

**Note:**

1. The product must be connected to a correctly terminated backbone. You cannot connect your product directly to a MFD.
2. Refer to the instructions supplied with your SeaTalkng® / NMEA 2000 device for details on creating a backbone.

## 9.4 NMEA 0183 connection

The AIS700 can transmit and receive NMEA 0183 data, using the NMEA 0183 wires located on the power / data cable.

The AIS unit includes 2 bidirectional NMEA 0183 connections, configured as input/output pairs. One input/output pair is configured for high-speed NMEA 0183 connections (38,400 Baud), and is identified using the “NMEA HI” labels on the power cable wires. The second input/output pair is configured for low-speed NMEA 0183 connections (4,800 Baud), and is identified using the “NMEA LO” labels on the power cable wires.

**Note:**

It is possible to configure the baud rate for each NMEA 0183 port in the ProAIS software. However, this feature is intended **for diagnostic and troubleshooting purposes only**. The ProAIS2 software can be downloaded from the Raymarine website: [www.raymarine.com/software](http://www.raymarine.com/software)

**Important:**

The AIS unit has its own GNSS (GPS) receiver. This GPS data can be multiplexed with the AIS data and output on the high speed (38,400) NMEA 0183 output. However, this feature is intended **for diagnostic and troubleshooting purposes only**. To prevent potential GPS data conflicts or loops and / or performance issues, **the AIS unit's internal GPS receiver is intended to provide GPS data to the AIS unit only**. Therefore, the AIS unit's GNSS (GPS) receiver should NOT be used to provide GNSS (GPS) data to multifunction displays or any other external device.

Typically, the AIS unit's high speed (HI) (38,400 Baud) **output** wires are connected to an MFD's NMEA 0183 input, and configured for 38,400 Baud, which is the Baud Rate required for AIS data transfer.

The AIS unit's low speed (LO) (4,800 Baud) NMEA 0183 **input** wires are typically connected to a Heading sensor or other NMEA 0183 device, and configured for 4,800 baud rate.

For more information on the possible combination of data connections available on the AIS unit, refer to: [p.35 — Data connections overview](#)

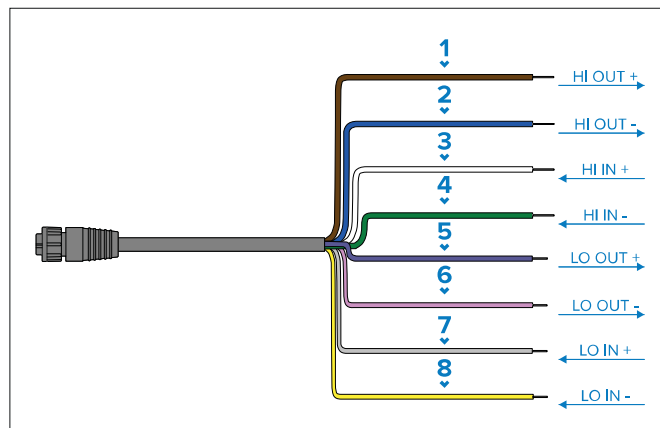
As a general rule, when making NMEA 0183 connections using the AIS unit, be aware of the following:

- When data (e.g. GNSS) is sent to the AIS unit's NMEA 0183 **input** set to a **low** speed Baud Rate (**4,800**), it cannot be **output** on the AIS unit's NMEA 0183 connection *at the same Baud Rate*.
- When data (e.g. GNSS) is sent to the AIS unit's NMEA 0183 **input** set to a **high** speed Baud Rate (**38,400**), it cannot be **output** on the AIS unit's NMEA 0183 connection *at the same Baud Rate*.

**Note:**

For a list of supported NMEA 0183 sentences, refer to: [p.78 — NMEA 0183 supported sentences](#)

The following illustration identifies the NMEA 0183 input and output connections available on the AIS unit's power cable:



	Wire colour	Description
1	Brown	HI OUT +
2	Blue	HI OUT –
3	White	HI IN +
4	Green	HI IN –
5	Purple	LO OUT +
6	Pink	LO OUT –
7	Gray	LO IN +
8	Yellow	LO IN –

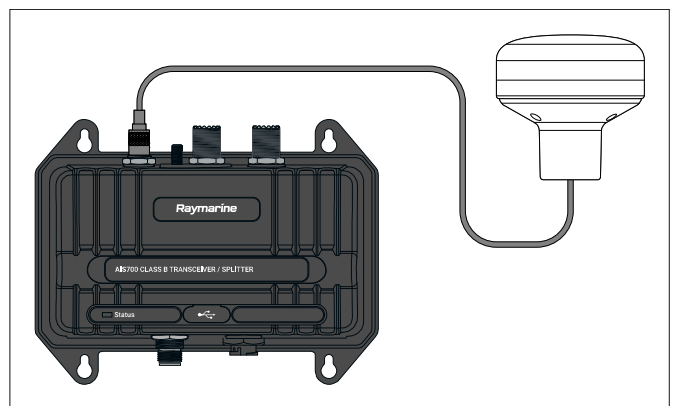
**Important:**

To avoid potential data conflicts or loops, avoid connecting the AIS unit to multiple (and different) data buses on an external unit **at the same time:**

- Do NOT connect the AIS unit to an MFD via NMEA 0183 and SeaTalkng / NMEA 2000 connections **at the same time.**
- Do NOT connect the AIS unit to a VHF Radio via NMEA 0183 and SeaTalkng / NMEA 2000 connections **at the same time.**
- Do NOT connect the AIS unit to a PC via NMEA 0183 and USB connections **at the same time.**

## 9.5 GPS (GNSS) antenna connection

Connect the supplied GNSS antenna to your AIS700 using the GNSS antenna connection. The antenna is fitted with a 10 m (33ft) cable for connecting to the AIS700.



**Note:**

Do NOT connect any other antenna than the one supplied with your AIS700.

If the antenna is not connected or connected incorrectly, your AIS700 will operate in Silent mode. In this mode, the AIS700 will not transmit but will still receive.

**Important:**

If you are replacing a GPS antenna supplied with an older AIS receiver or an AIS700 with an early (low) serial number, please be aware that the mounting diameter (cutout) of the GPS receiver has changed, from Ø44 mm to Ø60 mm.