

# ONWA<sup>®</sup>

MARINE ELECTRONICS



## NEW! KP-25/KP-27 SERIES

GPS Chart Plotter with built-in Fish Finder and Class B+ AIS Transponder



**K-CHART**  
Free detailed sea map



Support C-Map MAX



Compatible with Navionics+



SD Card System Update



**Built-in AIS Transponder**  
\*KP-25A and KP-25X:  
Built-in AIS



**Built-in Fish Finder**  
\*KP-25F and KP-25X:  
Built-in Fish Finder



**NMEA0183  
NMEA2000**  
NMEA Interface



**Sunlight Viewable**  
LCD Brightness 1000 nit

**IP66**  
Ingress Protection





**KP-25**  
5" GPS Chart Plotter



**KP-25A**  
5" GPS Chart Plotter with Class B+ AIS Transponder



**KP-25F**  
5" GPS Chart Plotter with built-in Fish Finder



**KP-25X**  
5" GPS Chart Plotter with built-in Fish Finder  
and Class B+ AIS Transponder



**KP-27**  
7" GPS Chart Plotter



**KP-27A**  
7" GPS Chart Plotter with Class B+ AIS Transponder



**KP-27F**  
7" GPS Chart Plotter with built-in Fish Finder



**KP-27X**  
7" GPS Chart Plotter with built-in Fish Finder  
and Class B+ AIS Transponder

### KP-25 Plotter Comparison

Model	KP-25	KP-25A	KP-25F	KP-25X
Display Size	5"	5"	5"	5"
Resolution	800x480	800x480	800x480	800x480
LCD Brightness	1000 nit	1000 nit	1000 nit	1000 nit
GNSS	GPS + Beidou + Galileo + Glonass	GPS + Beidou	GPS + Beidou + Galileo + Glonass	GPS + Beidou
Navionics+ Compatible				
C-Map Max Compatible				
K-Chart Map				
NMEA Interface	NMEA0183 NMEA2000	NMEA0183 NMEA2000	NMEA0183 NMEA2000	NMEA0183 NMEA2000
GPS Antenna				
Fish Finder Feature			Dual Frequency (50 & 200KHz)	Dual Frequency (50 & 200KHz)
Built-in AIS		Class B+		Class B+

### KP-27 Plotter Comparison

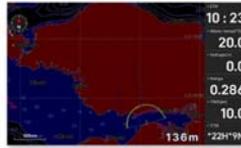
Model	KP-27	KP-27A	KP-27F	KP-27X
Display Size	7"	7"	7"	7"
Resolution	800x480	800x480	800x480	800x480
LCD Brightness	1000 nit	1000 nit	1000 nit	1000 nit
GNSS	GPS + Beidou + Galileo + Glonass	GPS + Beidou	GPS + Beidou + Galileo + Glonass	GPS + Beidou
Navionics+ Compatible				
C-Map Max Compatible				
K-Chart Map				
NMEA Interface	NMEA0183 NMEA2000	NMEA0183 NMEA2000	NMEA0183 NMEA2000	NMEA0183 NMEA2000
GPS Antenna				
Fish Finder Feature			Dual Frequency (50 & 200KHz)	Dual Frequency (50 & 200KHz)
Built-in AIS		Class B+		Class B+

# ➤ DIFFERENT DISPLAY MODES

## Plotter

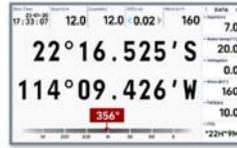


Day mode



Night mode

## Navigation Data



Day mode



Night mode

## Compass



Day mode



Night mode

## Highway

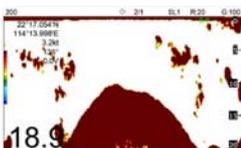


Day mode

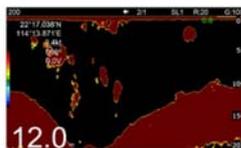


Night mode

## Sounder



Day mode

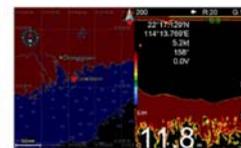


Night mode

## Sounder + Plotter

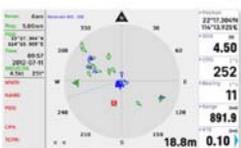


Day mode

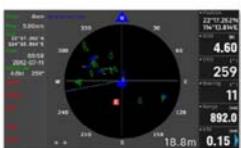


Night mode

## AIS



Day mode



Night mode

## Wind



Day mode

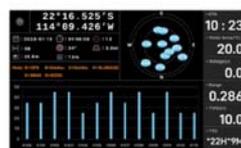


Night mode

## Satellite



Day mode



Night mode

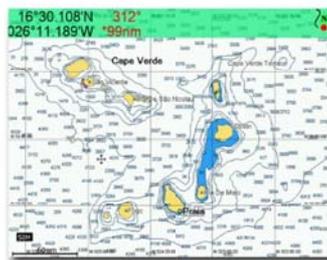
# ➤ GPS CHART PLOTTER

Compatible with the following mapping systems:



### K-Chart Mapping System

ONWA Chart Plotters are compatible with K-Chart Mapping and displays worldwide Electronic Charts that users can use for FREE.



### C-Map Max

ONWA Chart Plotters are also compatible with C-Map Max showing Nautical Charts



### Navionics+

ONWA Chart Plotters when used with Navionics+ charts shows Nautical Charts and Sonar Charts. Advance options also include: Highlight Shallow Area, Adjust Contour Density and Shallow Fishing Range

## Standard Accessory



**GPS Patch Antenna**  
with 4m cable (SMA connector)  
Ingress Protection IP66

## Optional Accessory



**KA-07**  
External GPS Antenna  
with 10m cable



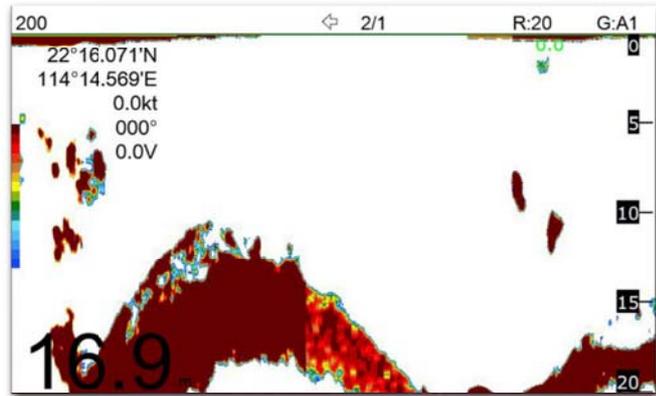
**KA-GC9A**  
Heading Sensor E-Compass  
(RS422 Connection)

# ➤ BUILT-IN HD FISH FINDER

*\*Transducer required*

- Applies the most advanced Digital Fish Finder Technology
- Dual Frequency: 50 and 200kHz (alternately transmitted)
- Automatic Range and Gain adjustment depending on usage (Cruising or Fishing)

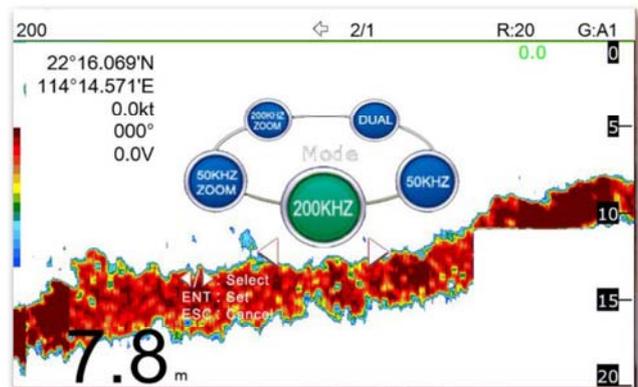
> Excellent Sea-bed Discrimination and easily identify fishes and school of fish  
 > Exact depth to where the school of fish is shown for ease of fishing



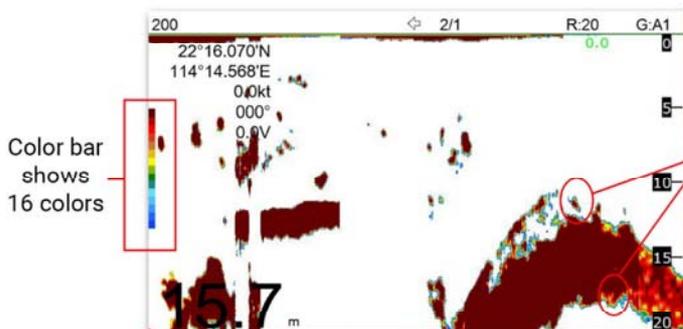
# ➤ DISPLAY MODES

## DISPLAY MODES

> Selection of Display Modes depending on your needs  
 50 KHz, 200KHz, Dual, 50KHz/Zoom and 200KHz/Zoom



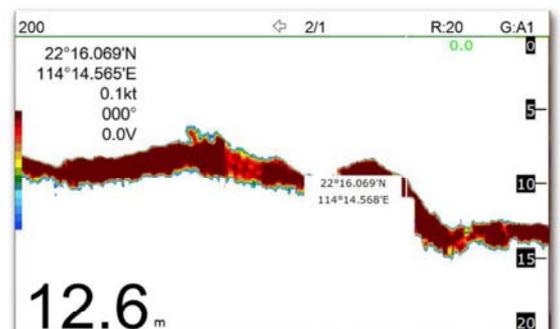
## 16 COLORS ACCORDING TO INTENSITY



Color bar shows 16 colors

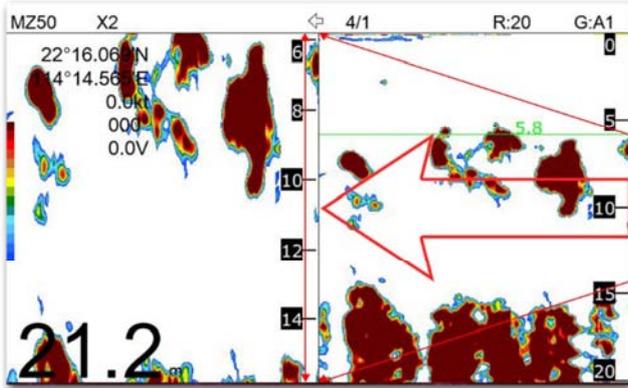
Can distinguish different strength of echoes by colors

## SAVES THE POSITION OF A HISTORY ECHO IN WAYPOINT MEMORY



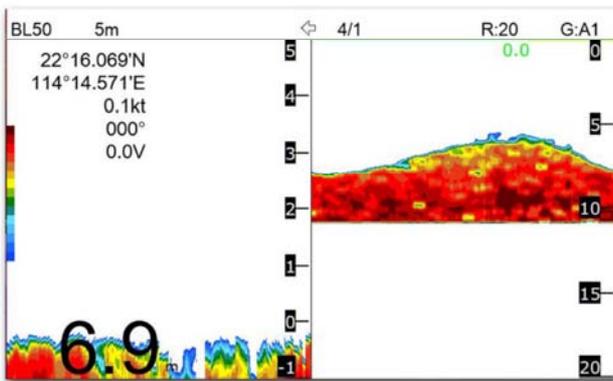
# ZOOM MODES

Marker Zoom, Bottom Lock Zoom, & Bottom Zoom

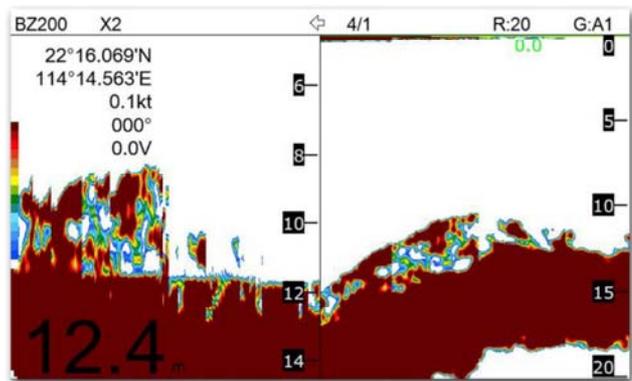


## MARKER ZOOM

> The marker area is zoomed and displayed on the left side screen



BOTTOM LOCK ZOOM



BOTTOM ZOOM

## ➤ FISH, BOTTOM, AND TEMPERATURE ALARMS

\*Temperature sensor required for Temperature Alarm

**Fish Alarm:**

Alarms when fish is seen at set range

**Bottom Alarm:**

Alarms when the set bottom range is reached

**Temperature Alarm:**

Used to warn the user when temperature reaches set temperature range

### OPTIONAL ACCESSORIES

(not included in the standard set)



**KTD-520\_TM**  
Transom Mount  
Transducer 600W



**Bronze Transducer**  
Thru-hull Transducer  
600W



**Plastic Transducer**  
Thru-hull Transducer  
600W



**KTS-10K\_TM**  
Transom Mount  
Temperature Probe



**KTS-10K\_TH**  
Thru-Hull  
Temperature Probe

# ➤ AIS FEATURES

## VHF Antenna needed



Class B+ AIS Technology

- **SOTDMA Technology** - Same technology used by Class A
  - Guaranteed time slot allocation
- **5W Transmission Power** - increases the range and AIS Satellite reception enabling Global tracking
- **Increased Transmission Rate** (Based on speed)

## exactTrax™

exactTrax Tracking

- > Integrated with exactTrax AIS satellite tracking technology service which provides the ability to track fishing boats and small commercial vessels with AIS Class B type transceivers across the globe

**NOTE:** In order to use exactTrax, user must avail ExactEarth Service



ExactTrax showing position of a vessel sailing for 1 week from Hong kong to Malaysia in multi-hour vessel track

## AIS Target Tracking



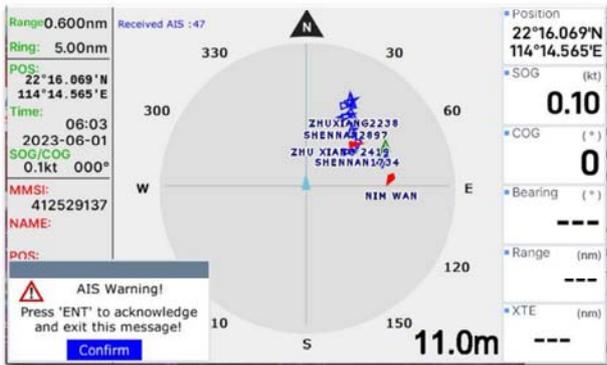
- ONWA AIS Plotters now has the ability to record tracks of AIS Targets
  - > **Manual AIS saved tracks:** Record Manually selected AIS targets, Max = 10 targets/records
  - Recorded tracks are useful when checking the records during an accident
  - Recorded tracks can be saved as a route



Points in the track shows the location, date, time, SOG and COG, etc.



Recorded Track saved as a route



## CPA and TCPA Alarm

Alarm that helps the user to be aware of nearby vessels stating possible CPA and TCPA. The unit alarms until acknowledged

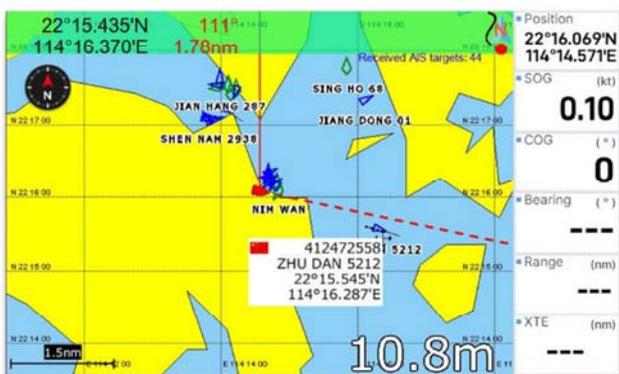
No.	MMSI	NAME	DIST	COG	NAME ONWA123456	MMSI 009123456	CLASS B
000	009123456	ONWA123456	0.001	66	MMSI 009123456	CLASS B	
001	009124428	ONWA24428	***	***	COUNTRY		
002	412529802	SHENNAN2637	0.157	80	SHIP-TYPE Fishing		
003	412529343	SHENNAN1734	0.198	189	IMO NO ***		
004	412482506	ZHU XIANG 2419	0.209	56	CALL SIGN ABCDEFG		
005	412529117	ZHUXIANG2419	0.214	0	LAT 22°16.069'N		
006	412534925	SHENNAN2897	0.244	263	LON 114°14.571'E		
007	477995681	HKD T-17	0.242	35	COG 66° SOG 0.000kt		
008	412529064	ZHUWAN4163	0.258	138	RNG 0.00nm BRG 351°		
009	477995212	TB 202	0.252	***	CPA 0.00nm TCPA 0.4		
					LENGTH 029 BEAM 017		
					DRAUGHT ***		
					DEST ***		
					ETA ***		
TCPA:				10.7m	---		

## Vessel List

Shows nearby vessels, distance to your vessel and information. Selecting a target from the list shows the vessels details

## AIS Targets Overlay in the Plotter Screen

Targets are overlaid in the Plotter screen and shows nearby AIS, pointing the cursor at one target shows the MMSI number and Location, selecting the target shows the targets ship details



SHIP INFORMATION		dn
NAME	CORAL SEA 18	6.069'N
COUNTRY	HONG KONG	4.565'E
SHIP-TYPE	Passenger	(kt)
MMSI	477995489	0.10
CALL SIGN	VRS4838	(°)
IMO NO	***	0
POS	22°17.437'N	(°)
	114°14.230'E	0
COG	***	(°)
ETA	P	---
ETA	08-04 00:00	(nm)
CPA	***	---
TCPA	***	(nm)
NAV STATUS	Under way using engine	---
SOG	0.0	(nm)
RNG	1.4	---
BRG	***	(nm)
		---

## PLOTTER CHARACTERISTICS

Waypoints/icons	12000 user waypoints with name, symbol 3 system waypoints: MOB, Start, Cursor 10 proximity waypoints
Routes	30 routes waypoint up to 170 points each, plus MOB and Track Navigation or GOTO Track modes
Tracks	16,000 points automatic track log; 10 saved tracks (up to 16,000 track points each) lets you retrace your path in both directions
Alarms	XTE, Anchor drag, arrival, speed, voltage, proximity waypoint, Timer and AIS (CPA and TCPA) alarm
Drawing	1000 Drawing Marks; 2000 Drawing Lines (40 points each); 1000 Drawing Place Name; 8 Colors for Drawing
Palette	Normal Daylight exposed to sunlight Night in dark environment NOAA paperchart colors Built-in Worldwide Tide data
Tides	Built-in Worldwide Tide data
Position format	Lat/Lon
Basemap	Worldwide
External Map	Compatible with K-Chart 2.0, K-Chart 3.0, C-Map Max and Navionics+
User data storage	Internal backup of user settings or external SD-card
Plot Interval	5secs to 60 mins or 0.01 to 10nm
Plotting scales	0.001 to 700nm
AIS	700 targets display
AIS Target Tracking	10 Manually saved tracks (300 points each)
Perspective View	On/off (Available for C-Map only)
Celestial	Sunrise/Sunset Moonrise/Moonset

## NMEA SENTENCE SUPPORTED

INPUT: (Auto scan Baudrate)  
GGA, GLL, GSA, GSV, RMC, HDG, HDM, HDT  
VTG, ZDA, MTW, VWR, VWT, MWD, VPW, VHW  
TLL, TTM, VDO, VDM, GNS, MTA  
RMA, DBT, DPT, MWV, BWC, XTE, ZDL, WPL, AAM, APB, BOD, RMB, DSC, MDA, RPM, XDR

OUTPUT:  
Baudrate : Selectable 4800, 9600, 19200, 38400  
GGA, GLL, RMC, GSA, GSV, AAM, APA  
APB, BOD, BWC, BWR, DBT, DPT, HDT  
MTW, RMB, TLL, VTG, WPL, XTE, ZDA  
ZTG, ZDL, MWD, VPW, VWR, VWT  
Outputs for autopilot:  
APA, APB, BOD, XTE

## GPS RECEIVER CHARACTERISTICS

Receiver	50 parallel channel GNSS receiver continuously tracks and uses up to 50 satellites to compute and update your position
Acquisition time	Cold start: 29 seconds Hot start: 1 second
Update rate	1 second
Accuracy	Position: 3 meters(95%) without S/A Velocity: 0.1 meter/sec without S/A
SBAS	Supported
Satellite System	GPS and BeiDou
GNSS	GPS and Beidou (KP-25A, KP-25X, KP-27A and KP-27X) Choice of 4 GNSS (KP-25, KP-25C, KP-27 and KP-27C): GPS, Beidou, GLONASS, Galileo
Dynamics	Altitude: 18,000 m Velocity: 515 m/s
Datum	WGS 84 & User defined
Antenna	GPS Patch Antenna

## GPS INTERFACE

GPS Data	RS2422 input/output, NMEA 0183 V3.01 and V4.11
GPS Input Baudrate	Auto Scan (4800, 9600, 19200 and 38400)
GPS Output Baudrate	Selectable among 4800, 9600, 19200 and 38400

## EQUIPMENT LIST

Display unit  
Quick manual  
Mounting Bracket  
GPS Patch Antenna with 4m cable (SMA connector)  
Standard Accessories Pack

## AIS INTERFACE

AIS Data:	RS232 output VDO, VDM, GGA, GSA, GSV and RMC
AIS Output Baudrate:	38,400

## AIS CHARACTERISTICS

Frequency Rate	156.025 MHz~162.025 MHz
Access Scheme	SOTDMA
Channel Bandwidth	25 KHz
Modulation	GMSK
Data Rate	9,600 bps
Number of AIS Transmitter	1
Number of AIS Receiver	2
AIS Channel 1	CH 87B (161.975 MHz)
AIS Channel 2	CH 88B (162.025 MHz)
Tx Power Output	> 5 Watt (37 dBm ± 1.5 dB)
RX Sensitivity	>123dBm @ 20% PER
RX Message Format	AIS Class A and B messages
Comply Standard	IEC-62287 IEC 62287-2 Ed. 2.0:2017

For KP-25A/27A KP-25X/27X

## ECHO SOUNDER

Echo Color	16 colors (including background color) according to echo intensity. The background color is selectable from blue, light blue, white and black.
Basic Range	Meters 5/10/20/40/80/150/200/300/600/1000 Feet 15/30/60/120/200/400/600/1000/2000/3000 Fathoms 3/5/10/20/40/80/100/150/300/600
Range Shift	Up to 1000 meters (3000 feet, 600 fathoms)
Zoom Range	Times 2, 3, 4 and 6 ranges
Bottom Lock Expansion Range	5/10 meters, 10/20 feet, 2/5 fathoms
Auto Mode	Automatic adjustment of range and gain
Display Mode	High Frequency (200K), Low Frequency (50K), Dual (200K and 50K 1/2 display on each), Zoom (200K and 50K zoom) and A-scope Display
Zoom Display	Marker Zoom, Bottom Zoom and Bottom-lock Expansion
Display Advance Speed	Lines/TX: Freeze, 1/8, 1/4, 1/2, 1/1, 2/1, 4/1, 6/1, 8/1 and 10/1
TX Frequency	50 and 200kHz (alternately transmitted)
Power Output	600W

For KP-25F/27F KP-25X/27X

## Pulse-Length/TX Rate

Display End Depth (m)	5	10	20	40	80	150	200	300	600	1000
Pulse Length 200K (µs)	120	220	320	520	920	1020	1020	1020	1020	1020
Pulse Length 50K (µs)	170	270	370	570	970	1070	1070	1070	1070	1070
TX Rate (pulse/min)	2000	1333	706	353	171	98	75	53	38	27
TX period (millisecond)	30	45	85	170	350	610	800	1120	1580	2200

Interference Rejecter	Rejects unwanted signals by comparing last and present echoes in strength
Alarm	Fish and Bottom alarms, Temperature alarm (sensor required)

## POWER SUPPLY

10.5 to 35VDC, current drain <1.0A at 12V

## PHYSICAL

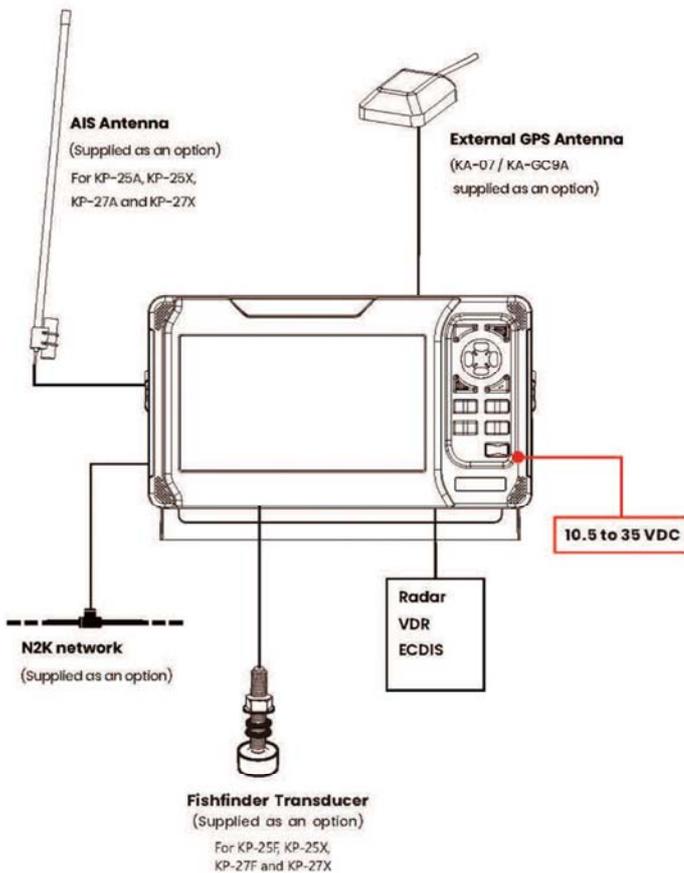
Size	KP-25: 143.1(H)mm X 215.3mm(W) X 63.1mm(D) KP-27: 155.1(H)mm X 241.3mm(W) X 62.9mm(D)
Weight	KP-25: 1.0Kg KP-27: 1.3Kg
Display	KP-25: 5-inch Color TFT dayview LCD 800x480 pixels KP-27: 7-inch Color TFT dayview LCD 800x480 pixels
Waterproofing	Display unit (front panel): IP66 Antenna unit: IP66
Temperature range	Display unit: -15°C to +55°C Antenna unit: -25°C to +70°C

## NMEA2000 AND ONENET SUPPORTED PGN

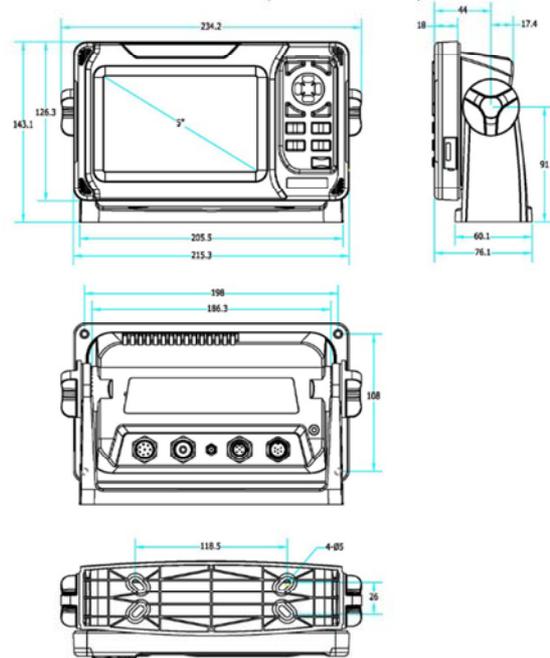
Description	PGN	CONTENT	
GNSS	126992	System Time	
	129026	COG & SOG, Rapid Update	
	129540	GNSS Satellites in View	
	129033	Local Time Offset	
	129029	GNSS Position Data	
	127250	Vessel Heading	
	127258	Magnetic Variation	
	129025	Position, Rapid Update PGN: 129025	
	129539	GNSS DOPs	
	129291	Set & Drift, Rapid Update	
	129044	Datum	
	AIS	129810	AIS Class B "CS" Static Data Report, Part B
		129809	AIS Class B "CS" Static Data Report, Part A
129798		AIS SAR Aircraft Position Report	
129793		AIS UTC and Date Report	
129040		AIS Class B Extended Position Report	
129039		AIS Class B Position Report	
129038		AIS Class A Position Report	
129041		AIS Aids to Navigation (AtoN) Report	
129802		AIS Safety Related Broadcast Message	
129801		AIS Addressed Safety Related Message	
129795		AIS Addressed Binary Message	
129797		AIS Binary Broadcast Message	

Description	PGN	CONTENT
Sounder	128267	Water Depth
	127237	Heading/Track Control
Navigation	129284	Navigation Data
	129283	Cross Track Error
	127245	Rudder
	127251	Rate of Turn
	128259	Speed, Water Referenced
	128275	Distance Log
Environment	130306	Wind Data
	130310	Environmental Parameters - DEPRECATED
	130311	Environmental Parameters - DEPRECATED
	130312	Temperature - DEPRECATED

## INTERCONNECTION DIAGRAM



## DIMENSIONS (KP-25 SERIES)



## DIMENSIONS (KP-27 SERIES)

