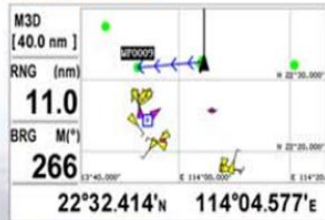


VARIOUS DISPLAYS

The HP-33A provides navigation/AIS data and displays them in a wide variety of numerical and graphical formats. You may freely select which data you want displayed with easy to use controls. The combination of a high resolution screen and large data fields makes the screen easy to read in almost any condition.

AIS ON PLOTTER



Except presents various data of ship tracks, GPS information and graphic symbols, now HP-33A added AIS information displayed on plotter.

AIS RADAR



Radar Overview look like a marine radar display, North-up, Course-up and Range from 0.125NM to 24NM are supported.

AIS LISTS

Target	Danger	Match	Alarm	Message	Total: 20
Name/PPS I	RNG(nm)	BRG(°)	SOG(kn)	COG(°)	
A 432462020	10.2	228	0.0	23	
A 432466610	12.0	232	0.1	33	
A 432476060	12.3	231	1.9	143	
A 432466350	12.4	231	11.0	219	
A 432472480	12.6	231	11.3	217	
A 372973000	12.7	235	0.1	134	
004737726	13.7	221	---	---	
A 432141000	14.0	231	7.8	43	
A CMA CGM LAPE	14.4	224	6.3	170	

The Target List display show all detected AIS equipped vessels and targets.

The Danger list display show a list of vessels that are within 6nm CPA and 60 minutes TCPA from your vessel.

Watching display MOB, Fishing net Buoy, friendly ships.

OTHER DISPLAYS

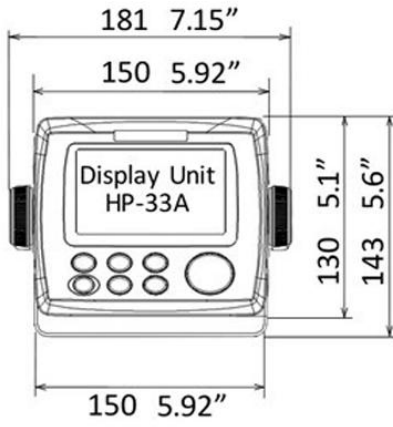


THE COMPLETE AIS SOLUTION

The HP-33A supports connection to a vessel's existing GPS navigation, connection of ECDIS, or ECS using NMEA0183, or USB interface to PC software. And also There is optimised for use with Fishing net AIS Buoy (HAB-80), AIS SART and Personal AIS Beacon for MOB alarm.

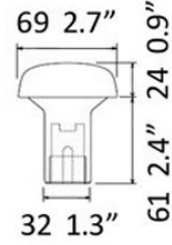
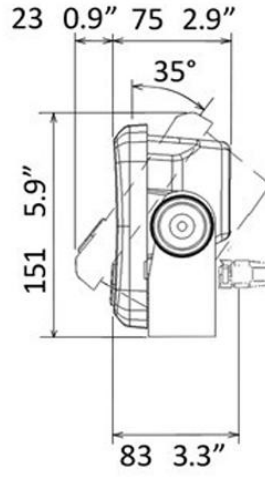
**DISPLAY UNIT
HP-33**

0.71 kg 1.57 lb



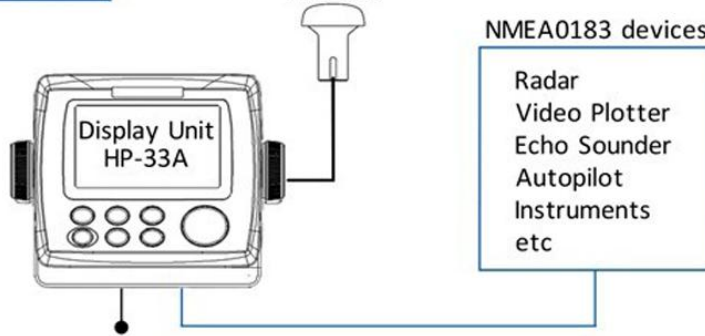
**GPS ANTENNA
HA-017**

0.5 kg 0.96 lb



NMEA 0183

Antenna Unit
HA-017



AIS Message:	Postion
Projection:	Receive Broadcast / Addressed message
Plot Scales:	Mercator projection
AIS Radar View Scales:	0.01nm ~ 320nm
	0.125, 0.25, 0.5, 0.75, 1.5, 3, 6, 12, 24 nm

AIS TRANSPONDER

MAIN SPEC.

STANDARDS:	IEC 62287-1, IEC 62287-2 ITU 1371-3 IEC 61993-2 IEC 61162-1 IEC 60945
Frequency:	CH87 - 161.975 MHz CH88 - 162.025 MHz
Channel Bandwidth:	25 KHz
Frequency Stability:	≤ 2.5 PPM
Modulation:	AIS GMSK
Data Rate:	38400 bps

AIS TRANSMITTER

Power output:	2W ± 1.5dBm
Power Delay:	Rise delay ≤ 313US Fall delay ≤ 313US
Stray Power:	≤ -36 dBm

AIS RECEIVER

Sensitivity:	≤ -107 dBm
Max Usable Sensitivity:	PER ≤ 20% at -107 dBm
Channel Rejection Ratio:	≤ -10 dB
Adjacent Channel Selectivity:	≥ 70 dB
Intermodulation Selectivity:	≥ 65 dB
Blocking:	≥ 85 dB

GPS/SBAS

Receiver Type:	GPS: 50 channels, C/A code SBAS: WAAS, EGNOS, MSAS, GAGAN
Receive Frequency:	L1(1575.42 MHz)
Time to First Fix:	Cold start: 32s Hot Start: <1s
Tracking Velocity:	500m/s Max
Altitude:	50,000 m Max
Dynamics:	≤ 4 g
Geodetic Systems:	WGS-84 (and others)
Horizontal position:	GPS: 2.5 m SBAS: 2.0 m
Velocity:	0.1m/s
Heading:	0.5 degrees

ENVIRONMENT

Temperature:	Display unit: -15 C to +55 C Antenna unit: -25 C to +70 C
Waterproofing:	Display unit: IP56 Antenna unit: IPX6

POWER SUPPLY

POWER SUPPLY:	12-24 VDC: 0.24-0.12 A
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PHYSICAL

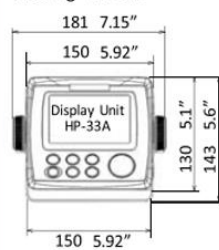
Size:	181mm(W)x143mm(H)x83mm(D)
Weight:	0.80 kg; 1.76 lb

EQUIPMENT LIST

Standard:	<ol style="list-style-type: none"> 1. Display unit HP-33A 2. Antenna unit HA-017 with cable 10m 3. Power cable, 2m 4. Standard spare parts and installation materials 5. Operator manual
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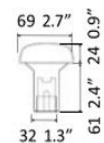
DISPLAY UNIT HP-33A

0.80 kg 1.76 lb

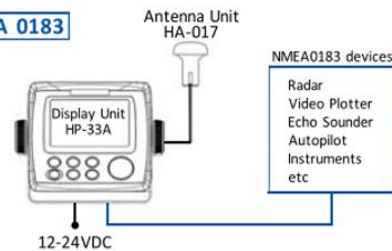


GPS ANTENNA HA-017

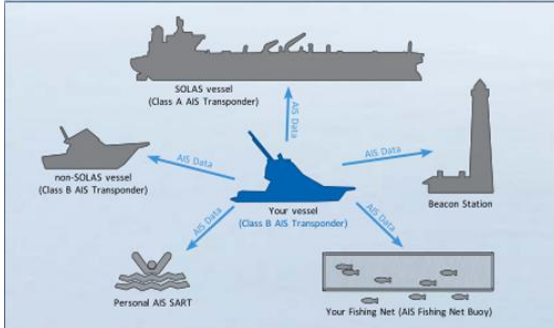
0.5 kg 0.96 lb



NMEA 0183



HP-33A is a class B AIS transponder capable of exchanging navigation and ship data with other ships, base station, AtoN, SAR, etc. It complies with ITU-R M.1371-3, IEC 62887-2, IEC 61993-2, IEC 60945, IEC 61162-1.



WHAT IS AN AIS TRANSPONDER?

An AIS transponder on your boat automatically receives information broadcast by other AIS-equipped vessels and base stations, all while your own vessel's static and dynamic information is being transmitted. AIS signals may reach where radar can not, showing AIS-equipped vessels that might otherwise be hidden, such as on the other side of an island or behind a larger vessel. SOLAS commercial vessels are already required to carry a Class A AIS transponder, so your position will be known by nearby large vessels, it will increase your safety at sea.

FEATURE

To AIS

- Radar plotter display and multi-lists display
- Detailed target information display
- Watch function for fishing net buoy, friend ships, etc.
- Visual and audio alarm of collision, SART, MOB, watch target lost, watch target deviation, etc.
- Safety and normal Message display

To GPS

- Multi-display with 2 user-customized modes
- Stores up to 10,000 waypoints, 100 routes and 3,000 tracks
- SBAS capability
- Visual and audio alarm of Arrival /Anchor, XTE, speed, trip, odometer, etc.
- Man overboard feature and quick GOTO mark set

AIS BEACONS COVERAGE



* You can track your vessels information thru this website:
<http://www.marinetraffic.com/>