



Hillrom™

Welch Allyn® Connex® Devices

Quick reference



Note Some product features described in this publication might not be available in your country. For information about any product, contact Hillrom Technical Support: hillrom.com/en-us/about-us/locations/

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Power on/Display power-saving Sleep mode



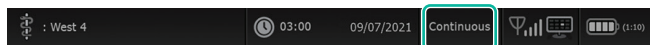
- Located on the device housing
- Powers up the monitor
- Opens an on screen dialog with options to Power down, Sleep, or Cancel

Power down



1. Touch the battery status icon.
2. Touch **Power down**.

Change profile



1. Touch the selected profile indicator in the Device Status area.
2. Select the desired profile.
3. Confirm your selection.

Central station connectivity indicators



Connected to the central station




Disconnected from the central station


Start/Stop blood pressure



Start intervals

1. On the Home tab, touch .
2. Select **Automatic**, **Program**, or **Stat**, and enter or select desired settings.
3. Touch **Start intervals**.

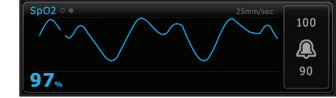
Stop intervals

1. On the Home tab, touch .
2. Touch **Stop intervals**.

Alarm indicators and controls

Icon	Description
	<p>Alarm off</p> <p>Visual and audio notifications are disabled.</p>
	<p>Alarm on</p> <p>Visual and audio notifications are enabled.</p>
	<p>Alarm audio off</p> <p>Visual notifications are enabled. Audio notifications are disabled.</p>
	<p>Alarm audio paused</p> <p>Countdown timer is active.</p>
	<p>Alarm active</p> <p>Touch to pause or silence.</p>
	<p>Multiple alarms active</p> <p>Touch to cycle through active alarms.</p>
	<p>Medium priority alarm</p> <p>Touch to adjust alarm limits or turn off alarm.</p>
	<p>High priority alarm</p> <p>Touch to adjust alarm limits or turn off alarm.</p>

Change view of vital signs measurements



Parameter frames that support multiple views of patient data (such as numeric and waveform, numeric and trend, SYS/DIA and MAP) include a view indicator next to the name of the parameter frame.

Touch the left side of the parameter frame to toggle between views.

Enter manual parameters



1. Touch the Manual parameters frame.
2. Touch the keypad in selected fields to adjust the parameter measurements.
3. Touch **OK**.



Note Entries will not be saved unless you touch **OK**.

Navigating the Review tab (Continuous Monitoring profile)

In the Continuous Monitoring profile, the Review tab enables access to tabular and graphical trend tables of all readings for the currently monitored patient.



1. Touch the **Review** tab.



Note Measurements that triggered a physiological alarm are highlighted on this tab.

2. Touch the **View** list box to modify the trend interval. The default trend interval is 1 minute.
3. Use the scroll bar on the right as well as the page forward and page backward controls in the table header to view additional measurements for your patient. The most recent measurements appear on the right side of the table, with older measurements to the left.



Note Episodic measurements that occur between trend interval measurements are displayed in separate columns under their own time stamp.

4. To print the patient record, modify the View selection as desired and touch **Print**.
5. In the Print options dialog, select the desired Timespan and touch **Print**.

Manage patient records (Intervals Monitoring, Spot Check, and Office profiles)


Patient records can be sent to the network, printed, or deleted.

The screenshot shows a list of patient records. Each record has a checkbox, a patient name, a date/time, and various vital signs. Below the list are buttons for 'Send', 'Print', and 'Delete', and a 'View' dropdown menu set to 'All'. At the bottom are navigation tabs: Home, Patients, Alarms, Review (selected), and Settings.

	Patient name	Date / Time	NIBP	Temp	PR	SpO2	SpHb	Ht	Wt	P	RR
<input type="checkbox"/>	Barker, David A	12/29/2011 11:22	145/100 (101)	100.8	90	99	11.8	54.1	123.5	4/38	
<input checked="" type="checkbox"/>	Smith, David A	12/29/2011 10:00	132/98 (96)	101.1	101	98	12.1	61.2	213.5	5/28	
<input type="checkbox"/>	204 A	12/29/2011 9:31	135/99 (100)	99.8	98	98	13.6	48.7	196.9	1/22	
<input type="checkbox"/>	8704330177	12/29/2011 8:44	120/80 (96)	101.1	97	97	14.9	68.5	271.4	1/28	
<input type="checkbox"/>	Carter, Grace C	12/29/2011 7:55	145/100 (101)	101.1	98	99	15.1	74.1	200/3	2/23	
<input type="checkbox"/>	Murphy, Michae	12/29/2011 6:58	132/98 (96)	99.8	97	97	16.8	72.4	188.2	8/40	

1. Touch the **Review** tab.
2. Select records by touching the check box.
3. Touch **Send** to transmit the records to the network, **Print** to print the records, or **Delete** to permanently remove the records.



Note The  icon indicates the records have been sent to and received by the network.



Note Measurements that triggered a physiological alarm are highlighted on this tab.


Add a patient to the patient list (not connected to central station)

The screenshot shows a form titled 'Add Patient' with the following fields and options:

- Buttons: List, Summary, Manual
- Fields: Patient name (Last name, Patient ID, First name, Middle initial), Type (dropdown menu set to 'Adult')
- Bottom navigation: Home, Patients, Alarms, Review

1. Touch the **Patients** tab.
2. Touch **Add**.




3. Touch  and then enter patient information.
4. Touch **Next** to cycle through the patient data fields.



Note You can use a barcode scanner to enter a patient ID in the Patient ID field.




Touch  in the Patient ID field, scan the barcode, and touch **OK**.

5. Touch **OK** to return to the Home tab.

Configure parameter options

The screenshot shows the 'Configure parameter options' screen with the following details:

- Buttons: Monitor, Setup, Device, Advanced
- Parameters: Intervals, Stat, NIBP, SpO2 (Sweep: 25), SpHb (1 hour), etCO2 (Sweep: 6.25), Pulse rate, Tone: High, IPI (1 hour)
- Settings: Tone volume (High, Medium, Low, Off)
- Bottom navigation: Home, Patients, Alarms, Review, Settings

1. Touch the **Settings** tab.
2. Touch the **Setup** tab.
3. Touch the parameter(s) in the vertical tab you want to modify. (Touch the  to scroll through the list as needed.)
4. Modify settings for each parameter as desired. The new settings take effect immediately.



WARNING Electric shock hazard. Before cleaning the device, disconnect the AC power cord from the power outlet and the device.

Clean the monitor or stand

1. Power down the monitor.
2. Disconnect the power plug.
3. Wipe the equipment with one of the following:
 - Clorox HP
 - Dispatch Hospital Cleaner Disinfectant Towels with Bleach (Clorox Healthcare)
 - CleanCide Wipes (Wexford Labs)
 - cloth dampened with 70 percent isopropyl alcohol
 - cloth dampened with 10 percent chlorine bleach solution (rinse off bleach with a damp cloth).



CAUTION When cleaning the device, avoid using cloths or solutions that include quaternary ammonium compounds (ammonium chlorides) or glutaraldehyde-based disinfectants.

4. Allow the equipment to dry for 10 minutes before use.

Clean the Braun ThermoScan PRO dock

1. Power down the monitor.
2. Wipe the dock with one of the following:
 - Clorox HP
 - cloth dampened with 70 percent isopropyl alcohol
3. Allow the dock to dry for 10 minutes before use.



CAUTION Do not use bleach solutions of any kind when cleaning metal electrical contacts. They will damage the device.

Clean the accessories

1. Wipe the NIBP hose and any reusable cuffs with a damp cloth moistened in a mild detergent solution.
2. Wipe the temperature probe with a cloth dampened with alcohol, warm water, or an appropriately diluted, nonstaining disinfectant solution.
3. Clean the pulse oximetry sensors with a cloth dampened with 70 percent isopropyl alcohol or 10 percent chlorine bleach solution.
4. Clean the RRA cable and the SpO2/RRA dual cable with a cloth dampened with 70 percent isopropyl alcohol.
5. Clean the EarlySense sensor by gently wiping with a soft, slightly damp cloth or wipes containing antiseptic substances (alcohols, Chlorohexidine, and bleach material up to 5% concentration). Ensure that the sensor is dry before re-use. Avoid excessive liquids.
6. (Connex IWS only) To clean Welch Allyn 3.5V instrument heads attached to the physical assessment handles, follow the instructions provided in their directions for use.



CAUTION Never immerse any monitor accessories.

Communication with the Connex central station (CS)

The Connex central station provides centralized monitoring of connected devices. The monitor must be configured to connect to a central station in Advanced settings.

Monitors communicate with the central station through hardwired Ethernet and wireless networks. Communication between the monitor and the central station is bi-directional but varies based on the active profile and selected advanced settings. In the Continuous Monitoring profile, patient vital-signs data streams to the central station.

Connex CS supports communication of the following:

- continuously monitored and intermittently acquired (episodic) vital-signs data
- patient vital-signs alarms
- technical equipment alerts

The central station also supports the review and printing of stored data.

Connex CS indicators

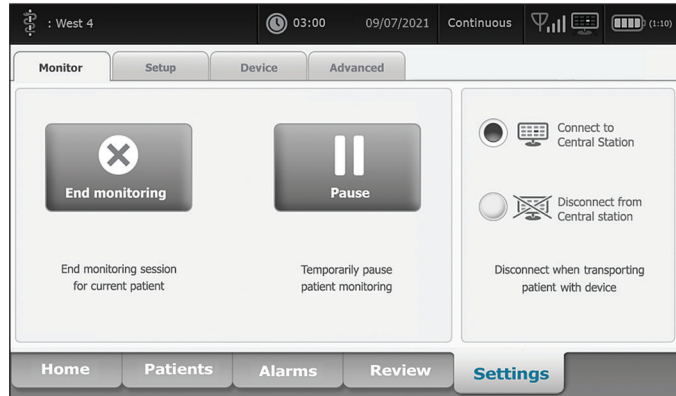


Connected to the central station



Disconnected from the central station


Monitor tab





The Monitor tab provides the following controls related to continuous patient monitoring at the device and the streaming of patient vital-signs data to a central station:

- End monitoring – Stop continuous monitoring on the current patient and clear patient data on the device.
- Pause – Pause continuous monitoring as well as alarms for a specified period and retain patient data on the device.
- Connect to central station – Manually connect to a central station and start or resume the streaming of patient vital-signs data when the device does not connect automatically.
- Disconnect from central station – Manually disconnect the device from a central station yet continue monitoring the patient and retain patient vital-signs data on the device. This control is only available after connecting to a central station.

Connect to the central station


1. Touch the **Settings** tab. The Monitor tab appears.
2. Select  **Connect to central station**.

As the device attempts to connect to the central station, a  appears in the Device Status area. When the device connects to the central station, the  indicator appears.



Note The device must be in the Continuous Monitoring profile to set up a continuous connection to the central station. When the device is in the Continuous Monitoring profile, the device automatically connects to the central station when you navigate to the Patient tab or apply continuous sensors to the patient.

Disconnect from the central station

1. Touch the **Settings** tab. The Monitor tab appears.
2. Select  **Disconnect from central station**.
If reasons for disconnecting from the central station have been configured in Connex CS, a “Disconnect” dialog appears with a list box of reasons.
3. Select a reason for disconnecting, if applicable, then touch **OK**.
The Home tab appears.

Pause continuous monitoring (Pause mode)

Touch **Pause** on the Home tab.

A “Pause” dialog appears, indicating that you have paused continuous monitoring. Controls on this screen provide options to resume or end monitoring. A countdown timer displays the time remaining before continuous monitoring resumes.

Resume continuous monitoring

Pause time remaining

1. Reconnect patient sensors to the patient as needed.
2. Touch **Resume monitoring**.
The Home tab appears and continuous monitoring resumes.

Pause time limit expired

If the Pause time limit runs out before you resume monitoring, the device exits Pause mode, and alarms might occur.

Reconnect patient sensors to the patient and/or device, and acknowledge alarm and information messages as needed. Continuous monitoring resumes.

End continuous monitoring

1. Touch the **Settings** tab. The Monitor tab appears.
2. Touch **End monitoring**.
An “End monitoring” dialog appears with the following options:
 - New patient – Clears patient and location context and review data after you remove patient sensors
 - Power down – Clears patient and location context and review data, and powers down the device
 - Cancel – Retains patient data and returns to the Home tab
3. Select the desired option.
 - a. If you select New patient, follow the onscreen prompts to remove sensors from your patient.
 - b. Touch **OK**. The Home tab appears.

Connect the sampling line to the monitor

1. On the left side of the monitor, slide up the door that covers the sampling line port.
2. Connect the sampling line. Turn the connector to the right until tight. (See the animation on the display.)



Note The CO2 pump starts as soon as the pump sensor recognizes the sampling line. You must connect the sampling line correctly to accurately monitor CO2. Verify that you are using the Continuous Monitoring profile.



3. Verify that you are using the Continuous Monitoring profile.



Note If “Allow profile change” is enabled in Advanced settings, the device attempts to shift automatically to the Continuous Monitoring profile when you connect the sensor cable.

4. Connect the sampling line to the patient as described in the directions for use supplied with the sampling line.

Stop and restart the CO2 pump

1. To temporarily pause or stop CO2 monitoring, touch  in the etCO2 frame.
2. To resume CO2 monitoring, touch .

Set up etCO2

1. Touch the **Settings** tab.
2. Touch the **Setup** tab.
3. Touch the **etCO2** vertical tab.
4. Adjust the following settings as desired:
 - Sweep speed
 - Waveform scale
 - Pump standby time
5. Touch the **Home** tab.

Set up IPI (Integrated Pulmonary Index)

IPI integrates four parameters (etCO2, RR, SpO2, and PR) and their interactions to provide a numeric value indicating a patient’s overall respiratory status.

1. On the Home tab, touch the patient type control on the right side of the Patient frame. The Patient Summary tab appears.
2. Touch the **Type** list box and select patient type.



Note IPI is available for adult patients as well as three groups of pediatric patients (1–3 years, 3–6 years, and 6–12 years), but it is not available for neonatal/infant patients. Pediatric patient subtypes appear on the Patient Summary tab and on the Home tab as a label in the IPI frame, but they do not appear in the Patient frame.



Note IPI is available only with the Continuous Monitoring profile.

Configure etCO2 and FiCO2 alarms



Note Measurements that triggered a physiological alarm are highlighted on this tab.

1. Verify that you are using the Continuous Monitoring profile.
2. Navigate to the **etCO2** vertical tab as shown.
3. Ensure that the etCO2 and FiCO2 alarm limit controls are set to ON.
4. Adjust the following settings as desired:
 - etCO2 limits (upper and lower)
 - FiCO2 limit
 - High alarm delay (specifies the minimum duration of a high alarm condition to activate an alarm signal)
5. Touch the **Home** tab.



Note If "Allow profile change" is enabled in Advanced settings, the device attempts to shift automatically to the Continuous Monitoring profile when you connect the sensor cable.

Configure RR alarms



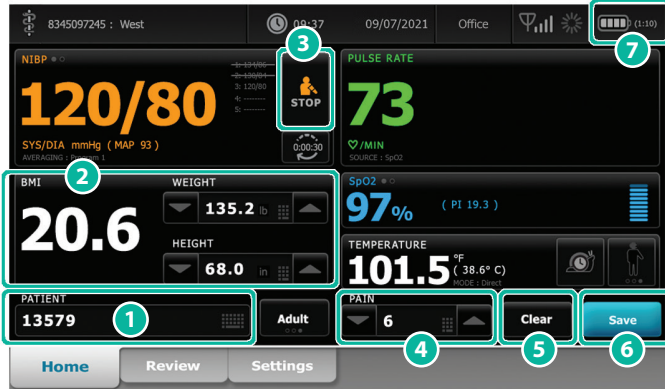
1. Verify that you are using the Continuous Monitoring profile.



Note If "Allow profile change" is enabled in Advanced settings, the device attempts to shift automatically to the Continuous Monitoring profile when you connect the sensor cable.

2. Navigate to the **RR** vertical tab as shown.
3. Ensure that the RR alarm limit control is set to ON.
4. Adjust the following setting as desired:
 - RR limits (upper and lower)
5. Touch the **Home** tab.

Office profile



1 Manually enter patient information

1. From the Home tab, touch the keyboard icon in the Patient frame.
2. Enter patient information.
3. Touch **OK**.
4. To change the patient type, touch the patient type button (located on the right side of the Patient frame).

2 Enter weight and height

From the Home tab, touch the up/down arrow keys or the keypad to manually adjust weight and height.



Note If an approved, battery-powered weight scale is attached to the monitor, weight and height measurements from the weight scale populate fields in the BMI frame.

The BMI value changes based on weight and height input.

3 Start/Stop blood pressure

4 Enter pain level

From the Home tab, touch the up/down arrow keys or the keypad to manually adjust the pain level.

5 Clear patient data

Touch **Clear** to delete all measurements from the Home tab without saving them.

6 Save patient data

After taking patient measurements, touch **Save**.

7 Battery status



Charging



Approximate operating time remaining



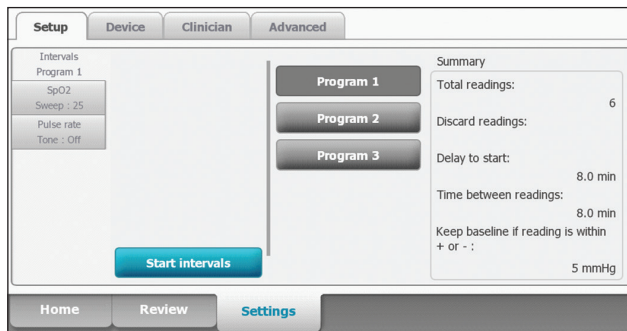
Battery removed or not holding a charge


Power on/Standby



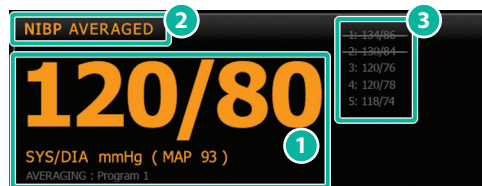
- Powers up the monitor
- Opens an onscreen dialog with options to Power down, Sleep, or Cancel

Start an NIBP averaging program



1. Properly size the blood pressure cuff and position it around the patient's bare upper arm.
2. On the Home tab, touch . The Intervals tab appears.
3. Touch the desired program.
4. Read the Summary information to confirm that the specifications are appropriate for your patient.
5. Touch **Start intervals** to start the program.

Results of an NIBP averaging program



- 1 Displays the average of the readings.
- 2 Displays "NIBP AVERAGED."
- 3 Displays the readings taken by the program.

- A reading with a line through it is excluded from the average.



Note To retain an NIBP average, touch **Save**.

Manage patient records

Patient records can be printed or deleted.

1. Touch the **Review** tab.
2. Select records by touching the check box.
3. Touch **Print** to print the records or **Delete** to permanently remove the records.

Welch Allyn® Connex® Integrated Wall System



- 1 Handles
- 2 Specula dispenser
- 3 Power cord connector
- 4 USB connectors (under cover)
- 5 Accessory bin and SpO2 clip
- 6 SpO2 and NIBP modules
- 7 USB-to-computer connector
- 8 SureTemp® Plus thermometer
- 9 Braun ThermoScan® PRO
- 10 Storage compartment for probe covers

