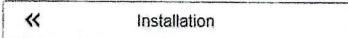


- All the relevant transceivers have been set up, and they are operational with their respective transducers.
- All relevant channels (transceiver/transducer combinations) are installed in the user interface.
- All relevant external sensors are connected to the EK80. The sensors are turned on and operate normally.
- The vessel is berthed.

### Procedure

- 1 Open the **Setup** menu.
- 2 On the **Setup** menu, select **Installation**.



Observe that the **Installation** dialog box opens. This dialog box contains a number of pages selected from the menu on the left side.

- 3 On the left side, select **Transceiver**.
- 4 Make sure that all applicable transceivers and transducers are connected and operational.  
For each transceiver, this is indicated by the green label with text "Installed".
- 5 Repeat this cycle for each Wide Band Transceiver (WBT) in use.
  - a Click on the transceiver to select it.
  - b In the transceiver list, read the name of the transducer in use.
  - c In the *Transceiver Information* field, read the following information:
    - Identity
    - TX Firmware version
    - RX Firmware version
    - Software version
- 6 Fill in the result table.
- 7 Close the **Installation** dialog box.

### Related topics

- [Customer acceptance form, page 49](#)  
[Secondary procedures, page 50](#)  
[Testing the EK80 operational functionality, page 29](#)

## Verifying the communication with the course gyro

Without the input from a course gyro, the EK80 will not be able to present correct navigational information. The current heading is shown on the top bar if you have enabled this in the **Display Options** dialog box. The communication with the sensor is tested.

### Prerequisites

The EK80 is installed as specified in the EK80 *Installation manual*.

- The sensor is connected to a communication port on the EK80. The sensor is turned on and in normal operation.
- The interface port is set up with the correct communication parameters.
- You are familiar with NMEA and other relevant datagram formats.
- You know how to set up the parameters for serial and local area network (LAN) communication.
- All relevant vessel drawings, installation reports and/or measurement results are available.
- The EK80 system is turned on and operates normally.
- The vessel is berthed.

Neither tools nor instruments are required. For connections and communication parameters, see the relevant end-user documentation from the sensor manufacturer.

### Context

In most cases a suitable course gyro is already installed on the vessel. A global positioning system (GPS) with a compatible output format can also be used.

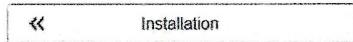
The properties of each of the available communication ports are defined on the **I/O Setup** page. The **Sensor Installation** page allows your EK80 to communicate with external sensors and systems. To make sure that the information from the "most reliable" sensors are used by the EK80, use the **Sensor Configuration** page to define a datagram priorities.

The communication parameters defined for NMEA 0183 are:

- **Baud rate:** 4800 bit/s
- **Data bits:** 8
- **Parity:** Even
- **Stop bits:** 1

## Procedure

- 1 Open the **Setup** menu.
- 2 On the **Setup** menu, select **Installation**.



Observe that the **Installation** dialog box opens. This dialog box contains a number of pages selected from the menu on the left side.

- 3 On the left side of the **Installation** dialog box, select **Sensor Installation**.
  - a Select the relevant sensor in the **Installed Sensors** list.
  - b Make sure that the correct installation parameters are used for the sensor.
- 4 On the left side of the **Installation** dialog box, select **Sensor Configuration**.
  - a Select the relevant sensor in the **Sensor** list.
  - b Make sure that the correct parameters are used for sensor configuration.
- 5 Close the **Installation** dialog box without making any changes.
- 6 Observe the top bar.
- 7 Make sure that the information from the sensor is displayed.  
If necessary, enable the read-out in the **Display Options** dialog box.
- 8 If possible, use another instrument to verify that the information provided by the EK80 is correct.
- 9 Fill in the result tables.

## Result

Datagram	Port	Baud rate	Talker ID
EM3000	COM 2	19200	

X Offset	Y Offset	Z Offset

Requirements	Results
Heading data is provided and displayed.	ok
The relevant communication parameters are recorded.	ok
Date and signature:	 7/16/2021

## Related topics

[Customer acceptance form, page 49](#)  
[Secondary procedures, page 50](#)

# Verifying the communication with a navigation system (GPS)

For the EK80 to use and offer correct navigational information, one or more external sensors must be connected. The communication with the sensor is tested.

## Prerequisites

The EK80 is installed as specified in the EK80 *Installation manual*.

- The sensor is connected to a communication port on the EK80. The sensor is turned on and in normal operation.
- The interface port is set up with the correct communication parameters.
- You are familiar with NMEA and other relevant datagram formats.
- You know how to set up the parameters for serial and local area network (LAN) communication.
- All relevant vessel drawings, installation reports and/or measurement results are available.
- The EK80 system is turned on and operates normally.
- The vessel is berthed.

Neither tools nor instruments are required. For connections and communication parameters, see the relevant end-user documentation from the sensor manufacturer.

## Context

Most global positioning system (GPS) receivers provide NMEA 0183 datagrams containing geographical latitude and longitude information, as well as current speed and sailed distance. Some GPS systems will also provide the current heading, but this information is normally taken from the gyro.

The properties of each of the available communication ports are defined on the **I/O Setup** page. The **Sensor Installation** page allows your EK80 to communicate with external sensors and systems. To make sure that the information from the "most reliable" sensors are used by the EK80, use the **Sensor Configuration** page to define a datagram priorities.

The communication parameters defined for NMEA 0183 are:

- **Baud rate:** 4800 bit/s

X Offset	Y Offset	Z Offset

Requirements	Results
Position data is provided.	OK
Speed data is provided.	OK
Distance data is provided.	—
Heading data is provided.	OK
The relevant communication parameters are recorded.	OK
Date and signature:	<i>ann</i> 7/10/2024

#### Related topics

[Customer acceptance form](#), page 49

[Secondary procedures](#), page 50

## Verifying the communication with speed log

Without the input from a speed log, the EK80 will not be able to present correct navigational information. The vessel speed is shown on the top bar if you have enabled this in the **Display Options** dialog box. The communication with the sensor is tested.

#### Prerequisites

The EK80 is installed as specified in the EK80 *Installation manual*.

- The sensor is connected to a communication port on the EK80. The sensor is turned on and in normal operation.
- The interface port is set up with the correct communication parameters.
- You are familiar with NMEA and other relevant datagram formats.
- You know how to set up the parameters for serial and local area network (LAN) communication.
- All relevant vessel drawings, installation reports and/or measurement results are available.
- The EK80 system is turned on and operates normally.
- The vessel is berthed.

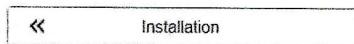
Neither tools nor instruments are required. For connections and communication parameters, see the relevant end-user documentation from the sensor manufacturer.

- **Data bits:** 8
- **Parity:** Even
- **Stop bits:** 1

Some instruments may provide other parameters and/or options. You must always check the relevant technical documentation supplied by the manufacturer.

### Procedure

- 1 Open the **Setup** menu.
- 2 On the **Setup** menu, select **Installation**.



Observe that the **Installation** dialog box opens. This dialog box contains a number of pages selected from the menu on the left side.

- 3 On the left side of the **Installation** dialog box, select **Sensor Installation**.
  - a Select the relevant sensor in the **Installed Sensors** list.
  - b Make sure that the correct installation parameters are used for the sensor.
- 4 On the left side of the **Installation** dialog box, select **Sensor Configuration**.
  - a Select the relevant sensor in the **Sensor** list.
  - b Make sure that the correct parameters are used for sensor configuration.
- 5 Close the **Installation** dialog box without making any changes.
- 6 Observe the top bar.
- 7 Make sure that the information from the sensor is displayed.  
If necessary, enable the read-out in the **Display Options** dialog box.
- 8 If possible, use another instrument to verify that the information provided by the EK80 is correct.
- 9 Fill in the result tables.

### Result

Sensor	Source sensor	Datagram	Port	Baud rate
Position	<del>GGA GPS</del>	GGA	Com 3	9600
Speed	GPS	VTG	/	/
Distance			/	/
Heading	<del>GPS</del>	VTG	/	/

## Context

In most cases a suitable sensor is already installed on the vessel. A global positioning system (GPS) with a compatible output format can also be used.

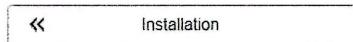
The properties of each of the available communication ports are defined on the **I/O Setup** page. The **Sensor Installation** page allows your EK80 to communicate with external sensors and systems. To make sure that the information from the "most reliable" sensors are used by the EK80, use the **Sensor Configuration** page to define a datagram priorities.

The communication parameters defined for NMEA 0183 are:

- **Baud rate:** 4800 bit/s
- **Data bits:** 8
- **Parity:** Even
- **Stop bits:** 1

## Procedure

- 1 Open the **Setup** menu.
- 2 On the **Setup** menu, select **Installation**.



Observe that the **Installation** dialog box opens. This dialog box contains a number of pages selected from the menu on the left side.

- 3 On the left side of the **Installation** dialog box, select **Sensor Installation**.
  - a Select the relevant sensor in the **Installed Sensors** list.
  - b Make sure that the correct installation parameters are used for the sensor.
- 4 On the left side of the **Installation** dialog box, select **Sensor Configuration**.
  - a Select the relevant sensor in the **Sensor** list.
  - b Make sure that the correct parameters are used for sensor configuration.
- 5 Close the **Installation** dialog box without making any changes.
- 6 Observe the top bar.
- 7 Make sure that the information from the sensor is displayed.  
If necessary, enable the read-out in the **Display Options** dialog box.
- 8 If possible, use another instrument to verify that the information provided by the EK80 is correct.
- 9 Fill in the result tables.

## Result

Datagram	Port	Baud rate	Talker ID
NMEA	com1	9600	

Requirements	Results
Speed data is provided and displayed.	OK
The relevant communication parameters are recorded.	OK
Date and signature:	 7/10/2021

## Related topics

Customer acceptance form, page 49

Secondary procedures, page 50

## Verifying the communication with the motion reference unit (MRU)

The information from a motion reference unit (MRU) (normally heave, roll and pitch information) is imported into the EK80 to increase the accuracy of the echo data. The communication with the sensor is tested. This task is only applicable if you are using an external motion reference unit on your EK80.

### Prerequisites

The EK80 is installed as specified in the EK80 *Installation manual*.

- The sensor is connected to a communication port on the EK80. The sensor is turned on and in normal operation.
- The interface port is set up with the correct communication parameters.
- You are familiar with NMEA and other relevant datagram formats.
- You know how to set up the parameters for serial and local area network (LAN) communication.
- All relevant vessel drawings, installation reports and/or measurement results are available.
- The EK80 system is turned on and operates normally.
- The vessel is berthed.

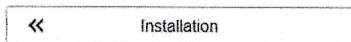
Neither tools nor instruments are required. For connections and communication parameters, see the relevant end-user documentation from the sensor manufacturer.

## Context

A motion reference unit (MRU) measures the vessel's pitch and roll movements in the sea. The information provided by the motion sensor is used by the EK80 to stabilize the beams and the echo presentation.

## Procedure

- 1 Open the **Setup** menu.
- 2 On the **Setup** menu, select **Installation**.



- 3 On the left side of the **Installation** dialog box, select **Motion Reference Unit**.
  - a If you use the motion sensor in the Motor Control Unit on the hull unit, make sure that **LAN** is selected.

The sensor uses a local area network (LAN) port on your Processor Unit. A message on the page verifies that it is connected to the EK80 beamformer application.
  - b If you use an external motion reference unit (MRU), make sure that a COM port is selected, and that the correct parameters are provided.
- 4 On the left side of the **Installation** dialog box, select **Installation Parameters** to open the page.
  - a Open the **MRU (Motion Reference Unit)** page.
  - b Make sure that the installation parameters for the motion sensor (offset and rotation) are correct.

The physical location of the sensor (X, Y and Z offsets) must be extracted from the detailed vessel drawings, or from the reports provided by the personnel that did the actual installation. The information about the installation angles must be extracted from the reports provided by the personnel that did or measured up the actual installation.
- 5 Close the **Installation** dialog box without making any changes.
- 6 Observe the top bar.
- 7 Make sure that the information from the sensor is displayed.

If necessary, enable the read-out in the **Display Options** dialog box.

Note \_\_\_\_\_

*In order to read the motion compensation values, the EK80 must be "pinging". As long as the vessel is in port, you can not expect major changes in the values.*

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