

XN-6618 Series , XN-6650 Series Multi-Function Display Pro

XN-6618 (GNSS|ECS)
XN-6618A (GNSS|Class A AIS|ECS)
XN-6618B (GNSS|Class B AIS|ECS)

XN-6625 (GNSS|Class A AIS|ECS)
XN-6627 (GNSS|Class A AIS|ECS)
XN-6650 (GNSS|Class A AIS|ECS)

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Multi-Function Display Pro is the next-generation multifunctional integrated system that combines GNSS, ECS, and AIS. The system integrates an echo sounder, CCTV AI recognition, and a digital control system. It also supports the display of radar echo images, providing operators with comprehensive situational awareness. The device adopts an intelligent operating system, offering strong scalability, system stability, and support for voice control. It supports various communication methods such as 5G, WiFi, Bluetooth, Gigabit Ethernet, VSAT broadband, and satellite phones, providing users with an intelligent maritime equipment solution for multitasking and intelligent networking.

Main Features
◆ Passed the China Classification Society CCS type approval.
◆ Integrates GNSS, Class A ECS and AIS, one device can replace the above three legal devices.
◆ Support GNSS high-precision positioning.
◆ Compatibility with various data formats such as S-57, S-63, C-MAP, and the ability to overlay satellite imagery.
◆ Both Class A and Class B AIS are available as user-configurable options.
◆ Multiple networking options including 5G, WiFi, Bluetooth, and Gigabit Ethernet, and supporting connectivity to VSAT broadband, enable ship-to-shore communication, online upgrades, and cloud services.
◆ Built-in echo sounder.
◆ Support the display of radar echo.
◆ Integration of CCTV AI recognition capabilities.
◆ Integration of digital electronic control system, supporting onboard switch connections such as lighting and power control.
◆ Equipped with a device assistant for remote control and support for voice activation, providing intelligent operation capabilities.
◆ Built-in front camera and microphone.
◆ Intelligent operating system, touch screen, easy to operate.
◆ Supports storage expansion via SD card or M.2 NVMe SSD.
◆ Support connecting bluetooth mouse keyboard, speaker and other perinheral devices.

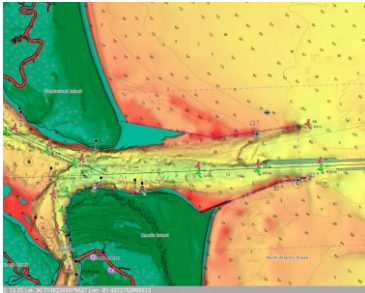


Electronic Chart

Supports the installation and display of various chart data, meeting the usage requirements of different users.



Supports the installation and display of official electronic charts.



Supports C-MAP REVEAL X, providing users with comprehensive chart information references.

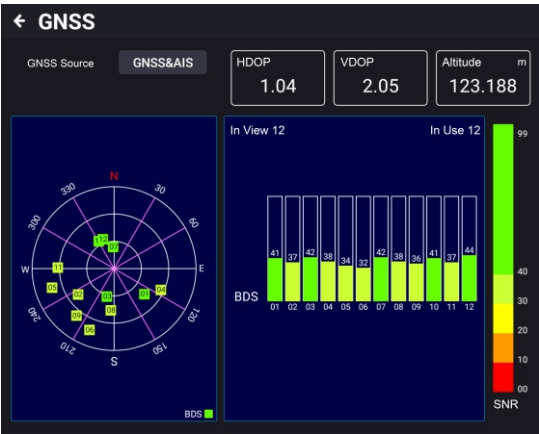


Supports overlaying satellite imagery and user-layer data, providing users with more visual navigation information for reference.

DGNSS

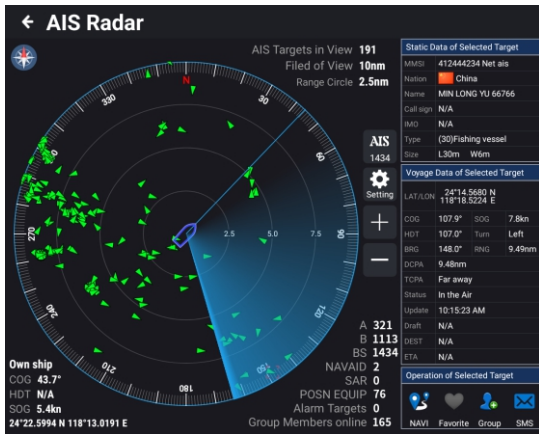
Support multiple positioning modes including GPS&BDS, GPS, BDS. Support RTCM2.3, RTCM2.4, RTCM3.2 differential data protocol.

It can receive satellite navigation differential information, even in areas with poor mobile communication signals, ensuring reliable transmission and coverage of GNSS augmentation signals and achieving high precision navigation positioning.



AIS (Automatic Identification System)

Both Class A and Class B AIS are available as user-configurable options. The AIS information display window features automatic collision avoidance capability, ensuring clear and convenient data visibility. It supports AIS vessel fleet management, allowing for alarm settings such as anchor dragging and departure. The AIS radar screen can visually display the distribution of nearby vessels, offering rich statistical data to meet various usage requirements in different scenarios.

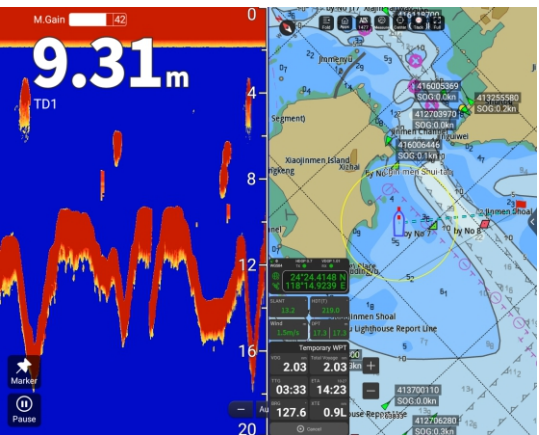


Multi-Screen Display

Multi-thread operation: High computing power, support multi-thread efficient operation.
Independent Multi-Screen Display: Support multi-channel 8K HD expansion display.
Split-Screen Display: The screen display can be flexibly configured according to your navigation needs.



Dashboard & AIS Radar & Chart



Echo Sounder & Chart

Ship Voyage Recorder

It supports access to cockpit equipment data, including satellite positioning, speed, course, heading, echo sounder data, wind speed, wind direction, radar data, video surveillance, ship energy consumption, and cockpit audio information. The device can store and record navigation status information and navigation trajectory data in real time via an external high-capacity hard drive. It comprehensively reconstructs navigation scenarios and provides robust support for navigation data analysis.

Ship voyage recorder					
Navigation data		Video monitoring		Filter	
Positioning time	LON/LAT	COG	SOG	Operation	
2023-10-27 10:59:15 AM	24°24.9780 N 118°15.5400 E	43.7°	5.4kn	View	
2023-10-27 10:58:15 AM	24°24.9120 N 118°15.4200 E	43.7°	5.4kn	View	
2023-10-27 10:57:15 AM	24°24.8520 N 118°15.3600 E	43.7°	5.4kn	View	
2023-10-27 10:56:15 AM	24°24.7860 N 118°15.3000 E	43.7°	5.4kn	View	
2023-10-27 10:55:15 AM	24°24.7260 N 118°15.2400 E	43.7°	5.4kn	View	
2023-10-27 10:54:15 AM	24°24.6600 N 118°15.1800 E	43.7°	5.4kn	View	
2023-10-27 10:53:14 AM	24°24.5940 N 118°15.1200 E	43.7°	5.4kn	View	
2023-10-27 10:52:15 AM	24°24.5340 N 118°15.0600 E	43.7°	5.4kn	View	
Data capacity: 1%				Total voyage: 3.64nm	

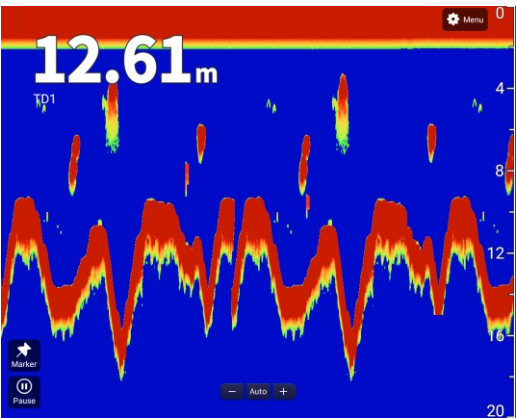


Voice Assistant

Users can wake up the device via voice commands, and by issuing clear instructions, they can interact with the device to achieve intelligent voice control.
Meanwhile, it can connect to Bluetooth headsets for voice control, providing users with a convenient experience.

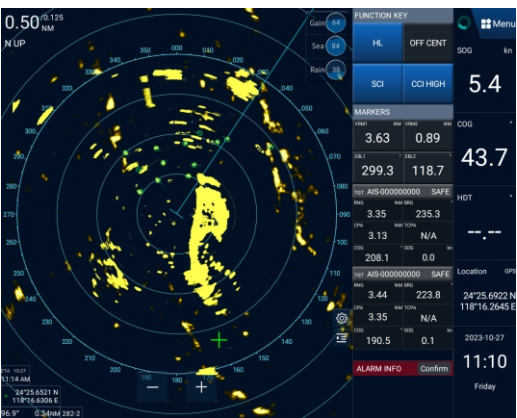
Built-in Fish Finder/Echo Sounder

Fish finder and echo sounder modes are configurable. Utilizing digital signal processing with strong anti-interference capabilities, it can display data screens clearly. Full-range sampling, with the ability to backtrack STC and gain adjustments. Accurate fish detection and depth measurement to assist with vessel operations.



The Display of Radar Echo

Supports the display of radar echo images of different models, providing operators with comprehensive situational awareness. Enables automatic acquisition and precise tracking of ARPA targets, displaying clear target images. Allows intelligent control of parameters such as range and gain. Features functions like sea clutter suppression and rain/snow suppression. Supports the fusion of AIS data, radar images, and electronic charts.



Digital Electronic Control System

By connecting traditional components to the integrated system via the electronic control box and related accessories, it enables remote intelligent control of shipborne switches and equipment power supplies.
It allows customization of shipborne digital instrument panels as needed to replace traditional dials, offering users more intelligent and convenient operations while significantly enhancing the user experience.



Integration of S-100 Series Data Model

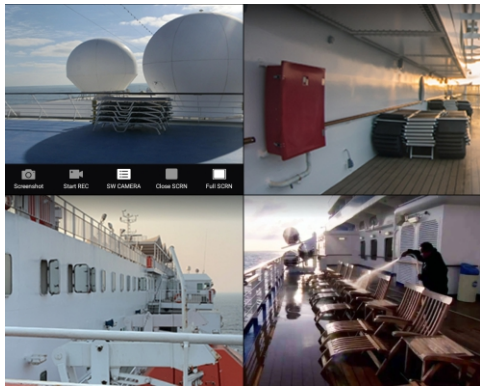
It supports S-101 Electronic Navigational Chart, S-102 Bathymetric Surface, S-104 Water Level Information for Surface Navigation, S-111 Marine Navigational Services, S-122 Marine Protected Areas, S-123 Marine Radio Services, S-124 Navigational Warnings, S-127 Marine Trafie Management, S-421 Route Plan, etc., and superimposes dynamic data layers in the charts, significantly improving navigation situational awareness and decision-making efficiency.



CCTV AI Recognition

The device integrates CCTV AI recognition capabilities, supporting the connection of multiple webcams to achieve various functions such as Maritime Personnel Identification, cockpit activity recognition, driver fatigue detection, and life jacket recognition. Early warning shall be given for abnormal conditions to remind personnel to take timely measures to ensure navigation safety.

- ◆ Integrated with high-precision image algorithms for accurate target recognition.
- ◆ Real-time video access and analysis, featuring second-level early warning, intelligent management & control, and real-time evidence collection.
- ◆ Seamlessly integrates AI algorithms; paired with standard cameras, it enables intelligent recognition and monitoring, reducing costs effectively.
- ◆ Functions are deeply tailored to real-world application scenarios, fully satisfying users' practical needs.



Maritime Personnel Identification

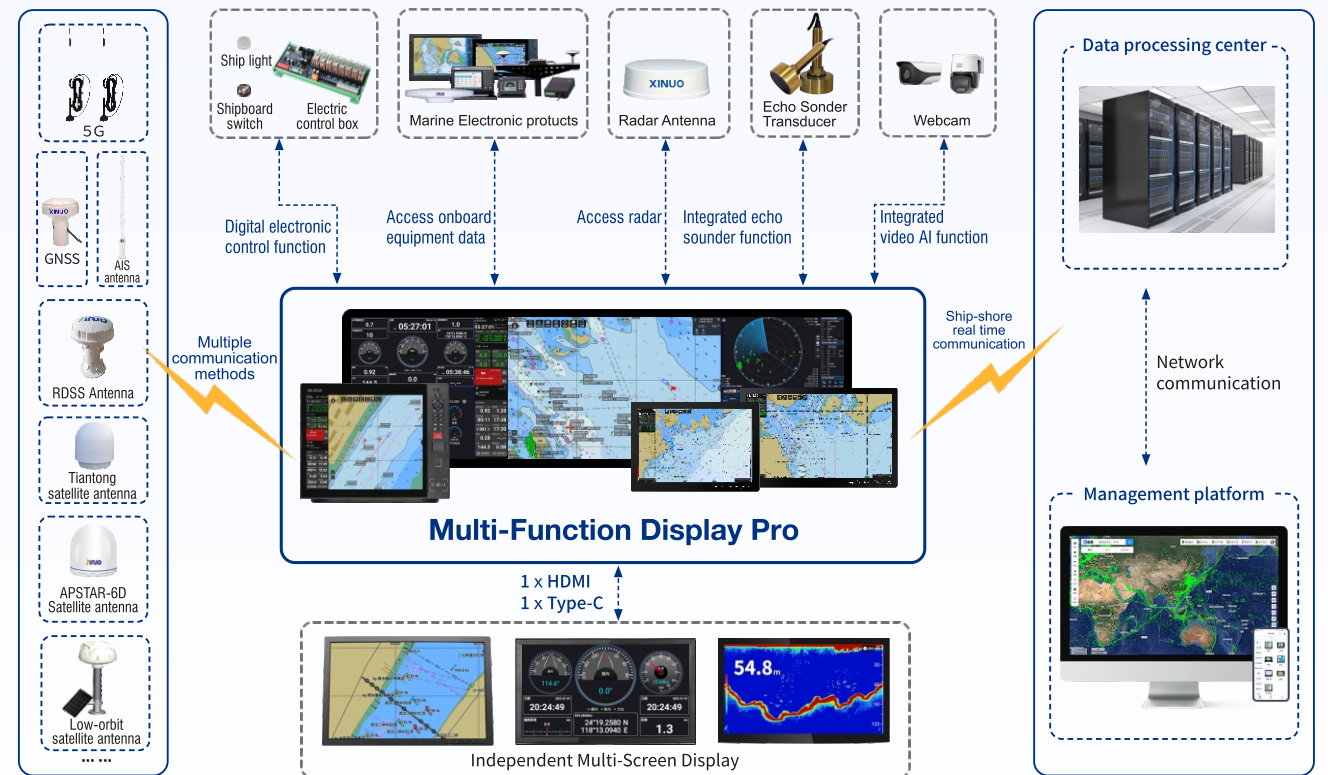
Driver Fatigue Detection

Cockpit Activity Recognition

Life Jacket Recognition



Ship-shore Real Time Communication



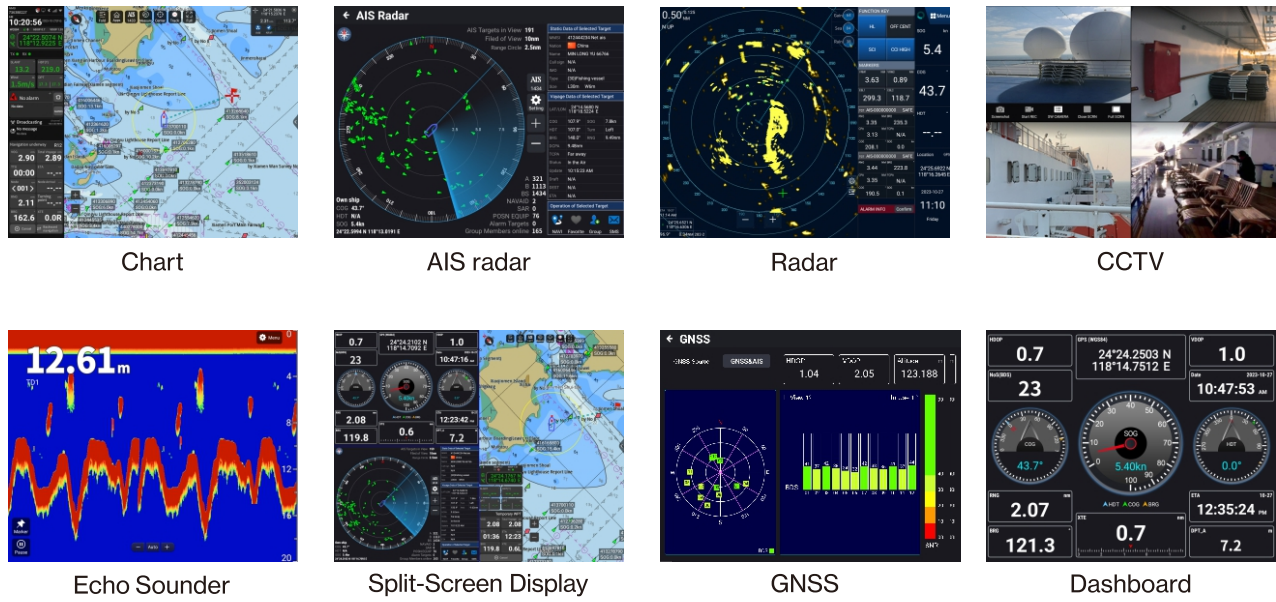
NMEA2000 Data Communication

Supports NMEA2000 data communication protocol, plug and play, enabling fast information sharing between different devices, ensuring the effectiveness and real-time nature of data transmission.

Data Type	PGN	Content
GNSS	129025	Position, Rapid Update
	129026	COG&SOG Rapid Update
	129029	GNSS Position Data
	129033	Local Time Offset
	129539	GNSS DOPS
	129540	GNSS Sats in View
Satellite Compass	126992	System Time
	127250	Vessel Heading
	127251	Rate of Turn
	127257	Attitude
	127258	Magnetic Variation
DPT	128267	Water Depth
Temperature	130312	Temperature-DEPRECATED
	130316	Temperature, Extended Range
Wind Lata	130306	Wind data
Engine Parameters	127488	Engine Parameters, Rapid Update

Data Type	PGN	Content
AIS Information	129038	AIS Class A Position Repor
	129039	AIS Class B Position Report
	129040	AIS Class B Extended Position Repor
	129041	AIS Aids to Navigation (AtoN) Report
	129793	AIS UTC and Date Report
	129794	AIS Class A Static and Voyage Related Data
	129809	AIS Class B "CS" Static Data Report, Part A
	129810	AIS Class B "CS" Static Data Report, Part B
	129795	AIS Addressed Binary Message
	129797	AIS Binary Broadcast Message
	129801	AIS Addressed Safety Related Message
	129802	AIS Safety Related Broadcast Message
Distance Log	128275	Distance Log
Navigation Data	129283	Off-course distance
	129284	Navigation data
	129285	Information about navigation points

XN-6618 series



XN-6650 series

The device features an extra-large screen, offering users an expansive display area to clearly present various information and visuals – maintaining excellent visibility even under strong light.

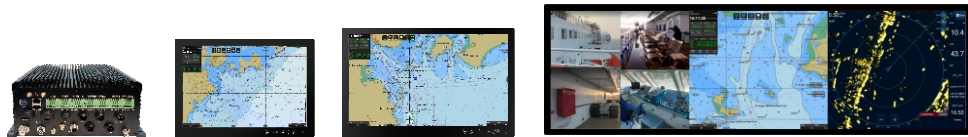
The system adopts a "Multi-task View," dividing the screen into multiple independent zones. Each zone can run different programs independently and supports quick switching and combination.

Multiple navigation apps operate simultaneously, enabling ship situation awareness to be displayed on a single interface.



Main Unit	XN-6618	XN-6618A	XN-6618B
System	Intelligent Operating System		
CPU	Cortex-A76 Quad core+Cortex-A55 Quad core		
RAM	8GB		
FLASH	32GB		
GPU	ARM Mali G610		
Touch Panel	Capacitive multi-touch		
Size	17 inches		
Brightness	500 cd/m ² (Max)		
Viewing Angle	Full perspective 85°		
Resolution	1280×1024		
Power Voltage	DC 10V-36V		
Audio Output	5W, 2×3W		
Power Consumption	38W@24VDC(Average) 60W@24VDC(Instantaneous)	45W@24VDC(Average) 82W@24VDC(Instantaneous)	43W@24VDC(Average) 74W@24VDC(Instantaneous)
MicroSD Card	The two SD card slots support 512GB high-speed Micro SD (TF) cards in FAT32 and NTFS formats, and supports optional M.2 NVMe SSD		
Microphone	Built-in microphone		
Front Camera	Binocular HD camera with intelligent fill light		
Bluetooth	BT5.0		
WiFi	802.11 b/g/n		
Ethernet	100/1000Mbps		
5G Communication	Support		
NMEA0183	4 ports data interface, baud can be set independently, including 2 ports input; 2 ports output		
NMEA2000	Support GNSS, AIS, heading and other data communication		
Other Interface	1 audio output; 1 alarm output; Support 1080P resolution HDMI and typeC, can be the same screen or dual display output		
Working Temperature	-15℃~+55℃		
Class A Transciever(XN-6618A)		Class B Transciever(XN-6618B)	
Frequency	156.025MHz ~ 162.025MHz	Frequency	156.025 ~ 162.025MHz
RX1(default)	AIS1(161.975MHz)	Bandwidth	25KHz
RX2(default)	AIS2(162.025MHz)	Modulation	GMSK/FM
Output Power	1W/12.5W	Data Rate	9600bps
Modulation	GMSK/FM	Number of AIS transmitter	1
Number of AIS transmitter	1	Number of AIS receiver	2 (AIS1, AIS2)
Number of AIS Receiver	2(AIS1,AIS2)	AIS1 (default)	AIS1(161.975MHz)
Number of DSC Receiver	1	AIS2 (default)	AIS2(162.025MHz)
DSC Receiver	CH70 (156.525 MHz)	TX output power	2W
Data Rate	9600bps	RX sensivity	<-107 dBm@ 20%PER
Bandwidth	25KHz		
GNSS			
Receiver	72 channels		
Receive Frequency	GPS L1: 1575.42MHz, BDS B1: 1561.098MHz		
Accuracy	GPS&BDS	2.5m (CEP50%, open sky)	
	GPS	5m (CEP50%, open sky)	
	BDS	5m (CEP50%, open sky)	
	DGNSS	1m (CEP50%, open sky)	
Speed Accuracy	0.1m/s(50%@10m/s)		
Time to First Fix	<32s (Cold Start), <1s (Hot Start)		

Multi-Function Display Pro



Main Unit			
System	Intelligent Operating System		
CPU	Cortex-A76 Quad core+Cortex-A55 Quad core		
RAM	16GB		
FLASH	64GB		
WiFi	802.11 b/g/n		
Bluetooth	BT5.0		
4G/5G Module	5G NR SA/5G NR NSA/LTE-FDD/LTE-TDD/WCDMA		
Ethernet	100/1000Mbps		
Primary and Standby Power	DC 18V~36V		
Power Consumption	Average power: 15W@24VDC, Instantaneous power: 62W@24VDC		
NMEA2000	Support GNSS, AIS, ship heading and other data communication		
Interface Definition	LAN*2, USB3.0*2, USB2.0*1 (Connect the mouse) , HDMI*2, ALARM*2, RS485*2, TX*6, RX*14		
Waterproof	IP22		
Weight	6kg		
Working Temperature	-15°C~+55°C		
Working Humidity	0%~90% relative humidity, no condensation		
Positioning Mode: Beidou High-precision Positioning			
Frequency	BDS: B1I, B2I, B1C, B2b, B2a		
RTK Positioning Accuracy	1cm±1ppm(Horizontal) , 2cm±1ppm(Elevation)		
Speed Precision(RMS)	0.01m/s		
Time Precision(RMS)	50ns		
Time to First Fix	≤24s(Cold start); ≤1s(Re-acquisition)		
Sensitivity	-156dBm(Re-acquisition); -143dBm(Cold start)		
Data Update Rate	10Hz		
Class A Transciever			
Frequency	156.025MHz ~ 162.025MHz		
RX1(default)	AIS1(161.975MHz)		
RX2(default)	AIS2(162.025MHz)		
Output Power	1W/12.5W		
Modulation	GMSK/FM		
Number of AIS Transmitter	1		
Number of AIS Receiver	2(AIS1,AIS2)		
Number of DSC Receiver	1		
DSC Receiver	CH70 (156.525 MHz)		
Data Rate	9600bps		
Bandwidth	25KHz		
Display unit			
Model	XN-6625	XN-6627	XN-6650
Screen Size	24 inches[518(H)*324(V)]	27 inches[596(H)*335(V)]	43.8 inches[1071(H)*301(V)]
Resolution	1920*1200	3840*2160	3840*1080
Brightness	600cd/m²	1000cd/m²	650cd/m²
Touch Panel	Capacitive Multi-touch Screen		
Connect to Host Interface	TYPE-C		
Power Voltage	DC 24V		
ECS Display Size	Meet the requirements for chart display of route monitoring 250mm*250mm		
Radar Display Size	Ships with a gross tonnage greater than 500 and high-speed vessels (HSC) with a gross tonnage less than 10,000		
Standards	IEC 60529, IEC 60945, IEC 61162, IEC 61993-2, IEC 62288, Guidelines for Type Approval Testing of Electrical and Electronic Products; Technical Rules for Statutory Inspection of Domestic Navigation Sea Vessels; Technical Rules for Statutory Inspection of Inland Waterway Vessels.		

