

JRC JHS-180

CLASS A AUTOMATIC IDENTIFICATION SYSTEM (AIS)

Technical Description

The JRC JHS-180 is a Class A shipborne Universal Automatic Identification System (AIS) designed for commercial and SOLAS vessels. It automatically transmits the vessel's identity, position and navigational information over VHF AIS channels and receives information from other AIS-equipped vessels and shore stations. The system is intended to enhance safety of navigation, situational awareness, vessel detection and ship-to-ship/ship-to-shore information exchange.

The JHS-180 mainly comprises the NTE-180 AIS Transponder and NCM-722 AIS Controller. The system provides dual AIS receivers, a DSC receiver, AIS messaging, guard-zone and lost-target alarms, and interfaces for navigation sensors and external bridge equipment.

Manufacturer / Model

Manufacturer	JRC – Japan Radio Co., Ltd.
Model	JHS-180
Equipment	Class A Universal AIS
AIS Transponder	NTE-180
AIS Controller	NCM-722
Junction Box	NQD-4190
Connection Box	NQE-3111
Optional Power Supply	NBD-577A
Applicable Standards	IMO MSC.74(69) Annex 3; ITU-R M.1371; IEC 61993-2; IEC 60945

Technical Specifications

Parameter	Specification
Frequency range	156.025 – 162.025 MHz
Default AIS channels	AIS 1: 161.975 MHz; AIS 2: 162.025 MHz
Channel spacing	25 kHz / 12.5 kHz
Frequency accuracy	Within $\pm 3 \times 10^{-6}$
Emission	G1D (F1D), G2B (F2B)
Modulation	GMSK, FSK
Transmit output power	12.5 W / 2 W
AIS receivers	2
DSC receiver	1; CH70, 156.525 MHz
Display	5-inch STN LCD, 160 × 128 dots
Keyboard	23 keys
Backlight / dimmer	LCD and keyboard; Bright / Medium / Off
Operating temperature – NTE-180	–25°C to +55°C
Operating temperature – NCM-722	–15°C to +55°C
DC power	24 VDC, –10% to +30%
DC consumption	5 A max. during transmission; 2 A max. during reception
AC power (optional NBD-577A)	100 / 220 VAC, $\pm 10\%$, 50/60 Hz
AC consumption	200 VA maximum

Interfaces & Functions

External Interfaces

Interface	Function
Sensor inputs	Three IEC 61162-1/2 sensor input ports
Gyro interface	NSK gyro communication port; current-loop interface
External display	Two IEC 61162-2 communication ports
Long-range communication	IEC 61162-2 interface
GNSS differential correction	ITU-R M.823-2 compatible input
External alarms	Two relay terminals
Maintenance	Online maintenance output
Optional network	NMEA 2000 / IEC 61162-3 prepared for future use

Key Functions

- Automatic transmission and reception of AIS navigation information.
- Ship identification and own-vessel data management.
- Display of other AIS targets and detailed target information.
- Guard-zone alert for vessels entering a preset area.
- Lost-target alarm and AIS alarm monitoring.
- Transmission and reception of AIS text messages.
- Integration with GPS/GNSS, gyrocompass, speed log, ROT, radar and ECDIS.

Typical AIS Data

The system supports navigation data including position, position accuracy, time, SOG, COG, heading and rate of turn, together with AIS-specific data and long-range communication functions through the appropriate IEC/ITU interfaces.

System Components

Component	Model / Part	Quantity
AIS Transponder	NTE-180	1
AIS Controller	NCM-722	1
Junction Box	NQD-4190	1
Connection Box	NQE-3111	1
Power Supply Unit (optional)	NBD-577A	1
NSK Unit (optional)	NCT-27A	1

Catalogue Summary

JRC JHS-180 Class A AIS Transponder

A professional shipborne Class A AIS system for automatic exchange of vessel identification, position and navigation information via the maritime VHF band. The JHS-180 combines the NTE-180 AIS transponder with the NCM-722 controller and provides dual AIS receivers, DSC reception, target monitoring, alarms, messaging and multiple navigation-system interfaces. Its design supports integration with the vessel's GNSS, gyrocompass, speed log, ROT, radar and ECDIS systems.

Recommended Catalogue Classification

Category	Navigation / Communication Equipment
Equipment	Automatic Identification System (AIS)
Class	Class A
Application	SOLAS / commercial vessel bridge
Primary transponder	NTE-180
Controller	NCM-722
AIS band	156.025 – 162.025 MHz
Supply	24 VDC; optional 100/220 VAC via NBD-577A
Display	5-inch STN LCD, 160 × 128 dots
Principal functions	AIS transmission/reception, target display, alarms, messaging, sensor/bridge integration

Source note: Specifications compiled from JRC JHS-180 instruction/installation documentation available online. Values should be checked against the vessel's installed configuration and the applicable JRC manual before procurement or service work.

Prepared as a technical catalogue / equipment datasheet.