

3. Spoofing/Jamming Detection Function

When spoofing or jamming is detected, the user can be notified by a pop-up window, icon, or buzzer.
A license is required to access this function.
To obtain a license, please contact us or your distributor.

3.1. Operation when Spoofing/Jamming Is Detected

(1) Operation when spoofing is detected
When spoofing is detected, the user is notified by a pop-up window, icon*1, or buzzer.
The sensor will attempt to calculate the positioning and heading using only the remaining correct satellites, excluding the spoofed satellites. If the number of remaining correct satellites is sufficient, the sensor outputs a correct position/heading, but if the number of satellites is insufficient, the sensor outputs a Non position fixing/Heading missing measurement. This prevents output of the wrong position/heading.

(2) Operation when jamming is detected
When jamming is detected, the user is notified by a pop-up window, icon, or buzzer.
When subjected to jamming, signals can no longer be received from satellites, and so the result is a Non position fixing/Heading missing measurement. However, if the jamming has little effect (reception can be continued), positioning and heading can be output.

*1: Even if spoofing is not detected, a notification icon will appear when spoofing is suspected or while spoofing is being determined.

3.2. License

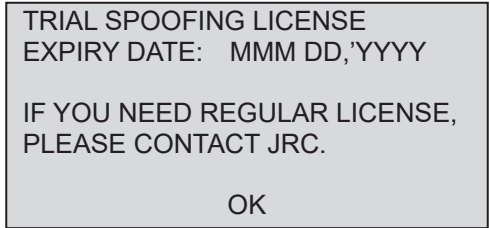
A license is required to access this function.
There are two types of licenses: a free trial version and a paid regular version.

When the license is activated, a  icon appears on the display unit.

A regular version license allows you to use the spoofing/jamming detection feature indefinitely.

About the Trial License
Trial licenses have an expiration date and cannot be used after the expiration date.

One month prior to the expiration date, a pop-up window will appear at power-on to notify you of the expiration date.

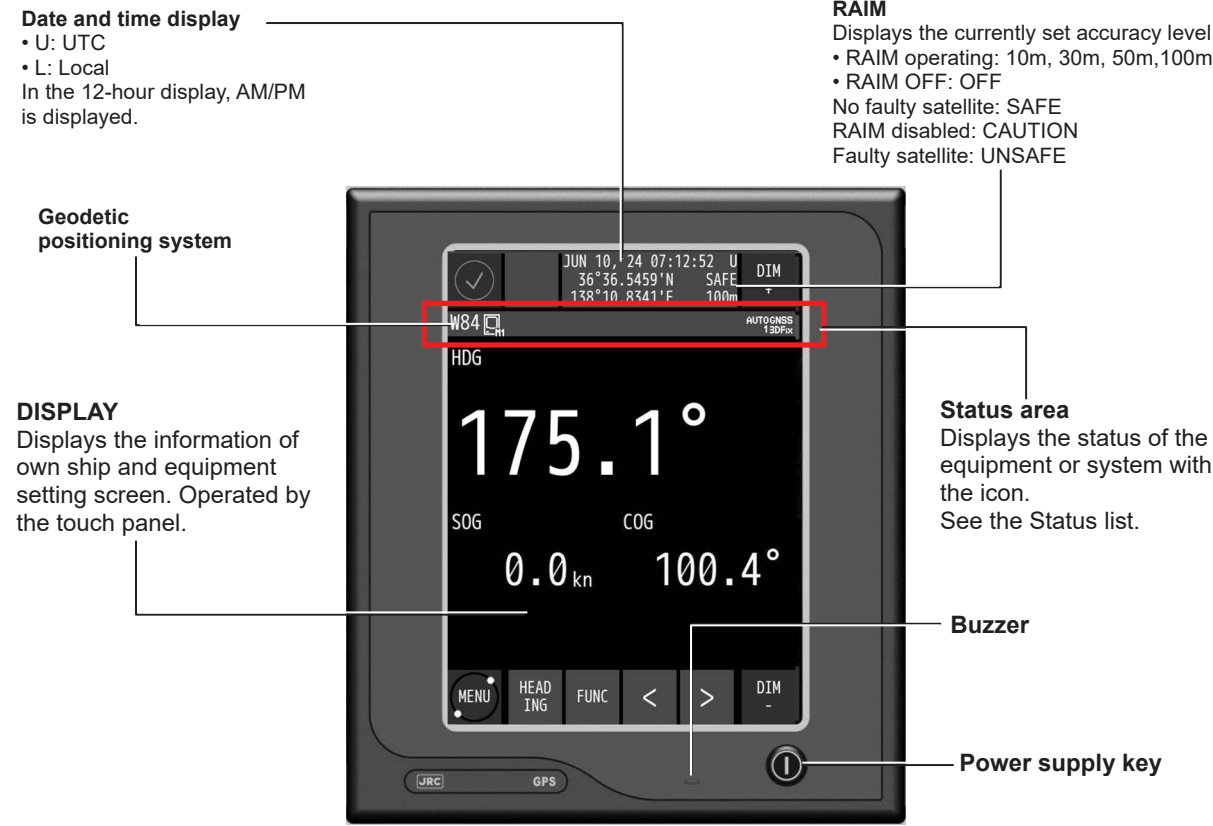










Tap OK to close the pop-up window.

To check the license expiration date during regular usage, see "4.16. Displaying the version/rollover date" and check the expiration date shown on the VERSION display screen.

JLR-41 GNSS Compass simple Instruction manual

1. DISPLAY



Key	Name	Function
	Alert	Displays the icon when an alert is issued. The icon changes according to the alert state.
	DIM UP	Increases the brightness.
	DIM DOWN	Reduces the brightness.
	Menu	Displays a menu. Displays a freeze indicator.
	Screen	Switches a main screen. Select from a main screen list.
	Function	Displays the operation menu on the main screen.
	Screen switch	Switches to a sub screen.
	Screen switch	Switches to a sub screen.

Status list

No	Icon	Description
1		Display unit number M: Main display unit R: Remote display unit
2		Received beacon information. Displayed when beacon information is received.
3		Magnetic correction Displayed when magnetic correction is set.
4		License for Spoofing/Jamming available. (License required)
		Spoofing/jamming detection (License required) SPF...: Spoofing determination in progress. SPF!: Spoofing alert. Spoofing radio waves may be emitted. SPOO: Spoofing detected. FING JAM: Jamming detected in L1 (GPS/QZSS/Galileo) L1 JAM: Jamming detected in GLONASS GLO JAM: Jamming detected in BDS BDS JAM: Jamming detected in GNSS GNSS
5		Heading calculation state 1 4: Calculating the heading with 4 satellites or less DR: DR in progress
6		Installation mode Displayed in the installation setting mode.
7		Heading calculation state 2 Displays the heading calculation status in six levels. It disappears when the calculation is finished.
		Displayed when calculating the heading with two antennas.
8		Demo mode Displayed in demo mode.
9		DGPS switched. Indicates that the mode has just changed from GPS to DGPS. This icon is cleared automatically five minutes after the switch.
10		HDOP alert Displayed when the value exceeded the setting value.
11		Display Sensor EXT1 : No1 Sensor EXT2 : No2 Sensor
12		Positioning system Indicates the currently used positioning system. The positioning system that is set but cannot be used is displayed in yellow. AUTO1: Select the most appropriate positioning system, including QZSS. AUTO2: Select the most appropriate positioning system, excluding QZSS. GPS/GP: GPS QZSS/QZ: QZSS GLO: GLONASS GAL: Galileo BDS: BeiDou
13		Position fixing status GNSS: GNSS position fixing GPS: GPS position fixing DGPS: Beacon DGPS position fixing SBAS: SBAS position fixing 2D: 2 dimensional position fixing 3D: 3 dimensional position fixing No Fix: Non position fixing

2. Basic Operation

2.1. Turning on the power of the unit

When the power of the equipment is turned on by pressing the Power key, the startup screen appears.

If the power for the equipment is not turned on, check the main power supply of the power board, power cable connection to the processor, or cable connection to the display unit.

2.2. Turning off the power of the unit

When the Power key is pressed, the following message is displayed. When “YES” is selected, the power is turned off.

POWER OFF
ARE YOU SURE

Memo

- Even if the message is displayed, the power of the display is turned off forcibly if the Power key is held down for about 8 seconds.
- When the display unit is energised even if the power is Off, the LED of the Power key is lit.

2.3. Alert and acknowledgment (ACK)

1. Notifying the occurrence of an alert

When an alert occurs, an alert icon is displayed at the top left corner of the screen and the occurrence of an alert is notified by a buzzer sound. The alert target value is displayed with blinking.

Icon list

Icon	Priority	Status	Icon	Priority	Status
	Alarm	Active – Unacknowledged		Warning	Active – Unacknowledged
		Active – Silenced			Active – Silenced
		Active – Acknowledged			Active – Acknowledged
		Rectified – Unacknowledged			Rectified – Unacknowledged
		Responsibility transferred			Responsibility transferred
	Caution	Active			

When any icon is tapped, an alert list is displayed.

2. Alert acknowledgment (ACK)

- 1) Tap the alert detail bar at the center of the screen.
- 2) The alert icon changes to the acknowledged state and the buzzer sound stops.
When a NOFIX alert occurs, the alert target value that is displayed is lit in red.

