

NSR NAVIGATION PRODUCT LIST

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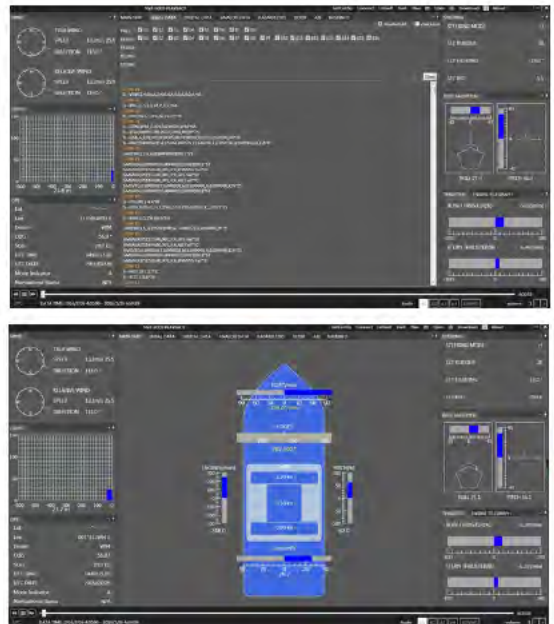
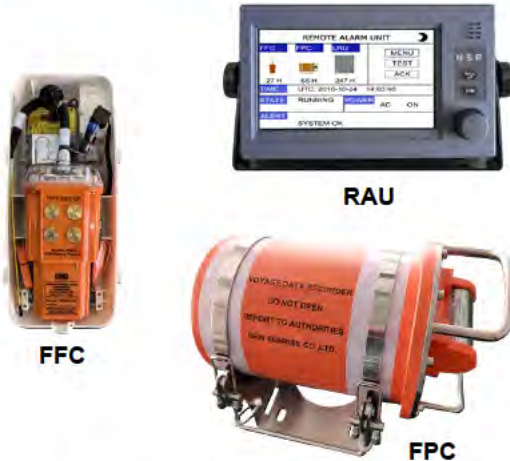
NSR COMMUNICATIONS PRODUCT LIST

PRODUCT			TYPE APPROVALS		PAGE
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PORTABLE VHF TELEPHONE	Alpha 40s			CCS	P60
AIS MOB	MOB-3000				P62

VDR (Voyage Data Recorder)

NVR-9000

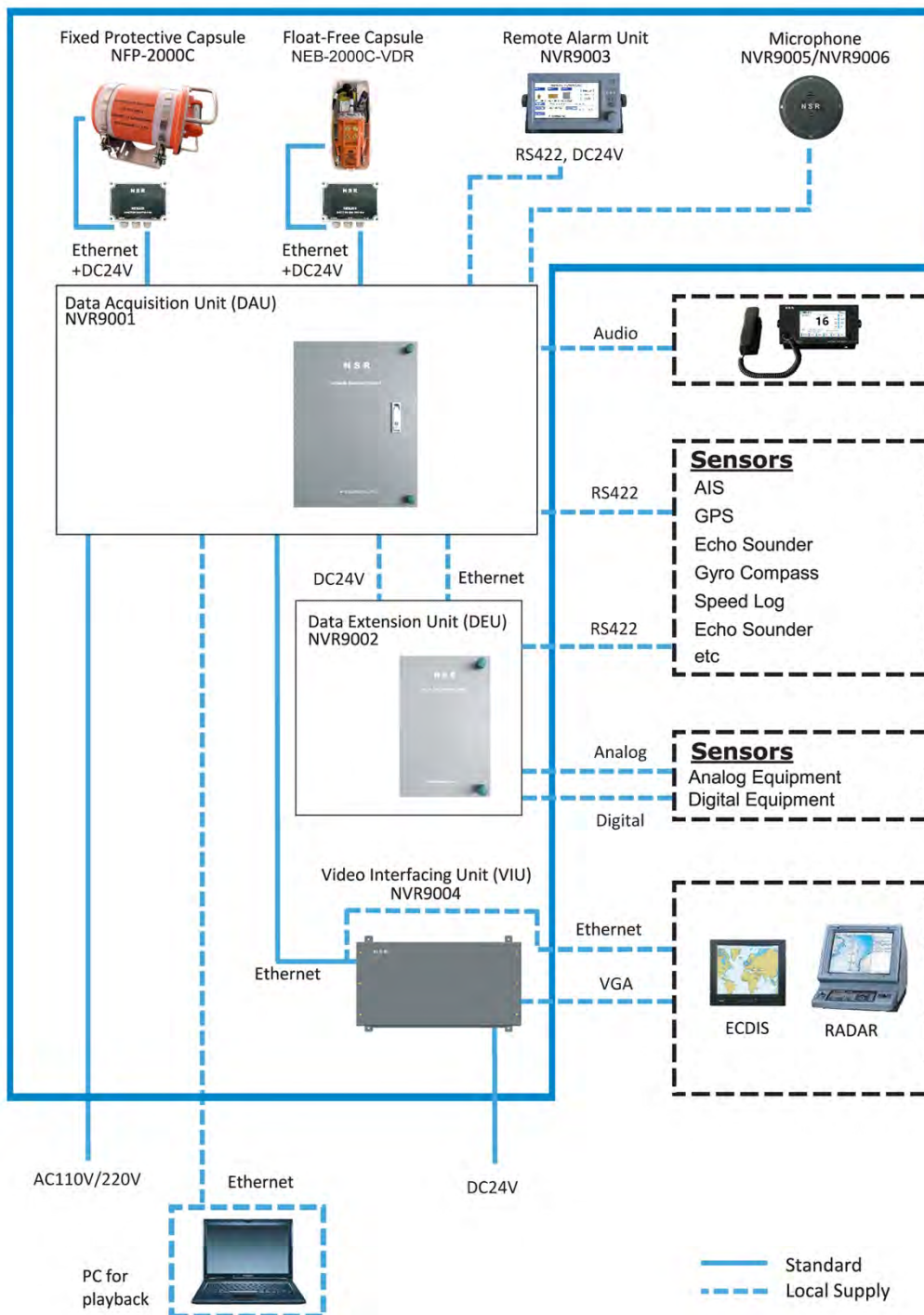
- Conform to new IMO regulation
- NSR's own FFC and FPC used
- Real monitoring software available for easy check
- Flexible configuration for either VDR or S-VDR
- Linux O/S used in firmware of VDR system
- Large size color LCD with touch screen operation
- Data interface to BAM System
- Type approval with DNV (MED) and CCS



NVR-9000 VDR is designed to comply with the latest IMO rules of MSC.494 (104), IMO MSC.302 (87), IEC 61996-1, IEC 62923-1, IEC 62923-2, IEC 62288.

- Store data for min 48 hours both in Float-Free Capsule (FFC) and Fixed Protective Capsule (FPC).
- Store data for min 30 days/720 hours in LRU of Data Acquisition Unit.
- Record image of two radars and two ECDIS.
- Three separate channels for audio input:
 - One for up to 4 microphones
 - One for up to 4 microphones
 - One for 2 VHF audio
- As standard configuration, the following ports are provided:
 - Serial port×24 ch (8 at DAU and 16 at DEU)
 - Digital port×64 ch (DEU)
 - Analog port×8 ch (DEU)
- PC software available for playback & real-time monitoring.





SYSTEM DIAGRAM

SPECIFICATIONS

Data Acquisition Unit (DAU)	Interface	Ethernet IEC 61162-450	4 ch
		Serial IEC 61162-1/2, RS422	8 ch
		VHF Audio	2 ch
		Microphone	8 ch
		Remote Alarm Unit	1 ch
		USB	1 ch
	DC 24V output	Remote Alarm Unit (RAU)	1 ch
		Fixed Protective Capsule (FPC)	1 ch
		Float-Free Capsule (FFC)	1 ch
	LRU	Memory	512 GB
		Recording Duration	min 720 hours
	Reserve Battery	Battery Capacity	min 2 hours
Fixed Protective Capsule (FPC)		Memory	64 GB
		Recording Duration	min 48 hours
		Beacon Battery Capacity	min 90 days
		Beacon Battery Life	3 years
Float-Free Capsule (FFC)		Memory	64 GB
		Recording Duration	min 48 hours
		Battery Capacity	min 168 hours
		Battery Life	5 years
Data Extension Unit (DEU)	Interface	Analog Input	8 ch
		Digital Input	64 ch
		Serial IEC 61162-1/2, RS422	16 ch
		Ethernet	1 ch
Video Interface Unit (VIU)	Interface	VGA	1-2 ch
		Ethernet	1-2 ch
Remote Alarm Unit (RAU)	Interface	Serial IEC 61162-1/2, RS422	1 ch
POWER SUPPLY			
Data Acquisition Unit (DAU)	AC110V/220V, 0.5~1.5A, 50/60Hz		
Data Extension Unit (DEU)	DC24V, 0.5A		
Video Interface Unit (VIU)	DC24V, 0.3A		

EQUIPMENT LIST

Standard

1	Data Acquisition Unit (DAU)	NVR9001	1 unit	5	Indoor Microphone Unit (IMU)	NVR9005	4 units
2	Data Extension Unit (DEU)	NVR9002	1 unit	6	Outdoor Microphone Unit (OMU)	NVR9006	2 units
3	Remote Alarm Unit (RAU)	NVR9003	1 unit	7	Fixed Protective Capsule (FPC) *	NFP-2000C	1 unit
4	Video Interface Unit (VIU)	NVR9004	0~4 units	8	Float-Free Capsule (FFC) *	NEB-2000C-VDR	1 unit

* NEB-2000C-VDR/NFP-2000C is supplied together with a Junction Box (NEB205) and cable (30m).

Options

1	Data Extension Unit (DEU)	NVR9002
2	Video Interface Unit (VIU)	NVR9004
3	Indoor Microphone Unit (IMU)	NVR9005
4	Outdoor Microphone Unit (OMU)	NVR9006

※ Specifications subject to change without notice

1	Data Acquisition Unit (DAU)	NVR9001	IP22	15.2 kg	
2	Data Extension Unit (DEU)	NVR9002	IP22	5.2 kg	
3	Remote Alarm Unit (RAU)	NVR9003	IP22	1.6 kg	
4	Video Interface Unit (VIU)	NVR9004	IP22	2.5 kg	
5	Indoor Microphone Unit (IMU)	NVR9005	IP22	0.1 kg	
6	Outdoor Microphone Unit (OMU)	NVR9006	IP56	0.2 kg	
7	Fixed Protective Capsule (FPC)	NFP-2000C	Note 1	16.5 kg	
8	Float-Free Capsule (FFC)	NEB-2000C-VDR	Note 2	3.5 kg	

Note 1: Watertight at a depth of 6000m for at least 24 hours.

Note 2: Watertight at a depth of 10m for at least 5 min.

S-VDR (Simplified Voyage Data Recorder)

NVR-9000S

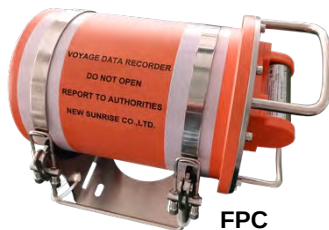
- Conform to new IMO regulation
- NSR's own FFC and FPC used
- Real monitoring software available for easy check
- Flexible configuration for either VDR or S-VDR
- Linux O/S used in firmware of VDR system
- Large size color LCD with touch screen operation
- Data interface to BAM System
- Type approval with DNV (MED) and CCS



FFC



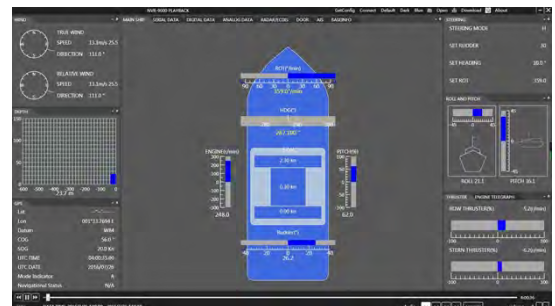
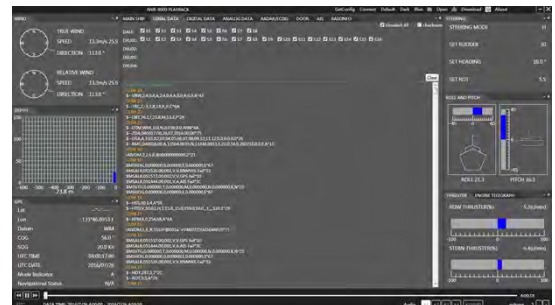
RAU



FPC



DAU

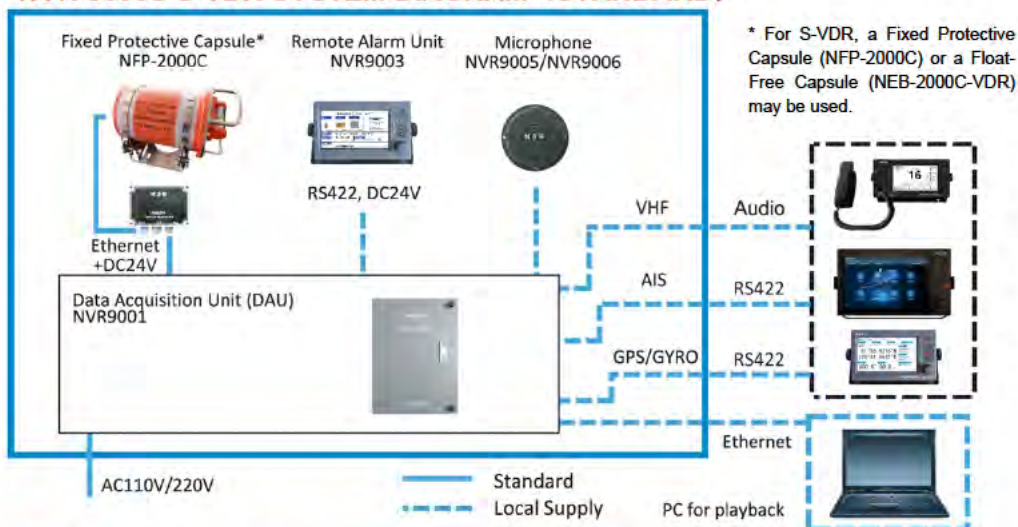


NVR-9000S S-VDR is designed to comply with the latest IMO regulation MSC.493 (104), IMO MSC.302 (87), IEC 62923-1, IEC 62923-2, IEC 62288.

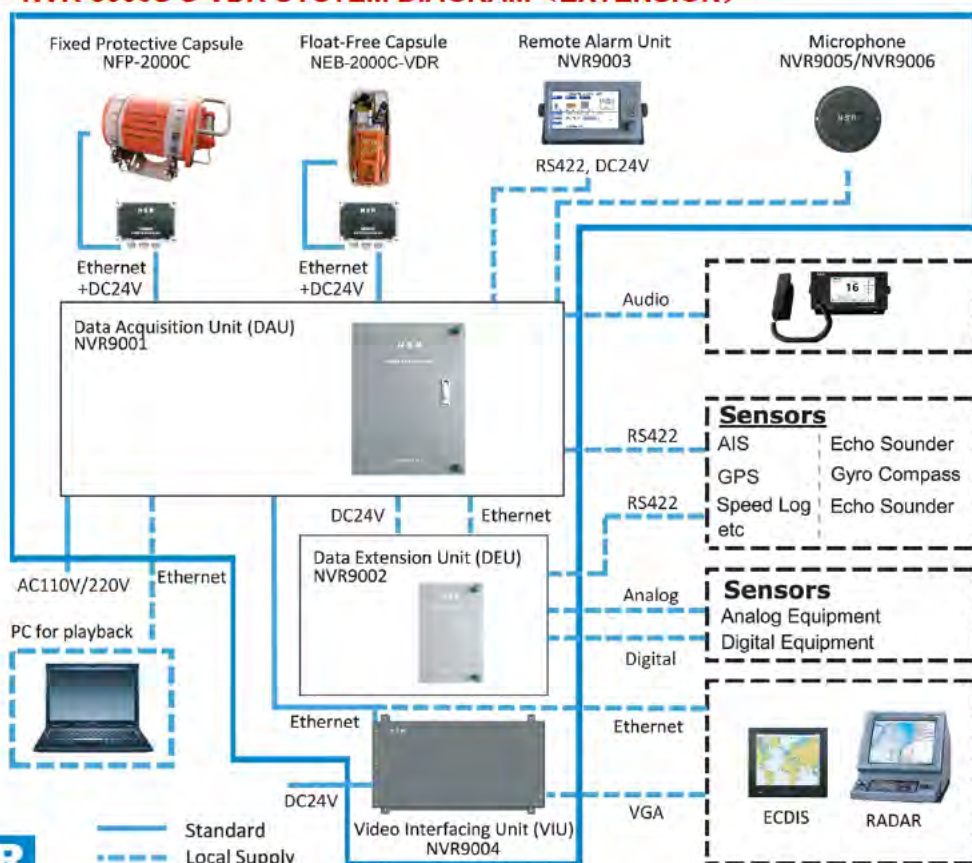
- Float-free Capsule (FFC) or Fixed Protective Capsule (FPC) can be selected as the storage medium.
- Both FFC and FPC has the capacity of 64 GB each.
- Data Acquisition Unit (DAU) is fitted with LRU (64GB SSD).
- 8 ch of serial ports are available in DAU.



NVR-9000S S-VDR SYSTEM DIAGRAM (STANDARD)



NVR-9000S S-VDR SYSTEM DIAGRAM (EXTENSION)



SPECIFICATIONS

Data Acquisition Unit (DAU)	Interface	Ethernet IEC 61162-450	4 ch
		Serial IEC 61162-1/2, RS422	8 ch
		VHF Audio	2 ch
		Microphone	8 ch
		Remote Alarm Unit	1 ch
		USB	1 ch
	DC 24V output	Remote Alarm Unit (RAU)	1 ch
		Fixed Protective Capsule (FPC)	1 ch
		Float-Free Capsule (FFC)	1 ch
	LRU	Memory	64 GB
		Recording Duration	min 48 hours
	Reserve Battery	Battery Capacity	min 2 hours
Fixed Protective Capsule (FPC) *		Memory	64 GB
		Recording Duration	min 48 hours
		Beacon Battery Capacity	min 90 days
		Beacon Battery Life	3 years
Float-Free Capsule (FFC) *		Memory	64 GB
		Recording Duration	min 48 hours
		Battery Capacity	min 168 hours
		Battery Life	5 years
Data Extension Unit (DEU)	Interface	Analog Input	8 ch
		Digital Input	64 ch
		Serial IEC 61162-1/2, RS422	16 ch
		Ethernet	1 ch
Video Interface Unit (VIU)	Interface	VGA	1-2 ch
		Ethernet	1-2 ch
Remote Alarm Unit (RAU)	Interface	Serial IEC 61162-1/2, RS422	1 ch
POWER SUPPLY			
Data Acquisition Unit (DAU)	AC110V/220V, 0.5~1.5A, 50/60Hz		
Data Extension Unit (DEU)	DC24V, 0.5A		
Video Interface Unit (VIU)	DC24V, 0.3A		

* FPC or FFC is selected.

EQUIPMENT LIST

Standard

1	Data Acquisition Unit (DAU)	NVR9001	1 unit	5	Indoor Microphone Unit (IMU)	NVR9005	4 units
2	Data Extension Unit (DEU)	NVR9002	0 unit	6	Outdoor Microphone Unit (OMU)	NVR9006	2 units
3	Remote Alarm Unit (RAU)	NVR9003	1 unit	7	Fixed Protective Capsule (FPC) *	NFP-2000C	1 unit (FPC or FFC)
4	Video Interface Unit (VIU)	NVR9004	0 unit	8	Float-Free Capsule (FFC) *	NEB-2000C-VDR	

* NEB-2000C-VDR/NFP-2000C is supplied together with a Junction Box (NEB205) and cable (30m).

Options

1	Data Extension Unit (DEU)	NVR9002
2	Video Interface Unit (VIU)	NVR9004
3	Indoor Microphone Unit (IMU)	NVR9005
4	Outdoor Microphone Unit (OMU)	NVR9006

1	Data Acquisition Unit (DAU)	NVR9001	IP22	15.2 kg	
2	Data Extension Unit (DEU)	NVR9002	IP22	5.2 kg	
3	Remote Alarm Unit (RAU)	NVR9003	IP22	1.6 kg	
4	Video Interface Unit (VIU)	NVR9004	IP22	2.5 kg	
5	Indoor Microphone Unit (IMU)	NVR9005	IP22	0.1 kg	
6	Outdoor Microphone Unit (OMU)	NVR9006	IP56	0.2 kg	
7	Fixed Protective Capsule (FPC)	NFP-2000C	Note 1	16.5 kg	
8	Float-Free Capsule (FFC)	NEB-2000C-VDR	Note 2	3.5 kg	

Note 1: Watertight at a depth of 6000m for at least 24 hours.

Note 2: Watertight at a depth of 10m for at least 5 min.

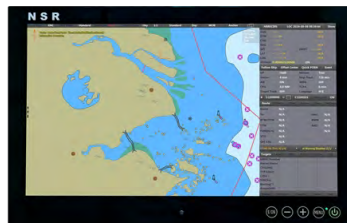
- Compliant with the latest IEC 61174 & IEC 62288 standard
- Compatible with IHO ENC general format
- Up to 8 NMEA standard ports and easy to connect with sensors
- Multi-size Displays to satisfy different vessels
- Large color LCD with touch screen operation
- Compatible with UKHO AIO data
- Compatible with AIS & ARPA Radar overlay display
- Type approved by CCS



MAIN UNIT



DISPLAY UNIT 19 inch



DISPLAY UNIT 24 inch



DISPLAY UNIT 26 inch

- NES-3000 ECDIS is designed for international-voyage vessels to display vessel information received from onboard sensors such as GPS, Gyro, Log, radar and AIS together with geographical information retrieved from Electronic Charts.
- NES-3000 is a core navigation tool that meets the marine standards ECDIS (Electronic Chart Display Information System) and RCDS (Raster Chart Display System).
- NES-3000 conforms to IMO MSC.232 (82), IMO MSC.191 (79), IEC 61174 (2015) standard, etc.



FEATURES

- Compliant with IHO S52 standard;
- ENC Display, illimitable zoom;
- Operate conveniently;
- NMEA port×8, RS232 port×2;
- Aluminum case used;
- Table or flush mounting for the display unit;
- Navlog inside for non-paper log record;
- CPA/TCPA calculate;
- Multi-route design.

EQUIPMENT LIST

● STANDARD

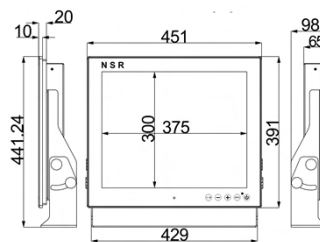
- Main Unit	NES-3000P	1 pc
- Display Unit (19/24/26 inch)	NES-3000D	1 pc
- Mouse	NTB-200	1 pc
- Keyboard	NKB-200	1 pc
- Recover USB Disk		1 pc
- Install Materials		1 set

● OPTIONS

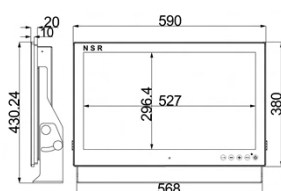
- UPS	UPS-2KVA	1 set
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SIZE DIMENSION

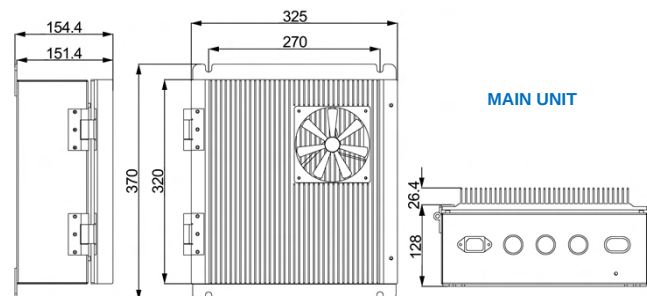
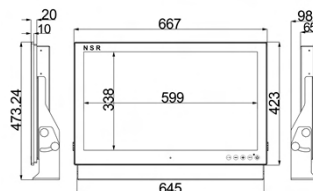
DISPLAY UNIT 19 inch



DISPLAY UNIT 24 inch



DISPLAY UNIT 26 inch



MAIN UNIT

SPECIFICATIONS

● DISPLAY UNIT

- Resolution:	1280×1024 (19 inch), 1920×1080 (24/26 inch)
- Display Size:	19 inch / 24 inch / 26 inch
- Protected Glass:	Bonding Glass
- Weight (without bracket):	8.25 kg (19 inch) / 9.8 kg (24 inch) / 12.5 kg (26 inch)

● OPERATION UNIT

- Operation Method:	Mouse
	Keyboard

● S/W

- ENC Update:	USB
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● MAIN UNIT

- H/W:	Intel Core i5
	8G DDR4 RAM
	128G SSD
	NMEA×8, RS232×2, VGA×1
	USB×4, LAN×2, HDMI×1
- Power Supply:	AC110 V/220 V
- Size:	325 (W)×370 (H)×154.4 (D) mm
- Weight:	12 kg
- IP Grade:	IP22

- Comply with the latest IEC standards
- AVCS ENC Supported
- Built-in wide-range isolated power supply
- Completely isolated interface to avoid interaction
- 1280x1024 high-resolution color LCD, touch screen operation
- Brightness control on panel, convenient for night navigation
- Industrial design for marine use
- Android O/S for easy operation
- Type approved by CCS



- NES-1000 ECS is an electronic chart system, which is designed to comply with the latest IEC and IHO S52 standards.
- Electronic chart display, illimitable zoom.
- Position, COG, SOG and heading are displayed.
- CPA/TCPA calculation, Navigation functions with route plan.
- AIS targets are displayed on the chart
- The inputs include GNSS, AIS, VDR, Echo Sounder and HDG data.



SPECIFICATIONS

● MAIN UNIT

- Resolution: 1280×1024
- Display Color: 16.7M, 6bits+FRC
- Display Size: 19 inch
- Protected Glass: Bonding Glass
- Power Supply: DC 24V (range 10V~36V)
- Size: 451 (W) × 418.3 (H) × 97.7 (D) mm
- Weight: 14 kg
- Interface: RS232×2, RS422×4
RS422 (standby) ×4
USB×2, LAN×2, DI/DO×2, HDMI×1

● MONITORING

- Own Ship: Position, COG, SOG, Heading
- AIS Targets: AIS Class A, AIS Class B, AIS AtoN Station, AIS MOB AIS Base Station CPA/TCPA
- AIS Alert:
- S/W
- OS: Android
- Operation Method: Touch screen operation, Mouse, Keyboard
- Chart Update: USB
- IP GRADE: IP22

EQUIPMENT LIST

● STANDARD

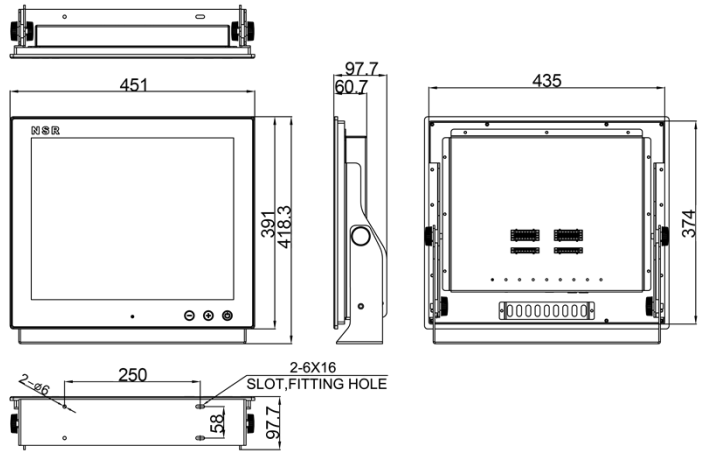
- | | | |
|-------------------------|-----------|-------|
| - Main Unit (19 inch) | NES-1000 | 1 pc |
| - Mouse | NES-1000T | 1 pc |
| - Keyboard | NES-1000K | 1 pc |
| - Installation Material | | 1 set |

● OPTIONS

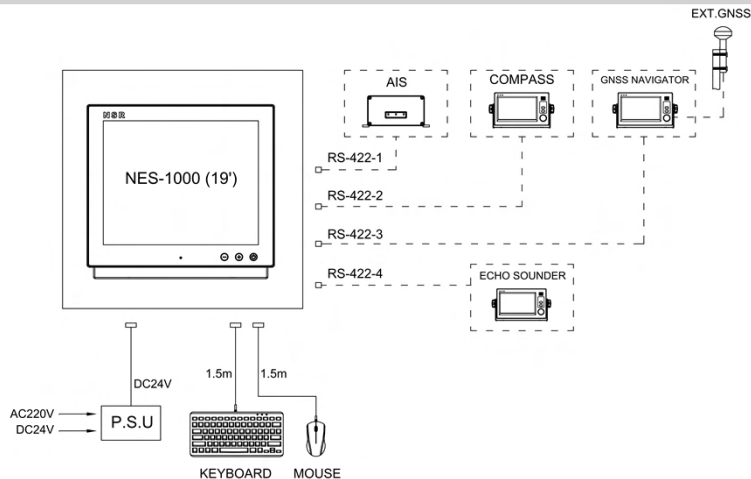
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|-------------|-------|------|
| - AC/DC PSU | PS-10 | 1 pc |
|-------------|-------|------|



SIZE DIMENSION



SYSTEM DIAGRAM



NSR's new generation of IMO GNSS:

- Large 7 inch color LCD
- Touch screen operation
- Data interface to BAM/INS
- GPS, BDS, GLONASS
- DGPS with NSR beacon
- Type approval with DNV (MED) and CCS

NGR-1000	CCS
NGR-3000	DNV



- Comprehensive navigation data displays.
- Storage for up to 999 waypoints and 30 routes.
- 7-inch color LCD, touch screen operation with adjustable brilliance.
- Dedicate port for BAM system/INS connection.
- 3 GNSS data outputs.
- Possible to be upgraded to DGNSS.
- Meets the requirements of relative IMO and IEC regulation & standards, including IMO MSC.112 (73), IMO MSC.302 (87), IEC 61108-1, IEC 62923-1, IEC 62923-2, IEC 62288 etc.



SPECIFICATIONS

● GNSS RECEIVER

- Receiving System: 50 channels parallel
- RX Frequency: GPS L1, GLONASS L1, BDS B1
- RX Code: C/A code
- Position Accuracy: Approx. 2.5m, 95% of the time,
horizontal dilution of precision (HDOP) ≤ 4
- Tracking Velocity: 999 kts
- Position-fixing Time: Warm start: 30 seconds
Cold start: 45 seconds
- Position Update Interval: 1 second

● DISPLAY SECTION

- Display: 7 inch, color LCD, touch screen operation
- Fix Mode: GPS/GLONASS/BDS
- Alerts: Lost of Position, HDOP > 4 , DGNSS lost, Integrity Status

● INPUT/OUTPUT DATA

- Output Data: RS422, max 3 ports,
Baud Rate 4800/9600/19200/38400 bps
- Sentences: GNS, GBS, GGA, RMC, VTG, ZDA, DTM, etc.
- BAM/INS Connection: IN/OUT, RS422

- **POWER SUPPLY:** DC 24V (range 12 ~ 36 V), 0.25 ~ 0.50 A

● SIZE & WEIGHT

- Size: 145 (H) $\times$ 264 (W) $\times$ 83 (D) mm
- Weight: 1.25 kg (Main Unit)

● ENVIRONMENTAL CONDITIONS

- Operating Temperature: Antenna Unit: -40°C ~ +55°C
Main Unit: -15°C ~ +55°C
- Relative Humidity: 95% at 40°C
- IP Grade: IP66 (Antenna Unit)
IP22 (Main Unit)

EQUIPMENT LIST

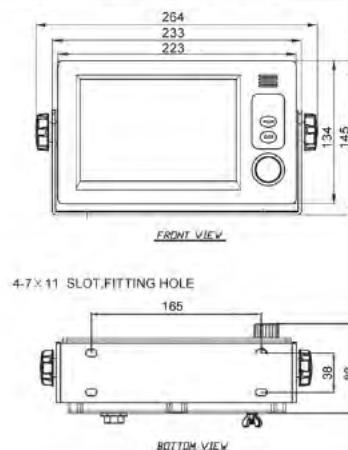
● STANDARD

- GNSS Navigator NGR-1000/NGR-3000 1 pc
- GNSS Antenna with Cable NGA100 1 pc
- Installation Materials 1 set

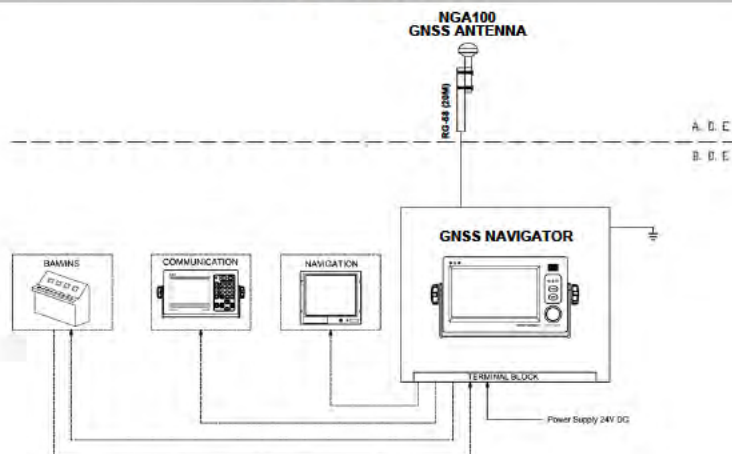
● OPTIONS

- DGNSS Upgrading Kit 1 set
- NMEA Distribution Box NND-100/NND-200 1 set
- AC/DC PSU PS-10 1 pc
- Flush Mount Bracket 1 pc

SIZE DIMENSION



SYSTEM DIAGRAM



- Determine the heading of a ship
- Highly accurate heading of 0.4° RMS
- Full GNSS with GPS, BDS, GLONASS, GALILEO
- Both THD (transmitting heading device) and GNSS
- Large LCD, 7-inch/color, touch screen operation
- Highly accurate SOG, COG, ROT and position
- Multi outputs of RS422 & LAN
- Data interface to BAM/INS
- Up to five display modes available
- Compliant with IMO MSC.116 (73) for THD
- Maintenance-free design
- Type approval with CCS



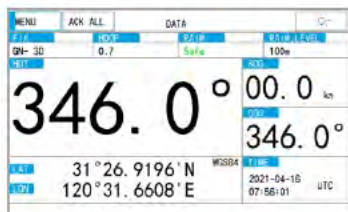
PROCESSOR UNIT



DISPLAY UNIT



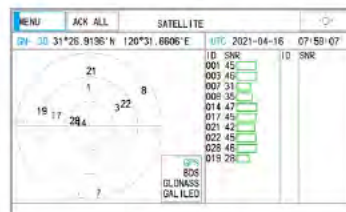
ANTENNA UNIT



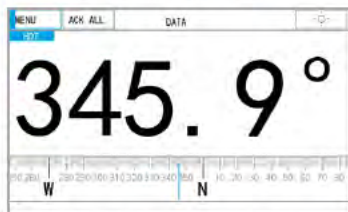
DATA (NAV DATA)



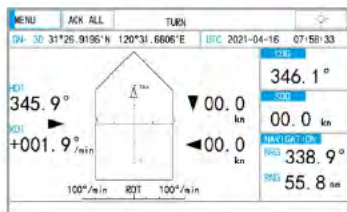
PLOTTER



SATELLITE



DATA (HEADING)



TURN



COMPASS



SPECIFICATIONS

● GENERAL

- Heading Accuracy: 0.4° RMS
- Heading Resolution: 0.1°
- Tracking Rate of Turn: 45°/sec
- Tracking Acceleration: 1G
- Pitch/roll Angle: ±60°
- Receiving Frequencies: GPS L1/L2, BDS B1/B2, GLONASS L1/L2, GALILEO E1/E5b
- Position Accuracy: 1.5 m
- Speed Accuracy: 0.03 m/s
- Position Fixing Time: <30 s
- Data Output Rate: max 50 Hz

● DISPLAY

- Display System: 7 inch, color LCD, touch screen operation, 154 (W) × 87 (H) mm
- Resolution: 800 × 480 dots
- Display Mode: DATA (Heading, NAV data), PLOTTER, TURN, COMPASS, SATELLITE

● INTERFACE

- Output Ports: 3 IEC-61162-1 Ed4, Ed5, NMEA 1.5, 2.0, 2.3
- Transmission Speed: 4800/9600/19200/38400 bps (selectable)
- BAM/INS In/Out: ACN, ALC, ALF, HBT
- Data Sentences: HDT, THS, ROT, HDG, HDM, HRC, HRM, RMC, VTG, ZDA, GLL, GGA, DTM, GNS, RTE, WPL, RMB, BOD, APB

● POWER SUPPLY:

DC 24 V (range 12~36 V), 500 mA

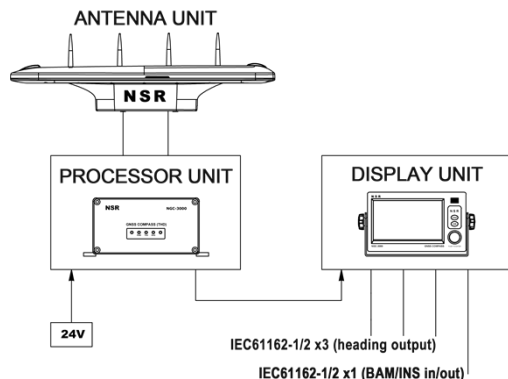
● DIMENSION:

174 (W) × 81 (H) × 160 (D) mm (Processor Unit)
264 (W) × 145 (H) × 83 (D) mm (Display Unit)
808.2 (W) × 240.1 (H) × 244.4 (D) mm (Antenna Unit)

● ENVIRONMENTAL CONDITION

- Temperature Range: -20°C~+55°C operating
-30°C~+70°C storage (Antenna Unit)
- Compass Safe Distance: 1.15m (Standard)
- IP Grade: IP22 (Processor Unit & Display Unit)
IP66 (Antenna Unit)

SYSTEM DIAGRAM



EQUIPMENT LIST

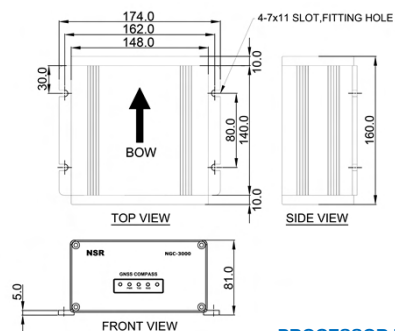
● STANDARD

- Processor Unit NGC-3000P 1 pc
- Display Unit NGC-3000D 1 pc
- Antenna Unit NGC-3000A 1 pc
- Accessories 1 set

● OPTIONS

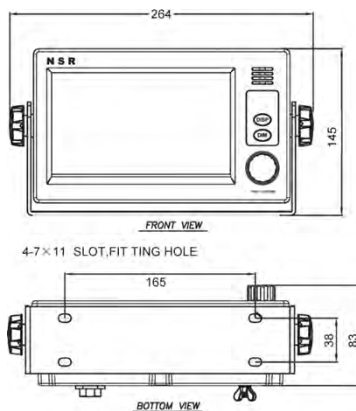
- Flush Mount Bracket for Display Unit 1 pc

SIZE DIMENSION

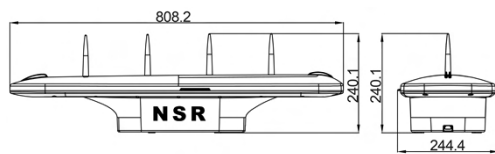


PROCESSOR UNIT

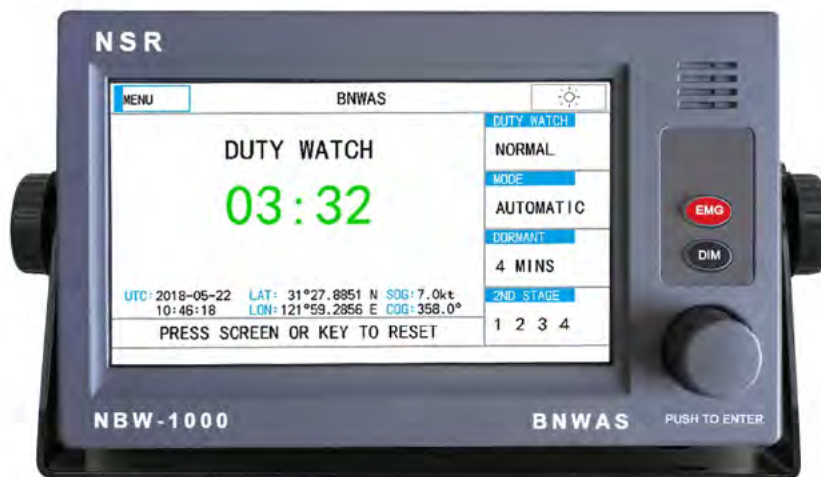
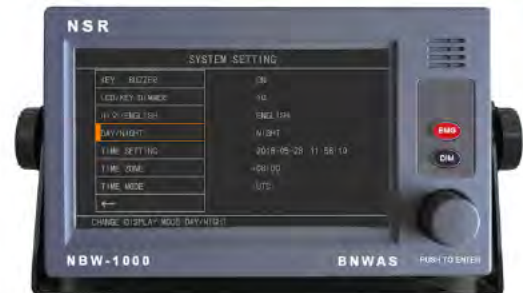
DISPLAY UNIT



ANTENNA UNIT



- Displayed with 7-inch color LCD
- ON/OFF history record
- Alarm tone selectable
- Routine test available
- Password set by menu
- Data interface to BAM/INS
- Type approval with DNV (MED) and CCS



- Conforms to the latest rules, including IMO MSC.128 (75), IMO MSC.302 (87), IEC 62616, IEC 62923-1, IEC 62923-2, IEC 62288.
- 7-inch Color LCD used in the Control Unit.
- Automatically record ON/OFF history.
- Pre-stored tones are selectable for alarm.
- A password is used to set operation mode and dormant time.
- 2nd alarm units can be selected separately.
- Test function and emergency call available.

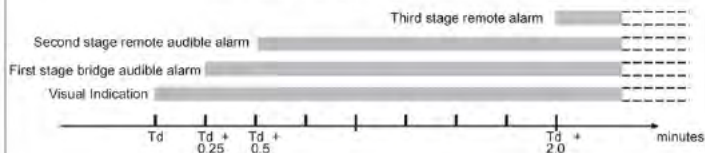


SPECIFICATIONS

- Mode: AUTOMATIC, MANUAL ON, MANUAL OFF
- Alarm: Visual, 1st Stage Audio, 2nd Stage Audio, 3rd Stage Audio
- Dormant: 3~12 mins (selectable)
- Accuracy: $\pm 5s$
- Sound: 75 ~85 dB (A)
- Power Input: DC24V, AC100V~240V
- Input Port: RS422 $\times$ 1 port, Reset ON/OFF $\times$ 9 CH
- Output Port: RS422 $\times$ 1 port, Alarm $\times$ 10 CH, Failure Output $\times$ 1 CH
- IP Grade: IP22 (Control Unit, Junction Box, Alarm Unit)
IP56 (Reset Unit)

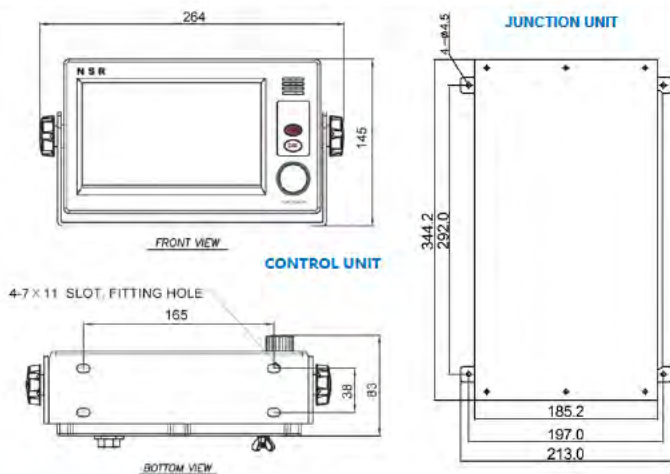
WATCH ALARM CHART

Alarm sequence without acknowledgements



(Td=Selected Dormant Period)

SIZE DIMENSION



EQUIPMENT LIST

• STANDARD

- Control Unit	NBW-1000	1 unit
- Junction Unit	NBW-1050J	1 unit
- Reset Unit	NBW-1090RW	1-4 unit
- Alarm Unit	NBW-1010A	1-10 unit
- Accessories		1 set

• OPTIONS

- Motion Detector	NBW-1090P	
- Flush Mount Bracket for Control Unit		1 pc

JUNCTION UNIT



ALARM UNIT



RESET UNIT



MOTION DETECTOR



- Meet the latest IMO regulation and ITU standards
- Compatible with AIS AtoN, AIS SART, AIS MOB, AIS EPIRB
- GPS, BDS, GLONASS positioning mode
- Built-in isolated DC/DC with wide range input
- Support all NEMA versions for GNSS/HTG input
- Data interface to BAM system
- High stability and easy maintenance
- Type approval with DNV (MED), and CCS
- Type approval of Inland AIS by EU



MKD



AIS TRANSPONDER

- Designed to improve navigation safety and offer real-time information exchange of your own ship's data and other AIS-equipped ships or coastal stations within VHF coverage.
- Fully complying with the international regulations, IMO MSC.74 (69), IMO MSC.302 (87), ITU-R M.1371-5, IEC 61993-2, IEC 62923-1, IEC 62923-2, etc.
- Can communicate with other SO-TDMA and CS-TDMA AIS transponders, including shipborne Class A AIS, Class B AIS, AtoN AIS station, AIS-SART, AIS MOB, AIS EPIRB, etc.
- 7-inch, color LCD, touch screen operation with adjustable brilliance.
- Interface for RADAR, ECDIS, BAM, GYRO, BLUE SIGN, RELAY and external GNSS equipment.



SPECIFICATIONS

- Frequency: 156.025 ~ 162.025 MHz
- Default Channel: AIS 1, AIS 2
- DSC Channel: CH70 (156.525 MHz)
- TX Power: 12.5 W (High) / 1 W (Low)
- Data Interface: RS422
- Power Supply: DC 24 V (range 18 V ~ 38 V)
- Size: 81 (H)×174 (W)×257 (D) mm (Transponder)
145 (H)×264 (W)×83 (D) mm (MKD)
- Weight: 2.3 kg (Transponder), 1.25 kg (MKD)
- IP Grade: IP22 (Transponder, MKD, Plotter), IP66 (Antenna)

EQUIPMENT LIST

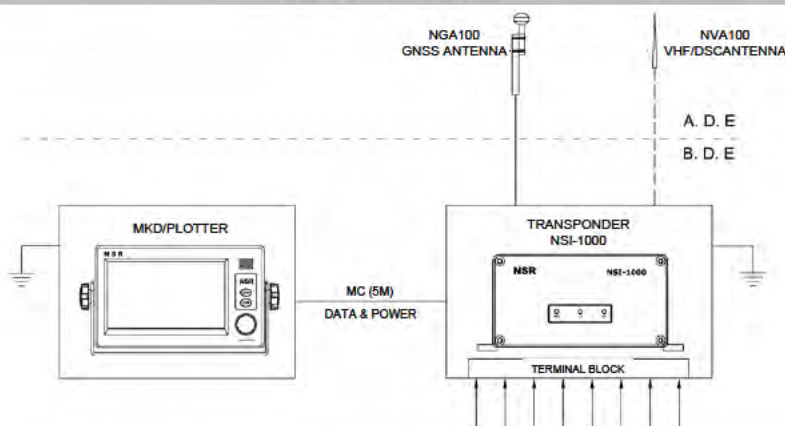
● STANDARD

- | | | |
|----------------------------------|-----------|-------|
| - AIS Transponder | NSI-1000 | 1 pc |
| - MKD | NSI-1000D | 1 pc |
| - GNSS Antenna (with 20 m cable) | NGA100 | 1 pc |
| - Accessories | | 1 set |

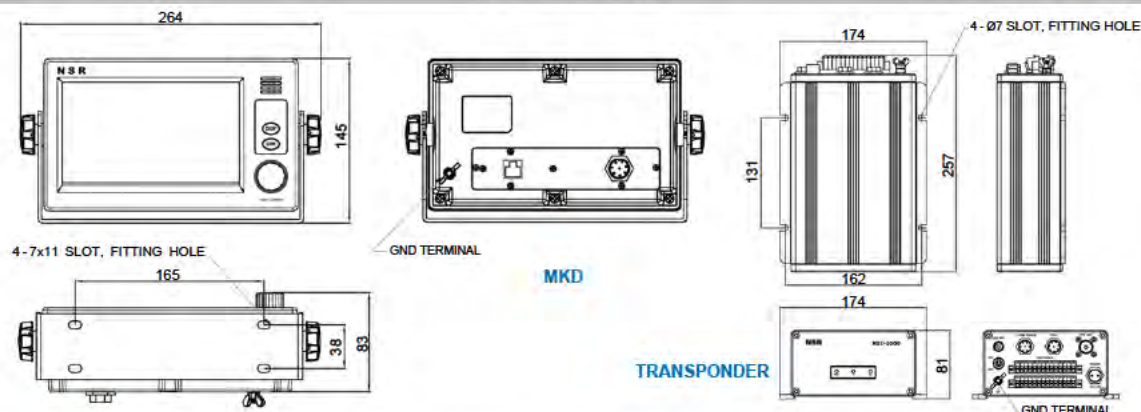
● OPTIONS

- | | | |
|-------------------------------|----------|------|
| - Plotter | NES-3010 | 1 pc |
| - VHF Antenna | NVA100 | 1 pc |
| - Pilot Plug | NPP100 | 1 pc |
| - Flush Mount Bracket for MKD | | 1 pc |

SYSTEM DIAGRAM



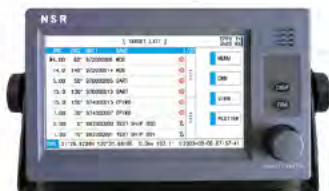
SIZE DIMENSION



- Meet the latest IMO regulation and ITU standards
- Compatible with AIS AtoN, AIS SART, AIS MOB, AIS EPIRB
- GPS, BDS, GLONASS positioning mode
- High stability and easy maintenance
- Built-in isolated PSU with wide range input
- Type approval with CCS



AIS TRANSPONDER



MKD



10.1" PLOTTER

- NAB-1000 AIS system, which adopts CSTDMA technology, is designed for use on non-Solas vessels.
- NAB-1000 can communicate with other AIS transponders, including shipborne Class A AIS, Class B AIS, AIS SART, AIS MOB, AIS EPIRB, AtoN AIS station, AIS base station.
- NAB-1000 conforms to the international standards, such as IEC 62287-1, ITU-R M.1371-5.



SPECIFICATIONS

- Frequency: 156.025 ~ 162.025 MHz
- Default Channel: AIS 1, AIS 2
- Band width: 25 kHz
- Output Power: 2 W
- Comm. Mode: CSTDMA
- Sensitivity: Better than -110 dBm
- Data Ports: RS232/RS422, NMEA 0183, 38400bps
- Ant Connectors: 50 Ω , TNC (GNSS Ant), BNC (VHF Ant)
- Power Supply: DC 24 V (range 12 V ~ 38 V)
- Size: 81 (H) $\times$ 174 (W) $\times$ 160 (D) mm (Transponder)
- Weight: 1.4 kg (Transponder)
- IP Grade: IP22 (Transponder, MKD, Plotter), IP66 (Antenna)

EQUIPMENT LIST

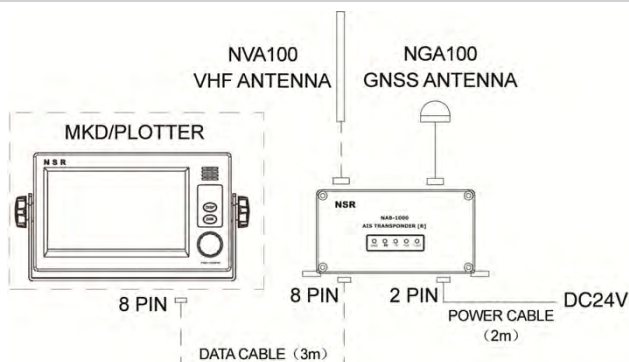
● STANDARD

- | | | |
|---------------------------------|----------|-------|
| - AIS Transponder [B] | NAB-1000 | 1 pc |
| - GNSS Antenna (with 10m cable) | NGA100 | 1 pc |
| - Accessories | | 1 set |

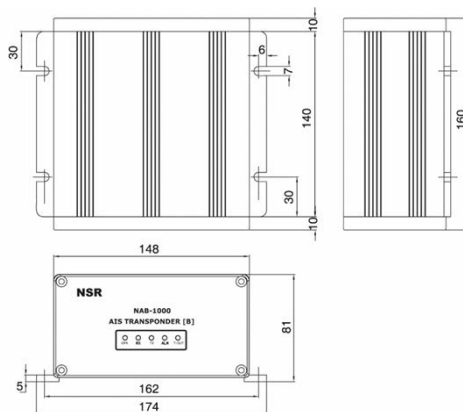
● OPTIONS

- | | | |
|---------------------------------------|-----------|------|
| - MKD | NSI-1000D | 1 pc |
| - Plotter (10.1 inch) | NES-3010 | 1 pc |
| - VHF Antenna (with cable) | NVA100 | 1 pc |
| - Flush Mount Bracket for MKD/Plotter | | 1 pc |

SYSTEM DIAGRAM



SIZE DIMENSION



NSR's new generation of Chart Plotter:

- Chart + AIS Display + GNSS Navigator, 3 in 1
- Meet the IMO regulation and IEC standards
- Touch screen operation
- Android system
- Easy to upgrade



- NES-3010G is designed for vessel navigational aid, which can work together with AIS, to provide GNSS navigator aid and AIS presentation, and also can work alone as a GNSS navigator.
- NES-3010G conforms to the international standards, such as IMO MSC.112 (73), IEC 60945, IEC 61108-1, IEC 61162-1 etc.



SPECIFICATIONS

- OS: Android
- LCD DISPLAY: Touch screen operation
 - Size: 10.1 inch
 - Resolution: 1280×800
- Interface: RS232×1, USB×1 (NES-3010)
RS422×2, USB×1, ANT×1 (NES-3010G)
- Power Supply: DC 24 V (range 9 V ~ 36 V)
- IP Grade: IP22 (Plotter)
IP66 (Antenna)

EQUIPMENT LIST

● STANDARD (INDEPENDENT PLOTTER)

- Plotter NES-3010G 1 pc
- GNSS Antenna NGA100 1 pc
- Accessories 1 set

● STANDARD (PLOTTER USED WITH AIS)

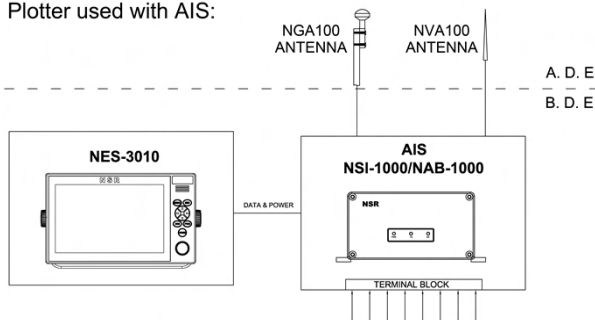
- Plotter NES-3010 1 pc
- Accessories 1 set

● OPTIONS

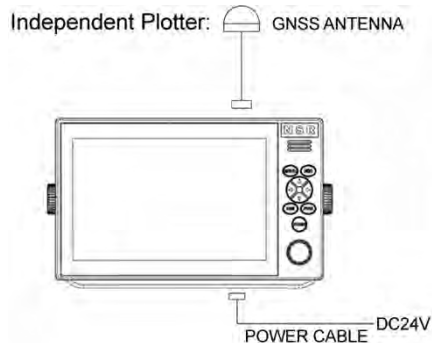
- Flush Mount Bracket 1 pc

SYSTEM DIAGRAM

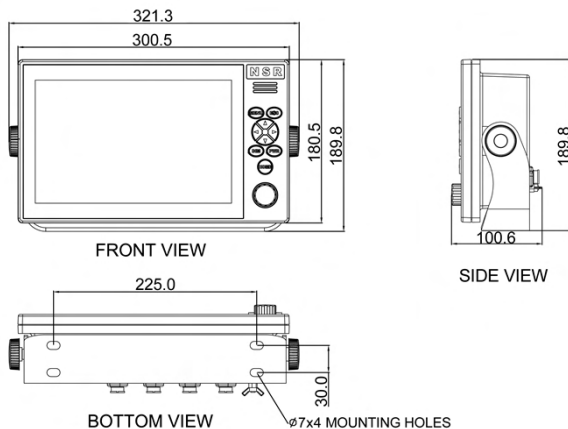
Plotter used with AIS:



Independent Plotter:



SIZE DIMENSION



- Strong nylon material used for transmitter case
- True wind speed/direction available
- Up to 4 display units and 6 data output
- Type approval with CCS



AM-100T ANEMOMETER TRANSMITTER



**AM-100R
REMOTE BUTTON**



AM-100D DISPLAY UNIT

- AM-100 Digital Anemometer is designed for marine use. With case made of nylon and PC material, AM-100 can stand strong wind of 60+m/s and can be installed outdoor without corrosion.
- AM-100 can support up to 4 display units to indicate wind speed and direction at four locations onboard. Maximum 6 ports of RS422 output are available, to provide wind data to other navigation devices.
- Real wind direction and speed can be indicated when AM-100 is connected with speed log and compass. The heading and speed data can also be provided with COG & SOG from GPS receiver, if the connection with speed log and compass is not possible in some cases.



SPECIFICATIONS

- **Wind Range:** Wind direction 0~360°
Wind velocity 0~60 m/s
- **Accuracy:** Wind direction $\pm 5^\circ$
Wind velocity $\pm (0.5 + V \times 5\%) \text{ m/s}$
- **Power Supply:** AC 100 V ~ 240 V
- **Output Data:** NMEA 0183 (6 ports, RS422), 4800 bps
- **Input Signal:** Gyro Compass, NMEA 0183, RS422
Speed Log, NEMA 0183, RS422
- **Display Capacity:** Max 4 Display Units to be connected
- **Environment:** Outdoor -30°C~+70°C, Indoor -15°C~+55°C
- **Size:** 627 (H)×605 (L)×243 (propeller diameter) mm (Transmitter)
- **Weight:** 4.3 kg (Transmitter)
- **IP Grade:** IP22 (Display Unit, Junction Box, Remote Button)
IP66 (Transmitter, Watertight Box)

EQUIPMENT LIST

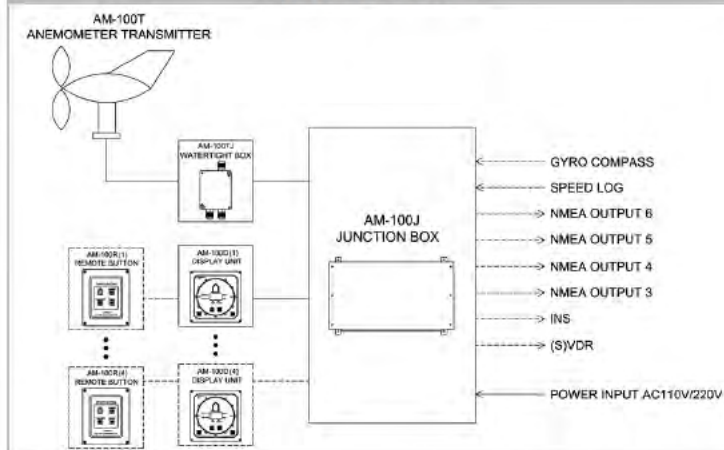
● STANDARD

- Anemometer Transmitter	AM-100T	1 pc
- Display Unit	AM-100D	1 pc
- Junction Box	AM-100J	1 pc
- Watertight Box	AM-100TJ	1 pc
- Outdoor Cable	40 m	1 pc
- Indoor Cable	10 m	1 pc
- Power Cable	2 m	1 pc
- Installation Materials		1 set

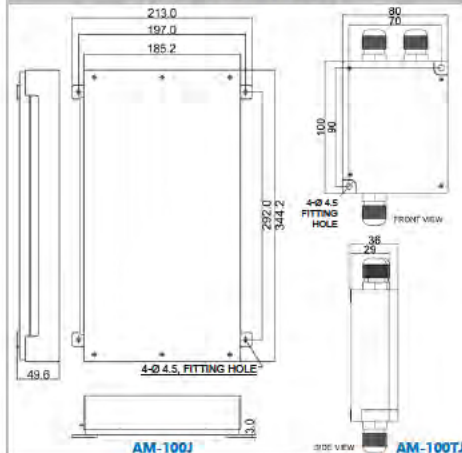
● OPTIONS

- Remote Button	AM-100R
- Additional Display Unit	AM-100D
- Additional Cables	

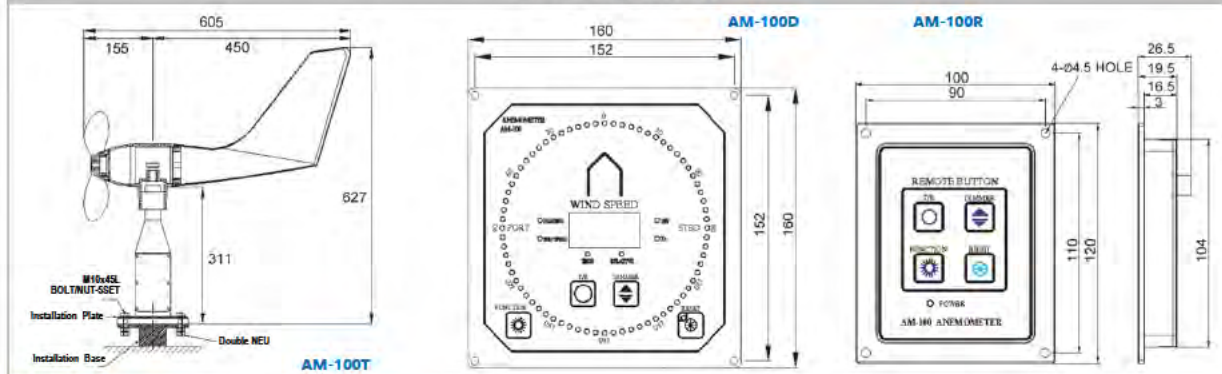
SYSTEM DIAGRAM



SIZE DIMENSION

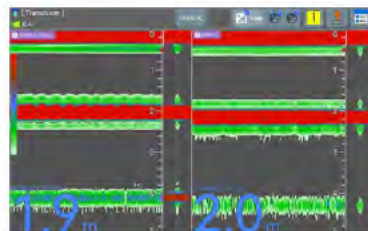


SIZE DIMENSION



NSR's new Echo Sounder:

- SDR (Software Defined Radio) technology
- High accuracy and stability
- Large color LCD, touch screen operation
- Android O/S for easy operation
- Auto depth detection, auto range and auto gain functions
- BAM alarm function
- Meet the IMO and ISO standards
- Type approval with DNV (MED), DNV (UKMER) and CCS



- NED-3010 echo sounder is designed for vessel navigation, which provides reliable information about the depth of water under the vessel through transducers.
- NED-3010 adopts SDR technology and Android O/S.
- NED-3010 conforms to the standards of IMO MSC.74 (69) Annex 4: A.224 (VII) , IMO MSC.302 (87), IEC 61162-1, IEC 62923-1, IEC 62923-2 and ISO 9875.



SPECIFICATIONS

- Channel: 2 channels
- Frequency: 200kHz or 50kHz
- Measure Range: 0.3 ~ 200m (200kHz), 2 ~ 200m (50kHz)
- TX Power: 600W
- O/S: Android
- LCD Display: Touch screen operation
 - Size: 10.1 inch
 - Resolution: 1280×800
- Interface: I/O sentence (IEC 61162-1 & IEC 61162-2)
- Power Supply: DC 24 V (range 9 V ~ 36 V)
- Size: 189.8 (H) × 321.3 (W) × 100.6 (D) mm (Display Unit)
- Weight: 2.25 kg (Display Unit)
- IP Grade: IP22 (Display Unit), IP67 (Transducer)

EQUIPMENT LIST

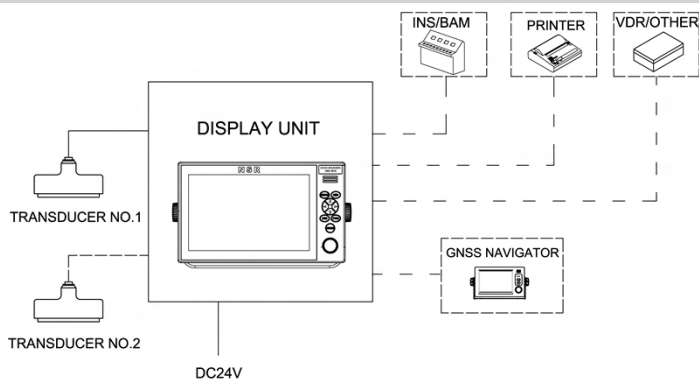
● STANDARD

- | | | |
|--------------------|-------------------------|-------|
| - Display Unit | NED-3010 | 1 pc |
| - Transducer (15m) | NXD-200A and/or NXD-50A | 1 pc |
| - Accessories | | 1 set |

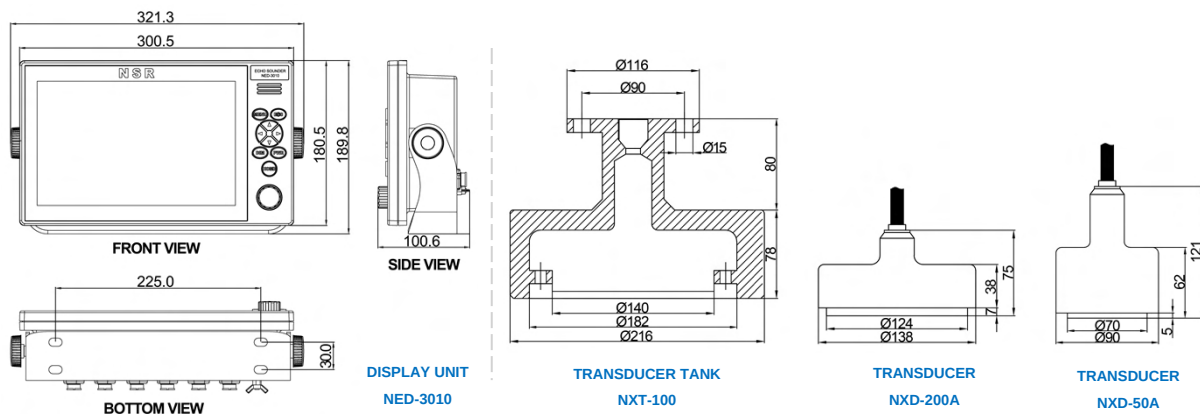
● OPTIONS

- | | | |
|-----------------------------------|---------------------|------|
| - Transducer Tank | NXT-100 | 1 pc |
| - Junction Box | NED3000J | 1 pc |
| - Transducer (15m, 25m or others) | NXD-200A or NXD-50A | 1 pc |
| - Flush Mount Bracket | | 1 pc |

SYSTEM DIAGRAM



SIZE DIMENSION

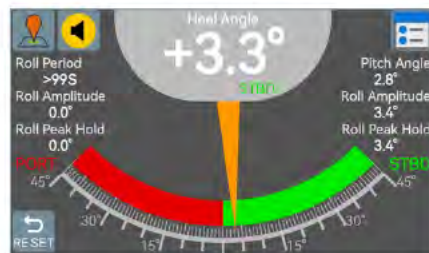


ELECTRONIC INCLINOMETER

NEI-3000

NSR's new Electronic Inclinometer:

- High accuracy and stability
- Large color LCD, touch screen operation
- Android O/S for easy operation
- Log for Heel Angle and Pitch Angle
- Meet the IMO and ISO standards
- Type approval with CCS



- NEI-3000 electronic inclinometer is designed for vessel navigation, which provides heel and pitch measuring functions.
- NEI-3000 measures and displays heel angle, roll period, roll amplitude and pitch angle etc.
- Additional log of heel angle for the latest 3 minutes and roll amplitude for the latest 30 minutes.
- NEI-3000 conforms to the standards of IMO MSC.363 (92), IMO MSC.302 (87), IEC 61162-1, IEC 61162-2, IEC 62923-1, IEC 62923-2, IEC 62288 and ISO 19697.



SPECIFICATIONS

- Heel Angle: Range: $\pm 90^\circ$, Accuracy: $\pm 1^\circ$
- Roll Amplitude: Range: $\pm 90^\circ$, Accuracy: $\pm 1^\circ$
- Roll Period: Range: 4~ 40 sec, Accuracy: $\pm 1s$
- Pitch Angle: Range: $\pm 90^\circ$, Accuracy: $\pm 1^\circ$
- O/S: Android
- LCD Display: Touch screen operation
 - Size: 7 inch
 - Resolution: 1024×600
- Interface: I/O sentence (IEC 61162-1 & IEC 61162-2)
- Power Supply: DC 24 V (range 9 V ~ 36 V)
- Power Consumption: <10W
- Size: 145 (H) × 264 (W) × 83 (D) mm (Display Unit)
- Weight: 1.3kg (Display Unit)
- IP Grade: IP22

EQUIPMENT LIST

● STANDARD

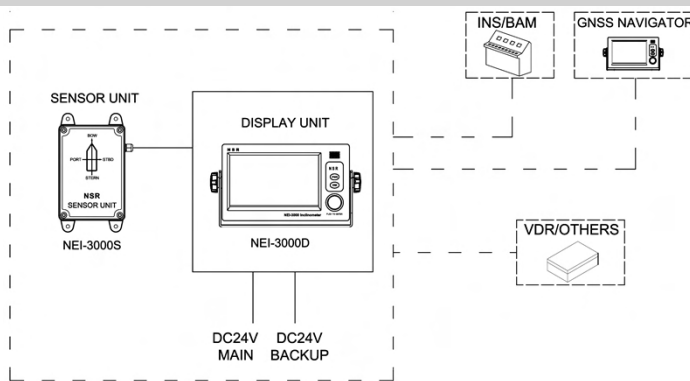
- Display Unit NEI-3000D 1 pc
- Sensor Unit NEI-3000S 1 pc
- Accessories 1 set

● OPTIONS

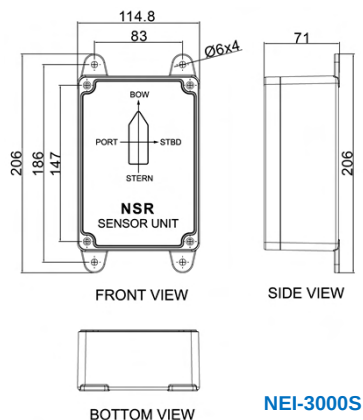
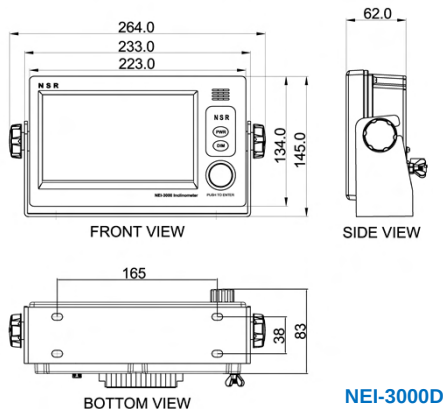
- Flush Mount Bracket 1 pc



SYSTEM DIAGRAM



SIZE DIMENSION



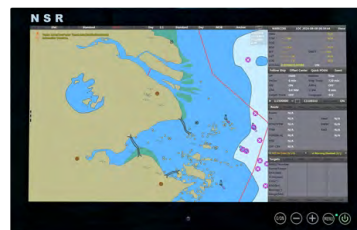
- Compliant with IEC 60945 standard
- Displays for a wide range of applications such as ECDIS and radar
- Multi-size displays to satisfy different vessels
- Large color LCD with touch screen operation



NDU-190



NDU-260



NDU-240

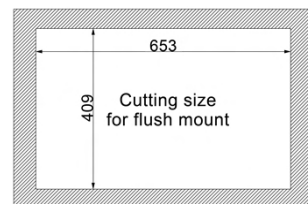
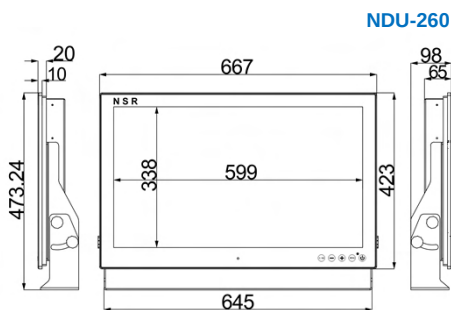
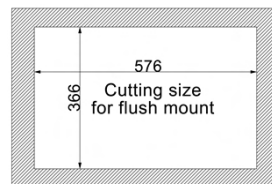
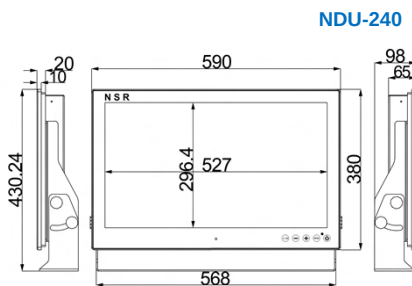
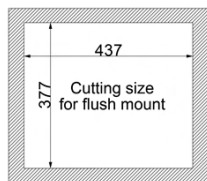
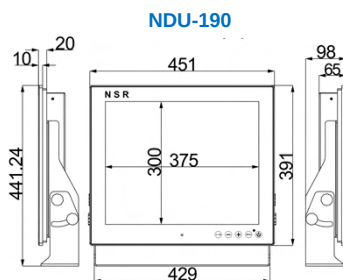
- The marine display receives and displays the VGA/DVI/HDMI/AUDIO signals from the main unit.
- Dual power supply (AC 100 V ~ 230 V, DC 24 V), automatic switching.
- Brightness control on the panel, convenient for night navigation.



SPECIFICATIONS

ITEM	NDU-190	NDU-240	NDU-260
Display	19-inch color LCD	24-inch color LCD	26-inch color LCD
Active Display Area (width x height)	374.8 (H) x 299.8 (V) mm	527.0 (H) x 295.4 (V) mm	597.8 (H) x 336.3 (V) mm
Resolution (recommended)	SXGA (1280 x 1024)	HD (1920 x 1080)	HD (1920 x 1080)
Brightness	400 nits	600 nits	350 nits
Contrast	700:1		
View Angle	170		
Interface	RGB Analog x 1, DVI-D x 1, HDMI x 1, USB x 3, Audio Signal x 1, M/B x 1 (for restart)		
Power Supply	100-230VAC/0.5A, 30W 24VDC/1.5A, 30W	100-230VAC/0.6A, 40W 24VDC/2A, 45W	100-230VAC/0.5A, 30W 24VDC/1.5A, 30W
Weight (without Bracket)	about 8.25 kg	about 9.8 kg	about 12.5 kg
Environmental Conditions	Operating Temperature: -20°C ~ +70°C Storage Temperature: -25°C ~ +70°C Humidity: ≥90% RH (38°C)		

SIZE DIMENSION



- SDR (Software Defined Radio) technology
- Voice digitalized
- Large 7-inch color display
- Knob & touch screen operation
- Android system on NBDP terminal
- LAN network interface
- Data interface to BAM/INS
- Marine communication handset
- Type approval with DNV (MED) and CCS



ALARM UNIT



NBDP TERMINAL



CONTROL UNIT



TRANSCEIVER



ANTENNA COUPLER

- NHR-1500 MF/HF RADIO (GMDSS) is a high-performance MF/HF device, capable of voice communication and DSC (digital selective calling) facilities as well.
- Conforming to the Class A standard set for MF/HF DSC by ITU and IMO regulations, NHR-1500 can be part of an onboard GMDSS package for vessels of A2/A3/A4.
- NHR-1500 conforms to the regulations of ITU-R M.476-5, ITU-R M.492-6, ITU-R M.493-15, ITU-R M.541-10, IMO MSC.302 (87), IEC 61097-9, IEC 61097-3, IEC 60945, IEC 62923-1, IEC 62923-2 etc.



SPECIFICATIONS

- TX Frequency: 1605.0 ~ 27500.00 kHz
- RX Frequency: 300.0 ~ 29999.99 kHz
- Working Channel: 400+ channels
- Communication Mode: Simplex/Semi-duplex
- Emission Class: J3E, H3E, A1A, F1B
- TX Power: 150 W pep
- RX Sensitivity: $\leq 2.5 \mu\text{V}$ (1605.0~27500.0 kHz, J3E)
 $\leq 0.7 \mu\text{V}$ (1605.0~27500.0 kHz, F1B)
- DSC Frequencies: 2187.5, 4207.5, 6312.0, 8414.5, 12577.0, 16804.5 (kHz)
- Control Display: 7-inch color display, touch screen
- Interface: LAN, BAM/INS/GNSS (RS422)
- Antenna Impedance: 50 Ω
- Power Supply: DC 24 V (range 18 V ~ 29 V)
- Operating Temperature: -15° ~ 55°C (indoor parts)
-25° ~ 55°C (outdoor parts)
- IP Grade: IP22: Control Unit, Transceiver, Handset,
RF Junction Box; IP66: Antenna Coupler

EQUIPMENT LIST

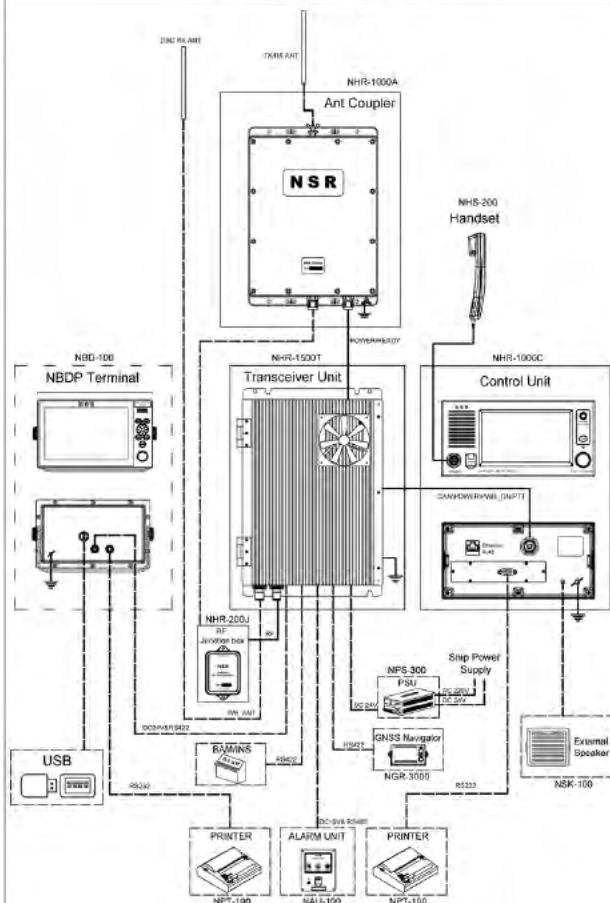
● STANDARD

- Transceiver	NHR-1500T	1 pc
- Control Unit	NHR-1000C	1 pc
- Antenna Coupler	NHR-1000A	1 pc
- Handset	NHS-200	1 pc
- Cable & Accessories		1 set

● OPTIONS

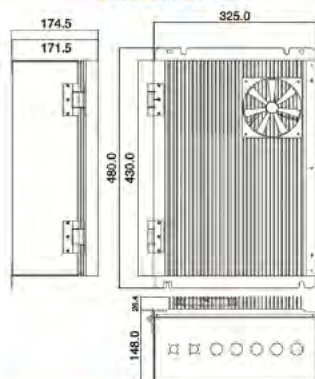
- Printer	NPT-100	1 pc
- NBDP Terminal	NBD-100	1 pc
- Alarm Unit	NAU-100	1 pc
- External Speaker	NSK-100	1 pc
- TX/RX Antenna	NHA100	1 pc
- DSC RX Antenna	NXA100, NXA100A	1 set
- AC/DC PSU	NPS-300	1 pc

SYSTEM DIAGRAM

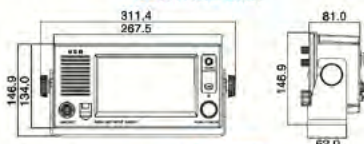


SIZE DIMENSION

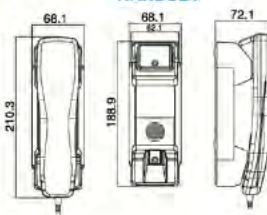
TRANSCIVER



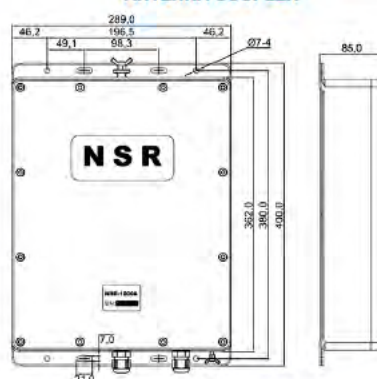
CONTROL UNIT



HANDSET



ANTENNA COUPLER



NSR's new generation of VHF RADIO:

- Meet the latest ITU standards
- Large 7-inch color display with touch screen operation
- 4-digit channels available
- Dual-watch / Tri-watch function
- Audio interface to VDR & Data interface to BAM/INS
- Operational dual handsets/wing handsets/remote stations/Tug handset & Mic
- Replay function available
- ATIS function available
- User channel table configurable
- Type approval with DNV (MED) and CCS



- NVR-3000 VHF RADIO (GMDSS) is a high-performance VHF device, capable of voice communication and DSC (digital selective calling) facilities as well.
- Conforming to the Class A standard set for VHF DSC by ITU and IMO regulations, NVR-3000 can be part of an onboard GMDSS package for vessels of A1, A2, A3 and A4.
- Interfaces to VDR and BAM system/INS are available on NVR-3000.
- NVR-3000 conforms to the regulations of ITU-R M.493-15, IMO MSC.302 (87), IMO MSC.1/Circ.1460/Rev.5, IEC 61097-3, IEC 61097-7, IEC 62923-1, IEC 62923-2, IEC 61162-1 and IEC 62288 etc.



SPECIFICATIONS

- TX Frequency: 156.025 ~ 157.425 MHz
- RX Frequency: 156.050 ~ 163.275 MHz
- Working Channel: ITU
- DSC Watch CH: CH70
- TX Power: 25 W (high) / 1 W (low)
- RX Sensitivity: $\leq 2 \mu V$ (SINAD=20 dB)
- Display: 7-inch color LCD, touch screen operation
- Interface:
 - GNSS Input: RS422, 4800 bps
 - VDR Output: 600 Ω balanced
 - BAM/INS I/O: RS422, 4800 bps
 - Print I/O: RS232, 4800 bps
- Power Supply: DC 24 V (range 21.6 V ~ 31.2 V), max 4.5 A
- Size: 146.9 (H) $\times$ 311.4 (W) $\times$ 117 (D) mm (Transceiver)
- Weight: 3 kg (Transceiver)
- IP Grade: IP22: Transceiver, Handset; IP66: Antenna

EQUIPMENT LIST

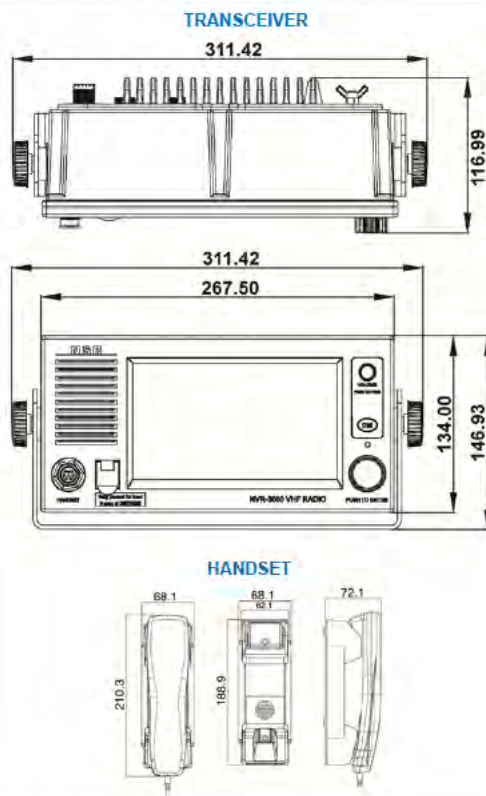
● STANDARD

- | | | |
|---------------|----------|-------|
| - Transceiver | NVR-3000 | 1 pc |
| - Handset | NHS-200 | 1 pc |
| - Accessories | | 1 set |

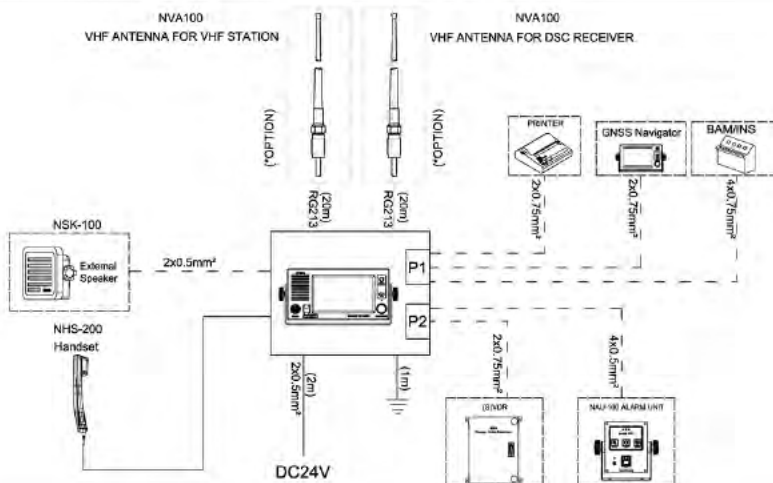
● OPTIONS

- | | | |
|-------------------------|--------------|-------|
| - AC/DC PSU | PS-10 | 1 pc |
| - Alarm Unit | NAU-100 | 1 pc |
| - External speaker | NSK-100 | 1 pc |
| - Additional Headset | NHS-200 | 1 pc |
| - Remote Station | NVR-3000R | 1 set |
| - Dual Handset Kit | | 1 set |
| - Wing Handset Kit | | 1 set |
| - Tug Handset & Mic Kit | NHS-206J/M/P | 1 set |
| - VHF Antenna | NVA100 | 2 pcs |
| - Sun Cover | NSC700B | 1 pc |
| - Flush Mount Bracket | | 1 pc |

SIZE DIMENSION



SYSTEM DIAGRAM



- Meet the latest ITU standards
- 4-digit channels available
- Dual watch function
- Built-in GNSS receiver
- Type approval with CCS



- NVR-2000 VHF RADIO is a high-performance VHF device, capable of voice communication and DSC (digital selective calling) facilities as well.
- Conforming to the Class D standard set for VHF DSC by ITU and IMO regulations, NVR-2000 conforms to the regulations of ITU Regulation Appendix 18, ITU-R M.493-16, IMO MSC.1/Circ.1460/Rev.5, IEC 61097-7, IEC 61097-3, etc.



SPECIFICATIONS

- TX Frequency: 156.025 ~ 157.425 MHz
- RX Frequency: 156.050 ~ 163.275 MHz
- Working Channel: Full ITU channels
- DSC Watch CH: CH70
- TX Power: 25 W (high) / 1 W (low)
- RX Sensitivity: $\leq 2 \mu V$ (SINAD=20 dB)
- Interface:
 - GNSS Input: RS422, 4800bps
 - Print I/O: RS232, 4800bps
- Power Supply: DC 13.8 V (range 12V~15V), max 5.5 A
- Size: 137 (H) × 233 (W) × 91 (D) mm
- Weight: 1.3 kg
- Operating Temperature:
 - 15° ~ 55°C (Transceiver, Microphone)
 - 40° ~ 55°C (Antenna)
- IP Grade:
 - IP22: Transceiver, Microphone
 - IP66: Antenna

EQUIPMENT LIST

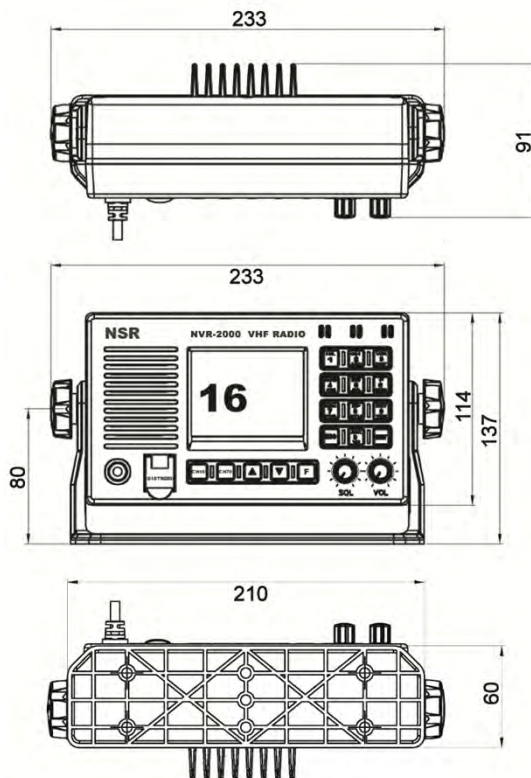
● STANDARD

- | | | |
|---------------|----------|-------|
| - Transceiver | NVR-2000 | 1 pc |
| - Microphone | NHS-102 | 1 pc |
| - Accessories | | 1 set |

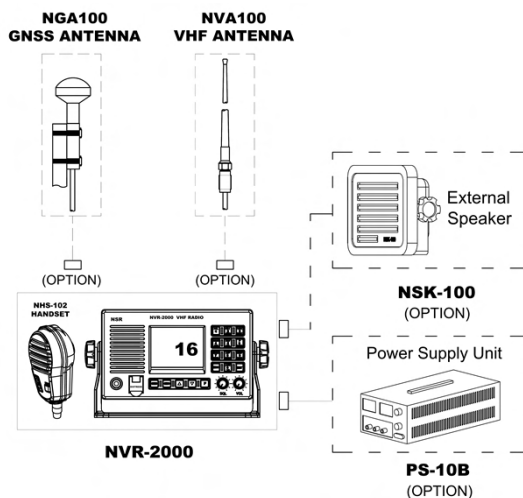
● OPTIONS

- | | | |
|---------------------------------|---------|------|
| - AC/DC PSU | PS-10B | 1 pc |
| - GNSS Antenna (with 10m cable) | NGA100 | 1 pc |
| - VHF Antenna | NVA100 | 1 pc |
| - External Speaker | NSK-100 | 1 pc |
| - Flush Mount Bracket | | 1 pc |

SIZE DIMENSION



SYSTEM DIAGRAM



NSR's new generation of NAVTEX RECEIVER:

- SDR (Software Defined Radio) technology, super sensitivity
- Large 7-inch color LCD, touch screen operation
- Meet the latest rules: IMO MSC.508 (105), IMO MSC.302 (87), IEC 62923-1, IEC 62923-2, IEC 62288
- Three-channel receiving simultaneously
- Data interface to BAM/INS
- Type approval with DNV (MED) and CCS

NVX-1000	CCS
NVX-3000	DNV



[STATION SETTING]

STORAGE FREQ. = 518kHz 518

A	B	C	D	E	F	G	H	I	J	K	L	M
N	O	P	Q	R	S	T	U	V	W	X	Y	Z

PRINT

A	B	C	D	E	F	G	H	I	J	K	L	M
N	O	P	Q	R	S	T	U	V	W	X	Y	Z

INS

A	B	C	D	E	F	G	H	I	J	K	L	M
N	O	P	Q	R	S	T	U	V	W	X	Y	Z

[ON]

490

4209

ALL

UNALL

BACK

[VIEW MESSAGE] 518 490 4209

PAGE 01/01

FREQ 518

ID QA01

TIME UTC 02-03 02:48

SIZE 287

CER 00%

STATE NNNN

CONTENT

NAVIGATIONAL WARNING

ZJ0249 EAST CHINA SEA M/T JIU HUA SHAN PASS THE

DREDGED DEEP-CHANNEL OUTSIDE XIAZHIMEN FAIRWAY VIA 29-41.26N/122-31.31E 29-41.55N/122-30.21E 29-43.88N/122-21.39E 29-44.28N/122-19.86E

AND 29-45.30N/122-18.50E FROM 280545UTC TO 280645UTC APR ENTRANCE PROHIBITED ZHEJIANG

MSA CHINA

BACK

PREV.

NEXT

PRINT

TO INS



FEATURES

- Large 7-inch color LCD.
- Receive on three IMO NAVTEX frequencies (518 kHz, 490 kHz and 4209.5 kHz) simultaneously.
- Displays the message contents.
- Messages are stored for 72 hours.
- Simple to operate by touch screen.
- Desktop or flush mount.
- External printer/NMEA/BAM/INS interface and External alarm output.
- Low power consumption.
- Self-diagnosis function.

EQUIPMENT LIST

● STANDARD

- Receiver	NVX-1000/NVX-3000	1 pc
- Loop Antenna	NXA200	1 pc
- Accessories		1 set

● OPTIONS

- Printer	NPT-100	1 pc
- AC/DC PSU	PS-10	1 pc
- Flush Mount Bracket		1 pc

SPECIFICATIONS

● NAVTEX RECEIVER

- Receiving Frequencies: 518 kHz, 490 kHz & 4209.5 kHz, to receive on three channels simultaneously
- Mode of Reception: F1B
- Sensitivity: Better than -107 dBm

● DISPLAY

- Display System: 7 inch, color LCD, touch screen operation, 154 (W) × 87 (H) mm
- Resolution: 800 x 480

● INTERFACE

- Input Sentences of NMEA IN Port: ZDA, RMC
- Input Sentences of BAM/INS Port: NRM, CRQ, ACK, ACN
- Output Sentences of BAM/INS Port: ALR, NRX, NRM, ACN, ACK, ALF, ALC, ARC, HBT

- POWER SUPPLY: DC 24 V (range 21.6 V ~ 31.2 V), 10 W average

- WEIGHT: 2.3 kg (Receiver)

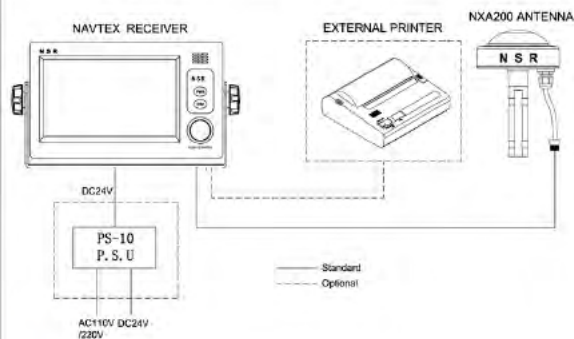
- SIZE: 264 (W) × 145 (H) × 83 (D) mm (Receiver)

● ENVIRONMENTAL CONDITIONS

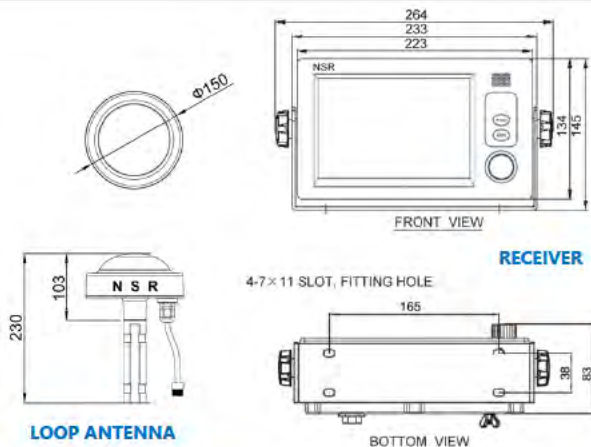
- Operating Temperature: -20°C ~ +55°C (Receiver), -40°C ~ +55°C storage (Antenna)
- Compass Safe Distance: 1.15 m (standard)
- IP Grade: IP22 (Receiver), IP66 (Antenna)



SYSTEM DIAGRAM

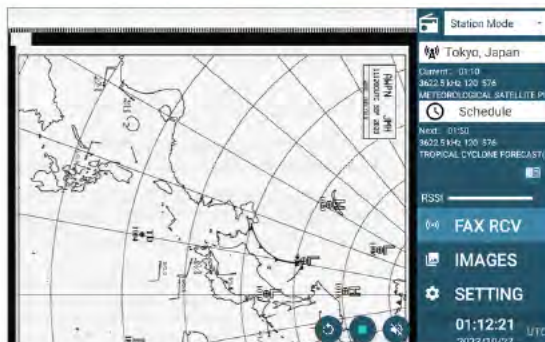


SIZE DIMENSION



NSR's new Weather FAX:

- SDR (software defined radio) technology adopted
- High receiving sensitivity with noise rejection
- Large 10-inch color LCD, touch screen operation
- Android O/S for easy operation
- Large storage of up to 500 weather charts
- Multiple printing options



- NFX-3000 is a high-performance marine weather facsimile receiver that receives, displays and stores the weather charts.
- Manual Mode, Station Mode and Schedule Mode for various needs.
- Automatic operation with built-in schedule preset.
- Selected images/charts can be printed in three ways: on a printer directly connected, on a printer connected to the bridge networks and on a printer connected to a PC from a USB stick, etc.
- Weather charts can be transferred to the computer via LAN.
- NFX-3000 conforms to the standards of ISO 9876:2015 and IEC 60945.



SPECIFICATIONS

- OS: Android
- LCD Display: Touch screen operation
 - Size: 10.1 inch
 - Resolution: 1280×800
- RAM: 2 GB
- Number of Channels: 1000+
- Frequency Range: 2-25 MHz
- RX Mode: F3C
- Interface: RS422, USB, LAN
- Scanning Speed: 60, 90, 120, 180, 240 r.p.m., manual or automatic selection
- IOC: 576, 288, manual or automatic operation
- Power Supply: DC 24 V (range 9 V ~ 36 V)
- Size: 189.8 (H) × 321.3 (W) × 100.6 (D) mm (Display Unit)
- Weight: 2.2 kg (Display Unit)
- IP Grade: IP22: Display Unit, IP66: Antenna

EQUIPMENT LIST

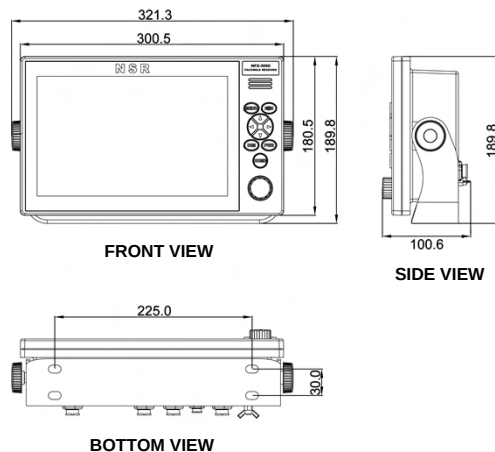
● STANDARD

- | | | |
|----------------|----------|-------|
| - Display Unit | NFX-3000 | 1 pc |
| - Accessories | | 1 set |

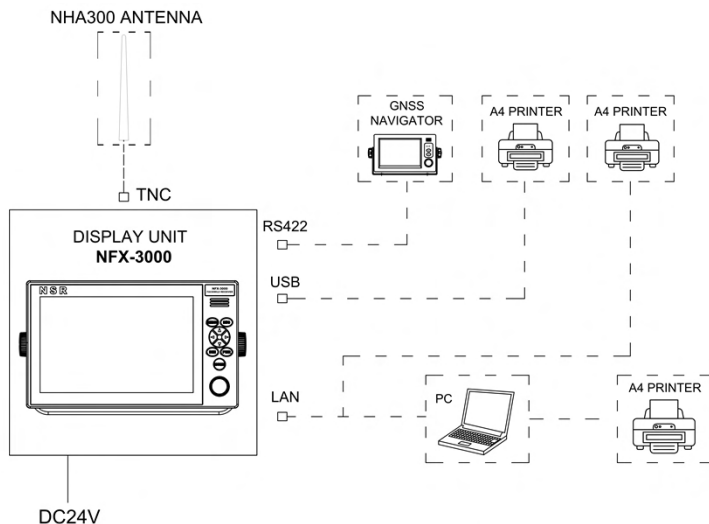
● OPTIONS

- | | | |
|-----------------------|--------|------|
| - AC/DC PSU | PS-10 | 1 pc |
| - Whip Antenna | NHA300 | 1 pc |
| - Flush Mount Bracket | | 1 pc |

SIZE DIMENSION



SYSTEM DIAGRAM



NSR's new generation of AIS EPIRB:

- Meet the latest IMO regulation – IMO MSC.471 (101)
- Built-in GNSS receiver and AIS transmitter
- Creative design for easy operation
- Special lanyard for hand-free carry
- Automatic power cut when test is completed
- Multiple protection to avoid false alert
- Lower power consumption for longer working hours
- Type approval with DNV (MED) and CCS



- Designed to be used for alert search and rescue service at sea. Conforming to IMO and IEC rules.
- Location accuracy within 10m, thanks to the built-in GNSS receiver used.
- Automatic release device is activated underwater 4 meters.
- Self-protective device is used to avoid possible false alerts.
- Self-test function applicable.
- New night-vision infrared LEDs.
- Easily coding/reading user data with infrared communication technology.
- 406MHz transmission together with 121MHz homing & AIS transmitter.



SPECIFICATIONS

General	Model	NEB-2000
	Case Material	Special ABS+PC
	Color	High Visibility Orange
	Watertight	At a depth of 10m for at least 5 min
	Buoyant	Yes
	Deployment	Automatic hydrostatic release, or Manual switch control
	Accessories	Hydrostatic Release Unit Buoyant lanyard Lanyard for hand-free carry
Size	Beacon	116 (W)×710 (H)×100 (D) mm
	Container	220 (W)×415 (H)×144 (D) mm
Weight	Beacon	1.45 kg
	Container	1.6 kg
406 MHz Transmitter	Frequency	406.031 MHz±1kHz
	Output Power	5 W
AIS Transmitter	Frequency	AIS1 (161.975 MHz) AIS2 (162.025 MHz)
	Output Power	1 W
121.5 MHz Homer	Frequency	121.5 MHz
	Output Power	50 mW
GNSS Receiver	Type	Built-in GNSS antenna
	System Supported	GPS, BDS, Glonass, Galileo
Battery	Part Type	NBT400
	Storage Life	Up to 9 years (see Note)
	Operating Life	≥48 hrs (-20°C)
Hydrostatic Release Unit	Part Type	NHR-100
	Storage Life	Up to 3 years (max 2 years onboard)
Strobe light	Type	LED
	Color	White
	Flash Rate	20/min
Environment	Operating Temperature	-20°C ~ +55°C
	Storage Temperature	-40°C ~ +70°C

Note: It's from the date of manufacture. 9 years consist of 1 year of shelf time and 8 years of onboard time. 5-year health check is recommended.

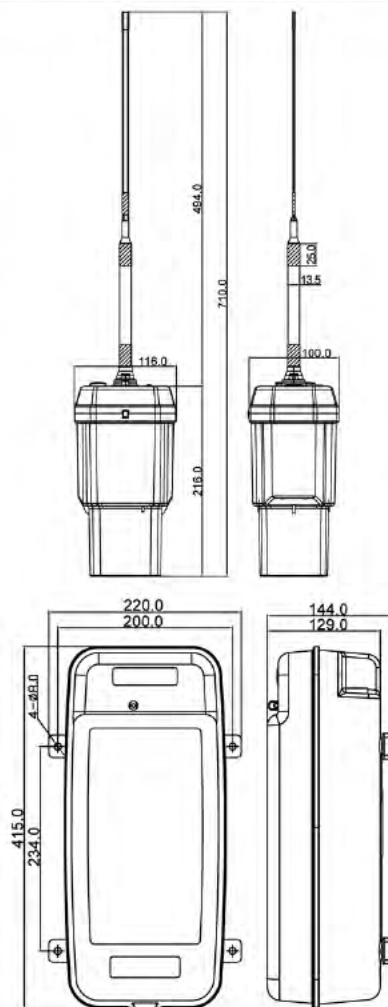
The replacement should be done according to the requirements of local authorities, if any.

EQUIPMENT LIST

● STANDARD

- EPIRB	NEB-2000	1 pc
- Container (including HRU)		1 pc
- Accessories		1 set

SIZE DIMENSION



NSR's new generation of AIS EPIRB:

- Meet the latest IMO regulation IMO MSC.471 (101)
- Built-in GNSS receiver and AIS transmitter
- Two options: Manual bracket or Float-free enclosure
- Creative design for easy operation
- Automatic power cut when test is completed
- Multiple protection to avoid false alert
- RLS (return link system) enabled



EPIRB with Manual Bracket



EPIRB with Float-Free Enclosure

- Designed to be used for alert search and rescue service at sea.
- Location accuracy within 10m, thanks to the built-in GNSS receiver used.
- Automatic release device is activated underwater 4 meters.
- Self-protective device is used to avoid possible false alerts.
- Self-test function applicable.
- Easily coding/reading user data with infrared communication technology.
- 406MHz transmission together with 121MHz homing & AIS transmitter.
- Special lanyard for hand-free carry
- New night-vision infrared LEDs.



SPECIFICATIONS

General	Model	NEB-3000
	Case Material	Special ABS+PC
	Color	High Visibility Orange
	Watertight	At a depth of 10m for at least 5 min
	Buoyant	Yes
	Deployment	Automatic hydrostatic release, or Manual switch control
	Accessories	Hydrostatic Release Unit Buoyant lanyard Lanyard for hand-free carry
Size	EPIRB	116.2 (W) × 491.0 (H) × 102.4(D) mm
	Container	220.0 (W) × 363.4 (H) × 140.8 (D) mm
	Manual Bracket	123.0 (W) × 133.3 (H) × 118.4 (D) mm
Weight	EPIRB	730 g
	Container	1.4 kg
	Manual Bracket	160 g
406 MHz Transmitter	Frequency	406.031 MHz ± 1kHz
	Output Power	5 W
AIS Transmitter	Frequency	AIS1 (161.975 MHz) AIS2 (162.025 MHz)
	Output Power	1 W EIRP
121.5 MHz Homer	Frequency	121.5 MHz
	Output Power	50 mW
GNSS Receiver	Type	Built-in GNSS antenna
	System Supported	GPS, BDS, Glonass, Galileo
Battery	Part Type	NBT400C
	Storage Time	Up to 10 years
	Operating Life	≥48 hrs (-20°C)
Strobe light	Type	LED
	Color	White
	Flash Rate	20/min
Environment	Operating Temperature	-20°C ~ +55°C
	Storage Temperature	-40°C ~ +70°C

Note: It's from the date of manufacture. 10 years consist of 1 year of shelf time and 9 years of onboard time. 5-year health check is recommended.

The replacement should be done according to the requirements of local authorities, if any.

EQUIPMENT LIST

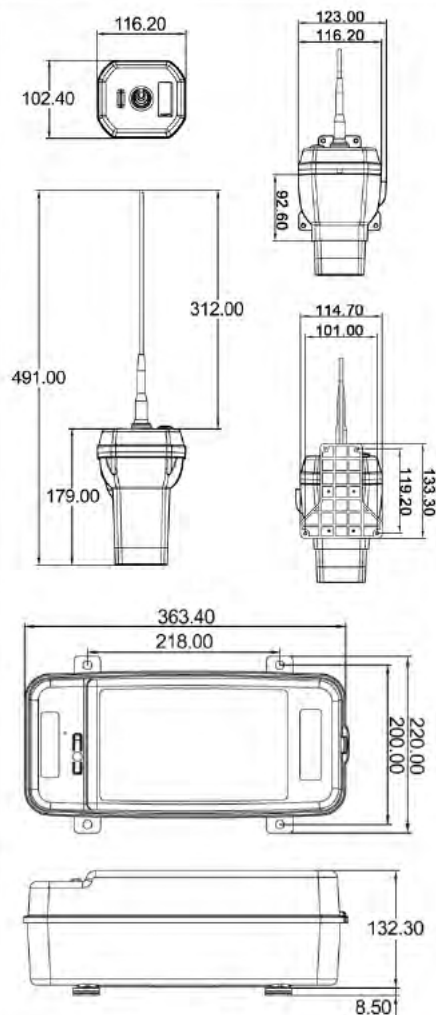
● STANDARD

- EPIRB	NEB-3000	1 pc
- Accessories		1 set

● OPTIONS

- Manual Bracket		1 pc
- Container (including HRU)		1 pc

SIZE DIMENSION



- High integration and low failure rate
- Type approval with DNV (MED) and CCS



- Designed to use for emergency purpose on the life raft.
- Compared to RADAR-SART, AIS-SART has advantages in some aspects, such as farther-reach transmission and less effect from sea conditions. With more and more vessels to be fitted with AIS, AIS-SART will become more effective and useful in SAR operations.
- Designed to transmit a serial of messages on two AIS channels periodically. With unique and special MMSI pre-configured, alerts from AIS-SART can be easily recognized and read, which is sent both in position report and safety message.
- Adopts low consumption design to ensure the product to continuously operate more than 96 hours.



SPECIFICATIONS

● TECHNICAL SPECIFICATIONS

- TX Channel: AIS 1, AIS 2
- FREQ Tolerance: ≤ 0.5 kHz
- Communication Range: ≥ 5 nm
- Operating Hours: ≥ 96 hours
- GNSS Fixing Time: ≤ 1 minute

● BATTERY REQUIREMENTS (NBT100)

- Operating hours: 96 hours (in activation mode)
- Storage Life: Max 5 years on board
(plus one year of shelf time)

● GNSS Receiver

- Type: Built-in GNSS antenna
- System Supported: GPS, Glonass, BDS

● SIZE & WEIGHT

- Size: 95 (D) $\times$ 377 (L) mm
- Weight: 900 g

● WORKING ENVIRONMENTS

- Operation Temp: $-20^{\circ}\text{C} \sim +55^{\circ}\text{C}$
- Storage Temp: $-40^{\circ}\text{C} \sim +70^{\circ}\text{C}$
- Floating Type: Floatable
- Watertight: At a depth of 10m for at least 5 min

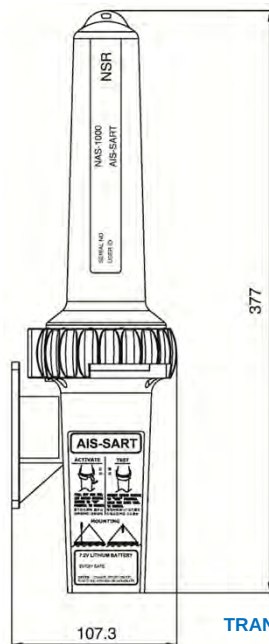
EQUIPMENT LIST

● STANDARD

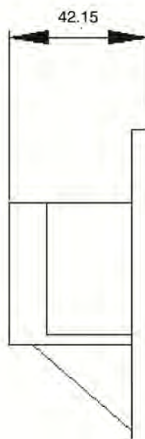
- Transponder NAS-1000 1 pc
- Mounting Bracket 1 pc
- Tele-Pole (1.5 m) 1 pc
- Accessories 1 set



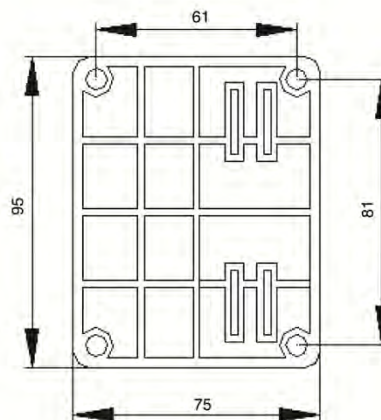
SIZE DIMENSION



TRANSPONDER



MOUNTING BRACKET



- High compatibility and stability
- Type approval with CCS



- Designed to use for emergency purpose on the life raft.
- Adopts low consumption design to ensure the product to continuously operate more than 96 hours.
- The Search and Rescue Radar Transponder (SART) is a 9 GHz receiver / transmitter that provides a position.
- The fundamental function of the SART is to indicate its position by producing range and bearing information on any 9 GHz radar screen of any nearby vessels and aircraft.
- When its RADAR receiver is triggered by an interrogating RADAR of 9 GHz band on a search and rescue ship or aircraft, the SART immediately transmits a coded response signal (a series of 12 dots).
- Conforms to the latest standards, including IMO A.802 (19), IMO MSC.510 (105) and IEC 61097-1.



SPECIFICATIONS

● TECHNICAL SPECIFICATIONS

- TX Frequency: 9.2~9.5 GHz
- Polarization: Horizontal
- Radiated Power: 400 mW E.I.R.P
- Receiver Sensitivity: Better than -50 dBm

● BATTERY REQUIREMENTS (NBT100)

- Storage Life: Max 5 years on board (plus one year of shelf time)
- Operating hours: ≥ 96 hours standby + 8 hours continuous transmission
(interrogated with a pulse repetition frequency of 1Hz)

● SIZE & WEIGHT

- Size: 95 (D) $\times$ 377 (L) mm
- Weight: 750 g

● WORKING ENVIRONMENTS

- Operating Temp: -20°C ~ +55°C
- Storage Temp: -40°C ~ +70°C
- Floating Type: Floatable
- Watertight: At a depth of 10m for at least 5 min

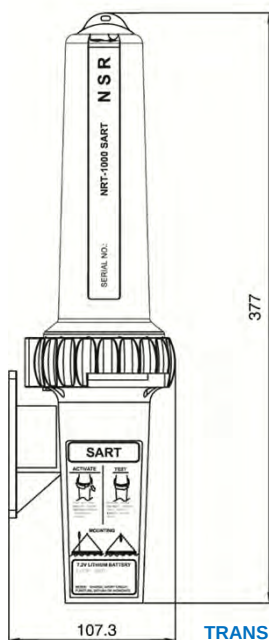
EQUIPMENT LIST

● STANDARD

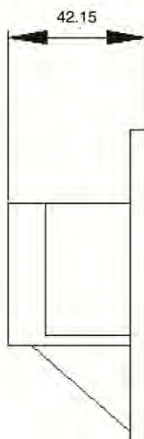
- | | | |
|---------------------|----------|-------|
| - Transponder | NRT-1000 | 1 pc |
| - Mounting Bracket | | 1 pc |
| - Tele-Pole (1.5 m) | | 1 pc |
| - Accessories | | 1 set |



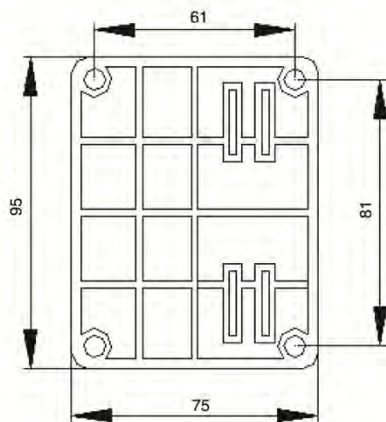
SIZE DIMENSION



TRANSPONDER



MOUNTING BRACKET



- Watertight design
- Either primary battery or secondary battery is available
- External MIC/Speaker can be attached
- Type approval with DNV (MED) and CCS



- Designed to meet GMDSS requirements related to performance standards for survival craft two-way VHF radio telephone apparatus, such as IMO MSC.515 (105), IEC 61097-12.
- Compact, lightweight and rugged construction.
- Full marine-use VHF channels can be available.



SPECIFICATIONS

● TECHNICAL SPECIFICATIONS

- Frequency Range: 156.025~157.425 MHz (TX)
156.050~162.000 MHz (RX)
- Operating Channels: 19 channels (default)
- Operating Hours: ≥ 8 hours (TX10%, RX10%, Standby80%)
- Output Power: High 3.0 W / Low 0.5 W

● BATTERY REQUIREMENTS (NBT200)

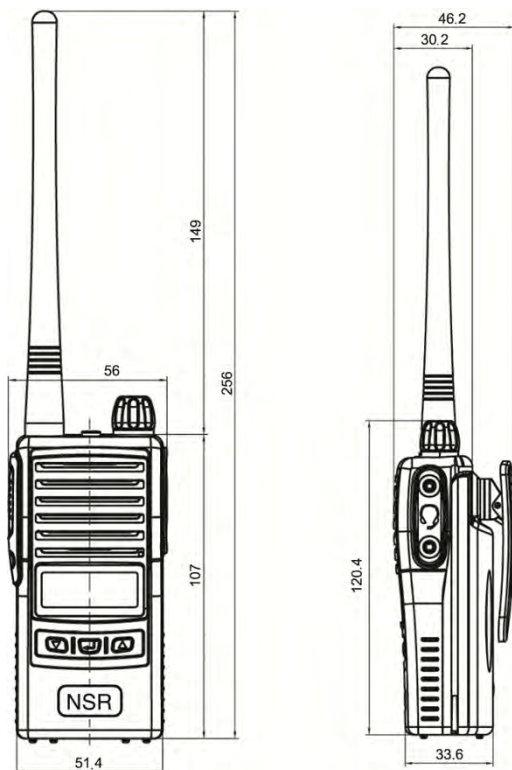
- Storage Life: Max 4 years on board
(plus one year of shelf time)

● STORAGE TEMP: -40°C~+70°C

● SIZE & WEIGHT

- Size: 256 (H) × 56 (W) × 46.2 (D) mm
- Weight: 200g (Transceiver + Antenna + Emergency Battery)

SIZE DIMENSION



EQUIPMENT LIST

● STANDARD

- Transceiver & Antenna	NTW-1000	1 set
- Emergency Battery	NBT200	1 pc
- Belt Clip		1 pc
- Wrist Rope		1 pc
- Rechargeable Battery	NBT200C	1 pc
- Battery Charger	NBT200CU	1 pc
- AC/DC Adaptor	NBT200CUA	1 pc



Battery
Emergency / Rechargeable



Wrist Rope



Belt Clip



Battery Charger



AC/DC Adaptor

NSR's new generation of two-way VHF radio:

- Watertight design
- Either primary battery or secondary battery is available
- 4-digit channels available
- External MIC/Speaker can be attached



- Designed to meet GMDSS requirements related to performance standards for survival craft two-way VHF radio telephone apparatus, such as IMO MSC.515 (105), IMO MSC.1/Circ.1460/Rev.5 and IEC 61097-12.
- Compact, lightweight and rugged construction.
- Full marine-use VHF channels can be available.



SPECIFICATIONS

● TECHNICAL SPECIFICATIONS

- Frequency Range: 156.000~161.450 MHz (TX)
156.000~163.425 MHz (RX)
- Operating Channels: 33 channels (default)
- Operating Hours: ≥ 8 hours (TX10%, RX10%, Standby80%)
- Output Power: High 3.0 W / Low 1.0 W

● BATTERY REQUIREMENTS

- Storage Life for NBT800: Max 4 years on board
(plus one year of shelf time)

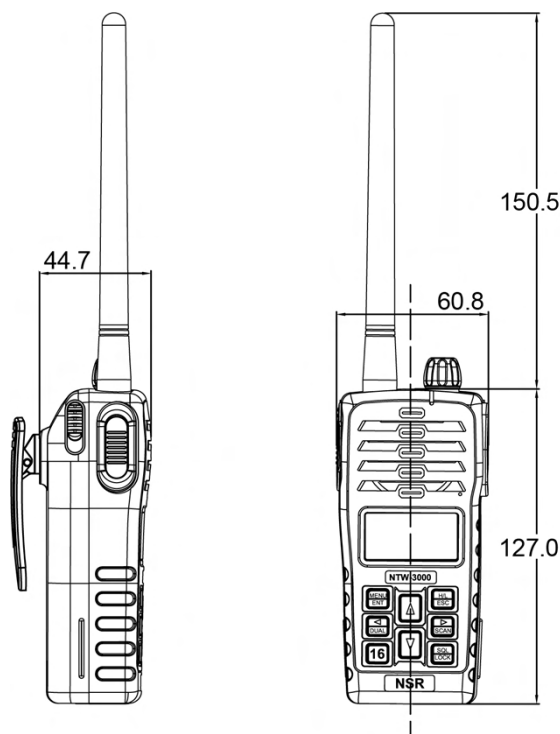
● STORAGE TEMP:

-40°C~+70°C

● SIZE & WEIGHT

- Size: 277.5 (H)×60.8 (W)×44.7 (D) mm
- Weight: 250g (Transceiver + Antenna + Emergency Battery)

SIZE DIMENSION



EQUIPMENT LIST

● STANDARD

- Transceiver & Antenna	NTW-3000	1 set
- Emergency Battery	NBT800	1 pc
- Belt Clip		1 pc
- Wrist Rope		1 pc
- Rechargeable Battery	NBT800C	1 pc
- Battery Charger	NBT800CU	1 pc
- AC/DC Adaptor	NBT200CUA	1 pc



Battery
Emergency / Rechargeable



Wrist Rope



Belt Clip



Battery Charger



AC/DC Adaptor

NSR's new Fire-fighter's portable radiotelephone:

- Meet IMO MSC.338 (91) and IMO MSC.1/Circ.1460/Rev.5 regulation
- Designed for onboard fire-fighter's communication
- 4-digit channels available
- Ex-proof certificated



According to IMO MSC.338 (91) & SOLAS Chapter II-2, regulation 10.10.5:

Fire-fighter's communication

A minimum of TWO two-way portable radiotelephone apparatus for each fire party for the fire-fighter's communication shall be carried on board. Those two-way portable radiotelephone apparatus shall be of an explosion-proof type or intrinsically safe.



SPECIFICATIONS

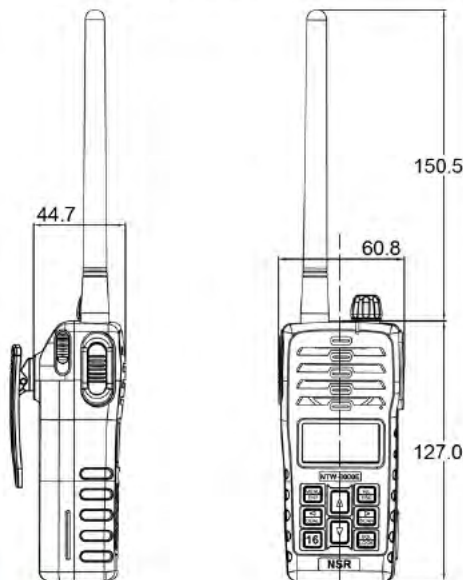
● FREQUENCY & CHANNEL

- Frequency Range: 156.000~161.450 MHz (TX)
156.000~163.425 MHz (RX)
- Channel Space: 25 kHz
- Usable Channels: 33 channels (default)

● TECHNICAL FEATURE

- Output Power: High 3.0 W / Low 1.0 W
- Communication Methods: Simplex
- Warming Up Time: Within 5 sec
- Squelch Control: ✓
- Dual Watch: ✓
- Key Locking: ✓
- Battery Save Mode: ✓
- Beep Establishment: ✓
- Location Indication: ✓
- Ex Code: Ex ib II B T3 Gb
- Operating Temperature: -20°C~+60°C
- Size: 277.5 (H)×60.8 (W)×44.7 (D) mm
- Weight: 300 g (Transceiver + Antenna + Battery)

SIZE DIMENSION



EQUIPMENT LIST

● STANDARD

- | | | |
|-----------------------------|-----------|-------|
| - Transceiver & Antenna | NTW-3000E | 1 set |
| - Rechargeable Battery Pack | NBT800CX | 1 pc |
| - Battery Charger | NBT800CU | 1 pc |
| - AC/DC Adaptor | NBT200CUA | 1 pc |
| - Belt Clip | | 1 pc |
| - Wrist Rope | | 1 pc |

● OPTIONS

- | | | |
|------------------------------------|---------|-------|
| - External PTT & Skull Mic/Headset | NHS-500 | 1 set |
|------------------------------------|---------|-------|



Rechargeable
Battery Pack



Belt Clip



Battery Charger



AC/DC Adaptor



Skull Mic/Headset



Wrist Rope



External PTT



NSR Fire-fighter's portable radiotelephone:

- Meet IMO MSC.338 (91) regulation
- Designed for onboard fire-fighter's communication
- Ex-proof certificated
- Type approval with CCS



According to IMO MSC.338 (91) & SOLAS Chapter II-2, regulation 10.10.4:

Fire-fighter's communication

A minimum of TWO two-way portable radiotelephone apparatus for each fire party for the fire-fighter's communication shall be carried on board. Those two-way portable radiotelephone apparatus shall be of an explosion-proof type or intrinsically safe.



SPECIFICATIONS

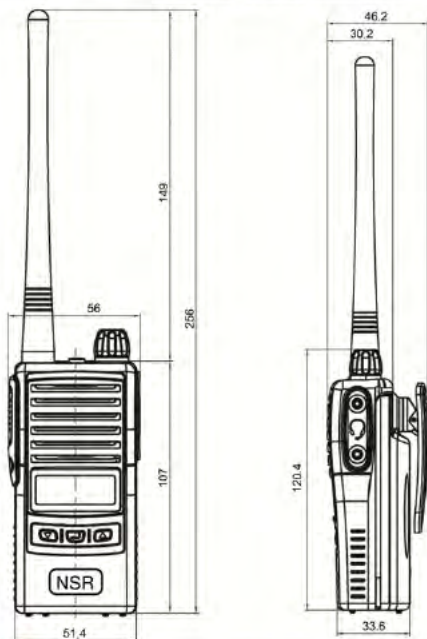
● FREQUENCY & CHANNEL

- Frequency Range: 156.025~157.425 MHz (TX)
156.050~162.000 MHz (RX)
- Channel Space: 25 kHz
- Usable Channels: 19 channels (default)

● TECHNICAL FEATURE

- Output Power: High 3.0 W / Low 0.5 W
- Communication Methods: Simplex
- Warming Up Time: Within 5 sec
- Squelch Control: ✓
- Dual Watch: ✓
- Key Locking: ✓
- Battery Save Mode: ✓
- Beep Establishment: ✓
- Location Indication: ✓
- Ex Code: Exib IIB T4 Gb
- Operating Temperature: -20°C~+60°C
- Size: 256 (H)×56 (W)×46.2 (D) mm
- Weight: 250 g (Transceiver + Antenna + Battery)

SIZE DIMENSION



EQUIPMENT LIST

● STANDARD

- | | | |
|-----------------------------|-----------|-------|
| - Transceiver & Antenna | ZXF-N2000 | 1 set |
| - Rechargeable Battery Pack | NBT200CX | 1 pc |
| - Battery Charger | NBT200CU | 1 pc |
| - AC/DC Adaptor | NBT200CUA | 1 pc |
| - Belt Clip | | 1 pc |
| - Wrist Rope | | 1 pc |

● OPTIONS

- | | | |
|------------------------------------|------------|-------|
| - External PTT & Skull Mic/Headset | ZXF-HM1000 | 1 set |
|------------------------------------|------------|-------|



Rechargeable
Battery Pack



Belt Clip



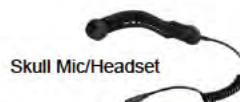
Battery Charger



AC/DC Adaptor



Wrist Rope



Skull Mic/Headset



External PTT



PORTABLE VHF TELEPHONE

Alpha 40s

- Marine professional walkie-talkie
- 4-digit channels available
- With high-capacity lithium battery
- Type approval with CCS



- Use for onboard communication on VHF channels.
- Includes all ITU channels, USA channels and Private channels, etc.
- Compact, lightweight and rugged construction.
- Watertight design for marine use.
- Conforms to the regulations of IMO MSC.1/Circ.1460/Rev.5 and IEC 60945, etc.



SPECIFICATIONS

● TECHNICAL SPECIFICATIONS

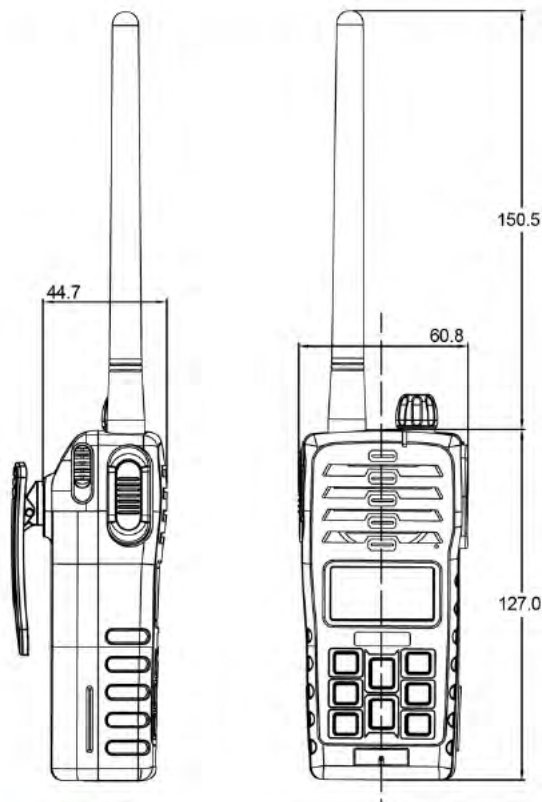
- Frequency Range: 156.000~161.450 MHz (TX)
156.000~163.425 MHz (RX)
- Operating Channels: ITU, USA, CAN channels
- Output Power: High 3 W / Low 1 W

● OPERATING TEMPERATURE: -20°C~+55°C

● SIZE & WEIGHT

- Size: 277.5 (H)×60.8 (W)×44.7 (D) mm
- Weight: 300g (Transceiver + Antenna + Battery)

SIZE DIMENSION



EQUIPMENT LIST

● STANDARD

- | | | |
|-----------------------------|-----------|-------|
| - Transceiver & Antenna | Alpha 40s | 1 set |
| - Rechargeable Battery Pack | NBT800CN | 1 pc |
| - Battery Charger | NBT800CU | 1 pc |
| - AC/DC Adaptor | NBT200CUA | 1 pc |
| - Belt Clip | | 1 pc |
| - Wrist Rope | | 1 pc |



Rechargeable Battery Pack



Wrist Rope



Belt Clip



Battery Charger



AC/DC Adaptor





● TECHNICAL SPECIFICATIONS

- Channel: AIS 1, AIS 2
- Frequency Error: ≤ 0.5 kHz
- Power: 1 W
- AIS Message Type: MSG 1 (MMSI, GNSS position, COG, SOG, UTC)
MSG 14 (MOB ACTIVE or MOB TEST)
- Range: 4 nm typical
- Operating Time: ≥ 48 hours
- Activation Method: Manual or water sensor automatic activation
- Positioning Accuracy: ≤ 5 m (built-in GNSS positioning)

● BATTERY REQUIREMENTS

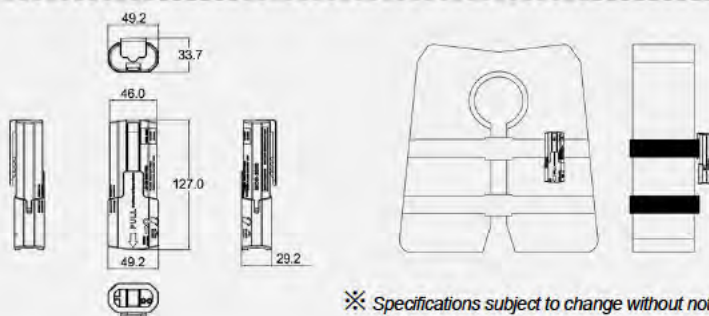
- Storage (Battery Life): max 6~8 years (see expiry date on body of product)

● SIZE & WEIGHT

- Size: 127 (H) $\times$ 49.2 (W) $\times$ 33.7 (D) mm
- Weight: 180 g

● ENVIRONMENTAL CONDITIONS

- Operating Temperature: $-20^{\circ}\text{C} \sim +55^{\circ}\text{C}$
- Storage Temperature: $-30^{\circ}\text{C} \sim +70^{\circ}\text{C}$
- Watertight: At a depth of 10m for at least 5 min



- Designed to locate the overboard crew and help for the rescue operation.
- Adopts Automatic Identification System (AIS) technology to transmit the position reports on VHF band continuously. The transmission can be quickly received by the AIS device installed on the mother ship and surrounding ships or approaching helicopter.
- The GNSS in the device makes the accuracy of the position within 5m, which can facilitate locating the target in the sea easily.
- Two operation modes, manual activation and automatic activation by water sensor.
- Test mode is available for daily test with a test pin.
- Can operate continuously for at least 48 hours.
- Can be fixed on the life jacket.
- Conforms to the latest standards, including IEC 61097-14, IEC 60945, ITU-R M.1371-5, IEC 61108-1.



GMDSS TESTER

NGT-200



● **SCOPE OF TESTING:**

- VHF transceiver, VHF DSC
- AIS Class A, AIS Class B, AIS-SART, AIS AtoN, AIS Base station, AIS MOB.
- EPIRB with AIS, EPIRB, PLB
- MF/HF Transceiver, MF/HF DSC
- NAVTEX Receiver

● **STANDARD SET:**

Tester, Antenna, VHF VSWR Sensor (60W), Power Adaptor, NMEA Cable, RF Cables, USB Cable, S/W, Bag, Manual, Calibration Certificate (2 years).

AIS TESTER

NAT-200



● **SCOPE OF TESTING:**

- AIS Class A, AIS Class B
- AIS-SART
- AIS MOB
- AIS AtoN
- AIS Base station
- VHF DSC

● **STANDARD SET:**

Tester, Antenna, Attenuator, USB Cable, RF Cables, RF Adaptor, NMEA Cable, S/W, Bag, Manual, Calibration Certificate (2 years).

SART TESTER

NST-200



● **SCOPE OF TESTING:**

- RADAR SART
- Frequencies to be covered: 9140~9560 MHz

● **STANDARD SET:**

Tester, USB Cable for PC, S/W, Bag, Manual, Calibration Certificate (2 years).



NSR
marine

GMDSS Tester

TEST RESULTS

DOWNLOAD DATA

PROFILE

GMDSS Test Equipment
Testers for Marine Radios, EPIRBs, SARTs and AIS

Eng... ▾

Test Results
Database of all saved measurements during radio surveys

☐ ID / PID Survey Date Equipment Channels ID / MMSI

Filter by MMSI

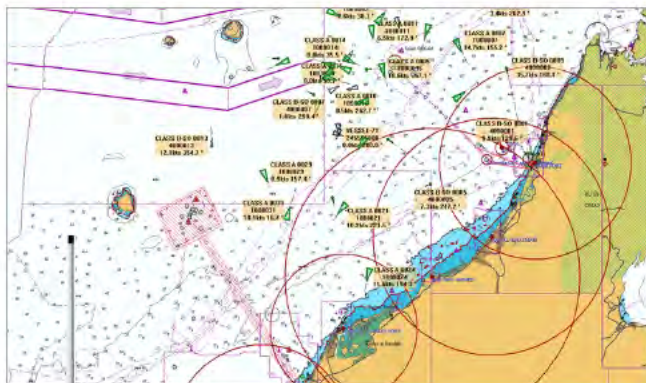
Items per page: 15
0 of 0

ONE software for all three types of testers

AIS AtoN SERIES (Type I)

NAN-1000/2000/4000/5000

- Dual functions: Real and Virtual AtoN
- Each transmits for up to 50 virtual AtoN
- TX power up to 12.5W, wide coverage
- Very low power consumption
- Compact design, maintenance-free



NAN-1000



NAN-2000



NAN-4000



NAN-5000

Model No.	Shape	Output Power	GPS Antenna	VHF Antenna	Power Supply
NAN-1000	Radome Type	12.5 W	Inside	Inside	12~18 V
NAN-2000	UFO Type	12.5 W	Inside	Separate	12~18 V
NAN-4000	Pole Type	2.0 W	Inside	Outside	12~18 V
NAN-5000	Box Type	12.5 W	Separate	Separate	12~18 V



FEATURES

- AIS AtoN station is used for light monitoring from AtoN administration.
AIS AtoN station's transmission can be received by shipborne AIS to learn the position & status of the AtoN.
- As Type I defined by IALA, NAN-X000 is specially designed to be used for buoys, which carry limited batteries to supply any additional electronic equipment.
- NAN-X000 can be used for below applications:
 - AtoN in River or at Sea
 - Offshore and oil platform
 - Oceanic buoys
 - Electronic fence in water
 - Offshore wind farm
 - Electronic passage by bridge
- NAN-X000 is designed to transmit messages both for real and virtual AIS AtoN. For example, NAN-X000 can be used by the harbor authority to establish a virtual AIS AtoN channel. When shipborne AIS receives those transmissions, a series of AtoN symbols will be displayed on the electronic chart.
- NAN-X000 conforms to the international standards such as IALA A-126, IEC 62320-2, ITU-R M.1371-5 and IEC 60945.

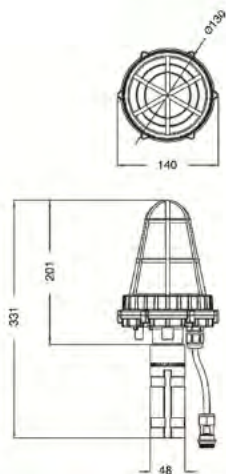
SPECIFICATIONS

- | | |
|--------------------------|---|
| ● TX Frequencies: | AIS 1, AIS 2 |
| ● Communication Mode: | FATDMA, RATDMA |
| ● Message Type: | MSG 6, MSG 21 (default) |
| ● TX Interval: | 3~60 minutes (to be configured) |
| ● TX Power: | 12.5 W (NAN-1000/2000/5000)
2 W (NAN-4000) |
| ● Power Consumption: | ≤40 mA (12V) |
| ● Interface: | RS232, NMEA 0183 |
| ● Operating Temperature: | -15°C~+55°C |
| ● Power Supply: | Nominal DC 12V (range 12~18V) |
| ● IP grade: | IP 66 |

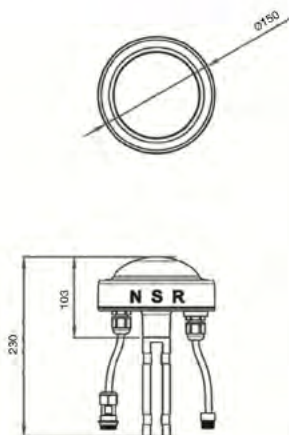


SIZE DIMENSION

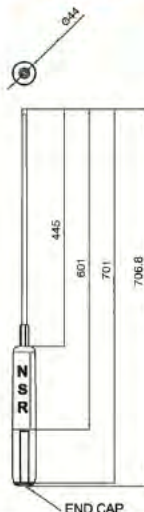
NAN-1000



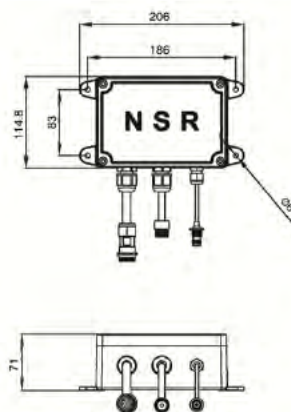
NAN-2000



NAN-4000



NAN-5000



- Meet the ITU standards
- Professional AIS receiver
- Built-in isolated PSU with wide-range input
- High sensitivity and high reliability



AIS RECEIVER

- NAR-1000 AIS receiver is designed for both sailing vessels and land users.
- NAR-1000 contains two TDMA receivers. NAR-1000 can receive signals transmitted by other AIS transponders, including shipborne Class A AIS, Class B AIS, AIS AtoN station and AIS base station. NAR-1000 conforms to the international standards, such as ITU-R M.1371-5.



SPECIFICATIONS

- Frequency Range: 156.025 ~ 162.025 MHz
- Default Channels: AIS 1, AIS 2
- Bandwidth: 25 kHz
- Sensitivity: Better than -110 dBm
- Data Ports: RS232×1, RS422×1
- Data Format/Baud Rate: NMEA 0183, 38400 bps
- Ant Connectors: 50 Ω, TNC (GNSS Ant), BNC (VHF Ant)
- Power Supply: DC 24 V (ground isolated) (12 V ~ 38 V)
- Size: 81 (H)×174 (W)×160 (D) mm
- Weight: 1.4 kg (Receiver)
- IP Grade: IP22 (Receiver, Plotter), IP66 (Antenna)

EQUIPMENT LIST

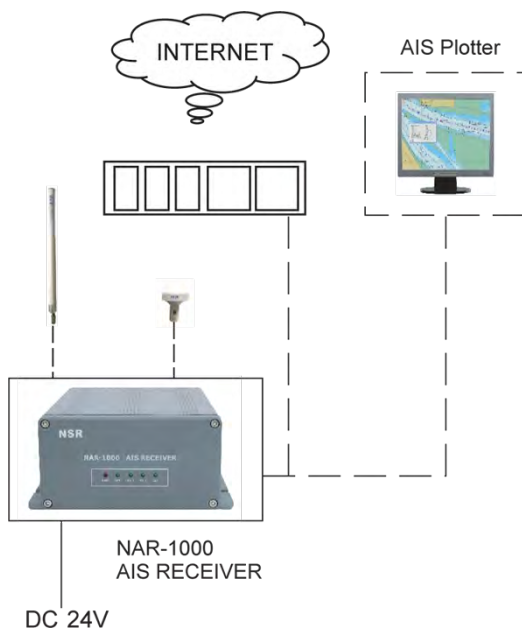
● STANDARD

- | | | |
|----------------|----------|-------|
| - AIS Receiver | NAR-1000 | 1 pc |
| - Accessories | | 1 set |

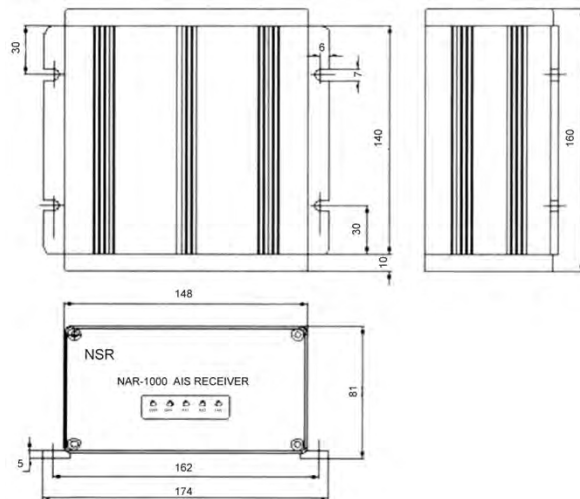
● OPTIONS

- | | | |
|-----------------------------|--------|------|
| - AIS Plotter | | 1 pc |
| - GNSS Antenna (with cable) | NGA100 | 1 pc |
| - VHF Antenna (with cable) | NVA100 | 1 pc |
| - AC/DC Adaptor | | 1 pc |
| - TCP/IP Converter | | 1 pc |

SYSTEM DIAGRAM



SIZE DIMENSION



MARINE HANDSET

NHS-200

NHS-200 marine handset can be used for VHF and MF/HF radio equipment, and easy to connect and compatible.



- Power Supply: DC 15 V
- MIC Impedance: 600 Ω
- MIC Sensitivity: -36 dBm
- SPK Impedance: 150 Ω



THERMAL PRINTER

NPT-100

NPT-100 thermal printer adopts Seiko printer head with the features of high speed, high reliability, low noise, compact size and easy operation. NPT-100 can be used for NAVTEX receiver, Inmarsat-C and other marine electronic devices.



- Printing Method: Thermal dot line printing
- Printing Width: 80 mm, 640 dot / Dot per line
- Resolution: 8 dots /mm
- Printing Speed: High or low speed
- Printing Head Life: 100 million pulse or more (at 25°C and rated energy)
- Character Matrix : ASCII character: 16 dot wide×24 dot high, 2.00 (W)×3.00 (H) mm
- Interface: One serial RS232 port and one parallel port
- AC/DC Adaptor: Input: AC 100V~240V, 50/60 Hz, Output: DC 8V±5%
- NPS-120 DC/DC Converter (optional): Input: DC 24V, Output: DC 8V
- Environmental Conditions: Operating 0°C~40°C, Storage -20°C~60°C
- Size: 66 (H)×180 (W)×210 (D) mm
- Weight: 0.5 kg

※ Specifications subject to change without notice

RADAR REFLECTOR

NRR-100

NRR-100 radar reflector is mounted on life raft to enhance reflection from radar radiation. Made from a high density polymer, the outer inflated balloon contains a radar reflective metallic mesh assembly. NRR-100 conforms to the latest international standards, such as IMO MSC.164 (78) and ISO 8729-1:2010.



◆ HOW TO USE

- Inflate with your mouth or by a pump.
- Tie on the top of the life raft with the cord attached (see left).
- Keep away from transmitting SART or AIS-SART, when applicable.
- Mount at any orientation.
- Tie the ball as high as possible to avoid any possible shadow sectors.

◆ SPECIFICATIONS

- Diameter (inflated): 460 mm
- Weight: 200 g
- SPL (RCS): $\geq 7.5\text{m}^2$ (X band)
- Max Storage Time: 5 years

Type approval with CCS



COMPASS FLUXGATE

NFG100

NFG100 Compass Fluxgate sensors the onboard magnetic compass to transmit the heading signal in NMEA sentences. The heading signal can be used for ECDIS, AIS and Radar.



- Power Supply: DC 24 V
- Error: $\leq 1^\circ$
- Interface: RS485/RS422
- Data: 4800bps, NMEA 0183 \$HDT, \$HDM
- Size: $\Phi 53 \times 22$ (D) mm
- Weight: 0.4 kg (including cable)

GNSS ANTENNA

NGA100



- Part No.: NGA100-10, NGA100-20, NGA100-30
- Receiving Frequency: 1575 MHz $\pm$ 5 MHz
- Polarization: Circular
- Antenna Gain: ≥ 3.5 dBi
- Noise Figure: ≤ 1.5 dB
- Power Supply: DC 3 V/5 V
- Max. Diameter: $\Phi 96$ mm
- Length: 126 mm
- Cable: RG58 10 m, 20 m, 30 m
- Connector: TNC or BNC
- Operating Temperature: $-40^{\circ}\text{C} \sim +55^{\circ}\text{C}$
- IP Grade: IP66

VHF ANTENNA

NVA100



- Frequency Range: 155MHz~163MHz
- Polarization: Vertical
- Gain: 3.5dBi
- VSWR: 1.2
- Impedance: 50 Ω
- Length: 1.38 m
- Connector: PL259
- Rod Antenna: Fiberglass Epoxy
- Wind Resistance: 60m/s
- Max TX Power: 100W
- Operating Temperature: $-40^{\circ}\text{C} \sim +55^{\circ}\text{C}$
- IP Grade: IP66

NAVTEX ANTENNA

NXA200

NXA200 Antenna can be used for NAVTEX receivers of most brands.



- RX Frequency: 518 kHz, 490 kHz, 4209 kHz
- Bandwidth: 504 kHz $\pm$ 20 kHz, 4209.5 kHz $\pm$ 100 kHz
- Radiation Pattern: Omni-directional
- Polarization: Vertical
- Impedance: 50 Ω / TNC
- Cable Length: 20 m RG58
- Input Voltage: 7~9 V
- Temperature Range: $-40^{\circ}\text{C} \sim +55^{\circ}\text{C}$
- Size: $\Phi 150 \times 230$ (H) mm
- Weight: 1.3 kg (including cable)
- IP Grade: IP66

※ Specifications subject to change without notice

AIS PILOT PLUG

NPP100



NPP100 AIS Pilot Plug is an IMO Standard AIS Pilot Plug used for AIS.

- Interface: RS422
- Size: 95 (H) × 78 (W) × 50 (D) mm
- Weight: 0.1 kg

AIS PILOT PLUG CABLE

NPP100C



NPP100C AIS Pilot Plug Cable provides a simple and easy way to connect AIS Pilot Plug to your computer, laptop, or pocket PC, work with Marine Navigation Software to show your own ship and the surrounding ship's information.

- IMO Standard AIS Pilot Plug interfaces for mariners.
- Standard USB 2.0 (1.0 compliant).
- Cable length: 1.5 m.
- High-quality shield high speed cable.

TEST KIT FOR AIS PILOT PLUG

NPP100T



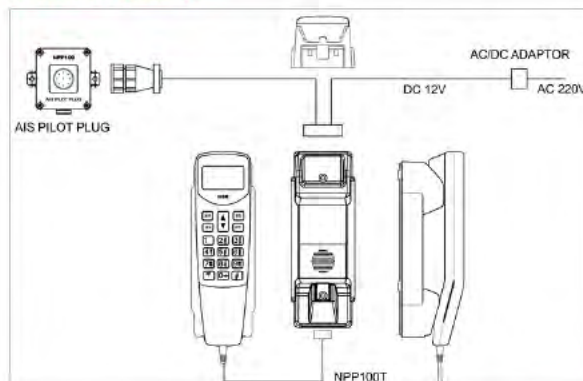
◆ HOW TO USE

- A good self-test tool for crews before the pilot on board.
- Can be used as a tool to check the plug when needed.
- Can be connected to the plug permanently for real-time monitoring.

◆ WHAT TO CHECK

- Monitor or check the pilot plug.
- Check AIS static data on the plug.
- Check AIS dynamic data on the plug.
- Check AIS target list on the plug.

◆ HOW TO CONNECT



NMEA DISTRIBUTOR

NND-100



NND-100 NMEA Distributor converts 1 channel NMEA to 4 channels.

- Power Supply: DC 9 V~24 V
- Rated Current: Max 150 mA@9 V
- Input: NMEA 0183, RS422, 1 port
- Output: NMEA 0183, RS422, 4ports

NMEA DISTRIBUTOR

NND-200

NND-200 is a NMEA distributor/buffer to provide 8 NMEA outputs from 4 inputs.

The baud rate can be up to 38400bps from 4800bps, while the default rate is set as 4800bps.

With a built-in optical-coupled isolator, the distributor is a reliable and professional device, which can be used on board. The external equipment connected to the distributor can be safely protected from lightning surges on line.

NND-200 contains two NMEA buffers:

Buffer 1: 2 inputs/4 outputs. When used for GNSS buffer, all 4 NMEA outputs will keep on unless both GNSS inputs fail simultaneously. When both Input 1 and Input 2 are valid, only Input 1 will be selected as default.

Buffer 2: 2 inputs/4 outputs. Same as Buffer 1.

Buffer 1 and Buffer 2 can be combined into a new buffer with 4 inputs/8 outputs.



- Type of Interface: RS485/RS422
- Standards: Conforms to IEC 61162-1, IEC 61162-2, NMEA 0183 Standards
- Number of Inputs: 4
- Number of Outputs: 8
- Operation Mode: Semi-duplex
- Power Supply: DC 24 V, 300 mA
- LED Indicators: NMEA inputs, NMEA outputs
- Baud Rate: 4800 bps~38400 bps (default 4800 bps)
- Cable Length: 0~5 m
- Size: 35 (H) × 255 (W) × 175 (D) mm
- Operating Environment: - 40°C~85°C, relative humidity 5% to 95%

※ Specifications subject to change without notice

COMPANY PROFILE

New Sunrise Co., Ltd. (NSR) is a leading manufacturer of marine radio communication and navigation equipment.

Established in 2008, NSR has grown into one of the main players on the marine electronic market.

NSR is located in Suzhou, one of the key electronic industry centres in China, or even the world. Most suppliers in the same city make NSR's production more effective.

NSR owns a large production and test building, about 10,000 square meters in size. Every year, about 30,000 pcs of various equipment are produced and sold to all over the world.

NSR main products include GMDSS, AIS, GNSS, and VDR/SVDR equipment. Most NSR products have been approved by DNV, CCS.....

With innovative design, high quality and good price, NSR branding products enjoy a high reputation in Chinese and overseas markets.

NSR always provides the best service to our customers via authorized service stations around main ports in Asia, Europe, Africa, North & South America.....





Marine Radio Communication and Navigation Manufacturer



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WECHAT



WEB SITE

