# Operator manual

## Simrad PI50

## Catch monitoring system

KONGSBERG

# Simrad PI50

## Operator manual

This manual provides you with the basic information required to operate the Simrad PI50. For a more detailed description of the operation and functionality, including menus and all parameters, refer to the *Simrad PI50 Reference manual* or the online help.

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| Rev.C | 2015-02-09 | Changed to describe SW version 1.3.1. Information about new PI60 Sensor Receiver with 10 channels. |

## License information

| When you have obtained the necessary licenses to operate the PI50, we strongly advice that you write down the hardware ID and the license codes on this page. | | |
|---|---|---|
| **Function** | **Purpose** | **Code** |
| Hardware ID: | N/A | |
| License code | | |
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## Support information

If you require maintenance or repair, contact your local dealer. You can also contact us using the following address: simrad.support@simrad.com. If you need information about our other products, visit http://www.simrad.com. On this website you will also find a list of our dealers and distributors.

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# About this manual

## Purpose

The purpose of this operator manual is to provide the descriptions and procedures required to allow for safe and efficient use of the Simrad PI50.

A good understanding of system functions and controls is essential to fully take advantage of the functionality provided. Sea conditions vary, sometimes drastically, and it is not possible to identify settings that will provide the best data at all times. Careful study of the information in this manual is highly recommended, preferably while exploring the system's functionality.

If you need more detailed information about this product, refer to the *Simrad PI50 Reference manual*.

## Target audience

The manual is intended for all basic users of the Simrad PI50.

We assume that you are familiar with the basic acoustic principles of sound in water, and that you have some experience with the operation of catch monitoring systems

## Click "Help"!

Installed on your Simrad PI50 you will find a comprehensive on-line help system. You may not find it in your language, but everything you can read in the *Simrad PI50 Reference manual* can also be found in the context sensitive on-line help.

To access this information click **[?]** on the **Title Bar**, or the **[?]** button in one of the dialog boxes.

Note that when you open the help system it will place itself on the top of the display presentation!

## Online information

## License information

The Simrad PI50 is a licensed product. In order to obtain a license, contact your local dealer.

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# Simrad PI50

Study this chapter to familiarize yourself with the Simrad PI50.

**Topics**


- *Important* on page 10
- *System description* on page 11
- *System diagram* on page 12
- *System units* on page 13
- *Support information* on page 15

# Important

As with all other advanced instruments, there are a few important things that you must be aware of.

**Topics**


- *When the PI50 is not used* on page 10
- *If something breaks down* on page 10
- *When you switch off the PI50* on page 10


## When the PI50 is not used

When you do not use the PI50, switch off the display and the computer.

If you know that you will not use the PI50 for a long time, we recommend that you also switch of the Sensor Receiver. Since this unit is provided with a power switch, you must disconnect the power cable.

**Related topics**


- *Powering off the PI50* on page 18


## If something breaks down

If you believe that something has broken down, contact your local dealer. He will be able to assist.

A list of all our dealers is provided on http://www.simrad.com. If you are unable to contact a dealer, observe the support information in this chapter.

**Related topics**


- *Support information* on page 15


## When you switch off the PI50

You must NEVER switch off the PI50 by means of the on/off switch on the computer.

You must ALWAYS exit the PI50 application by clicking the **Exit** icon on the **Title Bar**.

If you power down the PI50 by means of the computer switch you may damage the software application and the interface parameters to external devices.

Important

Observe the procedure!

**Related topics**


- *Powering off the PI50* on page 18

# System description

To know how your gear behaves is vital for efficient fishing. The Simrad PI50 system gives you all the details.

The Simrad PI50 is designed for the professional fishery community implementing the latest innovations and technology.

The system provides you with essential information, such as the stability of the trawl doors, the amount and quality of your catch, the behaviour of your bottom or pelagic trawl, or the correct timing of a purse seine.

As such, the catch monitoring system allows you to stay in full control of the gear and its behaviour.

The system is designed to be equally useful for all fishing types. Bottom trawlers, pelagic trawlers, purse or danish seiners - whatever kind of gear you use, all vessels can take advantage of the functionality provided by the PI50.

A large selection of wireless sensors is available for the Simrad PI50. Placed on the trawl, purse seine or danish seine they will provide you with valuable and accurate information about the gear, its behaviour and the environment.

# System diagram

The PI50 system units are small, and they can easily be fitted on all fishing vessels.

A basic PI50 system diagram is provided. Interface capabilities, power supplies and power cables are not shown.

The Simrad PI50 comprises the following units:

**A** *Colour display*

**B** *Processor Unit (computer)*

**C** *Sensor Receiver*

**D** *Power Supply*

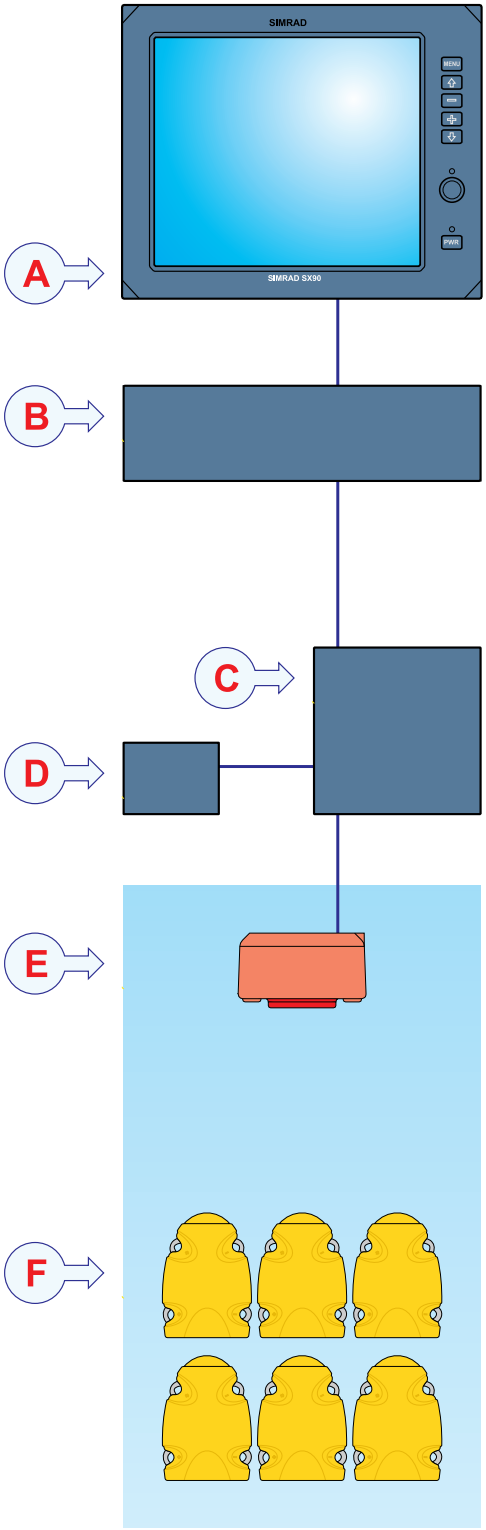
**E** *Hydrophone*

**F** *Catch Monitoring Sensors*

The hydrophone is mounted under the vessel's hull.

Additional and/or optional units include:

- Sensor battery charger(s)
- Hydrophone selector
- Loudspeaker




Depending on which Sensor Receiver you use, the Simrad PI50 Catch monitoring system can receive six or ten measurements simultaneously from PS, PI or PX sensors. The sensors are powered by built-in rechargeable batteries. They are housed in titanium casings, and designed using advanced shock absorbing materials. The information collected by the sensors are sent through the water to the hydrophone by means of coded sound waves.

The Sensor Receiver amplifies and decodes the information, converts it to digital format, and sends it to the Processor Unit (computer). The computer interprets the information, and finally presents it to you.

A loudspeaker must be installed if you wish to hear the audible alarms. Note that a loudspeaker can not be connected directly to the computer. An amplifier is required.

# System units

The Simrad PI50 comprises the following main units.

**Topics**


- *Colour display* on page 13
- *Processor Unit* on page 13
- *Sensor Receiver* on page 13
- *Hydrophones* on page 14
- *Catch monitoring sensors* on page 15


## Colour display

A commercial display is used with the Simrad PI50 system.

Note that the display is not a standard part of the PI50 delivery.

## Processor Unit

The Simrad PI50 system is designed to be controlled by a commercial maritime computer. This computer must be based on the Microsoft Windows® 7 operating system. It must further be designed for rugged use, and should be able to withstand the vibrations and movements of a vessel.

The computer is normally mounted in the wheelhouse.

Note that the computer is not a standard part of the PI50 delivery. Simrad may provide a suitable maritime computer. Consult your dealer for more information.

## Sensor Receiver

The Simrad PI50 uses a custom built Sensor Receiver.

Two Sensor Receiver types are available:

- The PI50 Sensor Receiver supports six channels
- The PI60 Sensor Receiver supports ten channels

It is housed in a small cabinet. All necessary input and output sockets easily available. The unit is powered by a small external power supply. The Sensor Receiver provides the following interfaces:

- Serial line cable to the Processor Unit.
- One hydrophone
- External power supply

The maximum length of the serial line cable between the Sensor Receiver and the Processor Unit is 50 meters.

## Hydrophones

Two hull mounted hydrophones are available, one for purse seining operations, and one for trawl operations. You can install both, and then select active hydrophone by means of a selector box on the bulkhead.

### Purse seine hydrophone

The hull mounted hydrophone for purse seining operations has a 90 degrees horizontal beam and a 30 degrees vertical beam to provide the PI50 with optimal reception from the sensors on a purse seine.

This specific beam pattern is especially suited for purse seining and the wide coverage area reduces the need for careful alignment.

### Trawl hydrophone

The hull mounted hydrophone for trawling operations has a 50 degrees horizontal beam and a 30 degrees vertical beam to provide the PI50 with optimal reception from the sensors on a bottom or pelagic trawl.

This specific beam pattern is especially suited for trawling and the wide coverage area reduces the need for careful alignment.

### Portable hydrophone

A portable hydrophone is also available. It is designed as a temporary measure until a fixed hydrophone can be installed at the vessel's next planned dry docking. It has an omnidirectional beam and a 50 meter integrated cable.

The cable is sheathed in polyurethane providing robust external protection to compliment its 150 kg tensile strength.

The cable is supplied on a reel for convenient retrieval and stowage, and is equipped with a plug for easy attachment to the Sensor Receiver.

## Catch monitoring sensors

A large selection of catch monitoring sensors can be used with the PI50 system. The current software version supports the following sensors:

- PX MultiSensor
- PI Bottom Contact
- PI Catch
- PI Depth
- PI Spread
- PI Temperature
- PI Height
- PI Spread/Depth
- PI Twin Spread
- PI SeineSounder
- PI Geometry

**Related topics**

- *Sensor view descriptions* on page 96
- *Trend view descriptions* on page 122
- *Selection and configuration of sensor measurements* on page 46

# Support information

If you need technical support for your Simrad PI50 you must contact your local dealer, or one of our support departments. A list of all our dealers is provided on http://www.simrad.com.

**Norway (Main office)**

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- **Website**: http://www.simrad.no

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- **Telefax**: +34 966 852 304
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- **Website**: http://www.simrad.com

# Getting started

This chapter describes how to get started with the basic operation of the PI50.

It contains a brief overview of the basic system operation and procedures. If you are a first time user, we recommend that you read through this chapter while operating the PI50 so that you can familiarize yourself with the menus, dialog boxes and display presentations.

### Are you going to power up the Simrad PI50 for the first time?

If you are about to switch on your Simrad PI50 system for the very first time, see first *Initial installation and setup procedures* on page 34. It provides relevant hardware and software procedures for initial start-up and configuration.

### Topics


- *Power on/off procedures* on page 18
- *Operating principles* on page 19
- *Presentation overview* on page 20
- *Starting normal operation* on page 26
- *Context sensitive on-line help* on page 33
- *Initial installation and setup procedures* on page 34


### Related topics


- *Operational procedures* on page 38

# Power on/off procedures

These procedures explain how to switch the PI50 system on and off.

**Topics**


- *Powering up the PI50* on page 18
- *Powering off the PI50* on page 18


## Powering up the PI50

**Purpose**

This procedure explains how to power up the Simrad PI50 system.

**Procedure**

1. Power up the Sensor Receiver.

   The Sensor Receiver is not fitted with an on/off switch. You may leave the unit permanently powered up. If you are not using the PI50 for a long period of time, disconnect the power supply.

2. Power up the colour display.

   If required, refer to the instructions provided by the display manufacturer.

3. Power up the Processor Unit (computer).

   Wait for the operating system to start up.

4. Double-click the PI50 icon on the desktop to start the program.

5. Wait while the program starts on the computer.

6. Choose user settings.

   During the program load, a dialog box appears to let you choose from the current user settings available on the PI50.

   The dialog box is only visible a few seconds. You do not need to make a choice here. You can select user setting at any time by means of the **User Settings** dialog box on the **Main** menu.

7. Observe that the program presentation fills the entire screen.

## Powering off the PI50

**Purpose**

This procedure explains how to power off the Simrad PI50.

Note

*You must never switch off the PI50 only by means of the on/off switch on the computer. This may damage the software or the interface parameters for external devices. You must ALWAYS use this procedure.*

### Procedure

1. Click the **Exit** button in the program.

   It is located on the top bar in the top right corner of the display presentation.
2. Observe that the program closes down.
3. If the computer does not switch itself off automatically, use the functionality provided by the operating system to switch it off manually.
4. Switch off the colour display.

   If required, refer to the instructions provided by the display manufacturer.
5. Switch off the Sensor Receiver.

   The Sensor Receiver is not fitted with an on/off switch. You may leave the unit permanently powered up. If you are not using the PI50 for a long period of time, disconnect the power supply.

# Operating principles

Like most computerized applications, the PI50 is operated using a mouse (or trackball) and an optional keyboard.

Important

In this manual, the phrase “click” means that you shall place the cursor over the specified button, field or function, and press the left mouse (or trackball) button once. The phrase “double-click” means that you shall press the mouse button twice rapidly.

The phrase “press” means that you shall press a physical button with your finger, for example a character button or the **Enter** key on the keyboard.

### Topics


- *Cursor* on page 19
- *Mouse* on page 20
- *Trackball* on page 20


### Related topics


- *The menu buttons* on page 25


## Cursor

The mouse (or trackball) controls the cursor movement on the PI50 presentation. By moving the cursor over the various information provided on the display, and clicking the left mouse button, you are able to control all operation.

Tip

If you are left-handed, the Windows operating system allows you to redefine the mouse buttons. You can then choose to click with the right button.

The shape and purpose of the cursor change depending on its location.

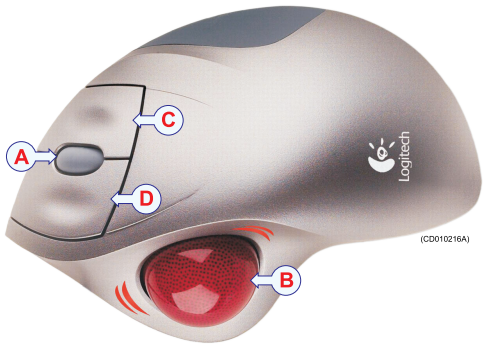
- Move the cursor over the **Title Bar** at the top of the presentation and **Status Bar** at the bottom, and left-click the icons and buttons to access the functionality provided.
- Move the cursor over the menu and menu buttons, and click to alter the operational parameters and open dialog boxes. Observe that the shape of the cursor changes over the menu buttons to indicates which choices you have to control these parameters.

## Mouse

The computer mouse can be used to control the functionality provided by the PI50. The mouse controls the movements of the cursor, and the buttons are used to click on buttons and select parameters.

## Trackball

All PI50 functions can be controlled with the trackball. The ball controls the movements of the cursor, and the buttons are used to click on buttons and select parameters. Trackballs come in several shapes and sizes. A generic version is shown as an example only.




**A** *Control wheel (not used)*

**B** *Trackball, use this to control the cursor's location on the screen*

**C** *Right mouse button (not used)*

**D** *Left mouse button*

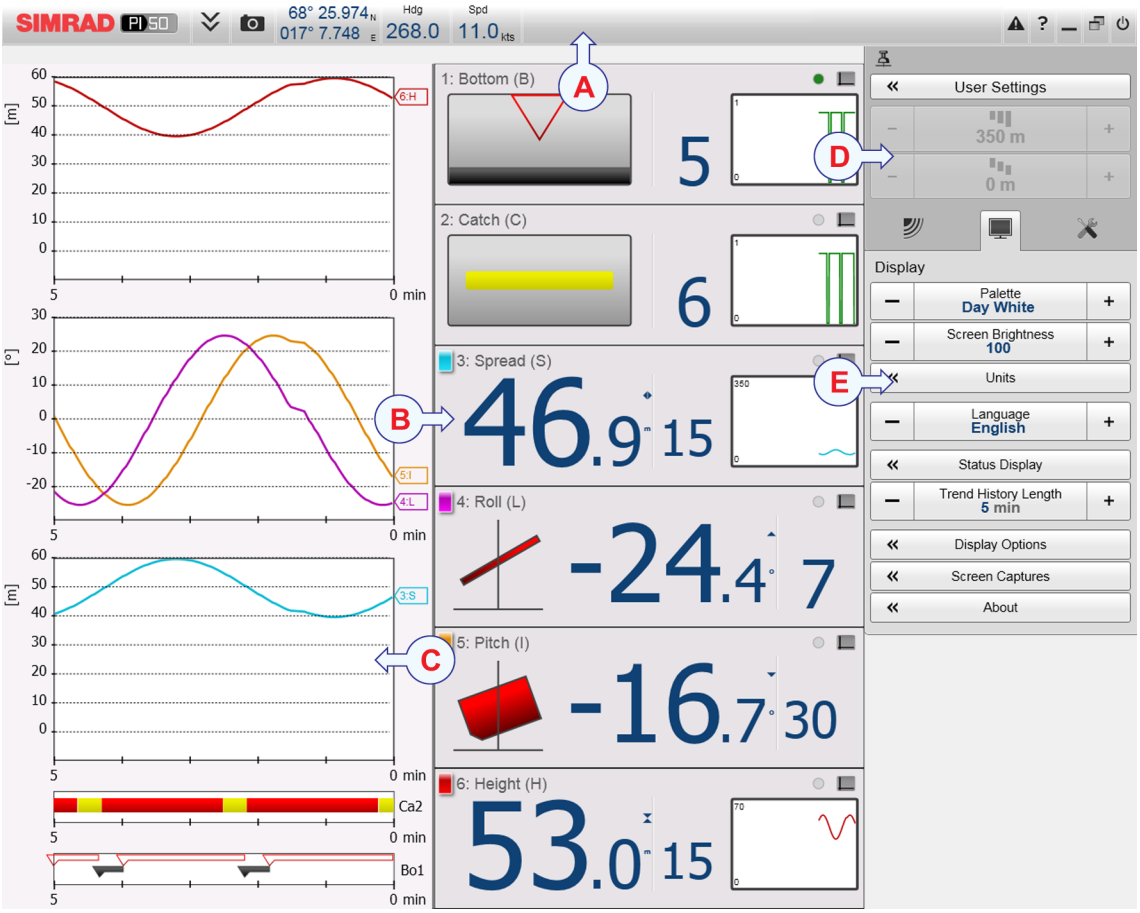
# Presentation overview

The display presentation offered by the Simrad PI50 system provides a number of sensor views. It also provide a **Title Bar** and a menu system to facilitate operation using a computer mouse or a trackball.

**Topics**


- *Display organization* on page 21
- *Title Bar* on page 22
- *The menu system* on page 24
- *The menu buttons* on page 25

## Display organization




A typical PI50 display presentation is shown.

Note that the presentation is made using artificial sensor data from the built-in simulator.

**A Title Bar**

The **Title Bar** identifies Simrad as the manufacturer, and the name of the product (PI50). It also provides several information fields and buttons. These are used to hide or retrieve the menu system, provide navigational information, and to enable basic system functions.

**B Sensor views**

The information from each sensor is presented in a rectangle. “Dual” sensors use two channels, and they use two rectangles for presentation. The *Sensor* view holds the key information provided by sensor, as well as a *History* field. This is the small rectangle within the *Sensor* view. It offers the changes in the sensor data for the last 20 minutes.

**C** **Trend views**

For each sensor, you can also open a *Trend* view. This is a graph providing the historic values from the sensor. Both the vertical and horizontal resolutions of the graph can be adjusted.

Click **Range** and **Range Start** on the **Main** menu to control the vertical resolution.

Click **Trend History Length** on the **Display** menu to control the horizontal resolution (5 to 1440 minutes).

**D** **Menu system**

The menu system is by default located on the right hand side of the presentation. To open any of the submenus, click the buttons under the **Main** menu. To hide or retrieve the entire menu system, click the **Menu** button on the **Title Bar**.

**E** **Submenus**

The submenus are opened and closed by clicking the buttons at the bottom of the **Main** menu.

The presentation of the various views are made automatically, and the size of each view depends on the space available. When no *Trend* views are open, the *Sensor* views will stretch from the left to the right edge of the presentation. When a *Trend* view is opened, it will position itself on the left side, and the size of the *Sensor* views will be reduced by removing the *History* field. If additional *Trend* views are opened, they will be positioned on top of each other, and the vertical size of each view is adjusted automatically.

The order of the *Sensor* views is defined by the setting made in the **Select Sensors** dialog box. The location of the *Trend* views do not follow his order. The first trend view fills the entire vertical space, the next are placed on top of the first in the same order they are opened.

### Related topics

- *Title Bar* on page 90
- *Menu system* on page 95

## Title Bar

The PI50 **Title Bar** is located on the top of the display presentation, and it is stretched from the far left to the far right side.

The purpose of the **Title Bar** is to give you fast access to key functionality and navigational information.

It provides buttons to hide or show the menu, to make a screen capture, to open the **Messages** dialog box, and to open the context sensitive on-line help. It also provides a few buttons related to operating system features.

**A** **Logo and product name**.

This element identifies the Simrad as the manufacturer of the PI50, and the product name.

**B** **Menu**

Click this button to hide or recall the menu system.

**C** **Screen capture**

This button is provided to make it easy to make a screen capture.

**D** **Navigation field**

These are not buttons, but information fields providing current data related to the vessel movements.

**E** **Message**

Click this button to open the **Messages** dialog box. This button will flash to indicate that a message is posted.

**F** **Help**

Click this button to open the context sensitive on-line help.

**G** **Function** buttons

These buttons are used to control basic system functions.

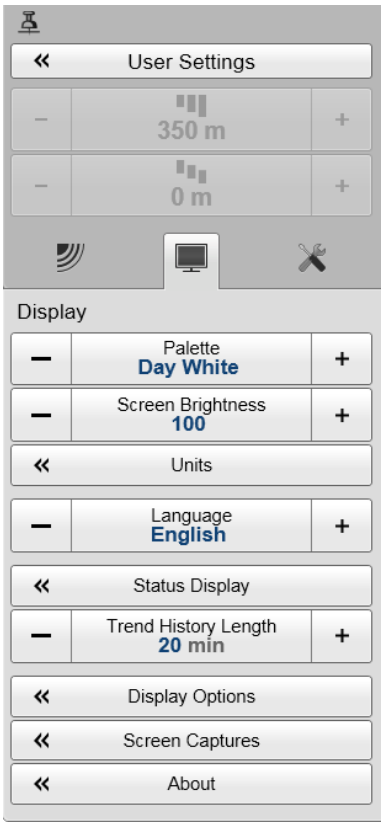
- **Minimize** and **Resize**: Click these buttons to adjust the size of the PI50 presentation.
- **Exit**: Click this button to close down the PI50 application.

## Related topics


- *Powering up the PI50* on page 18
- *Powering off the PI50* on page 18
- *Logo and product name* on page 92
- *Menu button* on page 92
- *Screen Capture button* on page 92
- *Navigation Field* on page 92
- *Function buttons* on page 93

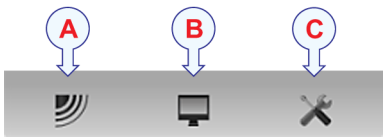
## The menu system

The menu system is by default located on the right hand side of the PI50 presentation.




The selection of operational parameters on the PI50 is done using a tree structure with a main menu, a set of submenus, and several menu buttons. Some of the menu buttons open dialog boxes or submenus to offer additional choices.

The **Main** menu provides the parameters most frequently used during normal operation.




Below the main menu, dedicated buttons are used to open the submenus. These are (from left):

**A** The **Operation** menu controls the main operational parameters.

**B** The **Display** menu controls the visual aspects of the system, such as parameters related to the display presentation.

**C** The **Setup** menu allows you to control the configuration of the signal processing, as well as system installation and maintenance, and the interfaces to peripheral devices.

Tip

You can hide the menu from view if you do not need it. Click the **Menu** button on the **Title Bar** to hide the menu. Click one more time to retrieve it.

The text in the buttons can be changed to suit your preference by clicking **Language** on the **Display** menu.

You can also place the menu on the left side of the PI50 presentation by clicking **Menu on the right side** in the **Display Options** dialog box.

A detailed breakdown of the commands and parameters available in the menu system is provided in the *Menu system* chapter.

### Related topics


- *Selecting menu language* on page 41
- *The menu system* on page 130

## The menu buttons

Each menu contains several menu buttons. Each button shows the function of the button, some of them also display the current parameter setting. The majority of the buttons in each menu provide one or more of these functions.

**a** You can increase and decrease parameter values by clicking the [+] and [–] fields on the button.

**b** You can change parameter values by clicking on the button, holding the mouse depressed, and then moving the cursor sideways.

**c** You can change parameter values by means of the scroll wheel on the mouse or trackball.

**d** You can enter parameter values from the keyboard (if you have one).

**e** You can select parameter value from the button's submenu.

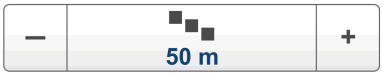
**f** You can open a dedicated dialog box.

### How to select a numerical parameter using the +/- buttons

**1** Move the cursor to either side of the button, and observe that the background colour changes.

- **a** Click on the left side of the button to decrease the numerical value.
- **b** Click on the right side of the button to increase the numerical value.

### How to select a numerical parameter by moving the cursor horizontally




**1** Place the cursor on the middle of the button.

**2** Click and hold the left mouse button depressed.

**3** Move the cursor horizontally: left to decrease the value, or right to increase it.

**4** Release the mouse button when the requested value is shown.

### How to select a numerical parameter by means of the scroll wheel

**1** Place the cursor on the middle of the button.

**2** Spin the scroll wheel in either direction to increase or decrease the value.

**3** Release the scroll wheel when the requested value is shown.

### How to select a numerical parameter using the keyboard

**1** Click the middle section of the button to open a text field.

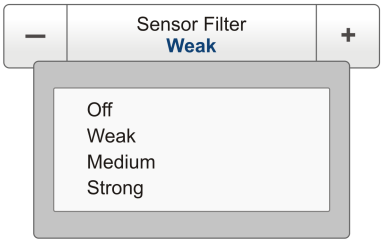
**2** Type the numerical value into the text field.

If the numerical value exceeds the permitted range for the parameter, the frame in the text field will be red.

You will then not be able to keep that value.

**3** Press the **Enter** key.

### How to select a parameter using a submenu




1 Click the middle section of the button to open a submenu, then click the requested command, option or button.

   The chosen value is applied, and the submenu is automatically closed.

2 Whenever applicable, you can also access the submenu by clicking the left and right side of the button. This method will not show you the choices on the submenu.

   **a** Click on the left side of the button to select a 'lower' submenu choice.

   **b** Click on the right side of the button to select a 'higher' submenu choice.

### How to select parameters using a dialog box

1 Click anywhere on the button to open a separate dialog box.

# Starting normal operation

Once you have powered up the complete PI50 system, you are ready to start the actual operation.

When started up, the PI50 will automatically apply its previous setup parameters.

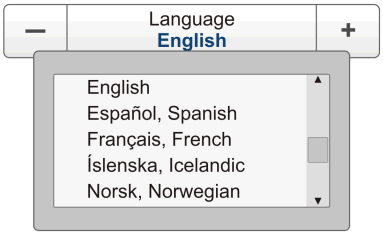
These procedures are partly provided to get you acquainted with the basic functionality provided by the PI50, partly to set up the system for normal use, and partly to start normal operation.

### Topics


- *Selecting menu language* on page 26
- *Choosing PI50 factory default settings* on page 27
- *Selecting which sensors to use* on page 28
- *Saving the current user settings* on page 31
- *Calibration of the depth sensors* on page 32


## Selecting menu language

### Purpose




The menu buttons – as well as other texts – in the PI50 presentation are available in several languages. This procedure explains how to select a different language.

### Related topics

- *Display menu* on page 136

### Procedure

1 Observe the **Main** menu. It is normally located on the right hand side of the PI50 presentation.

2 Click the **Display** button to open the menu.

This button is located under the **Main** menu. It is used to open the **Display** submenu.

3 Click the middle of the **Language** button to open a submenu with the available languages.

You can also click the [+] and [–] characters on the button to leaf through the list of available languages.

4 Click once on the language you wish to use.

5 Observe that the submenu closes, and that all text in the menu buttons change to the selected language.

Important

To ensure that all texts are replaced with the chosen language, restart the PI50 application.

The context sensitive on-line help file may also be available in your language. To change the language in the on-line help, you must restart the PI50. If your language is *not* offered, the English on-line help will appear.

## Choosing PI50 factory default settings

### Purpose

This procedure explains how to choose the factory or saved parameter settings. Use this if you need to reset the PI50 to known settings.

### Procedure

1 Observe the **Main** menu. It is normally located on the right hand side of the PI50 presentation.

2 On the **Main** menu, click **User Settings** to open the **User Settings** dialog.

The **User Settings** dialog box allows you to save the current user settings (parameter selections), and to retrieve factory or previously saved user settings.

3 In the **Factory Settings** list, click the requested factory setting.

4 Click **Activate Selected Setting**.

5 Click **Close** to exit.

# Selecting which sensors to use

## Purpose

This procedure describes how you can select which sensor to use for a specific measurement, and how you can set up the sensor parameters.

## Description

The PI50 allows you to put the entire PI and PX sensor range to use. However, you must select the sensors that you wish to use, set them up in the order you wish to see them on the screen, and select the operational parameters. Both the sensor selection and the parameter setup are done in the **Select Sensors** dialog box.

Tip

If you have several sensor configurations dedicated for different gears or different tasks, we strongly recommend that you save these for future use. Use the **User Settings** dialog box on the **Main** menu.

## Related topics

- *Saving the current user settings* on page 31
- *Sensor view descriptions* on page 96

## Procedure

1 Observe the **Main** menu. It is normally located on the right hand side of the PI50 presentation.

2 Click the **Setup** icon.

This icon is located under the **Main** menu. It is used to open the **Setup** menu.

3 Click **Select Sensors** to open the **Select Sensors** dialog box.

4 Observe the **Available Sensors** list on the upper left side of the dialog box.

It lists all the sensor types supported by the PI50.

5 Click once a sensor type to select it.

6 Click the [►] button to copy the chosen sensor to the **Selected Sensors** list.

7 Repeat to select all requested sensors.

The PI50 system will keep track of the quantity of sensors you are adding to the **Selected Sensors** list. If you try to add too many sensors, a message will let you know.

If you need to remove a sensor from the **Selected Sensors** list, click on it, and then click the [◄] button.

**8** In the **Select Sensors** dialog box, observe the items in the **Selected Sensors** list.

Tip

The order of the sensors in this list is also reflected to the order of the sensor view rectangles.

**9** Click once a sensor type to select it.

**10** Click one of the [▲] or [▼] buttons to move the sensor up or down on the list in the **Selected Sensors** field.

Tip

The order in this list also controls the order in which the sensors are presented in the **Sensor Configuration** field, as well as the vertical order of the sensor view rectangles in the PI50 display presentation.

**11** Observe the list of sensors in the **Sensor Configuration** field at the bottom of the dialog.

**12** For each sensor in the **Sensor Configuration** field:

**a** Select **Label ID** (identification).

This number is used to identify the catch monitoring sensor.

The **Label ID** must be unique for each sensor, and we recommend that you let it match the physical label placed on the sensor. The number you choose will be used in the *Sensor* view.

Tip

The *order* in which the *Sensor* views are presented is defined by the order in the **Selected Sensors** list.

**b** Select **Label Name**.

By default, the **Label Name** is the same as the sensor name listed with the **Available sensors**.

Click in the field to enter another name.

The **Label Name** is only shown in this dialog box, and you can use it to distingush between otherwise identical sensors in the **Selected Sensors** list.

Tip

If you do not have a computer keyboard connected to your PI50 system, click the **Keyboard** button to open an on-screen keyboard.

**c** Select **Update Rate**.

This parameter is used to select the sensor's update rate. This is how often the PI50 can expect to receive information from the sensor.

Important

The Simrad PX MultiSensor is permanently set to *Normal* update rate.

To change the update rate for a PI sensor, use the **PI Configurator** program.

Note

*The **Update Rate** parameter is vital. The update rate you choose here must comply to the update rate programmed into the sensor. If these do not match, the communication will not work.*

*If you use the PX MultiSensor, the **Update Rate** is fixed, and you must always choose Normal update rate.*

**d** Select **Sensor Value Name**.

By default, the **Sensor Value Name** is the same as the sensor name listed in the **Available Sensors** list. If you have a keyboard connected to the PI50 computer, you can click in the field, and enter another name. You can also open the on-screen keyboard.

The **Sensor Value Name** is used in the *Sensor* views. If you are setting up a dual sensor, you can enter two different names, for example “Port door” and “Starboard door”.

*Example 1 Sensor Value Name*

If you have three catch sensors on your trawl, you can name them “20 Ton”, “40 Ton” and “60 Ton”.

**e** Select **Channel Number**.

This is the communication channel used between the catch monitoring sensor and the PI50 system.

If you use more than one sensors of the same type at the same time, the channel number of one of the sensors must be changed to make it unique for the sensor. This must be changed both in the actual sensor, and in the **Select Sensors** dialog box during configuration.

To change the channel number in the sensor, use either the **PI Configurator** or the **PX Configurator** program.

Note

*The **Channel Number** parameter is vital. The communication channel number you choose here must comply to the channel number programmed into the sensor. If these do not match, the communication will not work. By default, the channel number will match the factory setting.*

**f** Observe the **Offset** value.

Sensors measuring spread and depth can have an offset value.

The offset value for the depth sensors are determined during calibration.

The offset value for the spread sensor must be entered manually based on your knowledge about the physical locations of the sensors and the properties of the gear.

**13** Click **Apply** to save the sensor configuration.

**14** Check that all sensors are shown in the PI50 presentation.

**15** Click **OK** to save the current settings and close the dialog box.

**16** If you have several sensor configurations dedicated for different gears or different tasks, we strongly recommend that you save these for future use. Use the **User Settings** dialog box on the **Main** menu.

## Saving the current user settings

### Purpose

This procedure explains how to save the current configuration and parameter settings.

If you have several different sensor configurations dedicated for various gears or different tasks, we also strongly recommend that you save these.

### Description

The settings saved using the **User Settings** functionality includes all receiver settings, interface parameters, as well as the currently selected sensors and their communication parameters. This is useful if you operate a combined trawler and seiner using different sensor setup on the different gears.

### Procedure

1 Observe the **Main** menu. It is normally located on the right hand side of the PI50 presentation.

2 On the **Main** menu, click **User Settings** to open the **User Settings** dialog box.

The **User Settings** dialog box allows you to save the current user settings (parameter selections), and to retrieve factory or previously saved user settings.

3 Click **Save Current Setting**.

4 Type a name for the new setting.

Tip

If you do not have a computer keyboard connected to your PI50 system, click the **Keyboard** button to open an on-screen keyboard.

5 Click **OK** to save the settings with the chosen name.

6 Observe that the name you have chosen appears on the **Saved Settings** list.

7 Click **OK** to save the current settings and close the dialog box.

## Calibration of the depth sensors

### Purpose

This procedure explains how to calibrate the depth sensor.

### Description

Only depth sensors can be calibrated. The purpose is to make sure that the depth reported by the sensor is as accurate as possible. This procedure is done on board the vessel.

Note

*In order to calibrate the sensor, it must be submerged in salt water.*

The software provided for calibration assumes that the sensor is lowered to 1 meter deep. If you need to lower it even deeper, you will need to add this additional depth to the **Offset** value when you select and set up the sensor in the **Select Sensors** dialog.

*Example 2 Depth sensor calibration*

If you lower your sensor to 5 meters depth for calibration, you must enter 4 (meters) into the **Offset** for the sensor.

### Procedure

1 Mount a rope to the top fastening lugs on the sensor.

2 Tighten the rope, and measure one meter from the bottom of the sensor to a spot on the rope. Place a visual marker on the rope at that location.

3 Lower the sensor over the side of the vessel and into the water. Lower it until the visual marker on the rope is even with the surface.

   You may wish to use a different depth reference than the sea surface. If this is the case, change the marking on the rope to fit you preference, for example the depth of the keel or the depth of an echo sounder transducer.

   It is also possible to attach the sensor 1 meter under a floating device. Test this arrangement before you use, and make sure that the pressure sensor on the depth sensor is located 1 meter below the sea surface when lowered into the water.

4 Observe the numerical presentation of the sensor depth, and allow the reading to stabilize itself.

5 Observe the **Main** menu. It is normally located on the right hand side of the PI50 presentation.

6 Click the **Setup** icon.

   This icon is located under the **Main** menu. It is used to open the **Setup** menu.

7 Click **Calibration**.

   The purpose of the **Calibration** dialog box is to accept and apply the calibration information from the depth sensor calibration.

8 In the **Calibration** dialog, click **Start Calibration**.

9 Wait for the PI50 system to do the calibration.

   When the **Calibration** dialog box closes, the calibration has finished. Click **Close** to close the dialog box.

10 Observe the numerical presentation of the sensor depth, and verify that it reads 1 m.

11 Retrieve the sensor from the water.

# Context sensitive on-line help

The PI50 is provided with an extensive context sensitive on-line help system. All information of the *PI50 Reference manual* is also provided in the on-line help. The on-line help is located in a single proprietary Microsoft CHM file. This CHM file will also run on any other computer provided that the computer runs a Microsoft operating system.

To open the help system, click the **Help** button in any dialog box. This will provide instantaneous information about the relevant dialog box with links to related procedures and other topics.

Navigation in the on-line help file is made by means of the menu system on the left side, as well as the interactive links in the document.

### Related topics

- *Opening the context sensitive on-line help* on page 44

# Initial installation and setup procedures

These are the specific procedures required to get you started with the Simrad PI50. Normally, you will only need to do these procedures once.

We recommend that you allow your dealer – with the assistance from a shipyard – to do the physical installation, install the software, obtain a valid license, and get you started.

### Topics


- *Installation of the PI50 software* on page 34
- *Obtaining and installing the PI50 software license* on page 35
- *Setting up the interface between the Processor Unit computer and the Sensor Receiver* on page 36


## Installation of the PI50 software

### Purpose

Use this procedure when you wish to install the PI50 software on a computer.

Note

*Note that minimum hardware and software requirements must be met by the computer.*

### Related topics

### Procedure

1. Power up the computer.
2. Insert the PI50 software media.

   If the PI50 software is provided on a CD or DVD, and your computer is not fitted with a suitable drive, copy the files from the CD/DVD to a USB flash drive.
3. Use a file manager application on the computer to access the software.
4. Double-click on the **Setup.exe** file to start the installation.
5. Allow the installation program to run. Follow the instructions provided.
6. Once the installation has been completed, double-click the program icon on the desktop to start the program.
7. If you use **Windows 7** operating system:
   a. Observe that **Windows 7 Firewall** will open a dialog box requesting information about the network.

      Select *Public*, and click **Allow access**.
   b. The operating system may also open other dialog boxes to verify that the PI50 software can run on the computer. You must permit this.
8. Observe the relevant start-up procedure.

# Obtaining and installing the PI50 software license

## Purpose

The PI50 requires a valid license to operate. This procedure explains how to obtain a license, and how to install it on your PI50 computer.

Without a license you will not be able to communicate with the Sensor Receiver.

Note

*If you replace your computer, or if you replace major components inside your computer, you will need a new license code.*

*We strongly advice you to record the license code for safe keeping. You may for example write it down in the beginning of this manual.*

## Procedure

1 Double-click the PI50 icon on the desktop to start the application.

2 Observe the **Main** menu. It is normally located on the right hand side of the PI50 presentation.

3 Click the **Setup** icon.

This icon is located under the **Main** menu. It is used to open the **Setup** menu.

4 Click **Installation** to open the **Installation** submenu.

On the submenu, click **Software License** to open the **Software License** dialog box.

The purpose of the **Software License** dialog box is to allow you to enter a license code (text string) to unlock the PI50 functionality. In order to obtain the license code(s) required, contact your dealer.

5 Write down the **Hardware ID** provided by the **Software License** dialog box.

6 Contact your dealer to order the software license.

Your dealer will need the following information from you to place the order:

- Vessel name and call sign
- Vessel type (trawler, purse seiner, etc.)
- Vessel owner's name, address and contact information
- Serial number on the Sensor Receiver
- Hardware ID (as provided in the **Software License** dialog box)

7 When the software license is returned to you, start the PI50, open the **Software License** dialog box, and click **Enter Licence String**.

8 Write down the code, and click **Ok**.

9 Click **OK** to save the current settings and close the dialog box.

## Setting up the interface between the Processor Unit computer and the Sensor Receiver

### Purpose

This procedure explains how to set up the communication between the Simrad PI50 computer and the Sensor Receiver. This is normally done only one time.

### Description

Communication with the Sensor Receiver is based on a serial line and proprietary telegrams. You can only set up this communication with a licensed version of the PI50 software.

Important

If you purchase the PI50 Maritime computer, serial port A (1) is set up and activated for this interface. If you use your own computer, make sure that it is equipped with an RS-232 serial port. This is the only way you can communicate with the Sensor Receiver.

### Physical cabling

The first step (with sub-steps) in this procedure explains how to do the physical cabling using the relevant connection. The remaining steps describe how to set up the interface parameters in the PI50 software.

### Procedure

**1** Connect the PI50 computer to the Sensor Receiver using a serial line.

**a** Locate a free serial port that can be used for this communication.

**b** On the chosen serial line socket on the PI50 computer (male connector), connect the RS-232 cable as follows:

- Receive signal **Rx** on pin 2.
- Transmit signal **Tx** on pin 3.
- Common **Ground** on pin 5.

**c** On the Sensor Receiver, use the only serial line socket available (female connector). Connect the RS-232 cable in a 1:1 configuration.

Note

*The connection between the computer and the Sensor Receiver uses a 1:1 serial cable. A suitable cable with length 2 m is provided with the Transceiver Unit. If you need a longer cable, you can extend this cable, or make your own.*

**d** Ensure that the total length of the serial line cable does not exceed approximately 50 meters.

If a longer cable is required, you may need to use buffer amplifiers on the serial line.

2 Click the **Setup** icon.

This icon is located under the **Main** menu. It is used to open the **Setup** menu.

3 Click the **Installation** button to open the **Installation** sub-menu.

On the menu provided, click **I/O Setup** to open the **I/O Setup** dialog box.

4 In the **I/O Setup** dialog, select which serial port to use for this communication.

5 Click on the chosen port to select it, then click the **Input** button to open the **Select Inputs** dialog box.

6 In the **Select Inputs** dialog, locate **PI50** on the left side, and click the [►] button to connect it.

7 Click **OK** to save the current settings and close the dialog box.

8 In the **I/O Setup** dialog box, click on the chosen port to select it, then click the **Setup** button to open the **Serial Port Setup** dialog box.

9 In the **Serial Port Setup** dialog, enter the relevant parameters to set up the port.

- Baud rate: 4800
- Data bits: 8
- Parity: None

Important

If you use your own computer, you may need to verify these settings in the operating system.

In Windows XP, right-click **My Computer** on the desktop. Then, click **Properties →Hardware →Device manager →Ports**.

In Windows 7, open **Computer** from the "Start" icon. Then, click **System properties →Advanced system settings Hardware →Device manager →Ports**.

Right-click on **Ports** to view and/or define communication properties.

10 Click **OK** to save the current settings and close the dialog box.

11 In the **I/O Setup** dialog box, click on the chosen port to select it, then click the **Monitor** button to open the **Port Monitor** dialog box.

12 Check the data flow on the input communication line.

In order to monitor this data flow, the peripheral system must be active and transmitting information to the PI50.

13 If the data flow is operational, close all dialog boxes.

# Operational procedures

This chapter contains several operational procedures explaining how you can put your PI50 to use.

Menu navigation employed by Simrad PI50 is similar to the other Simrad applications which follow the user interface standards developed by Simrad. The main menu is normally located at the right side of the screen, and by means of dedicated icons at the bottom of the main menu, you can open the relevant submenus or dialog boxes. Menu choices shown in dark colours are not available for the current operation or operational mode.

Are there any procedures missing? Are you doing an operation that we have not explained? Write an e-mail to simrad.support@simrad.com and let us know. We may then include the procedure in the next version of this manual.

### Topics


- *User setting procedures* on page 39
- *User preference procedures* on page 41
- *Selection and configuration of sensor measurements* on page 46
- *Sensor presentation procedures* on page 74
- *Alarms and messages procedures* on page 84


### Related topics

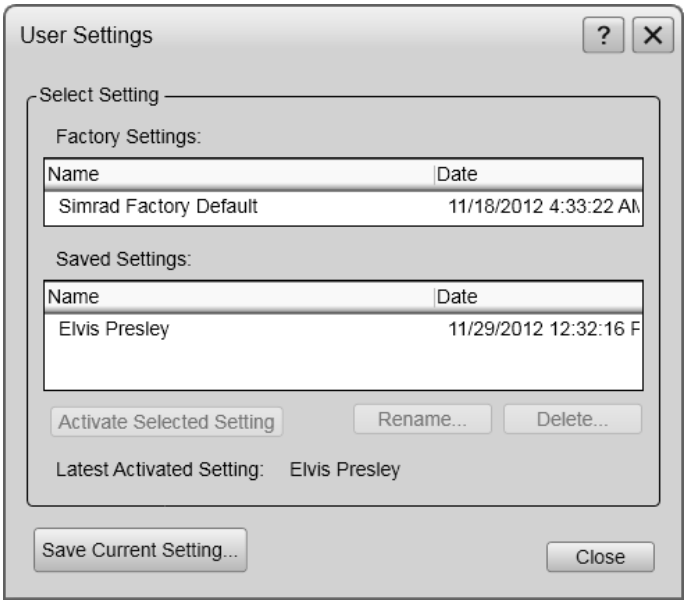

- *Powering up the PI50* on page 18
- *Powering off the PI50* on page 18
- *Starting normal operation* on page 26

# User setting procedures

The PI50 allows you to save user settings. You can save as many settings as you like, the number is only limited by the size of your hard disk.

All parameters you have chosen to set up the PI50 to suit your preferences are saved. You can use any name - including your own - to identify the saved settings. Whenever required, you can retrieve any saved setting, and continue your work.

To reset the entire PI50, you can also retrieve the factory default settings.




### Topics


- *Saving the current user settings* on page 39
- *Using previously saved settings* on page 40
- *Choosing PI50 factory default settings* on page 40


## Saving the current user settings

### Purpose

This procedure explains how to save the current configuration and parameter settings.

If you have several different sensor configurations dedicated for various gears or different tasks, we also strongly recommend that you save these.

### Description

The settings saved using the **User Settings** functionality includes all receiver settings, interface parameters, as well as the currently selected sensors and their communication parameters. This is useful if you operate a combined trawler and seiner using different sensor setup on the different gears.

### Procedure

**1** Observe the **Main** menu. It is normally located on the right hand side of the PI50 presentation.

2 On the **Main** menu, click **User Settings** to open the **User Settings** dialog box.

The **User Settings** dialog box allows you to save the current user settings (parameter selections), and to retrieve factory or previously saved user settings.

3 Click **Save Current Setting**.

4 Type a name for the new setting.

Tip

If you do not have a computer keyboard connected to your PI50 system, click the **Keyboard** button to open an on-screen keyboard.

5 Click **OK** to save the settings with the chosen name.

6 Observe that the name you have chosen appears on the **Saved Settings** list.

7 Click **OK** to save the current settings and close the dialog box.

## Using previously saved settings

### Purpose

If you have saved operational parameters and/or configurations dedicated for different gears or tasks, you can retrieve these for fast and efficient parameter setup.

### Procedure

1 Observe the **Main** menu. It is normally located on the right hand side of the PI50 presentation.

2 On the **Main** menu, click **User Settings** to open the **User Settings** dialog box.

The **User Settings** dialog box allows you to save the current user settings (parameter selections), and to retrieve factory or previously saved user settings.

3 In the **User Setting** dialog box, click once on the requested saved setting in the **Saved Settings** list.

4 Click **Activate Selected Setting**.

5 Click **OK** to save the current settings and close the dialog box.

## Choosing PI50 factory default settings

### Purpose

This procedure explains how to choose the factory or saved parameter settings. Use this if you need to reset the PI50 to known settings.

### Procedure

1 Observe the **Main** menu. It is normally located on the right hand side of the PI50 presentation.

2 On the **Main** menu, click **User Settings** to open the **User Settings** dialog.

The **User Settings** dialog box allows you to save the current user settings (parameter selections), and to retrieve factory or previously saved user settings.

3 In the **Factory Settings** list, click the requested factory setting.

4 Click **Activate Selected Setting**.

5 Click **Close** to exit.

# User preference procedures

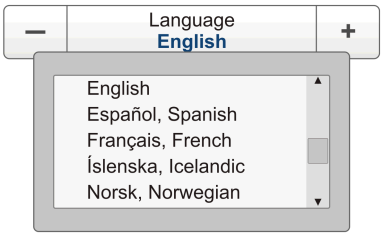
This section provides procedures related to user preferences and individual customizing.

### Topics


- *Selecting menu language* on page 41
- *Choosing colour presentation theme (palette)* on page 42
- *Choosing screen brightness* on page 42
- *Selecting measurement units* on page 43
- *Controlling the order of the sensor views* on page 43
- *Opening the context sensitive on-line help* on page 44


## Selecting menu language

### Purpose




The menu buttons – as well as other texts – in the PI50 presentation are available in several languages. This procedure explains how to select a different language.

### Related topics

- *Display menu* on page 136

### Procedure

1 Observe the **Main** menu. It is normally located on the right hand side of the PI50 presentation.

2 Click the **Display** button to open the menu.

This button is located under the **Main** menu. It is used to open the **Display** submenu.

3 Click the middle of the **Language** button to open a submenu with the available languages.

You can also click the [+] and [–] characters on the button to leaf through the list of available languages.

4 Click once on the language you wish to use.

5 Observe that the submenu closes, and that all text in the menu buttons change to the selected language.

Important

To ensure that all texts are replaced with the chosen language, restart the PI50 application.

The context sensitive on-line help file may also be available in your language. To change the language in the on-line help, you must restart the PI50. If your language is *not* offered, the English on-line help will appear.

## Choosing colour presentation theme (palette)

### Purpose

The PI50 presentation may be set up using one of several colour themes. In the menu system, these are called *palettes*.

### Description

The **Palette** function provides you with options for the colour scheme used on the PI50 display presentation. Select the background colour and brightness to suit the ambient light conditions and your preferences.

The choice you make here does not have any effect on the PI50 performance.

### Procedure

1 Click the **Display** button to open the menu.

This button is located under the **Main** menu. It is used to open the **Display** submenu.

2 On the **Display** menu, click **Colour Setup** to open the **Colour Setup** dialog box.

The purpose of the **Colour Setup** dialog box is to control the presentation colours used by the PI50.

3 Click the palette you wish to use.

To test your choice, make a selection, and click **Apply**.

4 Click **OK** to save the current settings and close the dialog box.

## Choosing screen brightness

### Purpose

This procedure explains how to reduce the intensity of the light emitted from the display.

### Description

When the bridge is dark, the light emitted by the PI50 display can affect your night vision. In order to compensate for this, you can reduce the intensity. The **Screen Brightness** allows you to reduce the this brightness, and hence make the display darker.

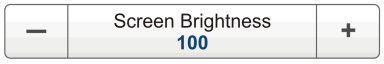
The intensity of light emitted by the display can be reduced from 100% to 0% in steps of 10.

### Procedure

1 Click the **Display** button to open the menu.

This button is located under the **Main** menu. It is used to open the **Display** submenu.

2 Click either side of the **Screen Brightness** button to make the adjustment.




## Selecting measurement units

### Purpose

This procedure explains how to change the measurement units in the PI50 presentations.

### Description

The PI50 is prepared to work with several standards for units of measurements.

Use the **Units** dialog box to set up the various units of measurements you wish to work with. The PI50 will use these in all presentations. Normally, you will only need to define these once.

### Procedure

1 Click the **Display** button to open the menu.

This button is located under the **Main** menu. It is used to open the **Display** submenu.

2 Click **Units** to open the **Units** dialog box.

3 Make the necessary adjustments.

4 Click **OK** to save the current settings and close the dialog box.

## Controlling the order of the sensor views

### Purpose

You can control the vertical order of the sensor view rectangles. This is configuration is made in the **Select Sensors** dialog box.

### Related topics

- *Setup menu* on page 137

### Procedure

1 Click the **Setup** icon.

This icon is located under the **Main** menu. It is used to open the **Setup** menu.

2 Click **Select Sensors** to open the **Select Sensors** dialog box.

3 Observe the list of sensors in the **Selected Sensors** field.

4 In the **Selected Sensors** field, click once on the sensor/measurement name to select it.

5 Click one of the [▲] or [▼] buttons to move the sensor up or down on the list in the **Selected Sensors** field.

Tip

The order in this list also controls the order in which the sensors are presented in the **Sensor Configuration** field, as well as the vertical order of the sensor view rectangles in the PI50 display presentation.

6 Click **OK** to save the current settings and close the dialog box.

## Opening the context sensitive on-line help

### Purpose

This procedure explains how to access the context sensitive on-line help.

### Description

The PI50 is provided with an extensive context sensitive on-line help system. All information of the *PI50 Reference manual* is also provided in the on-line help. The on-line help is located in a single proprietary Microsoft CHM file. This CHM file will also run on any other computer provided that the computer runs a Microsoft operating system.

To open the help system, click the **Help** button in any dialog box. This will provide instantaneous information about the relevant dialog box with links to related procedures and other topics.

Navigation in the on-line help file is made by means of the menu system on the left side, as well as the interactive links in the document.

### Related topics

- *Context sensitive on-line help* on page 33

### Procedure

1 **Method 1:**

Click the [**?**] icon on the **Title bar**. This will open the on-line help file on its start page.

2 **Method 2:**

Click the **Help** button in any dialog box. The description of the related dialog box will appear in the help window.

# Selection and configuration of sensor measurements

This section provides the procedures to set up the measurements made by the various catch monitoring sensors supported by the PI50. A generic procedure is offered, as well as separate procedures for each measurement. All measurements are set up using the **Select Sensors** dialog box.

### Topics


- *Generic procedure for sensor and measurement selection* on page 46
- *Selecting a sensor for bottom contact measurement* on page 50
- *Selecting a sensor for catch measurement* on page 51
- *Selecting a sensor for depth measurement* on page 53
- *Selecting a sensor for height measurement* on page 55
- *Selecting a sensor for spread measurement* on page 57
- *Selecting a sensor for twin spread measurement* on page 59
- *Selecting a sensor for temperature measurement* on page 61
- *Selecting a sensor for geometry measurement* on page 63
- *Selecting a sensor for roll angle measurement* on page 66
- *Selecting a sensor for pitch angle measurement* on page 67
- *Selecting a dual sensor for height and depth measurements* on page 69
- *Selecting a dual sensor for spread and depth measurements* on page 71


## Generic procedure for sensor and measurement selection

### Purpose

This procedure describes how you can select which sensor to use for a specific measurement, and how you can set up the sensor parameters.

### Description

The PI50 allows you to put the entire PI and PX sensor range to use. However, you must select the sensors that you wish to use, set them up in the order you wish to see them on the screen, and select the operational parameters. Both the sensor selection and the parameter setup are done in the **Select Sensors** dialog box.

Tip

If you have several sensor configurations dedicated for different gears or different tasks, we strongly recommend that you save these for future use. Use the **User Settings** dialog box on the **Main** menu.

### Related topics


- *Saving the current user settings* on page 31
- *Sensor view descriptions* on page 96

## Procedure

1 Observe the **Main** menu. It is normally located on the right hand side of the PI50 presentation.

2 Click the **Setup** icon.

This icon is located under the **Main** menu. It is used to open the **Setup** menu.

3 Click **Select Sensors** to open the **Select Sensors** dialog box.

4 Observe the **Available Sensors** list on the upper left side of the dialog box.

It lists all the sensor types supported by the PI50.

5 Click once a sensor type to select it.

6 Click the [►] button to copy the chosen sensor to the **Selected Sensors** list.

7 Repeat to select all requested sensors.

The PI50 system will keep track of the quantity of sensors you are adding to the **Selected Sensors** list. If you try to add too many sensors, a message will let you know.

If you need to remove a sensor from the **Selected Sensors** list, click on it, and then click the [◄] button.

8 In the **Select Sensors** dialog box, observe the items in the **Selected Sensors** list.

Tip

The order of the sensors in this list is also reflected to the order of the sensor view rectangles.

9 Click once a sensor type to select it.

10 Click one of the [▲] or [▼] buttons to move the sensor up or down on the list in the **Selected Sensors** field.

Tip

The order in this list also controls the order in which the sensors are presented in the **Sensor Configuration** field, as well as the vertical order of the sensor view rectangles in the PI50 display presentation.

11 Observe the list of sensors in the **Sensor Configuration** field at the bottom of the dialog.

12 For each sensor in the **Sensor Configuration** field:

**a** Select **Label ID** (identification).

This number is used to identify the catch monitoring sensor.

The **Label ID** must be unique for each sensor, and we recommend that you let it match the physical label placed on the sensor. The number you choose will be used in the *Sensor* view.

Tip

The *order* in which the *Sensor* views are presented is defined by the order in the **Selected Sensors** list.

**b** Select **Label Name**.

By default, the **Label Name** is the same as the sensor name listed with the **Available sensors**.

Click in the field to enter another name.

The **Label Name** is only shown in this dialog box, and you can use it to distingush between otherwise identical sensors in the **Selected Sensors** list.

Tip

If you do not have a computer keyboard connected to your PI50 system, click the **Keyboard** button to open an on-screen keyboard.

**c** Select **Update Rate**.

This parameter is used to select the sensor's update rate. This is how often the PI50 can expect to receive information from the sensor.

Important

The Simrad PX MultiSensor is permanently set to *Normal* update rate.

To change the update rate for a PI sensor, use the **PI Configurator** program.

Note

*The **Update Rate** parameter is vital. The update rate you choose here must comply to the update rate programmed into the sensor. If these do not match, the communication will not work.*

*If you use the PX MultiSensor, the **Update Rate** is fixed, and you must always choose Normal update rate.*

**d** Select **Sensor Value Name**.

By default, the **Sensor Value Name** is the same as the sensor name listed in the **Available Sensors** list. If you have a keyboard connected to the PI50 computer, you can click in the field, and enter another name. You can also open the on-screen keyboard.

The **Sensor Value Name** is used in the *Sensor* views. If you are setting up a dual sensor, you can enter two different names, for example “Port door” and “Starboard door”.

*Example 3 Sensor Value Name*

If you have three catch sensors on your trawl, you can name them “20 Ton”, “40 Ton” and “60 Ton”.

**e** Select **Channel Number**.

This is the communication channel used between the catch monitoring sensor and the PI50 system.

If you use more than one sensors of the same type at the same time, the channel number of one of the sensors must be changed to make it unique for the sensor. This must be changed both in the actual sensor, and in the **Select Sensors** dialog box during configuration.

To change the channel number in the sensor, use either the **PI Configurator** or the **PX Configurator** program.

Note

*The **Channel Number** parameter is vital. The communication channel number you choose here must comply to the channel number programmed into the sensor. If these do not match, the communication will not work. By default, the channel number will match the factory setting.*

**f** Observe the **Offset** value.

Sensors measuring spread and depth can have an offset value.

The offset value for the depth sensors are determined during calibration.

The offset value for the spread sensor must be entered manually based on your knowledge about the physical locations of the sensors and the properties of the gear.

**13** Click **Apply** to save the sensor configuration.

**14** Check that all sensors are shown in the PI50 presentation.

**15** Click **OK** to save the current settings and close the dialog box.

**16** If you have several sensor configurations dedicated for different gears or different tasks, we strongly recommend that you save these for future use. Use the **User Settings** dialog box on the **Main** menu.

## Selecting a sensor for bottom contact measurement

### Purpose

This procedure explains how to select and set up the a bottom contact sensor.

The following Simrad catch monitoring sensors can be used to measure bottom contact:

- PI Bottom Contact
- PS Bottom Contact

### Procedure

**1** Click the **Setup** icon.

This icon is located under the **Main** menu. It is used to open the **Setup** menu.

**2** Click **Select Sensors** to open the **Select Sensors** dialog box.

**3** Observe the **Available Sensors** list on the upper left side of the dialog box.

It lists all the sensor types supported by the PI50.

**4** Click once on **Bottom Contact** in the list, then click the [►] button to copy the sensor to the **Selected Sensors** list.

**5** Observe that an error message appears if you try to add too many sensors to the **Selected Sensors** field.

Depending on which Sensor Receiver you use, the PI50 can handle maximum six or ten measurements. Remember that dual sensors each seize two communication channels.

**6** In the **Selected Sensors** field, click once on the sensor/measurement name to select it.

**7** Click one of the [▲] or [▼] buttons to move the sensor up or down on the list in the **Selected Sensors** field.

Tip

The order in this list also controls the order in which the sensors are presented in the **Sensor Configuration** field, as well as the vertical order of the sensor view rectangles in the PI50 display presentation.

**8** In the **Sensor Configuration** field, choose:

**a** **Label ID**

**b** **Label Name** (The name you choose here is only shown in the **Selected Sensors** list.)

**c** **Update Rate** (Note that the Simrad PX MultiSensor only supports *Normal* update rate.)

**d** **Sensor Value Name** (The name you choose here is shown in the sensor view rectangle.)

**e** **Channel Number**

Note

*It is very important that the **Channel number** and **Update Rate** parameters defined for each sensor in the **Select Sensors** dialog box matches the corresponding parameters programmed into the sensor. If these vital parameters do not match, you will not receive information from the sensor.*

*The **Channel number** must be unique for each sensor in simultaneous use.*

**9** If this is the only sensor you wish to set up, or the last sensor, click **Ok** to save the settings and close the dialog.

### Related topics

- *'Bottom contact' sensor view description* on page 96
- *'Bottom contact' trend view description* on page 122
- *Selecting a sensor for bottom contact measurement* on page 50

## Selecting a sensor for catch measurement

### Purpose

This procedure explains how to select and set up a catch sensor.

Note

*This procedure is also used to set up the rip measurement.*

The following Simrad catch monitoring sensors can be used to measure catch:

- PS Catch
- PI Catch
- PX MultiSensor

Important

The PX MultiSensor must be equipped with a dedicated lid to make this measurement.

### Procedure

**1** Click the **Setup** icon.

This icon is located under the **Main** menu. It is used to open the **Setup** menu.

**2** Click **Select Sensors** to open the **Select Sensors** dialog box.

**3** Observe the **Available Sensors** list on the upper left side of the dialog box.

It lists all the sensor types supported by the PI50.

4 Click once on **Catch** in the list, then click the [►] button to copy the sensor to the **Selected Sensors** list.

5 Observe that an error message appears if you try to add too many sensors to the **Selected Sensors** field.

Depending on which Sensor Receiver you use, the PI50 can handle maximum six or ten measurements. Remember that dual sensors each seize two communication channels.

6 In the **Selected Sensors** field, click once on the sensor/measurement name to select it.

7 Click one of the [▲] or [▼] buttons to move the sensor up or down on the list in the **Selected Sensors** field.

Tip

The order in this list also controls the order in which the sensors are presented in the **Sensor Configuration** field, as well as the vertical order of the sensor view rectangles in the PI50 display presentation.

8 In the **Sensor Configuration** field, choose:

**a** **Label ID**

**b** **Label Name** (The name you choose here is only shown in the **Selected Sensors** list.)

**c** **Update Rate** (Note that the Simrad PX MultiSensor only supports *Normal* update rate.)

**d** **Sensor Value Name** (The name you choose here is shown in the sensor view rectangle.)

**e** **Channel Number**

Note

*It is very important that the **Channel number** and **Update Rate** parameters defined for each sensor in the **Select Sensors** dialog box matches the corresponding parameters programmed into the sensor. If these vital parameters do not match, you will not receive information from the sensor.*

*The **Channel number** must be unique for each sensor in simultaneous use.*

9 If you are using a Simrad PX MultiSensor:

Important

Make sure that you have set the **Update Rate** to *Normal*.

10 If this is the only sensor you wish to set up, or the last sensor, click **Ok** to save the settings and close the dialog.

### Related topics

- *'Catch' sensor view description* on page 98
- *'Catch' trend view description* on page 123
- *Selecting a sensor for catch measurement* on page 51

## Selecting a sensor for depth measurement

### Purpose

This procedure explains how to select and set up a depth sensor.

The following Simrad catch monitoring sensors can be used to measure depth:

- PS Depth
- PI Depth
- PI Spread/Depth
- PI Height/Depth
- PI Remote/Depth
- PI SeineSounder
- PX MultiSensor

Important

The PX MultiSensor must be equipped with a dedicated lid to make this measurement.

Note

*Dedicated procedures are provided for selection and configuration of the dual measurement PI sensors. The two measurements provided by the PX MultiSensor can set up individually, or according to the "dual sensor" procedures.*

### Procedure

1 Click the **Setup** icon.

This icon is located under the **Main** menu. It is used to open the **Setup** menu.

2 Click **Select Sensors** to open the **Select Sensors** dialog box.

3 Observe the **Available Sensors** list on the upper left side of the dialog box.

It lists all the sensor types supported by the PI50.

**4** If you use a PI or PS sensor, click once on the relevant **Depth** range in the list.

If you use a PX MultiSensor, click once on the **Depth 1000 m** in the list.

Then, click the [►] button to copy the chosen sensor to the **Selected Sensors** list.

With the PI and PS Depth sensors, three depth versions are available. These are set up for maximum depth 300 m, 600 m or 1000 m. The depth range is fixed by the factory, and can not be changed in the PI Configurator utility. The Simrad PX MultiSensor is set to a fixed 1000 meters range.

Important

When you set up the Simrad PX MultiSensor to measure depth, make sure that you select the 1000 m depth version. If you select the wrong depth range, the measurements will be wrong!

---

**5** Observe that an error message appears if you try to add too many sensors to the **Selected Sensors** field.

Depending on which Sensor Receiver you use, the PI50 can handle maximum six or ten measurements. Remember that dual sensors each seize two communication channels.

**6** In the **Selected Sensors** field, click once on the sensor/measurement name to select it.

**7** Click one of the [▲] or [▼] buttons to move the sensor up or down on the list in the **Selected Sensors** field.

Tip

The order in this list also controls the order in which the sensors are presented in the **Sensor Configuration** field, as well as the vertical order of the sensor view rectangles in the PI50 display presentation.

---

**8** In the **Sensor Configuration** field, choose:

**a** **Label ID**

**b** **Label Name** (The name you choose here is only shown in the **Selected Sensors** list.)

**c** **Update Rate** (Note that the Simrad PX MultiSensor only supports *Normal* update rate.)

**d** **Sensor Value Name** (The name you choose here is shown in the sensor view rectangle.)

**e** **Channel Number**

Note

*It is very important that the **Channel number** and **Update Rate** parameters defined for each sensor in the **Select Sensors** dialog box matches the corresponding parameters programmed into the sensor. If these vital parameters do not match, you will not receive information from the sensor.*

*The **Channel number** must be unique for each sensor in simultaneous use.*

**9** If you are using a Simrad PX MultiSensor:

Important

Make sure that you have set the **Update Rate** to *Normal*.

**10** Select offset for the depth measurement.

The offset for the depth sensor is calculated automatically by means of the calibration procedure. If you already know the offset value, you can type it in directly.

**11** Click the **Advanced Sensor Configuration** button.

Observe that additional choices are added to the **Sensor Configuration** field.

**12** If you have a height sensor in use, and it is physically mounted near the depth sensor, you can set up a connection to it.

In the **Sensor Linking** list, select the relevant height sensor.

This will allow the PI50 to show you the gear related to both surface and bottom. The PI50 can also calculate and display the total water depth.

**13** If this is the only sensor you wish to set up, or the last sensor, click **Ok** to save the settings and close the dialog.

### Related topics

- *'Depth' sensor view description* on page 99
- *'Depth' trend view description* on page 123
- *Selecting a sensor for depth measurement* on page 53
- *Setting up spread and depth sensors to measure vertical geometry* on page 77
- *Setting up depth and height sensors to measure total water depth* on page 79

## Selecting a sensor for height measurement

### Purpose

This procedure explains how to select and set up a height sensor.

The following Simrad catch monitoring sensors can be used to measure height:

- PI Height
- PI Height/Depth
- PI SeineSounder
- PX MultiSensor

Note

*Dedicated procedures are provided for selection and configuration of the dual measurement PI sensors. The two measurements provided by the PX MultiSensor can set up individually, or according to the "dual sensor" procedures.*

### Procedure

**1** Click the **Setup** icon.

This icon is located under the **Main** menu. It is used to open the **Setup** menu.

**2** Click **Select Sensors** to open the **Select Sensors** dialog box.

**3** Observe the **Available Sensors** list on the upper left side of the dialog box.

It lists all the sensor types supported by the PI50.

**4** Click once on **Height** in the list, then click the [►] button to copy the sensor to the **Selected Sensors** list.

**5** Observe that an error message appears if you try to add too many sensors to the **Selected Sensors** field.

Depending on which Sensor Receiver you use, the PI50 can handle maximum six or ten measurements. Remember that dual sensors each seize two communication channels.

**6** In the **Selected Sensors** field, click once on the sensor/measurement name to select it.

**7** Click one of the [▲] or [▼] buttons to move the sensor up or down on the list in the **Selected Sensors** field.

Tip

The order in this list also controls the order in which the sensors are presented in the **Sensor Configuration** field, as well as the vertical order of the sensor view rectangles in the PI50 display presentation.

**8** In the **Sensor Configuration** field, choose:

**a** **Label ID**

**b** **Label Name** (The name you choose here is only shown in the **Selected Sensors** list.)

**c** **Update Rate** (Note that the Simrad PX MultiSensor only supports *Normal* update rate.)

**d** **Sensor Value Name** (The name you choose here is shown in the sensor view rectangle.)

**e** **Channel Number**

Note

*It is very important that the **Channel number** and **Update Rate** parameters defined for each sensor in the **Select Sensors** dialog box matches the corresponding parameters programmed into the sensor. If these vital parameters do not match, you will not receive information from the sensor.*

*The **Channel number** must be unique for each sensor in simultaneous use.*

**9** If you are using a Simrad PX MultiSensor:

Important

Make sure that you have set the **Update Rate** to *Normal*.

**10** Click the **Advanced Sensor Configuration** button.

Observe that additional choices are added to the **Sensor Configuration** field.

**11** Type the trawl opening.

This will allow the trawl opening to be shown in the *Height* trend view.

**12** If this is the only sensor you wish to set up, or the last sensor, click **Ok** to save the settings and close the dialog.

### Related topics

- *'Height' sensor view description* on page 102
- *'Height' trend view description* on page 124
- *Selecting a sensor for height measurement* on page 55
- *Setting up depth and height sensors to measure total water depth* on page 79
- *Setting up the height sensor to show the trawl opening* on page 79

## Selecting a sensor for spread measurement

### Purpose

This procedure explains how to select and set up a spread sensor.

Note

*Dedicated procedures are provided for selection and configuration of the dual measurement PI sensors. The two measurements provided by the PX MultiSensor can set up individually, or according to the "dual sensor" procedures.*

The following Simrad catch monitoring sensors can be used to measure single and dual spread:

- PI Spread (with a PI Remote or a PI Remote/Depth sensor on the other door)
- PI Spread/Depth (with a PI Remote or a PI Remote/Depth sensor on the other door)
- PX MultiSensor

Tip

When the PX MultiSensor is used to measure spread, the remote sensor must be a second PX MultiSensor. The PI Remote sensor can not be used.

## Procedure

1 Click the **Setup** icon.

This icon is located under the **Main** menu. It is used to open the **Setup** menu.

2 Click **Select Sensors** to open the **Select Sensors** dialog box.

3 Observe the **Available Sensors** list on the upper left side of the dialog box.

It lists all the sensor types supported by the PI50.

4 Click once on **Spread** in the list, then click the [►] button to copy the sensor to the **Selected Sensors** list.

Tip

With both the PI Spread sensors and the Simrad PX MultiSensor, two versions are available. They can be set up for standard or extended (XT) spread range. This configuration can be changed in the relevant sensor configuration program.

5 Observe that an error message appears if you try to add too many sensors to the **Selected Sensors** field.

Depending on which Sensor Receiver you use, the PI50 can handle maximum six or ten measurements. Remember that dual sensors each seize two communication channels.

6 In the **Selected Sensors** field, click once on the sensor/measurement name to select it.

7 Click one of the [▲] or [▼] buttons to move the sensor up or down on the list in the **Selected Sensors** field.

Tip

The order in this list also controls the order in which the sensors are presented in the **Sensor Configuration** field, as well as the vertical order of the sensor view rectangles in the PI50 display presentation.

8 In the **Sensor Configuration** field, choose:

**a** **Label ID**

**b** **Label Name** (The name you choose here is only shown in the **Selected Sensors** list.)

**c** **Update Rate** (Note that the Simrad PX MultiSensor only supports *Normal* update rate.)

**d** **Sensor Value Name** (The name you choose here is shown in the sensor view rectangle.)

**e** **Channel Number**

Note

*It is very important that the **Channel number** and **Update Rate** parameters defined for each sensor in the **Select Sensors** dialog box matches the corresponding parameters programmed into the sensor. If these vital parameters do not match, you will not receive information from the sensor.*

*The **Channel number** must be unique for each sensor in simultaneous use.*

**9** Select offset for the spread sensor.

The offset for the spread sensor must be entered manually based on your knowledge about the sensor installation and the properties of the gear. You can enter a value between +99 and –99 meters.

**10** If you are using a Simrad PX MultiSensor:

Important

Make sure that you have set the **Update Rate** to *Normal*.

**11** Click the **Advanced Sensor Configuration** button.

Observe that additional choices are added to the **Sensor Configuration** field.

**12** Connect the spread sensor to a port and/or starboard depth sensor.

This will allow you to set up the system to measure vertical geometry. Refer to the dedicated procedure.

**13** If this is the only sensor you wish to set up, or the last sensor, click **Ok** to save the settings and close the dialog.

### Related topics

- *'Spread' sensor view description* on page 103
- *'Spread' trend view description* on page 124
- *Selecting a sensor for spread measurement* on page 57
- *Setting up spread and depth sensors to measure vertical geometry* on page 77

## Selecting a sensor for twin spread measurement

### Purpose

This procedure explains how to select and set up a sensor for twin spread measurements.

Note

*This is a "dual" measurement. The sensor system will seize two communication channels on your PI50.*

The following Simrad catch monitoring sensors can be used to measure single and dual spread:

- PI Spread (with a PI Remote or a PI Remote/Depth sensor on the other door)
- PI Spread/Depth (with a PI Remote or a PI Remote/Depth sensor on the other door)
- PX MultiSensor

  Tip

  When the PX MultiSensor is used to measure spread, the remote sensor must be a second PX MultiSensor. The PI Remote sensor can not be used.

## Procedure

**1** Click the **Setup** icon.

This icon is located under the **Main** menu. It is used to open the **Setup** menu.

**2** Click **Select Sensors** to open the **Select Sensors** dialog box.

**3** Observe the **Available Sensors** list on the upper left side of the dialog box.

It lists all the sensor types supported by the PI50.

**4** Click once on **Twin Spread** in the list, then click the [►] button to copy the sensor to the **Selected Sensors** list.

**5** Observe that an error message appears if you try to add too many sensors to the **Selected Sensors** field.

Depending on which Sensor Receiver you use, the PI50 can handle maximum six or ten measurements. Remember that dual sensors each seize two communication channels.

**6** In the **Selected Sensors** field, click once on the sensor/measurement name to select it.

**7** Click one of the [▲] or [▼] buttons to move the sensor up or down on the list in the **Selected Sensors** field.

Tip

The order in this list also controls the order in which the sensors are presented in the **Sensor Configuration** field, as well as the vertical order of the sensor view rectangles in the PI50 display presentation.

**8** In the **Sensor Configuration** field, choose:

**a** **Label ID**

**b** **Label Name** (The name you choose here is only shown in the **Selected Sensors** list.)

**c** **Update Rate** (Note that the Simrad PX MultiSensor only supports *Normal* update rate.)

**d** **Sensor Value Name** (The name you choose here is shown in the sensor view rectangle.)

**e** **Channel Number**

Note

*It is very important that the **Channel number** and **Update Rate** parameters defined for each sensor in the **Select Sensors** dialog box matches the corresponding parameters programmed into the sensor. If these vital parameters do not match, you will not receive information from the sensor.*

*The **Channel number** must be unique for each sensor in simultaneous use.*

**9** Select offset for the spread sensor.

The offset for the spread sensor must be entered manually based on your knowledge about the sensor installation and the properties of the gear. You can enter a value between +99 and –99 meters.

**10** If you are using a Simrad PX MultiSensor:

Important

Make sure that you have set the **Update Rate** to *Normal*.

**11** If this is the only sensor you wish to set up, or the last sensor, click **Ok** to save the settings and close the dialog.

### Related topics

- *'Twin Spread' sensor view description* on page 105
- *'Twin spread' trend view description* on page 125
- *Selecting a sensor for twin spread measurement* on page 59

## Selecting a sensor for temperature measurement

### Purpose

This procedure explains how to select and set up a temperature sensor.

The following Simrad catch monitoring sensors can be used to measure temperature:

- PS Temperature
- PI Temperature
- PX MultiSensor

Important

The PX MultiSensor must be equipped with a dedicated lid to make this measurement.

Note

*Dedicated procedures are provided for selection and configuration of the dual measurement PI sensors. The two measurements provided by the PX MultiSensor can set up individually, or according to the "dual sensor" procedures.*

## Procedure

**1** Click the **Setup** icon.

This icon is located under the **Main** menu. It is used to open the **Setup** menu.

**2** Click **Select Sensors** to open the **Select Sensors** dialog box.

**3** Observe the **Available Sensors** list on the upper left side of the dialog box.

It lists all the sensor types supported by the PI50.

**4** Click once on **Temperature** in the list, then click the [►] button to copy the sensor to the **Selected Sensors** list.

**5** Observe that an error message appears if you try to add too many sensors to the **Selected Sensors** field.

Depending on which Sensor Receiver you use, the PI50 can handle maximum six or ten measurements. Remember that dual sensors each seize two communication channels.

**6** In the **Selected Sensors** field, click once on the sensor/measurement name to select it.

**7** Click one of the [▲] or [▼] buttons to move the sensor up or down on the list in the **Selected Sensors** field.

Tip

The order in this list also controls the order in which the sensors are presented in the **Sensor Configuration** field, as well as the vertical order of the sensor view rectangles in the PI50 display presentation.

**8** In the **Sensor Configuration** field, choose:

**a** **Label ID**

**b** **Label Name** (The name you choose here is only shown in the **Selected Sensors** list.)

**c** **Update Rate** (Note that the Simrad PX MultiSensor only supports *Normal* update rate.)

**d** **Sensor Value Name** (The name you choose here is shown in the sensor view rectangle.)

**e** **Channel Number**

Note

*It is very important that the **Channel number** and **Update Rate** parameters defined for each sensor in the **Select Sensors** dialog box matches the corresponding parameters programmed into the sensor. If these vital parameters do not match, you will not receive information from the sensor.*

*The **Channel number** must be unique for each sensor in simultaneous use.*

**9** If you are using a Simrad PX MultiSensor:

Important

Make sure that you have set the **Update Rate** to *Normal*.

**10** If this is the only sensor you wish to set up, or the last sensor, click **Ok** to save the settings and close the dialog.

### Related topics

- *'Temperature' sensor view description* on page 109
- *'Temperature' trend view description* on page 125
- *Selecting a sensor for temperature measurement* on page 61

## Selecting a sensor for geometry measurement

### Purpose

This procedure explains how to select and set up a geometry sensor.

The following Simrad catch monitoring sensors can be used to measure geometry:

- PX MultiSensor

  You need three sensors. One must be set up as the "geometry" sensor and placed behind the headrope. The two others must be set up as "remote" sensors and placed on each trawl door.

  Important

  When a PX MultiSensor is placed on the trawl door for geometry measurements, it must be placed "backwards" with the tip of the sensor pointing towards the headrope.

Tip

You can also use one PX MultiSensor behind the headrope and two PI Mini-R transponders on the trawl doors.

- PI Geometry

  You need one PI Geometry sensor, and two PI Mini-R transponders. The PI Geometry sensor is placed behind the headrope, while the two PI Mini-R transponders are mounted on the trawl doors (or trawl wings).

## Description

When you select a geometry sensor in the **Select Sensor** dialog box, you are presented with the following choices:

**a** **Geometry Fine**

High resolution mode to detect smaller changes.

**b** **Geometry Coarse**

Low resolution mode to detect larger changes.

**c** **Geometry XT Fine**

Extended range, high resolution mode to detect smaller changes.

**d** **Geometry XT Coarse**

Extended range, low resolution mode to detect larger changes.

**e** **Geometry Differential Fine**

Differential measurement (uses only one communication channel), high resolution mode to detect smaller changes.

**f** **Geometry Differential Coarse**

Differential measurement (uses only one communication channel), low resolution mode to detect larger changes.

## Procedure

**1** Click the **Setup** icon.

This icon is located under the **Main** menu. It is used to open the **Setup** menu.

**2** Click **Select Sensors** to open the **Select Sensors** dialog box.

**3** Observe the **Available Sensors** list on the upper left side of the dialog box.

It lists all the sensor types supported by the PI50.

4 Click once on one of the **Geometry** options in the list, then click the [►] button to copy the chosen sensor to the **Selected Sensors** list.

Note

*The two Geometry Differential views are both "single" views. The other geometry views are all "dual". These sensors will seize two communication channels on your PI50.*

5 Observe that an error message appears if you try to add too many sensors to the **Selected Sensors** field.

Depending on which Sensor Receiver you use, the PI50 can handle maximum six or ten measurements. Remember that dual sensors each seize two communication channels.

6 In the **Selected Sensors** field, click once on the sensor/measurement name to select it.

7 Click one of the [▲] or [▼] buttons to move the sensor up or down on the list in the **Selected Sensors** field.

Tip

The order in this list also controls the order in which the sensors are presented in the **Sensor Configuration** field, as well as the vertical order of the sensor view rectangles in the PI50 display presentation.

8 In the **Sensor Configuration** field, choose:

- **a** **Label ID**
- **b** **Label Name** (The name you choose here is only shown in the **Selected Sensors** list.)
- **c** **Update Rate** (Note that the Simrad PX MultiSensor only supports *Normal* update rate.)
- **d** **Sensor Value Name** (The name you choose here is shown in the sensor view rectangle.)
- **e** **Channel Number**

Note

*It is very important that the **Channel number** and **Update Rate** parameters defined for each sensor in the **Select Sensors** dialog box matches the corresponding parameters programmed into the sensor. If these vital parameters do not match, you will not receive information from the sensor.*

*The **Channel number** must be unique for each sensor in simultaneous use.*

9 If you are using a Simrad PX MultiSensor:

Important

Make sure that you have set the **Update Rate** to *Normal*.

**10** If this is the only sensor you wish to set up, or the last sensor, click **Ok** to save the settings and close the dialog.

### Related topics

- *'Geometry' sensor view description* on page 112
- *'Geometry Differential' sensor view description* on page 115
- *'Geometry' trend view description* on page 126
- *Selecting a sensor for geometry measurement* on page 63

## Selecting a sensor for roll angle measurement

### Purpose

This procedure explains how to select and set up a sensor for roll angle measurements.

The following Simrad catch monitoring sensors can be used to measure roll:

- PX MultiSensor

### Procedure

**1** Click the **Setup** icon.

This icon is located under the **Main** menu. It is used to open the **Setup** menu.

**2** Click **Select Sensors** to open the **Select Sensors** dialog box.

**3** Observe the **Available Sensors** list on the upper left side of the dialog box.

It lists all the sensor types supported by the PI50.

**4** Click once on **Roll Angle** in the list, then click the [►] button to copy the sensor to the **Selected Sensors** list.

**5** Observe that an error message appears if you try to add too many sensors to the **Selected Sensors** field.

Depending on which Sensor Receiver you use, the PI50 can handle maximum six or ten measurements. Remember that dual sensors each seize two communication channels.

**6** In the **Selected Sensors** field, click once on the sensor/measurement name to select it.

**7** Click one of the [▲] or [▼] buttons to move the sensor up or down on the list in the **Selected Sensors** field.

Tip

The order in this list also controls the order in which the sensors are presented in the **Sensor Configuration** field, as well as the vertical order of the sensor view rectangles in the PI50 display presentation.

**8** In the **Sensor Configuration** field, choose:

**a** **Label ID**

**b** **Label Name** (The name you choose here is only shown in the **Selected Sensors** list.)

**c** **Update Rate** (Note that the Simrad PX MultiSensor only supports *Normal* update rate.)

**d** **Sensor Value Name** (The name you choose here is shown in the sensor view rectangle.)

**e** **Channel Number**

Note

*It is very important that the **Channel number** and **Update Rate** parameters defined for each sensor in the **Select Sensors** dialog box matches the corresponding parameters programmed into the sensor. If these vital parameters do not match, you will not receive information from the sensor.*

*The **Channel number** must be unique for each sensor in simultaneous use.*

**9** If you are using a Simrad PX MultiSensor:

Important

Make sure that you have set the **Update Rate** to *Normal*.

**10** Select wether the sensor is located on the port or starboard trawl door.

**11** If this is the only sensor you wish to set up, or the last sensor, click **Ok** to save the settings and close the dialog.

### Related topics

- *'Roll' sensor view description* on page 120
- *'Roll' trend view description* on page 127
- *Selecting a sensor for roll angle measurement* on page 66

## Selecting a sensor for pitch angle measurement

### Purpose

This procedure explains how to select and set up a sensor for pitch angle measurements.

The following Simrad catch monitoring sensors can be used to measure pitch:

- PX MultiSensor

### Procedure

**1** Click the **Setup** icon.

This icon is located under the **Main** menu. It is used to open the **Setup** menu.

**2** Click **Select Sensors** to open the **Select Sensors** dialog box.

**3** Observe the **Available Sensors** list on the upper left side of the dialog box.

It lists all the sensor types supported by the PI50.

**4** Click once on **Pitch Angle** in the list, then click the [►] button to copy the sensor to the **Selected Sensors** list.

**5** Observe that an error message appears if you try to add too many sensors to the **Selected Sensors** field.

Depending on which Sensor Receiver you use, the PI50 can handle maximum six or ten measurements. Remember that dual sensors each seize two communication channels.

**6** In the **Selected Sensors** field, click once on the sensor/measurement name to select it.

**7** Click one of the [▲] or [▼] buttons to move the sensor up or down on the list in the **Selected Sensors** field.

Tip

The order in this list also controls the order in which the sensors are presented in the **Sensor Configuration** field, as well as the vertical order of the sensor view rectangles in the PI50 display presentation.

**8** In the **Sensor Configuration** field, choose:

- **a** **Label ID**
- **b** **Label Name** (The name you choose here is only shown in the **Selected Sensors** list.)
- **c** **Update Rate** (Note that the Simrad PX MultiSensor only supports *Normal* update rate.)
- **d** **Sensor Value Name** (The name you choose here is shown in the sensor view rectangle.)
- **e** **Channel Number**

Note

*It is very important that the **Channel number** and **Update Rate** parameters defined for each sensor in the **Select Sensors** dialog box matches the corresponding parameters programmed into the sensor. If these vital parameters do not match, you will not receive information from the sensor.*

*The **Channel number** must be unique for each sensor in simultaneous use.*

**9** If you are using a Simrad PX MultiSensor:

Important

Make sure that you have set the **Update Rate** to *Normal*.

**10** Select wether the sensor is located on the port or starboard trawl door.

**11** If this is the only sensor you wish to set up, or the last sensor, click **Ok** to save the settings and close the dialog.

### Related topics

- *'Pitch' sensor view description* on page 119
- *'Pitch' trend view description* on page 127
- *Selecting a sensor for pitch angle measurement* on page 67

## Selecting a dual sensor for height and depth measurements

### Purpose

This procedure explains how to select and set up a dual sensor for height and depth measurements. This measurement was originally designed for the PI SeineSounder sensor.

Note

*One PX MultiSensor can also be set up to provide height and depth measurements simultaneously. A PX sensor can be set up as two individual sensors, or as a dual sensor according to this procedure.*

Note

*This is a "dual" measurement. The sensor system will seize two communication channels on your PI50.*

### Procedure

**1** Click the **Setup** icon.

This icon is located under the **Main** menu. It is used to open the **Setup** menu.

**2** Click **Select Sensors** to open the **Select Sensors** dialog box.

**3** Observe the **Available Sensors** list on the upper left side of the dialog box.

It lists all the sensor types supported by the PI50.

**4** Click once on one of the three **Height/Depth** or **SeineSounder** options in the list, then click the [►] button to copy the chosen sensor to the **Selected Sensors** list.

With the PI and PS Depth sensors, three depth versions are available. These are set up for maximum depth 300 m, 600 m or 1000 m. The depth range is fixed by the factory, and can not be changed in the PI Configurator utility. The Simrad PX MultiSensor is set to a fixed 1000 meters range.

Important

When you set up the Simrad PX MultiSensor to measure depth, make sure that you select the 1000 m depth version. If you select the wrong depth range, the measurements will be wrong!

**5** Observe that an error message appears if you try to add too many sensors to the **Selected Sensors** field.

Depending on which Sensor Receiver you use, the PI50 can handle maximum six or ten measurements. Remember that dual sensors each seize two communication channels.

**6** In the **Selected Sensors** field, click once on the sensor/measurement name to select it.

**7** Click one of the [▲] or [▼] buttons to move the sensor up or down on the list in the **Selected Sensors** field.

Tip

The order in this list also controls the order in which the sensors are presented in the **Sensor Configuration** field, as well as the vertical order of the sensor view rectangles in the PI50 display presentation.

**8** In the **Sensor Configuration** field, choose:

- **a** **Label ID**
- **b** **Label Name** (The name you choose here is only shown in the **Selected Sensors** list.)
- **c** **Update Rate** (Note that the Simrad PX MultiSensor only supports *Normal* update rate.)
- **d** **Sensor Value Name** (The name you choose here is shown in the sensor view rectangle.)
- **e** **Channel Number**

Note

*It is very important that the **Channel number** and **Update Rate** parameters defined for each sensor in the **Select Sensors** dialog box matches the corresponding parameters programmed into the sensor. If these vital parameters do not match, you will not receive information from the sensor.*

*The **Channel number** must be unique for each sensor in simultaneous use.*

**9** If you are using a Simrad PX MultiSensor:

Important

Make sure that you have set the **Update Rate** to *Normal*.

**10** Select offset for the depth measurement.

The offset for the depth sensor is calculated automatically by means of the calibration procedure. If you already know the offset value, you can type it in directly.

**11** If this is the only sensor you wish to set up, or the last sensor, click **Ok** to save the settings and close the dialog.

### Related topics

- *'Height/Depth' sensor view description* on page 117
- *Selecting a dual sensor for height and depth measurements* on page 69

## Selecting a dual sensor for spread and depth measurements

### Purpose

This procedure explains how to select and set up a dual sensor for spread and depth measurements. This measurement was originally designed for the PI Spread/Depth sensor.

Note

*One PX MultiSensor can also be set up to provide spread and depth measurements simultaneously. A PX sensor can be set up as two individual sensors, or as a dual sensor according to this procedure.*

Note

*This is a "dual" measurement. The sensor system will seize two communication channels on your PI50.*

### Procedure

1 Click the **Setup** icon.

This icon is located under the **Main** menu. It is used to open the **Setup** menu.

2 Click **Select Sensors** to open the **Select Sensors** dialog box.

3 Observe the **Available Sensors** list on the upper left side of the dialog box.

It lists all the sensor types supported by the PI50.

**4** Click once on one of the **Spread/Depth** options in the list, then click the [►] button to copy the sensor to the **Selected Sensors** list.

With the PI and PS Depth sensors, three depth versions are available. These are set up for maximum depth 300 m, 600 m or 1000 m. The depth range is fixed by the factory, and can not be changed in the PI Configurator utility. The Simrad PX MultiSensor is set to a fixed 1000 meters range.

Tip

With both the PI Spread sensors and the Simrad PX MultiSensor, two versions are available. They can be set up for standard or extended (XT) spread range. This configuration can be changed in the relevant sensor configuration program.

Important

When you set up the Simrad PX MultiSensor to measure depth, make sure that you select the 1000 m depth version. If you select the wrong depth range, the measurements will be wrong!

**5** Observe that an error message appears if you try to add too many sensors to the **Selected Sensors** field.

Depending on which Sensor Receiver you use, the PI50 can handle maximum six or ten measurements. Remember that dual sensors each seize two communication channels.

**6** In the **Selected Sensors** field, click once on the sensor/measurement name to select it.

**7** Click one of the [▲] or [▼] buttons to move the sensor up or down on the list in the **Selected Sensors** field.

Tip

The order in this list also controls the order in which the sensors are presented in the **Sensor Configuration** field, as well as the vertical order of the sensor view rectangles in the PI50 display presentation.

**8** In the **Sensor Configuration** field, choose:

**a** **Label ID**

**b** **Label Name** (The name you choose here is only shown in the **Selected Sensors** list.)

**c** **Update Rate** (Note that the Simrad PX MultiSensor only supports *Normal* update rate.)

**d** **Sensor Value Name** (The name you choose here is shown in the sensor view rectangle.)

**e** **Channel Number**

Note

*It is very important that the **Channel number** and **Update Rate** parameters defined for each sensor in the **Select Sensors** dialog box matches the corresponding parameters programmed into the sensor. If these vital parameters do not match, you will not receive information from the sensor.*

*The **Channel number** must be unique for each sensor in simultaneous use.*

**9** Select offset for the depth measurement.

The offset for the depth sensor is calculated automatically by means of the calibration procedure. If you already know the offset value, you can type it in directly.

**10** Select offset for the spread sensor.

The offset for the spread sensor must be entered manually based on your knowledge about the sensor installation and the properties of the gear. You can enter a value between +99 and –99 meters.

**11** If you are using a Simrad PX MultiSensor:

Important

Make sure that you have set the **Update Rate** to *Normal*.

**12** Click the **Advanced Sensor Configuration** button.

Observe that additional choices are added to the **Sensor Configuration** field.

**13** Connect the dual spread/depth sensor with starboard depth sensor.

This will allow you to set up the system to measure vertical geometry. Refer to the dedicated procedure.

**14** If this is the only sensor you wish to set up, or the last sensor, click **Ok** to save the settings and close the dialog.

### Related topics

- *'Spread/Depth' sensor view description* on page 107
- *Selecting a dual sensor for spread and depth measurements* on page 71
- *Setting up spread and depth sensors to measure vertical geometry* on page 77

# Sensor presentation procedures

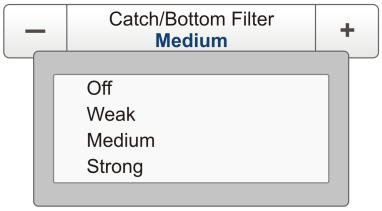
This section provides the procedures required to calibrate sensors, reset timers, apply filters and set up special presentations.

### Topics


- *Smoothing out the bottom and catch readings* on page 74
- *Improving the data reception* on page 75
- *Removing noise from the sensor data* on page 76
- *Setting up spread and depth sensors to measure vertical geometry* on page 77
- *Setting up depth and height sensors to measure total water depth* on page 79
- *Setting up the height sensor to show the trawl opening* on page 79


## Smoothing out the bottom and catch readings

### Purpose




This procedure explains how you can improve the information provided by the catch and bottom contact sensors by smoothening out the readings.

### Description

The **Catch/Bottom Filter** is used to restrict the change of state from the catch and bottom contact sensors. This will reduce jitter in the presentation.

When the filter is switched off any change in measurement status will immediately be shown on the display.

When set to *Weak* filtering, the change in status must last and remain stable for at least two sensor transmissions before the display is updated.

When *Strong* filtering is applied, the change in status must last and remain stable for at least eight sensor transmissions before the updated is shown on the PI50 display.

The **Catch/Bottom Filter** level can be monitored in the **Status Display** dialog box on the **Display** menu.

Tip

You can control the filter by means of the **Catch/Bottom Filter** button on the **Operation** menu, or in the **Receiver** dialog box on the **Setup** menu.

### Procedure

1 Click the **Setup** icon.

This icon is located under the **Main** menu. It is used to open the **Setup** menu.

2 Click **Receiver** to open the **Receiver** dialog box.

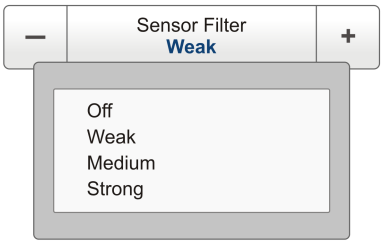
The **Receiver** dialog box allows you to set up the detailed communication parameters. It provides parameters to "fine tune" the receiver circuitry for optimal performance in various sea conditions, and for various gear types.

3 Change the status of the **Catch/Bottom Filter**.

4 Click **OK** to save the current settings and close the dialog box.

## Improving the data reception

### Purpose




This procedure explains how you can use the **Sensor Filter** to improve the reception.

### Description

The **Sensor Filter** can be used if you have problems with the reception. It will average the data received from the sensors.

The PI50 is designed to quickly update data.

After the sensors have been submerged, the receiver requires only three consecutive pings from individual sensors to calculate and display their respective information. However, if you experience problems with the reception, you may try this filter.

The **Sensor Filter** offers four different settings. *Weak* filtering will average the data received by the last four sensor transmissions, while *Strong* filtering averages the data received by the last 16 transmissions.

The **Sensor Filter** level can be monitored in the **Status Display** dialog box on the **Display** menu.

Tip

You can control the filter by means of the **Sensor Filter** button on the **Operation** menu, or in the **Receiver** dialog box on the **Setup** menu.

### Procedure

1 Click the **Setup** icon.

This icon is located under the **Main** menu. It is used to open the **Setup** menu.

2 Click **Receiver** to open the **Receiver** dialog box.

The **Receiver** dialog box allows you to set up the detailed communication parameters. It provides parameters to "fine tune" the receiver circuitry for optimal performance in various sea conditions, and for various gear types.

3 Change the status of the **Sensor Filter**.

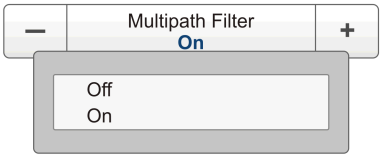
Tip

We recommend that you use *Weak* filtering if there are large fluctuations in the displayed data, or if the rate of change is small. Reduced filtering is preferable, since this shortens the delay between updating the changes in sensor data, and the corresponding displayed information.

4 Click **OK** to save the current settings and close the dialog box.

## Removing noise from the sensor data

### Purpose




This procedure explains how you can use the **Multipath Filter** to remove noise.

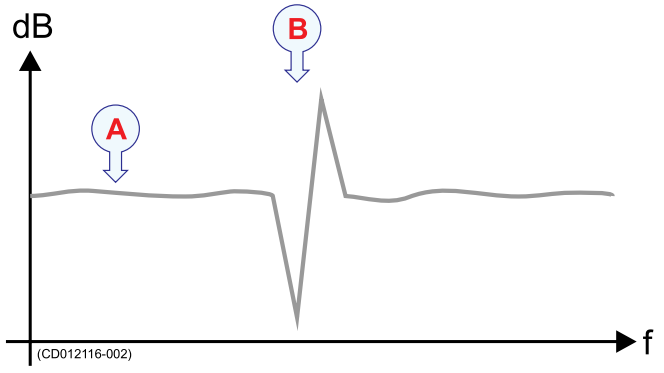
### Description

The **Multipath Filter** is designed to remedy for reflections, spikes and time-lag in the sensor data. These problems may occur if neighbouring channels are used, or if the PI50 is disturbed by other hydroacoustic systems in use on your own or other vessels.

The **Multipath Filter** can be switched on or off.

When you operate in areas with substantial reverberation due to the bottom conditions, or in shallow waters, you may experience "jumps" or spikes in the data received from the sensors.

Such errors can also be caused by other types of hydroacoustic




**A** *Stable data reading*

equipment operating on the PI50 frequency range. This filter has been implemented to remedy for such interference problem as well.

**B** *Spike caused by reflections, time-lag, reverberation or interference*

The **Multipath Filter** level can be monitored in the **Status Display** dialog box on the **Display** menu

Tip

You can control the filter by means of the **Multipath Filter** button on the **Operation** menu, or in the **Receiver** dialog box on the **Setup** menu.

### Procedure

**1** Click the **Setup** icon.

This icon is located under the **Main** menu. It is used to open the **Setup** menu.

**2** Click **Receiver** to open the **Receiver** dialog box.

The **Receiver** dialog box allows you to set up the detailed communication parameters. It provides parameters to "fine tune" the receiver circuitry for optimal performance in various sea conditions, and for various gear types.

**3** Change the status of the **Multipath Filter**.

Tip

We recommend that you switch this filter *On* if there are large fluctuations in the displayed data, or if the rate of change is small. No filtering is preferable if instantaneous readings are required, since this shortens the delay between updating the changes in sensor data, and the corresponding displayed information.

The default setting of the **Multipath Filter** is *On*.

**4** Click **OK** to save the current settings and close the dialog box.

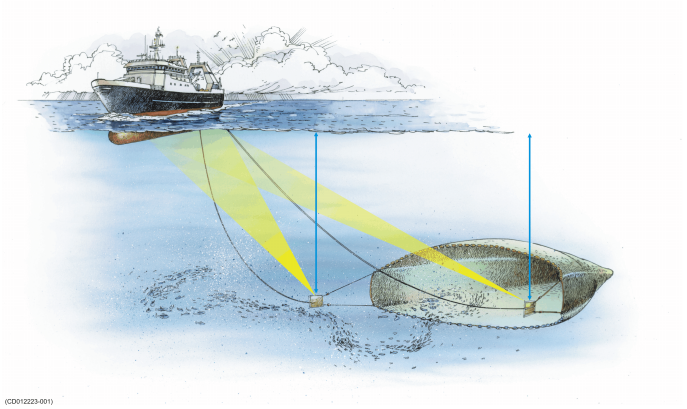
## Setting up spread and depth sensors to measure vertical geometry

### Purpose

This procedure explains how you can use two depth sensors – one on each trawl door – to measure vertical geometry.

## Description

If you have one depth sensor mounted on each trawl door, you can make the PI50 calculate the vertical geometry. The system will then read each of the two depth values, subtract one from the other, and show you the difference.



The configuration of the vertical geometry measurement is made in the **Select Sensors** dialog box during the configuration of a spread sensor.

Note

*You must have one depth sensor on each trawl door to measure vertical geometry.*

The following Simrad catch monitoring sensors can be used to measure depth:

- PS Depth
- PI Depth
- PI Spread/Depth
- PI Height/Depth
- PI Remote/Depth
- PI SeineSounder
- PX MultiSensor

  Important

  The PX MultiSensor must be equipped with a dedicated lid to make this measurement.

## Related topics

- *Selecting a sensor for depth measurement* on page 53
- *Selecting a dual sensor for height and depth measurements* on page 69
- *Selecting a sensor for spread measurement* on page 57
- *Selecting a dual sensor for spread and depth measurements* on page 71
- *'Vertical geometry' sensor view description* on page 101

## Procedure

1. Set up the depth sensor as described in the relevant procedure.
2. Set up the spread sensor as described in the relevant procedure.
3. For the dedicated spread sensor, click **Advanced Sensor Configuration**.

4 Connect the spread sensor to one or two depth sensors.

The available depth sensors will automatically be listed.

5 Click **OK** to save the current settings and close the dialog box.

6 Observe that the vertical geometry is shown as a sensor view.

## Setting up depth and height sensors to measure total water depth

### Purpose

This procedure explains how you can use one depth sensor and one height sensor to read the total water depth.

### Description

If you have both a depth sensor and a height sensor mounted on the gear, you can make the PI50 calculate the total depth. The system will then read each of the two sensor values, add one to the other, and show you the sum.

The configuration of the water depth measurement is made in the **Select Sensors** dialog box during the configuration of a depth sensor.

Note

*You must have both sensors on you gear. They must be physically located next to each other to make the total depth value correct.*

### Related topics

- *Selecting a sensor for height measurement* on page 55
- *Selecting a sensor for depth measurement* on page 53
- *'Depth' trend view description* on page 123

### Procedure

1 Set up the height sensor as described in the dedicated procedure.

2 Set up the depth sensor as described in the dedicated procedure.

3 For the dedicated depth sensor, click **Advanced Sensor Configuration**.

The available height sensors will automatically be listed.

4 Click **OK** to save the current settings and close the dialog box.

5 Observe that the total depth is shown in the depth trend view.

## Setting up the height sensor to show the trawl opening

### Purpose

This procedure explains how to define the trawl opening so that you can see it in the trend view.

### Description

The PI Height sensor may be set up to display the trawl opening in the trend view.

The configuration of this function is made in the **Select Sensors** dialog during the configuration of a PI Height sensor.

The following Simrad catch monitoring sensors can be used to measure height:

- PI Height
- PI Height/Depth
- PI SeineSounder
- PX MultiSensor

### Related topics

- *Selecting a sensor for height measurement* on page 55
- *'Height' trend view description* on page 124

### Procedure

1. Set up the height sensor as described in the dedicated procedure.
2. Click **Advanced Sensor Configuration**.
3. Type the height of the trawl door.
4. Click **OK** to save the current settings and close the dialog box.
5. Observe that the height of the trawl opening is shown in the height trend view.

# Receiver settings

This section provides procedures related to receiver sensitivity, interference and receiver filters.

### Topics


- *Adjusting the receiver sensitivity* on page 81
- *Suppressing interference* on page 82


### Related topics


- *Smoothing out the bottom and catch readings* on page 74
- *Improving the data reception* on page 75
- *Removing noise from the sensor data* on page 76

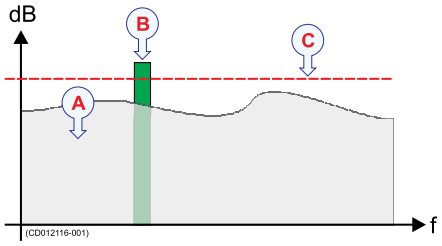

## Adjusting the receiver sensitivity

### Purpose

This procedure explains how to adjust the receiver sensitivity.

### Description

The parameter used to adjust the receiver sensitivity is the **Detection Threshold (DT)**. It is adjusted in the **Receiver** dialog box.




**A** *Noise*

**B** *Signal from sensor*

**C** *Detection threshold*

Sensor signals below the threshold level will not be detected by the PI50, while signals above the threshold will be detected. If the threshold level is set too low, the sensor signal will be buried in the noise, and this may cause false signals to be detected.

If the detection threshold is set too high, the signal from the sensor will not be detected.

### Procedure

**1** Click the **Setup** icon.

This icon is located under the **Main** menu. It is used to open the **Setup** menu.

**2** Click **Receiver** to open the **Receiver** dialog box.

The **Receiver** dialog box allows you to set up the detailed communication parameters. It provides parameters to “fine tune” the receiver circuitry for optimal performance in various sea conditions, and for various gear types.

**3** Adjust the level of the **Detection Threshold (DT)**.

For PI50 two different parameter ranges are used:

- **3 to 14**: By increasing the parameter value, the threshold level is increased.

  This range should normally not be used for PI50.

  During special operations where extreme range is required, and the interference sources are minor, the parameter may be set to 8. If interference is present, the parameter can by increased up to maximum 14.

- **15 to 20**: By increasing the parameter value, the threshold level is decreased.

  This is the main parameter range to be used with the PI50.

The default value for **Detection Threshold (DT)** is *17*.

**4** Click **OK** to save the current settings and close the dialog box.

## Suppressing interference

### Purpose

This procedure explains how to suppress interference.

### Description

Interference is normally identified in the sensor views by readings "jumping" up and down, and deviating from their expected values. Some times you may even be provided with steady readings that are obviously wrong.

To fight this disturbance, you can adjust the **Detection Threshold (DT)** parameter provided by the **Receiver** dialog box.

### Procedure

**1** Click the **Setup** icon.

This icon is located under the **Main** menu. It is used to open the **Setup** menu.

**2** Click **Receiver** to open the **Receiver** dialog box.

The **Receiver** dialog box allows you to set up the detailed communication parameters. It provides parameters to "fine tune" the receiver circuitry for optimal performance in various sea conditions, and for various gear types.

**3** Adjust the level of the **Detection Threshold (DT)**.

Tip

Make sure that the **Interference Filter** is switched off.

**a** For normal ranges up to approximately 1500 meters:

If you experience poor reception with the sensors in the sea, try to increase the detection threshold until the data reception appears completely random. Then, decrease the parameter until you have stable data reception. If you have interference problems while no sensors have been deployed, try to decrease the detection threshold until you have a stable data reception.

**b** For long ranges above approximately 1500 meters:

Initially, use the same strategy as for normal range. However, if those actions are not enough to provide stable readings, try to set the detection threshold to 8. If your vessel's self noise and interference is lower than normal, you may achieve a range enhancement by using this value. If interference cause problems, try to increase the detection threshold value until the interference disappears, while still able to receive data from the sensors.

**4** Click **OK** to save the current settings and close the dialog box.

# Alarms and messages procedures

This section provides procedures related to alarms and messages generated by the PI50.

**Topics**


- *Handling system messages* on page 84
- *Setting up catch sensor alarms* on page 85
- *Accessing the log files to copy and/or delete them* on page 86


## Handling system messages

### Purpose

This procedure explains how to read and acknowledge messages from the PI50.

### Description

A system message has been created when the **Message** icon on the **Title bar** change colour and/or flashes. The colour of the **Message** icon indicates the seriousness of the message type that is currently issued.

Messages can be acknowledged or deleted individually, or all messages displayed on a tab can be deleted.

Tip

All messages provided by the PI50 system are stored in log files on the hard disk. If you experience abnormal behaviour, these files may prove useful for Simrad's support organization. Observe the relevant procedure to copy these log files to a USB memory stick.

---

The following message types are available:

1 **Errors**: These are fatal errors. Operation of the PI50 can not continue.

2 **System alarms**: These are messages related to the PI50 system, or to major software components.

3 **Operational alarms**: These are messages related to environment conditions, interface or other non-software events.

4 **Warnings**: These are operation warnings.

5 **Information**: These messages are notifications of operational events.

Note

*If a serious error message occurs, this dialog will automatically be shown. Critical error conditions may cause the PI50 to shut down in a controlled manner.*

---

### Related topics

- *Accessing the log files to copy and/or delete them* on page 86

### Procedure

1 Click the **Message** icon on the **Title bar** to open the **Message** dialog box.

2 Observe that the **Message** dialog box contains one tab for each message type.
3 Select the appropriate tab.
4 Click on a message to read the full text in the field below the message listing.
   a Click **Acknowledge** to accept the chosen message.
   b Click **Acknowledge All** to accept all current messages.
   c Click **Delete** to delete the chosen message.
   d Click **Delete All** to delete the all the message under the chosen tab.

## Setting up catch sensor alarms

### Purpose

This procedure explains how to set up sensor alarms.

### Description

The **Alarm Limits** dialog box allows you to define alarms related to the information provided by the relevant catch monitoring sensors.

Each measurement has an individual alarm setting. To enable an alarm, you must define minimum and maximum limits within the sensor's range, and enable message and/or audio notification.

If the alarm is triggered, an audible signal may thus be provided, and/or you will receive a message indicating which sensor that caused the alarm.

Once an alarm has been triggered, it is automatically disabled after 20 seconds. After this time it may be triggered again unless the alarm situation has been rectified, or you have disabled the alarm.

The bottom contact and catch sensors can only provide alarms when they are activated.

The alarm settings you specify are automatically saved for the current session. If you also wish to keep them for future use – with the sensor configuration you have specified – click the **User Setting** button to save.

Tip

In order to hear an audible alarm, you must either place the PI50 computer in a position where the internal loudspeaker can be heard, or you must install a separate loudspeaker system.

### Procedure

1 Click the **Setup** icon.

   This icon is located under the **Main** menu. It is used to open the **Setup** menu.

2 Click **Alarm Limits** to open the **Alarm Limits** dialog.

Observe that the **Alarm Limits** dialog is dynamic. It lists the sensors you have currently selected in the **Select Sensors** dialog, and placed them in the order you have defined. The **Label ID** and **Sensor Value Name** provided are the same as those you selected in the **Select Sensors** dialog.

3 For each sensor:

   **a** Set up the maximum and minimum alarm limits in the spin boxes.

   **b** Click to enable message and/or audio notification

4 To disable all alarms, remove all **Message** and **Audio** selections.

5 Click **OK** to save the current settings and close the dialog box.

## Accessing the log files to copy and/or delete them

### Purpose

This procedure describes how to access the log files on the Simrad PI50.

### Description

Whenever the PI50 issues a message, it is shown in the **Messages** dialog box. Simultaneously, all messages are stored in a number of logging files on the hard disk. If you experience abnormal behavior, and wish to consult your dealer and/or Simrad, these logging files are very useful. The following procedure explains how to access these files.

Important

This procedure assumes that you are familiar with the Microsoft® XP® and/or Microsoft® 7 operating system utilities for file handling.

### Procedure

1 Click the **Display** button to open the menu.

   This button is located under the **Main** menu. It is used to open the **Display** submenu.

2 Click **Screen Captures** to open an operating system folder.

   By default, the folder name is:

   `c:\documents and settings\All Users\Application data\Simrad\PI50\ScreenDumps`

3 In the folder, go one step “back” (up) to:

   Windows 7: `c:\programdata\Simrad\PI50`

4 Observe that a folder named **Log** is now visible.

5 Open the **Log** folder.

   The folder contains all recent log files containing the PI50 messages.

**6** Using the functionality provided by the operating system, copy the log files to a USB memory stick.

Whenever possible, send the files to your dealer.

**7** Close the folder.

# Display views

The display views provided by the Simrad PI50 are based on the award winning design of the Simrad ME70 multibeam echo sounder. The menu system, presentation of data in the operational modes, and the user interface elements, have been created in close cooperation with designers and users.

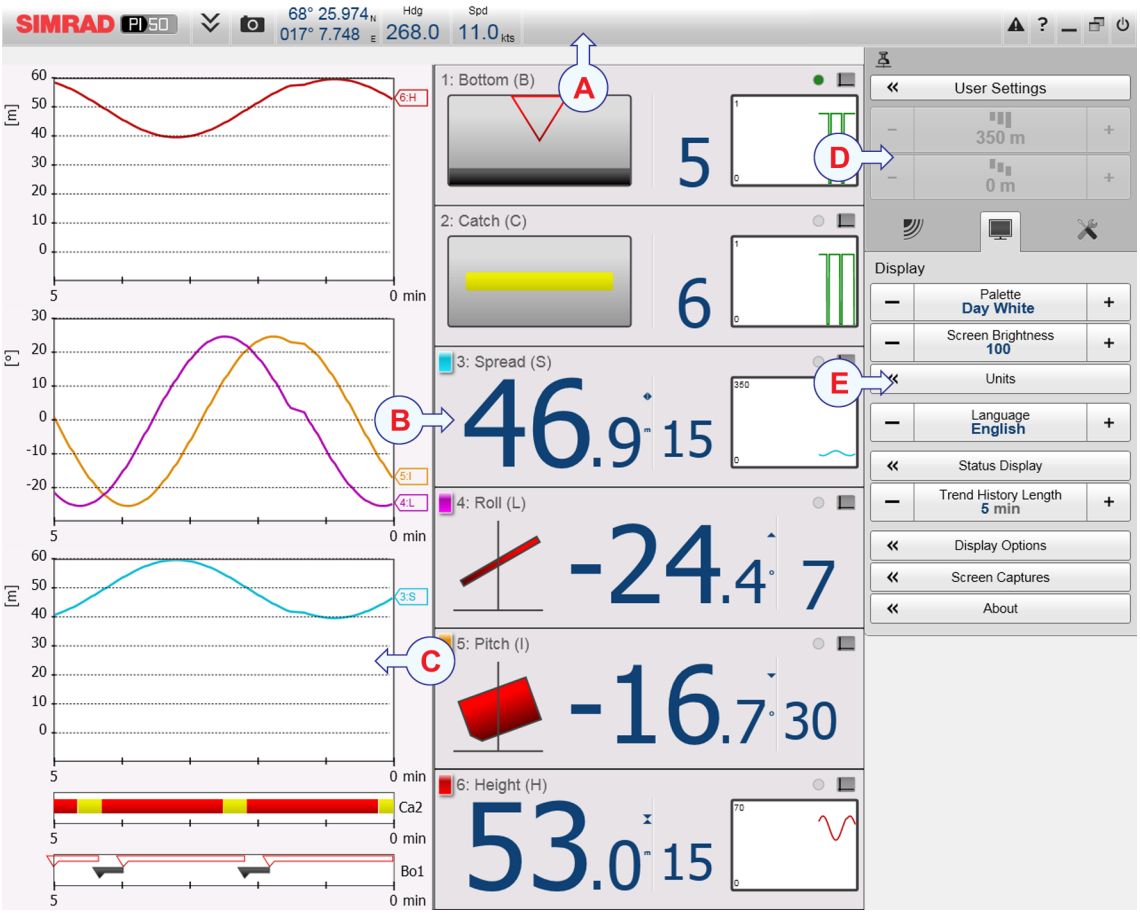
This chapter provides a brief overview of the information displayed by the Simrad PI50, and how the information is organized.

**Topics**


- *Display organization* on page 89
- *Title Bar* on page 90
- *Menu system* on page 95
- *Sensor view descriptions* on page 96
- *Trend view descriptions* on page 122
- *Screen captures* on page 129

# Display organization

By default, the PI50 display presentation covers the entire screen view.




A typical PI50 display presentation is shown.

Note that the presentation is made using artificial sensor data from the built-in simulator.

**A Title Bar**

The **Title Bar** identifies Simrad as the manufacturer, and the name of the product (PI50). It also provides several information fields and buttons. These are used to hide or retrieve the menu system, provide navigational information, and to enable basic system functions.

**B Sensor views**

The information from each sensor is presented in a rectangle. “Dual” sensors use two channels, and they use two rectangles for presentation. The *Sensor* view holds the key information provided by sensor, as well as a *History* field. This is the small rectangle within the *Sensor* view. It offers the changes in the sensor data for the last 20 minutes.

**C** **Trend views**

For each sensor, you can also open a *Trend* view. This is a graph providing the historic values from the sensor. Both the vertical and horizontal resolutions of the graph can be adjusted.

Click **Range** and **Range Start** on the **Main** menu to control the vertical resolution.

Click **Trend History Length** on the **Display** menu to control the horizontal resolution (5 to 1440 minutes).

**D** **Menu system**

The menu system is by default located on the right hand side of the presentation. To open any of the submenus, click the buttons under the **Main** menu. To hide or retrieve the entire menu system, click the **Menu** button on the **Title Bar**.

**E** **Submenus**

The submenus are opened and closed by clicking the buttons at the bottom of the **Main** menu.

The presentation of the various views are made automatically, and the size of each view depends on the space available. When no *Trend* views are open, the *Sensor* views will stretch from the left to the right edge of the presentation. When a *Trend* view is opened, it will position itself on the left side, and the size of the *Sensor* views will be reduced by removing the *History* field. If additional *Trend* views are opened, they will be positioned on top of each other, and the vertical size of each view is adjusted automatically.

The order of the *Sensor* views is defined by the setting made in the **Select Sensors** dialog box. The location of the *Trend* views do not follow his order. The first trend view fills the entire vertical space, the next are placed on top of the first in the same order they are opened.

### Related topics

- *Title Bar* on page 90
- *Menu system* on page 95

# Title Bar

The PI50 **Title Bar** is located on the top of the display presentation, and it is stretched from the far left to the far right side.

### Topics


- *Purpose and description* on page 91
- *Logo and product name* on page 92
- *Operational buttons* on page 92
- *Navigation Field* on page 92
- *Function buttons* on page 93

## Purpose and description

The PI50 **Title Bar** is located on the top of the display presentation, and it is stretched from the far left to the far right side.

The purpose of the **Title Bar** is to give you fast access to key functionality and navigational information.

It provides buttons to hide or show the menu, to make a screen capture, to open the **Messages** dialog box, and to open the context sensitive on-line help. It also provides a few buttons related to operating system features.

**A** **Logo and product name**.

This element identifies the Simrad as the manufacturer of the PI50, and the product name.

**B** **Menu**

Click this button to hide or recall the menu system.

**C** **Screen capture**

This button is provided to make it easy to make a screen capture.

**D** **Navigation field**

These are not buttons, but information fields providing current data related to the vessel movements.

**E** **Message**

Click this button to open the **Messages** dialog box. This button will flash to indicate that a message is posted.

**F** **Help**

Click this button to open the context sensitive on-line help.

**G** **Function** buttons

These buttons are used to control basic system functions.

- **Minimize** and **Resize**: Click these buttons to adjust the size of the PI50 presentation.
- **Exit**: Click this button to close down the PI50 application.

### Related topics


- *Logo and product name* on page 92
- *Operational buttons* on page 92
- *Navigation Field* on page 92
- *Function buttons* on page 93

## Logo and product name

The **Logo and Product name** is located on the left side of the **Title Bar** at the top of the PI50 presentation.

The Simrad logo and the product name (PI50) is shown.

Double-click the Simrad logo to reduce the size of the PI50 presentation. Double-click one more time to restore the original size.

## Operational buttons

A number of operational buttons are available on the **Title Bar**.

### Menu button

The **Menu** button is located on the left side of the **Title Bar** at the top of the PI50 presentation.

Click once on the **Menu** button to hide the menu, and one more time to bring it back again. When the menu is hidden, it will temporarily be shown on the left or right hand side of the display if you move the cursor to that position.

#### Related topics

- *The menu system* on page 130

### Screen Capture button

The **Screen Capture** button is located on the left side of the **Title Bar** at the top of the PI50 presentation.

Click this button once to create a screen capture of the current sensor presentation. To view the recorded images, click **Screen Capture** on the **Display** menu.

#### Related topics

- *Screen captures* on page 129

## Navigation Field

The navigational information is located on the **Title Bar** at the top of the PI50 display presentation.

These are not buttons, but fields providing useful information related to the vessel movements. You can choose which information is to be displayed if you open the **Display Options** dialog box from the **Display** submenu.

Note

*This information on the **Title Bar** must not be used for vessel navigation!*

### Geographical location (latitude and longitude)

The **Geographical location** information is provided in the **Navigation Field** on the **Title Bar** at the top of the PI50 display presentation.

Provided that a GPS system is connected to the PI50, this field on the **Title Bar** will display the vessel's geographical position in longitude and latitude.

The communication with the external GPS system is set up using the **Navigation** button on the **Setup** menu.

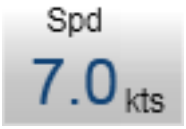
### Heading

The **Heading** information is provided in the **Navigation Field** on the **Title Bar** at the top of the PI50 display presentation.

Provided that the relevant sensor is connected to the PI50, this field on the **Title Bar** will display the vessel's current heading.

The communication with the external GPS system is set up using the **Navigation** button on the **Setup** menu.

### Speed




The **Speed** information is provided in the **Navigation Field** on the **Title Bar** at the top of the PI50 display presentation.

Provided that a GPS or speed log system is connected to the PI50, this field on the **Title Bar** will display the vessel's current speed.

The communication with the external GPS system or speed sensor is set up using the **Navigation** button on the **Setup** menu.

## Function buttons

The **Function** buttons are located on the right side of the **Title Bar** at the top of the PI50 presentation.

### Message button

The **Message** button is located at the right side of the **Title Bar** at the top of the PI50 presentation.

Click the button to open the **Messages** dialog box.

By flashing, this **Message** button indicates that the PI50 system has issued a message.

If you hold the mouse cursor over the button, a tooltip rectangle will provide a list of the messages that you have not acknowledged.

## Help button

The **Help** button is located at the right side of the **Title Bar** at the top of the PI50 presentation.

Click this button to open the PI50 context sensitive on-line help. The button opens the help system's start page.

Context sensitive on-line help is also available from the various dialog boxes in the PI50. Click any **Help** button [**?**] in the top right corner of any dialog box to open the help system.

### Related topics

- *Context sensitive on-line help* on page 33

## Minimize button

The **Minimize** button is located at the right side of the **Title Bar** at the top of the PI50 presentation.

Click this button to minimize the PI50 display presentation. This is an operating system function.

To restore the presentation to its previous size, click the PI50 button on the operating system's **Status Bar**.

## Resize button

The **Resize** button is located at the right side of the **Title Bar** at the top of the PI50 presentation.

Click this button to change the size of the PI50 display presentation. This is an operating system function.

To restore the presentation to its previous size, click the **Resize** button again.

## Exit button

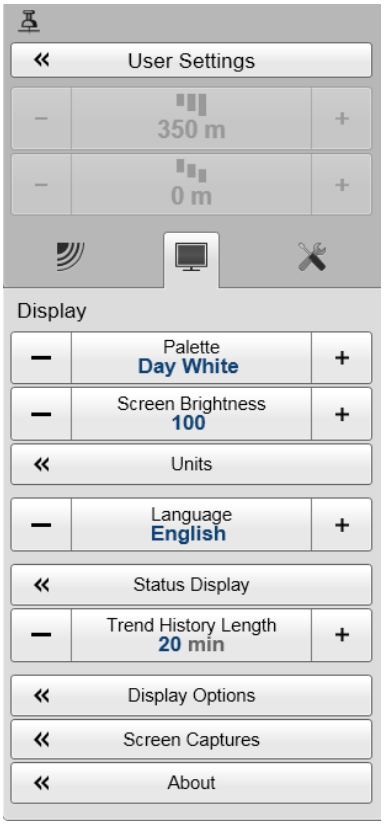
The **Exit** button is located at the right side of the **Title Bar** at the top of the PI50 presentation.

Click this button to close the PI50 program.

Observe the dedicated procedure to power down the PI50 system.

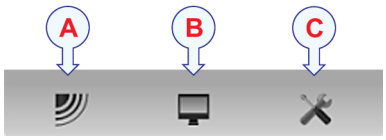
# Menu system

The menu system is by default located on the right hand side of the PI50 presentation.




The selection of operational parameters on the PI50 is done using a tree structure with a main menu, a set of submenus, and several menu buttons. Some of the menu buttons open dialog boxes or submenus to offer additional choices.

The **Main** menu provides the parameters most frequently used during normal operation.




Below the main menu, dedicated buttons are used to open the submenus. These are (from left):

**A** The **Operation** menu controls the main operational parameters.

**B** The **Display** menu controls the visual aspects of the system, such as parameters related to the display presentation.

**C** The **Setup** menu allows you to control the configuration of the signal processing, as well as system installation and maintenance, and the interfaces to peripheral devices.

Tip

You can hide the menu from view if you do not need it. Click the **Menu** button on the **Title Bar** to hide the menu. Click one more time to retrieve it.

The text in the buttons can be changed to suit your preference by clicking **Language** on the **Display** menu.

You can also place the menu on the left side of the PI50 presentation by clicking **Menu on the right side** in the **Display Options** dialog box.

A detailed breakdown of the commands and parameters available in the menu system is provided in the *Menu system* chapter.

### Related topics

- *Selecting menu language* on page 41
- *The menu system* on page 130

# Sensor view descriptions

Each sensor providing measurement information to the PI50 system uses a dedicated rectangle – a *Sensor* view – to display this information.

The *Sensor* view rectangles are dynamic. This means that they change their size automatically. The text font and the amount of information in the rectangle will change as the rectangle is made larger or smaller. All the size adjustments are made automatically depending on how many sensors you have in use, and how much information you wish to see.

**Topics**


- *'Bottom contact' sensor view description* on page 96
- *'Catch' sensor view description* on page 98
- *'Depth' sensor view description* on page 99
- *'Vertical geometry' sensor view description* on page 101
- *'Height' sensor view description* on page 102
- *'Spread' sensor view description* on page 103
- *'Twin Spread' sensor view description* on page 105
- *'Spread/Depth' sensor view description* on page 107
- *'Temperature' sensor view description* on page 109
- *'Temperature/Depth' sensor view description* on page 110
- *'Geometry' sensor view description* on page 112
- *'Geometry Differential' sensor view description* on page 115
- *'Height/Depth' sensor view description* on page 117
- *'Pitch' sensor view description* on page 119
- *'Roll' sensor view description* on page 120

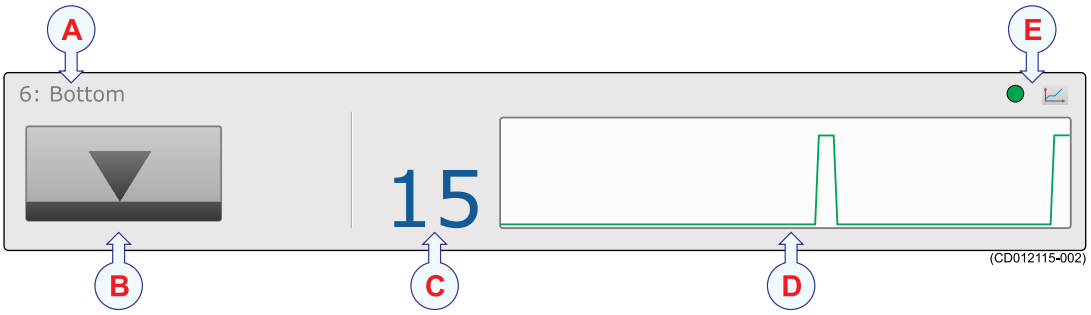

## 'Bottom contact' sensor view description

The purpose of the bottom contact measurement is to detect wether a bottom trawl is accidentally lifted up from the seabed. This will allow fish to escape under the gear.

- On a pelagic trawl, the sensor will notify you if you move the gear too close to the bottom.
- Used on a purse seine you will be notified once the seine reaches the bottom, and this allows you to fish even on a rough bottom.
- On a danish seine a bottom contact sensor will let you know when the net has a stable bottom contact, and when it is time to haul.

The following Simrad catch monitoring sensors can be used to measure bottom contact:

- PI Bottom Contact
- PS Bottom Contact




**A** **Sensor identifier**

The identifier is the **Label ID** you have chosen for the sensor, the sensor name is the **Sensor Value Name** you have chosen. You can control these identifiers in the **Select Sensors** dialog box.

**B** **Bottom contact status**

The arrow displays “bottom contact”.

This is graphically represented by making contact with the horizontal black line (seabed). When bottom contact is lost, the arrow will rise from the seabed and change appearance.

- Left icon: The sensor has lifted off the seabed.
- Right icon: The sensor is in physical contact with the seabed.

**C** **Timer**

This timer records how many minutes that have elapsed since the sensor was activated (lost bottom contact or touched the bottom depending on gear type). If the bottom contact is regained, the timer stops. It is then restarted once the status changes again. The timer can be manually reset by clicking the **Reset Counters** button on the **Operation** menu.

**D** **History field**

When the size of the presentation rectangle permits, the *History* field is shown. The field offers a graphical presentation of the sensor information for the last 20 minutes. The vertical range is set automatically defined by the current measurements.

**E** **Pulse lamp** and **Trend view**

The green **Pulse lamp** icon flashes every time a signal is received from the sensor. Click the **Trend view** button to open (and close) the *Trend* view for the sensor.

## Related topics

- *‘Bottom contact’ sensor view description* on page 96
- *‘Bottom contact’ trend view description* on page 122
- *Selecting a sensor for bottom contact measurement* on page 50

## 'Catch' sensor view description

By means of a Simrad catch sensor, you can easily monitor the filling rate and the amount of catch in the trawl.

The sensor simply monitors the expansion of the meshes in the cod-end. Once the volume caught is enough to expand the meshes, they will pull the detector wires and engage the sensor. The sensitivity of the sensor can easily be adjusted by extending the detection rubber bands to span additional meshes.

To monitor the filling rate, we recommend that you use minimum two sensors. Place the first sensor at the far end of the cod-end, it will tell you that the trawl is actually fishing. Place the second sensor closer to the trawl opening. Once the trawl is filled to the chosen location, the sensor is engaged, and you know that it is time to haul.

The following Simrad catch monitoring sensors can be used to measure catch:

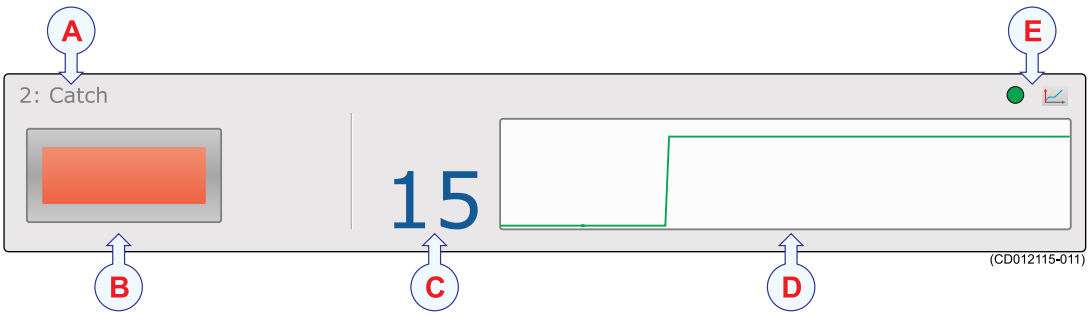
- PS Catch
- PI Catch
- PX MultiSensor

Important

The PX MultiSensor must be equipped with a dedicated lid to make this measurement.

Tip

The catch sensors can also be used to detect damage. Replace the rubber bands with a longer type for this "rip" application. Then, place the sensor on the trawl belly behind the footrope, and use it to detect if the trawl is damaged by rocks or other items on the bottom. If this is detected, you can immediately adjust the gear to minimise the damage.




**A Sensor identifier**

The identifier is the **Label ID** you have chosen for the sensor, the sensor name is the **Sensor Value Name** you have chosen. You can control these identifiers in the **Select Sensors** dialog box.

**B** **Catch status icon**

An icon visualizes sensor activation.

If the icon contains a small yellow rectangle, this means that the sensor is not activated. A red rectangle in the icon means that the trawl has been filled with fish, and this has triggered the sensor.

- Left icon: The sensor is activated.
- Right icon: The sensor is not activated.

A grey rectangle inside the icon means that you have lost contact with the sensor.

**C** **Timer**

This timer records how many minutes that have elapsed since the sensor was activated. The timer can be manually reset by clicking the **Reset Counters** button on the **Operation** menu.

**D** **History field**

When the size of the presentation rectangle permits, the *History* field is shown. The field offers a graphical presentation of the sensor information for the last 20 minutes. The vertical range is set automatically defined by the current measurements.

**E** **Pulse lamp** and **Trend view**

The green **Pulse lamp** icon flashes every time a signal is received from the sensor. Click the **Trend view** button to open (and close) the *Trend* view for the sensor.

### Related topics

- *'Catch' sensor view description* on page 98
- *'Catch' trend view description* on page 123
- *Selecting a sensor for catch measurement* on page 51

## 'Depth' sensor view description

The Simrad depth sensors provide information about the current depth and the depth changes of your gear.

- On a bottom trawl, you will use the sensor to achieve full control when shooting, and to position the trawl on the slope.
- During pelagic trawling, you know how important it is to position the trawl relative to the largest concentration of fish. By using a depth sensor, you can monitor the exact depth relative to the surface, and adjust the trawl depth accordingly. Additional depth sensors on the doors will monitor if the doors stay at the same depth.
- During seining, use the depth sensor to monitor the depth of the net, and the descending speed of the net. Then you will know when to start pursing, and which speed to use.
- Mounted on a danish seine the depth sensor monitors the sinking speed of the net, and it will tell you when to start hauling once the net has stopped sinking.

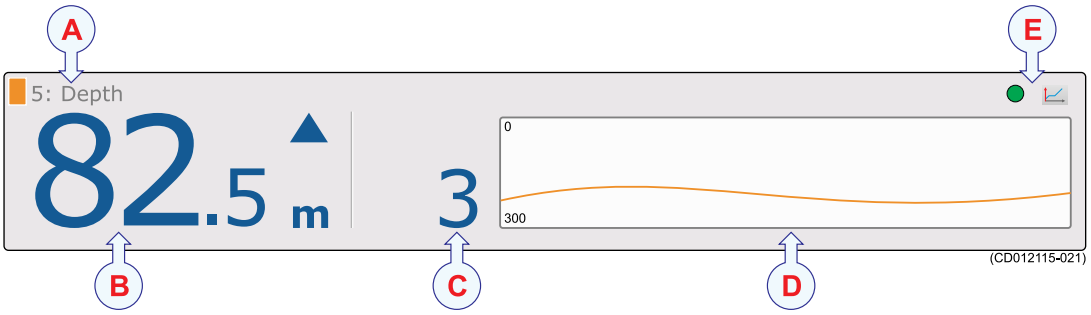
With the PI and PS Depth sensors, three depth versions are available. These are set up for maximum depth 300 m, 600 m or 1000 m. The depth range is fixed by the factory, and can not be changed in the PI Configurator utility. The Simrad PX MultiSensor is set to a fixed 1000 meters range.

The following Simrad catch monitoring sensors can be used to measure depth:

- PS Depth
- PI Depth
- PI Spread/Depth
- PI Height/Depth
- PI Remote/Depth
- PI SeineSounder
- PX MultiSensor

Important

The PX MultiSensor must be equipped with a dedicated lid to make this measurement.




**A Sensor identifier**

The identifier is the **Label ID** you have chosen for the sensor, the sensor name is the **Sensor Value Name** you have chosen. You can control these identifiers in the **Select Sensors** dialog box.

**B Current depth**

This the current depth measured by the sensor. The current measurement unit is shown, as well as a blue arrowhead. The arrowhead indicates the current vertical movement of the sensor; up or down. In this example the sensor measures 82,5 meters from the sea surface and down to the sensor, and the sensor – and thus the gear – is slowly rising with 3 meters each minute.

**C Depth changes**

This digit shows depth changes recorded by the sensor, and thus the ascending or descending speed of the net. The value is shown in units per minute. The direction is shown with the blue arrowhead. If the sensor does not detect any depth changes, the arrowhead is removed.

**D** **History field**

When the size of the presentation rectangle permits, the *History* field is shown. The field offers a graphical presentation of the sensor information for the last 20 minutes. The vertical range is set automatically defined by the current measurements.

**E** **Pulse lamp** and **Trend view**

The green **Pulse lamp** icon flashes every time a signal is received from the sensor. Click the **Trend view** button to open (and close) the *Trend* view for the sensor.

### Related topics

- *'Depth' sensor view description* on page 99
- *'Depth' trend view description* on page 123
- *Selecting a sensor for depth measurement* on page 53
- *Setting up spread and depth sensors to measure vertical geometry* on page 77
- *Setting up depth and height sensors to measure total water depth* on page 79

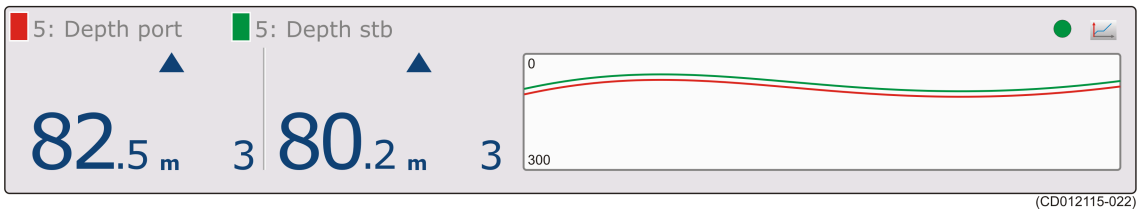
## 'Vertical geometry' sensor view description

The Vertical geometry sensor view is created if you have mounted one depth sensor on each trawl door. The PI50 will then calculate the difference between the two depth readings. Any type of depth sensor will do.

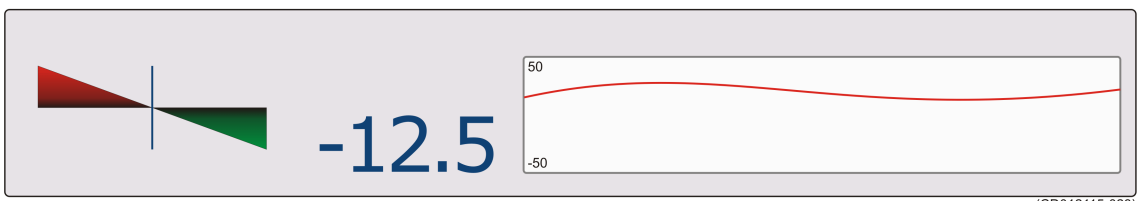
Important

This is not a dedicated sensor, but a sensor view generated by the PI50 based on information from other sensors.

Two sensor view rectangles are used, one to present the information from the two depth sensors, and one to provide the geometry information. To set up the two depth sensors, use the **Advanced Sensor Configuration** functionality in the **Select Sensors** dialog box.




(CD012115-022)




(CD012115-023)

### Related topics

- *'Vertical geometry' sensor view description* on page 101
- *Setting up spread and depth sensors to measure vertical geometry* on page 77

## 'Height' sensor view description

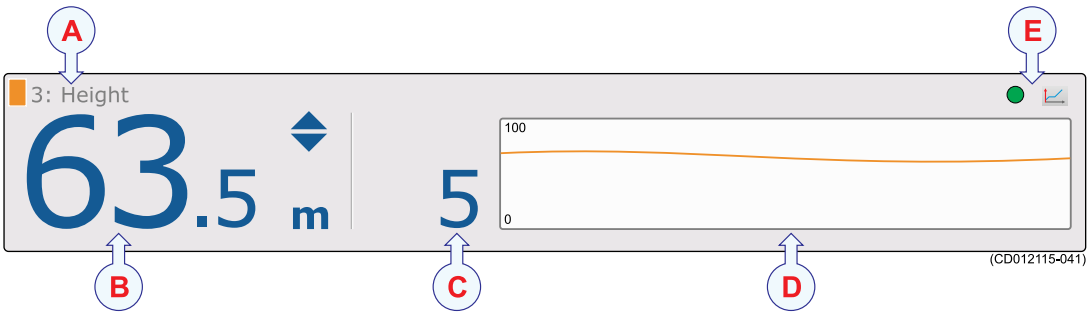
The Simrad height sensors measure the height over the bottom, that is the distance from the bottom and up to wherever the sensor is located. This provides you with a valuable range of applications for bottom and pelagic trawling.

- On a bottom trawl, place the sensor behind the headrope. From this position it will tell you the height of the trawl opening. This allows you to adjust you equipment immediately if the opening is reduced, and you will avoid losing catch.
- On a pelagic trawl, place the sensor behind the footrope. You will then know at once if the trawl approaches the bottom. If you use a second sensor behind the headrope, the difference between the two measurements will give you the height of the trawl opening.

The sensor contains a small echo sounder to measure the height above the bottom.

The following Simrad catch monitoring sensors can be used to measure height:

- PI Height
- PI Height/Depth
- PI SeineSounder
- PX MultiSensor




**A Sensor identifier**

The identifier is the **Label ID** you have chosen for the sensor, the sensor name is the **Sensor Value Name** you have chosen. You can control these identifiers in the **Select Sensors** dialog box.

**B Current height**

This is the height from the strongest echo (seabed or footrope) under the sensor, and up to the position on the gear in which the sensor is mounted. The current measurement unit is shown, as well as two blue arrowheads.

The two arrowheads indicate the current vertical movement of the sensor; up or down. In this example the sensor is slowly increasing with 5 meters each minute. If the two arrowheads are pointing towards each other, the height is decreasing. If they are pointing away from each other, the height is increasing.

**C** **Height changes**

This digit shows height changes recorded by the sensor. The value is shown in units per minute. The direction is shown with the two blue arrowheads. If the sensor does not detect any height changes, the triangles are removed.

**D** **History field**

When the size of the presentation rectangle permits, the *History* field is shown. The field offers a graphical presentation of the sensor information for the last 20 minutes. The vertical range is set automatically defined by the current measurements.

**E** **Pulse lamp** and **Trend view**

The green **Pulse lamp** icon flashes every time a signal is received from the sensor. Click the **Trend view** button to open (and close) the *Trend* view for the sensor.

### Related topics

- *'Height' sensor view description* on page 102
- *'Height' trend view description* on page 124
- *Selecting a sensor for height measurement* on page 55
- *Setting up depth and height sensors to measure total water depth* on page 79
- *Setting up the height sensor to show the trawl opening* on page 79

## 'Spread' sensor view description

The purpose of the Simrad measurement is to establish the distance between the two trawl doors.

- Use a spread sensor on the port door and a remote sensor on the starboard door.
- The two sensors communicate using a special transverse acoustic link.
- Using this link the spread sensor measures the exact distance between the two doors.

The spread sensor systems have been developed to be used on both bottom and pelagic trawls.

Important

The spread sensor mounted on the port trawl door will always require a remote sensor on the starboard door to do this measurement.

Tip

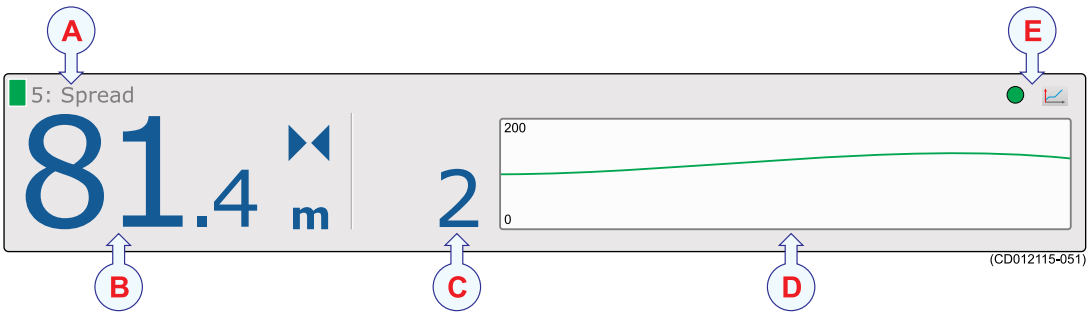
With both the PI Spread sensors and the Simrad PX MultiSensor, two versions are available. They can be set up for standard or extended (XT) spread range. This configuration can be changed in the relevant sensor configuration program.

The following Simrad catch monitoring sensors can be used to measure single and dual spread:

- PI Spread (with a PI Remote or a PI Remote/Depth sensor on the other door)
- PI Spread/Depth (with a PI Remote or a PI Remote/Depth sensor on the other door)
- PX MultiSensor

Tip

When the PX MultiSensor is used to measure spread, the remote sensor must be a second PX MultiSensor. The PI Remote sensor can not be used.




**A Sensor identifier**

The identifier is the **Label ID** parameter, the sensor name is the **Sensor Value Name** parameter. You can control these parameters in the **Select Sensors** dialog.

The colour code is issued automatically by the PI50 system. The same colour is used in the *Trend* view and in the *History* field.

**B Current spread**

This the current distance between the trawl doors as measured by the sensor system. The current measurement unit is shown, as well as two blue arrowheads.

The arrowheads indicate the current changes in the spread distance; increasing or decreasing. In this example the spread distance is slowly decreasing with 2 meters per minute. If the two arrowheads are pointing towards each other, the spread distance is decreasing. If they are pointing away from each other, the spread distance is increasing.

**C Spread changes**

This digit shows the spread distance changes recorded by the sensor, and thus the increasing or decreasing distance between the two trawl doors. The value is shown in units per minute. The direction is shown with the blue triangles. If the sensor does not detect any spread changes, the arrows are removed.

**D History field**

When the size of the presentation rectangle permits, the *History* field is shown. The field offers a graphical presentation of the sensor information for the last 20 minutes. The vertical range is set automatically defined by the current measurements.

**E** **Pulse lamp** and **Trend view**

The green **Pulse lamp** icon flashes every time a signal is received from the sensor. Click the **Trend view** button to open (and close) the *Trend* view for the sensor.

### Related topics

- *'Spread' sensor view description* on page 103
- *'Spread' trend view description* on page 124
- *Selecting a sensor for spread measurement* on page 57
- *Setting up spread and depth sensors to measure vertical geometry* on page 77

## 'Twin Spread' sensor view description

The purpose of the Simrad twin spread measurement is to establish the distances between the two trawl openings on a dual bottom or pelagic trawl. One spread sensor is mounted on the port door, while two remote sensors are placed on the centre weight and the starboard door.

The three sensors communicate using special transverse acoustic links. Using these links the twin spread sensor system measures the exact distance between the three sensors.

Note

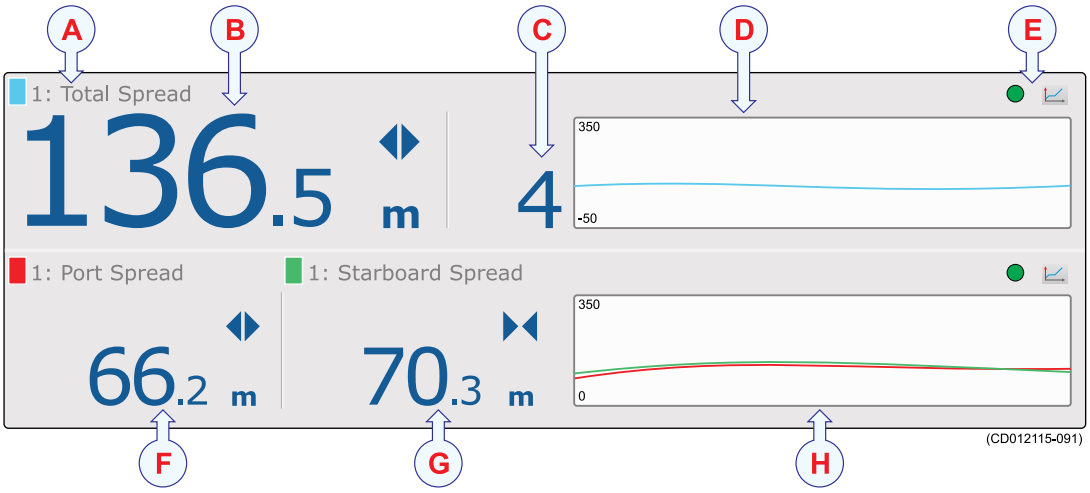
*This is a "dual" measurement. The sensor system will seize two communication channels on your PI50.*

The following Simrad catch monitoring sensors can be used to measure single and dual spread:

- PI Spread (with a PI Remote or a PI Remote/Depth sensor on the other door)
- PI Spread/Depth (with a PI Remote or a PI Remote/Depth sensor on the other door)
- PX MultiSensor

  Tip

  When the PX MultiSensor is used to measure spread, the remote sensor must be a second PX MultiSensor. The PI Remote sensor can not be used.




**A** **Sensor identifier**

The identifier is the **Label ID** parameter, the sensor name is the **Sensor Value Name** parameter. You can control these parameters in the **Select Sensors** dialog.

The colour code is issued automatically by the PI50 system. The same colour is used in the *Trend* view and in the *History* field.

**B** **Total spread**

This the current distance between the two outer trawl doors as measured by the sensor. The current measurement unit is shown, as well as two blue arrowheads. The total spread is the sum of the port and starboard spread distances shown below.

The arrowheads indicate the current changes in the spread distance; increasing or decreasing. In this example the spread distance is slowly decreasing with 2 meters each minute. If the two arrowheads are pointing towards each other, the total spread distance is decreasing. If they are pointing away from each other, the total spread distance is increasing.

**C** **Spread changes**

This digit shows the total spread distance changes recorded by the sensor, and thus the increasing or decreasing distance between the two outer trawl doors. The value is shown in units per minute. The direction is shown with the blue arrowheads. If the sensor does not detect any spread changes, the arrowheads are removed.

**D** **History field**

When the size of the presentation rectangle permits, the *History* field is shown. The field offers a graphical presentation of the sensor information for the last 20 minutes. The vertical range is set automatically defined by the current measurements.

**E** **Pulse lamp** and **Trend view**

The green **Pulse lamp** icon flashes every time a signal is received from the sensor. Click the **Trend view** button to open (and close) the *Trend* view for the sensor.

**F Port spread**

This the current distance between the port trawl door and the centre weight as measured by the sensor. The current measurement unit is shown, as well as two blue triangles to indicate if the spread distance is increasing or decreasing.

**G Starboard spread**

This the current distance between the centre weight and the starboard trawl door as measured by the sensor. The current measurement unit is shown, as well as two blue triangles to indicate if the spread distance is increasing or decreasing.

**H History field**

When the size of the presentation rectangle permits, the *History* field is shown. The field offers a graphical presentation of the sensor information for the last 20 minutes. The vertical range is set automatically defined by the current measurements.

### Related topics

- *'Twin Spread' sensor view description* on page 105
- *'Twin spread' trend view description* on page 125
- *Selecting a sensor for twin spread measurement* on page 59

## 'Spread/Depth' sensor view description

The purpose of the spread/depth dual measurement is to check both the water depth and the distance between the two trawl doors using a single sensor.

Tip

The Spread/Depth sensor view was originally provided exclusively for the Simrad PI Spread/Depth sensor. You may however set up one PX MultiSensor to do the same measurements, and still use this sensor view.

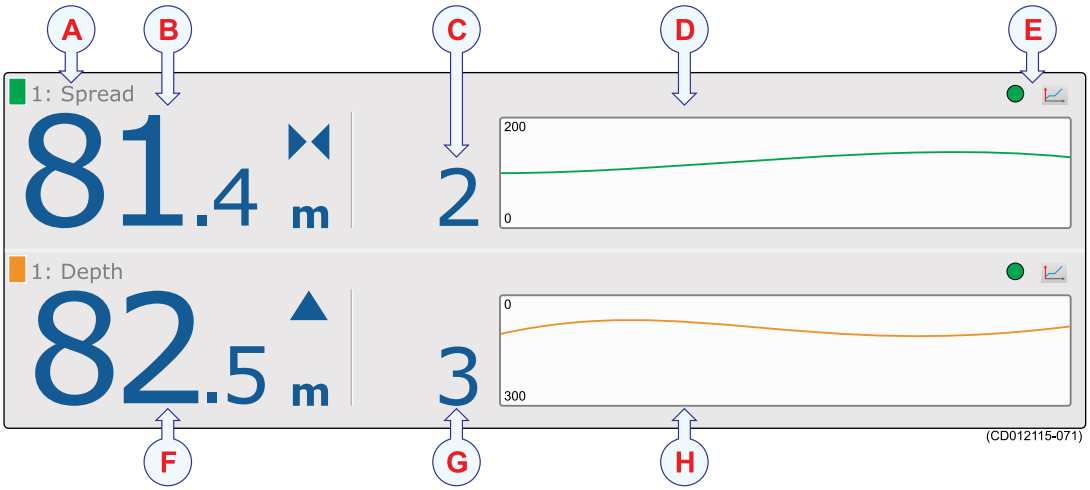
The PI Spread/Depth sensor thus contains both a pressure sensor to measure the water depth, and a spread sensor to measure the distance to the remote sensor on the other trawl door. The PI Spread/Depth sensor has been developed to be used on both bottom and pelagic trawls.

The sensor is normally installed on the port trawl door using an adapter.

With the PI and PS Depth sensors, three depth versions are available. These are set up for maximum depth 300 m, 600 m or 1000 m. The depth range is fixed by the factory, and can not be changed in the PI Configurator utility. The Simrad PX MultiSensor is set to a fixed 1000 meters range.

Note

*This is a "dual" measurement. The sensor system will seize two communication channels on your PI50.*




**A** **Sensor identifier**

The identifier is the **Label ID** parameter, the sensor name is the **Sensor Value Name** parameter. You can control these parameters in the **Select Sensors** dialog.

The colour code is issued automatically by the PI50 system. The same colour is used in the *Trend* view and in the *History* field.

**B** **Current spread**

This the current distance between the trawl doors as measured by the sensor system. The current measurement unit is shown, as well as two blue arrowheads.

The arrowheads indicate the current changes in the spread distance; increasing or decreasing. In this example the spread distance is slowly decreasing with 2 meters per minute. If the two arrowheads are pointing towards each other, the spread distance is decreasing. If they are pointing away from each other, the spread distance is increasing.

**C** **Spread changes**

This digit shows the spread distance changes recorded by the sensor, and thus the increasing or decreasing distance between the two trawl doors. The value is shown in units per minute. The direction is shown with the blue triangles. If the sensor does not detect any spread changes, the arrows are removed.

**D** **History field**

When the size of the presentation rectangle permits, the *History* field is shown. The field offers a graphical presentation of the sensor information for the last 20 minutes. The vertical range is set automatically defined by the current measurements.

**E** **Pulse lamp** and **Trend view**

The green **Pulse lamp** icon flashes every time a signal is received from the sensor. Click the **Trend view** button to open (and close) the *Trend* view for the sensor.

**F Current depth**

This the current depth measured by the sensor. The current measurement unit is shown, as well as a blue arrowhead. The arrowhead indicates the current vertical movement of the sensor; up or down. In this example the sensor measures 82,5 meters from the sea surface and down to the sensor, and the sensor – and thus the gear – is slowly rising with 3 meters each minute.

**G Depth changes**

This digit shows depth changes recorded by the sensor, and thus the ascending or descending speed of the net. The value is shown in units per minute. The direction is shown with the blue arrowhead. If the sensor does not detect any depth changes, the arrowhead is removed.

**H History field**

When the size of the presentation rectangle permits, the *History* field is shown. The field offers a graphical presentation of the sensor information for the last 20 minutes. The vertical range is set automatically defined by the current measurements.

### Related topics

- *'Spread/Depth' sensor view description* on page 107
- *Selecting a dual sensor for spread and depth measurements* on page 71
- *Setting up spread and depth sensors to measure vertical geometry* on page 77

## 'Temperature' sensor view description

The Simrad temperature sensor tells you the exact sea water temperature while you are fishing.

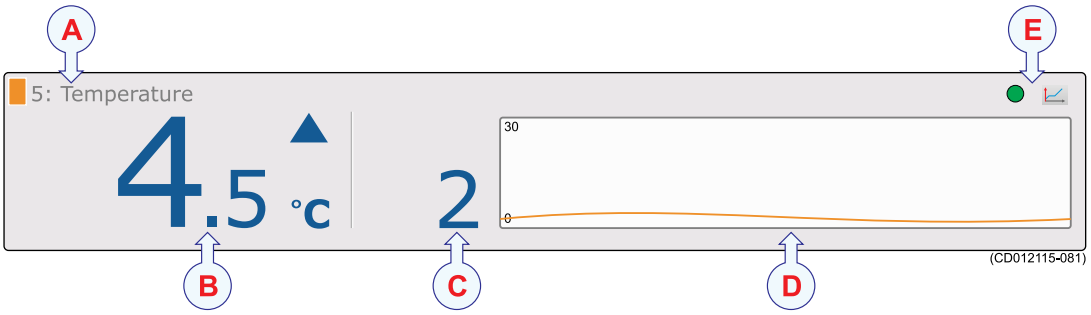
The water temperature is an important parameter. Fish and bait are temperature sensitive, and they are normally found within specific temperature zones for feeding and spawning. However, the temperature layers in the water are constantly changing, and for this reason the temperature must be monitored constantly.

The following Simrad catch monitoring sensors can be used to measure temperature:

- PS Temperature
- PI Temperature
- PX MultiSensor

Important

The PX MultiSensor must be equipped with a dedicated lid to make this measurement.




**A** **Sensor identifier**

The identifier is the **Label ID** parameter, the sensor name is the **Sensor Value Name** parameter. You can control these parameters in the **Select Sensors** dialog.

The colour code is issued automatically by the PI50 system. The same colour is used in the *Trend* view and in the *History* field.

**B** **Current temperature**

This the current temperature measured by the sensor. The current measurement unit is shown, as well as a blue triangle. The triangle indicates if the temperature is increasing or decreasing. In this example the temperature is measured to 4,5°C, and it is rapidly increasing with 2°C each minute.

**C** **Temperature changes**

This digit shows temperature changes recorded by the sensor. The value is shown in units per minute. The direction of the temperature change is shown with the blue triangle. If the sensor does not detect any temperature changes, the arrow is removed.

**D** **History field**

When the size of the presentation rectangle permits, the *History* field is shown. The field offers a graphical presentation of the sensor information for the last 20 minutes. The vertical range is set automatically defined by the current measurements.

**E** **Pulse lamp** and **Trend view**

The green **Pulse lamp** icon flashes every time a signal is received from the sensor. Click the **Trend view** button to open (and close) the *Trend* view for the sensor.

### Related topics

- *'Temperature' sensor view description* on page 109
- *'Temperature' trend view description* on page 125
- *Selecting a sensor for temperature measurement* on page 61

## 'Temperature/Depth' sensor view description

The purpose of the temperature/depth dual measurement is to check both the water depth and the temperature.

Tip

This sensor view was provided exclusively for the Simrad PI Temperature/Depth sensor. You may however set up one PX MultiSensor to do the same measurements, and then use this sensor view.

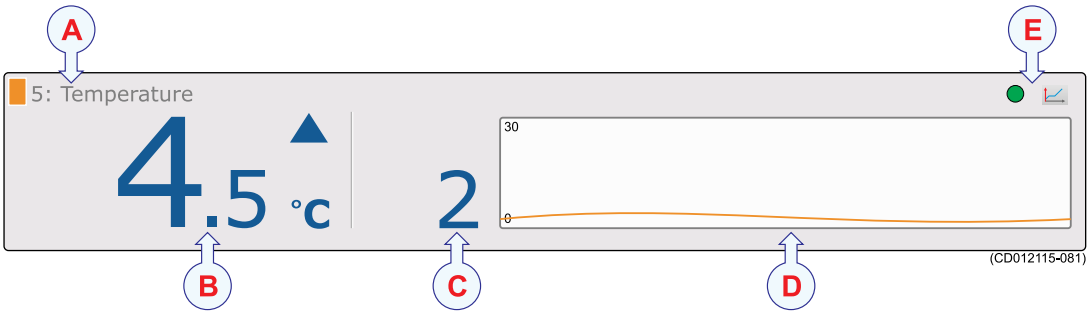
The Simrad PI Temperature/Depth sensor thus contains both a pressure sensor to measure the water depth, and a temperature sensor to measure the temperature. The sensor has been developed to be used on both bottom and pelagic trawls, as well as seines.

On a trawl, this sensor is normally installed on the headrope or footrope.

With the PI and PS Depth sensors, three depth versions are available. These are set up for maximum depth 300 m, 600 m or 1000 m. The depth range is fixed by the factory, and can not be changed in the PI Configurator utility. The Simrad PX MultiSensor is set to a fixed 1000 meters range.

Note

*This is a "dual" measurement. The sensor system will seize two communication channels on your PI50.*




**A Sensor identifier**

The identifier is the **Label ID** parameter, the sensor name is the **Sensor Value Name** parameter. You can control these parameters in the **Select Sensors** dialog.

The colour code is issued automatically by the PI50 system. The same colour is used in the *Trend* view and in the *History* field.

**B Current depth**

This the current depth measured by the sensor. The current measurement unit is shown, as well as a blue arrowhead. The arrowhead indicates the current vertical movement of the sensor; up or down. In this example the sensor measures 82,5 meters from the sea surface and down to the sensor, and the sensor – and thus the gear – is slowly rising with 3 meters each minute.

**C** **Depth changes**

This digit shows depth changes recorded by the sensor, and thus the ascending or descending speed of the net. The value is shown in units per minute. The direction is shown with the blue arrowhead. If the sensor does not detect any depth changes, the arrowhead is removed.

**D** **History field**

When the size of the presentation rectangle permits, the *History* field is shown. The field offers a graphical presentation of the sensor information for the last 20 minutes. The vertical range is set automatically defined by the current measurements.

**E** **Pulse lamp** and **Trend view**

The green **Pulse lamp** icon flashes every time a signal is received from the sensor. Click the **Trend view** button to open (and close) the *Trend* view for the sensor.

**F** **Current temperature**

This the current temperature measured by the sensor. The current measurement unit is shown, as well as a blue triangle. The triangle indicates if the temperature is increasing or decreasing. In this example the temperature is measured to 4,5°C, and it is rapidly increasing with 2°C each minute.

**G** **Temperature changes**

This digit shows temperature changes recorded by the sensor. The value is shown in units per minute. The direction of the temperature change is shown with the blue triangle. If the sensor does not detect any temperature changes, the arrow is removed.

**H** **History field**

When the size of the presentation rectangle permits, the *History* field is shown. The field offers a graphical presentation of the sensor information for the last 20 minutes. The vertical range is set automatically defined by the current measurements.

### Related topics

- *'Temperature' sensor view description* on page 109
- *'Temperature' trend view description* on page 125
- *Selecting a sensor for temperature measurement* on page 61

## 'Geometry' sensor view description

The purpose of the geometry measurement is to monitor the geometry of your trawl or danish seine – that is the relative position between the trawl doors.

The measurement is made by checking the distances between the centre of the headrope above the trawl opening (or the footrope at the bottom) and each of the trawl doors or wing ends. If these distances are not identical the trawl (or danish seine) will be skewed and unbalanced, and this reduces the catch efficiency.

The Simrad geometry sensors have been developed to be used on both bottom and pelagic trawls, as well as pair trawls and danish seiners.

Note

*The two Geometry Differential views are both "single" views. The other geometry views are all "dual". These sensors will seize two communication channels on your PI50.*

The following Simrad catch monitoring sensors can be used to measure geometry:

- PX MultiSensor

  You need three sensors. One must be set up as the "geometry" sensor and placed behind the headrope. The two others must be set up as "remote" sensors and placed on each trawl door.

  Important

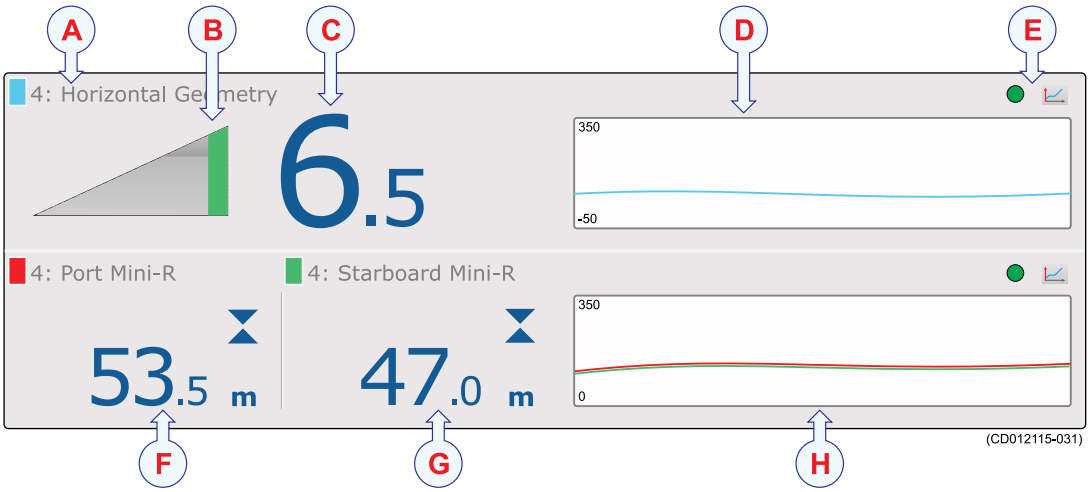
  When a PX MultiSensor is placed on the trawl door for geometry measurements, it must be placed "backwards" with the tip of the sensor pointing towards the headrope.

  Tip

  You can also use one PX MultiSensor behind the headrope and two PI Mini-R transponders on the trawl doors.

- PI Geometry

  You need one PI Geometry sensor, and two PI Mini-R transponders. The PI Geometry sensor is placed behind the headrope, while the two PI Mini-R transponders are mounted on the trawl doors (or trawl wings).




**A Sensor identifier**

The identifier is the **Label ID** parameter, the sensor name is the **Sensor Value Name** parameter. You can control these parameters in the **Select Sensors** dialog.

The colour code is issued automatically by the PI50 system. The same colour is used in the *Trend* view and in the *History* field.

**B** **Geometry icon**

This icon provides the current status of your trawl geometry.

The sensor system makes accurate measurements of the distances between the centre of the headrope and each of the trawl doors or wing ends. If these distances are not identical the trawl (or danish seine) is skewed and unbalanced.

- Left icon: The wire on the port trawl door is shorter than the wire on the starboard door. The length difference is shown on the right side of the icon. You must pay out on the port side to correct the skewed gear.
- Right icon: The wire on the starboard trawl door is shorter than the wire on the port door. The length difference is shown on the right side of the icon. You must pay out on the starboard side to correct the skewed gear.

The height of each icon gives a visual indication of the status. A large difference in length will make the icon high. If the two lengths are identical, the icon is shaped like a flat rectangle.

**C** **Length difference**

This is the difference in length between the port and starboard wires, as measured from the headrope to each remote sensor.

**D** **History field**

When the size of the presentation rectangle permits, the *History* field is shown. The field offers a graphical presentation of the sensor information for the last 20 minutes. The vertical range is set automatically defined by the current measurements.

**E** **Pulse lamp** and **Trend view**

The green **Pulse lamp** icon flashes every time a signal is received from the sensor. Click the **Trend view** button to open (and close) the *Trend* view for the sensor.

**F** **Port length**

This is the length of the wire between the headrope and the port remote sensor.

The current measurement unit is shown, as well as two blue arrowheads. These arrowheads indicate the current horizontal length changes. If the two arrowheads are pointing towards each other, the distance is decreasing.

**G** **Starboard length**

This is the length of the wire between the headrope and the starboard remote sensor.

The current measurement unit is shown, as well as two blue arrowheads. These arrowheads indicate the current horizontal length changes. If the two arrowheads are pointing towards each other, the distance is decreasing.

**H** **History field**

When the size of the presentation rectangle permits, the *History* field is shown. The field offers a graphical presentation of the sensor information for the last 20 minutes. The vertical range is set automatically defined by the current measurements.

**Related topics**

- *'Geometry' sensor view description* on page 112
- *'Geometry Differential' sensor view description* on page 115
- *'Geometry' trend view description* on page 126
- *Selecting a sensor for geometry measurement* on page 63

## 'Geometry Differential' sensor view description

The purpose of the geometry measurement is to monitor the geometry of your trawl or danish seine – that is the relative position between the trawl doors.

The measurement is made by checking the distances between the centre of the headrope above the trawl opening (or the footrope at the bottom) and each of the trawl doors or wing ends. If these distances are not identical the trawl (or danish seine) will be skewed and unbalanced, and this reduces the catch efficiency.

The Simrad geometry sensors have been developed to be used on both bottom and pelagic trawls, as well as pair trawls and danish seiners.

Note

*The two Geometry Differential views are both "single" views. The other geometry views are all "dual". These sensors will seize two communication channels on your PI50.*

The following Simrad catch monitoring sensors can be used to measure geometry:

- PX MultiSensor

  You need three sensors. One must be set up as the "geometry" sensor and placed behind the headrope. The two others must be set up as "remote" sensors and placed on each trawl door.

  Important

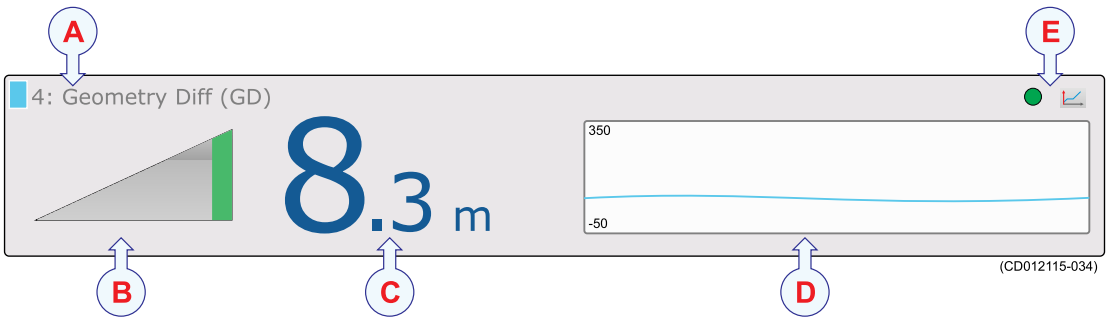
  When a PX MultiSensor is placed on the trawl door for geometry measurements, it must be placed "backwards" with the tip of the sensor pointing towards the headrope.

  Tip

  You can also use one PX MultiSensor behind the headrope and two PI Mini-R transponders on the trawl doors.

- PI Geometry

  You need one PI Geometry sensor, and two PI Mini-R transponders. The PI Geometry sensor is placed behind the headrope, while the two PI Mini-R transponders are mounted on the trawl doors (or trawl wings).




**A Sensor identifier**

The identifier is the **Label ID** parameter, the sensor name is the **Sensor Value Name** parameter. You can control these parameters in the **Select Sensors** dialog.

The colour code is issued automatically by the PI50 system. The same colour is used in the *Trend* view and in the *History* field.

**B Geometry icon**

This icon provides the current status of your trawl geometry.

The sensor system makes accurate measurements of the distances between the centre of the headrope and each of the trawl doors or wing ends. If these distances are not identical the trawl (or danish seine) is skewed and unbalanced.

- Left icon: The wire on the port trawl door is shorter than the wire on the starboard door. The length difference is shown on the right side of the icon. You must pay out on the port side to correct the skewed gear.
- Right icon: The wire on the starboard trawl door is shorter than the wire on the port door. The length difference is shown on the right side of the icon. You must pay out on the starboard side to correct the skewed gear.

The height of each icon gives a visual indication of the status. A large difference in length will make the icon high. If the two lengths are identical, the icon is shaped like a flat rectangle.

**C Length difference**

This is the difference in length between the port and starboard wires, as measured from the headrope to each remote sensor.

**D History field**

When the size of the presentation rectangle permits, the *History* field is shown. The field offers a graphical presentation of the sensor information for the last 20 minutes. The vertical range is set automatically defined by the current measurements.

**E Pulse lamp** and **Trend view**

The green **Pulse lamp** icon flashes every time a signal is received from the sensor. Click the **Trend view** button to open (and close) the *Trend* view for the sensor.

**Related topics**

- *'Geometry' sensor view description* on page 112
- *'Geometry Differential' sensor view description* on page 115
- *'Geometry' trend view description* on page 126
- *Selecting a sensor for geometry measurement* on page 63

## 'Height/Depth' sensor view description

The purpose of the height/depth dual measurement is to simultaneously check both the water depth and the distance from the sensor and down to the bottom.

Tip

The Height/Depth sensor view was provided exclusively for the Simrad PI SeineSounder sensor. You may however set up one PX MultiSensor to do the same measurements, and then use this sensor view.

---

The Simrad PI SeineSounder sensor contains both a pressure sensor to measure the water depth, and a small echo sounder to measure the height above the bottom.

It has been developed to be used on both bottom and pelagic trawls, as well as on purse and Danish seiners. The sensor must be installed in two different ways depending on the application. On a trawl, it is mounted horizontally behind the headrope. On a purse seine, it is mounted vertically below the footrope.

Important

In order to provide the two Simrad PI SeineSounder applications and mounting methods, the echo sounder inside the sensor has been equipped with two transducers. By means of a "sensor key" you can easily define which transducer to use.

- Trawl: Use the short bolt
- Purse seine: Use the long bolt

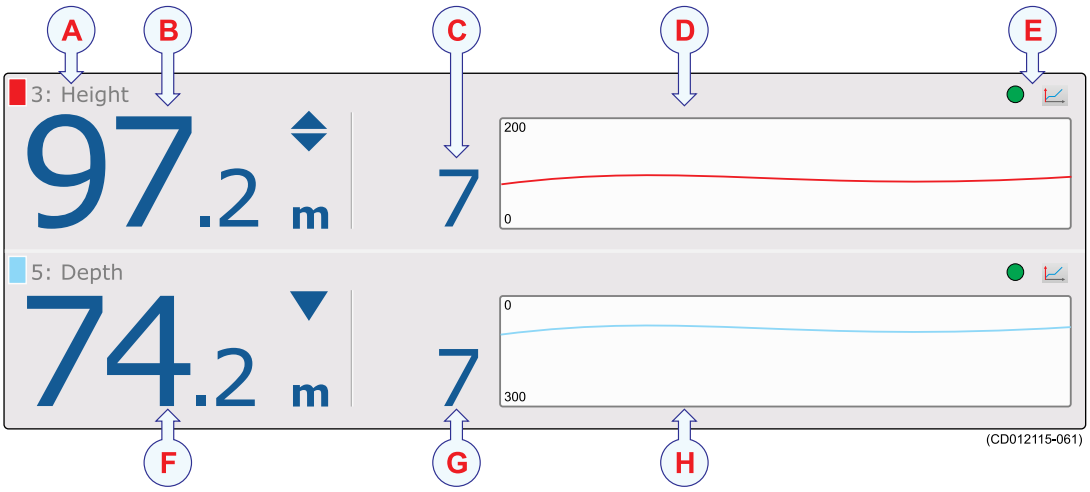
Provided with the sensor is a "gift box" with two sensor keys. These are two special bolts, and by means of magnetism inside the bolts, these will select which echo sounder transducer to use. The bolts will also act as water detectors, and that means that they will slowly disintegrate. When you mount the sensor on a trawl or a purse seine, it is therefore important that you use the correct key:

---

With the PI and PS Depth sensors, three depth versions are available. These are set up for maximum depth 300 m, 600 m or 1000 m. The depth range is fixed by the factory, and can not be changed in the PI Configurator utility. The Simrad PX MultiSensor is set to a fixed 1000 meters range.

Note

*This is a "dual" measurement. The sensor system will seize two communication channels on your PI50.*




**A Sensor identifier**

The identifier is the **Label ID** parameter, the sensor name is the **Sensor Value Name** parameter. You can control these parameters in the **Select Sensors** dialog.

The colour code is issued automatically by the PI50 system. The same colour is used in the *Trend* view and in the *History* field.

**B Current height**

This is the height from the strongest echo (seabed or footrope) under the sensor, and up to the position on the gear in which the sensor is mounted. The current measurement unit is shown, as well as two blue arrowheads.

The two arrowheads indicate the current vertical movement of the sensor; up or down. In this example the sensor is slowly increasing with 5 meters each minute. If the two arrowheads are pointing towards each other, the height is decreasing. If they are pointing away from each other, the height is increasing.

**C Height changes**

This digit shows height changes recorded by the sensor. The value is shown in units per minute. The direction is shown with the two blue arrowheads. If the sensor does not detect any height changes, the triangles are removed.

**D History field**

When the size of the presentation rectangle permits, the *History* field is shown. The field offers a graphical presentation of the sensor information for the last 20 minutes. The vertical range is set automatically defined by the current measurements.

**E** **Pulse lamp** and **Trend view**

The green **Pulse lamp** icon flashes every time a signal is received from the sensor. Click the **Trend view** button to open (and close) the *Trend* view for the sensor.

**F** **Current depth**

This the current depth measured by the sensor. The current measurement unit is shown, as well as a blue arrowhead. The arrowhead indicates the current vertical movement of the sensor; up or down. In this example the sensor measures 82,5 meters from the sea surface and down to the sensor, and the sensor – and thus the gear – is slowly rising with 3 meters each minute.

**G** **Depth changes**

This digit shows depth changes recorded by the sensor, and thus the ascending or descending speed of the net. The value is shown in units per minute. The direction is shown with the blue arrowhead. If the sensor does not detect any depth changes, the arrowhead is removed.

**H** **History field**

When the size of the presentation rectangle permits, the *History* field is shown. The field offers a graphical presentation of the sensor information for the last 20 minutes. The vertical range is set automatically defined by the current measurements.

### Related topics

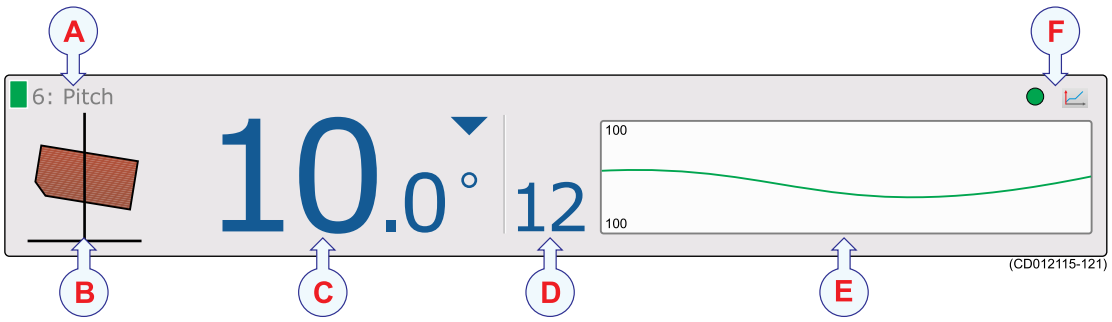
- *'Height/Depth' sensor view description* on page 117
- *Selecting a dual sensor for height and depth measurements* on page 69

## 'Pitch' sensor view description

The pitch measurement allows you to monitor the movements of the trawl door. If the door tilts forward or backwards in an uncontrolled manner, you are able to detect this immediately.

The following Simrad catch monitoring sensors can be used to measure pitch:

- PX MultiSensor



**A Sensor identifier**

The identifier is the **Label ID** parameter, the sensor name is the **Sensor Value Name** parameter. You can control these parameters in the **Select Sensors** dialog.

The colour code is issued automatically by the PI50 system. The same colour is used in the *Trend* view and in the *History* field.

**B Pitch icon**

This icon provides a visual presentation of the current pitch.

The angle of the icon shows you if the trawl door is pitched in the forward or aft direction.

**C Current pitch**

This is the numerical readout of the current pitch angle (in degrees).

The small arrowhead indicates the current pitch movement. If the arrowhead points down, the trawl door is pitching forward. If the arrowhead points up, the trawl door pitches backwards.

**D Pitch changes**

This digit shows the pitch changes recorded by the sensor. The value is shown in degrees. The direction is shown with the two blue arrowheads. If the sensor does not detect any pitch changes, the arrowheads are removed.

**E History field**

When the size of the presentation rectangle permits, the *History* field is shown. The field offers a graphical presentation of the sensor information for the last 20 minutes. The vertical range is set automatically defined by the current measurements.

**F Pulse lamp** and **Trend view**

The green **Pulse lamp** icon flashes every time a signal is received from the sensor. Click the **Trend view** button to open (and close) the *Trend* view for the sensor.

### Related topics

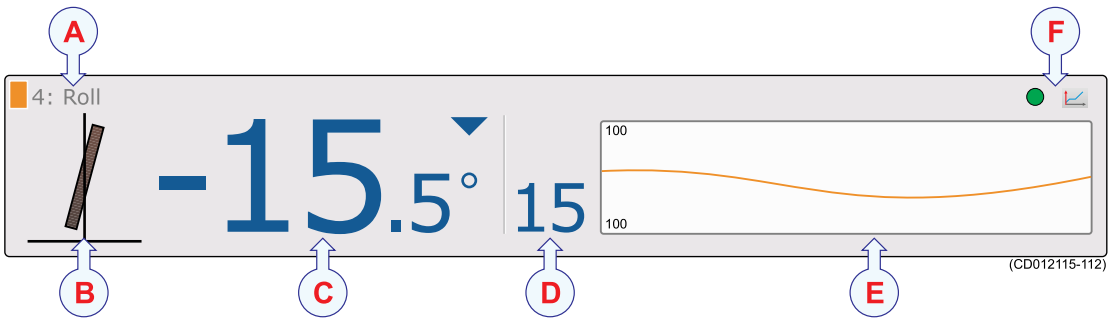
- *'Pitch' sensor view description* on page 119
- *'Pitch' trend view description* on page 127
- *Selecting a sensor for pitch angle measurement* on page 67

## 'Roll' sensor view description

The roll measurement allows you to monitor the movements of the trawl door. If the door tilts sideways in an uncontrolled manner, you are able to detect this immediately.

The following Simrad catch monitoring sensors can be used to measure roll:

- PX MultiSensor




**A** **Sensor identifier**

The identifier is the **Label ID** parameter, the sensor name is the **Sensor Value Name** parameter. You can control these parameters in the **Select Sensors** dialog.

The colour code is issued automatically by the PI50 system. The same colour is used in the *Trend* view and in the *History* field.

**B** **Roll icon**

This icon provides a visual presentation of the current roll.

The angle of the icon shows you if the trawl door is leaning towards port (red) or starboard (green).

**C** **Current roll**

This is the numerical readout of the current roll angle (in degrees).

The small arrowhead indicates the current pitch movement. If the arrowhead points down, the trawl door is leaning towards port. If the arrowhead points up, the trawl door is leaning towards starboard.

**D** **Roll changes**

This digit shows the roll changes recorded by the sensor. The value is shown in degrees. The direction is shown with the two blue arrowheads. If the sensor does not detect any roll changes, the arrowheads are removed.

**E** **History field**

When the size of the presentation rectangle permits, the *History* field is shown. The field offers a graphical presentation of the sensor information for the last 20 minutes. The vertical range is set automatically defined by the current measurements.

**F** **Pulse lamp** and **Trend view**

The green **Pulse lamp** icon flashes every time a signal is received from the sensor. Click the **Trend view** button to open (and close) the *Trend* view for the sensor.

## Related topics

- *'Roll' sensor view description* on page 120
- *'Roll' trend view description* on page 127
- *Selecting a sensor for roll angle measurement* on page 66

# Trend view descriptions

The *Trend* view is opened by clicking the icon in the top right corner of the *Sensor* view rectangle. The *Trend* view comprises a graph. The graph displays the historic development of the information provided by the relevant sensor.

Once opened, the graph is placed on the left side of the screen. If more than one graph is opened, they are placed on top of each other in the order you opened them. The vertical size of each graph is automatically adjusted. The curve provided by the graph uses the same colour that is used to identify the sensor in the *Sensor* view. The colour is chosen automatically by the PI50.

### Topics


- *'Bottom contact' trend view description* on page 122
- *'Catch' trend view description* on page 123
- *'Depth' trend view description* on page 123
- *'Height' trend view description* on page 124
- *'Spread' trend view description* on page 124
- *'Twin spread' trend view description* on page 125
- *'Temperature' trend view description* on page 125
- *'Geometry' trend view description* on page 126
- *'Pitch' trend view description* on page 127


## 'Bottom contact' trend view description

The bottom contact trend view shows you when the sensor has been activated.

**a** The vertical scale is fixed.

**b** The horizontal scale is defined by the parameter selected by clicking **Trend History Length** on the **Display** menu.

The time can be selected from 5 to 1440 minutes (24 hours).

**c** The curve in the graph has the same colour as used to identify the sensor in the *Sensor* view. The label at the right end of the curve identifies the sensor's **Label ID** and the type of sensor.

**d** The curve simply shows when the sensor has been triggered.

### Related topics


- *'Bottom contact' sensor view description* on page 96
- *'Bottom contact' trend view description* on page 122
- *Selecting a sensor for bottom contact measurement* on page 50

## 'Catch' trend view description

The catch trend view shows you when the sensor has been activated.

**a** The vertical scale is fixed.

**b** The horizontal scale is defined by the parameter selected by clicking **Trend History Length** on the **Display** menu.

The time can be selected from 5 to 1440 minutes (24 hours).

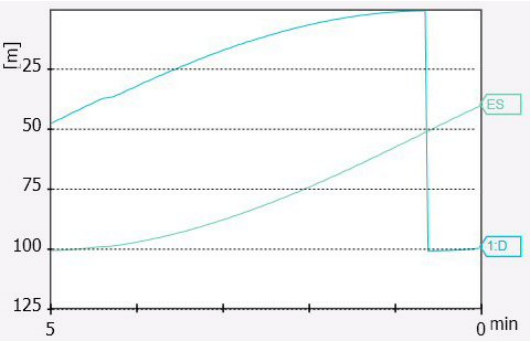
**c** The curve simply shows when the sensor has been triggered.

### Related topics

- *'Catch' sensor view description* on page 98
- *'Catch' trend view description* on page 123
- *Selecting a sensor for catch measurement* on page 51

## 'Depth' trend view description

The depth trend view shows the depth values recorded by the sensor.




**a** The vertical scale is defined by the settings made by clicking **Range** and **Start Range** on the **Main** menu.

**b** The horizontal scale is defined by the parameter selected by clicking **Trend History Length** on the **Display** menu.

The time can be selected from 5 to 1440 minutes (24 hours).

**c** The curve in the graph has the same colour as used to identify the sensor in the *Sensor* view. The label at the right end of the curve identifies the sensor's **Label ID** and the type of sensor.

**d** If an external echo sounder is connected to the PI50, the depth recorded by the sounder is also shown. The curve is identified with the label **ES** on the right side.

Note

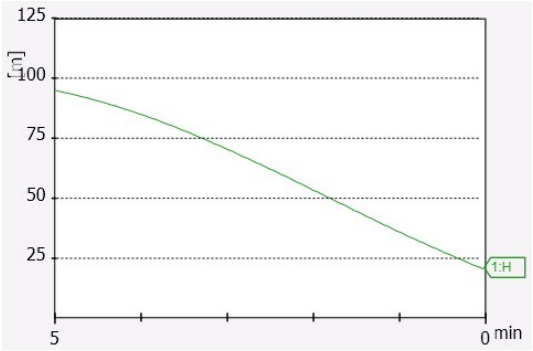
*This trend view is applied for all the sensors that provide a depth measurement.*

### Related topics

- *'Depth' sensor view description* on page 99
- *'Depth' trend view description* on page 123
- *Selecting a sensor for depth measurement* on page 53
- *Setting up spread and depth sensors to measure vertical geometry* on page 77
- *Setting up depth and height sensors to measure total water depth* on page 79

## 'Height' trend view description

The height trend view shows the height values recorded by the sensor.




**a** The vertical scale is defined by the settings made by clicking **Range** and **Start Range** on the **Main** menu.

**b** The horizontal scale is defined by the parameter selected by clicking **Trend History Length** on the **Display** menu.

The time can be selected from 5 to 1440 minutes (24 hours).

**c** The curve in the graph has the same colour as used to identify the sensor in the *Sensor* view. The label at the right end of the curve identifies the sensor's **Label ID** and the type of sensor.

Note

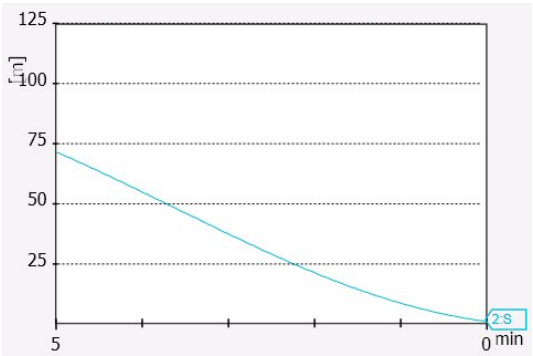
*This trend view is applied for all the sensors that provide a height measurement.*

### Related topics

- *'Height' sensor view description* on page 102
- *'Height' trend view description* on page 124
- *Selecting a sensor for height measurement* on page 55
- *Setting up depth and height sensors to measure total water depth* on page 79
- *Setting up the height sensor to show the trawl opening* on page 79

## 'Spread' trend view description

The spread trend view shows the distance between the trawl doors.




**a** The vertical scale is defined by the settings made by clicking **Range** and **Start Range** on the **Main** menu.

**b** The horizontal scale is defined by the parameter selected by clicking **Trend History Length** on the **Display** menu.

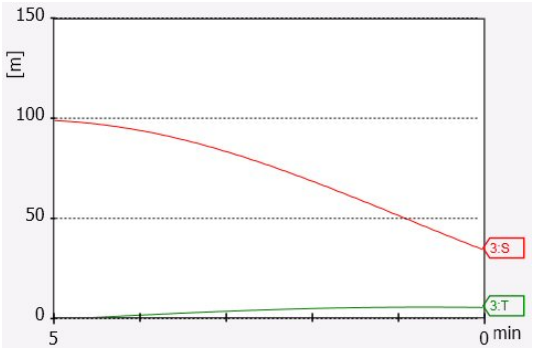
The time can be selected from 5 to 1440 minutes (24 hours).

**c** The curve in the graph has the same colour as used to identify the sensor in the *Sensor* view. The label at the right end of the curve identifies the sensor's **Label ID** and the type of sensor.

### Related topics

- *'Spread' sensor view description* on page 103
- *'Spread' trend view description* on page 124
- *Selecting a sensor for spread measurement* on page 57
- *Setting up spread and depth sensors to measure vertical geometry* on page 77

## 'Twin spread' trend view description




The twin spread trend view shows the distance between the trawl doors in a dual trawl system.

**a** Two curves are shown, one for the port spread, on one for the starboard spread.

**b** The vertical scale is defined by the settings made by clicking **Range** and **Start Range** on the **Main** menu.

**c** The horizontal scale is defined by the parameter selected by clicking **Trend History Length** on the **Display** menu.

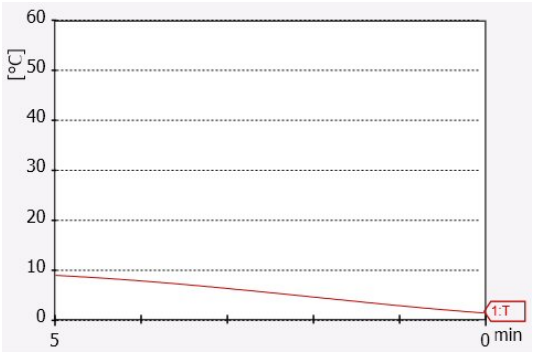
The time can be selected from 5 to 1440 minutes (24 hours).

**d** The history curves use the same two colours that are used to identify the starboard and port measurement. The labels at the right end of the curve identify the sensor's **Label ID** and the type of sensor.

### Related topics

- *'Twin Spread' sensor view description* on page 105
- *'Twin spread' trend view description* on page 125
- *Selecting a sensor for twin spread measurement* on page 59

## 'Temperature' trend view description




The temperature trend view shows the temperature changes recorded by the sensor.

**a** The vertical scale is set up automatically.

**b** The horizontal scale is defined by the parameter selected by clicking **Trend History Length** on the **Display** menu.

The time can be selected from 5 to 1440 minutes (24 hours).

**c** The curve in the graph has the same colour as used to identify the sensor in the *Sensor* view. The label at the right end of the curve identifies the sensor's **Label ID** and the type of sensor.

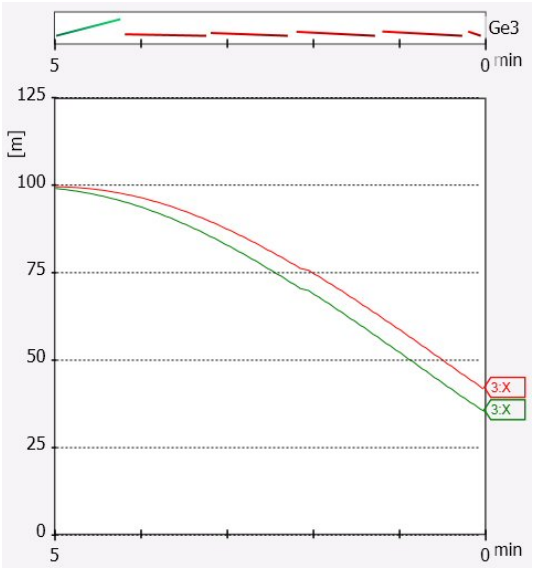
Note

*This trend view is applied for all the sensors that provide a temperature measurement.*

### Related topics

- *'Temperature' sensor view description* on page 109
- *'Temperature' trend view description* on page 125
- *Selecting a sensor for temperature measurement* on page 61

## 'Geometry' trend view description




The geometry provides two trend views that can be opened individually. The top graph provides an overall description of the geometry. The bottom graph presents a detailed view of the two distances that are measured by the sensor.

**a** The vertical scale is defined by the settings made by clicking **Range** and **Start Range** on the **Main** menu.

**b** The horizontal scale is defined by the parameter selected by clicking **Trend History Length** on the **Display** menu.

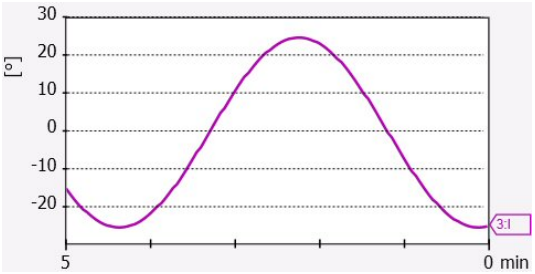
The time can be selected from 5 to 1440 minutes (24 hours).

**c** The history curves use the same two colours that are used to identify the starboard and port measurement. The labels at the right end of the curve identify the sensor's **Label ID** and the type of sensor.

### Related topics

- *'Geometry' sensor view description* on page 112
- *'Geometry Differential' sensor view description* on page 115
- *'Geometry' trend view description* on page 126
- *Selecting a sensor for geometry measurement* on page 63

## 'Pitch' trend view description




The pitch trend view shows the pitch movements made by the trawl door (or any other item that the sensor is placed upon).

**a** The vertical scale is set up automatically.

**b** The horizontal scale is defined by the parameter selected by clicking **Trend History Length** on the **Display** menu.

The time can be selected from 5 to 1440 minutes (24 hours).

**c** The curve in the graph has the same colour as used to identify the sensor in the *Sensor* view. The label at the right end of the curve identifies the sensor's **Label ID** and the type of sensor.

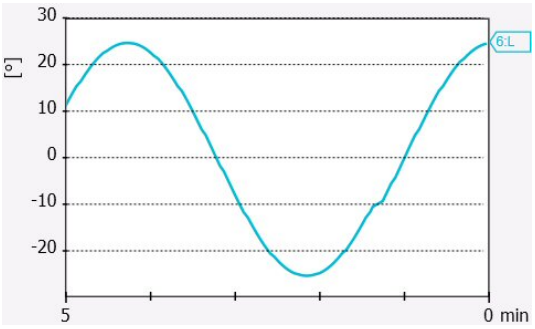
Note

*If you open the trend views for both the roll and pitch measurements simultaneously, the two curves will be placed in the same graph with two different colours.*

### Related topics

- *'Pitch' sensor view description* on page 119
- *'Pitch' trend view description* on page 127
- *Selecting a sensor for pitch angle measurement* on page 67

## 'Roll' trend view description




The roll trend view shows the roll movements made by the trawl door (or any other item that the sensor is placed upon).

**a** The vertical scale is set up automatically.

**b** The horizontal scale is defined by the parameter selected by clicking **Trend History Length** on the **Display** menu.

The time can be selected from 5 to 1440 minutes (24 hours).

**c** The curve in the graph has the same colour as used to identify the sensor in the *Sensor* view. The label at the right end of the curve identifies the sensor's **Label ID** and the type of sensor.

Note

*If you open the trend views for both the roll and pitch measurements simultaneously, the two curves will be placed in the same graph with two different colours.*

### Related topics

- *'Roll' sensor view description* on page 120
- *'Roll' trend view description* on page 127
- *Selecting a sensor for roll angle measurement* on page 66

# Screen captures

The PI50 provides a built-in screen capture function.

To save all the information on the complete PI50 display presentation, click **Screen Capture** on the **Title Bar**.

To access the images, click **Screen Captures** on the **Display** menu. This will open a standard file folder, and you can use common operating system functions to delete, copy, rename or move the files.

Each file is named according to the following key:

```
Dyyyymmdd_Thhmmss_Image.jpg
```

The first part of the file name (D) defines the date, while the second part (T) defines the time.

# The menu system

The menu navigation employed by the PI50 is similar to the other Simrad applications which follow the new user interface standards developed by Simrad.

The main menu is by default located at the right side of the screen. By means of dedicated icons at the bottom of the main menu, you can open and close the relevant submenus. Menu choices shown in dark colours are not available for the current operation or operational mode.

Tip

This chapter only provides the purpose of each function and dialog box. If you wish to learn more about the functionality and the parameters offered, refer to the *Simrad PI50 Reference manual* or the context sensitive online help.

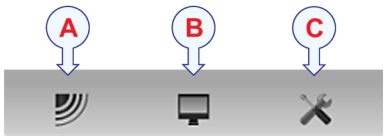
**Topics**


- *About menus and buttons* on page 131
- *Main menu* on page 133
- *Operation menu* on page 135
- *Display menu* on page 136
- *Setup menu* on page 137
- *Installation menu* on page 138

# About menus and buttons

The selection of operational parameters on the PI50 is done using a tree structure with a main menu, a set of submenus, and several menu buttons. Some of the menu buttons open dialog boxes or submenus to offer additional choices.

The **Main** menu provides the parameters most frequently used during normal operation.




Below the main menu, dedicated buttons are used to open the submenus. These are (from left):

**A** The **Operation** menu controls the main operational parameters.

**B** The **Display** menu controls the visual aspects of the system, such as parameters related to the display presentation.

**C** The **Setup** menu allows you to control the configuration of the signal processing, as well as system installation and maintenance, and the interfaces to peripheral devices.

Tip

You can hide the menu from view if you do not need it. Click the **Menu** button on the **Title Bar** to hide the menu. Click one more time to retrieve it.

The text in the buttons can be changed to suit your preference by clicking **Language** on the **Display** menu.

You can also place the menu on the left side of the PI50 presentation by clicking **Menu on the right side** in the **Display Options** dialog box.

### Menu button

On the **Title bar**, click once on the **Menu** button to hide the menu. Click one more time to bring the menu back again.

Tip

For detailed information about every function, button and dialog box, refer to the *PI50 Reference manual* or to the context sensitive on-line help.

# Button types

Each menu contains several menu buttons. Each button shows the function of the button, some of them also display the current parameter setting. The majority of the buttons in each menu provide one or more of these functions.

**a** You can increase and decrease parameter values by clicking the [+] and [–] fields on the button.

**b** You can change parameter values by clicking on the button, holding the mouse depressed, and then moving the cursor sideways.

**c** You can change parameter values by means of the scroll wheel on the mouse or trackball.

**d** You can enter parameter values from the keyboard (if you have one).

**e** You can select parameter value from the button's submenu.

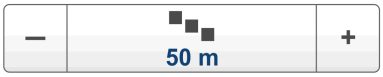
**f** You can open a dedicated dialog box.

### How to select a numerical parameter using the +/- buttons

**1** Move the cursor to either side of the button, and observe that the background colour changes.

- **a** Click on the left side of the button to decrease the numerical value.
- **b** Click on the right side of the button to increase the numerical value.

### How to select a numerical parameter by moving the cursor horizontally




**1** Place the cursor on the middle of the button.

**2** Click and hold the left mouse button depressed.

**3** Move the cursor horizontally: left to decrease the value, or right to increase it.

**4** Release the mouse button when the requested value is shown.

### How to select a numerical parameter by means of the scroll wheel

**1** Place the cursor on the middle of the button.

**2** Spin the scroll wheel in either direction to increase or decrease the value.

**3** Release the scroll wheel when the requested value is shown.

### How to select a numerical parameter using the keyboard

**1** Click the middle section of the button to open a text field.

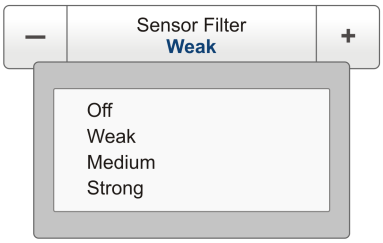
**2** Type the numerical value into the text field.

If the numerical value exceeds the permitted range for the parameter, the frame in the text field will be red.

You will then not be able to keep that value.

**3** Press the **Enter** key.

### How to select a parameter using a submenu




1 Click the middle section of the button to open a submenu, then click the requested command, option or button.

The chosen value is applied, and the submenu is automatically closed.

2 Whenever applicable, you can also access the submenu by clicking the left and right side of the button. This method will not show you the choices on the submenu.

**a** Click on the left side of the button to select a 'lower' submenu choice.

**b** Click on the right side of the button to select a 'higher' submenu choice.

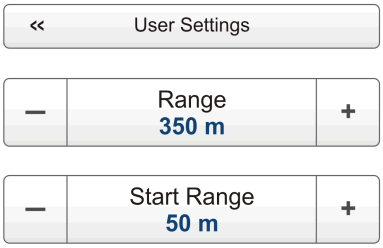
### How to select parameters using a dialog box

1 Click anywhere on the button to open a separate dialog box.

# Main menu

The following functions and parameters are available from the **Main** menu.

The **Main** menu is presented in the *Main* mode on the PI50 start page.




1 **User Settings**

The **User Settings** dialog box allows you to save the current user settings (parameter selections), and to retrieve factory or previously saved user settings.

2 **Range**

The **Range** function allows you to specify the maximum range of the sensors related to the physical length or depth measurements. The range is defined from a selected start range, and in horizontal or vertical direction to a value exceeding the bottom depth or the location of the sensor. Use this setting together with the **Start Range** parameter to set up the depth or distance scales in the *Trend* views.

3 **Start Range**

The **Start Range** function allows you to specify the start value for the depth or distance presentation in the sensor's history field. Use this setting together with **Range** to set up the depth or distance scales in the *Trend* views.

### Submenus

The bottom of the **Main** menu holds the icons for the submenus. Click on one of these icons to open the requested submenu.

### Menu button

On the **Title bar**, click once on the **Menu** button to hide the menu. Click one more time to bring the menu back again.

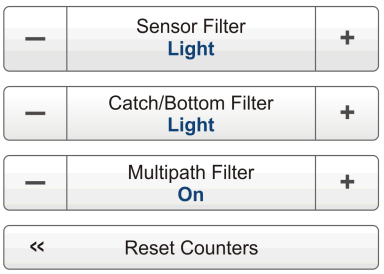
Tip

For detailed information about every function, button and dialog box, refer to the *PI50 Reference manual* or to the context sensitive on-line help.

# Operation menu

The following functions and parameters are available from the **Operation** menu.

Click once on the icon under the **Main** menu to open the **Operation** menu. Click one more time on the icon to close the menu.




**1** **Sensor Filter**

The **Sensor Filter** can be used if you have problems with the reception. It will average the data received from the sensors.

**2** **Catch/Bottom Filter**

The **Catch/Bottom Filter** is used to restrict the change of state from the catch and bottom contact sensors. This will reduce jitter in the presentation.

**3** **Multipath Filter**

The **Multipath Filter** is designed to remedy for reflections, spikes and time-lag in the sensor data. These problems may occur if neighbouring channels are used, or if the PI50 is disturbed by other hydroacoustic systems in use on your own or other vessels.

**4** **Reset Counters**

The **Reset Counters** function allows you to reset the built-in timer function.

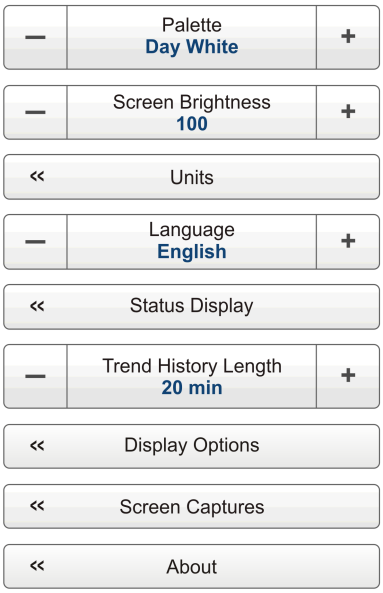
Tip

For detailed information about every function, button and dialog box, refer to the *PI50 Reference manual* or to the context sensitive on-line help.

# Display menu

The following functions and parameters are available from the **Display** menu.

Click once on the icon under the **Main** menu to open the **Display** menu. Click one more time on the icon to close the menu.




**1 Palette**

The purpose of the **Palette** function is to choose which colour theme to be used by the PI50 presentations.

**2 Screen Brightness**

The purpose of the **Screen Brightness** function is to adjust the intensity of the light given off by the display.

**3 Units**

The purpose of the **Units** dialog box is to control the units of measurements used by the PI50.

**4 Language**

The purpose of the **Language** function is to select the language to be used on the menus and elsewhere in the graphical user interface.

**5 Status Display**

The **Status Display** dialog box provides an overview of the current hydro-acoustical conditions.

**6 Trend History Length**

The **Trend History Length** function allows you to adjust the horizontal resolution of the *Trend* views.

**7 Display Options**

The purpose of the **Display Options** dialog box is to control the location of the menu, and which information to be provided on the **Title Bar** and the **Status bar**.

**8 Screen Captures**

The **Screen Captures** function allows you to access the screen captures you have created using the **Screen Capture** button on the **Title Bar**.

**9 About**

The **About** dialog box allows you to see the current PI50 software version.

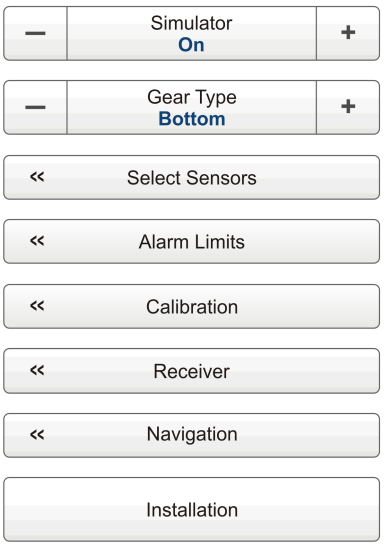
Tip

For detailed information about every function, button and dialog box, refer to the *PI50 Reference manual* or to the context sensitive on-line help.

# Setup menu

The following functions and parameters are available from the **Setup** menu.

Click once on the icon under the **Main** menu to open the **Setup** menu. Click one more time on the icon to close the menu.




**1 Simulator**

The **Simulator** will provide artificial sensor data to support hands-on PI50 training and functional testing.

**2 Gear Type**

The **Gear Type** function allows you to set up the PI50 to work with either a pelagic or a bottom trawl. The function is only used with Bottom Contact sensors.

**3 Select Sensors**

The **Select Sensors** dialog box allows you to define which sensors you will use to monitor your gear.

**4 Alarm Limits**

The **Alarm Limits** dialog box allows you to define alarms related to the information provided by the relevant catch monitoring sensors.

**5 Calibration**

The purpose of the **Calibration** dialog box is to accept and apply the calibration information from the depth sensor calibration.

**6 Receiver**

The **Receiver** dialog box allows you to set up the detailed communication parameters. It provides parameters to “fine tune” the receiver circuitry for optimal performance in various sea conditions, and for various gear types.

**7 Navigation**

The **Navigation** dialog box controls how the PI50 receives information from external peripherals, such as navigation and gyro compass systems.

**8 Installation**

The **Installation** function opens a small submenu with access to the functions and dialog boxes required to set up the PI50 for operational use.

Tip

For detailed information about every function, button and dialog box, refer to the *PI50 Reference manual* or to the context sensitive on-line help.

# Installation menu

The following functions and dialog boxes are available from the submenu provided by the **Installation** button on the **Setup** menu.

**1 I/O Setup**

The **I/O Setup** dialog box allows you to control the properties of each of the available communication channels on the PI50 Processor Unit.

**2 Software License**

The purpose of the **Software License** dialog box is to allow you to enter a license code (text string) to unlock the PI50 functionality. In order to obtain the license code(s) required, contact your dealer.

Tip

For detailed information about every function, button and dialog box, refer to the *PI50 Reference manual* or to the context sensitive on-line help.

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