

**SPECIFICATIONS OF AIS RECEIVER
FA-30**

1 GENERAL

- 1.1 Rx capacity 2250 reports/minute, 1 channel
 4500 reports/minute, 2 channels
- 1.2 Rx system TDMA dual wave simultaneous reception
- 1.3 Frequency switching Automatic (external device)
- 1.4 Complying regulations IEC 60945 Ed. 4, and receiver section conforms to IEC 61993-2,
 IEC 62287-1, ITU-R M.1371-1

2 AIS RECEIVER (RX1/RX2)

- 2.1 Rx frequency range 156.025 MHz to 162.025 MHz
- 2.2 Channel interval 25 kHz/12.5 kHz
- 2.3 Oscillator frequency 1st local oscillator: f+(51.136 MHz/51.236 MHz)
 2nd local oscillator: 51.1 MHz/51.2 MHz
- 2.4 Intermediate frequency 1st IF: 51.136 MHz/51.236 MHz
 2nd IF: 36 kHz
- 2.5 Rx system Double superheterodyne
- 2.6 Sensitivity -107 dBm (PER less than 20%)
- 2.7 Error characteristics -77 dBm (PER less than 2%)
 -7 dBm (PER less than 10%)
- 2.8 Channel rejection Better than -10 dB
- 2.9 Adjacent channel rej. Better than 70 dB (± 25 kHz)
- 2.10 Spurious response Better than 70 dB (50 MHz - 520 MHz)
- 2.11 Mutual modulation Wanted freq. f -101 dBm
- 2.12 Characteristic Unwanted freq. f ± 50 kHz, no modulation -36 dBm
 f ± 100 kHz, 400 Hz/ ± 3 kHz modulation -36 dBm
 PER less than 20%
- 2.13 Sensitivity suppression Wanted freq. f -101 dBm
 Unwanted freq. f ± 500 kHz, ± 1 MHz, ± 2 MHz,
 no modulation -23 dBm
 Unwanted freq. f ± 5 MHz, ± 10 MHz, no modulation -15 dB
 PER less than 20%
- 2.14 Spurious emission 9 kHz – 1 GHz less than -57 dBm
 1 GHz – 4 GHz less than -47 dBm

3 INTERFACE

3.1 COM port

Input signal	RS422(38.4kbps)/IEC61162-1(4800 bps)
Input sentences	ACK, ACA, AIQ, DSC, DSE, DTM, GBS, GGA, GLL, GNS, HDT, OSD, PFEC, RMC, VBW, VTG, ZDA, ABM*, BBM*, AIR*
Output signal	RS422(38.4kbps)
Output sentences	ACA, ACS, ALR, PFEC, VDM, VDO, TXT, ABK*

3.2 NETWORK

	Ethernet 10BASE-T/100BASE-TX
Input sentences	ACK, ACA, AIQ, DSC, DSE, DTM, GBS, GGA, GLL, GNS, HDT, OSD, PFEC, RMC, VBW, VTG, ZDA, ABM*, BBM*, AIR*
Output sentences	ACA, ACS, ALR, PFEC, VDM, VDO, TXT, ABK*

* ABK sentence sent in response to mis-input of ABM, BBM, AIR

4 ANTENNA

50 ohms single dipole antenna

5 POWER SUPPLY

12-24 VDC: 1.2-0.6 A

6 ENVIRONMENTAL CONDITION

6.1 Ambient temperature	-15°C to +55°C
6.2 Relative humidity	93% at 40°C
6.3 Degree of protection	IP20
6.4 Bearing vibration (IEC 60945-4)	- 2Hz to 5 Hz and up to 13.2 Hz with an excursion of ±1 mm ±10% (7m/s ² maximum acceleration at 13.2 Hz) - above 13.2 Hz and up to 100 Hz with a constant maximum acceleration of 7 m/s ²

7 COATING COLOR

N2.5

8 VHF SPLITTER (OPTION)

8.1 Rx function

Frequency range	155-163 MHz
Coupling factor	ANT-AIS and ANT-VHF: 3dB or less

	Decoupling factor	AIS-VHF: 15dB or less (155 MHz to 163MHz)
8.2	Tx function	
	Frequency range	155-163 MHz
	Input power	0.5-25W
	Coupling factor	1dB or less
	Decoupling factor	25dB or more
	Maximum power	30W (50 ohms) nominal
	Power detection	500mW or more
	Detection time	Within 10ms
8.3	Power source	11.0VDC±10%, within 1.5W, supplied by receiver unit FA-30