

# FURUNO

# AIS

Automatic Identification System



Model:  
FA-170

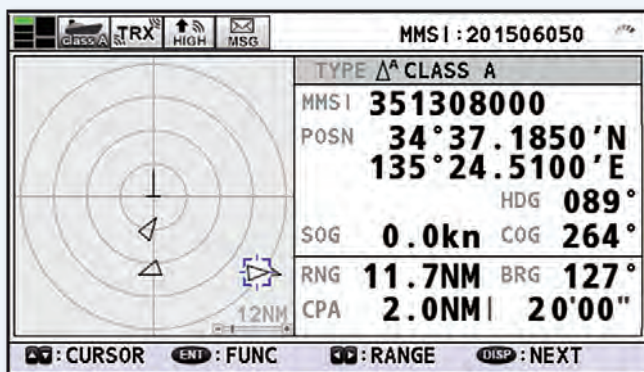
# The FURUNO FA-170 AIS presents data for collision avoidance with its easy-to-use interface

**AIS**  
Automatic Identification System



- ▶ Class A AIS transponder
- ▶ Clear 4.3" color display
- ▶ Displays information about the AIS-equipped ships, as well as, coastal stations and Aids to Navigations within VHF coverage
- ▶ Outputs AIS data to ECDIS, radar and other navigational equipment for collision avoidance support
- ▶ Sufficient output ports for dual configuration of ECDIS and radar system
- ▶ LAN interface available for efficient network integration into a bridge system
- ▶ BAM (Bridge Alert Management) ready  
Meets the specific requirements for alerts and interconnection with Bridge Alert Management as specified in IMO MSC.302 (87).
- ▶ Optional pilot plug available
- ▶ Receives AIS-SART signals for assisting in streamlining SAR activities

## Plotter display



Displays symbols for AIS-equipped ships, base stations, AIS-SARTs, and so on. When you select a certain target, the information about the ship (MMSI (or name, when available), heading, SOG, COG, etc.) is displayed.

### AIS symbols

	Own ship symbol		AIS base station		AIS-SART/MOB-AIS/EPIRB-AIS
	Target		Aid to Navigation (physical)		SAR aircraft
	Selected target		Aid to Navigation (virtual)		SAR vessel

## Target list

The FA-170 can store up to 2048 AIS targets and AIS-SARTs.

NAME/MMSI/TYPE	RNG [NM]	BRG [°]	AGE [']
300000001	1.0	000.0	1
DUMMY_NAME_NO.2	1.1	010.0	2
DUMMY_NAME_NO.3	1.2	020.0	3
BS:300000004	1.3	030.0	4
SAR:111273222	1.4	040.0	5
SAR:111273101	1.5	050.0	6
300000007	1.6	060.0	7
DUMMY_NAME_NO.8	1.7	070.0	8

### Quick-access functions

When you select one target from the list and press [ENT] key, the pop-up window is generated.

FUNCTION	NEW MSG
SORT (NORMAL)	VIEW DETAIL
NAME REQUEST (DANGER)	SORT

MSG TYPE	ADDRESSED
TO	300000003 (DUMMY_NAME_NO.03)
CH	ALTERNATE
RETRY	3
TEXT	MESSAGE

RNG	1.01NM	MMSI	300000001
BRG	0.0°	NAME	DUMMY_NAME_NO.05
POSN	34°45.0000'N	CPA	2.0NM
ROT	135°21.3000'E	TCOA	20°00'
SOG	10.0kn	HOG	130°
SOG		SOG	135.0°

The FA-170 displays the detailed information on the selected target. Also, you can create an AIS message or send a name request to the target ship.

## Dangerous target list

The dangerous target list displays the name and particulars of targets classified as dangerous targets.

NAME/MMSI/TYPE	RNG [NM]	BRG [°]	AGE [']
300000001	1.0	000.0	1
DUMMY_NAME_NO.2	1.1	010.0	2
DUMMY_NAME_NO.3	1.2	020.0	3
BS:300000004	1.3	030.0	4
SAR:111273222	1.4	040.0	5
SAR:111273101	1.5	050.0	6
300000007	1.6	060.0	7
DUMMY_NAME_NO.8	1.7	070.0	8

## Own ship information

Displays own ship's position, heading, ROT, COG, SOG, destination, ship size, MMSI, name, and so on.

DATE	31/JUL/2015	TIME	12:00:00
POSN	34°44.5005'N	PA	LOW
ROT	135°21.3021'E	RAIR	USED
ROT	0.0°/min	HDG	130°
SOG	12.3kn	COG	135.0°

MMSI	201 506 050
NAME	SHIPNAME
IMO NO.	1073741823
CALL SIGN	=SEVEN=
TYPE OF SHIP	024
VENDOR ID	FEC-02-123456

01	KOBE
02	YOKOHAMA
03	BUSAN
04	SEATTLE
05	SAN FRANCISCO
06	BRISBANE
07	NO ENTRY
08	NO ENTRY

When you enter the voyage-related data, you can select a destination from the list. Up to 20 destination names can be preset on the list. Cut, copy and paste functions are available while editing the list.

## Alert list

Displays all (current and past) alerts

TIME (UTC)	ALERT
30/JAN 17:20	TX MALFUNCTION
29/JAN 17:20	ANTENNA VSWR EXCEEDS LIMIT
28/JAN 17:20	RX CHANNEL 1 MALFUNCTION
27/JAN 17:20	RX CHANNEL 2 MALFUNCTION
26/JAN 17:20	GENERAL FAILURE
25/JAN 17:20	ACTIVE AIS-SART

TIME (UTC)	ALERT
01: 01/APR 10:49	TX MALFUNCTION
02: 01/APR 10:48	TX MALFUNCTION
03: 01/APR 10:47	TX MALFUNCTION
04: 01/APR 10:46	TX MALFUNCTION
05: 01/APR 10:45	TX MALFUNCTION
06: 01/APR 10:44	ANTENNA VSWR EXCEEDS LIMIT

## Short safety-related messages

Short safety-related messages can be exchanged with a specified MMSI or all AIS-equipped ships via VHF channels. The FA-170 can store up to 20 transmitted messages and up to 20 addressed received messages and 20 broadcast received messages.

TIME (UTC)	FROM
08/APR 09:45	200000000
08/APR 09:44	200000001
08/APR 09:43	200000002
08/APR 09:42	200000003
08/APR 09:41	200000004
08/APR 09:40	200000005
08/APR 09:39	200000006

0000
0001
0002
0003
0004
0005
0006

MSG TYPE	ADDRESSED
TIME (UTC)	08/APR 09:45
FROM	200000000
TEXT	TX=

MSG TYPE	ADDRESSED
TO	300000003 (DUMMY_NAME_NO.03)
CH	ALTERNATE
RETRY	3
TEXT	MESSAGE

When you select one message and press [ENT] key, the pop-up window is generated where the message contents can be viewed and reply messages can be created for transmission.

# SPECIFICATIONS

## GENERAL

Product Name	U-AIS TRANSPONDER
Reporting capacity	2250 reports per minute on 1 channel 4500 reports per minute on 2 channels
Standards	IMO MSC.74(69) ANNEX 3, IMO MSC.302(87), IMO A.694(17), IMO MSC.191(79), ITU-R M.1371-5, DSC ITU-R M.825-3, IEC61993-2 Ed. 3, IEC60945 Ed. 4 CORRIGENDUM 1, IEC 62288 Ed. 2, IEC 61162-1 Ed. 5, IEC 61162-2 Ed. 1, IEC61162-450 Ed. 2, IEC62923-1/-2 ED. 1

## TRANSPONDER UNIT

TX/RX frequency	156.025 to 162.025 MHz
Bandwidth	25 kHz
Output power	1 W or 12.5 W selectable
DSC receiver	156.525 MHz, CH70 fixed

## INTERFACE

COM port	6 ports input/output, IEC61162-1 Ed. 5 / IEC61162-2 Ed. 1
SENSOR port	3 ports input only, IEC61162-1 Ed. 5
LAN	1 port, IEC61162-450 Ed. 2, 100 Base-TX, Auto MDI/MDIX
Alarm output	1 port, Relay contact (select from Normally closed (default) or Normally open), Alarm ACK

## GNSS RECEIVER

Number of channel	GPS: 12 channels parallel, 12 satellites GNSS: 10 channels parallel, 10 satellites
Receiving frequency	1575.42 MHz (GPS), 1602.5625 MHz (GLONASS)
Tracking code	C/A code (GPS), L1OF (GLONASS)
Position accuracy	GPS: less than 13 m (2 drms, HDOP<4) DGPS: less than 5 m (2 drms, HDOP<4)

## VHF ANTENNA

50 Ω Single dipole antenna
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## MONITOR UNIT

Screen size	4.3-inch color LCD, 480 x 272 dots (WQVGA)
Viewing area	95.04 (W) x 53.856 (H) mm
Brightness adjustment	18 steps

## POWER SUPPLY

Transponder unit	12-24 VDC 6-3 A
Monitor unit	12 VDC 0.3 A max. (supplied by Transponder unit)
AC/DC Power Supply Unit PR-241 (option)	100/110/200/220 VAC, 1φ, 50/60 Hz

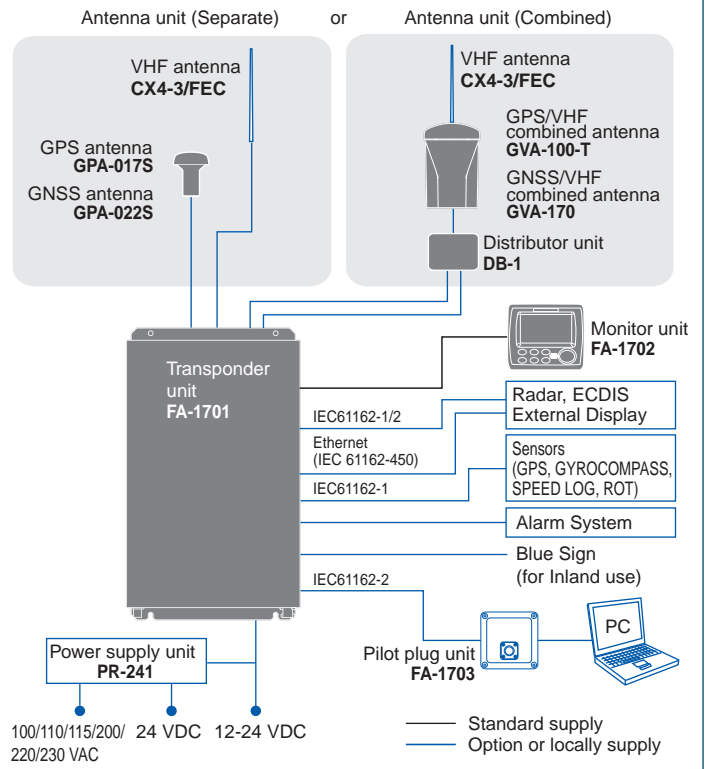
## ENVIRONMENT

Ambient Temperature	Transponder unit/Monitor unit/ Pilot plug unit/Power supply unit	-15 to +55°C
	Antenna unit	-25 to +70°C
Relative humidity		93% or less at 40°C
Degree of protection	Transponder unit	IP22 at bulkhead mount, IP20 at floor
	Monitor unit	IP22, IP35 with optional Waterproofing kit
	Pilot plug unit	front panel: IP22
	Antenna unit	IP56
Vibration		IEC60945 Ed.4

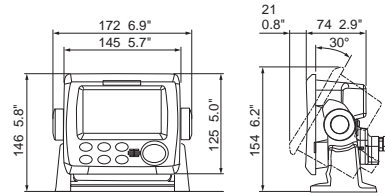
## EQUIPMENT LIST

Standard			
1	Transponder unit	FA-1701	1 unit
2	Monitor unit	FA-1702	1 unit
3	GPS antenna	GPA-017S	1 unit
4	GNSS antenna	GPA-022S	1 unit
5	GPS/VHF combined antenna and Distributor unit	GVA-100-T and DB-1	1 set
6	GNSS/VHF combined antenna and Distributor unit	GVA-170 and DB-1	1 set
} Selectable			
Option			
1	Antenna cable kit for GPS/VHF combined antenna or GPS antenna (30/40/50 m)		
2	Antenna base (for pipe mount/offset bracket/deck mount/handrail mount)		
3	VHF antenna	CX4-3/FEC	
4	Power supply unit	PR-241	
5	Pilot plug unit	FA-1703	
6	AD converter	AD-100	
7	Sub monitor unit	FA-1702	
8	Flush mount kit for Monitor unit	OP24-35	
9	Monitor flush mount kit for retrofitting from FA-150	OP05-140	
10	Waterproofing kit for Monitor unit (IP35)	OP05-139	

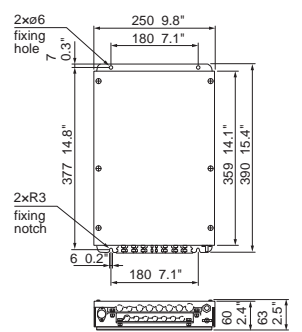
# INTERCONNECTION DIAGRAM



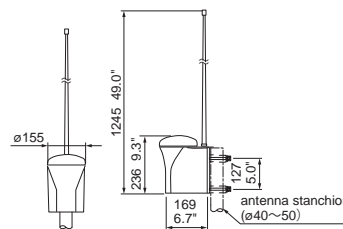
**Monitor unit (hanger)**  
FA-1702 0.7 kg, 1.5 lb



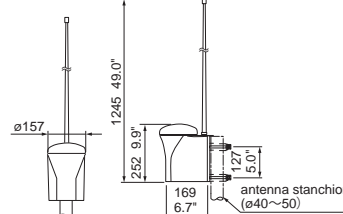
**Transponder unit**  
FA-1701 3.0 kg, 6.6 lb



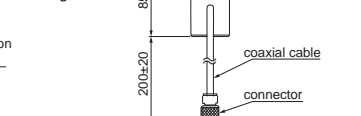
**GPS/VHF combined antenna**  
GVA-100-T  
3.3 kg, 7.3 lb



**GNSS/VHF combined antenna**  
GVA-170  
3.5 kg, 7.7 lb



**GPS antenna**  
GPA-017S  
0.12 kg, 0.3 lb



**GNSS antenna**  
GPA-022S  
0.47 kg 1.04 lb



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