar

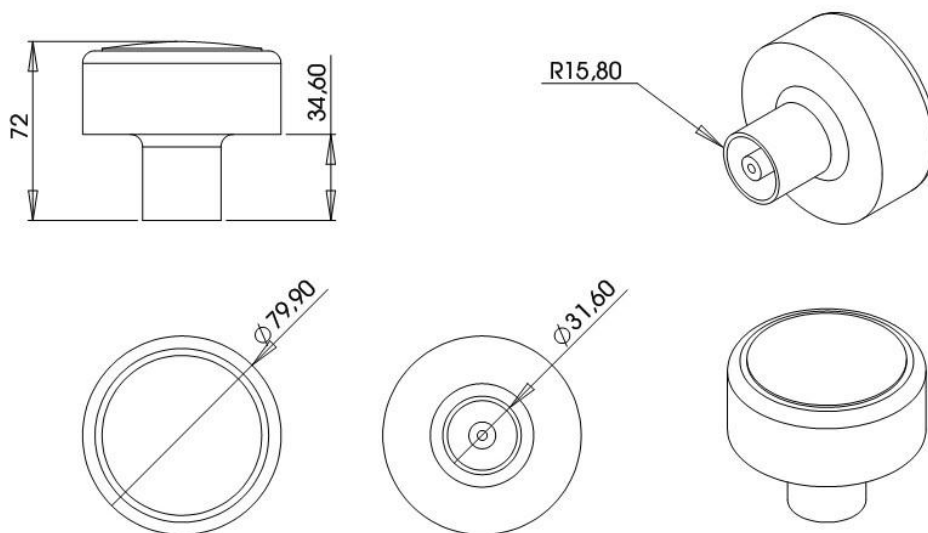
* Radar Radiation Area

GSP antenna should be installed min 3 meters away from other communication antennas on vessel.

VHF Antenna:



GPS Antenna:



Electrical Connections

Power and Ground Connection

AIS Transponder device does not operate with AC electricity. Never connect device to AC or city electricity source. It can cause serious fire, electric shock or injury.

AIS Transponder device operates with 12 V DC. In installation phase, check power supply voltage and never connect power poles inversely. AIS Transponder device may broke because of inverse or high power.

AIS Transponder device can be used in vessels with negative grounding (12 V DC source negative end connected to the vessel's grounding) or 12 V DC isolated grounding. In other cases, a DC/DC converter which can be supplied by authorized service is required.

In vessels which have 220 V AC or 24V DC, a AC/DC or DC/DC converter is required. This can also be supplied by authorized service.

Fuse Connection

AIS Transponder device power connection should be made over main fuse box. Never connect device without using fuse.

VHF Antenna Connection

For VHF antenna connection, original connectors of device should be used. All connections should be made by authorized service personnel. All types of trouble will be out of warranty in case of connections are made by unauthorized people.

GPS Antenna Connection

For GPS antenna connection, original connectors of device should be used. All connections should be made by authorized service personnel. All types of trouble will be out of warranty in case of connections are made by unauthorized people.

Fulfilling Installation and Control

In order to fulfill installation requirements and start the warranty period, all forms at the end of this manual should be filled by authorized service personnel and a copy should be forwarded to us. User is responsible for missing or wrong filled information.

8. Service Stations Contact Information

MANUFACTURER CONTACT INFORMATION

TITLE : İDEAL TEKNOLOJİ BİLİŞİM ÇÖZÜMLERİ A.Ş.

HEADQUARTER ADDRESS : CUMHURİYET CD.YENİ PARSELLER SK.NO:20 B BLOK GİRİŞ KAT
KAVACIK 34805 İSTANBUL

TEL : 0216 680 07 07 / 0216 680 07 04

TAX REGISTRATION NO : 389 023 0477 / BEYKOZ V.D.

E-MAIL : info@idealteknoloji.com

SERVICE SCOPE : Authorized Services – Documented under Electromagnetic or Radio
Frequency Identification System and Components Service Place
Sufficiency Criteria

AUTHORIZED SERVICE STATIONS CONTACT INFORMATION

NO	TITLE	ADDRESS	AUTHORISED PERSON NAME SURNAME	TEL/FAX	TAX NO
1	İDEAL TEKNOLOJİ BİLİŞİM ÇÖZÜMLERİ A.Ş.	CUMHURİYET CD. YENİ PARSELLER SK. NO:20 K BİNASI KAVACIK IST.	MURAT ŞAHİN	0216 680 07 07 / 0216 680 07 04	389 023 0477
2	İDEAL TEKNOLOJİ BİLİŞİM ÇÖZÜMLERİ A.Ş. - FACTORY	ATATÜRK ORGANİZE SANAYİ BÖLGESİ 10015. SOKAK NO : 3 ÇİĞLİ - İZMİR	SELÇUK KARAMAĞARA	0232 328 17 25-26	389 023 0477

We approve accuracy of the information above.

Manufacturer

Authorized Signature

Stamp

9. Warranty

Important Warnings and Notes

User is responsible with obeying the rules below. In other cases, warranty will become invalid.

- Attempt to open device cover / case, spilling liquid on device, tampering the hardware inside or contacting a material inside device can cause system faults.
- Repair or problem removing attempts by unauthorized people will make warranty invalid.
- Device warranty does not cover software faults.
- Device can not be carried without removing all connections properly.
- If device breakdown, please inform authorized service immediately. Do not open cover or try to repair device by modifying hardware.
- Never force device connections in installation phase.
- If device is transferred to a different location by unauthorized people, warranty will become invalid.
- All hardware maintenance, repair and installations will be made by authorized service personnel within warranty period. In other cases warranty will become invalid.

Warranty Conditions

- 1) Warranty Period starts from device delivery date and lasts 2 (two) years.
- 2) Including all components, whole device is under warranty against manufacture faults.
- 3) Repair duration is added to warranty period if device is breakdown within warranty period. Maximum repair period is 30 work days. This period starts from declaration date to service station or if service station is not available, it starts from declaration date to dealer, seller, agency, legation, importer or manufacturer. If problem can not be removed in 15 days for industry goods, manufacturer or importer have to dedicate another industry good to consumer.
- 4) Within warranty period, if device breakdowns because of a material, installation or workmanship fault, it will be repaired free of charge.

- 5) Although the consumer uses his/her repair warranty, if,
- Consumer can not use the device within warranty period because of same fault occurs more than twice or several faults occurs more than six in one year,
 - Repair period exceeds maximum duration,
 - Authorized service station; or if service station is unavailable, seller, dealer, agency, legation, importer or manufacturer compose a report which states that the repair of device is impossible,
- situations occur, consumer may require free of charge swap, pay-back or discount.
- 6) If changes are made on device; unsuitable maintenance by customer or faults occurred because of the devices which are not under our responsibility are out of warranty.
- 7) In case of misuse of device against the guide rules, warranty becomes invalid.
- 8) During warranty execution, swapped device warranty duration is limited with remaining warranty duration.
- 9) For all problems concerning Warranty Certificate, consumers may apply to "Ministry of Trade and Industry" or "General Administration of Protection of Consumer Right and Competition".

Vessel Registration Form

Vessel Information:

Name			
Flag			
Recognition Sign			
Type			
IMO No.			
Registration Port			
Port of Registry			
Technical Register Port			
Ship Owner			
Manipulator			
1. Authorized Personnel			
Tel:			
GSM:			
2. Authorized Personnel			
Tel:			
GSM:			
Length		Width	
Length		Depth	
Gross Tonnage			
d.w.t. (summer)			
Fribord (winter)		Fribord (summer)	
Draft (loaded in the middle)		Draft (loaded in the middle)	

Main Engine:

Type		Manufacturer	
Total		Type	
No.		Rotation	
Power			

Oil:

Type		Capacity (Ton)	
Daily Consumption (Ton)		Propeller Number	
Propeller Shaft Type			

Passenger Capacity:

	Port Navigation	Coastal Navigation *	Coastal Navigation	Near Coastal Nav.
Winter				
Summer				

* Limited with 10 miles up to 100 miles from nearest coastal line

Device Information:

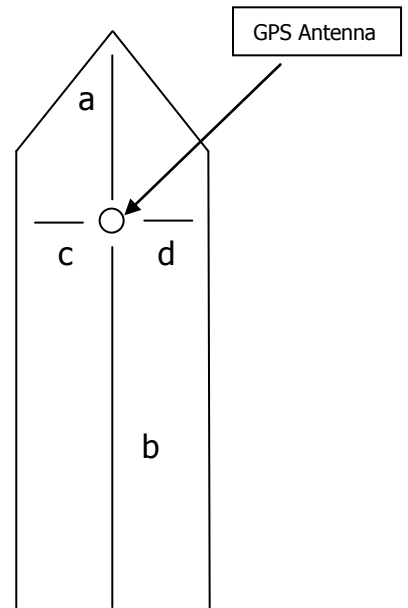
Component No.	Component Name	Seri No.	Quantity	Place
	AIS Transponder Device			
	Display (ECD)			
	Gyro			
	GPS			
	RADAR/ARPA			
	NMEA Buffer			
	Power Supply			
	VHF Antenna			
	GPS Antenna			

Installation Information:

Vessel Name (Please fill one character in every box, spaces are one character)																			
MMSI No:																			
IMO No:																			
Call Sign																			
User Password (Max. 20 letters or numbers)																			
Service Password (Max. 20 letters or numbers)																			
Administrator Password (Max. 20 letters or numbers)																			
Type																			

Vessel and GPS Antenna Sizes:

Full Length	
Width	
Draft	
Weight	
Distance of GPS Antenna to (a) *	
Distance of GPS Antenna to (b) *	
Distance of GPS Antenna to (c) **	
Distance of GPS Antenna to (d) **	



* Should be between 0 - 511 m.

** Should be between 0 - 63 m.

Installation Information:

Power Supply	
VHF Antenna Length	
GPS Antenna Length	
Weight	
Distance of GPS Antenna to Head (m)	
Distance of GPS Antenna to Stern (m)	
Distance of GPS Antenna to Starboard (m)	
Distance of GPS Antenna to Port-Side (m)	

Notes:

Dealer Information:

Company Name	
Telephone	
Installation Technician	
Address	