



750 Portable Monitor

Operator's Manual



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For regulatory compliance information including local compliance representatives and the product Declaration of Conformity, see www.in-situ.com/compliance-information.

Technical Support

For service, repair, or technical support, contact our skilled support team in your area by chat, email, or phone at www.in-situ.com/support.

Be sure to have the following information available:

- Product model
- Serial number
- Description of the problem, including how the product was used and the conditions noted at the time of the malfunction

Unpacking and Inspecting

Your equipment was carefully inspected before shipping. Check the equipment for any physical damage sustained during shipment. Notify In-Situ and file a claim with the carrier if there is any such damage. Do not attempt to deploy or operate the equipment.



Save packing materials for future storage and shipping of your equipment.

Document Conventions

Throughout this document, you will see the following symbols:



A checkmark highlights a tip or feature.



The exclamation point calls your attention to a requirement, safety issue, or important action that should not be overlooked.

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Safety

Safety and Damage Warnings



Read the safety information on this page before using the 750 Portable Monitor. If you have questions, contact Technical Support for assistance.

- The 750 Portable Monitor is designed for use with the SoliTech IR and OxyTech RDO sensors. Using other sensors may damage the instrument or the sensor.
- Insert only the sensor connector into the monitor's 4-way socket. The socket contains electrical voltage. Inserting a different connector or object may damage the monitor.
- Insert only the USB cable connector into the monitor's 5-way socket. The socket contains electrical voltage. Inserting a different connector or object may damage the monitor.
- Do not submerge the entire 750 Portable Monitor in liquid. Doing so may damage the instrument.
- The 750 Portable Monitor has an internal, rechargeable Nickel Metal Hydride (NiMH) battery. Do not expose the NiMH battery to temperatures above 50° C (122° F) or below 0° C (32° F). Doing so may cause instrument damage or risk of fire.
- Charge the 750 Portable Monitor battery in a cool area without excessive heat or sunlight.
- When not in use, store the 750 Portable Monitor in a cool area.

Intended Use

The 750 Portable Monitor is designed to be used in these conditions:

- Indoor and outdoor use
- At temperatures between 0° to 50° C (32° to 122° F)
- At drinking water and wastewater facilities



If the equipment is used in a manner not specified by the manufacturer, the protection provided for the equipment may be impaired.

Introduction

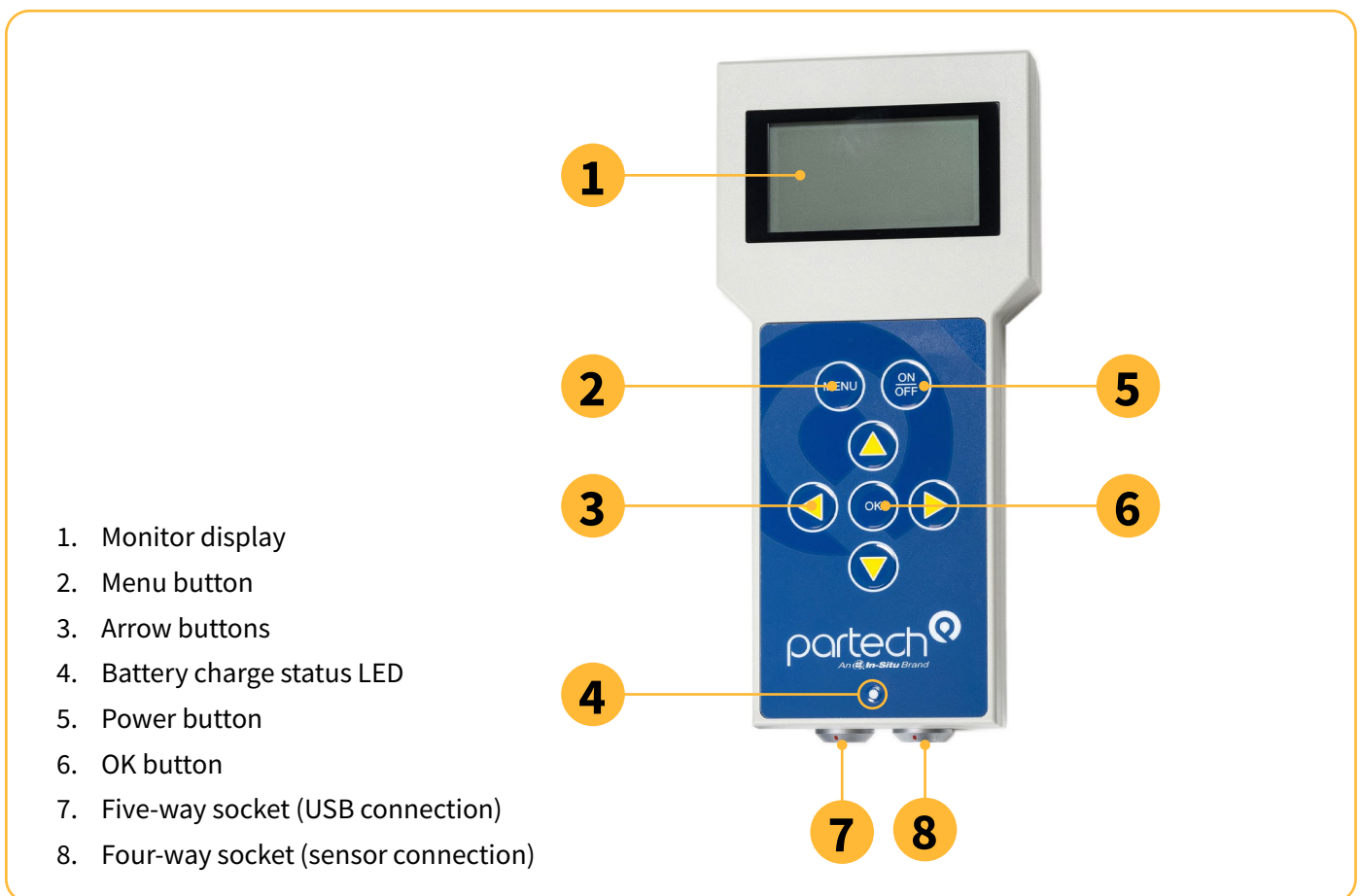
Monitor Description

The handheld 750 Portable Monitor connects with the SoliTech IR sensor and the OxyTech RDO sensor to clearly display sensor parameters with a simple, customizable user interface. The monitor automatically discovers the connected sensor and displays a reading for total suspended solids (TSS), turbidity, or dissolved oxygen (DO). Use this accurate, real-time data to check online systems or to monitor operations when no online output is available.

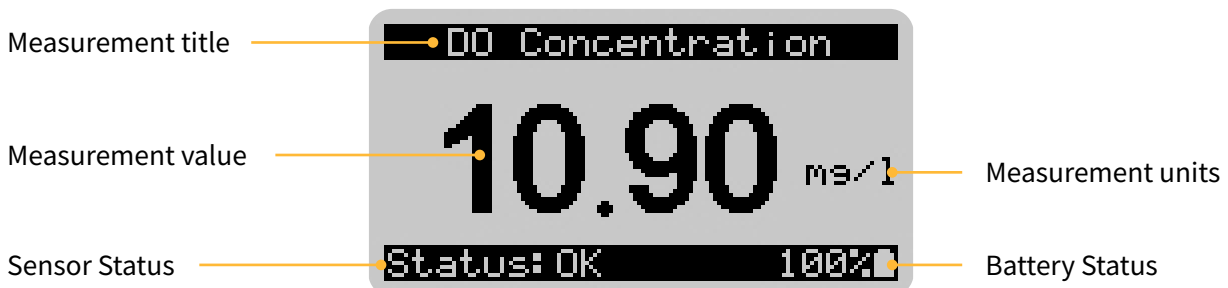
The monitor can save up to 500 data points for each sensor, which you can view on the monitor or download through the supplied USB cable. Each record includes time and date stamps for the data point. No software or Internet connection is needed.

The 750 Portable Monitor has an internal battery which can be recharged through USB.

Monitor Parts



Monitor Display



Sensors

The OxyTech RDO and SoliTech IR sensors are designed for use with the 750 Portable Monitor through a 4-way socket that integrates with the sensor's IP68 connector. When you connect a sensor, the monitor immediately displays a value for the measured parameter.



See the SoliTech IR and OxyTech RDO manuals for details, specifications, and procedures for each sensor.

OxyTech RDO Sensor

The OxyTech RDO sensor provides real-time DO spot-checking and is designed to withstand harsh wastewater treatment plant conditions. The calibration coefficients are loaded into the RDO cap for error-free setup. The instrument captures DO saturation and concentration measurements in less than 90 seconds when moving from dry to wet conditions.



750 Portable Monitor with OxyTech RDO Sensor

SoliTech IR Sensor

The SoliTech IR sensor measures turbidity and TSS with unique calibrations for up to 10 field sites. The sensor is available in four different ranges to meet your application needs for mixed liquor suspended solids (MLSS), TSS, and sludge blanket detection. The IR sensor's machined housing resists temperature fluctuations and chemical attack. Its optical surfaces need only periodic, minimal cleaning.



750 Portable Monitor with SoliTech IR Sensor



Box Contents

- 750 Portable Monitor
- Carrying bag
- Monitor cover
- USB cable
- Instructions

Getting Started

1 Charge the monitor.



Insert USB cable connector into 5-way socket (on left).



Insert the other end of the USB cable into a charger.



Red LED shows monitor is charging. Charge for 24 hours before first use.

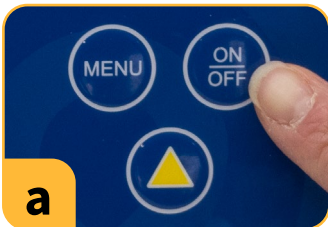


When light turns green, monitor is fully charged. Remove connector.

2 Connect sensor.



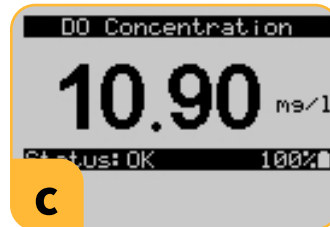
The SoliTech IR sensor requires a two-point calibration for accurate data. Refer to the SoliTech IR and OxyTech RDO manuals for calibration instructions for each sensor.



Press **On/Off** to turn on monitor.



Insert sensor cable connector into 4-way socket (on right).



Monitor displays measurement. If the screen turns off, press the power button to resume measurements.

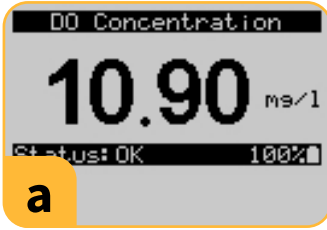


For the OxyTech RDO sensor, use the left/right arrow keys to view more measurements.



Before saving data, set the date and time in the **Monitor Config** menu to ensure accurate time stamps.

3 Save data.



Check that the monitor is displaying a sensor reading.

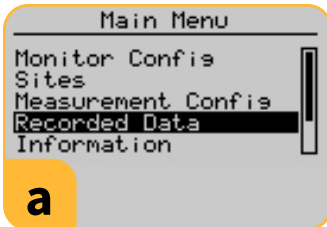


Press **OK** to save the time, date, and measurement.



If needed, the 750 Portable Monitor may be cleaned after use with a soft, damp cloth and mild detergent.

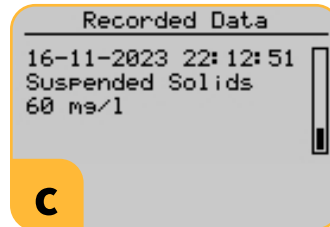
4 View recorded data.



From the main menu, select **Recorded Data**.



Press **OK**.



View each saved data record.



Use up/down arrow buttons to scroll through saved records.



See the Download Data section of the user manual for instructions about how to download data to a computer.

Learn More

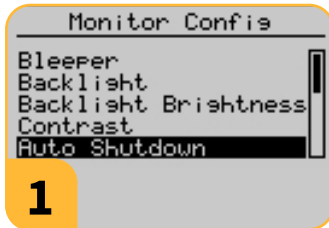
View additional specifications, compliance information, and detailed instructions at www.in-situ.com.

Monitor Key Use

When using the 750 Portable Monitor, use these methods to make selections or input values:

- List selection
- Value or text entry

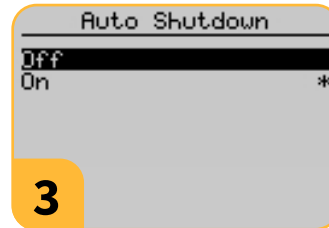
List Selection



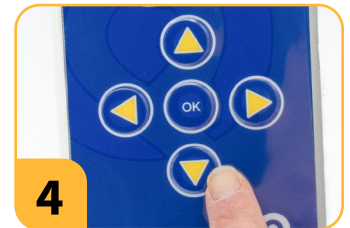
View a list of options. Use arrow keys to select an option.



Press **OK** to confirm.

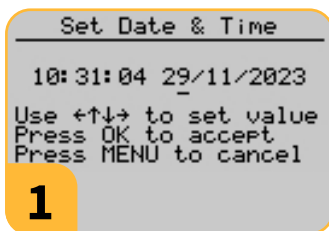


An asterisk identifies the current setting.



Use arrow keys to make selection. Press **OK** to confirm.

Value or Text Entry



Change a number or character. A cursor underlines selection.



Use arrow keys to select and change numbers or characters.



Press **OK** to store the entry.



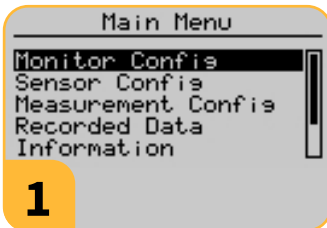
Press **Menu** to exit a screen without saving changes.

Monitor Configuration

Use the Monitor Config menu to edit preferences for:

- Sound
- Backlight brightness
- Contrast
- Auto shutdown
- Date and time

Menu Access



Select **Monitor Config**.



Press **OK** to access sub-menus.

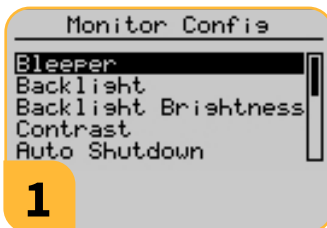


Press **Menu** to go back.



In all sub-menus, the asterisk marks the current setting. Use arrow keys to change it.

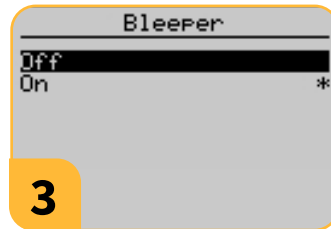
Beeper



Select **Beeper**.



Press **OK**.

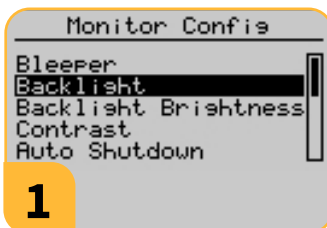


Select **On** or **Off**.



Press **OK** to confirm.

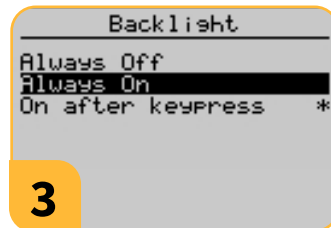
Backlight



Select **Backlight**.



Press **OK**.



Select your preference.

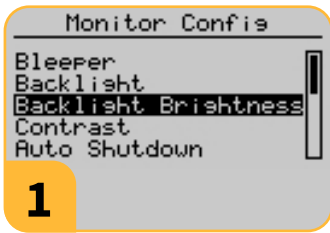


Press **OK** to confirm.



Choose **On after keypress** to turn on the display's backlight only after you press a button.

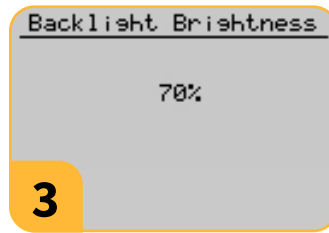
Backlight Brightness



Select **Backlight Brightness**. Press **OK**.



Use arrow keys to increase or decrease brightness.

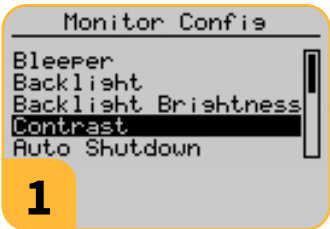


Set the percentage.



Press **OK** to save.

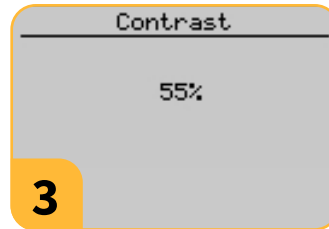
Contrast



Select **Contrast**. Press **OK**.



Use arrow keys to increase or decrease contrast.



Set the percentage.

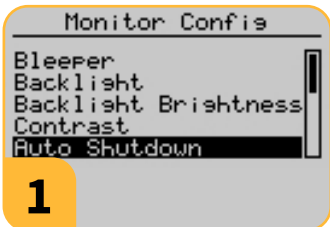


Press **OK** to save.

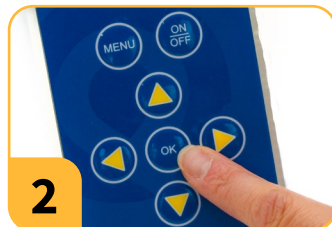
Auto Shutdown



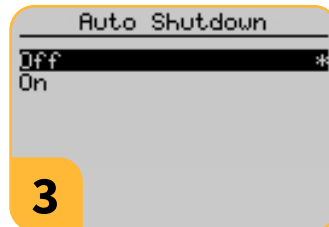
The monitor automatically shuts down after 60 seconds with no key presses. To disable it, choose **Off** from the Auto Shutdown menu.



Select **Auto Shutdown**.



Press **OK**.

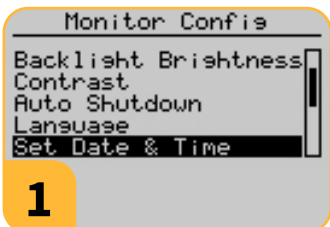


Select **Off** or **On**.

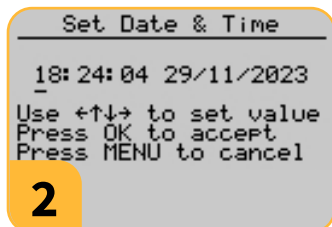


Press **OK** to save.

Set Date & Time



Select **Set Date & Time**. Press **OK**.



The blinking cursor underlines the current selection.



Use arrow keys to set time and date.

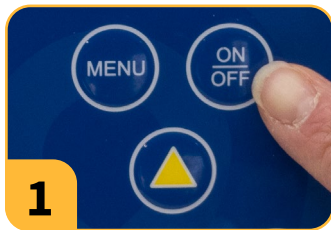


Press **OK** to save.

Measuring Data

View Measurements

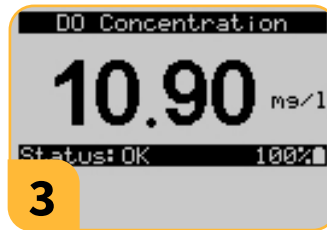
Measure mode is the monitor's default operating mode. In any display other than measure mode, the monitor automatically returns to measure mode after 30 seconds with no button presses.



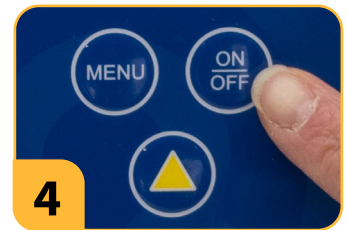
1 Press the power button to turn on the monitor.



2 Insert sensor cable connector into 4-way socket (on right).



3 Monitor displays measurement.



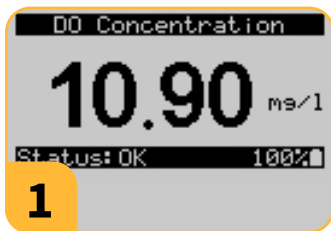
4 If unit automatically shuts down after inactivity, press the power button to return to measure mode.

Save Measurements

While in measure mode, save data snapshots with the measurement title, measurement value, date, and time.



Before saving data, set the date and time in the **Monitor Config** menu to ensure accurate time stamps.



1 Check that the monitor is in measure mode.



2 Press **OK** to record the measurement title, measurement value, time, and date.



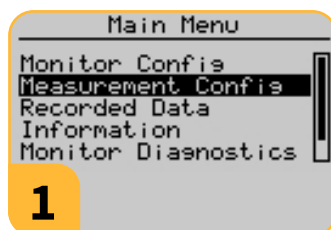
3 See the **Download Data** section in this manual for instructions about how to download saved data.

Configure Measurements

Access sensor calibrations and other measurement-related settings in the **Measurement Config** and **Sensor Config** menus. These settings are stored on each sensor and automatically loaded when the sensor is connected to the monitor.



See the sensor manuals for more information on the settings available for each sensor.



1 Select **Measurement Config**.



2 Press **OK** to access sub-menus.



3 Press **Menu** to go back.

Download Data

Download recorded data from the 750 Portable Monitor to your computer by using the supplied USB cable, which connects to a standard USB drive. When you press **OK** on the monitor while in measure mode, the monitor records:

- Date and time
- Measurements from the connected sensor
- Sensor serial number
- Site name (IR sensors only)
- Site coordinates (IR sensors only)



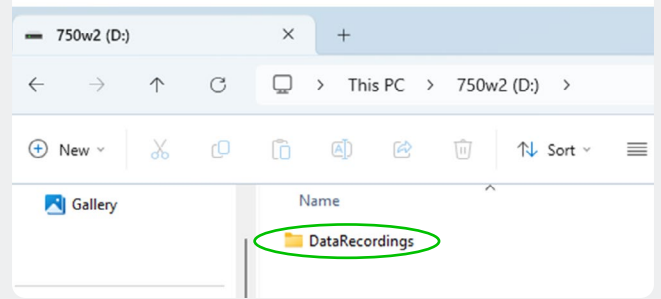
Do not edit files in 750w2 drive folder before copying them. Doing so may corrupt the files.

1 Connect monitor to computer.



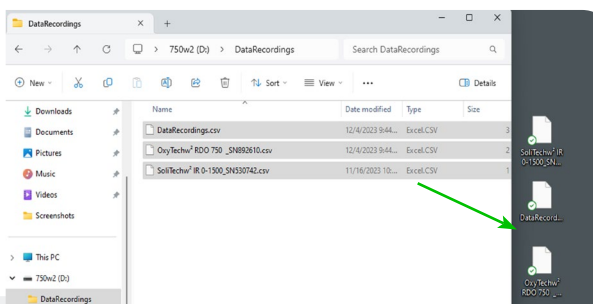
Insert USB cable connector into monitor's 5-way socket (on left). Insert the other end of the USB cable into your computer.

2 Open 750w2 drive.



The 750w2 drive loads automatically. Click on the 750w2 drive to show the DataRecordings folder.

3 Copy files to computer.



View the files in the DataRecordings folder. Copy the files onto your computer. Eject the 750 drive.

4 View CSV files.

DataRecordings[93]							
DateTime	Measurement Title	Value	Units	Battery mV	SN	Site Name	Latitude
16-10-2023 23:32:49	Suspended Solids	-60	mg/l	3780	530742	Site 1	-0.0000001
16-10-2023 23:40:41	Suspended Solids	0	mg/l	3772	530742	Site 1	-0.0000001
16-10-2023 23:42:11	Suspended Solids	-60	mg/l	3768	530742	Site 1	-0.0000001
16-11-2023 22:12:40	Suspended Solids	60	mg/l	4128	530742	Site 1	-0.0000001
16-11-2023 22:12:51	Suspended Solids	60	mg/l	4128	530742	Site 1	-0.0000001
04-12-2023 09:43:13	DO Concentration	10.02	mg/l	4140	892610		0.0000000
04-12-2023 09:43:14	DO Saturation	100.0	%SAT	4140	892610		0.0000000

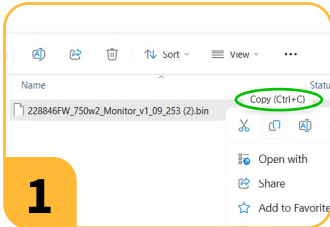
Open the CSV files on your computer. View all data in the DataRecordings file. See each sensor's data in the SoliTech IR or OxyTech RDO CSV file.

Update Monitor Firmware

Update the monitor's firmware so that the monitor functions properly. You will need an Internet connection to download the file from Technical Support.



To update firmware, contact Technical Support at www.in-situ.com/technical-support. Technical Support will provide you with the firmware file and guide you through the process.



1

Technical Support sends you a .bin file. Copy it to your computer.



2

Remove sensor connector from 4-way socket (on right).



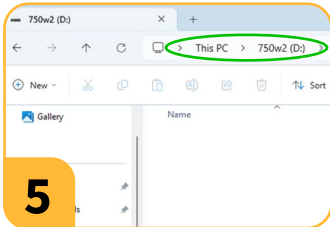
3

Insert USB cable connector into 5-way socket (on left).



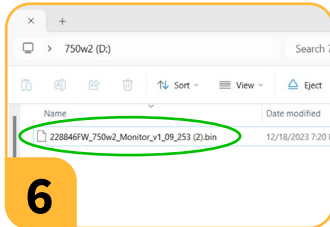
4

Insert the other end of the USB cable into your computer.



5

Open the 750w2 drive. Delete old .bin files (if needed).



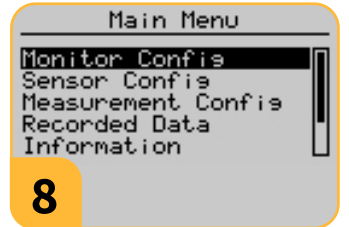
6

Copy the .bin file into the 750w2 drive folder. Eject the drive.



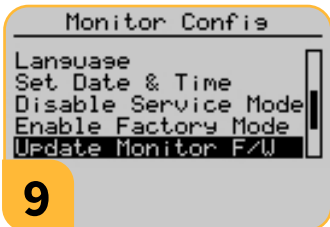
7

On the monitor, press **Menu**.



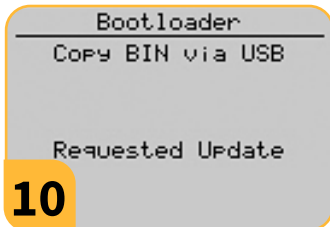
8

Select **Monitor Config**. Press **OK**.



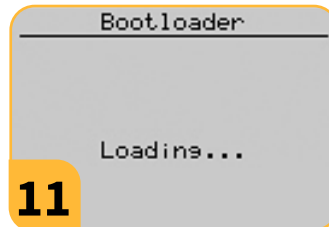
9

Select **Update Monitor F/W**. Press **OK**.



10

Monitor requests the update.



11

Monitor loads the file and restarts.



Fully charge the 750 Portable Monitor before updating firmware.

Sensor Scan

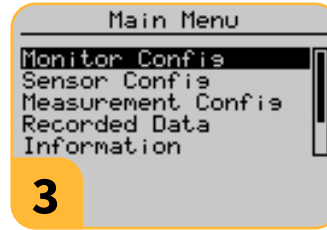
Use Sensor Scan if the 750 Portable Monitor does not immediately find the sensor after you insert the sensor connector into the monitor's 4-way socket.



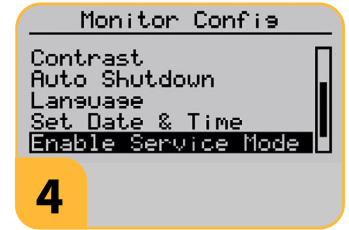
Ensure sensor connector is fully inserted in the 4-way socket (on right).



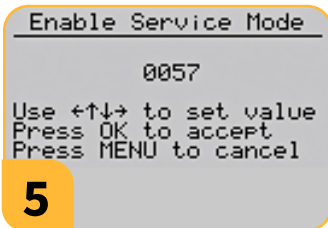
Press **Menu**.



Select **Monitor Config**. Press **OK**.



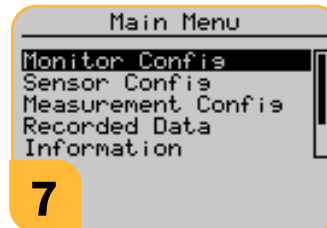
Select **Enable Service Mode**. Press **OK**.



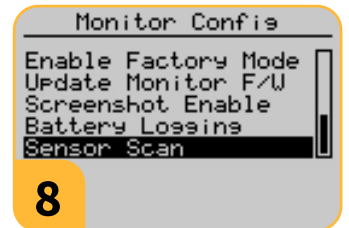
Use arrow keys to enter **0057**. Press **OK**.



Press **Menu**.



Select **Monitor Config**. Press **OK**.



Select **Sensor Scan**. Press **OK**. Monitor scans for sensor connection.



Contact Technical Support if the monitor does not find the sensor after using Sensor Scan.

Battery

A rechargeable Nickel Metal Hydride (NiMH) battery powers the 750 Portable Monitor:

- Use the supplied USB cable and any USB charging source with a minimum current of 500 mA to charge the battery.
- On first use of the monitor, charge the battery to full capacity (up to 24 hours).



Contact In-Situ if your monitor needs a replacement battery pack.

Operating Time

The battery can operate for one week under these conditions before requiring a full recharge:

- 30 measurements per day
- Default contrast settings
- Default brightness settings
- Auto shutdown enabled

Charging



Insert USB cable connector into 5-way socket (on left).



Insert other end of USB cable into charging source with power.



LED glows red to show it's charging.



When light turns green, monitor is fully charged. Remove cable.

Battery Charge Status

LED	DESCRIPTION	CHARGING STATUS
	Unlit	The monitor is not charging.
	Red	The monitor is currently charging.
	Green	The monitor is fully charged.

Serial Number & Part Numbers

750 Portable Monitor

The serial number is located on the back of the monitor.

PART NUMBER	DESCRIPTION
228531	750 Portable Monitor
172520	Carrying bag
172440	Monitor cover
228774	USB cable

SoliTech IR Sensor for 750 Portable Monitor

The serial number is located on the sensor. Refer to the sensor instruction manual for information on selecting the correct sensor range for your application.

PART NUMBER	DESCRIPTION	CABLE LENGTH
228934	IR100 (0-200 mg/L)	5.0 m (16.4 ft)
229431	IR100 (0-200 mg/L)	10.0 m (32.8 ft)
228935	IR40 (0-1,500 mg/L)	5.0 m (16.4 ft)
229432	IR40 (0-1,500 mg/L)	10.0 m (32.8 ft)
228808	IR15 (0-10,000 mg/L)	5.0 m (16.4 ft)
228796	IR15 (0-10,000 mg/L)	10.0 m (32.8 ft)
228933	IR8 (0-30,000 mg/L)	5.0 m (16.4 ft)
229433	IR8 (0-30,000 mg/L)	10.0 m (32.8 ft)

OxyTech RDO Sensor

The serial number is located on the sensor.

PART NUMBER	DESCRIPTION
230469	OxyTech RDO Sensor with 5.0 m cable (16.4 ft)
230470	OxyTech RDO Sensor with 10.0 m cable (32.8 ft)

Technical Specifications

750 Portable Monitor

MONITOR SPECIFICATIONS	
Power Supply	Internal rechargeable NiMH (Nickel-Metal Hydride) battery
Charge Input	5 VDC (minimum 500 mA)
Battery Life	1 week normal use (30 measurements per day), under normal operating conditions (default contrast and brightness settings)
Setup	7-button membrane keypad
Operating Temperature	0° C to 50° C (32° F to 122° F)
Display	Graphical LCD
Interface to PC	USB cable for data download
Data Recorder	500 points per sensor (actual capacity will depend on configuration)
Enclosure Material	ABS
Dimensions	220.0 mm (8.7 in) x 110.0 mm (4.3 in) x 39.0 mm (1.5 in) (H x W x D)
Protection Class	IP65
Weight	0.75 kg (1.65 lbs)