easy TRX 3

AIS Class B SOTDMA

Quick Instruction

V1

English

1 General information

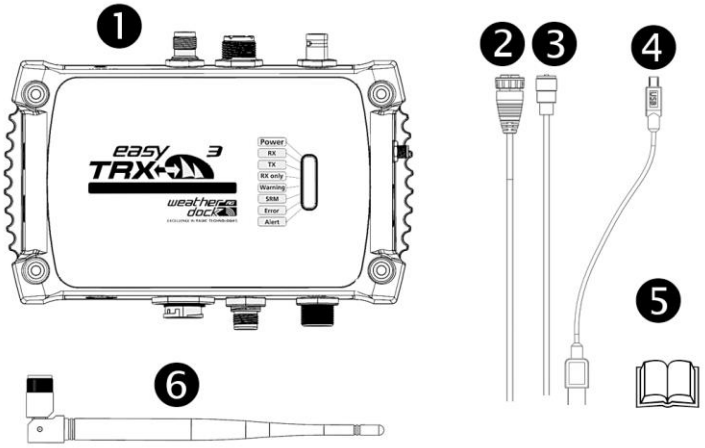
- AIS can only be an accessory. Within the rules scope, it is mandatory to verify the position of your own vessel as well as other vessels in the vicinity by radar or look-out.
- During steering a vessel it is only to the captains duty to
- It is the sole responsibility of the owner/operator of the ship to command the vessel safely and to be in full control of all operating conditions during the entire travel time. By mistaken conduct of the operator of a ship equipped with a device from the easyTRX3 product line if the operator does pay undivided attention to operation and surrounding condition damage or personal injury may be caused in the event of an accident.
- There are no known restrictions for the usage of the easyTRX3 in EU countries.

Within our web performance you will find a detailed user manual in our download area. Please visit:

https://www.easyais.com/download-wd/bedienungsanleitung

2 Scope of Delivery

1. easyTRX3 - AIS Class B
2. Connection Cable 18 pins / Power
3. Connection Cable TRX3 to VHF Radio
4. USB-Cable
5. Quick Instruction
6. WiFi-Antenna (optional)
7. Screws



3 Initial Operation

- Programming of vessel data
- Mounting
- Connection of the required cables

4 Programming of the TRX3

Via connection to PC/MAC:

1. Use USB Cable to connect easyTRX3 with PC/MAC

or:

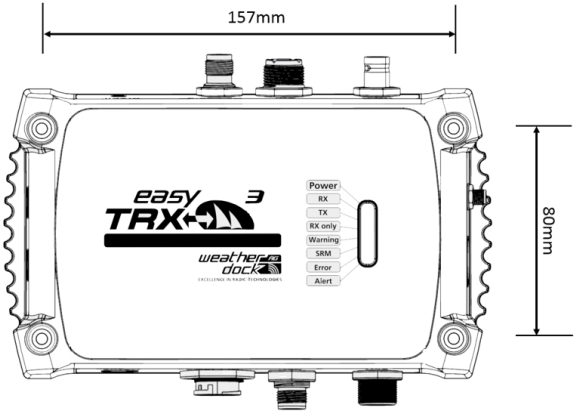
1. Connect easyTRX3 via WiFi with PC/MAC
   # Power Supply (12/24V DC) is required!
   # Enter WiFi-login data
   (SSID/Password on back side label of easyTRX3)
2. Copy and install programming software from internal TRX3 storage or download and install software from our webpage https://www.easyais.com/download-wd/software
3. Start Software and connect to TRX3
   (Host IP and Port on back side label of easyTRX3)
4. Program vessel data into easyTRX3 (MMSI, call sign, etc. …)

Via WiFi connection to mobile device:

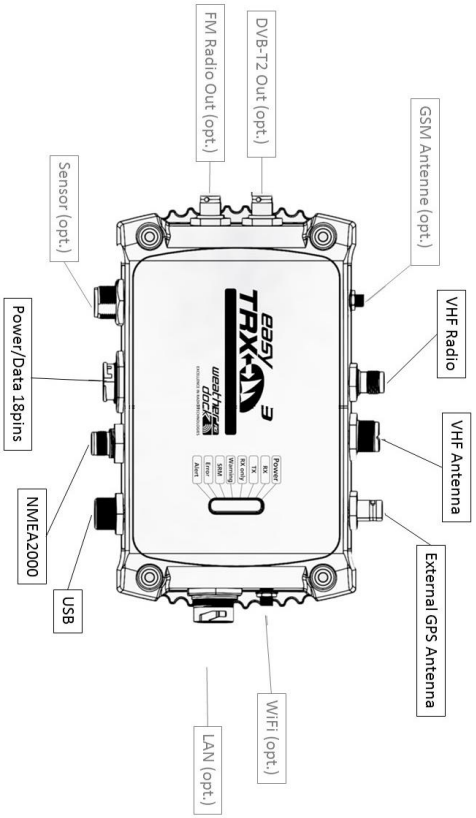
1. Connect power Supply (12/24V DC) to easyTRX3
2. Download App "easyTRX3-Manager" from App Store (iOS) or Play Store (Android) and install on mobile device
3. Activate WLAN on mobile device
4. Login into easyTRX3 WiFi network
   (SSID/Password on easyTRX3 back side label)
5. Open the App and connect to easyTRX3
   (Host IP and Port on easyTRX3 back side label)
6. Program vessel data into easyTRX3 (MMSI, call sign, etc. …)

5 Mounting

- In case of inside mounting the easyTRX3 has to be mounted above sea level
- Due to the protection class IP68 the easyTRX3 can also be mounted outside
- The safety distance of min. 40cm shall be kept to other technical devices and compass
- A drilling template may be found in top of the box.
- Pay attention to the bending radius of the connected cables



6 Connectors (Standard & optional)



6.1 18-pin Plug

By means of this plug cables for different functionalities can be connected to a central point. The included 18 pin cable harness is ready for:

Pin	Color	Function
1	Red	12 VDC / 24 VDC +
2	Black	Ground -
3	Green	NMEA 0183 OUT 1,2,3 -
4	White	NMEA OUT 1 +
5	Yellow	NMEA OUT 2 +
6	Grey	NMEA OUT 3 +
7	Brown	NMEA IN 1 -
8	Blue	NMEA IN 2 -
9	Light Green	NMEA IN 3 -
10	Pink	NMEA IN 1 +
11	Purple	NMEA IN 2 +
12	Orange	NMEA IN 3 +
13	Brown/White	*RX only* +
14	Blue/White	*Anker* Alert +
15	Green/White	*Reserve* +
16	Orange/White	*CPA* Alert +
17	Black/White	Common Ground
18	Red/White	Alert OUT MAX 30 V/2 A

For more description of functionality: see User Manual

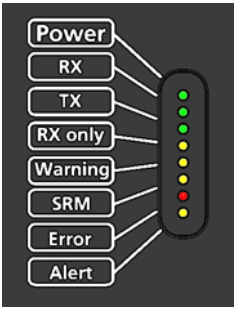
Further Connections:

6.2	**VHF Antenna (SO239)**	Connection Plug for VHF Antenna or AIS Antenna
6.3	**VHF Radio (TNC)**	Connection Plug for VHF Radio
6.4	**External GPS Antenna (BNC)**	By means of integrated GPS antenna the usage of an external GPS source is not needed with GRP or wooden fuselage vessels By using external GPS antenna: Passive antenna, immediate plugged to the TRX3 GPS data forwarded in NMEA0183 from chart plotter is not capable for AIS data reception – can't be used as GPS source
6.5	**NMEA2000**	Connection Plug to NMEA2000 board network
6.6	**USB**	For programming and diagnostics of the TRX3 If programming via USB, there is no need of external power supply for TRX3 (No transmission or reception possible with sole USB power supply. No WiFi also!)
6.7	**WiFi (optional as additional module – SMA)**	WiFi antenna connection plug for wireless AIS data exchange
6.8	**LAN (optional as additional module)**	Standard- RJ45 LAN-plug for local network access
6.9	**DVB-T2 (optional as additional module – BNC)**	Connection plug for DVB-T2 receiver box

6.10	**FM Radio (included in DVB-T2 module – BNC)**	Connection plug for FM radio
6.11	**GSM Antenna (optional as additional module)**	TBA
6.12	**Sensor (optional as additional module)**	TBA

7 LED status indication

Green	**Power Supply „POWER“**
Green	**AIS Reception**
Green	**AIS Transmission**
Yellow	**RX only „Silent Mode“**
Yellow	**Warning**
Yellow	**Safety Related Messages**
Red	**Error**
Yellow	**SART Alert**



8 Technical Data

Description	Value
General	
Dimensions	195mm * 135mm * 60mm (L*W*H)
Weight	700 gramm
Operating temperature	-15°C to 55°C
Storage temperature	-20°C to 75°C
Safety distance compass	min. 40cm
Power specification	
Board voltage	12 V DC / 24 V DC
Operating voltage range	9,6 to 31,2 V DC
Input	2,9 W at 12V DC
Current consumption	2A (send), ~240mA (stand.) at 12 V DC
GNSS specification	
GPS /GNSS Receiver (internal)	72 Channel GNSS-Receiver
	# GPS
	# GLONASS
	# GALILEO
External connections	
Interfaces	3 x NMEA0183 IN
	3 x NMEA0183 OUT
	NMEA2000
Connections (standard version)	USB
	18 pin plug
	NMEA2000 socket
	external GPS Antenna (BNC)
	VHF antenna connection (SO239)
	VHF connection (TNC)
Data type NMEA Output	VDM
Options	WiFi, Sensor, DVB-T2, DAB, GSM

AIS specification

Transmitter	1 Transmitter (AIS1, AIS2)
Receiver	2 Receiver (AIS 1, AIS2)
	DSC (AIS Channel Management)
Frequencies	Marine Band: 156,025MHz - 162,025MHz AIS1: 161,975 MHz AIS2: 162,025 MHz
Transmission power	5Watt / 1Watt (50 Ohm)
Channel width/grid	25kHz
Modulation	GMSK (AIS, TX und RX)
	FSK (DSC, RX only)
Transmission rate	9600 b/s (AIS)
	1200 b/s (DSC)
Sensitivity	-107dBm 25kHz (< 20% PER)
Co-channel rejection	10dB
Adjacent channel rejection	70dB
Intermodulation	65dB
Blocking	84dB

Certifications

AIS Standards	IEC 62287-2:2017
Environmental	IEC 60945:2002 + Corr.1:2008
GPS Performance	IEC 61108-1:2003
Product Safety	EN 60950-1:2006
	ITU-R M.1371-5
BSH approval	BSH/4542/001/4323246/18

Status

via LED	Power supply "POWER"
	AIS receive mode
	AIS transmission mode
	Mute „Silent Mode"
	Warning
	Safety Message
	Error
	SART alert

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