

MINIMED™ 620G

SYSTEM USER GUIDE



Medtronic

MINIMED™ 620G

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■ Before you begin



1

1 Before you begin

This user guide is designed to help you to understand the operation of your MiniMed 620G system. Work closely with your healthcare professional when starting insulin pump therapy.

Using this user guide

This user guide contains valuable information about using your new insulin pump. To help you find the information you need, you can use the table of contents at the beginning of the user guide and the index at the end of the user guide. There is also a glossary of terms, which starts on *page 249*.

The following table describes certain terms, conventions, and concepts used in this user guide.

| Convention | What it means |
|-----------------|---|
| Select | To activate a screen item, accept a value, or initiate an action. |
| Select and hold | To perform an action using your pump screen, press the Select button and hold until the action is complete. |
| Press | To push and then release a button. |
| Press and hold | To push and keep pressure on a button. |
| Bold text | To indicate screen items and buttons. For example, "Select Next to continue." |

Convention**What it means**

Note

**Note:** A note provides helpful information.

Caution

**Caution:** A caution notifies you of a potential hazard which, if not avoided, may result in minor or moderate injury or damage to the equipment.

WARNING

**WARNING:** A warning notifies you of a potential hazard which, if not avoided, could result in death or serious injury. It may also describe potential serious adverse reactions and safety hazards.

Emergency kit

Keep an emergency kit with you at all times to make sure that you always have necessary supplies. Tell a family member, co-worker, or friend where you keep your emergency kit.

It is important that you test your blood glucose (BG) more frequently while you are traveling. The routine hassle of travel, including stress, changes in time zones, schedules and activity levels, meal times and types of food, can all affect your diabetes control. Be extra attentive to monitoring your BG frequently, and be prepared to respond if needed.

Your emergency kit should include these items:

- Fast-acting glucose tablets.
- Blood glucose monitoring supplies.
- Urine or blood ketone monitoring supplies.
- Extra MiniMed-compatible infusion set and MiniMed reservoir.
- Extra new AA lithium or alkaline batteries, or fully charged NiMH batteries.

- Insulin syringe and fast-acting insulin (with dosage instructions from your healthcare professional).
- Adhesive dressing.
- Glucagon emergency kit.



WARNING: Do not use the Bolus Wizard feature to calculate a bolus for a period of time after giving a manual injection of insulin by syringe or pen. Manual injections are not accounted for in the active insulin amount. Therefore, the Bolus Wizard feature could prompt you to deliver more insulin than needed. Too much insulin can cause hypoglycemia. Consult with your healthcare professional for how long you need to wait after a manual injection of insulin before you can rely on the active insulin calculation of your Bolus Wizard feature.

For details on pump safety, see *User safety*, on page 5.

User safety

Indications

MiniMed 620G system

The MiniMed 620G system is indicated for the continuous delivery of insulin, at set and variable rates, for the management of diabetes mellitus in persons requiring insulin. In addition, the system is indicated for continuous or periodic monitoring of glucose levels in the fluid under the skin, and detecting possible low and high glucose episodes. When using a sensor and transmitter, the pump displays continuous sensor glucose values and stores this data so that it can be analyzed to track patterns and improve diabetes management. This data can be uploaded to a computer for analysis of historical glucose values.

The continuous sensor glucose values provided by the MiniMed 620G system are not intended to be used directly for making therapy adjustments. Rather, they provide an indication that a confirmation fingerstick measurement may be required. All therapy adjustments should be based on measurements obtained using a home blood glucose monitor and not based on the value displayed by the pump.

Contraindications

Pump therapy is not recommended for people who are unwilling or unable to perform a minimum of four blood glucose tests per day.

Pump therapy is not recommended for people who are unwilling or unable to maintain contact with their healthcare professional.

Pump therapy is not recommended for people whose vision or hearing does not allow recognition of pump signals and alarms.

Potential risks

Risks related to insulin pump infusion set

General risks related to insulin pump infusion set may include:

- Localized infection
- Skin irritation or redness
- Bruising
- Discomfort or pain
- Bleeding
- Irritation
- Rash

Patients should be instructed to follow the provided user guides for insertion and care of infusion sets. If an infusion site becomes irritated or inflamed, the infusion set should be removed and another placed in a new location.

Risks related to insulin administration and pump use

Due to the use of insulin, there is risk related to the infusion of insulin and the potential interruptions of insulin delivery. These general risks may include:

- Hypoglycemia
- Hyperglycemia

Risks related to sensor use

General risks related to sensor use may include:

- Skin irritation or other reactions
- Bruising

- Discomfort
- Redness
- Bleeding
- Pain
- Rash
- Infection
- Raised bump
- Appearance of a small "freckle-like" dot where needle was inserted
- Allergic reaction
- Fainting secondary to anxiety or fear of needle insertion
- Soreness or tenderness
- Swelling at insertion site
- Sensor fracture, breakage, or damage
- Minimal blood splatter associated with sensor needle removal
- Residual redness associated with adhesive, tape, or both
- Scarring

Specific risks related to sensor use:

- Pain at sensor insertion site during sensor wear (one incident reported)
- Dermatological risks (number of events/number of skin assessments performed):
 - Redness due to device insertion (abdomen, 35/213)
 - Redness in area of adhesive (abdomen, 63/213)
 - Bruising (abdomen, 2/213)
 - Bump (induration) (abdomen, 1/213)
 - Bleeding:
 - Bleeding immediately after insertion (abdomen, 2/213)
 - Bleeding at removal (abdomen, 5/213)
 - Fluid discharge (abdomen, 1/213)
 - Other, including indentation from device, for example, transmitter (abdomen, 9/213)

Taking medications with acetaminophen including, but not limited to, fever reducers, or cold medicine, while wearing the sensor may falsely raise your sensor glucose readings. The level of inaccuracy depends on the amount of acetaminophen active in your body and may be different for each person. Always use BG meter readings to verify your blood glucose level before making therapy decisions, and take into account any possible amount of acetaminophen active in your body. Always check the label of any medications to confirm whether acetaminophen is an active ingredient.

It is not known how different conditions or medications common to patients with severe conditions may affect the performance of the system. Therefore, the use of this sensor by patients with severe conditions is not recommended.

Risks related to serter use

General risks with serter use may include skin infection around the area where the serter is used.

Risks related to the MiniMed 620G insulin pump system

General risks related to the MiniMed 620G insulin pump system may include:

- Hypoglycemia
- Hyperglycemia

Specific risks related to the MiniMed 620G insulin pump system:

- Bruising at sensor site
- Bleeding at sensor site
- Ketones in urine resulting from improper connection of the tubing to the insulin pump

General warnings

Pump

Do not use the pump when a flammable anesthetic mixture with air, oxygen, or nitrous oxide is present. These environmental conditions can damage your pump and result in serious injury.

Never rely on the pump beeps or vibrations alone to navigate through the pump screens or menus. Always check your pump screen as you navigate. The pump beeps and vibrations are intended to notify you of a condition that may require attention. Relying on the pump beeps or vibrations alone to navigate can result in selecting the incorrect settings or menu options.

Do not rely on preset pump alarms or reminders alone to prompt you to check your blood glucose, because you may forget to check your blood glucose. Set additional reminders on other devices, such as your cell phone.

Do not use standard Luer sets with the MiniMed 620G insulin pump. Standard Luer sets are not compatible with the pump. MiniMed reservoirs and MiniMed-compatible infusion sets are specifically designed for use with the MiniMed 620G insulin pump. Do not change or modify your MiniMed reservoir or MiniMed-compatible infusion set unless expressly approved by Medtronic Diabetes. Modifying these accessories can cause serious injury, interfere with your ability to operate the system, and void your warranty.

Only use rapid acting U-100 insulin that has been prescribed by your healthcare professional for use with an infusion pump. Do not put any other drugs or medications inside your reservoir for use with this pump. Other drugs or medications are not intended for use with this pump. Use of other drugs or medications can cause serious injury.

Always make sure the infusion set is disconnected from your body before you rewind your pump or fill the infusion set tubing. Never insert the reservoir into the pump while the tubing is connected to your body. Doing so could result in an accidental infusion of insulin.

Do not insert the reservoir in the pump if you did not rewind your pump. Doing so could result in an accidental infusion of insulin. Do not unscrew or retighten the tubing connector on the reservoir while the infusion set is connected to your body. Doing so could result in an accidental infusion of insulin.

While the infusion set is connected to your body, do not unscrew or retighten the tubing connector on the reservoir.

Do not use your pump if the screen appears broken or unreadable. In some instances, impact to the pump can damage the screen while the buttons continue to function. If the screen is broken or unreadable, do not press any buttons. Remove the pump and begin using your backup insulin plan per the direction of your healthcare professional. If the pump is accidentally programmed while the screen is broken or unreadable, this could result in high or low blood glucose levels. If your screen is damaged, contact the 24 Hour Support Line to arrange for shipment of a replacement pump.

Reservoir and infusion sets

Only use reservoir and infusion sets manufactured by Medtronic Diabetes. The pump has undergone extensive testing to confirm appropriate operation when used with compatible reservoirs and infusion sets manufactured or distributed by Medtronic Diabetes. We cannot guarantee appropriate operation if the pump is used with reservoirs or infusion sets offered by third parties. We are not responsible for any injury or malfunctioning of the pump that may occur in association with such use.

Only use rapid acting U-100 insulin that has been prescribed by your healthcare professional for use with an infusion pump. Do not put any other drugs or medications inside your reservoir for use with this pump.

For additional warnings related to the reservoir and infusion set, refer to the user guides provided with those devices.

Sensor

While there is no evidence of an Enlite sensor breaking in a patient’s body, if you suspect that sensor breakage has occurred, do not attempt to remove the sensor yourself. Contact your healthcare professional for assistance in removing the sensor.

For warnings related to the sensor, refer to the user guide provided with that device.

Transmitter

- Do not allow young children to put small parts in their mouth. This product poses a choking hazard for young children.
- Always refer to the transmitter user guide for all precautions, warnings, and instructions relating to the transmitter. Not referring to the transmitter user guide can result in serious personal injury or severe damage to the transmitter.

Exposure to magnetic fields and radiation

- Do not expose your pump to MRI equipment, diathermy devices, or other devices that generate strong magnetic fields (for example, x-ray, CT scan, or other types of radiation). The strong magnetic fields can cause the devices to malfunction, and result in serious injury. If your transmitter is exposed to a strong magnetic field, discontinue use and contact the 24 Hour Support Line for further assistance.
- Always remove your pump, sensor, transmitter, and meter before entering a room that has x-ray, MRI, diathermy, or CT scan equipment. The magnetic fields and radiation in the immediate vicinity of this equipment can make your devices nonfunctional or damage the part of the pump that regulates insulin delivery, possibly resulting in over delivery and severe hypoglycemia.

- Always carry the Medical emergency card provided with your device when you are traveling. The Medical emergency card provides critical information about airport security systems, and using your pump on an airplane, that can help you and others. Not following the guidance on the Medical emergency card could result in serious injury.
- Do not expose your pump to a magnet, such as pump cases that have a magnetic clasp. Exposure to a magnet may interfere with the motor inside the pump. Damage to the motor can cause the device to malfunction, and result in serious injury.

General precautions

Always test your blood glucose levels at least four times per day. Although the pump has multiple safety alarms, it cannot notify you if the infusion set is leaking or the insulin has lost its potency. It is essential, that you test your blood glucose levels at least four times per day. If your blood glucose is out of range, check the pump and the infusion set to ensure that the necessary amount of insulin is being delivered.

Waterproof capabilities

At the time of manufacture and when the reservoir and tubing are properly inserted, your pump is waterproof. It is protected against the effects of being underwater to a depth of up to 3.6 meters for up to 24 hours.

If the pump is dropped, hit against a hard object, or otherwise damaged, the waterproof characteristics of the outer casing of the pump may be compromised. If your pump has been dropped or you suspect your pump is damaged, carefully inspect your pump to ensure there are no cracks before exposing your pump to water.

If you believe that water has entered your pump or you observe any other possible pump malfunction, check your blood glucose, and treat high blood glucose as necessary, using an alternative source of insulin. Contact the 24 Hour Support Line for further assistance. Always contact your healthcare professional if you experience excessively high or low blood glucose levels or if you have any questions about your care.

Electrostatic discharge

Although your MiniMed 620G insulin pump is designed to be unaffected by typical levels of electrostatic discharge (ESD), very high levels of ESD can result in a reset of the pump's software and a pump error alarm. After clearing the alarm, verify that your pump is set to the correct date and time and that all other settings are programmed to the desired values because the software reset could erase your previously programmed settings.

For more information on pump alarms, see *Pump alarms, alerts, and messages, on page 184*. For more information on re-entering your pump settings, see *My pump is asking me to enter my settings, on page 210*. If you are unable to re-enter your pump settings, or otherwise believe there is a problem with your pump, contact the 24 Hour Support Line for further assistance.

Extreme temperatures

Exposure to extreme temperatures can damage your device, which can adversely affect safety and effectiveness of your device. Avoid the following conditions:

1. Avoid exposing your pump to temperatures above 40°C or below 5°C because this may damage your device.
2. Insulin solutions freeze near 0°C and degrade at temperatures higher than 37°C. If you are outside in cold weather, wear your pump close to your body and cover it with warm clothing. If you are in a warm environment, take measures to keep your pump and insulin cool.
3. Do not steam, heat, sterilize, or autoclave your pump. Exposure to high temperatures may damage your device.

Lotion, sunscreen, and insect repellent

Some skin care products, such as lotion, sunscreen, and insect repellents, can cause damage to plastics, which is a material used in your pump case. After using such products, be sure to wash your hands prior to handling your pump. If you get any skin care products or insect repellents on your pump, wipe them off as soon as possible with a damp cloth and mild soap. For instructions on cleaning your pump, see *Cleaning your pump, on page 217*.

Infusion sets and sites

Always refer to the infusion set user guide for all precautions, warnings, and instructions relating to the infusion set and your insertion sites. Not referring to the infusion set user guide can result in minor personal injury or minor damage to the infusion set.

Sensor

Always refer to the sensor user guide for all precautions, warnings, and instructions relating to the sensor. Not referring to the sensor user guide can result in minor personal injury or minor damage to the sensor.

Transmitter

Always refer to the transmitter user guide for all precautions, warnings, and instructions relating to the transmitter. Not referring to the transmitter user guide can result in minor personal injury or minor damage to the transmitter.

Adverse reactions

Always refer to the sensor user guide for adverse reactions related to the sensor. Not referring to the sensor user guide can result in minor personal injury or minor damage to the sensor.

Notice

Radio Frequency (RF) communication

This device complies with the United States Federal Communications Commission (FCC) and international standards for electromagnetic compatibility.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

These standards are designed to provide reasonable protection against excessive radio frequency interference, and prevent undesirable operation of the devices from unwanted electromagnetic interference.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential

installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.

This device can generate, use, and radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. If the device does cause interference to radio or television reception, you are encouraged to try to correct the interference by one or more of the following measures:

- Decrease the distance between the transmitter and the insulin pump to 1.8 meters or less.
- Increase the separation between the transmitter and the device that is receiving/emitting interference.

If other devices that employ radio frequencies are in use, such as cell phones, cordless phones, and wireless networks, they may prevent communication between the transmitter and the insulin pump. This interference does not cause any incorrect data to be sent and does not cause any harm to your devices. Moving away from, or turning off, these other devices may enable communication. If you continue to experience RF interference, please contact the 24 Hour Support Line for assistance.

This device complies with the ARIB STD T-66 Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesirable operation.



Caution: Do not change or modify the internal RF transmitter or antenna unless expressly approved by Medtronic Diabetes. Any unauthorized change or modification could interfere with your ability to operate the equipment.

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Keeping track of your system information

The serial number (SN) is located on the back of your pump. If you are using the pump clip, you need to remove the pump clip to view the serial number. It also displays in your Pump status screen. For more details on the status screens, see *Status screens, on page 33*. For future reference, enter the serial number of your pump and the purchase date in the following table:

Pump serial number and purchase date

Serial Number:

Purchase Date:

Insulin guidelines



WARNING: Never start on insulin until directed by your healthcare professional. Doing so could result in an unintended delivery of insulin, which can cause hypoglycemia.

The pump is intended for use with rapid acting U-100 insulin. The following insulins have been tested by Medtronic Diabetes and found to be safe for use with the MiniMed 620G insulin pump:

- U-100 Humalog
- U-100 NovoRapid

Before using different insulin with this pump, check the insulin label to make sure the insulin can be used with the pump.

Consumables

The pump uses disposable (single-use) MiniMed reservoirs and infusion sets for insulin delivery.



WARNING: Only use reservoir and infusion sets manufactured or distributed by Medtronic Diabetes. The pump has undergone extensive testing to confirm appropriate operation when used with compatible reservoirs and infusion sets manufactured or distributed by Medtronic Diabetes. We cannot guarantee appropriate operation if the pump is used with reservoirs or infusion sets offered by third parties and therefore we are not responsible for any injury or malfunctioning of the pump that may occur in association with such use.

- **Reservoirs** – Use only Medtronic reservoirs.
Look on the back of your pump for your model number.
For the MMT-1710 pump model, use the MMT-332A, 3.0 mL (300-unit) reservoir.
- **Infusion sets** – Medtronic Diabetes provides a variety of infusion sets to fit your needs. Contact your healthcare professional for help in choosing an infusion set. Change your infusion set every two to three days per your infusion set manufacturer's instructions.

Additional devices

- **Compatible Ascensia blood glucose meter** – The MiniMed 620G system can be used with a compatible Ascensia blood glucose meter that wirelessly connects to your pump, allowing you to send BG meter readings to your pump. The Remote Bolus feature allows you to use your meter to start a bolus on your pump. You can also use this meter to upload system data to your diabetes management software using the USB port on your computer. For more details, see your meter user guide.

- **Guardian 2 Link transmitter (MMT-7731)** – used with your pump for Continuous Glucose Monitoring (CGM). A device that connects to a glucose sensor. The transmitter collects data measured by the sensor and wirelessly sends this data to monitoring devices.
- **Enlite glucose sensor (MMT-7008)** – used with your pump for CGM. The small part of the continuous glucose monitoring system that you insert just below your skin to measure glucose levels in your interstitial fluid. The sensor is a disposable (single-use) device.
- **CareLink USB device (MMT-7306)** – used to upload system data to the diabetes management software using a USB port on your computer.

Accessories

The following accessories may be used with your MiniMed 620G system.

- **Pump clip** – used to wear the pump on your belt. Also, you can use the tip of the pump clip to open the battery compartment on your pump.
- **Activity guard** – used if you are active in sports, or if a child is wearing the pump. Using the activity guard prevents the reservoir from being rotated or removed from the pump.
- **Skins** – used to personalize the look of your pump. Skins are decorative overlays. Your pump is designed to have skins attached to the back of the pump and the front of the pump clip. Skins also provide additional protection against surface scratches.

2



First steps

2

First steps

This chapter gives you an overview of your pump so you can become familiar with the buttons and screens. You should read this entire chapter to understand the basic features and initial setup before using your pump to deliver insulin.

Your pump

The following illustration shows the different parts of your pump. The reservoir, with the tubing connector attached, is inserted into the reservoir compartment.



Using the buttons



Caution: Do not use sharp objects to press the buttons on your pump. Using sharp objects can damage your pump.

The following picture shows the buttons, the notification light, and the light sensor on your pump. The notification light flashes when your pump has an alarm or alert. The notification light is not visible unless flashing.

The keypad has a backlight that lights up the buttons when in use.



Note: Do not cover the light sensor with your finger while using your pump. Covering the light sensor may adjust the brightness on the screen when brightness is set to Auto. See *Display Options*, on page 139 for more information.

The following table describes how to use the buttons.

| To do this: | Follow these steps: |
|---|--|
| Scroll up or down a menu or list, or increase or decrease the value of a setting. | Press the \wedge or \vee buttons. |
| Select an item on a screen or menu. | Press the \wedge , \vee , \langle , or \rangle buttons to select the desired item, and then press the \odot button. |
| Enter a value into a field. | Press the \wedge , \vee , \langle , or \rangle buttons to select the desired field, and then press the \odot button. The field you select flashes. Press the \wedge or \vee buttons to enter the desired value, and then press the \odot button. |
| Return to the previous screen. | Press the \blacktriangleleft button. |
| Display the Menu screen. | Press the ☰ button. |
| Display the Home screen. | When you are on any screen other than the Home screen, press and hold the \blacktriangleleft button for about one second. |
| Put the pump in sleep mode. | Press and hold ☰ for about two seconds. |
| Wake up the pump. | Press any button. |

About batteries

The pump requires one new AA (1.5 V) battery. For best results, use a new AA lithium (FR6) battery. The pump also accepts an AA alkaline (LR6) or a fully charged AA NiMH (HR6) nickel-metal hydride rechargeable battery.



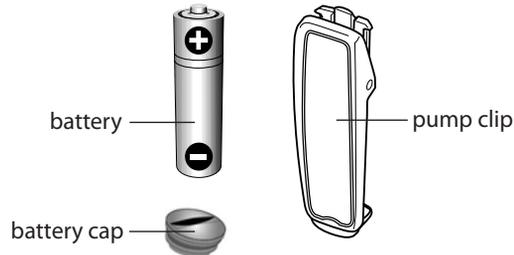
Caution: Do not use a carbon zinc battery in your pump. Carbon zinc batteries are not compatible with the pump. Use of carbon zinc batteries can cause the pump to report inaccurate battery levels.



Note: Do not use cold batteries because the battery life may incorrectly appear as low. This can cause a Battery Failed alarm on your pump. Allow cold batteries to reach room temperature before you insert them in your pump.

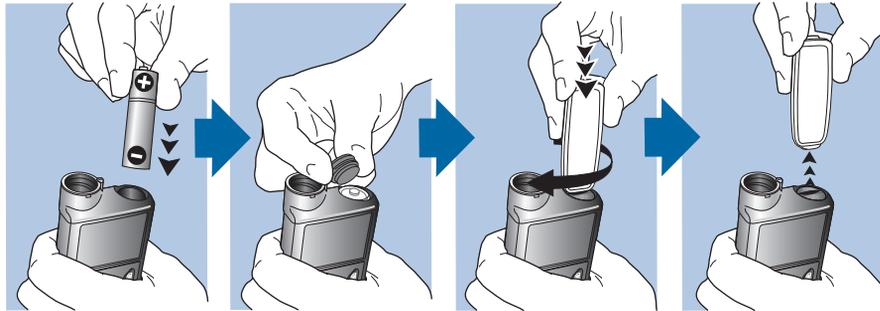
Inserting the battery

Your pump does not ship with the battery cap on. The battery cap is located in the pump box, separate from the pump.



To insert the battery:

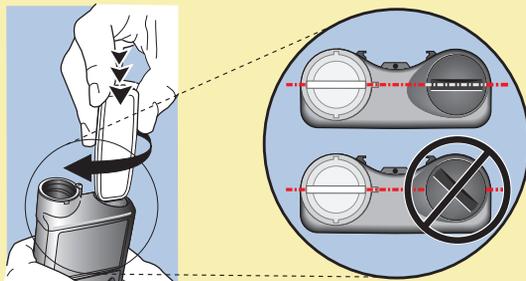
1. Insert the new or fully charged AA battery, making sure to insert the negative end (-) first. After you insert the battery, the positive end (+) is visible.



2. Use the pump clip to tighten the battery cap.



Caution: Do not overtighten or undertighten the battery cap. Overtightening the battery cap can cause damage to your pump case. Undertightening the battery cap will prevent the pump from recognizing the new battery. Turn the battery cap clockwise until the cap is aligned horizontally with the pump case, as shown in the following example.



3. If this is the first time you have inserted a battery in your pump, the Startup Wizard begins. For more information about the Startup Wizard, see *Entering your startup settings*, on page 26. If this is not the first time you have inserted a battery into your pump, the Home screen appears and the pump resumes your basal delivery.

Removing the battery



Caution: Do not remove the battery unless you are inserting a new one, or if you are storing your pump. Your pump cannot deliver insulin while the battery is removed. After removing an old battery, be sure to replace it with a new battery within 10 minutes to clear the Insert battery alarm and avoid a Power loss alarm. If power loss occurs, you must re-enter your time and date settings.

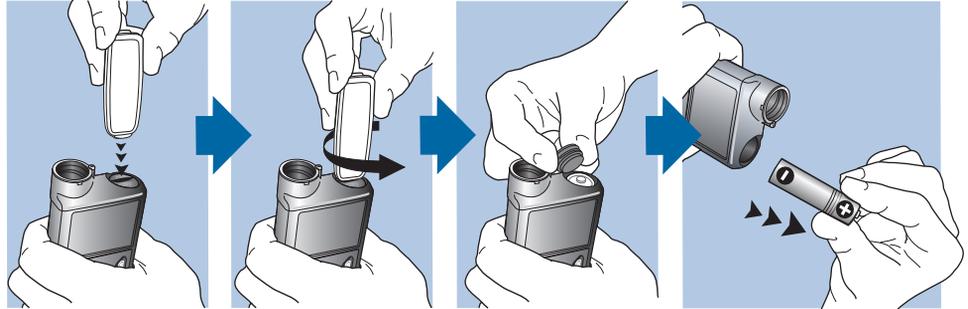
To remove the battery:

1. Before removing a battery from your pump, clear any active alarms or alerts.
2. Use the pump clip to loosen and remove the battery cap. See *Inserting the battery*, on page 24 for an illustration of the battery and the related components.



Note: Use your pump clip to remove and retighten the battery cap. If the pump clip is unavailable, you may use a coin.

3. Remove the battery.



4. Dispose of old batteries according to local disposal requirements for battery disposal (nonincineration), or contact your healthcare professional for disposal information.
5. After removing your battery, wait until the Insert Battery screen appears before inserting a new battery.

If you are removing the battery to place your pump in storage, see *Storing your pump*, on page 218 for more information.

Getting to know your pump

This section shows you how to navigate through the screens and menus on your pump. It also helps you learn how to enter information and view the status of your pump.

Entering your startup settings

Your pump has a Startup Wizard that begins when you insert your battery for the first time. The Startup Wizard guides you through setting the language, the time format, the current time, and the current date.



Note: Use this procedure when you are entering your settings for the first time. If this is not the first time you are entering your pump settings, and your pump is asking you to re-enter your settings, see *My pump is asking me to enter my settings*, on page 210.

To use the Startup Wizard:

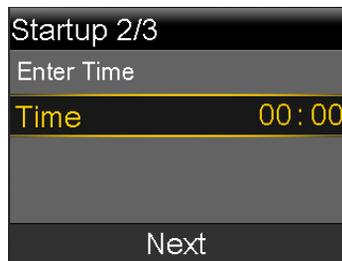
1. The Startup Wizard begins after the Welcome screen appears. When the Language screen appears, select your language.



2. When the Select Time Format screen appears, select a **12 Hour** or a **24 Hour** time format.



3. When the Enter Time screen appears, adjust the setting to the current time. If you are using a 12-hour clock, be sure to specify AM or PM. Select **Next**.



- When the Enter Date screen appears, adjust the **Year**, **Month** and **Day** to the current date. Select **Next**.



A message confirms that your initial setup is complete, and then the Home screen appears.

After you enter your initial settings, see the following sections in this chapter to become familiar with the buttons and screens on your pump.

Unlocking your pump

Your pump automatically locks when entering sleep mode. When you wake up your pump from sleep mode, you must unlock your pump before navigating away from the Home screen. When you press menu  or select , you will be shown a screen asking you to unlock your pump. Press the highlighted button to unlock your pump.



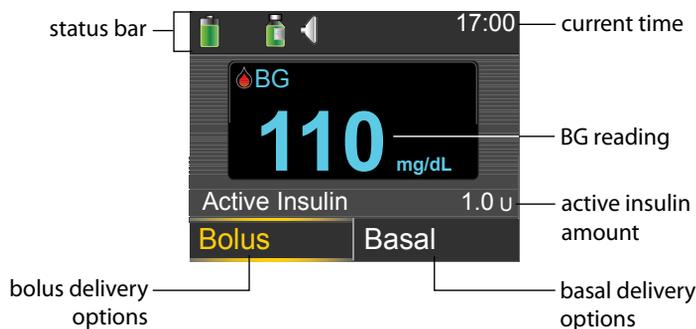
The pump will take you to your selected screen after you press the correct button. If you press an incorrect button, the screen prompts you to try again.

After your pump is unlocked, it will remain unlocked until you re-enter sleep mode. For information about the different power modes, or to put your pump to sleep, see *Power modes*, on page 36.

Home screen

The Home screen appears by default after you change the battery, when you wake the pump from sleep mode, and when you are not actively using another screen. You can navigate to the Home screen from any other screen by pressing and holding the  button for about one second.

To see what your Home screen looks like if you use a sensor, see *Home screen with CGM*, on page 156.



The following items appear on your Home screen:

| Item | Description |
|----------------|---|
| Status bar | Displays icons that show a quick status of your pump system. For more information, see <i>Status bar</i> , on page 30. By selecting the status bar you can access more detailed status screens. For more information, see <i>Status screens</i> , on page 33. |
| Current time | Displays the current time of day. For details on setting the time, see <i>Time and date</i> , on page 146. |
| BG reading | If you have manually entered a BG reading within the last 12 minutes, the BG reading appears on the Home screen. You can enter your BG reading manually using the Event Marker feature, or when you use the Bolus Wizard feature to deliver a bolus. You do not use your Home screen to enter your BG reading. For details on entering events, see <i>Event Markers</i> , on page 123. |
| Active Insulin | Displays the amount of bolus insulin the pump estimates is still working to lower your blood glucose levels. For more details on active insulin, see <i>About active insulin</i> , on page 74. |

| Item | Description |
|-------|--|
| Bolus | <p>Allows you to access your bolus delivery options, and provides access to all of your insulin settings. For details about entering your bolus settings and delivering bolus insulin, see the Bolus chapter on <i>page 61</i>.</p> <p>If you have not set up the Bolus Wizard feature and Preset Bolus features, you only have access to Manual Bolus from this screen. For details about setting up the Bolus Wizard feature, see <i>Bolus Wizard feature, on page 67</i>. For details about setting up the Preset Bolus feature, see <i>Preset Bolus, on page 87</i>.</p> |
| Basal | <p>Allows you to access your basal delivery options, and provides access to all of your insulin settings. For details about entering your basal settings and delivering basal insulin, see the Basal chapter on <i>page 41</i>.</p> <p>To access all of your basal options from this screen, you must have set up a Preset Temp basal rate. For details about setting up Preset Temp basal rates, see <i>Preset Temp basal rates, on page 51</i>.</p> |

Status bar

The status bar appears at the top of the Home screen to provide a way for you to quickly check the status of your system. The status bar contains the icons that are described in the following table, along with the current time. For information on viewing detailed status screens, see *Status screens, on page 33*.

| Icon | Icon name | What it means |
|---|-----------|--|
|  | Battery | <p>The charge level of your pump battery. The color and the fill level of the icon indicate the status. When your battery is full, the icon is solid green. As your battery life is used, the icon changes, as shown in the following example. For more details about batteries, see <i>About batteries, on page 23</i>.</p> |



| Icon | Icon name | What it means |
|---|---------------|--|
| | Connection | <p>The connection icon appears green  when the Sensor feature is on and your transmitter is successfully communicating with your pump. The connection icon appears gray  when the Sensor feature is turned on, but the transmitter is not connected or communication with your pump has been lost. For more information about the Sensor feature, see <i>Understanding Continuous Glucose Monitoring (CGM)</i>, on page 149.</p> |
| | Airplane Mode | <p>Appears in place of the Connection icon if Airplane Mode is turned on. When Airplane Mode is turned on, the pump cannot receive wireless communication from other devices. The pump also cannot send wireless communication to other devices. For more information about using Airplane Mode, see <i>Airplane Mode</i>, on page 135.</p> |
| | Reservoir | <p>Shows the approximate amount of insulin left in your reservoir. The color and the fill level of the icon indicate the status. When your reservoir is full, the icon is solid green. As your insulin is used, the icon becomes emptier, and the color of the icon changes as shown in the following example. For more information about your reservoir, see <i>Reservoir and infusion set</i> on page 95.</p> |
|  | | |
| | Audio | <p>The audio mode you are using: vibrate only , audio only , or vibrate and audio . For more information about your audio settings, see <i>Audio Options</i>, on page 136.</p> |

| Icon | Icon name | What it means |
|---|-------------|--|
|  | Calibration | <p>The approximate time left until your next sensor calibration is due. Appears only when the Sensor feature is turned on. The color and the fill level of the icon indicate the status. When your sensor is fully calibrated, the icon is solid green. As the time for your next sensor calibration approaches, the icon becomes emptier, and the color of the icon changes as shown in the following example. For more information about calibrating your sensor, see <i>Calibrating your sensor</i>, on page 166.</p> <div style="text-align: center;">  </div> <p>When your sensor is initializing, the Calibration icon appears with three dots . If the time to your next sensor calibration is unavailable, the Calibration icon appears with a question mark .</p> |
|  | Sensor Life | <p>The number of days remaining in the life of your sensor. Appears only when the Sensor feature is turned on. The color and the fill level of the icon indicate the status. When you insert a new sensor, the icon is solid green. As your sensor life is used, the icon becomes emptier. The icon turns yellow when less than 24 hours remains in the life of your sensor. It turns red when less than 12 hours remains in the life of your sensor.</p> <div style="text-align: center;">  </div> <p>If the number of days remaining in the life of your sensor is unavailable, the Sensor Life icon appears with a question mark .</p> |

| Icon | Icon name | What it means |
|---|------------------------------|---|
|  | Block Mode | Indicates that the pump is in Block Mode, and that certain functions are restricted. Caregivers, such as parents of a young child, can use Block Mode to restrict access to critical pump settings. For more information about Block Mode, see <i>Block Mode, on page 137</i> . |
|  | Temporary Network Connection | Appears while you are temporarily connected to a remote upload device. |

Status screens

The Status screens provide information about your pump, any notifications you have received, your current settings, and optional sensor. The Status screens are described in the following table:

| Status screen | Displays this information |
|---------------|--|
| Notifications | A list of alarms, alerts, and reminders that have occurred over the past 24 hours. You can display further details about a particular alarm, alert, or reminder by selecting it from the list. For more information on alarms and alerts, see the <i>Alarms, alerts, and messages</i> chapter. |
| Quick Status | A summary of status information, including your last bolus, last BG meter reading, current basal rate, reservoir level, and pump battery charge level. If you are using a sensor, this screen also displays the time that your next calibration is due. |
| Pump | Provides a detailed view of your pump status, including whether your pump is in a specific mode, the reservoir status, battery status, the pump serial number, and other details about your pump. |
| Sensor | The Sensor status screen is available only if your sensor feature is turned on. The Sensor status screen indicates if any alert silence options are turned on. It also shows the status of your calibrations, your sensor life, ISIG, transmitter battery, and the serial number and version number of your transmitter. |

| Status screen | Displays this information |
|---------------|---------------------------|
|---------------|---------------------------|

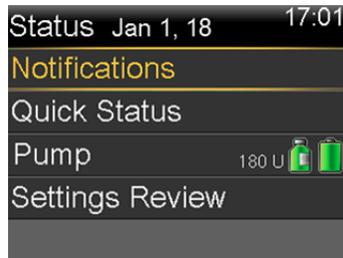
| | |
|----------|---|
| Settings | The Settings Review screen provides a list of all your pump settings. |
| Review | The settings are organized by where they appear in the menu for your pump. For example, your bolus settings appear under the Insulin Settings section, and your brightness level setting appears under the Utilities section. |

Viewing the Status screens

1. Go to the Home screen.
2. Select the status bar that appears at the top of the Home screen.



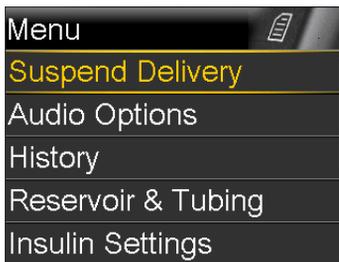
The Status screen appears.



3. Select the status screen that you want to view. Refer to the table at the beginning of this section for a description of the different status screens.

Using the Menu screen

The Menu screen is where you access the various features and functions of your system. To display the Menu screen, press .

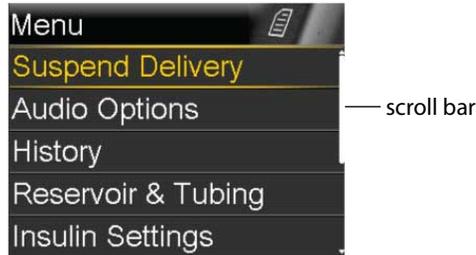


The following options are available from the Menu screen:

| Select this | To do this |
|--------------------|--|
| Suspend Delivery | Stop your current basal and bolus insulin delivery. |
| Audio Options | Set your audio, vibrate, and volume options for the notifications you receive. |
| History | Access the Summary, Daily History, and Alarm History screens. If you are using a sensor, you can access the SG Review and ISIG History screens. |
| Reservoir & Tubing | Start the process of changing your reservoir and infusion set. |
| Insulin Settings | Set up and manage your insulin delivery options, including your Basal and Bolus settings. |
| Sensor Settings | Set up your optional continuous glucose monitoring device settings. |
| Event Markers | Save information about events, such as exercise, blood glucose readings, carbs you eat, or injections you take. If you are using a sensor, the blood glucose readings may be used for calibration. |
| Reminders | Set up reminders to help monitor your system and to help you manage your diabetes. You can also create reminders for personal events. |
| Utilities | Set up and manage the features and functions of your system. |

Scroll bar

The scroll bar is located on the right side of the display, as shown in the following example. It appears only when there is more information available to view on the screen. Press \wedge or \vee to move up or down the screen.



Power modes

Your pump is designed to conserve battery power when you are not actively using the pump screens.

| In this mode | Your pump behaves like this |
|---------------------|---|
| Awake | Your pump screen is on. Unless you are actively using another screen, your Home screen appears. To wake up your pump from being in power save or sleep mode, press any button. If your pump has been in sleep mode, the pump is locked. To unlock your pump, see <i>Unlocking your pump, on page 28</i> . |
| Power save | Your pump is fully functional, but the screen goes dark to save power. You can set how long it takes for your screen to enter power save mode by changing the Backlight setting. For more information, see <i>Display Options, on page 139</i> . If any button is pressed while the pump is in Power save mode, the pump returns to the screen that was last displayed. |

In this mode **Your pump behaves like this**

Sleep Your pump automatically enters sleep mode about two minutes after your pump enters power save mode if no buttons are pressed. At this time, your pump automatically locks. If any button is pressed, your pump returns to the Home screen.



Note: In some cases, if there is an action you need to take, your pump returns to the screen last displayed. This includes startup settings, loading your reservoir, filling your tubing, filling your cannula, and any screen where you have an action pending.

To put your pump into sleep mode, press and hold the **Menu** button  for about two seconds.

If you remove your pump

You may have an occasion when you need or want to remove your pump. If you have to remove and store your pump, it is recommended that you do the following:

- Write down a record of your current basal rates and use the Save Settings feature. See *Saving your settings*, on page 140 for more information.
- Remove the battery. See *Removing the battery*, on page 25 for more information.

Remember, your body still needs insulin while your pump is removed.

Consult your healthcare professional to determine an alternate method of receiving insulin. Disconnecting from your pump for less than one hour may not require an insulin adjustment. If you remove your pump for more than one hour, you should take your insulin another way, as prescribed by your healthcare professional.

3



Basal

Basal insulin is the "background" insulin that you need throughout the day and night to maintain your target glucose values when you are not eating. Your basal insulin accounts for approximately one half of your daily insulin requirements. Your pump mimics a pancreas by delivering insulin continuously over 24 hours.

Your basal insulin is delivered according to a basal pattern. Basal patterns and other basal settings are described in the following sections.

Basal rate

Your basal rate is the specific amount of basal insulin that your pump continuously delivers each hour. While some people use one basal rate all day, others require different rates at different times of the day.

Your basal rates are set in one or more basal patterns. Each basal pattern covers 24 hours. For specific information about basal patterns, see *Basal patterns*, on page 43.

Basal insulin settings

Your basal insulin delivery settings are described in the following table.

| Setting | What it is | What it does for you |
|----------------|--|---|
| Basal Pattern | A set of one or more basal rates that cover a 24-hour period. | Determines the amount of insulin you receive per hour throughout the day and night. Allows you to vary your basal rate according to your needs. You can set up to eight basal patterns. For details on setting up basal patterns, see <i>Adding a new basal pattern, on page 44</i> . For details about starting a basal pattern, see <i>Changing from one basal pattern to another, on page 48</i> . |
| Temp Basal | A basal rate that you use in place of your scheduled basal rate for short-term situations. | Allows you to temporarily change your current basal rate for a duration of time that you specify. For details about starting a Temp Basal rate, see <i>Starting a Temp Basal rate, on page 50</i> . |
| Preset Temp | A temporary basal rate that you can define ahead of time. | Allows you to set and save temporary basal rates for known short-term situations, such as when you are sick or have times of increased or decreased activity. For details about setting up a Preset Temp basal rate, see <i>Preset Temp basal rates, on page 51</i> . For details about starting a Preset Temp basal rate, see <i>Starting a Preset Temp basal rate, on page 53</i> . |
| Max Basal Rate | Maximum amount of basal insulin that your pump can deliver per hour. | Provides a safety measure by limiting the total amount of basal insulin your pump can deliver per hour. For details about setting your Max Basal rate, see <i>Max Basal Rate, on page 43</i> . |

Max Basal Rate

Max Basal Rate limits the amount of basal insulin that can be delivered per hour, based on the maximum rate you set. You are unable to set any basal rates, temp basal rates, or preset temp basal rates that exceed the max basal rate amount. You can set your max basal rate from 0 to 35 units per hour. Set your max basal rate as prescribed by your healthcare professional.



Note: If you are setting your max basal rate after you have set up your basal patterns or preset temp basal rates, you cannot set your max basal rate lower than any of your existing basal rates. You cannot access this feature during a bolus delivery.

To set your Max Basal Rate:

1. Go to the Max Basal/Bolus screen.

Menu > Insulin Settings > Max Basal/Bolus

2. Select **Max Basal** to set the maximum number of basal insulin units that can be delivered each hour.

Because the Max Basal Rate setting determines your basal insulin limits, a warning message appears any time you enter the screen to change the value. To continue setting the value, select **Continue**.

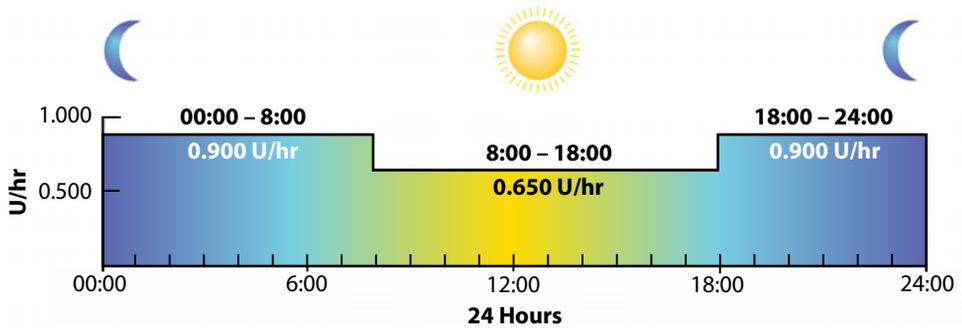
3. In the Max Basal Rate screen, select **Max Basal** to set the maximum units per hour.
4. Select **Save**.

Basal patterns

Your basal pattern determines the amount of basal insulin you receive throughout the day and night. Because your basal insulin needs can vary, you can set up to eight basal patterns. For example, you might use one basal pattern during the week and a different basal pattern during the weekend.

A basal pattern is made up of one to 48 basal rates that you set up to cover a full 24-hour period. If you only need one basal rate throughout the day, you set only one rate for the 24-hour period. If you need the basal rates to change during the day or night to better match your insulin needs, you can set more than one rate, each with a separate start and end time.

The following example represents one basal pattern with three basal rates set for three different time periods.



Your healthcare professional will determine what rates are right for you.



Note: If you have already set up basal patterns and want to switch from using one basal pattern to another, see *Changing from one basal pattern to another*, on page 48.

Adding a new basal pattern

This procedure shows you how to add a new basal pattern.

To add a new basal pattern:

1. Go to the Basal Pattern Setup screen.

Menu > Insulin Settings > Basal Pattern Setup

The Basal Pattern Setup screen appears. Your active basal pattern appears with a check mark and the 24-hour delivery amount, as shown in the following example.



2. If this is your first time setting up a basal pattern, the unit amount will be 0.0. Select **Basal 1** and proceed to step 5.

If this is not your first time setting up a basal pattern, proceed to the next step to add a new pattern.

3. To add a new basal pattern, select **Add New**.

The Select Name screen appears.



Note: The Workday, Day Off, and Sick Day patterns are available so that you can match a basal pattern name to your insulin needs on those particular days.

4. Select the basal pattern that you want to set up. An edit screen appears for the pattern you selected. The following example shows the Edit Workday screen.

| Edit Workday | | |
|--------------|-------|------|
| Start | End | U/hr |
| 00:00 | 24:00 | --- |



Caution: Always set your basal rate in units per hour. Insulin is delivered in units per hour, and does not adjust for shorter time periods. For example, if you set a basal rate of 0.025 U/hr for a 30-minute time period, this might result in no insulin delivered for that 30-minute period.

Use one hour as the minimum time period for a basal rate.

5. To create one continuous 24-hour basal rate for your basal pattern, continue with this step. To create more than one basal rate for your new basal pattern, skip to step 6.
 - a. Leave End time at 24:00 to set a 24-hour rate. The Start time of the first time segment is always 00:00.
 - b. Set your rate in units per hour.

| Edit Workday | | |
|--------------|-------|-------|
| Start | End | U/hr |
| 00:00 | 24:00 | 0.050 |
| Done | | |

- c. Skip to Step 7.
6. To create more than one basal rate for your new basal pattern, enter one basal rate at a time, as described in the following steps:
 - a. Set the End time and the Rate for your first basal rate. You set your rates in 30-minute increments.

If you set the End time to anything other than 24:00, a second basal rate setting appears.

| Edit Workday | | |
|--------------|-------|-------|
| Start | End | U/hr |
| 00:00 | 07:30 | 0.075 |
| 07:30 | 08:00 | --- |

The Start time for the next rate is always the same as the End time of the previous rate.



Note: If you need to make a change, you can press \wedge to scroll up to the rate you want to change. Adjust the End time or Rate values as desired.

Note that pressing \wedge or \vee when a field is selected (flashing) adjusts the value of that field. When there is no field selected, pressing \wedge or \vee allows you to scroll up or down the list of basal rates.

- b. Continue setting rates for different time periods as needed. The End time for your last rate must be 24:00, as shown in the example below.

| Edit Workday | | |
|--------------|-------|-------|
| Start | End | U/hr |
| 00:00 | 07:30 | 0.075 |
| 07:30 | 18:00 | 0.025 |
| 18:00 | 24:00 | 0.050 |
| Done | | |

7. When you finish setting your basal pattern, select **Done**. (The Done option appears only when the last End time in your basal pattern is set to 24:00). A screen appears that allows you to review your basal pattern. If you need to make any changes, press \leftarrow to return to the previous screen.
8. Select **Save**.

To activate your basal pattern, see *Changing from one basal pattern to another*, on page 48.

Editing, copying, or deleting a basal pattern

To edit, copy, or delete a basal pattern:

1. Go to the Basal Pattern Setup screen.
Menu > Insulin Settings > Basal Pattern Setup
The Basal Pattern Setup screen displays all of your existing basal patterns.
2. Select the basal pattern you want to edit, copy, or delete.
3. Select **Options**.
4. Do one of the following:
 - Select **Edit** to adjust the End time or rate values for one or more of the basal rates in this basal pattern.
 - Select **Copy** to copy the basal rate information from the selected basal pattern to a new basal pattern. When the Select Name screen appears, you can select any available name from the list. Use the Edit option to adjust the new basal pattern as desired.
 - Select **Delete** to delete the selected basal pattern. You cannot delete the active basal pattern.

Changing from one basal pattern to another

When you change to a new basal pattern, your pump delivers your basal insulin according to the basal pattern you selected.

To change to a different basal pattern:

1. Go to the Basal Patterns screen.
Home screen > Basal > Basal Patterns
The Basal Patterns screen shows the basal patterns you have set up. The active basal pattern is indicated with a check mark.
2. Select the basal pattern you want to start.
The Basal screen displays the details for the selected basal pattern.
3. To start this pattern, select **Begin**.

Temporary basal rates

The Temp Basal feature and Preset Temp feature allow you to set temporary basal rates to manage blood glucose levels during short-term activities or conditions that require a basal rate different than your current one, such as an illness or a change in physical activity. You can make an immediate change to your basal insulin for a set period of time (30 minutes to 24 hours), up to your max basal rate.

About Temp Basal rates

A temp basal rate temporarily overrides all other basal programming. Your programmed basal pattern resumes after the temp basal rate delivery is completed or cancelled.

The Temp Basal feature allows you to set and start a temporary basal rate immediately. The Preset Temp feature allows you to set up a temp basal rate ahead of time for known situations. You define temp basal rates and preset temp basal rates using either a percentage of your current basal pattern, or by setting a specific rate, as described in the following table.

| This temp basal type: | Works like this: |
|-----------------------|---|
| Percent | <p>Delivers a percentage of the basal rates programmed in your active basal pattern for the duration of the temp basal rate. The temp basal amount is rounded down to the next 0.025 units if your basal rate is set at less than 1 unit per hour, or to the next 0.05 units if your basal rate is set at more than 1 unit per hour.</p> <p>Temp basal rates can be set to deliver from 0 to 200%, which is twice the amount of your scheduled basal rate. The percent amount you can use, however, is based on the largest basal rate scheduled during the temp basal duration, and is limited by your max basal rate.</p> |
| Rate | <p>Delivers a fixed basal insulin rate in units per hour for the duration of your temporary basal, limited by your max basal rate.</p> |

To use the Temp Basal feature, see *Starting a Temp Basal rate, on page 50*. To use the Preset Temp Basal feature, see *Preset Temp basal rates, on page 51*.

Starting a Temp Basal rate

When you start a temp basal rate, your basal delivery changes to the temporary basal rate for the duration you set. When the duration is complete, your basal insulin automatically returns to the active basal pattern.

To start a temp basal rate:

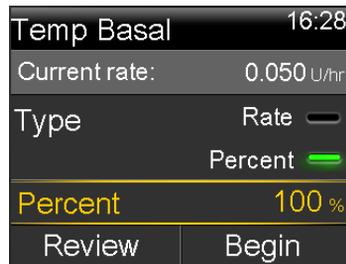
1. Go to the Temp Basal screen.

Home screen > Basal > Temp Basal

2. **Duration** is flashing. Set the Duration for this temp basal rate. The Duration can be set from 30 minutes to 24 hours, in 15-minute increments.



3. Select **Next**.
4. The Type defaults to Percent. You can switch between Percent and Rate by selecting **Type**.



5. Depending on the Type you selected, do one of the following:

- Enter a percentage:

| | | |
|----------------|---------|-------------------------------------|
| Temp Basal | | 16:29 |
| Current rate: | | 0.050 U/hr |
| Type | Rate | <input type="checkbox"/> |
| | Percent | <input checked="" type="checkbox"/> |
| Percent | | 50 % |
| Review | Begin | |

- Enter a basal rate, making sure you do not exceed your max basal rate:

| | | |
|---------------|---------|-------------------------------------|
| Temp Basal | | 16:28 |
| Current rate: | | 0.050 U/hr |
| Type | Rate | <input checked="" type="checkbox"/> |
| | Percent | <input type="checkbox"/> |
| Rate | | 0.025 U/hr |
| Review | Begin | |

6. If desired, select **Review** to review your temp basal setting.
7. Select **Begin** to start the temp basal rate.

Your Temp Basal rate continues for the duration you set. The Basal option on the Home screen appears as Basal (T) during your temp basal delivery. Your scheduled basal rate automatically starts again when your Temp Basal rate finishes.



Note: If you need to cancel your temp basal, select **Basal (T)** from the Home screen, then select **Cancel Temp Basal**.

Preset Temp basal rates

The Preset Temp feature allows you to set up basal rates for recurring short-term situations where you need to temporarily change your basal rate.

There are four names you can use to match your preset temp basal rate to a situation: High Activity, Moderate Activity, Low Activity, and Sick. There are also four additional preset temp rates available to use for other circumstances (Temp 1 through Temp 4).

Setting up and managing Preset Temp basal rates

This section describes how to set up, edit, rename, or delete a preset temp basal rate. For information on how to start using a preset temp basal rate, see *Starting a Preset Temp basal rate, on page 53*.

To set up a preset temp basal rate:

1. Go to the Preset Temp Setup screen.
Menu > Insulin Settings > Preset Temp Setup
2. Select **Add New**.
3. Select a name for the preset temp basal rate you want to set (Temp 1, High Activity, Moderate Activity, Low Activity, or Sick).
4. The Type defaults to Percent. You can switch between Percent and Rate by selecting **Type**.
5. If you are using Percent, enter the percentage you want to use. If you are using Rate, enter the rate in units per hour. You cannot exceed your max basal rate.
6. Set the **Duration** (from 30 minutes to 24 hours in 15 minute increments) that you want this preset temp basal to be active.
7. Select **Save**.

To edit, rename, or delete a preset temp basal rate:

1. Go to the Preset Temp Setup screen.
Menu > Insulin Settings > Preset Temp Setup
2. Select the desired preset temp basal.



Note: You cannot select a preset temp basal rate that is currently in use.

3. Do one of the following:

- Select **Edit** to adjust the Type (Percent or Rate), the Percentage or Rate amount, and the Duration for this preset temp basal rate.
- Select **Rename** to assign a different name to this preset temp basal rate. When the Select Name screen appears, you can select any available name from the list.
- Select **Delete** to delete this preset temp basal rate.

Starting a Preset Temp basal rate

You must set up preset temp basal rates before you can use the Preset Temp feature. For more information, see *Preset Temp basal rates, on page 51*.

To start a preset temp basal rate:

1. Go to the Preset Temp screen. The Preset Temp option only appears if you have set up preset temp basal rates.

Home screen > Basal > Preset Temp

The Preset Temp screen displays the preset temp basal rates you have set up, along with their percentage or rate amounts.

| Preset Temp | | 17:08 |
|---------------|-------|-------|
| Current rate: | 0.025 | U/hr |
| Temp 1 | 0.100 | U/hr |
| High Activity | 25 | % |
| Moderate... | 50 | % |



Note: Depending on your active basal pattern, it is possible for a percentage preset temp basal rate to exceed your max basal limit. Because you cannot use a preset temp basal rate that exceeds your max basal limit, these rates appear in the list, but are not available for use.

2. Select the preset temp basal rate that you want to use, and then select **Begin**.



| Start | End | Temp (U/hr) |
|-------|-------|-------------|
| 17:09 | 17:39 | 0.100 |

Begin

Your preset temp basal rate continues for the duration you set. The Basal option on the Home screen appears as Basal (T) during your preset temp basal delivery. Your scheduled basal rate automatically starts again when your preset temp basal rate finishes.

Canceling a Temp Basal or Preset Temp basal rate

You can cancel a temp basal or preset temp basal rate at any time. When you do so, your scheduled basal pattern automatically starts again.

To cancel a temp basal rate:

1. Go to the Basal screen.

Home screen > Basal (T)

The Temp Basal screen displays the name (Preset Temp only), current basal rate, the set duration, and the remaining time.

2. Select **Cancel Temp Basal**.

Viewing your basal information

The following table describes how you can view your basal rates and patterns.

To do this:

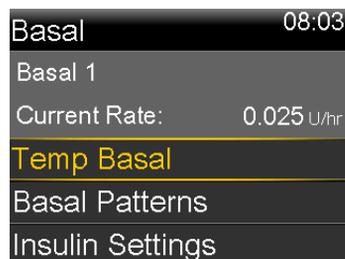
View your current basal rate

Do this:

Go to the Basal screen:

Home screen > Basal

The active basal pattern and current basal rate appear at the top of the Basal screen.



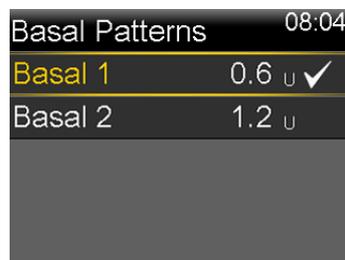
You can also view your current basal rate by selecting the Status Bar at the top of the Home screen, and then selecting **Quick Status**.

View your basal patterns

Go to the Basal Patterns screen:

Home screen > Basal > Basal Patterns

The Basal Patterns screen shows the basal patterns you have set up, and the 24-hour insulin total for each basal pattern. A check mark appears next to the active basal pattern.



To see the individual basal rates, select the desired basal pattern.

Stopping and resuming your insulin delivery

Use Suspend Delivery if you need to stop all active basal and bolus insulin deliveries. While your insulin is suspended, your pump beeps, vibrates, or both depending on your audio settings. The delivery suspended reminder occurs every 15 minutes to remind you that insulin is not being delivered.



Note: The first reminder occurs 15 minutes after your pump display times out. If you press a button and wake up your pump, the reminder will not occur until 15 minutes after your pump display times out again. To adjust your timeout setting, see *Display Options*, on page 139.

To continue your basal insulin delivery, use the Resume feature. When you use the Resume feature, your pump starts your programmed basal pattern, but does not start any previously programmed bolus deliveries.



Note: If you want to stop a bolus delivery only, without stopping your basal delivery, see *Stopping a bolus delivery*, on page 90.



WARNING: Always check the pump Daily History after you resume insulin delivery to determine the amount that was delivered. If needed, program a new bolus or fill the cannula. A bolus delivery or fill cannula that was suspended does not restart when you resume. Failing to resume insulin delivery can result in hyperglycemia and ketoacidosis.



WARNING: Do not rely solely on the audio or vibration notifications when using Audio or Vibrate. These notifications may not occur as expected if the speaker or vibrator in your pump malfunctions. A missed notification could result in the delivery of too much or too little insulin. This is most common when using the Easy Bolus feature, or when your pump is in Manual Suspend. Contact the 24 Hour Support Line with any concerns.

To suspend all insulin delivery:

1. Go to the Suspend Delivery screen.
Menu > Suspend Delivery
A confirmation message appears.
2. Select **Yes** to suspend your pump and stop all insulin delivery.
The Home screen indicates that your insulin is suspended. Your pump functions are limited until you resume your insulin delivery.

To resume basal insulin delivery:

1. While insulin is suspended, go to the **Home** screen.
2. Select **Resume**.
A confirmation message appears.
3. To resume your basal insulin delivery, select **Yes**. If a Temp Basal was active when you suspended your pump, it resumes if the time is still within the duration that you set.



Note: If you still need a bolus delivery that was in progress before you suspended your delivery, check the Daily History screen for the actual bolus units delivered and the intended bolus amount. Then you can set up a new bolus amount as needed. See *Daily History*, on page 120 for details about using the Daily History screen.

4



Bolus 4

A bolus is the amount of insulin taken to cover an expected rise in blood glucose, typically when you eat a meal or snack. You can also use a bolus to correct a high blood glucose reading.

About bolus deliveries

There are different types of bolus deliveries you can use, depending on your insulin needs at the time. There are also different ways you can deliver a bolus. Discuss these options with your healthcare professional to determine what is best for you.

Bolus types

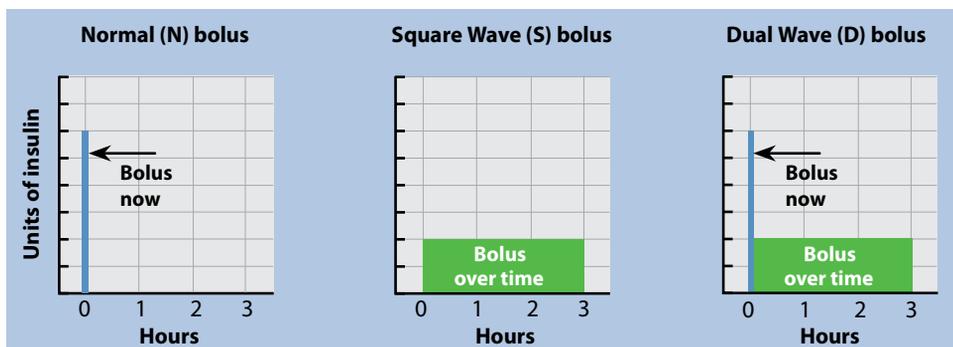
The following table provides general information about the available bolus types.

| Type | How it works | When to use it |
|--------|--|---|
| Normal | Provides a single immediate dose of insulin. | This is the typical bolus type you use to cover your food intake, or to correct a high BG meter reading. For details about using the Normal bolus feature, see <i>Normal bolus</i> , on page 75. |

| Type | How it works | When to use it |
|-------------------|---|--|
| Square Wave bolus | Delivers a single bolus evenly over an extended period of time (30 minutes to 8 hours). | <p>You might use a Square Wave bolus:</p> <ul style="list-style-type: none"> • If you have delayed food digestion due to gastroparesis or meals high in fat. • When snacking over an extended period of time. • If a Normal bolus drops your blood glucose too rapidly. <p>For details about using the Square Wave bolus feature, see <i>Square Wave bolus</i>, on page 78.</p> |
| Dual Wave bolus | Delivers a combination of an immediate Normal bolus followed by a Square Wave bolus. | <p>You might use a Dual Wave bolus:</p> <ul style="list-style-type: none"> • When you eat meals that are both high in carbs and fat which may delay digestion. • When your meal bolus is combined with a correction bolus for an elevated blood glucose. <p>For details about using a Dual Wave bolus, see <i>Dual Wave bolus</i>, on page 81.</p> |

Bolus type example

The following example shows how the different bolus types work.



Bolus delivery options

The following table describes the different ways you can deliver a bolus.

| Delivery method | Type of bolus available | How it works |
|----------------------|--|--|
| Bolus Wizard feature | Normal bolus, Square Wave bolus, Dual Wave bolus | <p>You enter your BG meter reading or your carbs you plan to eat, or both. Then the Bolus Wizard feature calculates an estimated bolus amount based on your individual settings.</p> <p>For details about using the Bolus Wizard feature, see <i>Bolus Wizard feature, on page 67</i>.</p> <p>To deliver a:</p> <ul style="list-style-type: none">• Normal bolus using the Bolus Wizard feature, see <i>Delivering a Normal bolus with the Bolus Wizard feature, on page 76</i>.• Square Wave bolus using the Bolus Wizard feature, see <i>Delivering a Square Wave bolus with the Bolus Wizard feature, on page 79</i>.• Dual Wave bolus using the Bolus Wizard feature, see <i>Delivering a Dual Wave bolus with the Bolus Wizard feature, on page 82</i>. |
| Manual | Normal bolus, Square Wave bolus, Dual Wave bolus | <p>You do your own calculation and manually enter your bolus amount.</p> <p>To deliver a:</p> <ul style="list-style-type: none">• Normal bolus, see <i>page 77</i>• Square Wave bolus, see <i>page 81</i>• Dual Wave bolus, see <i>page 84</i> |

| Delivery method | Type of bolus available | How it works |
|--------------------|--|---|
| Preset Bolus | Normal bolus, Square Wave bolus, Dual Wave bolus | <p>You select from specific bolus settings that you define ahead of time for recurring situations.</p> <p>For details about using the Preset Bolus feature, see <i>Preset Bolus</i>, on page 87.</p> |
| Easy Bolus feature | Normal bolus | <p>After the Easy Bolus feature is set up, you can deliver a Normal bolus by using the \wedge button when the pump is in sleep mode.</p> <p>For details about using the Easy Bolus feature, see <i>Easy Bolus feature</i>, on page 85.</p> |

Bolus settings

The following table describes some bolus settings that may need to be changed before you use your bolus options. Consult with your healthcare professional for the settings that are right for you.



Note: There are additional settings required if you want to use the Bolus Wizard feature. These are described in the section, *Bolus Wizard feature*, on page 67.

| Setting | What it is | What it does for you |
|-----------|---|--|
| Max Bolus | Maximum amount of bolus insulin (in units) your pump can deliver in a single bolus. | <p>Provides a safety measure by limiting the total amount of bolus insulin you can program for a single bolus delivery.</p> <p>For details about setting the max bolus amount, see <i>Max Bolus</i>, on page 65.</p> |

| Setting | What it is | What it does for you |
|-----------------|---|--|
| Bolus Increment | The amount of insulin (in units) that is increased or decreased with each button press when adjusting your bolus amount. The Bolus Wizard feature will also use the increment to display the bolus total and adjustment amounts. This setting does not apply to the Easy Bolus feature. | Allows you to set your increment value according to your typical bolus amounts. For details about setting the bolus increment, see <i>Bolus Increment</i> , on page 66. |
| Bolus Speed | The speed that your pump delivers your bolus insulin. | Allows you to set your bolus insulin delivery speed to Standard or Quick. For details about setting your bolus speed, see <i>Bolus Speed</i> , on page 66. |

Max Bolus

Max Bolus limits the amount of insulin that can be delivered in a single bolus. Your pump prevents single bolus insulin deliveries that exceed the max bolus you set. You can set your max bolus from 0 to 25 units. Set your max bolus as prescribed by your healthcare professional.

If you are setting your max bolus after you have set up your Preset Bolus deliveries, you cannot set your max bolus lower than any of your Preset Bolus amounts.

To set your max bolus:

1. Go to the Max Basal/Bolus screen.
Menu > Insulin Settings > Max Basal/Bolus
2. Select **Max Bolus**.
3. Because the Max Bolus setting determines your bolus insulin limit, a warning message appears any time you go to the screen to change the value. To continue to the Max Bolus screen, select **Continue**.

4. Select **Max Bolus**, and then set the maximum number of insulin units your pump can deliver in one bolus.
5. Select **Save**.

Bolus Increment

The Bolus Increment setting determines the number of units that are increased or decreased with each button press when you adjust your bolus delivery amount in the Bolus Wizard, Manual Bolus, and Preset Bolus screens. Depending on your typical bolus amount, you can set your increment to 0.1 units, 0.05 units, or 0.025 units.



Note: The Easy Bolus feature uses a setting called Step Size to determine the number of insulin units for each button press. See *Setting up the Easy Bolus feature*, on page 85 for more information.

To set your Bolus Increment:

1. Go to the Bolus Increment screen.
Menu > Insulin Settings > Bolus Increment
2. Select **Increment** to set your desired increment value.
3. Select **Save**.

Bolus Speed

Bolus Speed sets the rate at which your pump delivers bolus insulin. You can set a Standard rate (1.5 units per minute), or a Quick rate (15 units per minute).

To set your Bolus Speed:

1. Go to the Bolus Speed screen.
Menu > Insulin Settings > Bolus Speed
2. Select **Standard** or **Quick**.
3. Select **Save**.

Bolus Wizard feature

The Bolus Wizard feature uses your individual Bolus Wizard settings to calculate an estimated bolus amount based on the BG values and carbs that you enter. Work with your healthcare professional to define your personal settings, which include your carb or exchange ratio, insulin sensitivity, BG target range, and active insulin time.



Note: If you do not know how to count carbs, consult with your healthcare professional before using the Bolus Wizard feature.

After you set up the Bolus Wizard feature, you can use it to calculate and deliver a food bolus, a correction bolus, or a food plus correction bolus using a Normal bolus (see *Delivering a Normal bolus with the Bolus Wizard feature, on page 76*), Square Wave bolus (see *Delivering a Square Wave bolus with the Bolus Wizard feature, on page 79*), or Dual Wave bolus (see *Delivering a Dual Wave bolus with the Bolus Wizard feature, on page 82*).



WARNING: When using the Bolus Wizard feature, promptly respond to all screens that appear on your pump until delivery of the bolus has started. Do not deliver the bolus amount recommended by the Bolus Wizard feature if more than 12 minutes have passed since you took your BG meter reading. The recommended bolus amount was based on a BG value that is no longer current. Delivering the recommended bolus amount may result in over delivery of insulin. You may be at risk for hypoglycemia or hyperglycemia if an invalid BG value is used for bolus calculation. An inaccurate bolus calculation can lead to an over delivery of insulin up to your Max Bolus setting, which could be up to 25 U.

The following sections describe how to set up the Bolus Wizard feature. Bolus delivery instructions are provided in the individual sections for each bolus type.

Understanding your Bolus Wizard settings

Your pump guides you through entering the following settings when you first turn on the Bolus Wizard feature. Get your prescribed settings from your healthcare professional, and always consult your healthcare professional before changing your settings. The setup procedure begins on *page 69*.

| Setting | What it does |
|----------------------------|--|
| Carb Ratio | Used for food bolus calculations. |
| Exchange Ratio | <ul style="list-style-type: none">• <i>If you count carbs</i>: the number of carb grams that are covered by 1 unit of insulin.• <i>If you count exchanges</i>: the number of insulin units that are needed to cover 1 carb exchange. |
| Insulin Sensitivity Factor | Used to calculate correction bolus amounts. Your insulin sensitivity factor is the amount that blood glucose is reduced by one unit of insulin. |
| BG Target | The Bolus Wizard feature calculates your estimated bolus based on your BG target range. The high and low values you set are the values to which your blood glucose is corrected. To use a single target value rather than a range, set the same value for High and Low. If your BG value is above the high target value, a correction dose is calculated. If your BG value is below the low target value, a negative correction is calculated and subtracted from your food bolus. |
| Active Insulin Time | Active insulin is the bolus insulin that has been delivered by the pump and is still working to lower your blood glucose levels. Active insulin time is the length of time that bolus insulin is tracked as active insulin. Work with your healthcare professional to get the active insulin time that best represents the insulin type you use and your physiological insulin absorption rate. For more information about how the Bolus Wizard feature uses your active insulin amount, see <i>About active insulin</i> , on <i>page 74</i> . |

Setting up the Bolus Wizard feature

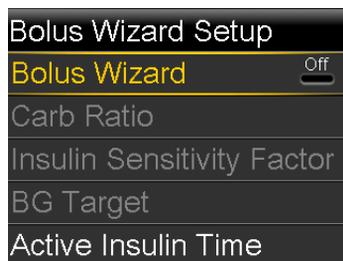
Before you can use the Bolus Wizard feature to calculate a bolus, you must turn on this feature and enter your Bolus Wizard settings.

To set up the Bolus Wizard feature:

1. Go to the Bolus Wizard Setup screen.

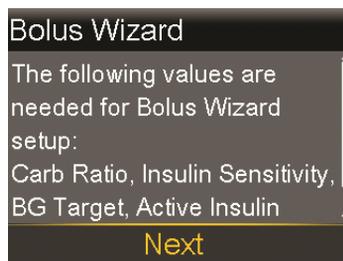
Menu > Insulin Settings > Bolus Wizard Setup

The Bolus Wizard Setup screen appears with the Bolus Wizard turned off.



2. Select **Bolus Wizard** to turn on the feature.

If this is the first time you have turned on the Bolus Wizard feature, your pump displays information about the settings you need to enter.



Make sure you have the values you need, and then select **Next** to continue.



Note: As you enter your personal settings, your pump displays information about each setting. Click **Next** to continue when you have read each explanation.

- When the Edit Carb Ratio screen appears, enter your carb ratio. If you are setting a carb ratio, set the grams per unit (g/U). If you are setting an exchange ratio, set the units per exchange (U/exch). You can set up to eight carb ratios using different time segments. The time segments must cover a 24-hour period.

| Edit Carb Ratio 1/4 | | |
|---------------------|-------|-----|
| Start | End | g/U |
| 00:00 | 24:00 | --- |



Note: Your pump uses grams as the default carb unit. If you would like to change your carb unit to exchanges, see *Carb Unit, on page 139*.

If your ratio value is outside the range of 5 to 50 grams per unit or 0.3 to 3 units per exchange, a message appears asking you to confirm your setting.

- When the Edit Sensitivity screen appears, enter your insulin sensitivity factor. You can set up to eight different sensitivity factors using different time segments. The time segments must cover a 24-hour period.

| Edit Sensitivity 2/4 | | |
|----------------------|-------|-------------|
| Start | End | mg/dL per U |
| 00:00 | 24:00 | --- |

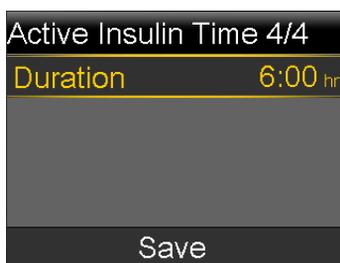
If the value you enter is outside the range of 20 to 100 mg/dL, a message appears asking you to confirm your setting.

- When the Edit BG Target screen appears, enter your Bolus Wizard BG target range. You can set up to eight different BG target ranges using different time segments. The time segments must cover a 24-hour period.



If your BG target is outside the range of 90 to 140 mg/dL, a message appears asking you to confirm your setting.

- When the Active Insulin Time screen appears, enter your active insulin time value.



- Select **Save**.

A message appears letting you know the Bolus Wizard setup is complete.

You can now use the Bolus Wizard feature to calculate a bolus.

Changing your Bolus Wizard settings

This section shows you how to make changes to your personal settings after you initially set up the Bolus Wizard feature. These settings are available only if the Bolus Wizard feature is turned on.

Changing your carb or exchange ratio

You can change either your carb ratio or exchange ratio setting, depending on whether you use grams or exchanges as your carb unit. The carb ratio and exchange ratio settings are available only if the Bolus Wizard feature is turned on.



Note: Your pump uses grams as the default carb unit. If you would like to change your carb unit to exchanges, see *Carb Unit*, on page 139.

To change your carb or exchange ratio:

1. Go to the Carb Ratio screen or the Exchange Ratio screen, depending on the carb units you use.

Menu > Insulin Settings > Bolus Wizard Setup > Carb Ratio

or

Menu > Insulin Settings > Bolus Wizard Setup > Exchange Ratio

2. Select **Edit**.
3. Select the carb or exchange ratio to adjust the Start time, the End time, and the ratio. You can set up to eight different carb or exchange ratios using different time segments. The time segments must cover a 24-hour period.
If you set a value outside the typical range of 5 to 50 grams per unit or 0.3 to 3 units per exchange, a message appears asking you to confirm your setting.
4. When you have made your changes, select **Save**.

Changing your insulin sensitivity factor

The Insulin Sensitivity Factor option is only available if the Bolus Wizard feature is turned on.

To change your insulin sensitivity factor:

1. Go to the Sensitivity screen.
Menu > Insulin Settings > Bolus Wizard Setup > Insulin Sensitivity Factor
2. Select **Edit**.
3. Select the sensitivity factor to adjust the Start time, the End time, and the Sensitivity amount. You can set up to eight different sensitivity amounts using different time segments. The time segments must cover a 24-hour period.
If you set a value that is outside the typical range of 20 to 100 mg/dL per unit, a message appears asking you to confirm your setting.
4. When you have made your changes, select **Save**.

Changing your Bolus Wizard BG target

Your target range can be from 60 to 250 mg/dL. The Bolus Wizard BG Target option is only available if the Bolus Wizard feature is turned on.

To change your Bolus Wizard BG target range:

1. Go to the BG Target screen.
Menu > Insulin Settings > Bolus Wizard Setup > BG Target
2. Select **Edit**.
3. Select the BG target to adjust the Start time, the End time, and the Lo (low) and Hi (high) BG Target values. Your high value cannot be less than your low value. You can set up to eight different values using different time segments. The time segments must cover a 24-hour period.

If your BG target is outside the typical range of 90 to 140 mg/dL, a message appears asking you to confirm your setting.
4. When you have made your changes, select **Save**.

Changing your Active Insulin Time

The active insulin time setting lets the pump know which active insulin time to use in calculating the amount of active insulin to subtract before estimating a bolus. Your healthcare professional will prescribe the active insulin time that is best for you.

To change your active insulin time:

1. Go to the Active Insulin Time screen.
Menu > Insulin Settings > Bolus Wizard Setup > Active Insulin Time
2. Select **Duration**, then adjust your active insulin time (in hours), using 15-minute increments.
3. Select **Save**.

Turning off the Bolus Wizard feature

You can turn off the Bolus Wizard feature at any time. Your Bolus Wizard settings remain in your pump. When the Bolus Wizard feature is turned off, the Bolus Wizard option does not appear in the Bolus Menu, and you cannot edit your Carb Ratio, Insulin Sensitivity Factor, or BG Target settings from the Bolus Wizard Setup screen.

To turn off the Bolus Wizard feature:

1. Go to the Bolus Wizard Setup screen.

2. Select **Bolus Wizard** to turn the feature off.

About active insulin

Active insulin is the bolus insulin that has already been delivered to your body, and is still working to lower your blood glucose levels. The pump considers your active insulin time setting in determining if any active insulin is still in your body from prior boluses. This may help prevent hypoglycemia caused by over-correcting for high blood glucose.

Your current active insulin amount displays on the Home screen, and includes only the bolus insulin you have already received.

When you are using the Bolus Wizard feature, the Bolus Wizard calculator uses your current active insulin value to determine if there is an active insulin adjustment needed. The active insulin adjustment calculation considers both the bolus insulin that has already been delivered (the amount shown on the Home screen), as well as any insulin that is going to be delivered by an active Square Wave bolus.



WARNING: Do not use the Bolus Wizard feature to calculate a bolus for a period of time after giving a manual injection of insulin by syringe or pen. Manual injections are not accounted for in the active insulin amount. Therefore, the Bolus Wizard feature could prompt you to deliver more insulin than needed. Too much insulin can cause hypoglycemia. Consult with your healthcare professional for how long you need to wait after a manual injection of insulin before you can rely on the active insulin calculation of your Bolus Wizard feature.

Bolus Wizard warnings

When you use the Bolus Wizard feature, there may be times when you see one of the following:

| Warning: | What it means: | What to do: |
|--------------------|--|---|
| High BG | Your BG meter reading is above 250 mg/dL. | <ul style="list-style-type: none"> • Check for an occlusion. • Check ketones. • Consider an insulin injection. • Monitor your BG. |
| Low BG | Your BG meter reading is below 70 mg/dL. | Treat your low BG. Do not give yourself a bolus until your BG returns to normal. |
| Max Bolus exceeded | The bolus amount entered exceeds your Max Bolus setting. | <p>Check the bolus amount. Select No to cancel, or Yes to continue. If you select Yes, the bolus amount that you entered is reduced to your max bolus limit.</p> <p>Let your healthcare professional know if you routinely receive the Max Bolus exceeded warning so that they can adjust your pump settings.</p> |



WARNING: If you receive a High BG, Low BG, or Max Bolus exceeded warning, respond to the alert immediately. Do not deliver the recommended bolus amount if you respond to the alert after 12 minutes. The recommended bolus amount was based on a BG value that is no longer current. Delivering this recommended bolus amount may result in over delivery of insulin. You may be at risk for hypoglycemia or hyperglycemia if an invalid BG value is used for bolus calculation. An inaccurate bolus calculation can lead to an over delivery of insulin up to your Max Bolus setting, which could be up to 25 U.

Normal bolus

A Normal bolus provides a single immediate dose of insulin. You use a Normal bolus to cover your food intake or to correct a high BG meter reading.

You cannot access the Reservoir & Tubing, Insulin Settings, or Sensor Settings menu options during a Normal bolus delivery.



Note: Your pump allows you to deliver a Normal bolus while a Square Wave bolus or the Square portion of a Dual Wave bolus is being delivered.

Delivering a Normal bolus with the Bolus Wizard feature

To deliver a Normal bolus using the Bolus Wizard feature:

1. For a correction bolus or a food bolus with a correction, use your BG meter to check your blood glucose. For a food bolus only, skip this step.
2. Go to the Bolus Wizard screen.

Home screen > Bolus > Bolus Wizard

If you entered your BG reading into your pump within the last 12 minutes, your BG reading appears when you open the Bolus Wizard.

If there is a value for Active Ins. adjust., this means you have active insulin and the Bolus Wizard has subtracted this amount from your correction bolus. For more information about active insulin, see *About active insulin, on page 74*.

| | |
|---------------------|-------|
| Bolus Wizard | 09:02 |
| BG 130 mg/dL | 0.3 U |
| Active Ins. adjust. | 0.0 U |
| Carbs 0 g | 0.0 U |
| Bolus | 0.3 U |
| Next | |

3. You can select **BG** to enter your BG reading.



Note: If you choose not to enter a BG value, three dashes appear on the screen in place of the BG value.

4. For a food bolus, select **Carbs** to enter the carb count of your meal. For a correction bolus where no food was eaten, leave the Carbs value at 0.

- Your calculated bolus appears in the Bolus field.

| Bolus Wizard | | 09:02 |
|---------------------|----------------------|------------------|
| BG | 130 _{mg/dL} | 0.3 _U |
| Active Ins. adjust. | | 0.0 _U |
| Carbs | 35 _g | 2.3 _U |
| Bolus | | 2.6 _U |
| Next | | |

If you want to change the bolus amount, select **Bolus** and make any desired adjustment. If you change your bolus amount, the word “Modified” appears next to the new bolus amount.

- Select **Next** to review your bolus information.

Your bolus amount appears.



Note: If you modified your bolus amount in the previous step, **Bolus Calculated** displays your original bolus amount, **Modification** displays the amount you added or subtracted from your bolus, and **Bolus** displays the actual bolus amount.

| Bolus Wizard | | 09:03 |
|---------------|--|------------------|
| Bolus | | 2.6 _U |
| Deliver Bolus | | |

- Select **Deliver Bolus** to start your bolus.

Your pump beeps or vibrates and displays a message when your bolus starts. The Home screen shows your bolus amount as it is being delivered. Your pump beeps or vibrates when your bolus is complete.

Delivering a Normal bolus using Manual Bolus

The following section describes how to deliver a Normal bolus using the Manual Bolus feature.

To deliver a Normal bolus using Manual Bolus:

1. Go to the **Manual Bolus** screen.

Home screen > Bolus > Manual Bolus



Note: If the Bolus Wizard feature is turned off, the Manual Bolus screen appears when you select Bolus.



If you entered your BG reading into your pump within the last 12 minutes, your BG reading appears.

2. Select **Bolus** to set your bolus delivery amount (in units).
3. Select **Deliver Bolus** to start your bolus.

Your pump beeps or vibrates and displays a message when your bolus starts. The Home screen shows your bolus amount as it is being delivered. Your pump beeps or vibrates when your bolus is complete.

Square Wave bolus

A Square Wave bolus delivers a bolus evenly over a period of time (30 minutes to 8 hours).

When using the Bolus Wizard feature, a Square Wave bolus is available only when giving a food bolus without a correction for an elevated BG. A Square Wave bolus is not available for a correction bolus alone, or a correction bolus with food bolus.

A Square Wave bolus can be useful in these situations:

- If you have delayed food digestion due to gastroparesis or meals high in fat.
- When you are snacking over an extended period of time.
- If a Normal bolus drops your blood glucose too rapidly.

Since the Square Wave bolus extends delivery over a period of time, the insulin is more likely to be available as you need it.



Note: You cannot perform these functions during a Square Wave bolus delivery:

- Change the Max Bolus or the Active Insulin Time settings.
- Turn off or deliver Dual Wave or Square Wave boluses.
- Turn the Bolus Wizard feature on or off.
- Fill the cannula.
- Rewind your pump.
- Run a Self Test.
- Access the Manage Settings menu.

All other functions are available during the Square Wave bolus.

Turning on or off Square Wave bolus

The Square Wave bolus delivery option is available only after you turn on the Square Wave feature.

To turn on or turn off the Square Wave feature:

1. Go to the Dual/Square screen.
Menu > Insulin Settings > Dual/Square Wave
2. Select **Square Wave** to turn the feature on or off.
3. Select **Save**.

Delivering a Square Wave bolus with the Bolus Wizard feature

The Square Wave bolus option is available in the Bolus Wizard feature only after you turn on the Square Wave feature. Also, you must have entered a Carbs value.

To deliver a Square Wave bolus with the Bolus Wizard feature:

1. Go to the Bolus Wizard screen.
Home screen > Bolus > Bolus Wizard

If you entered your BG reading into your pump within the last 12 minutes, your BG reading appears when you open the Bolus Wizard.

If there is a value for Active Ins. adjust., this means you have active insulin and the Bolus Wizard has subtracted this amount from your correction bolus. For more information about active insulin, see *About active insulin, on page 74*.



Note: Be aware that if you already have the Bolus Wizard feature open prior to wirelessly sending your BG meter reading to your pump, you must close the Bolus Wizard feature and open it again, in order for that reading to appear.

2. You can select **BG** to enter your BG value.



Note: If you choose not to enter a BG meter reading, three dashes appear on the screen instead.

3. Select **Carbs** to enter the amount of carbs in your food.
4. Review your calculated bolus amount in the Bolus field. If you want to change the bolus amount, select **Bolus** and make your desired change. Remember, if there is a correction bolus amount calculated, you are not able to give a Square Wave bolus.



Note: If you change your bolus amount, the word “Modified” appears next to the new bolus amount.

5. Select **Next** to review your bolus information.
6. Select **Square**.
The Bolus Wizard screen appears with your bolus amounts.
7. To change the time period over which your bolus is delivered, select **Duration** to adjust the time. The duration can be from 30 minutes to 8 hours, in 15 minute increments.
8. Select **Deliver Bolus** to start your bolus.

During a Square Wave bolus delivery, the **Bolus** button on your Home screen appears as Bolus (S). You can select **Bolus (S)** to stop the bolus, to see details on the insulin that has been delivered, or to access the Bolus menu. The Bolus menu provides access to the Bolus Wizard, Manual Bolus, Preset Bolus, and Insulin Settings options.

Delivering a Square Wave bolus using Manual Bolus

The Square Wave bolus option is available in the Manual Bolus screen only after you turn on the Square Wave feature.

To deliver a Square Wave bolus manually:

1. Go to the Manual Bolus screen.
Home screen > Bolus > Manual Bolus
2. Set your bolus delivery amount (in units), and then select **Next**.
3. Select **Square**.
4. Select **Duration** and set the amount of time over which you want your Square Wave bolus to be delivered. The duration can be from 30 minutes to 8 hours, and is set in 15-minute increments.
5. Select **Deliver Bolus** to start your bolus.

During a Square Wave bolus delivery, the **Bolus** button on your Home screen appears as Bolus (S). You can select **Bolus (S)** to stop the bolus, to see details on the insulin that has been delivered, or to access the Bolus menu. The Bolus menu provides access to the Bolus Wizard, Manual Bolus, Preset Bolus, and Insulin Settings options.

Dual Wave bolus

The Dual Wave bolus feature meets both immediate and extended insulin needs by delivering a combination of an immediate Normal bolus followed by a Square Wave bolus.

A Dual Wave bolus can be useful in these situations:

- When you need to correct elevated blood glucose before a meal, and you also need a delayed bolus for food that is absorbed slowly.

- When you eat meals with mixed nutrients, such as carbs, fats and proteins, that are absorbed at different rates.

Turning on or off Dual Wave bolus

The Dual Wave bolus delivery option is available only after you turn on the Dual Wave feature.

To turn on or turn off the Dual Wave feature:

1. Go to the Dual/Square screen.
Menu > Insulin Settings > Dual/Square Wave
2. Select **Dual Wave** to turn the feature on or off.
3. Select **Save**.

Delivering a Dual Wave bolus with the Bolus Wizard feature

The Dual Wave bolus option is available in the Bolus Wizard feature only after you turn on the Dual Wave feature.

To deliver a Dual Wave bolus with the Bolus Wizard feature:

1. For a correction bolus or a food bolus with a correction, use your BG meter to check your blood glucose. For a food bolus only, skip this step.
2. Go to the Bolus Wizard screen.
Home screen > Bolus > Bolus Wizard

If you entered your BG reading into your pump within the last 12 minutes, your BG reading appears when you open the Bolus Wizard feature.

If there is a value for Active Ins. adjust., this means you have active insulin and the Bolus Wizard feature has subtracted this amount from your correction bolus. For more information about active insulin, see *About active insulin, on page 74*.

3. You can select **BG** to manually enter your BG value.



Note: If you choose not to enter a BG value, three dashes appear on the screen in place of the BG value.

- For a food bolus, select **Carbs** to enter the carb count of your meal. For a correction bolus where no food was eaten, leave the Carbs value as 0.
- Review your calculated Bolus amount. If you want to change the amount, select **Bolus** and make your desired change.



Note: If you change your bolus amount, the word “Modified” appears next to the new bolus amount.

- Select **Next** to review your bolus information.
- Select **Dual**.

The Bolus Wizard screen appears, with the food amount split evenly between the Now and Square portions.

- If you need to change the amounts, select the area of the screen with the Now value and adjust the **Now** amount.

When you adjust the Now amount, the Square amount adjusts automatically.

| Bolus Wizard | | 09:05 |
|----------------------|------|---------|
| Bolus | | 2.6 U |
| Now | 27 % | 0.7 U |
| Square | 73 % | 1.9 U |
| Duration | | 3:00 hr |
| Deliver Bolus | | |

- Adjust the **Duration** over which you want the Square Wave bolus portion to be delivered. The duration can be from 30 minutes to 8 hours.
- Select **Deliver Bolus** to start your bolus.

During a Dual Wave bolus delivery, the Home screen shows the progress of the Now portion of your delivery. When the Now portion is complete, the **Bolus** button on your Home screen appears as Bolus (D). You can select **Bolus (D)** to stop the bolus, to see details on the amount of bolus insulin delivered, or to access the Bolus menu. The Bolus menu provides access to the Bolus Wizard, Manual Bolus, Preset Bolus, and Insulin Settings options.

Delivering a Dual Wave Bolus using Manual Bolus

The Dual Wave bolus option is available in the Manual Bolus screen only after you turn on the Dual Wave feature.

To deliver a Dual Wave bolus using Manual Bolus:

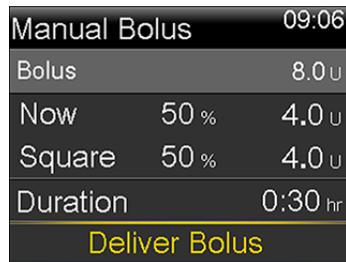
1. Go to the Manual Bolus screen.

Home screen > Bolus > Manual Bolus

The Manual Bolus screen appears.

2. Set your bolus delivery amount (in units), and then select **Next**.
3. Select **Dual**.

The Manual Bolus screen appears, with the Now and Square portions split evenly.



| | | |
|----------------------|------|---------|
| Manual Bolus | | 09:06 |
| Bolus | | 8.0 U |
| Now | 50 % | 4.0 U |
| Square | 50 % | 4.0 U |
| Duration | | 0:30 hr |
| Deliver Bolus | | |

4. If you need to change the amounts, select the area of the screen with the Now value and adjust the **Now** amount. When you adjust the Now amount, the Square amount adjusts automatically.
5. Adjust the **Duration** over which you want the Square Wave bolus portion to be delivered. The duration can be from 30 minutes to 8 hours.
6. Select **Deliver Bolus** to start your bolus.

During a Dual Wave bolus delivery, the Home screen shows the progress of the Now portion of your delivery. When the Now portion is complete, the **Bolus** button on your Home screen appears as Bolus (D). You can select **Bolus (D)** to stop the bolus, to see details on the amount of bolus insulin delivered, or to access the Bolus menu. The Bolus menu provides access to the Bolus Wizard, Manual Bolus, Preset Bolus, and Insulin Settings options.

Easy Bolus feature

The Easy Bolus feature allows you to quickly deliver a Normal bolus using only the \wedge button. Your pump must be in sleep mode to use the Easy Bolus feature.

Before using the Easy Bolus feature, you must turn on the feature and set the step size. The step size determines the number of units the bolus amount increases each time you press the \wedge button. Your Easy Bolus delivery is limited to 20 steps or your max bolus limit, whichever comes first.

To help you count your Easy Bolus steps, each time you press the \wedge button, your pump makes a different tone. There are five different tones that repeat in a sequence for every five steps you use.

Setting up the Easy Bolus feature

The Easy Bolus option is available only after you turn on the feature.

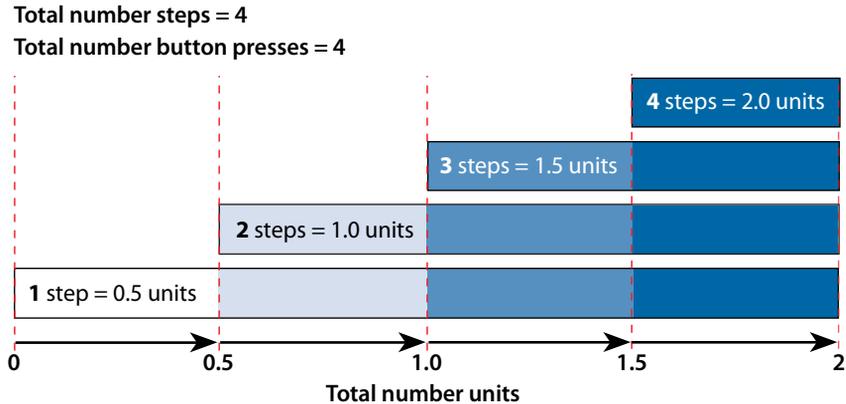
To set up the Easy Bolus feature:

1. Go to the Easy Bolus screen.
Menu > Insulin Settings > Easy Bolus
2. Select **Easy Bolus** to turn on the feature.
3. Set the **Step Size** amount (in units). You can set the step size from 0.1 to 2.0 units. Your step size cannot be higher than your max bolus.
4. Select **Save**.

Understanding Easy Bolus step sizes

When setting up the Easy Bolus feature, you can set the step size from 0.1 to 2.0 units. Your step size cannot be higher than your max bolus. Set the step size to a number that makes it easy for you to calculate your bolus amount.

The following example shows how your bolus amount is increased with each step, or each press of the \wedge button when using the Easy Bolus feature to deliver a bolus. In this example, the step size is 0.5 units. For a delivery of 2.0 units, you would need four steps, or press the \wedge button four times when using the Easy Bolus feature.



Delivering a bolus using the Easy Bolus feature

Initially you should use the Easy Bolus feature while looking at the pump screen as you count the tones or vibrations.



WARNING: Do not rely solely on the audio or vibration notifications when using Audio or Vibrate. These notifications may not occur as expected if the speaker or vibrator in your pump malfunctions. A missed notification could result in the delivery of too much or too little insulin. This is most common when using the Easy Bolus feature, or when your pump is in Manual Suspend.

Contact the 24 Hour Support Line with any concerns.

To use the Easy Bolus feature, you need to put your pump into sleep mode by pressing and holding the **Menu** button  for about two seconds.

To deliver a bolus using the Easy Bolus feature:

1. While your pump screen is in sleep mode, press and hold \wedge for about one second. After your pump beeps or vibrates, release \wedge . You can now start programming your bolus with the Easy Bolus feature.



Note: If your pump does not respond when you press \wedge , it may not be in sleep mode, even if the screen is dark.

2. Press \wedge the number of times needed to set your bolus amount.

Each time you press \wedge , your pump sounds a tone or vibrates, and your bolus amount increases by the number of units set for the step size.



Note: You cannot use \vee to select the Easy Bolus values. Pressing \vee cancels the Easy Bolus delivery.

3. When you have reached the desired bolus amount, press and hold \wedge to confirm the amount. You should hear a confirmation tone or feel a vibration for each button press. Count to ensure the amount is correct. If the amount is not correct, press and hold \vee until you hear a tone, and then start again from step 1.
4. When the bolus amount is confirmed, press and hold \wedge for about one second to deliver your bolus. Your pump beeps or vibrates. Your bolus starts immediately after the confirmation.



Note: If you do not start your bolus within 10 seconds, your Easy Bolus delivery is cancelled, and you receive a message letting you know that your bolus was not delivered.

Preset Bolus

The Preset Bolus feature allows you to set up in advance bolus deliveries you expect to use frequently. There are four Preset Bolus names that allow you to match a bolus to a meal with a known carb content: Breakfast, Lunch, Dinner, and Snack. There are four additional Preset Bolus names that can be set for other circumstances (Bolus 1 through Bolus 4).



Note: To set up a Dual Wave bolus or Square Wave bolus, the Dual Wave bolus or Square Wave bolus feature must be turned on.

Setting up and managing Preset Bolus deliveries

To set up Preset Bolus amounts:

1. Go to the Preset Bolus Setup screen.
Menu > Insulin Settings > Preset Bolus Setup
The Preset Bolus Setup screen appears, showing any existing Preset Bolus settings.
2. Select **Add New**.
The Select Name screen appears with the available Preset Bolus names.
3. Select the Preset Bolus you want to set.
The Edit screen for that particular Preset Bolus appears.
4. Select **Bolus** to set the bolus amount.
5. Select **Type** to set this as a Normal bolus, Square Wave bolus, or Dual Wave bolus.



Note: The **Type** field appears only when you have the Dual Wave bolus or Square Wave bolus features turned on.

If you set the type to Square Wave or Dual Wave, additional settings appear.

6. If you are setting up a Square Wave bolus or Dual Wave bolus, do the following:
 - For a Square Wave bolus, set the **Duration** of time for the bolus delivery.
 - For a Dual Wave bolus, adjust the **Now/Square** percentages as needed, then set the **Duration** of time for the Square Wave portion of the bolus.



Note: If you later turn off the Dual Wave feature or Square Wave feature, your existing Preset Bolus settings are still available for use.

7. Select **Save**.

Editing, renaming, or deleting a Preset Bolus

You cannot delete, rename, or edit a Preset Bolus while it is delivering.



Note: You cannot edit a Dual Wave or Square Wave Preset Bolus when the Dual Wave bolus or Square Wave bolus feature is turned off. You can, however, rename or delete a Dual Wave or Square Wave Preset Bolus when the features are turned off.

To edit, rename, or delete a Preset Bolus:

1. Go to the Preset Bolus Setup screen.

Menu > Insulin Settings > Preset Bolus Setup

The Preset Bolus Setup screen appears, showing any existing Preset Bolus settings.

2. Select the desired Preset Bolus.
3. Select **Options**.
4. Do one of the following:
 - Select **Edit** to adjust the Bolus value and Type, if applicable. If you change to a Square Wave bolus, you need to enter the Duration. If you change to a Dual Wave bolus, you need to enter the Now and Square amounts, and the Duration.
 - Select **Rename** to assign a different name to this Preset Bolus. When the Select Name screen appears, you can select any available name from the list.
 - Select **Delete** to delete this Preset Bolus.

Delivering a Preset Bolus

Follow these steps to deliver a Preset Bolus. You must set up Preset Bolus deliveries before you can use the Preset Bolus feature. For more information, see *Setting up and managing Preset Bolus deliveries, on page 88*.

To deliver a Preset Bolus:

1. Go to the Home screen.
2. Select **Bolus**.
The Bolus screen appears.
3. Select **Preset Bolus**.

The existing preset bolus settings appear, showing your current BG value (if applicable) and any insulin that is still active from previous boluses. For more information about active insulin, see *About active insulin, on page 74*.

4. Select the Preset Bolus you want to deliver.
5. Verify your bolus amounts, and then select **Deliver Bolus**.

Your pump beeps or vibrates and displays a message when your bolus starts.

Stopping a bolus delivery

The following procedures describe how to stop a Normal bolus or a Dual Wave bolus during the Now portion delivery, and how to stop a Square Wave bolus or a Dual Wave bolus during the Square portion delivery.



Note: This procedure describes how to stop a bolus that is in progress. It does not stop your basal insulin delivery. If you need to stop all insulin delivery, use the Suspend Delivery feature (Menu > Suspend Delivery).

To stop a Normal bolus delivery or the Now portion of a Dual Wave bolus delivery:

1. While your pump is delivering your Normal bolus or the Now portion of a Dual Wave bolus, select **Stop Bolus** from the Home screen.



2. To stop your bolus, select **Yes** to confirm.



Note: If you are delivering a Normal bolus and a Square Wave bolus at the same time, or a Normal bolus and the Square portion of a Dual Wave bolus at the same time, both boluses are stopped.

The Bolus Stopped screen appears and shows the amount of bolus delivered, and the original bolus amount you set up.

To stop a Square Wave bolus delivery or the Square portion of a Dual Wave bolus delivery:

1. Select **Bolus (S)** or **Bolus (D)** from the Home screen.
2. Select **Stop Bolus**.
3. To stop your bolus, select **Yes** to confirm.



Note: If you are delivering a Normal bolus and a Square Wave bolus at the same time, or a Normal bolus and the Square portion of a Dual Wave bolus at the same time, both boluses are stopped.

The Bolus Stopped screen appears and shows the amount of bolus delivered, and the original bolus amount you set up.

■ Reservoir and infusion set

5

5 Reservoir and infusion set

Setting up the reservoir and infusion set

When you are ready to use your pump with insulin, make sure the time and date are correct on your pump. For details on changing the time and date on your pump, see *Time and date, on page 146*. You must also program your settings as instructed by your healthcare professional.

You will need these items:

- MiniMed 620G insulin pump
- Vial of insulin (U-100)
- MiniMed reservoir
- MiniMed-compatible infusion set and its user guide



WARNING: Clear the active insulin value before using your pump to deliver insulin. If you have practiced giving boluses on your pump before using insulin, the active insulin value could be inaccurate. This could result in inaccurate insulin delivery, and serious injury. For details, see *Clearing your active insulin, on page 142*.

Removing the reservoir

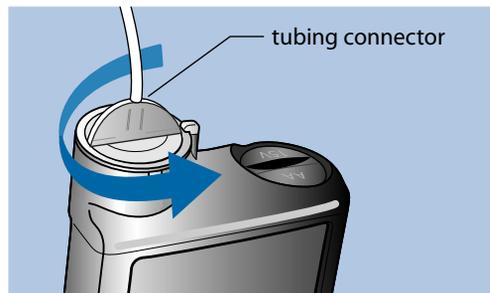
If this is the first time you are inserting a reservoir into your pump and you do not currently have a reservoir loaded, skip to *Rewinding your pump, on page 96*.



WARNING: Always make sure the infusion set is disconnected from your body before you remove the reservoir from your pump. Removing the reservoir from your pump with the infusion set still connected to your body could result in an accidental infusion of insulin, which can cause hypoglycemia.

To remove your reservoir:

1. Wash your hands.
2. Remove the entire infusion set from your body.
3. If you have the optional activity guard attached to the reservoir compartment on your pump, remove it now.
4. Turn the tubing connector a half-turn counter-clockwise, then pull the reservoir and connector out from the pump.



5. Dispose of the used reservoir and infusion set according to local regulations.

Rewinding your pump

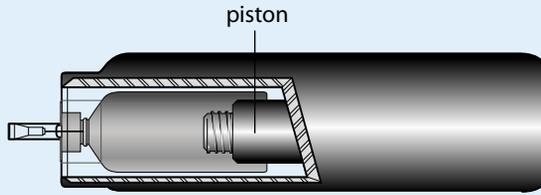


WARNING: Always make sure the infusion set is disconnected from your body before you rewind your pump or fill the infusion set tubing. Never insert the reservoir into the pump while the tubing is connected to your body. Doing so could result in an accidental infusion of insulin, which can cause hypoglycemia.

When you rewind your pump, the piston in the reservoir compartment returns to its starting position and allows a new reservoir to be placed into the pump.



Note: The piston is located in the reservoir compartment of your pump. It engages the reservoir and pushes insulin through the tubing.



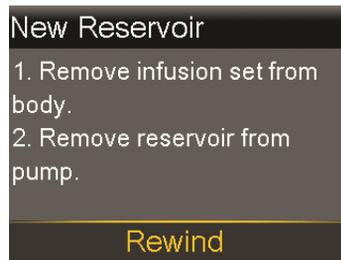
To rewind your pump:

1. Go to the New Reservoir screen.

Menu > Reservoir & Tubing > New Reservoir

The New Reservoir screen appears.

If you have not yet removed the infusion set and reservoir, do so now.



2. Select **Rewind**.

The piston in the reservoir compartment of your pump returns to its starting position. This may take several seconds. During this process, a "Rewinding" message appears.

Another message appears to let you know that your pump has finished rewinding, and then the New Reservoir screen appears.

New Reservoir

1. Fill reservoir.
2. Connect tubing to reservoir.

DO NOT CONNECT TO BODY.

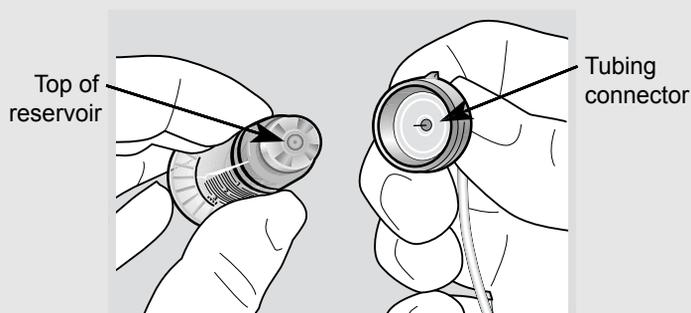
Next

3. Follow the instructions in the next section to fill your reservoir.

Filling the reservoir



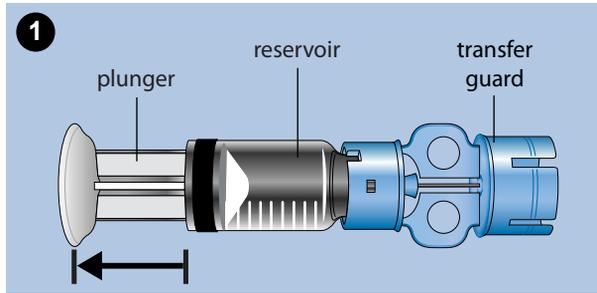
WARNING: Do not use the reservoir or infusion set if any liquid gets on the top of the reservoir or inside the tubing connector (as shown in the image). Liquid can temporarily block the vents. This may result in the delivery of too little or too much insulin, which can cause hyperglycemia or hypoglycemia. If any liquid gets on the top of the reservoir or inside the tubing connector, start over with a new reservoir and infusion set.



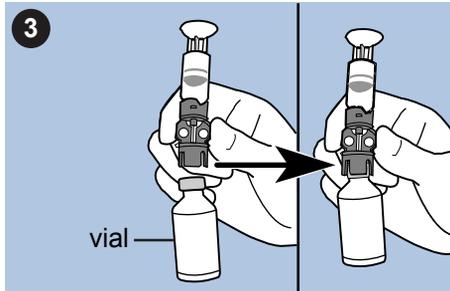
WARNING: Always allow your insulin to reach room temperature before use. Cold insulin can cause air bubbles in the reservoir and tubing, which may result in inaccurate insulin delivery.

To fill the reservoir, do these steps:

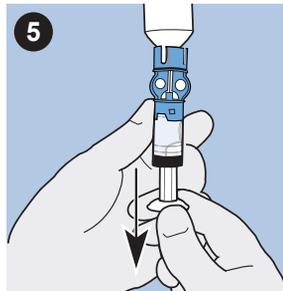
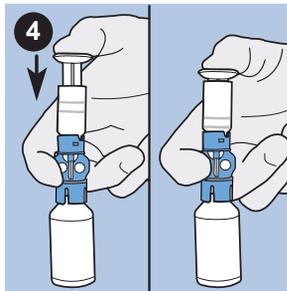
1. Remove the reservoir from the package, and fully extend the plunger.



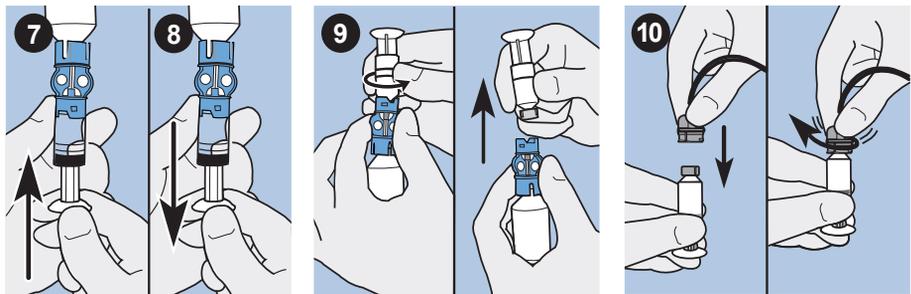
2. Swab the vial with alcohol (not shown).
3. Press the transfer guard onto the vial without pushing down on the plunger.



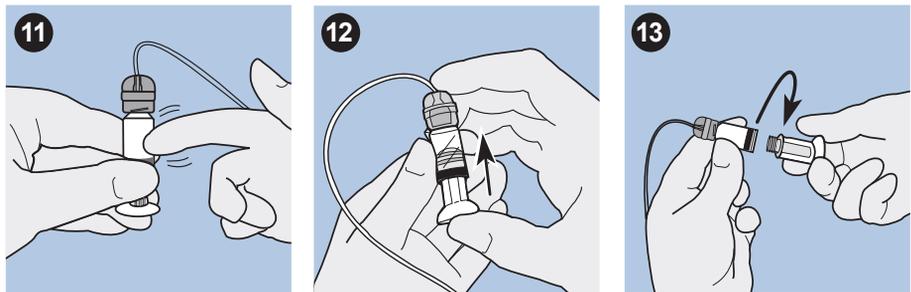
4. Push down on the plunger to pressurize the vial. Hold down the plunger rod.
5. While still holding down the plunger rod, flip the vial over so the vial is on top. Slowly pull down on the plunger to fill the reservoir.
6. Gently tap the side of the reservoir to make any air bubbles rise to the top of the reservoir.



7. Slowly push up on the plunger just enough to remove any air bubbles from the reservoir.
8. Slowly pull down on the plunger to fill the reservoir to the number of units desired.
9. To avoid getting liquid on the top of the reservoir, flip the vial over so that it is upright. Turn the reservoir counter-clockwise, then pull straight up to remove the reservoir from the transfer guard.
10. Place the tubing connector onto the reservoir. Turn the connector clockwise, pressing gently against the reservoir until you feel it slide in. Push in and continue turning until the reservoir and the connector lock with a click.



11. Tap the side of the reservoir to remove any air bubbles.
12. To purge air bubbles that have risen to the top of the reservoir, push up on the plunger until you see insulin in the tubing.
13. Without pulling, turn the plunger counter-clockwise to remove it from the reservoir.



14. Select **Next** from the New Reservoir screen.



The New Reservoir screen now instructs you to place the reservoir in your pump.



Note: If the New Reservoir screen has timed out and the Home screen appears, select **Load Reservoir** from the Home screen.

15. Follow the instructions in the next section to insert the reservoir into the reservoir compartment of your pump immediately after filling it.

Inserting the reservoir into your pump

Be sure to perform the following steps in the order they are presented.



WARNING: Do not insert the reservoir into your pump until you have been instructed to do so by your healthcare professional, and have received formal training with a certified product trainer. Attempting to use insulin in your pump before you have received training may result in the delivery of too little or too much insulin, which can cause hyperglycemia or hypoglycemia.

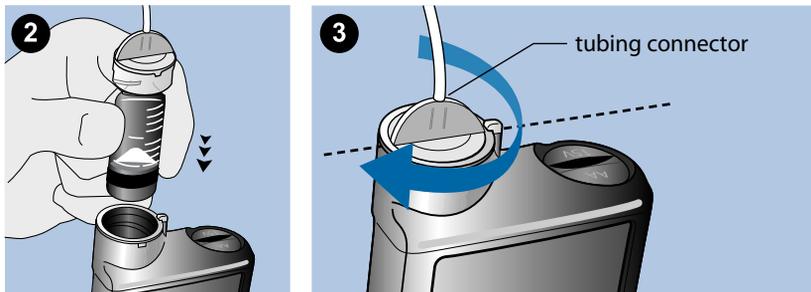


WARNING: Always rewind your pump before inserting a new reservoir. Failing to rewind your pump could result in an accidental infusion of insulin, which can cause hypoglycemia.

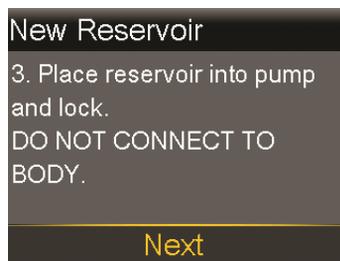
Never insert the reservoir into the pump while the tubing is connected to your body. Doing so could result in an accidental infusion of insulin, which can cause hypoglycemia.

To insert the reservoir into your pump:

1. If you are using the pump for the first time, remove the shipping cap from the reservoir compartment.
2. Rewind your pump if you have not yet done so. See *Rewinding your pump*, on page 96 for more information.
3. Insert the reservoir into the top of the reservoir compartment.
4. Turn the tubing connector approximately a half-turn clockwise until the connector is locked. The tubing connector should be aligned horizontally with the pump case as shown in the following example.



5. Your pump should be displaying the New Reservoir screen shown in the following example. Select **Next** to continue.





Note: If the New Reservoir screen has timed out and the Home screen appears, select **Load Reservoir** from the Home screen. After the New Reservoir screen appears, you may have to select **Next** to get to the screen shown previously.

6. Select and hold **Load** until you see a checkmark on the screen and your pump beeps or vibrates. Holding **Load** moves the piston up in the reservoir compartment until it engages with the bottom of the reservoir.



Note: If you press the **Back** button after the loading process begins, a Loading incomplete alarm will occur.

When the loading process is completed, the following screen appears.



7. Select **Next** to continue.
8. Follow the instructions in the next section to fill the tubing with insulin.

Filling the tubing

You need to fill the infusion set tubing with insulin before you insert the set into the body.



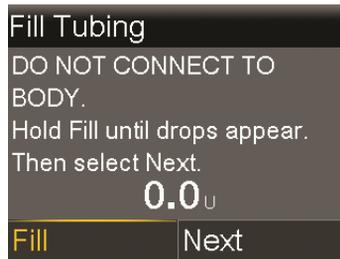
WARNING: Always make sure the infusion set is disconnected from your body before you rewind your pump or fill the infusion set tubing. Never insert the reservoir into the pump while the tubing is connected to your body. Doing so could result in an accidental infusion of insulin, which can cause hypoglycemia.



WARNING: Always check your tubing for air bubbles. Continue to press **Fill** until the bubbles have been removed from the tubing. Air bubbles may result in inaccurate insulin delivery.

To fill the tubing:

1. After you load your reservoir and select **Next** from the Load Reservoir screen, the Fill Tubing screen appears.



2. Select and hold **Fill**. Your pump beeps six times to let you know it is positioning the reservoir. Continue holding **Fill** until insulin droplets form on the tip of the infusion set needle, then release. Your pump beeps as it fills the tubing, and the amount of insulin you are using appears on the screen.

If you get the Max Fill Reached alarm, it means you have used more than 30 units of insulin to fill your tubing. For details, go to *Pump alarms, alerts, and messages, on page 184*, and see the description for Max Fill Reached.
3. Select **Next** to continue.
4. Follow the instructions in the next section to insert the infusion set into your body before filling the cannula.

Inserting the infusion set



WARNING: Do not remove the reservoir from the pump while the infusion set is connected to your body. Doing so could result in the delivery of too little or too much insulin, which can cause hyperglycemia or hypoglycemia.

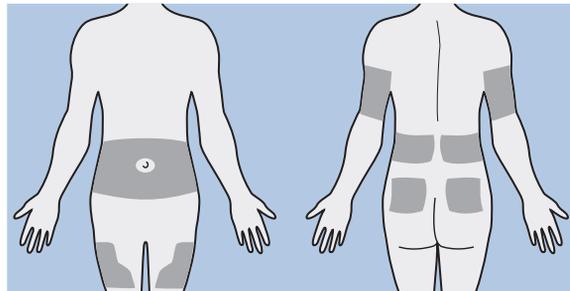
You must have completed the following procedures, as described previously, before inserting the infusion set into your body:

- Rewinding your pump.
- Filling your reservoir.
- Inserting the reservoir into pump.
- Filling the tubing with insulin.

Shown here are the best body areas (shaded) for infusion set insertion. Avoid the 5.0 cm area around the navel to help ensure a comfortable infusion site and to help with adhesion.



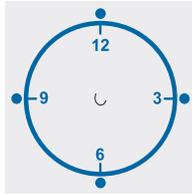
Caution: Do not use the same infusion set insertion site for an extended period of time. This can cause the site to become overused. Rotate the infusion set insertion sites regularly.



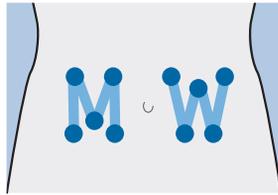
Caution: Always change your infusion set every two to three days. Using the same infusion set for an extended period of time can cause infusion set occlusion or site infection.

To keep sites healthy, some people find it helpful to use a visual scheme to help them rotate their insertion sites in an organized way. For example, here are two commonly used methods. For maximum effectiveness, use both methods, alternating between them:

- Visualize an imaginary clock drawn on your abdomen surrounding your belly button. Rotate infusion set insertion sites by starting at 12 o'clock and then rotate the site clockwise to 3 o'clock, 6 o'clock, and so on.



- Imagine a letter M or a letter W on either side of your belly button. Start at the end of one letter and proceed through the letter, rotating to each intersection in turn.



Medtronic Diabetes offers a variety of infusion sets for your pump.

After your infusion set is inserted, see *Filling the cannula*, on page 106 to fill the infusion set cannula.

Filling the cannula

Filling the soft cannula with insulin is required after the infusion set is inserted into your body and the introducer needle is pulled out. The insulin amounts required to fill the cannula depend on the type of infusion set you are using. Refer to your infusion set instructions for this information.



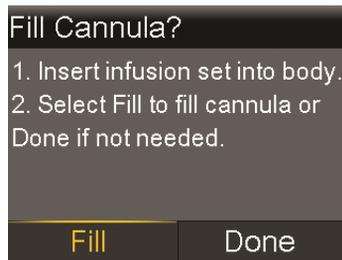
Note: Select **Done** when the system prompts you to continue with the fill process.



WARNING: Never leave your pump on the Fill Cannula? screen. Insulin delivery is suspended while on the Fill Cannula? screen. Always finish filling your cannula or return to the Home screen to avoid continued insulin delivery suspension. Failing to do this can result in hyperglycemia.

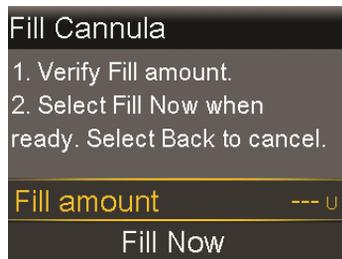
To fill the cannula:

1. After you fill your tubing and insert your infusion set, the Fill Cannula? screen appears.



Note: If your screen turns off before you are ready to fill your cannula, press any button on your pump to turn it on again.

2. To fill your cannula now, select **Fill**. Select **Done** to skip this step. The Fill Cannula screen appears.



3. Adjust the Fill amount for your particular infusion set, and then select **Fill Now**. If you are unsure about the fill amount, see the instructions that came with your infusion set.

4. As the cannula starts filling, your screen displays the amount of units being delivered. The pump beeps or vibrates when the delivery is complete.
After the cannula is filled, the Home screen appears. Your pump is now ready to deliver insulin.

To stop filling the cannula:

1. Select **Stop Filling**, to stop filling the cannula.



2. Select **Yes**.
The Fill Stopped screen appears confirming amount delivered.
3. Select **Done**.

Disconnecting your infusion set

Always refer to your infusion set user guide for instructions on how to disconnect your infusion set.

Reconnecting your infusion set

Always refer to your infusion set user guide for instructions on how to reconnect your infusion set.

6



Meter

Meter

You can wirelessly connect up to six compatible Ascensia blood glucose meters to your pump. If you do not connect a meter to your pump, you must enter your blood glucose readings manually. To wirelessly connect your pump and meter, you will need the following items:

- MiniMed 620G insulin pump
- Compatible Ascensia blood glucose meter
- Compatible Ascensia blood glucose meter user guide

About your compatible Ascensia blood glucose meter

You can set up your pump to automatically receive blood glucose readings from your compatible Ascensia blood glucose meter. When the pump is on the Home screen, it beeps or vibrates when it receives a blood glucose reading from the meter. Your BG Meter screen appears, where you can view your current blood glucose reading and, if necessary, deliver a bolus. Once received, your BG values will appear on your pump screen for 12 minutes, along with any insulin that is still active from any previous boluses. If your blood glucose reading is outside the range of 70 to 250 mg/dL, the pump displays an alert. In this case, treat your low blood glucose or high blood glucose as directed by your healthcare professional.



Note: In order to ensure accuracy, do not use a BG meter reading if more than 12 minutes have passed since you have taken the reading.

The compatible Ascensia blood glucose meter may not be available in all countries.

You can also deliver a Normal Bolus or Preset Bolus from your compatible Ascensia blood glucose meter. For more information about setting up your pump to use the Remote Bolus feature, see *Setting up Remote Bolus*, on page 112. Consult your healthcare professional before using the Remote Bolus feature.

Wirelessly connecting your pump and meter

Always refer to your compatible Ascensia blood glucose meter user guide for instructions on connecting the meter to the pump.

Setting up Remote Bolus

The Remote Bolus feature allows you to send a Normal Bolus or Preset Bolus remotely from your meter. To access this option, your compatible Ascensia blood glucose meter and pump must be wirelessly connected, and the Remote Bolus option on your pump must be turned on. Consult your healthcare professional before using the Remote Bolus feature.

The following procedure describes how to turn the Remote Bolus feature on or off. For information on using Remote Bolus, see the user guide that came with your compatible Ascensia blood glucose meter.



Note: Remote Bolus default setting is on.

To turn on or off Remote Bolus:

1. Make sure that your pump and compatible Ascensia blood glucose meter are connected.
2. Go to the Remote Bolus screen.
Menu > Utilities > Remote Bolus
The Remote Bolus screen appears.
3. Select **Remote Bolus** to turn the feature on or off.
4. Select **Save**.

Deleting a meter from your pump

Follow this procedure to delete your compatible Ascensia blood glucose meter from the pump.

To delete the meter from the pump:

1. Go to the Manage Devices screen.

Menu > Utilities > Device Options > Manage Devices

The Manage Devices screen appears.

2. Identify and select your meter by the serial number. See your compatible Ascensia blood glucose meter user guide for instructions on locating your serial number.
3. Select **Delete**.
4. A screen appears confirming that you would like to delete the device. Select **Yes** to confirm or **No** to cancel.





7 History and events

This chapter describes the History and Event Markers features. The History screens provide personal pump therapy details, including information about your insulin deliveries, BG readings, sensor glucose (SG) readings, and any alarms and alerts you received. The Event Markers feature allows you to enter and save information, such as manual BG readings, carbohydrates consumed, and exercise.

History

The History feature includes the Summary, Daily History, and Alarm History screens. The SG Review and ISIG History screens are available if you are using the Sensor feature.

Summary screen

The Summary screen shows details about past insulin deliveries and meter readings. If you are using a sensor, the Summary screen also shows information about your sensor alerts and sensor glucose readings.

You can view historical details for a single day, or you can select multiple days to view an average of all the results for the number of days that you selected.

To view your Summary screen:

1. Go to the Summary screen.
Menu > History > Summary
2. Select the time period for the Summary screen.

The Summary screen appears, showing information for the number of days that you selected.

3. You can scroll down to view the entire screen. If you are using the 1 Day view, you can use the < and > buttons on your pump to view the results for each day in history.

Understanding the Summary screen

The Summary screen separates information into four categories:

- overview
- bolus
- BG meter readings
- sensor

Summary screen: overview

The following table describes the overview portion of the Summary screen.



Note: If you are viewing a single day of Summary results, then the values shown are the actual results for the selected day. If you are viewing more than one day of Summary results, then the value is an average of the days that you selected.

| Name | Description |
|-------------|---|
| TDD | Total daily dose of insulin units. |
| Basal | <ul style="list-style-type: none">• Insulin units devoted to basal delivery.• Percentage of insulin devoted to basal delivery. |
| Bolus | <ul style="list-style-type: none">• Insulin units devoted to bolus delivery.• Percentage of insulin devoted to bolus delivery. |
| Total Carbs | Daily carbohydrate amount, in grams or exchanges. |

Summary screen: Bolus

The following table describes the bolus portion of the Summary screen:



Note: If you are viewing a single day of Summary results, then the values shown are the actual results for the selected day. If you are viewing more than one day of Summary results, then the value is an average of the days that you selected.

| Name | Description |
|----------------------------|---|
| Carb bolus only | <ul style="list-style-type: none"> Total insulin units delivered using the Bolus Wizard feature with food amount only. Number of times the Bolus Wizard feature delivered a food bolus only. |
| BG Correction Only | <ul style="list-style-type: none"> Total insulin units delivered using the Bolus Wizard feature with BG correction amount only. Number of times the Bolus Wizard feature delivered a BG correction bolus only. |
| Carb bolus + BG Correction | <ul style="list-style-type: none"> Total insulin units delivered using the Bolus Wizard feature with food and BG correction amount. Number of times the Bolus Wizard feature delivered a carb and BG correction bolus. |
| Manual Bolus | <ul style="list-style-type: none"> Total bolus insulin units delivered using the Manual Bolus, Preset Bolus, or Easy Bolus features. Number of bolus deliveries using the Manual Bolus, Preset Bolus, or Easy Bolus features. |

Summary screen: BG meter

The following table describes the BG meter portion of the Summary screen:

| Name | Description |
|-------------|---|
| BG | Total number of BG readings you entered manually. |
| Average BG | Average BG meter reading. |
| Manual Low | Lowest BG meter reading entered manually. |
| Manual High | Highest BG meter reading entered manually. |

Summary screen: Sensor

The following table describes the sensor portion of the Summary screen. If the sensor feature has never been turned on, this portion of the screen does not appear. If the sensor feature was turned on at least once, but is currently turned off, this portion of the screen appears gray.

| Name | Description |
|-----------------------|--|
| SG Average | Average sensor glucose value. |
| SG Std. Dev. | Standard deviation of the SG readings. |
| Above High Limit | Percentage of SG readings that were above your high glucose alert limit. If you have not set a high glucose alert limit, your pump uses the default values. For more details on setting your high glucose alert limit, see <i>Setting up Alert Limits, on page 158</i> . |
| Within Limits | Percentage of SG readings that were between your high and low glucose alert limits. If you have not set your high and low glucose alert limits, your pump uses the default values. For more details on setting your high and low glucose alert limits, see <i>Setting up Alert Limits, on page 158</i> . |
| Below Low Limit | Percentage of SG readings that were below your low glucose alert limit. If you have not set a low glucose alert limit, your pump uses the default values. For more details on setting your low glucose alert limit, see <i>Setting up Alert Limits, on page 158</i> . |
| High SG Alert | Number of High Glucose alerts that occurred. |
| Low SG Alert | Number of Low Glucose alerts that occurred. |
| High Predictive Alert | Number of High Predictive Glucose alerts that occurred. |
| Low Predictive Alert | Number of Low Predictive Glucose alerts that occurred. |
| Rise Alert | Number of Rise alerts that occurred. |
| Fall Alert | Number of Fall alerts that occurred. |
| # SG readings | Number of SG readings per day. |

Daily History

The Daily History screen displays a list of actions you performed on your pump or event entries that you made for the selected day, such as your BG meter readings, bolus deliveries, any temp basal rates you have used, and so on. The list displays the most recent action or event first. From this list, you can display further details about any action or event.

To view your Daily History:

1. Go to the Daily History screen.

Menu > History > Daily History

A list of dates appears.

2. Select a specific date of history to view. A list appears with any pump actions or events entered on the specified day.
3. You can select any item in the list to open the Detail screen, which displays more information about the selected action or event. For example, if you view the details of a bolus delivered using the Bolus Wizard feature, the Detail screen shows you all of the data associated with that bolus, such as the BG correction amount, active insulin adjustment, carbs entered, and calculated bolus.

Alarm History

The Alarm History screen displays a list of alarms and alerts that occurred on the selected day. The list displays the most recent alarm or alert first. From this list, you can display further details about any alarm or alert.

To view your Alarm History:

1. Go to the Alarm History screen.

Menu > History > Alarm History

A list of dates appears.

2. Select a specific date of alarm history to view. A list appears showing any alarms or alerts that occurred on the specified day.
3. You can select any alarm or alert in the list to open the Alarm Detail screen, which displays more information about the selected alarm or alert.

Using Sensor Glucose Review

The Sensor Glucose Review feature allows you to view a graph of your SG history, based on high and low limits you enter. You can view information for one day, or view an average of your SG data over a number of days.

This Sensor Glucose Review feature is available if you are using the Sensor feature.



Note: The high and low limits that you set through this feature are for the purpose of viewing your sensor glucose data only, and are not the same as the high and low Alert Limits used for your sensor alerts. Changing your Sensor Glucose Review limits does not affect your actual high and low glucose limits.

To review your sensor glucose history:

1. Go to the SG Review screen.

Menu > History > Sensor Glucose Review

The SG Review screen appears. The high and low limits that appear are either the values you entered for the last SG Review, or the default values of 180 mg/dL for the High Limit and 70 mg/dL for the Low Limit.



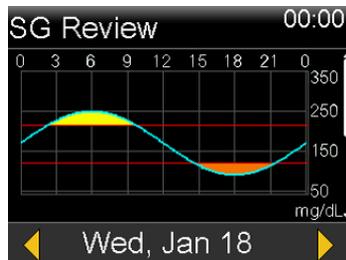
2. Enter the High Limit and Low Limit that you want to use for the sensor glucose review.

There must be a minimum of 20 mg/dL difference between the high and low SG limits.

3. Enter the number of days of sensor glucose history to average, and select **Next**.

A graph of your SG data appears. If you specified one day of history to view, the graph shows details about when your SG was above, below, or within your specified limits. You can scroll down to view the number of hours and percentage of time you were above, within, and below your SG limits.

If you have no data saved, a message appears on the screen letting you know there is no data available.



If you view information for multiple days, the graph shows the average percentage of time that your SG was above, below, or within your specific limits.



ISIG History

ISIG represents a signal measured by the sensor that is used to calculate your sensor glucose value. The ISIG History feature shows the history of your ISIG values over the previous 24-hour period. This information is primarily used by support personnel for troubleshooting, and is available only after you have turned on the Sensor feature.

To view your ISIG History:

1. Go to the ISIG History screen.
Menu > History > ISIG History
2. Select a time for which you want to view the ISIG history. The ISIG history appears for the hour you selected.

Event Markers

The Event Markers feature allows you to electronically save certain types of information.

When using this feature, enter events when they happen because the system records the time of the entry. You cannot change entries after you have put the information into your pump. You can view your saved events in the Daily History screen.

To enter Event Markers:

1. Go to the Event Markers screen.
Menu > Event Markers

2. Select and enter event information for any of the following categories:

BG



If you are not using the Bolus Wizard feature to record your BG meter readings in your pump, you can enter them here. If you are using a sensor, you may use a BG meter reading you enter here for calibration. You can also enter non-calibration BG meter readings, such as those readings taken when eating or when your BG is rising or falling rapidly.

Injection



Enter the number of units of any insulin you have given by injection.



Note: Insulin units entered using the injection event marker are not added to your Active Insulin amount tracked on the pump.

Food



Enter the amount of carbohydrates that you have eaten or drunk that have not been entered in the Bolus Wizard calculator. For example, you might enter carbs that you ate to correct a low BG.

Do not enter carbs here that you have already entered in the Bolus Wizard calculator.

Exercise



Enter the length of time you exercised. It is helpful to be consistent and enter the information either before or after each time you exercise.

Other



Examples of Other event markers can include when you take medications, when you feel ill, or when you are under stress.

8

Reminders

Reminders help you remember to do important routine activities. There are specific reminders that prompt you to check your BG after a bolus, give a food bolus, check your reservoir level, and change your infusion set. There are also personal reminders you can use for any purpose. If you have the sensor feature turned on, the calibration reminder prompts you to calibrate your sensor.

Personal reminders

The Personal reminders include six numbered reminders, along with the specific reminders for BG Check and Medication.

To create a new Personal reminder:

1. Go to the Personal screen.
Menu > Reminders > Personal
2. Select **Add New**.
The Select Name screen appears showing the available reminders.
3. Select the reminder that you want to set.
The Edit screen appears for the selected reminder.
4. Enter the time that you want the reminder to occur.
5. Select **Save**. The Personal reminder occurs at the specified time each day unless you change or delete it.

To edit, rename, or delete an existing Personal reminder:

1. Go to the Personal screen.

Menu > Reminders > Personal

2. Select the reminder that you want to change.
3. Do one of the following:
 - Select **Reminder** to turn this reminder on or off.
 - Select **Edit** to change the time of the reminder.
 - Select **Rename** to select a new name for this reminder.
 - Select **Delete** to delete this reminder.

Bolus BG Check reminder

Bolus BG Check reminder helps you remember to check your blood glucose after a bolus. After you start a bolus, the pump asks you when you want to be reminded to check your blood glucose. The timer counts down from the time the bolus started.

To turn on or turn off Bolus BG Check reminders:

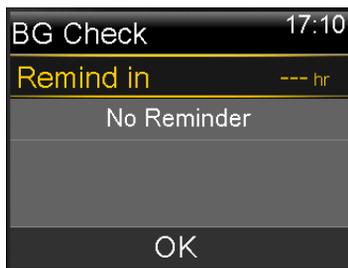
1. Go to the BG Check screen.

Menu > Reminders > Bolus BG Check

2. To turn the reminder on or off, select **Reminder**.
3. Select **Save**.

To use a Bolus BG Check reminder when delivering a bolus:

1. After you turn on the Bolus BG Check reminder, each time you start a bolus, the following screen appears:



2. Enter a time from 30 minutes to 5 hours, in 30 minute increments. Select **OK**. If you do not want a reminder after the bolus, select the dashes without adding a time, and then select **OK**. If needed, press \vee to return to the dashes.

Missed Meal Bolus reminder

The Missed Meal Bolus reminder alerts you if a bolus is not delivered within a time period that you set. These time periods are usually set around your typical meal times to help ensure a meal bolus is not missed. You can set up to eight Missed Meal Bolus reminders.

To create a new Missed Meal Bolus reminder:

1. Go to the Missed Meal Bolus screen.
Menu > Reminders > Missed Meal Bolus
2. Select **Add New**.
3. Select **Start Time**, and enter a time.
4. Select **End Time**, and enter a time. The time range is from one minute to 24 hours.
5. Select **Save**.

To turn on or off, edit, or delete existing Missed Meal Bolus reminders:

1. Go to the Missed Meal Bolus screen.
Menu > Reminders > Missed Meal Bolus
2. Select one of the reminders that you have already created.
3. Change any of the following:
 - Select **Reminder** to turn this reminder on or off.
 - Select **Edit** to change the time of this reminder.
 - Select **Delete** to delete this reminder.

Low Reservoir reminder

The Low Reservoir reminder alerts you when the insulin level in your reservoir is low. This feature allows you to program your pump to generate a reminder before your reservoir is empty. You can select one of the following types of Low Reservoir reminders:

- **Units** – alerts you when your reservoir has a specified number of units remaining, and then alerts you again when half of remaining units are used.

- **Time** – alerts you when there is a specified amount of time remaining before your reservoir is empty and then again one hour before insulin runs out, depending on your programmed basal insulin delivery.



Note: The amount of time or units remaining in your reservoir can be found on the Quick Status screen. For more information on accessing the Status Screens, see *Viewing the Status screens, on page 34*.

If you use Time for your Low Reservoir reminder, be aware that the reminder time is based only on your basal insulin delivery rate. If you give a bolus, the time remaining will decrease more quickly.

For example, if your reservoir has 10 hours remaining when you go to bed at night, and you sleep for eight hours without giving any bolus insulin, you will still have two hours of basal insulin remaining when you wake up. In contrast, suppose your reservoir has 10 hours remaining when you leave the house for work in the morning. If you give boluses to cover your mid-morning snack and your lunch, the number of hours remaining decreases accordingly, and your insulin will run out before you end your eight-hour work day.



WARNING: When a Low reservoir alert displays after a bolus or fill cannula delivery, always check the amount of insulin left in the reservoir. Not checking the amount of insulin left in the reservoir can lead to an under delivery of insulin, which can cause hyperglycemia.

Low Reservoir reminder setup:

1. Go to the Low Reservoir screen.
Menu > Reminders > Low Reservoir
2. Select **Type** to set the reminder using either **Units** or **Time**.
3. Depending on the type you selected, do one of the following:
 - Select **Units** to enter the number of units. You can set a value from 5 units to 50 units.
 - Select **Time** to enter the number of hours you want to use for your reminder. You can enter from 2 to 24 hours.

4. Select **Save**.

Set Change reminder

The Set Change reminder helps you remember to change your infusion set. After you turn on this reminder, it automatically tracks the time between infusion set changes and reminds you to change your infusion set.

To turn on or off, or change the Set Change reminder:

1. Go to the Set Change screen.
Menu > Reminders > Set Change
2. Select **Reminder** to turn the reminder on or off. If you turn on the reminder, select **Time** and choose two or three days for the reminder.
3. Select **Save**.

Calibration reminders

The Calibration reminder is available if you are using the Sensor feature. This feature helps you remember to calibrate your sensor. For example, if you set your reminder to four hours, you receive a Calibrate By alert four hours before the next BG meter reading is due.

To turn on or off, or change the Calibration reminder:

1. Go to the Calibration screen.
Menu > Reminders > Calibration



2. Select **Reminder** to turn the reminder on or off.
3. If you turn on the reminder, select **Time** and enter a time between 5 minutes and 6 hours.
4. Select **Save**.

9

9 General settings

This chapter provides information about common tasks for various settings.

Airplane Mode

Airplane Mode temporarily stops wireless communication with your pump. Use this mode during airline travel when you are instructed to turn off wireless devices.



WARNING: Do not rely on sensor-enabled features when Airplane Mode is on. The sensor-enabled features do not work while Airplane Mode is on because the pump does not receive sensor readings from the transmitter. When using Airplane Mode, always rely on your blood glucose values when making therapy decisions to avoid hypoglycemia or hyperglycemia.

Check airline policies for specific instructions about operating medical devices during a flight. Check local airport policies for specific instructions about medical devices and security procedures.

The following table provides special instructions when using Airplane Mode and additional devices with your pump:

| When using this device: | Do this: |
|-------------------------|--|
| BG meter | Use your BG meter normally whether Airplane Mode is on or off. |

**When using
this device:****Do this:**

Sensor and
transmitter

When Airplane Mode is turned on, your pump does not receive sensor readings from your transmitter. Your transmitter continues to collect your sensor readings, and can store up to 10 hours of sensor data.

When Airplane Mode is turned off, it can take up to 15 minutes before the pump and the transmitter start to wirelessly communicate again. The transmitter begins to send the last 10 hours of your sensor data to the pump.

When you turn off Airplane Mode:

- If Airplane Mode was turned on for six hours or less, wait 15 minutes for the sensor and transmitter to wirelessly send your pump the missing sensor glucose readings.
 - If Airplane Mode was turned on for more than six hours, disconnect and reconnect the transmitter and sensor, and then select **Reconnect Sensor** when it appears on the pump screen.
-

To turn on or turn off Airplane Mode:

1. Go to the Airplane Mode screen.
Menu > Utilities > Airplane Mode
2. Select **Airplane Mode** to turn the feature on or off.
3. Select **Save**.

When Airplane Mode is turned on, the status bar shows the Airplane Mode icon  in place of the Connection icon.

Audio Options

The Audio Options screen lets you change the volume of most alerts and notifications, and set the audio and vibrate settings. You can choose one of the three audio options:

-  audio
-  vibrate

-  audio and vibrate

The audio option that you are currently using displays on the status bar. For more information, see *Status bar, on page 30*.

To adjust the audio and vibrate settings:

1. Go to the Audio Options screen.
Menu > Audio Options
2. Select the Audio or Vibrate option you want to use.
3. If Audio or Audio & Vibrate option is selected, the volume can be changed. Select **Volume** and use left or right button to the desired level.
4. Select **Save**.

Auto Suspend

Auto Suspend is a safety feature that stops all insulin delivery and sounds an alarm if you do not press any buttons for a specified period of time. For example, your healthcare professional may have you set the time based on the number of hours that you typically sleep at night. Discuss with your healthcare professional how to best use this feature.

To set up Auto Suspend:

1. Go to the Auto Suspend screen.
Menu > Insulin Settings > Auto Suspend
2. Select **Alarm**.
3. Select **Time** and enter the number of hours that you want to set.
4. Select **Save**.

Block Mode

The Block Mode feature allows caregivers, such as parents of a young child, to restrict access to critical pump settings.



WARNING: Always monitor pump use during Block Mode. The pump can still manually suspend while in Block Mode. This could result in hyperglycemia and ketoacidosis.

When Block Mode is on, you cannot start a new bolus delivery, start a new basal pattern, or start a new temp basal delivery. However, any previous bolus and basal deliveries continue normally, and the pump user can stop a bolus delivery at any time.

When your pump is in Block Mode, you can suspend insulin delivery, receive SG values, review history, test the pump, and clear alarms and alerts. However, you cannot change any settings.



WARNING: Always monitor pump use during Block Mode. Block Mode does not prevent Remote Bolus deliveries from your compatible Ascensia blood glucose meter. When your pump is in Block Mode, you can still deliver a bolus from your compatible Ascensia blood glucose meter using the Remote Bolus feature.

To turn Block Mode on or off:

1. Go to the Block Mode screen.
Menu > Utilities > Block
2. Select **Block Mode** to turn the feature on or off.
3. Select **Save**. While Block Mode is turned on, a lock icon  displays on the status bar.



Note: When turning on Block Mode, a message may appear asking if you want to change your Remote Bolus setting. To avoid receiving this message again, select **Yes**, then select **Remote Bolus** to turn the feature off. Select **Save** to continue.

Carb Unit

The Carb Unit setting determines whether to enter and display carbohydrates in grams (g) or exchanges (exch). You enter carbohydrate information when using the Bolus Wizard feature and recording food in Event Markers.

To change the Carb Unit setting:

1. Go to the Carb Unit screen.
Menu > Utilities > Carb Unit
2. Select either **Grams** or **Exchanges**.
3. Select **Save**.

Display Options

The Display Options allow you to increase or decrease the brightness of your screen. From the Display Options screen, you can also adjust the amount of time the backlight stays on after you press a button.

To adjust the display options:

1. Go to the Display Options screen.
Menu > Utilities > Display Options
2. Select **Brightness** to adjust the brightness of your screen. You can set a level from 1 to 5, or select **Auto** to have the screen automatically adjust to your current environment.



Note: The brightness setting you select can affect the life of your battery. For a longer lasting battery, consider using a lower level setting.

3. Select **Backlight** to adjust the timeout for the backlight on your pump screen. You can select 15 seconds, 30 seconds, 1 minute, or 3 minutes.



Note: The backlight can affect the life of your battery. For a longer lasting battery, consider setting the screen timeout to 15 seconds.

4. Select **Save**.

Language

You can change the language that your pump uses to display information.

To change the Language setting:

1. Go to the Language screen.
Menu > Utilities > Language
A checkmark indicates which language is active.
2. Select your desired language.
3. Select **Yes** when the confirmation message appears.

Managing your pump settings

Manage Settings lets you save, restore, or clear your settings.

The following table describes the Manage Settings options:

| | |
|-----------------------------|--|
| Save Settings | Saves a record of your current settings that you can use if a future event requires you to re-enter your settings. |
| Restore Settings | Allows you to restore your settings, using the backup settings that you saved using the Save Settings feature. |
| Clear All Settings | Erases your settings and returns them to the factory defaults. To use your pump again after clearing all settings, you can use Restore Settings or manually re-enter your settings. This enables you to restore a previous version of your settings or manually enter your settings again. |
| Clear Active Insulin | This option appears only if you have never cleared your active insulin. Use this feature when you are ready to use your pump with insulin for the first time. You can only clear your active insulin once. |
| Settings History | Displays a history of recent activities that relate to managing your settings, such as saving, clearing, and restoring your settings. |

Saving your settings

Saving a record of your settings allows you to restore your settings at a later date, if necessary.

To save your current settings:

1. Go to the Manage Settings screen.
Menu > Utilities > Manage Settings
2. Simultaneously press and hold > and ← until the Manage Settings menu appears.
3. Select **Save Settings**.

If these are the first settings you have saved, a message appears telling you that your settings are saved.

If you have previously saved settings, a message appears asking if you would like to replace your previous settings with your current settings. Select **Yes** to accept. Select **No** to cancel.

Restoring your settings

This option allows you to replace your current pump settings with the last settings that you have saved. The Restore Settings menu option is available only if you have previously saved your settings.

To restore your previous settings:

1. Go to the Manage Settings screen.
Menu > Utilities > Manage Settings
2. Simultaneously press and hold > and ← until the Manage Settings menu appears.
3. Select **Restore Settings**.
4. To replace your current settings with your previous settings, select **Yes**. To cancel, select **No**.

Clearing your settings

The Clear All Settings feature erases your current settings and returns them to the factory defaults. After you clear your settings, your pump displays the Startup Wizard, where you can re-enter your pump settings. You must re-enter your settings to continue using your pump.

The Clear All Settings feature does not delete wireless connections to other devices, such as your transmitter.



Caution: Do not clear your settings on the pump unless directed by your healthcare professional. If you clear your settings, you must re-enter all your personal settings as directed by your healthcare professional.

To clear all your settings:

1. Make sure the pump is not connected to your body.
2. Go to the Manage Settings screen.

Menu > Utilities > Manage Settings

3. Simultaneously press and hold > and ← until the Manage Settings menu appears.
4. Select **Clear All Settings**.
A confirmation screen appears asking if you want to clear all your settings.
5. To continue clearing your settings, select **Yes**. If you do not want to clear your settings, select **No**.

If you clear your settings, your pump displays the Welcome screen and continues to the Startup Wizard. For more details on entering your startup settings, see *Entering your startup settings, on page 26*.

Clearing your active insulin

Use this feature when you are ready to use your pump with insulin for the first time. This feature clears any active insulin values that your pump has tracked, and sets the active insulin value to zero. If you have practiced delivering a bolus with your pump prior to using your pump with insulin, you must clear the active insulin. This ensures that the Bolus Wizard feature has an accurate active insulin amount for bolus calculations.

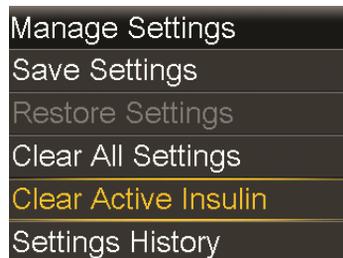
You can clear your active insulin only once. After you clear your active insulin, the feature is no longer available.

1. Go to the Manage Settings screen.

Menu > Utilities > Manage Settings

2. Simultaneously press and hold > and ← until the Manage Settings menu appears.

The Manage Settings screen appears. If you have never cleared your active insulin, the Clear Active Insulin option appears.



Note: If the Clear Active Insulin selection does not appear on the Manage Settings screen, it means that you have already cleared your active insulin on the pump.

3. Select **Clear Active Insulin**.
A confirmation screen appears asking if you want to continue.
4. Select **Clear** to clear your active insulin value from your pump. If you do not want to clear your active insulin at this time, select **Cancel**.
A message appears confirming that your active insulin value is cleared.

Viewing your pump setting history

The Settings History shows you a history of activities you have performed in the Manage Settings area, such as saving, restoring, or clearing your settings.

1. Go to the Manage Settings screen.
Menu > Utilities > Manage Settings
2. Simultaneously press and hold > and ← until the Manage Settings menu appears.
3. Select **Settings History**.
The Settings History screen appears.

Self Test

Self Test is a safety utility that allows you to check if your pump is operating properly. This self-diagnostic feature can be used for maintenance or to check that your pump is operating properly. Self Test is additional to the routine tests that run independently while the pump operates.



WARNING: Always monitor your blood glucose while using the Self Test feature. Your insulin is suspended for up to two minutes while your pump runs the Self Test. Limited insulin delivery can cause hyperglycemia.

Self Test includes the following tests:

| Test | Description |
|--------------------|--|
| Display | Turns on the display for up to 45 seconds. |
| Notification light | Turns on the notification light for three seconds and then turns it off. |
| Vibration | Generates two vibration cycles. |
| Tone | Generates an alert tone, an Easy Bolus (step 1) tone, and an alarm tone. |

The pump will run through a series of tests as listed in the previous table. Self Test requires you to observe the pump during the test.

To run the Self Test:

1. Go to the Self Test screen.

Menu > Utilities > Self Test

A message indicates that the Self Test is in progress.

Self Test takes up to two minutes to complete. During that time, the display briefly turns white, the notification light blinks, the pump vibrates, and the pump beeps.

2. If Self Test does not detect a problem, the display returns to the Utilities screen.

If Self Test detects a problem, a message appears with more information about the problem. If Self Test displays an error message or you observe the pump not behaving as indicated during the test, contact the 24 Hour Support Line.

Sensor Demo

Sensor Demo lets you see what the Home screen would look like if you were using the optional Continuous Glucose Monitoring (CGM) feature. For more information about sensor graphs, please see *The sensor graph*, on page 173.



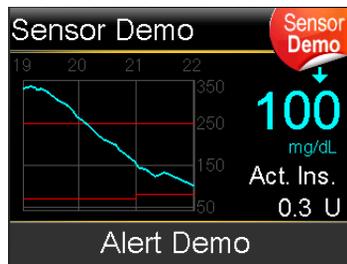
WARNING: Do not use Sensor Demo to make any decisions related to your therapy. Information seen in the Sensor Demo is not real data. It is an example of the type of information you can access when using the sensor feature. Making treatment decisions based on data that is not real can cause hypoglycemia or hyperglycemia.

To view the sensor graphs:

1. Go to the Sensor Demo screen.

Menu > Utilities > Sensor Demo

A screen appears as an example of what your Home screen looks like when you are using the optional CGM feature.



2. Press **Select** to access the sensor graph examples.
3. From the sensor screen examples you can:
 - Press the < or > buttons to move the cursor across the graph. Examples of sensor data appear for the different time periods.

- Press the \wedge or \vee buttons to view graphs that cover different time periods. You can view 3-hour, 6-hour, 12-hour, and 24-hour graphs.

The example below shows the information that appears on the sensor screen.

Sensor Demo simulates a sensor glucose graph, showing an example of the general trend of glucose as it rises and falls over time. The top of the graph indicates the time of day, while the side bar shows the sensor glucose (SG) reading markers.

4. To exit Sensor Demo, press \leftarrow .

To see and hear examples of sensor-related alerts:

1. Go to the Sensor Demo screen.
Menu > Utilities > Sensor Demo
2. Select **Alert Demo**.
3. To see and hear sensor-related alerts, select any of the listed alerts.
4. To exit an alert example, press \vee , then select **OK** to clear the alert. To exit Sensor Demo, press \leftarrow .

Time and date

Make sure the time and date are always set correctly on your pump. This is necessary to ensure the correct basal insulin delivery and to keep an accurate record of pump functions. You may need to change the time or the date if you travel to a different time zone or practice daylight saving time. After the time and date are changed, the pump adjusts all settings automatically.

To change the time and the date:

1. Go to the Time & Date screen.
Menu > Utilities > Time & Date
2. Select and change the **Time**, **Time Format**, or **Date** as necessary. If you are using a 12-hour clock, be sure to specify AM or PM.
3. Select **Save**.

10

■ Setting up continuous glucose monitoring

10

Setting up continuous glucose monitoring

This chapter explains how to wirelessly connect your pump and transmitter, and how to enter your sensor settings and set up continuous glucose monitoring (CGM) on your pump. You will need the following items:

- MiniMed 620G insulin pump
- Sensor settings (provided by your healthcare professional)
- Enlite sensor
- Enliteserter
- Guardian 2 Link transmitter and charger



WARNING: Do not make therapy treatment decisions based on sensor glucose values. Sensor glucose and blood glucose values may differ. If your sensor glucose reading is low or high, or if you feel symptoms of low or high glucose, confirm your sensor glucose reading with your BG meter prior to making therapy decisions to avoid hypoglycemia or hyperglycemia.

Understanding Continuous Glucose Monitoring (CGM)

The Sensor feature on the pump lets you integrate and use continuous glucose monitoring (CGM). CGM is a sensor glucose monitoring tool that uses a glucose sensor that is placed below your skin to continuously measure the amount of glucose in your interstitial fluid. CGM helps you better manage your diabetes by:

- Recording your glucose values throughout the day and night
- Showing the effects that your diet, exercise, and medication can have on your glucose levels
- Giving you additional tools to help you prevent high and low glucose levels

To learn more about the accuracy of sensor glucose (SG) readings versus blood glucose (BG) meter readings, see *Enlite Sensor Performance for the MiniMed 620G Insulin Pump*.

Wirelessly connecting your pump and transmitter using Auto Connect

Before you can start using your sensor, you must first wirelessly connect your pump to your transmitter so they can begin communicating with each other.

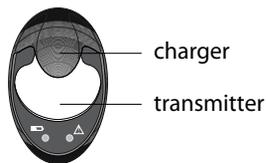
The Auto Connect process locates your transmitter without having to enter the serial number of the transmitter into your pump manually.

Note the following before trying to connect your pump and transmitter:

- You can connect only one transmitter to your pump. If you already have a transmitter connected to your pump, you must delete it before continuing. For instructions on deleting a transmitter from your pump, see *Deleting the transmitter from your pump, on page 164*.
- Ensure that you are not close to other Medtronic devices that are in search mode before using Auto Connect. (For example, if another household member is connecting a transmitter to their insulin pump.) If you know multiple people are connecting devices, such as in a training class, use the Manual Connect process on *page 153*.

Connecting your pump and transmitter using Auto Connect:

1. Attach your transmitter to the charger and make sure the transmitter is fully charged. Keep your transmitter attached to the charger.

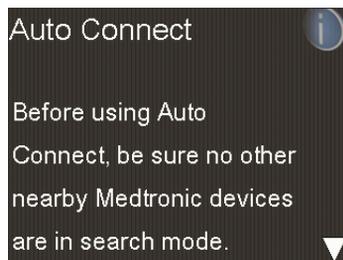




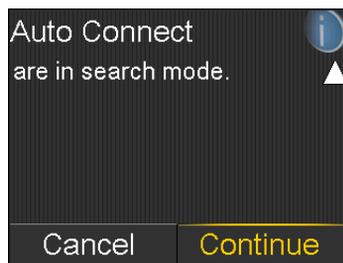
Note: Both lights on the charger are off when the transmitter is fully charged. For more information, see your transmitter user guide.

- Go to the Auto Connect screen.

Menu > Utilities > Device Options > Connect Device > Auto Connect

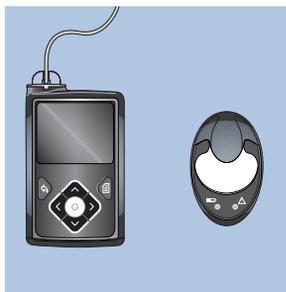


- Make sure there are no other devices in search mode nearby, scroll down to the bottom of the Auto Connect screen, and select **Continue**.



The New Device screen appears.

- Place the transmitter (still attached to the charger) next to the pump.



- Select **Search** on your pump and immediately remove the transmitter from the charger.



The following happens when you start the search process:

- On your pump, a message appears to let you know your pump is searching.
- On your transmitter, a green light flashes briefly and then turns off.



Note: The search process can take up to two minutes. You cannot access your pump screens or suspend your pump during the search process.

When your pump finds the transmitter, the Confirm Device SN screen appears.

6. Ensure the transmitter serial number on your pump screen matches the serial number on the back of your transmitter and then select **Confirm**.



If the connection is successful, your pump displays a success message. If the Sensor feature is turned on, the Connection icon  appears on the status bar.

If your pump does not find your transmitter, see the following procedure, *If your pump does not find your transmitter*. If your pump finds multiple devices, skip to the steps on [page 153](#).

If your pump does not find your transmitter:

1. Place the transmitter back on the charger and make sure your transmitter is fully charged before continuing.
2. Place your pump and transmitter within an arm's length of each other.
3. Select **Retry** on your pump and immediately remove the transmitter from the charger to start the search process.
4. If the search is unsuccessful the second time, select **Cancel** when the No Devices Found message appears and then follow the instructions in *Wirelessly connecting your pump and transmitter using Manual Connect*, on page 153.

If your pump found multiple devices:

1. Write down the serial number for your transmitter. The serial number can be found on the back of your transmitter.
2. Place the transmitter back on the charger and make sure your transmitter is fully charged before continuing.
3. Select **Next** from the Multiple Devices Found message to display the Enter Device SN screen.
4. Manually enter your device serial number by following the instructions, starting with step 4 in *Wirelessly connecting your pump and transmitter using Manual Connect*, on page 153.

Wirelessly connecting your pump and transmitter using Manual Connect

The Manual Connect process requires you to enter the serial number of the transmitter into your pump. Use this process if you are unsuccessful using the Auto Connect process, or when multiple people in close range are connecting their pumps with other devices, such as a group training session.



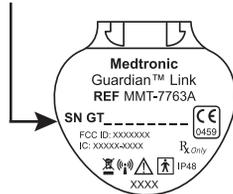
Note: You can connect only one transmitter to your pump. If you already have a transmitter connected to your pump, you must delete it before continuing. For instructions on deleting a transmitter from your pump, see *Deleting the transmitter from your pump*, on page 164.

Connecting your pump and transmitter using Manual Connect:

1. You need the serial number for your transmitter during the connection process. Write down the serial number in the following space provided.

Find your serial number here: **Write it here:**

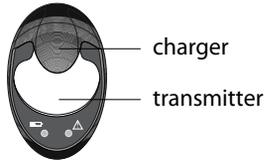
SN GTXXXXXXX



Write your serial number here, include any letters:

SN GT _ _ _ _ _

2. Attach your transmitter to the charger, and make sure the transmitter is fully charged. Keep your transmitter attached to the charger.

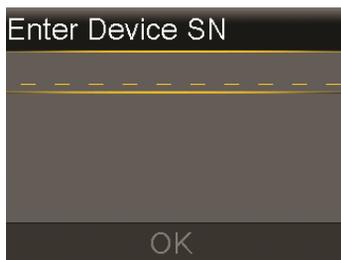


Note: Both lights on the charger are off when the transmitter is fully charged. For more information, see your transmitter user guide.

If you remove the transmitter from the charger to write down the serial number, the green charger light may start flashing when you attach the transmitter to the charger again. You can continue the connection process without waiting for the charger light to stop flashing.

3. On the pump, go to the Enter Device SN screen.

Menu > Utilities > Device Options > Connect Device > Manual Connect



- Use the pump navigation buttons to enter the serial number of the transmitter and select **OK**.

The New Device screen appears.

- Select **Search** on your pump and immediately remove the transmitter from the charger.



The following happens when you start the search process:

- On your pump, a message appears to let you know your pump is searching.
- On your transmitter, a green light flashes briefly and then turns off.



Note: The search process can take up to two minutes. You cannot access your pump screens or suspend your pump during the search process.

- Place the transmitter next to the pump.

If the connection is successful, your pump displays a success message. If the Sensor feature is turned on, the Connection icon  appears on the status bar.

If your pump does not connect to your transmitter:

1. If your pump does not connect to the transmitter, do one of the following:
 - Select **Retry** to return to the Enter Device SN screen on your pump, and then return to step 4 of the procedure above and follow the instructions to search again.
 - Select **Cancel** to return to the Connect Device screen, where you can search again using Manual Connect or Auto Connect.
2. If you have tried to connect multiple times without success, see *My pump cannot find the sensor signal, on page 213*.

Turning on Sensor Settings

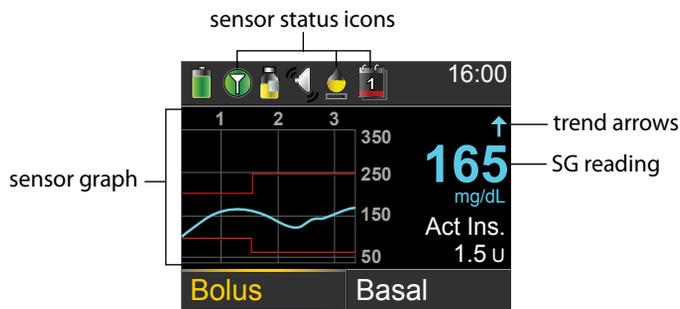
You must turn on the Sensor feature before you can set up your glucose alerts and start monitoring your sensor glucose.

To turn on the Sensor feature:

1. Go to the Sensor Settings screen.
Menu > Sensor Settings
2. Select **Sensor** to turn on the sensor feature. The sensor settings become accessible.

Home screen with CGM

When you turn on the Sensor feature (CGM), the Home screen on your pump changes to display a real-time graph that shows your sensor glucose (SG) information. The graph appears only if you have the Sensor feature turned on. For more information, see *Turning on Sensor Settings, on page 156*.



The following items appear exclusively on your Home screen with CGM:

| Item | Description |
|--------------|---|
| SG reading | Shows your current SG reading which is sent wirelessly to your pump by the transmitter. |
| trend arrows | Shows the rate at which the most recent sensor glucose level has risen or fallen. For more information about trend arrows, see <i>Identifying rapid changes in sensor glucose</i> , on page 174. |
| sensor graph | Shows the rise and fall trends of your SG readings over a period of 3-hours, 6-hours, 12-hours, or 24-hours. The red lines represent your high and low SG limits, and the blue line represents your SG trend during the specified period. For more information about the sensor graph, see <i>The sensor graph</i> , on page 173. |



Note: Several items appear on both your Home screen without CGM and your Home screen with CGM. For more information, see *Home screen*, on page 29, and *Status bar*, on page 30.

About Glucose Alerts

There are several types of glucose alerts you can set to notify you if your glucose values are changing at a particular rate, or if they have reached a specified low or high limit. The following table describes the available glucose alerts:

| | |
|------------------------------|---|
| High & Low alerts | Notify you when your SG value reaches the high limit or the low limit that you set in Alert Limits. |
| Predictive alerts | Notify you that, if your SG value continues to rise or fall at its current rate, the SG value will reach your high limit or your low limit in the number of minutes that you specify. |
| Rate alerts | Notify you if your SG value has been rising or falling faster than the Rise Limit or the Fall Limit that you specify. The rate is measured in mg/dL per minute. |

Turning on the High & Low glucose alerts

You must turn on High & Low glucose alerts if you want the system to send you an alert when your sensor glucose values reach or exceed your Glucose Limits.

- For a Low sensor glucose alert, the pump plays four consecutive tones, in falling pitch.
- For a High sensor glucose alert, the pump plays four consecutive tones, in rising pitch.

To turn on or turn off High & Low alerts:

1. Go to the High & Low Alerts screen.
Menu > Sensor Settings > Glucose Alerts > High & Low Alerts
2. Select **High & Low Alerts**.
3. Select **Alerts** to turn the alerts on or off.

Setting up Alert Limits

Your pump gives you certain glucose alerts according to how your sensor glucose value relates to the low and high Alert Limits that you set. Because your glucose level can vary throughout the day, you can set up to eight pairs of low and high limits that are active during certain time periods. If your sensor glucose values reach or exceed the high or low limit, your pump issues an alert. Work with your healthcare professional to determine your Alert Limits.

To set up or edit existing glucose Alert Limits:

1. Go to the Alert Limits screen.
Menu > Sensor Settings > Glucose Alerts > High & Low Alerts > Alert Limits

The Alert Limits screen appears with any existing Alert Limits. If you have not set up any Alert Limits, the default limits appear. The default Low (Lo) limit is 70 mg/dL, and the default High (Hi) limit is 250 mg/dL.



2. Select **Edit**.

| Edit Alert Limits | | |
|-------------------|-------|---------------|
| Start | End | Lo-Hi (mg/dL) |
| 00:00 | 24:00 | 70 - 250 |
| Done | | |

3. To keep one continuous set of Alert Limits, continue with this step. To create more than one set of Alert Limits, skip to step 4.
 - a. Leave End time at 24:00. The Start time is always 00:00.
 - b. Set both your Low (Lo) and High (Hi) alert limits.
 - c. Select **Done**.
 - d. Select **Save**.
4. To create more than one set of Alert Limits, enter one set at a time, as shown in the following steps.
 - a. Adjust the End time for the first set of alert limits.
 - b. Set both your Low (Lo) and High (Hi) alert limits.

If you set the End time for anything other than 24:00, another set of Alert Limits appears.

| Edit Alert Limits | | |
|-------------------|-------|---------------|
| Start | End | Lo-Hi (mg/dL) |
| 00:00 | 20:00 | 70 - 250 |
| 20:00 | 20:30 | 70 - 250 |
| Done | | |

The Start time for the next set of Alert Limits is always the same as the End time for the previous set.

- c. When you finish setting your Alert Limits, select **Done**.
- d. Select **Save**.

Setting up the High Snooze

After you receive a High Glucose alert, the alert repeats until your glucose levels drop below your preset high glucose alert limit. The High Snooze feature allows you to adjust the amount of time between alert notifications. For example, if your blood glucose levels usually take one to two hours to fall after a correction bolus, you may want to set the High Snooze to one or two hours to avoid unnecessary alerts.

To set up the High Snooze:

1. Go to the High & Low Alerts screen.
Menu > Sensor Settings > Glucose Alerts > High & Low Alerts
2. Select **High Snooze**, and adjust the time as desired.

Setting up the Low Snooze

After you receive a Low Glucose alert, the alert repeats until your glucose levels rise above your preset low glucose alert limit. The Low Snooze feature allows you to adjust the amount of time between alert notifications. The Low Snooze works similarly to the High Snooze.

To set up the Low Snooze:

1. Go to the High & Low Alerts screen.
Menu > Sensor Settings > Glucose Alerts > High & Low Alerts
2. Select **Low Snooze**, and adjust the time as desired.

Setting up Predictive alerts

Predictive alerts notify you that, if your sensor glucose value continues to rise or fall at its current rate, it will reach your high alert limit or low alert limit in the amount of time that you specify in the alert setting. For example, if you set the Predictive alert time to 20 minutes, then you will get an alert 20 minutes before your SG value reaches your high limit or low limit.

To set the High Predictive alert:

1. Go to the High Predictive screen.

Menu > Sensor Settings > Glucose Alerts > Predictive Alerts > High Predictive

2. Select **Alert** to turn on the High Predictive alert.
3. Select **Time** and adjust the amount of time. For example, if you select 15 minutes, you will get an alert 15 minutes before your sensor glucose value reaches your high limit.
4. Select **Snooze** to adjust the amount of time between alert notifications. For example, if you select one hour, then the alert repeats every hour until the condition that caused the alert is resolved.
5. Select **Save**.

To set the Low Predictive alert:

1. Go to the Low Predictive screen.
Menu > Sensor Settings > Glucose Alerts > Predictive Alerts > Low Predictive
2. Select **Alert** to turn on the Low Predictive alert.
3. Select **Time** and adjust the amount of time. For example, if you select 15 minutes, you will get an alert 15 minutes before your sensor glucose value reaches your low limit.
4. Select **Snooze** to adjust the amount of time between alert notifications. For example, if you select 15 minutes, then the alert repeats every 15 minutes until the condition that caused the alert is resolved.
5. Select **Save**.

Setting up Rate alerts

The Rate alerts notify you when your SG value changes at, or faster than, the per-minute rate you specify in the alert setting.

The arrows represent the direction and the rate at which your SG value is rising or falling. The up arrows represent a rising rate, and the down arrows represent a falling rate.

The following table lists the specific SG rates you can select for the Rise alert and Fall alert:

| If you select this setting: | A Rate alert occurs when your SG is: |
|-----------------------------|--|
| ↓ or ↑ | Falling or rising at a rate of 1 mg/dL per minute or more. |
| ↓↓ or ↑↑ | Falling or rising at a rate of 2 mg/dL per minute or more. |
| ↓↓↓ or ↑↑↑ | Falling or rising at a rate of 3 mg/dL per minute or more. |
| Custom | Falling or rising at the rate you specify. Enter a rate from 1 to 5 mg/dL/min. You set the rate in 0.1 mg/dL/min increments. |



Note: The steps for setting up the Rise Alert and Fall Alert are the same, apart from the specific rise and fall selections. This procedure uses the screen examples from the Rise Alert.

To set up a Rise Alert or a Fall Alert:

1. Go to the Rate Alerts screen.

Menu > Sensor Settings > Glucose Alerts > Rate Alerts

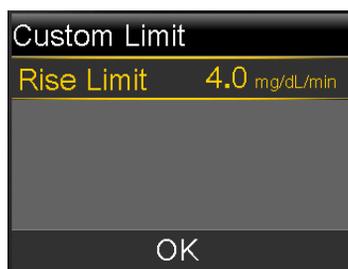


2. Select **Rise Alert** or **Fall Alert** to turn on the alert you want to set.
3. Select **Rise Alert Limit** or **Fall Alert Limit**. Depending on the limit you are setting, the Rise Limit screen or Fall Limit screen appears. The following example shows the Rise Limit screen, with the current rate indicated with a white check mark.



4. Select the arrow option (one, two, or three arrows) that corresponds to the rise rate or fall rate you want to use. To use a custom rate, skip to the next step.
5. To enter a custom rise rate or fall rate:
 - a. Select **Custom** to enter a specific rise rate or fall rate. The Custom Limit screen appears.

The following example shows the Custom Limit screen for the Rise Limit.



- b. Depending on the limit you are setting, select **Rise Limit** or **Fall Limit**, and adjust the limit to your desired value.
 - c. Select **OK** to save the custom value.
6. Select **Save** to save the Rise Limit or Fall Limit you set.

Setting up Rise Snooze

After you receive a Rise Alert, the alert repeats until the condition that caused the alert is resolved. The Rise Snooze allows you to adjust the amount of time between alert notifications.

To set up Rise Snooze:

1. Go to the Rate Alerts screen.

Menu > Sensor Settings > Glucose Alerts > Rate Alerts

2. Select **Rise Snooze**.
3. Select a time between five minutes and three hours.

Setting up Fall Snooze

After you receive a Fall Alert, the alert repeats until the condition that caused the alert is resolved. The Fall Snooze allows you to adjust the amount of time between alert notifications.

To set up Fall Snooze:

1. Go to the Rate Alerts screen.
Menu > Sensor Settings > Glucose Alerts > Rate Alerts
2. Select **Fall Snooze**.
3. Select a time between five minutes and one hour.

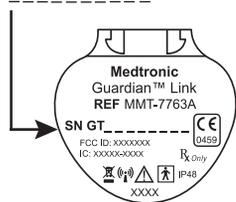
Deleting the transmitter from your pump

Follow this procedure to delete the transmitter from your pump. Use this process when you are replacing your transmitter.

To delete your transmitter from your pump:

1. Go to the Manage Devices screen.
Menu > Utilities > Device Options > Manage Devices
2. Identify and select your transmitter by the serial number. The serial number can be found on the back of the transmitter.

SN GTXXXXXXXX



3. Select **Delete**.
4. A screen appears confirming that you would like to delete the device. Select **Yes** to confirm or **No** to cancel.

Inserting the sensor

Always refer to the serter user guide for instructions on how to insert the sensor.

Connecting the transmitter to the sensor

Always refer to your transmitter user guide for instructions on how to connect the transmitter to the sensor.

Starting the sensor

After you insert your sensor and connect your sensor and transmitter, your pump starts communicating with the transmitter. The pump notifies you when the sensor is ready to use.

To start a new sensor using the Start New Sensor message:

1. Select **Start New Sensor** when it appears on the pump screen.

The "Sensor warm-up started" message appears.



Note: It may take up to 5 minutes for the "Sensor warm-up started" message to appear.

2. Select **OK**.

"Warm up..." appears on the Home screen until the sensor is ready for first calibration.



Note: If you do not see the **Start New Sensor** option, then follow the procedure for manual connection described below.

To start a new sensor using manual connect:

1. Go to the Sensor Connections screen.

Menu > Sensor Settings > Sensor Connections

2. Select **Start New Sensor**.

The Start New Sensor screen appears.

3. If you have not done so already, connect the transmitter to your sensor. For details about connecting your transmitter and sensor, see your transmitter user guide.

Your pump searches for your transmitter signal. It can take up to six minutes for your pump and transmitter to start communicating.

4. Select **OK**.
5. The Sensor warm-up started message appears on the screen. Select **OK**.

"Warm up..." appears on the Home screen until the sensor is ready for first calibration. Your pump begins displaying SG data up to 15 minutes after you successfully calibrate your sensor. For details about calibration, see *Calibrating your sensor, on page 166*.

If you receive a message that your pump cannot find the sensor signal, continue to the next section.

If your pump cannot find the sensor signal:

1. If your pump cannot find the sensor signal, follow the instructions on your pump screen. Your pump guides you through the following steps:
 - a. Disconnect and reconnect the transmitter from the sensor. Pay attention to the transmitter, and notice if the transmitter light blinks when connected to the sensor. If the transmitter light does not blink, you need to charge your transmitter.
 - b. Move your pump closer to your transmitter. It can take up to 15 minutes for your pump to find the sensor signal.
 - c. If your pump is still unable to find the sensor signal, make sure you are away from any electronic devices that might cause interference.
2. If you have gone through all of the troubleshooting on your pump screen and your pump still cannot find the sensor signal, call the 24 Hour Support Line for further assistance.

Calibrating your sensor

Calibration is the process of entering a BG meter reading to calculate sensor glucose values. You must calibrate your sensor regularly to ensure you continue to receive sensor glucose data. For details, see *Guidelines for calibrating, on page 169*.

Within two hours after you use your pump to start the sensor, your pump displays a Calibrate now alert to let you know that a calibration is due. This BG meter reading is the first calibration for your sensor. It takes up to 15 minutes after calibration to see the first sensor glucose reading on your Home screen. You enter your second calibration within six hours after your first calibration.

After you have entered your first two calibrations, you must calibrate your sensor again within 12 hours. If you do not enter a BG meter reading within 12 hours, your pump displays the Calibrate now alert and stops calculating sensor glucose values until a calibration BG is successfully entered. The sensor must be calibrated at a minimum of every 12 hours throughout the life of the sensor.



Note: Sensor calibration is successful only if your BG entry is in the range of 40 to 400 mg/dL. Remember to calibrate three to four times throughout the day for optimal results.

To calibrate your sensor:

1. Take a BG meter reading.
2. Go to the Calibrate Sensor screen.

Menu > Sensor Settings > Calibrate Sensor

3. Select **BG** and enter the value.
4. Select **Calibrate**.

You can set up a reminder to notify you when your next calibration is due. For more information, see *Calibration reminders*, on page 131.

Where to enter your calibration BG meter reading

There are several screens on the pump where you can enter a BG meter reading for calibration. These screens are described in the following table. These options are available only if you are using a sensor, and your transmitter is wirelessly connected with your pump.

| Pump screen | How to enter your calibration BG |
|---|--|
| <p>Home screen</p> <p>When the calibration option is available, you can access the Calibrate Sensor screen. First highlight the sensor graph on the Home screen. Then press and hold the  button to access the calibration screen.</p> | Enter a BG meter reading specifically for calibration. |
| <p>Calibrate Sensor screen</p> <p>Menu > Sensor Settings > Calibrate Sensor</p> | Enter a BG meter reading specifically for calibration. |
| <p>BG Meter screen</p> <p>The BG Meter screen appears automatically when your compatible Ascensia blood glucose meter sends a BG meter reading to your pump.</p> | Select the Calibrate Sensor option to calibrate your sensor with the current BG meter reading. |
| <p>BG screen in Event Markers</p> <p>Menu > Event Markers > BG</p> | When you enter a BG meter reading in Event Markers, the Event Markers screen has an option to use the BG value for calibration. |
| <p>BG field in the Bolus Wizard screen</p> <p>Home screen > Bolus > Bolus Wizard</p> | When you enter a BG meter reading to deliver a bolus using the Bolus Wizard, the Bolus Wizard gives you the option to use the BG value for calibration after the bolus is delivered. |

When to calibrate

The following table describes when to calibrate your sensor.

| Calibrate | Description |
|----------------------------|---|
| After warm-up is complete. | Do your first sensor calibration. Your pump displays a Calibrate now alert within two hours after starting a new sensor. Your first sensor glucose reading appears about 5 to 15 minutes after you calibrate. |

| Calibrate | Description |
|---|---|
| Six hours after your first calibration. | Do your second sensor calibration. Six hours after you calibrate for the first time, a Calibrate now alert appears, and your pump stops calculating your SG values. It takes about 5 to 15 minutes after you calibrate to receive SG values again. |
| Within 12 hours after your second calibration and at least every 12 hours thereafter. | After you do your second calibration, you need to calibrate at least every 12 hours. If you do not calibrate for more than 12 hours, a Calibrate now alert appears. It takes about 5 to 15 minutes after you calibrate to receive SG values again. |



Note: During calibration, the most recent sensor glucose reading does not appear. Dashes appear in place of the sensor glucose reading, and "Calibrating" appears on the sensor graph.

Guidelines for calibrating

Follow these guidelines for best sensor calibration results:

- Calibrate three to four times spread out throughout the day to improve accuracy. For details, see *When to calibrate, on page 168*.
- You can calibrate anytime. However, calibrating with two or three trend arrows may temporarily decrease accuracy until the next calibration. For an example of trend arrows on the Home screen, see *Home screen with CGM, on page 156*.
- Always calibrate immediately after testing your BG. Never calibrate with a BG meter reading that you have taken more than 12 minutes earlier as that BG value would no longer be considered valid.
- Always use clean, dry fingers when you test your blood glucose levels.
- Use only your fingertips when obtaining blood samples for calibration.



Note: If your BG meter readings are significantly different from your sensor glucose readings, you need to wash your hands and calibrate again.

Disconnecting the transmitter from the sensor

Always refer to your transmitter user guide for instructions on disconnecting the transmitter from the sensor.

Removing the sensor

Always refer to the sensor user guide for instructions on how to remove the sensor.

Turning off Sensor Settings

You can turn off Sensor Settings at any time. If you disconnect the transmitter from the sensor, turn off the Sensor Settings to avoid getting a sensor alert. Your sensor settings remain in your pump. You cannot make changes to the settings until you turn on the Sensor Settings again.

To turn off Sensor Settings:

1. Go to the Sensor Settings screen.
Menu > Sensor Settings
2. Select **Sensor**.
3. Select **Yes** to turn off the sensor feature.

Using continuous glucose monitoring

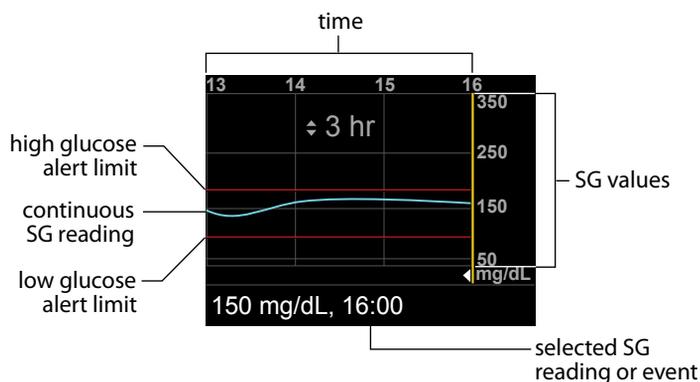
11

11 Using continuous glucose monitoring

This chapter provides information on how to use CGM on your pump to view your sensor glucose data. This information helps you identify sensor glucose trends, including being notified if your sensor glucose is falling or rising rapidly. You can also view historical sensor glucose readings in a graph format. Information is also included on how to silence your glucose alerts.

The sensor graph

The sensor graph displays your current sensor glucose (SG) reading that is wirelessly sent to your pump by the transmitter.



The sensor graph includes the following information:

- The most recent sensor glucose reading.
- Historical sensor glucose readings for the last 3-hour, 6-hour, 12-hour, or 24-hour periods.

- Your high and low glucose alert limit.
- The bolus deliveries you have given during the time period shown on the graph.

If an SG reading does not appear on the graph, some possible reasons for this include:

- An error condition or a sensor-related alert is occurring
- A new sensor that you just inserted is still initializing
- An existing sensor that you have recently reconnected is not ready
- More than 12 hours have passed since the last sensor calibration
- A new sensor that just initialized is still calibrating
- More than six hours have passed since the initial sensor calibration

To view the sensor graph:

1. Select the graph area of the Home screen.
A full-screen view of the 3-hour graph appears.
2. Select \wedge to navigate to the 6-hour, 12-hour, and 24-hour graphs.
3. Select \lt to view SG readings and event details.
4. To exit the full-screen view, press \swarrow .

Identifying rapid changes in sensor glucose

When you use a sensor, trend arrows appear on the Home screen if your SG has been rising or falling faster than a certain per-minute rate. The number of arrows that appear tell you how quickly your SG has been changing.

The following table shows the trend arrows and their corresponding rates.

| | |
|---|--|
|  | SG has been rising at a rate of 1 mg/dL per minute or more, but less than 2 mg/dL per minute. |
|  | SG has been falling at a rate of 1 mg/dL per minute or more, but less than 2 mg/dL per minute. |
|  | SG has been rising at a rate of 2 mg/dL per minute or more, but less than 3 mg/dL per minute. |



SG has been falling at a rate of 2 mg/dL per minute or more, but less than 3 mg/dL per minute.



SG has been rising at a rate of 3 mg/dL per minute or more.



SG has been falling at a rate of 3 mg/dL per minute or more.

Silencing Glucose Alerts

The Alert Silence feature allows you to make sensor glucose alerts silent for a set period of time. This is useful in situations where you do not want to disturb others, such as when you are in a business meeting or in a movie theater. When using this feature, your system still records the time and glucose value for any alerts that occur. You can view this information in the Alarm History screen. See *Alarm History*, on page 121 for details.

If a glucose alert occurs when you are using the Alert Silence feature, a message appears letting you know an alert was silenced, but there is no vibration or beep. If you have not cleared the alert by the end of the preset alert silence duration, your pump begins to beep or vibrate periodically until the alert is cleared.

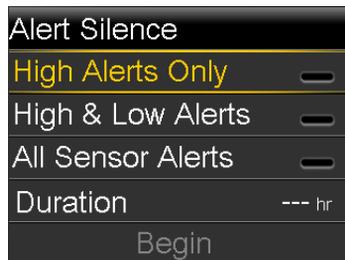
The following table describes the glucose alerts that are silenced with each option.

| This Alert Silence setting | Silences these alerts |
|----------------------------|---|
| High Alerts Only | High Sensor Glucose and Rise Alert |
| High & Low Alerts | High Sensor Glucose, Rise Alert, Low Sensor Glucose, and Fall Alert |
| All Sensor Alerts | All of the alerts listed previously for High & Low Alerts, plus the following: <ul style="list-style-type: none"> • All calibration alerts, reminders, or error messages. • All alerts relating to sensor insertion, including alerts about sensor warm-up, changing your sensor, sensor expiration, sensor errors, connection issues, and so on. • All alerts related to your transmitter, including all alerts about your transmitter battery and all connection issues. |

To silence Glucose alerts:

1. Go to the Alert Silence screen.

Menu > Sensor Settings > Alert Silence



2. Select **High Alerts Only**, **High & Low Alerts**, or **All Sensor Alerts** to set the alerts you want silenced. Refer to the previous table for details about the alerts silenced with each selection.



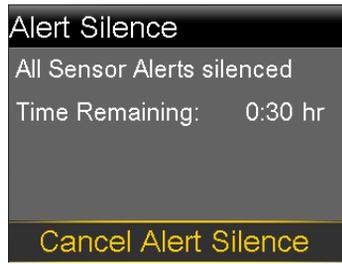
Note: If you select **All Sensor Alerts**, you will not receive any alerts related to your sensor glucose readings, your sensor, calibration requirements, or your transmitter. If a glucose alert occurs, the notification light flashes and a message appears on your pump to let you know a silenced alert occurred, but there is no vibration or beep. You can view the specific alert in Alarm History. For more information, see *Alarm History*, on page 121.

3. Set the **Duration** time (from 30 minutes to 24 hours) for which the alerts will be silenced, and then select **OK**.
4. Select **Begin**. The Alert Silence settings immediately take effect and you are returned to the Sensor Settings screen.

To cancel Alert Silence:

1. Go to the Alert Silence screen.

Menu > Sensor Settings > Alert Silence



2. Select **Cancel Alert Silence**.

12

Alarms, alerts, and messages

12

Alarms, alerts, and messages

The following chapter describes the general behavior of the most-common and the most-serious notifications and how to resolve them.

About alarms, alerts, and messages

Your pump has a sophisticated safety network. If this safety network detects anything unusual, it conveys this information in the form of notifications. Notifications include alarms, alerts, and messages.



Note: When you receive a notification while your pump is locked, you will be able to clear the alarm, alert, or message without having to unlock your pump. After you clear the notification, you will be redirected to the Home screen. You must unlock your pump before navigating away from the Home screen. For more information, see *Unlocking your pump*, on page 28.

When you have received more than one notification and there are multiple messages to view, a small white flap appears on the notification icon in the upper-right corner of the screen . When you clear the first notification, the next notification becomes visible.



Note: It is important that you promptly respond to all notifications and confirmations that appear on your pump. In the event that you do not respond, your pump may remain on that screen until addressed.

When you respond to a message, there may be times when another message appears. Always be sure to address all notifications you have received.

A white triangle in the lower-right corner means you must press ∇ to continue.



WARNING: If you receive a critical error on your pump, the following screen displays and the pump sirens.



Immediately disconnect from your insulin pump and discontinue use. Please contact the 24 Hour Support Line for further assistance.

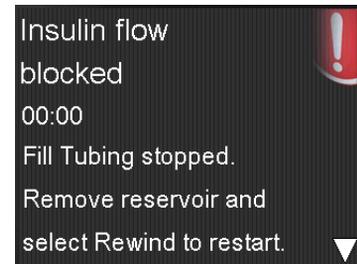
Remember, your body still needs insulin while your pump is removed. It is important that you consult your healthcare professional to determine an alternate method of receiving insulin while your pump is removed.

Alarms

An alarm warns you that the pump detected something that prevents insulin from being delivered. It is important that you respond to an alarm.



WARNING: Do not ignore your pump when it has an alarm. When your pump has an alarm, all insulin delivery stops. This can result in hyperglycemia and ketoacidosis.



When an alarm occurs:

Display: The pump displays a notification with a red icon and instructions.

Notification light: The red notification light blinks twice, followed by a pause, in a continuous repeating pattern. The notification light is shown in *Using the buttons, on page 22*.

Audio: Depending on your Audio Options settings, the pump emits an alarm tone, a continuous three-pulse-and-pause vibration pattern, or both the alarm tone and vibration.

You must resolve the underlying problem that triggered the alarm. In most cases, you clear an alarm by pressing \checkmark and then you make a selection. In some cases, however, clearing the alarm does not fix the underlying problem. The alarm repeats until the underlying problem is fixed.

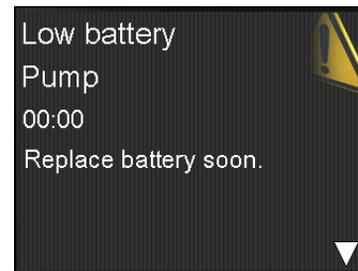
If you do not respond to an alarm, after ten minutes the alarm tone escalates to a loud emergency siren.

Alerts

An alert makes you aware of a situation that may require your attention. An alert is less serious than an alarm.

When an alert occurs:

Display: The pump displays a notification with a yellow icon and instructions.



Notification light: The red notification light on your pump blinks once, followed by a pause, then blinks once again in a continuous repeating pattern. The notification light is shown in *Using the buttons, on page 22*.

Audio: Depending on your Audio Options settings, the pump either beeps or vibrates in a continuous three-pulse-and-pause pattern, or does both.

To clear an alert, press \checkmark and then make a selection. If you do not respond to an alert, the pump beeps every five minutes or every fifteen minutes, depending on the alert.



Note: If an alert occurs when you are in a screen other than the Home screen, the alert message may appear after you return to the Home screen.

Messages

A message informs you about the status of your pump or if you need to make a decision.

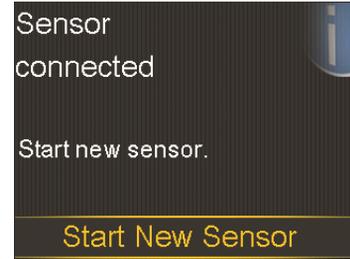
When a message occurs:

Display: The pump displays a notification with a blue icon and instructions.

Notification light: Does not illuminate or blink.

Audio: Depending on the message, the pump emits a message tone, an alert tone, or no tone. Depending on your Audio Options settings, you may hear a tone, feel a one-pulse-only vibration, or hear a tone and feel a vibration.

You clear the message by pressing \vee and making a selection.



Pump alarms, alerts, and messages

The following table lists the most common or serious alarms, alerts, and messages related to your pump. The table also explains the meaning, consequences, and the reasons why these notifications appear, and provides steps for problem resolution.

If you get an alarm, alert, or message that is not listed, select **OK** to clear the notification and call the 24 Hour Support Line for assistance.

| Title and text | Explanation | Next steps |
|--|---|---|
| Active Insulin cleared Any Active Insulin amount has been cleared. | Your active insulin amount is now at 0 units. This may occur because certain alarms automatically clear active insulin. | <ul style="list-style-type: none">• Select OK to clear the alarm.• The active insulin tracked prior to pump restart is not included in new Bolus Wizard calculations. Consult your healthcare professional for how long you need to wait after active insulin is cleared before you can rely on the active insulin calculation of your Bolus Wizard feature.• You can check Daily History for the time and amount of your last bolus. For more information, see <i>Daily History</i>, on page 120. |

| Title and text | Explanation | Next steps |
|--|---|---|
| <p>Auto Suspend</p> <p>Insulin delivery suspended. No buttons pressed within time set in Auto Suspend.</p> | <p>You have not pressed any buttons during the time specified in the Auto Suspend settings.</p> | <ul style="list-style-type: none"> To clear the alarm and resume basal insulin delivery, select Resume Basal. Check your BG and treat as necessary. |
| <p>Battery failed</p> <p>Insert a new AA battery.</p> | <p>The pump battery does not have enough power.</p> | <ul style="list-style-type: none"> Select OK to clear the alarm. Remove the old battery and insert a new AA battery. <p>For details, see <i>About batteries, on page 23</i>.</p> |
| <p>Battery not compatible.</p> <p>See User Guide.</p> | <p>The battery that you inserted into the pump is not compatible.</p> | <ul style="list-style-type: none"> To clear the alarm, remove the incompatible battery. Insert a new AA battery. For compatible battery types, see <i>About batteries, on page 23</i>. |
| <p>Bolus not delivered</p> <p>Bolus entry timed out before delivery. If bolus intended, enter values again.</p> | <p>Bolus values entered, but bolus was not delivered within 30 seconds.</p> | <ul style="list-style-type: none"> Select OK to clear the alert. If bolus delivery was intended, check your BG, re-enter bolus values and deliver bolus. |
| <p>Bolus stopped</p> <p>Cannot resume bolus or cannula fill. XX.XXX of YY.YYY U delivered. ZZ.ZZZ U not delivered. If needed, enter values again.</p> | <p>The battery power has exhausted while a bolus or Fill Cannula was in progress.</p> | <ul style="list-style-type: none"> Note the amount of insulin not delivered. Replace the AA battery. Select OK to clear the alarm. Deliver the remaining bolus amount if needed. |

| Title and text | Explanation | Next steps |
|---|--|---|
| <p>Cannot connect device</p> <p>This device is incompatible with your pump. See User Guide.</p> | <ul style="list-style-type: none"> You may be trying to connect a device that is not compatible with your pump. You are trying to connect a transmitter to your pump but another transmitter is already wirelessly connected to your pump. | <ul style="list-style-type: none"> Select OK to clear the alert. Check the list of devices that are compatible with your pump in <i>Additional devices, on page 17</i>. If you are replacing your transmitter, make sure that you first delete the old transmitter from your pump before you try to connect your new transmitter. Only one transmitter can be connected to your pump. For details, see <i>Deleting the transmitter from your pump, on page 164</i>. |
| <p>Check settings</p> <p>Startup Wizard settings complete. Check and set up your other settings.</p> | <p>Some settings have been cleared or reverted to factory default values.</p> | <ul style="list-style-type: none"> Select OK to clear the alert. Review any settings that you have not already set in Startup Wizard and re-enter the values, if necessary. |
| <p>Critical pump error</p> <p>Delivery stopped. Pump not working properly. Stop using pump. Remove infusion set from body. Consider other insulin treatment. See User Guide.</p> | <p>Your pump has encountered a critical error.</p> | <p>The pump is not able to deliver insulin. Remove your infusion set and stop using your pump.</p> <ul style="list-style-type: none"> Consider another form of insulin delivery. Check your BG, and treat as necessary. Write down the error code that appears on the alarm screen. Call the 24 Hour Support Line for assistance with your pump. |

| Title and text | Explanation | Next steps |
|---|---|--|
| <p>Delivery limit exceeded</p> <p>Delivery stopped. Check BG. See User Guide for more information.</p> | <p>You have attempted to deliver more insulin than expected based on your Max Bolus and Max Basal settings.</p> | <ul style="list-style-type: none"> • Check your BG. • Select Resume Basal. • Check Bolus History and re-evaluate your need for insulin. • Continue to monitor your BG. |
| <p>Fill Cannula?</p> <p>Select Fill to fill cannula or select Done if not needed.</p> | <p>You had the Fill Cannula screen displayed for 15 minutes.</p> | <ul style="list-style-type: none"> • To proceed and fill the cannula, select Fill. • If you do not need to fill the cannula, select Done to skip this process. |
| <p>Insert battery</p> <p>Delivery stopped. Insert a new battery now.</p> | <p>The battery was removed from the pump.</p> | <ul style="list-style-type: none"> • Insert a new AA battery. • The alarm clears when you insert a new battery. • The pump powers off after 10 minutes unless you insert a new battery. |

| Title and text | Explanation | Next steps |
|--|---|--|
| <p>Insulin flow blocked</p> <p>Check BG. Consider injection and testing ketones. Change reservoir and infusion set.</p> | <p>Your pump has detected that the basal or bolus insulin flow was blocked.</p> | <ul style="list-style-type: none"> • Check your blood glucose. • Consider checking ketones and take an injection if needed. • Remove your infusion set and reservoir. • Select Rewind to start the new reservoir process using a new infusion set and reservoir. <p>If a bolus delivery was in progress when the alarm occurred:</p> <ul style="list-style-type: none"> • Check the Daily History screen for the amount of bolus already delivered before the pump alarmed. • Consider delivering remaining bolus, if the bolus insulin was not included in an insulin injection. |

| Title and text | Explanation | Next steps |
|--|---|---|
| <p>Insulin flow blocked</p> <p>Check BG. Consider injection and testing ketones. Estimated 0 U insulin in reservoir. Change reservoir and infusion set.</p> | <p>Your pump has detected that the insulin flow was blocked and there is no insulin in the reservoir.</p> | <ul style="list-style-type: none"> • Check your blood glucose. Consider checking ketones and take an injection if needed. • Remove your infusion set and reservoir. • Select Rewind to start the new reservoir process using a new infusion set and reservoir. <p>If a bolus delivery was in progress when the alarm occurred:</p> <ul style="list-style-type: none"> • Check the Daily History screen for the amount of bolus already delivered before the pump alarmed. • Consider delivering remaining bolus, if the bolus insulin was not included in an insulin injection. |
| <p>Insulin flow blocked</p> <p>Fill Cannula stopped. Remove infusion set from body. Change reservoir and infusion set.</p> | <p>Your pump has detected the insulin flow was blocked while filling the cannula.</p> | <ul style="list-style-type: none"> • Check your blood glucose. Consider checking ketones and take an injection if needed. • Remove your infusion set and reservoir. • Select Rewind to start the new reservoir process using a new infusion set and reservoir. |

| Title and text | Explanation | Next steps |
|---|--|--|
| <p>Insulin flow blocked</p> <p>Fill Tubing stopped. Remove reservoir and select Rewind to restart.</p> | <p>Your pump has detected the insulin flow was blocked while filling the tubing. Possible connection issue between the tubing and reservoir.</p> | <ul style="list-style-type: none"> Remove the reservoir and select Rewind to restart the fill tubing process. Disconnect tubing from reservoir. Be sure tubing is not crimped or bent. Continue following the steps displayed on the pump using the same infusion set and reservoir. If this alarm occurs again, use a new infusion set. |
| <p>Loading incomplete</p> <p>Remove reservoir and select Rewind to restart loading.</p> | <p>You pressed  after loading began.</p> | <ul style="list-style-type: none"> Remove the reservoir to start again. Select Rewind and follow the on-screen instructions. |
| <p>Low battery Pump</p> <p>Replace battery soon.</p> | <p>The battery in the pump is low on power.</p> | <ul style="list-style-type: none"> Select OK to clear the alert. Replace the AA battery as soon as possible. Otherwise, insulin delivery stops, and the Replace Battery Now alarm occurs. If the pump is delivering a bolus or filling the cannula, wait until delivery is complete to replace battery. |

| Title and text | Explanation | Next steps |
|--|--|--|
| <p>Low reservoir</p> <p>XX hours remaining. Change reservoir.</p> <p>or:</p> <p>XX units remaining. Change reservoir.</p> | <p>Your reservoir is low on insulin, according to the number of hours or units set in the Low Reservoir Reminder.</p> | <ul style="list-style-type: none"> • Select OK to clear the alert. • Change the reservoir soon. • If you do not change the reservoir after you receive this alert, you will receive a second Low reservoir alert when the insulin level reaches half of your original alert amount. For more details, see <i>Low Reservoir reminder, on page 129</i>. |
| <p>Manage settings error</p> <p>Delivery stopped. Backup settings cleared from Manage Settings. Current settings are working properly. Select OK to restart. See User Guide.</p> | <p>A pump error has occurred, and you need to restart your pump. Your backup settings have been lost, but your current settings are unchanged.</p> | <ul style="list-style-type: none"> • Select OK to restart your pump. Your current settings are unchanged. Only your backup settings are lost. • When the pump restarts, follow instructions on the pump display. • If the pump was delivering a bolus or filling the cannula, check Daily History and evaluate your need for insulin. • Consider saving your current settings. For details, see <i>Saving your settings, on page 140</i>. |
| <p>Max Fill reached</p> <p>3X.X U. Did you see drops at the end of tubing?</p> | <p>You have exceeded the number of units expected to fill the tubing. By now, insulin should be at the end of the tubing.</p> | <ul style="list-style-type: none"> • If you see drops at the end of the tubing, select Yes. • If you do not see drops, select No. • Follow instructions displayed on the pump. |

| Title and text | Explanation | Next steps |
|--|---|--|
| <p>Max Fill reached</p> <p>4X.X U. Remove reservoir and select Rewind to restart New Reservoir procedure.</p> | <p>You have exceeded the number of units expected to fill the tubing. By now, insulin should be at the end of the tubing.</p> | <ul style="list-style-type: none"> • Remove the reservoir. • Check if you still have insulin in the reservoir. If you do, you can continue using the same reservoir. • Select Rewind to restart the new reservoir procedure. |
| <p>No reservoir detected</p> <p>Rewind before loading reservoir.</p> | <p>There is no reservoir in the pump or the reservoir is not properly locked into place.</p> | <ul style="list-style-type: none"> • Select Rewind. • Ensure that your reservoir is filled with insulin. • When prompted, ensure that your reservoir is inserted and properly locked into place. |
| <p>Power error detected</p> <p>Delivery stopped. Record your settings by uploading to CareLink or write your settings on paper. See User Guide.</p> | <p>The internal power source in your pump is unable to charge. Your pump is operating on the AA battery only.</p> | <ul style="list-style-type: none"> • Select OK to clear the alert. • Check your BG and treat as necessary. • Record your settings as soon as possible because your AA battery may not last long. • Call the 24 Hour Support Line for assistance with your pump. |
| <p>Power loss</p> <p>AA battery was removed for more than 10 min or power was lost. Select OK to re-enter time and date.</p> | <p>Your pump battery has been out for more than ten minutes, and your pump has lost power. You must reset your time and date.</p> | <ul style="list-style-type: none"> • Select OK to go to the Time & Date screen. • Enter the current time, time format, and date. |

| Title and text | Explanation | Next steps |
|--|---|--|
| <p>Pump error</p> <p>Delivery stopped. Current settings cleared. Pump restart needed. Select OK to restart and then re-enter your settings. See User Guide.</p> | <p>Your pump encountered an error and will restart. Your pump settings will return to factory default values.</p> | <ul style="list-style-type: none"> • Select OK to restart your pump. • When the pump restarts, follow instructions on the pump display. • After restart, check settings and reenter values as needed. • If you recently saved backup settings in Manage Settings, use Restore Settings. • If the pump was delivering a bolus or filling the cannula, check Daily History and re-evaluate your need for insulin. • If this alarm recurs frequently, write down the error code displayed on the alarm screen (you can also find it in your Alarm History) and call the 24 Hour Support Line for assistance. |
| <p>Pump error</p> <p>Delivery stopped. Settings unchanged. Pump restart needed. Select OK to restart. See User Guide.</p> | <p>A pump error has occurred, you need to restart your pump.</p> | <ul style="list-style-type: none"> • Select OK to restart your pump. • If the pump was delivering a bolus or filling the cannula, check Daily History and re-evaluate your need for insulin. • If this alarm recurs frequently, write down the error code displayed on the alarm screen (you can also find it in your Alarm History) and call the 24 Hour Support Line for assistance with your pump. |

| Title and text | Explanation | Next steps |
|--|---|---|
| <p>Pump error</p> <p>Delivery stopped. Settings unchanged. Select OK to continue. See User Guide.</p> | <p>Your pump encountered an error but a restart is not necessary. The issue is resolved. Your settings are not changed.</p> | <ul style="list-style-type: none"> • Select OK to resume basal delivery. • If the pump was delivering a bolus or filling the cannula, check Daily History and re-evaluate your need for insulin. • If this alarm recurs frequently, write down the error code displayed on the alarm screen (you can also find it in your Alarm History) and call the 24 Hour Support Line for assistance with your pump. |
| <p>Pump restarted</p> <p>Delivery stopped. Settings unchanged. Select OK to continue. See User Guide.</p> | <p>Your pump has encountered a problem and has restarted. Your settings have not been changed.</p> | <ul style="list-style-type: none"> • Select OK to continue. • If the pump was delivering a bolus or filling the cannula, check Daily History and re-evaluate your need for insulin. • If this alarm recurs frequently, write down the error code displayed on the alarm screen (you can also find it in your Alarm History) and call the 24 Hour Support Line for assistance. |
| <p>Replace battery</p> <p>Battery life less than 30 minutes. To ensure insulin delivery, replace battery now.</p> | <p>Battery life is low and will be exhausted within 30 minutes.</p> | <ul style="list-style-type: none"> • Select OK to clear the alert. • Replace the AA battery. |

| Title and text | Explanation | Next steps |
|---|--|--|
| <p>Replace battery now</p> <p>Delivery stopped. Battery must be replaced to resume delivery.</p> | <p>Insulin delivery has stopped due to low power. Battery was not replaced after the Low battery Pump alert.</p> | <p>Replace the battery immediately to resume insulin delivery. For details, see <i>Removing the battery</i>, on page 25.</p> |
| <p>Reservoir estimate at 0 U</p> <p>To ensure insulin delivery, change reservoir.</p> | <p>Your reservoir level is estimated at 0 units.</p> | <ul style="list-style-type: none"> • Select OK to clear the alert. • Change the reservoir now. |
| <p>Resume bolus?</p> <p>XXX of YYY U delivered. Resume delivery of ZZZ U?</p> | <p>A normal bolus delivery has been interrupted because the pump battery was removed. If it is within 10 minutes since this interruption, you can resume this bolus.</p> | <ul style="list-style-type: none"> • Check the message to see how much of the bolus was actually delivered. • To cancel remaining amount of bolus, select Cancel. • To resume remaining amount of bolus, select Resume. |
| <p>Resume Dual bolus?</p> <p>XX of YY U delivered. Resume delivery of ZZ U for XX:XX hr?</p> | <p>The Square portion of Dual Bolus delivery has been interrupted. If it is within 10 minutes since this interruption, you can resume this bolus.</p> | <ul style="list-style-type: none"> • Check the message to see how much of the Dual Wave bolus was actually delivered. • To cancel remaining amount of bolus, select Cancel. • To resume remaining amount of bolus, select Resume. |

| Title and text | Explanation | Next steps |
|--|--|---|
| <p>Resume Dual bolus?</p> <p>XX of YY U delivered. Resume delivery of ZZ U now, and AA U Square for XX:XX hr?</p> | <p>The Now portion of a Dual Wave bolus delivery has been interrupted because the pump battery was removed. If it is within 10 minutes since this interruption, you can resume this bolus.</p> | <ul style="list-style-type: none"> • Check the message to see how much of the Dual Wave bolus was actually delivered. • To cancel remaining amount of bolus, select Cancel. • To resume remaining amount of bolus, select Resume. |
| <p>Resume Square bolus?</p> <p>XX of YY U delivered for XX:XX hr. Resume delivery of ZZ U for XX:XX hr?</p> | <p>The Square Wave bolus delivery was interrupted. If it is within 10 minutes since this interruption, you can resume this bolus.</p> | <ul style="list-style-type: none"> • Check the message to see how much of the Square Wave bolus was actually delivered. • To cancel remaining amount of bolus, select Cancel. • To resume remaining amount of bolus, select Resume. |
| <p>Rewind required</p> <p>Delivery stopped. Rewind was required due to pump error. Select OK to continue. See User Guide.</p> | <p>Your pump encountered an error.</p> | <ul style="list-style-type: none"> • Select OK to clear the alarm. • Select Reservoir & Tubing from the Home screen to start the new reservoir process using a new infusion set and reservoir. For details, see <i>Setting up the reservoir and infusion set</i>, on page 95. |

| Title and text | Explanation | Next steps |
|--|---|---|
| <p>Stuck button</p> <p>Button pressed for more than 3 minutes</p> | <p>The pump has detected that a button has been pressed for an unusually long time.</p> | <ul style="list-style-type: none"> • Select OK to clear the alarm. • If this alarm occurs again, call the 24 Hour Support Line for assistance with your pump. <p>If you are unable to clear the alarm:</p> <ul style="list-style-type: none"> • See <i>Troubleshooting pump issues</i>, on page 207. • Consider another form of insulin, because your pump is not delivering insulin. • Check your BG and treat as necessary. • Call the 24 Hour Support Line for assistance with your pump. |

CGM (sensor) alarms, alerts, and messages

The following table lists the most-common and the most-serious sensor-related alarms, alerts, and messages, along with the reasons they appear and suggested steps for resolution. These notifications relate to your sensor glucose readings, as well as the status of your transmitter and sensor. If you get an alarm, alert, or message that is not listed, select **OK** to clear the notification and call the 24 Hour Support Line for assistance.

For a list of pump-related alarms, alerts, and messages, see *Pump alarms, alerts, and messages*, on page 184.

| Title and text | Reason | Next steps |
|---|--|--|
| <p>BG not received</p> <p>Place pump close to transmitter. Select OK to resend BG to transmitter.</p> | <p>The transmitter was unable to receive the calibration BG reading from the pump.</p> | <ul style="list-style-type: none"> • Move your pump and transmitter closer together. • Select OK. Your pump tries again to send your BG to your transmitter for sensor calibration. |

| Title and text | Reason | Next steps |
|--|--|--|
| <p>Calibrate now</p> <p>Check BG and calibrate sensor.</p> | <p>A BG meter reading is needed immediately to calibrate your sensor so that you can continue receiving sensor glucose readings.</p> | <ul style="list-style-type: none"> • Take a BG meter reading and enter for calibration. After you receive a Calibrate now alert, it takes up to 15 minutes after you calibrate for your pump to receive SG values. For details, see <i>Calibrating your sensor, on page 166</i>. • If you are unable to calibrate now, you can use the Snooze feature. Set the desired time, and select Snooze. If you do not calibrate before Snooze time, the Calibrate Now alert occurs again. |
| <p>Calibration not accepted</p> <p>Wait at least 15 minutes. Wash hands, test BG again and calibrate.</p> | <p>Your system was unable to use the BG reading you entered to calibrate your sensor.</p> | <ul style="list-style-type: none"> • Select OK to clear the alert. • Wash and dry hands thoroughly. See <i>Calibrating your sensor, on page 166</i>. • After 15 minutes, enter a new BG meter reading for calibration as instructed in <i>Calibrating your sensor, on page 166</i>. If you receive a Calibration not accepted alert on your second calibration after 15 minutes, a Change sensor alert occurs. • Call the 24 Hour Support Line if you have questions. |

| Title and text | Reason | Next steps |
|--|--|---|
| <p>Cannot find sensor signal</p> <p>Disconnect and reconnect transmitter, then select OK. Notice if transmitter light blinks.</p> | <p>The pump has not received a signal from the transmitter.</p> | <ul style="list-style-type: none"> • Disconnect and reconnect your transmitter and sensor. • Notice if the light on your transmitter blinks when connected to the sensor. If the issue is not resolved, you may need this information for troubleshooting later. • Select OK. Your pump searches for your sensor. If your pump receives a signal from your sensor, you do not need to do anything further. If your pump does not receive a signal from the sensor, another message appears to let you know. |
| <p>Change sensor</p> <p>Second calibration not accepted. Insert new sensor.</p> | <p>This alert occurs when you receive two Calibration not accepted errors in a row.</p> | <ul style="list-style-type: none"> • Select OK. • Change your sensor. For instructions on changing your sensor, refer to your sensor user guide. |
| <p>Change sensor</p> <p>Insert new sensor and Start New Sensor.</p> | <p>You selected No in the Check sensor insertion message, indicating that your sensor is not fully inserted.</p> | <ul style="list-style-type: none"> • Select OK. • Change your sensor. For instructions on changing your sensor, refer to your sensor user guide. • After you change your sensor, refer to <i>Starting the sensor, on page 165</i>. |
| <p>Change sensor</p> <p>Sensor not working properly. Insert new sensor.</p> | <p>Sensor signal is no longer reliable.</p> | <ul style="list-style-type: none"> • Select OK to clear the alert. • Change your sensor. For details, see your sensor user guide. |

| Title and text | Reason | Next steps |
|--|--|--|
| <p>Check connection</p> <p>Ensure transmitter and sensor connection is secure, then select OK.</p> | <p>The pump fails to detect the transmitter and is unable to receive sensor signal.</p> | <ul style="list-style-type: none"> • Select OK to clear the alert. • If your sensor is fully inserted, select Yes. If your sensor is not fully inserted, select No. • If your sensor was not fully inserted, insert a new sensor. • If you still cannot connect your sensor, see <i>My pump cannot find the sensor signal</i>, on page 213. |
| <p>Fall Alert</p> <p>Sensor glucose falling rapidly.</p> | <p>Your SG value has been falling as fast or faster than the Fall Alert Limit that you have set.</p> | <ul style="list-style-type: none"> • Select OK. • Check your BG and treat as necessary, following the instructions from your healthcare professional. |
| <p>High SG predicted</p> <p>Sensor glucose is approaching High Limit.</p> | <p>Your SG value is approaching your specified high limit.</p> | <ul style="list-style-type: none"> • Select OK to clear the alert. • Check your BG. • Follow instructions from your healthcare professional and continue to monitor your BG. |
| <p>High SG XXX mg/dL</p> <p>High sensor glucose. Check BG.</p> | <p>SG value has reached or exceeded the High Alert Limit that you have set.</p> | <ul style="list-style-type: none"> • Select OK to snooze the alert. • Check your BG. If necessary, treat your BG as directed by your healthcare professional. • This alert recurs if your SG is still above your High Alert Limit after Snooze time ends. |
| <p>Lost sensor signal</p> <p>Move Pump closer to transmitter. May take 15 minutes to find signal.</p> | <p>Transmitter signal has not been received for 30 minutes during or after initialization.</p> | <ul style="list-style-type: none"> • Move your pump closer to your transmitter. It can take up to 15 minutes for your pump to start communicating with your transmitter. • Select OK. |

| Title and text | Reason | Next steps |
|---|--|---|
| <p>Low battery transmitter</p> <p>Recharge transmitter within 24 hours.</p> | <p>The battery in the transmitter needs to be recharged within 24 hours.</p> | <ul style="list-style-type: none"> • Select OK. • Recharge your transmitter as soon as possible. |
| <p>Low SG predicted</p> <p>Sensor glucose is approaching Low Limit.</p> | <p>Your SG value is approaching your specified low limit.</p> | <ul style="list-style-type: none"> • Select OK to clear the alert. • Check your BG. • Follow instructions from your healthcare professional and continue to monitor your BG. |
| <p>Low SG XXX mg/dL</p> <p>Low sensor glucose. Check BG.</p> | <p>SG value has reached or fallen below the Low Alert Limit that you have set.</p> | <ul style="list-style-type: none"> • Select OK to snooze the alert. • Check your BG. If necessary, treat your BG as directed by your healthcare professional. • This alert recurs if your SG is still below your Low Alert Limit after Snooze time ends. |
| <p>No calibration occurred</p> <p>Confirm sensor signal. Calibrate by XX:XX.</p> | <p>The transmitter was unable to receive the calibration BG reading from the pump.</p> | <ul style="list-style-type: none"> • To clear the alert, select OK. • Check the status bar on your pump to ensure that your pump has a signal from your sensor. If there is no sensor signal, see <i>My pump cannot find the sensor signal</i>, on page 213. • Calibrate again by the time shown on the pump screen to ensure you continue SG monitoring. |

| Title and text | Reason | Next steps |
|--|--|--|
| <p>No calibration occurred</p> <p>Confirm sensor signal. Check BG again to calibrate sensor.</p> | <p>The transmitter was unable to receive the calibration BG from the pump, and the sensor calibration is required to continue sensor glucose monitoring.</p> | <ul style="list-style-type: none"> • To clear the alert, select OK. • Calibration is required by the system for SG values to resume. "Calibration required" appears on your sensor graph. • Take another BG meter reading and calibrate again. |
| <p>Possible signal interference</p> <p>Move away from electronic devices. May take 15 minutes to find signal.</p> | <p>There may be interference from another electronic device that is causing your pump and transmitter to lose communication.</p> | <ul style="list-style-type: none"> • Move away from other electronic devices. It can take up to 15 minutes for your pump to start communicating with your transmitter. • Select OK to acknowledge the alert. |
| <p>Rise Alert</p> <p>Sensor glucose rising rapidly.</p> | <p>Your SG value has been rising as fast or faster than the Rise Alert Limit that you have set.</p> | <ul style="list-style-type: none"> • To acknowledge the alert, select OK. • Monitor trend and glucose level. • Follow instructions from your healthcare professional. |
| <p>Sensor alert occurred</p> <p>Check Alarm History for silenced alerts.</p> | <p>Sensor alert occurred when Alert Silence is on.</p> | <ul style="list-style-type: none"> • Select OK to clear the alert. • Check the Alarm History screen to see which alerts were silenced. For more information about accessing the Alarm History screen, see <i>Alarm History, on page 121</i>. • Select the alert to open the Alarm Detail screen. • Take action based on the selected alert. |

| Title and text | Reason | Next steps |
|--|---|---|
| <p>Sensor connected</p> <p>If new sensor, select Start New. If not, select Reconnect.</p> | <p>The transmitter detected that you have connected a sensor. The pump needs to know if this is a new sensor, or if you have reconnected your old sensor.</p> | <ul style="list-style-type: none"> • If you have connected a new sensor, select Start New. • If you have reconnected to a sensor you have been using, select Reconnect. • Whether you connected a new sensor or reconnected a sensor you have been using, a "warm-up" messages appears on your Home screen, and then you are prompted to calibrate. Your pump starts receiving your SG values again after the two-hour initialization is complete. |
| <p>Sensor connected</p> <p>Start new sensor.</p> | <p>The transmitter has detected that you have connected a sensor</p> | <ul style="list-style-type: none"> • Select Start New Sensor. • For more information, see <i>Starting the sensor, on page 165</i>. |
| <p>Sensor expired</p> <p>Insert new sensor.</p> | <p>The sensor has reached the end of its useful life.</p> | <ul style="list-style-type: none"> • Select OK to clear the alert. • Change your sensor. For details, see your sensor user guide. |
| <p>Sensor signal not found</p> <p>Did transmitter light blink when connected to sensor?</p> | <p>The pump has still not received a signal from the transmitter.</p> | <p>When you reconnected the transmitter to the sensor, did you see a blinking green light on the transmitter?</p> <ul style="list-style-type: none"> • Select Yes or No and follow the instructions on the next screen. |

| Title and text | Reason | Next steps |
|---|---|---|
| <p>Sensor signal not found</p> <p>See User Guide.</p> | <p>After multiple attempts, the pump failed to detect the transmitter and is unable to receive sensor signal.</p> | <ul style="list-style-type: none"> • Select OK to clear the alert. • Repeat the connection process. Remove the transmitter from the sensor for about ten seconds, and then reconnect it to the sensor. • It can take up to 15 minutes for your pump to find the sensor signal. • Move your pump closer to your transmitter to improve reception. • Make sure you are away from any electronic devices that might cause interference, such as cellular phones and other wireless devices. • If your pump still cannot find the sensor signal, call the 24 Hour Support Line for assistance. |
| <p>Sensor warm-up started</p> <p>Warm-up takes up to 2 hours. You will be notified when calibration is needed.</p> | <p>Your sensor is warming up.</p> | <ul style="list-style-type: none"> • Select OK to clear the message. • For more information, see <i>Starting the sensor, on page 165</i>. |
| <p>Sensor updating</p> <p>Do not calibrate unless notified. This could take up to 3 hours.</p> | <p>The SG value is unavailable due to a temporary situation.</p> | <ul style="list-style-type: none"> • Select OK to clear the alert. • Follow the instructions on the pump screen. You do not need to change the sensor. |
| <p>Transmitter battery depleted</p> <p>Recharge transmitter now.</p> | <p>The battery in the transmitter needs to be recharged.</p> | <ul style="list-style-type: none"> • To clear the alert, select OK. • Recharge your transmitter. SG values are not recorded or transmitted until you recharge transmitter. |

13

■ Troubleshooting

13 Troubleshooting

This chapter contains procedures and information to help you understand and address conditions that might occur with your pump.

For a list of alarms, alerts, and messages that may appear on your pump, see *Pump alarms, alerts, and messages*, on page 184.

Troubleshooting pump issues



WARNING: If you receive a critical error on your pump, the following screen displays and the pump sirens.



Immediately disconnect from your insulin pump and discontinue use. Please contact the 24 Hour Support Line for further assistance.

Remember, your body still needs insulin while your pump is removed. It is important that you consult your healthcare professional to determine an alternate method of receiving insulin while your pump is removed.

My pump buttons are stuck

During atmospheric pressure changes, your pump buttons may not work for up to 45 minutes. For example, during airplane travel your pump buttons may get stuck. This condition is rare; however, if it occurs either wait for the problem to correct itself, or if you have a new AA battery with you:

1. Remove the battery cap.
2. Place the battery cap back onto the pump.

Your pump will check the AA battery power, and may require a new AA battery.

3. If prompted, insert a new AA battery.

If these steps do not correct the problem, contact the 24 Hour Support Line for assistance.

What is a Check Settings alarm?

This alarm occurs when a condition causes your pump to reset to factory settings. You see this alarm after your pump guides you through re-entering the Startup Wizard settings.

The Check Settings alarm is letting you know that other settings may have been cleared or reverted to factory default values. Review any settings that you have not already set in Startup Wizard and re-enter the values, if necessary.

My pump is asking me to rewind



WARNING: Always make sure the infusion set is disconnected from your body before you rewind your pump or fill the infusion set tubing. Never insert the reservoir into the pump while the tubing is connected to your body. Doing so could result in an accidental infusion of insulin, which can cause hypoglycemia.

You always rewind your pump when changing the reservoir. Rewinding returns the piston in the reservoir compartment to its starting position. It is normal for your pump to ask you to rewind anytime you must remove and replace the reservoir, such as when resolving an Insulin Flow Blocked alarm or addressing a problem loading the reservoir.

I dropped my pump



Caution: Always inspect your pump to ensure there are no cracks before exposing your pump to water, especially if your pump has been dropped, or you suspect your pump is damaged. Water leakage can cause the pump to malfunction, and result in minor injury.

Do the following:

1. Check that all connections are still tightly in place.
2. Check the display, button area, and pump case for cracks or damage.
3. Check the infusion set, including the tubing connector and tubing for cracks or damage.
4. Review the status screen, basal rates and other pump settings.
5. Perform the Self Test procedure by going to:

Menu > Utilities > Self Test

For details, see *Self Test, on page 144*.

6. If the Self Test does not complete successfully, or if you are concerned about your pump, call the 24 Hour Support Line for assistance and check your BG.

I cannot get to the Manage Settings screen

If you go to Menu > Utilities > Manage Settings, a message appears telling you that the feature is not normally accessible and to consult your user guide. To access the Manage Settings screen:

1. **Menu > Utilities > Manage Settings**
2. Simultaneously press and hold > and ◀ for about two seconds. The Manage Settings screen appears. For more information, see *Managing your pump settings, on page 140*.

My pump display times out too quickly

Your pump display times out after 15 seconds by default in order to conserve battery power. You can increase this setting up to three minutes. Go to **Menu > Utilities > Display Options**, and then adjust the Backlight setting as desired. For more information, see *Display Options, on page 139*.



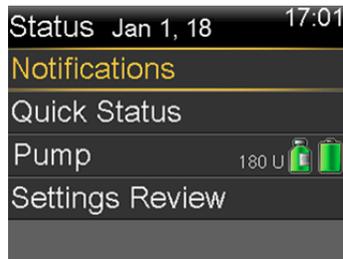
Note: Be aware that using a longer Backlight time causes your pump to use more battery power. When your pump battery is low, the timeout for the backlight on your pump screen is automatically reduced.

Where is my pump status screen?

1. To go to the Status screen, highlight and select the status bar at the top of your Home screen.



The Status screen appears.



2. From the Status screen, you can select the type of status information you want to view. For example, to see a quick status of your pump and recent insulin deliveries, go to Quick Status. For details, see *Status screens, on page 33*.

My pump is asking me to enter my settings

Certain pump errors can clear your settings and return them to their factory default values. This also happens if you intentionally clear your settings. Do not clear your settings unless directed to do so by your healthcare professional.

If you have saved your settings using the Save Settings option, you can restore them using the Restore Settings option. If you restore your settings, ensure the restored settings match the settings prescribed most recently by your healthcare professional.

The Startup Wizard appears automatically when your pump restarts. The wizard guides you through entering the following information. Be sure to have these values ready when you begin.

- Time format, time, and date
- Carb unit
- Active Insulin Time
- Basal patterns

After you enter your pump settings, you have the option of entering the following Bolus Wizard settings:

- Carb ratio or Exchange ratio
- Insulin sensitivity factor
- BG target

To enter your pump settings:

1. Begin entering your settings by selecting your language. Click **Next** to go to each new screen.
2. When the Select Time Format screen appears, select a **12 Hour** or a **24 Hour** time format.
3. When the Enter Time screen appears, adjust the setting to the current time. If you are using a 12-hour clock, be sure to specify AM or PM.
4. When the Enter Date screen appears, adjust the **Year**, **Month** and **Day** to the current date.
5. When the Select Carb Unit screen appears, select **Grams** or **Exchanges** as the unit your pump uses to display carbohydrate information.
6. When the Active Insulin Time screen appears, enter the **Duration**.
For details, see *About active insulin, on page 74*.
7. Enter your first basal rate by entering the End time and the Rate. You can enter more basal patterns after you complete the startup wizard.
For details, see *Adding a new basal pattern, on page 44*.

After you complete your basal pattern, a screen appears to allow you to review your basal information.

8. When the message appears asking if you want to setup the Bolus Wizard settings, do one of the following:
 - Select **Yes** to continue entering your settings, then continue to the next section.
 - Select **No** if you do not want to enter your Bolus Wizard settings. A message appears letting you know that your settings are complete. Select **OK** to continue using your pump.

To enter your Bolus Wizard settings:

1. When your pump shows a list of settings for the Bolus Wizard, make sure you have the values you need before continuing.
2. Depending on the Carb Unit you set earlier, either the Carb Ratio or the Exch Ratio screen appears. Enter your carb ratio or exchange ratio by entering the End time and the Rate. You can adjust your carb or exchange ratio at any time.

For details, see *Changing your carb or exchange ratio, on page 71*.

3. When the Edit Sensitivity screen appears, enter your insulin sensitivity factor by entering the End time and the mg/dL per unit. You can adjust your insulin sensitivity factor at any time.

For details about entering insulin sensitivity factors, including how to set multiple time periods, see *Changing your insulin sensitivity factor, on page 72*.

4. When the BG Target screen appears, enter your BG Target range by entering the End time and your Lo (low) and Hi (high) limits. You can adjust your BG Target ranges at any time.

For details, see *Changing your Bolus Wizard BG target, on page 72*.

A message appears confirming that your setup is complete.

5. Select **Next** to display the Home screen, and continue using your pump.

Troubleshooting sensor issues

My pump cannot find the sensor signal

If your pump cannot find the sensor signal after you connect your sensor and transmitter, follow the instructions on the pump screen to troubleshoot the issue as described below.

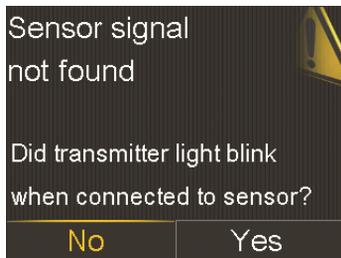
If your pump finds the sensor signal at any time during troubleshooting, your pump beeps or vibrates, and "Warm up" appears on your sensor graph. It can take up to two hours for your sensor to warm up.



Note: If you are using Alert Silence and currently have all sensor alerts silenced, your pump does not display the troubleshooting screens. Any glucose alerts you received are displayed in the Alarm History screen.

1. Make sure your setup meets the following requirements:
 - Your transmitter is fully charged.
If both lights on the charger are off, your transmitter is fully charged. For details, see your transmitter user guide.
 - You have only one transmitter connected to your pump.
Delete the current transmitter that is connected to your pump before continuing. For details, see *Deleting the transmitter from your pump, on page 164*.
 - Your transmitter is placed next to your pump.
 - Your transmitter is reconnected to the pump, if your pump has been recently reset. For details, see *Wirelessly connecting your pump and transmitter using Auto Connect, on page 150*.
 - The Airplane Mode is turned off on your pump.
 - You have applied the tape correctly, as instructed in the sensor user guide.
2. Disconnect the transmitter from the sensor for at least 10 seconds.
3. While the light on the transmitter is blinking, reconnect the transmitter with the sensor to restart communication and select **OK** on the pump to acknowledge the alert.

- Depending on whether the light blinked when you connected the transmitter to the sensor, select **Yes** or **No** on your pump and do one of the following:



- If the transmitter light did not blink, you need to charge your transmitter. When your transmitter is charged, start your sensor. For details, see *Starting the sensor, on page 165*.
 - If your transmitter light blinked, but you still have no sensor signal, continue to the next step.
- Move your pump closer to your transmitter and select **OK**. It can take up to 15 minutes for your pump to find the sensor signal.
 - If your pump still cannot find the sensor signal, make sure you are away from any electronic devices that might cause interference, such as cellular phones and other wireless devices, and select **OK**.
 - If you have gone through all the troubleshooting steps on your pump screen, and your pump still cannot find the sensor signal, or if your sensor graph displays "Sensor signal not found. See User Guide," call the 24 Hour Support Line for assistance.

Calibration not accepted

Calibration not accepted alert occurs when one of the following happens:

- System was unable to use the BG meter readings you entered to calibrate your sensor.
- System rejects two calibrations in a row from the same sensor.
- The transmitter was unable to receive the calibration BG meter readings from the pump due to failed sensor signal.

For details on when and how to calibrate your sensor, see *Calibrating your sensor, on page 166*.

14

Maintenance

Maintenance

It is recommended that you read your warranty statement included with your pump for information about what is covered during your warranty period.

Cleaning your pump



Caution: Never use organic solvents, such as lighter fluid, nail polish remover, or paint thinner to clean your pump. Never use lubricants with your pump. When cleaning your pump, be sure to keep the reservoir compartment dry and away from moisture. Cleaning your pump with organic solvents can cause the pump to malfunction, and result in minor injury.

Make sure you have the following supplies ready for cleaning your pump: three or four small, clean, soft cloths, a mixture of water with a mild detergent, clean water, 70% alcohol, and a few clean cotton tips and cotton balls.

To clean your pump:

1. Dampen a cloth with water mixed with a mild detergent.
2. Using the cloth, wipe the outside of the pump.
3. Dampen a clean cloth with water and wipe to remove any detergent residue.
4. Dry with a clean cloth.
5. Wipe your pump with a 70% alcohol wipe.
6. Using a dry clean cotton tip, remove any battery residue from the battery cap.

- Using a dry clean cloth, remove any battery residue from the battery compartment opening.

Cleaning your transmitter

Always refer to your transmitter user guide for instructions on cleaning the transmitter.

Storing your pump

Storage mode allows you to safely place your pump in storage while not in use.



Note: If you place your pump in storage mode, it is important to insert a new AA battery for 8 to 12 hours every six months to recharge the internal power source.



WARNING: After placing your pump in storage mode, do not rely on active insulin tracked in the pump when making new Bolus Wizard calculations. Storage mode clears active insulin. Inaccurate Bolus Wizard calculations could result in inaccurate insulin delivery, and serious injury.

Placing your pump in storage mode:

- Remove the AA battery from the pump. For details, see *Removing the battery*, on page 25.



Note: When you remove the battery, your pump issues an Insert Battery alarm for 10 minutes or until you place your pump into storage mode.

- Press and hold  until your screen turns off.



Caution: Never expose the pump to temperatures below -20°C or above 50°C while it is in storage without a battery. Storing your pump in temperatures outside of this range can damage your pump.

Waking your pump from storage mode

1. Insert a new AA battery into your pump. For details, see *Inserting the battery, on page 24*.
A Pump Error message appears.
2. Select **OK**.
Your pump displays a Power Loss alarm.
3. Select **OK**.
The Time & Date screen appears.
4. Enter the current **Time**, **Time Format** and **Date**.
5. Select **Save**.
Your pump displays an Active Insulin Cleared alert.
6. Select **OK**.
Make sure that all of your settings, such as basal rate, are set as desired. If you need to, reapply your last saved settings by using the Restore Settings option as instructed in *Restoring your settings, on page 141*.
7. You must repeat the connection process for your transmitter. For details, see *Wirelessly connecting your pump and transmitter using Auto Connect, on page 150*.

Storing your transmitter

Always refer to your transmitter user guide for instructions on storing your transmitter.

Pump Disposal

Contact the 24 Hour Support Line for information on proper disposal of your MiniMed 620G insulin pump. Always follow local laws and regulations for disposal of medical devices.

15

Product specifications and safety information

15 Product specifications and safety information

This chapter provides detailed product specifications and safety information.

Product specifications

This section provides detailed information on product specifications.

Alarm and alert escalation

After six minutes, these alarms and alerts will escalate to both an audio and a vibrate notification, regardless of your audio and vibrate settings. After 10 minutes, they will escalate to a siren and continue to vibrate.

- High SG predicted
- Low SG predicted
- High SG
- Low SG
- Rise Alert
- Fall Alert
- BG not received
- Calibration not accepted
- Calibrate now
- Cannot find sensor signal
- Change sensor
- Check connection
- Lost sensor signal
- No calibration occurred
- Possible signal interference
- Sensor expired
- Sensor signal not found
- Sensor updating
- Transmitter battery depleted

Audio frequency

The following table lists the various audible tones and their corresponding frequencies:

| Tone name | Frequency |
|------------------------------------|---|
| Alarm | 1655 Hz followed by 3310 Hz |
| Alternate Alarm | 1850 Hz |
| Siren (escalated alarm) | 1655 Hz, followed by 3310 Hz |
| Alert | 934 Hz |
| High Sensor Glucose | 1312 Hz, followed by 1410 Hz, 1500 Hz, 1619 Hz, 1722 Hz |
| Low SG | 1722 Hz, 1619 Hz, 1500 Hz, 1410 Hz, 1312 Hz |
| Lost SG | 1485 Hz, followed by 1395 Hz, 1320 Hz, 1395 Hz |
| Message tone | 1655 Hz |
| Reminder tone | 934 Hz |
| Fill tubing tone | 1850 Hz |
| Bolus delivery cancellation tone | 1485 Hz, followed by 1655 Hz and 1485 Hz |
| Loading complete tone | 934 Hz |
| Reservoir loading in progress tone | 1850 Hz |
| Easy Bolus activation | 1045 Hz |
| Easy Bolus step 1 increment | 1175 Hz |
| Easy Bolus step 2 increment | 1320 Hz |
| Easy Bolus step 3 increment | 1395 Hz |
| Easy Bolus step 4 increment | 1570 Hz |
| Easy Bolus step 5 increment | 1760 Hz |

Altitude range

- Pump operating range is from 70.33 kPa (10.2 psiA) to 106.18 kPa (15.4 psiA)
- Storage range is from 49.64 kPa (7.2 psiA) to 106.18 kPa (15.4 psiA)

Backlight

| | |
|------------------------------|---|
| Type | LED (Light-emitting Diode) |
| Time out | 15 seconds (default), 30 seconds, one minute, three minutes |
| Time out when battery is low | 15 seconds (default), 30 seconds |

Basal delivery

| | |
|------------------------|--|
| Delivery rate range | 0 to 35 units per hour or the Max Basal Rate amount, whichever is lower. |
| Max Basal Rate default | 2 units per hour |
| Basal patterns | Maximum of 8 patterns. Each pattern covers a 24 hour period and can have up to 48 rates. Rates are set in 30 minute increments. |
| Basal pattern names | Fixed names: Basal 1, Basal 2, Basal 3, Basal 4, Basal 5, Workday, Day Off, Sick Day |
| Increments | <ul style="list-style-type: none"> • 0.025 units per hour for basal amounts in the range 0 to 0.975 units • 0.05 units per hour for basal amounts in the range 1 to 9.95 units • 0.1 units per hour for basal amounts of 10 to 35 units |

BG Target

| | |
|--|-----------------|
| Maximum targets | 8 |
| Range | 60 to 250 mg/dL |
| Default value for High BG targets and Low BG targets | None |

BG meter value

Most recent BG value received from the meter.

| | |
|------------|-----------------|
| Expiration | 12 minutes |
| Range | 20 to 600 mg/dL |

Bolus delivery

| | |
|------------------------------|--|
| Bolus Speed options | <ul style="list-style-type: none">• Standard: 1.5 units/minute• Quick: 15 units/minute |
| Bolus programming increments | <ul style="list-style-type: none">• 0.025 units• 0.05 units• 0.1 units |
| Fluid delivered/stroke | <ul style="list-style-type: none">• 0.25 μL (microliter) for 0.025 unit pump stroke• 0.5 μL for 0.05 unit pump stroke• 2.0 μL for 0.2 unit pump stroke |

Bolus Wizard feature default settings

| Item | Default | Limits | Increments |
|-------------------------------------|---------|----------------------------------|---|
| Carb units | grams | - | - |
| Insulin to carb (or exchange) ratio | None | 1–200 g/u (0.075–15.0 u/exch) | 0.1 g/u for 1–9.9 g/u; 1 g/u for ratios of 10 g/u to 200 g/u (0.001 u/exch for 0.075–0.099 u/exch; 0.01 u/exch for 0.10–9.99 u/exch; 0.1 u/exch for 10–15 u/exch) |
| Insulin Sensitivity Factor | None | 5–400 mg/dL | 1 mg/dL |
| BG Target | None | 60–250 mg/dL | 1 mg/dL |
| Active Insulin Time | 6 hours | 2 to 8 hours | 15 minutes |

Bolus Wizard feature specifications

There are four different formulas the Bolus Wizard feature uses to estimate a bolus, depending on your current BG. The following formulas apply only when the carb units are in grams.

1. If your current BG is greater than your High BG Target, the Bolus Wizard feature subtracts active insulin from the BG correction estimate, then adds this to the food estimate to get the total bolus estimate. However, if the result of subtracting active insulin from BG correction estimate is a negative number (less than zero), the total bolus estimate is based only on the food estimate.

$$\text{total bolus estimate} = \frac{\text{(food estimate)}}{B} + \frac{\text{(correction estimate)}}{E} - \text{active insulin}$$

where: A = food (grams)
 B = carb ratio
 C = current BG
 D = High BG Target
 E = insulin sensitivity

Food estimate:

Carb grams ÷ Carb ratio = Units of insulin

Correction estimate:

(Current BG - High BG Target) ÷ Insulin sensitivity - Active insulin = Units of insulin

Total bolus estimate:

Food estimate + Correction estimate = Units of insulin

2. If your current BG is less than your Low BG Target, the Bolus Wizard feature adds the BG correction estimate to the food estimate to get the total bolus estimate.

$$\text{total bolus estimate} = \frac{\text{(food estimate)}}{B} + \frac{\text{(correction estimate)}}{E}$$

where: A = food (grams)
 B = carb ratio
 C = current BG
 D = Low BG Target
 E = insulin sensitivity

Food estimate:

Carb grams ÷ Carb ratio = Units of insulin

Correction estimate:

$(\text{Current BG} - \text{Low BG Target}) \div \text{Insulin sensitivity} = \text{Units of insulin}$

Total bolus estimate:

Food estimate + Correction estimate = Units of insulin

3. If your current BG is within your High or Low BG Target, the total bolus estimate is based only on the food estimate.

$$\text{total bolus estimate} = \frac{\text{food (grams)}}{\text{carb ratio}}$$

Food estimate:

$\text{Carb grams} \div \text{Carb ratio} = \text{Units of insulin}$



Note: When the current BG is below the Low BG Target, an active insulin amount is not considered in the Bolus Wizard feature calculations.

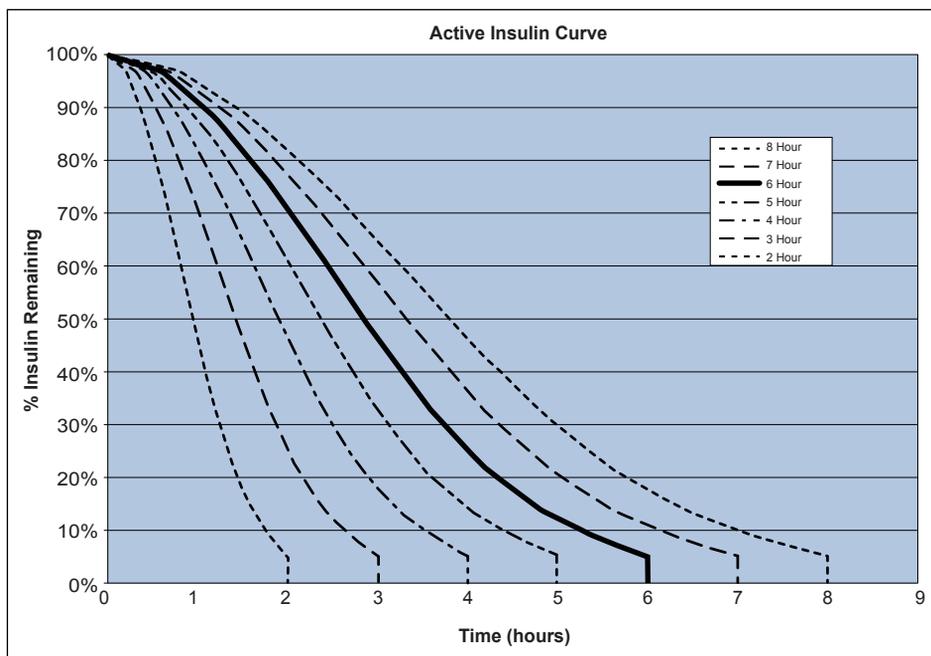
Total bolus estimate = Food estimate

4. If you do not enter a BG, the total bolus estimate is based only on the food estimate.

Following are some notes about using the Bolus Wizard feature:

- If a Dual Wave bolus is less than the estimate due to the Max Bolus limit or a change that you make, the Square portion is reduced first.
- Based on the Active Insulin Time setting you choose, your pump keeps track of how much insulin is still active in your body. This is shown as Active Insulin or Act. Ins. on the Home screen, Bolus screen, Manual Bolus screen, Preset Bolus, and Daily History screens. This prevents stacking of insulin, and lowers the chances of hypoglycemia.
- The Bolus Wizard feature may utilize your current BG measurement, carbohydrate consumption, and active insulin to calculate your estimated bolus.

- The following Active Insulin Curve represents how long a bolus of insulin lowers your blood glucose after the bolus is given. The percentage of insulin remaining lowers at varying rates depending on how long the insulin is active in your body.



Graph adapted from Mudaliar and colleagues, Diabetes Care, Volume 22, Number 9, Sept. 1999, page 1501.

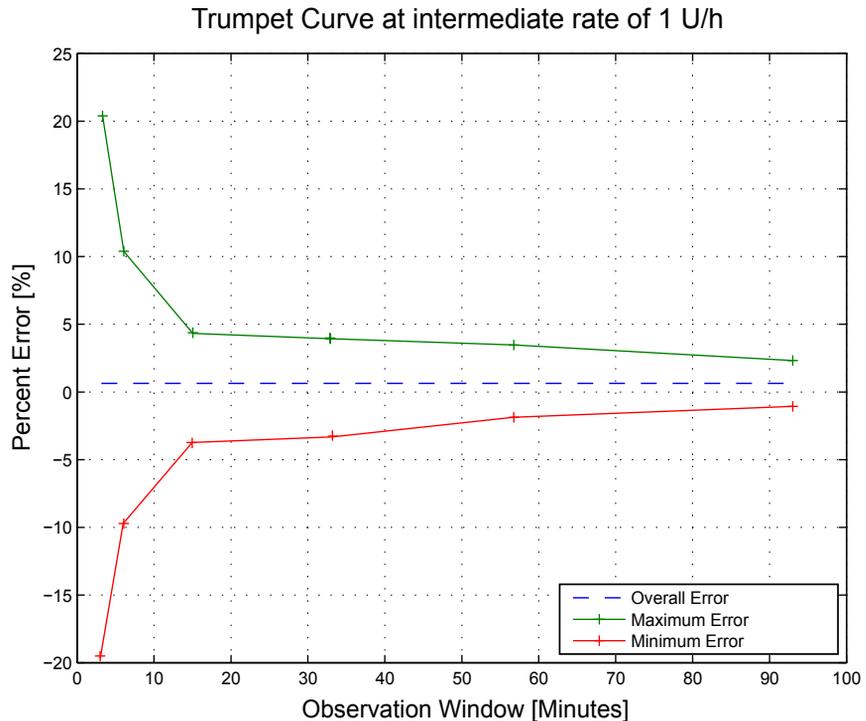
Carb ratios

| Maximum ratio settings | Range |
|------------------------|------------------------|
| 8 | 1 to 200 grams/unit |
| | 0.075 to 15 units/exch |

Delivery accuracy

- For a basal rate of 1.0 U/h, the delivery accuracy is $\pm 5\%$.
 - For a basal rate of 0.025 U/h, the delivery accuracy is $\pm 10\%$.
- Delivery accuracy for bolus volumes < 0.1 unit is $\pm 20\%$ and delivery accuracy for bolus volumes ≥ 0.1 unit is $\pm 5\%$.

- All Normal boluses are delivered within 16 minutes, 41 seconds ± 3 seconds at Standard rate (25 units, at 1.5 units per minute), and within 1 minute, 41 seconds ± 3 seconds at Quick rate (25 units, at 15 units per minute).
- The maximum infusion pressure generated and the occlusion threshold pressure using a 3.0-mL reservoir is 90.67 kPa (13.15 psi). The average resulting bolus volume generated upon clearing the occlusion is 0.0112 mL (equivalent to 1.12 units of U-100 insulin).
- The following is a representative delivery accuracy curve. The Trumpet Curve represents the maximum percentage change from the expected insulin dosage to the actual insulin delivered for a given time interval, known as the observation window, during the infusion of insulin. The upper curve corresponds to positive changes, and the lower curve corresponds to negative changes.



Easy Bolus feature

Allows user to set up and deliver a Normal Bolus when the pump is in Sleep Mode. This is done using the \wedge and with the help of audio and vibration cues.

| | |
|----------------------|--|
| Audio mode range | 0 to 20 increments or Max Bolus limit, whichever comes first |
| Vibrate mode range | 0 to 20 increments or Max Bolus limit, whichever comes first |
| Default step size | 0.1 unit |
| Adjustable step size | 0.1 to 2 units per increment up to Max Bolus limit |

Environmental conditions

The MiniMed 620G insulin pump system is designed to withstand most conditions encountered in your daily life. For more details about environmental conditions, such as exposure to magnetic fields and radiation, waterproof capabilities, and extreme temperatures, see *User safety, on page 5*.

- Pump storage temperature range without a AA battery is from -20°C to 50°C.
- Pump operating temperature range with insulin is from 5°C to 37°C.
- Air pressure range is from 10.2 psi to 15.4 psi (700 hPa to 1060 hPa).
- Operating relative humidity (RH) range of the pump: 20% to 90%.
This requirement exceeds IEC 60601-1, subclause 7.9.3.1 (30% to 75%).
- Non-operating relative humidity range of the pump: 5% to 95%

Filling the infusion set and cannula

- The cannula can be filled from 0.025 units to 5.1 units, in increments of 0.025 units.
- The standard fill rate is 1.5 units per minute.
The quick fill rate is 15 units per minute.
- When filling the tubing, a warning occurs at 30 units. A second warning occurs at 40 units instructing you to rewind the pump.
- Insulin used to fill the infusion set is recorded in the Daily History.

Infusion pressure

The maximum infusion pressure and occlusion pressure are 90.67 kPa (13.15 psi).

Insulin delivery default settings

Bolus settings

| Item | Default setting | Limits | Increments |
|--------------------------|-----------------|------------------------------|------------|
| Bolus Wizard feature: | Off | - | - |
| Easy bolus feature: | Off | - | - |
| Easy bolus step size: | 0.1 U | 0.1 U to 2 U | - |
| Bolus increment: | 0.10 U | 0.025 U 0.05 U 0.10 U | - |
| Dual/Square bolus: | Off | - | - |
| Max bolus: | 10 U | 0 to 25 U (per single bolus) | - |
| Bolus BG Check Reminder: | Off | 0:00 to 5:00 | 0:30 |

Basal settings

| Item | Default setting | Limits | Increments |
|-----------------|-----------------|-------------------------------------|---|
| Max Basal Rate | 2 U/h | 0–35 U/h | 0.025 U for 0.025–0.975 U/h 0.05 U for 1.00–9.95 U/h 0.1 U for rates of 10.0 U/h or more |
| Basal Rate | 0.000 U/h | 0.000 U/h to Max Basal Rate setting | 0.025 U for 0.025–0.975 U/h 0.05 U for 1.00–9.95 U/h 0.1 U for rates of 10.0 U/h or more |
| Temp Basal Type | Percent | Percent, Rate | N/A |

| Item | Default setting | Limits | Increments |
|--------------------|--------------------|----------------------------|--|
| Temp Basal Percent | 100% | 0-200% | 5% |
| Temp Basal Rate | Current basal rate | 0.0 U/hr to Max Basal Rate | 0.025 U for 0.025–0.975 U/h 0.05 U for 1.00–9.95 U/h 0.1 U for rates of 10.0 U/h or more |

Insulin sensitivity factor

| | |
|------------------|--|
| Maximum settings | 8 |
| Default | None. Insulin sensitivity is set during Startup of the Bolus Wizard feature. |
| Range | 5 to 400 mg/dL/unit |

Low Reservoir reminder

The values are based on displayed amount, not actual amount.

| Alert type | Alert range | Increment | Default value |
|------------|---|-----------|---------------|
| Time | First reminder occurs at 2 to 24 hours. Second reminder occurs one hour before empty. The second reminder is automatic and cannot be changed by the user. | 30 min | 8 hours |
| Units | First reminder occurs at 5 to 50 units. Second reminder occurs at 50 percent of the remaining specified amount. The second reminder is automatic and cannot be changed by the user. | 1 unit | 20 units |

Max Bolus

| | |
|---------|---------------|
| Range | 0 to 25 units |
| Default | 10 units |

Normal bolus

Range is 0.025 to 25 units of insulin, and limited by the Max Bolus setting.

Occlusion detection

When occlusion is detected, the Insulin flow blocked alarm occurs. The occlusion alarm is triggered by an average of 2.23 units of missed insulin (standard bolus) or 1.97 units of missed insulin (quick bolus). The MiniMed 620G insulin pump is intended for use with rapid acting U-100 insulin. This table shows occlusion detection for four different situations when using rapid acting U-100 insulin.

| Rate | Minimum time before alarm | Average time before alarm | Maximum time before alarm |
|---|----------------------------------|----------------------------------|----------------------------------|
| bolus delivery (10 units at standard speed) | 71 seconds | 95 seconds | 136 seconds |
| bolus delivery (10 units at quick speed) | 9 seconds | 10 seconds | 14 seconds |
| basal delivery (1.0 u/h) | 2.00 hours | 2.50 hours | 3.80 hours |
| basal delivery (0.025 u/h) | 123.38 hours | 142.03 hours | 178.33 hours |

Percent temp basal

The default value is 100 percent of basal programming. For example, if you program six units of basal insulin per day, the default temp basal will be six units per day.

| | |
|-----------|---------------------------|
| Range | 0 to 200% |
| Default | 100% of basal programming |
| Increment | 5% |

Program safety checks

A single fault condition will cause the pump to suspend insulin delivery. Maximum infusion with a single fault condition is 0.2 units.

Pump dimensions

The MMT-1710 pump dimensions in centimeters will be no greater than 9.68 length x 5.36 width x 2.49 depth.

Pump weight

The mass of the MiniMed 620G insulin pump (MMT-1710) without battery and consumables will be no greater than 106 grams.

Guidance and manufacturer's declaration

| Guidance and Manufacturer's Declaration - Electromagnetic Emissions | | |
|--|--|---|
| <p>The MiniMed 620G insulin pump is intended for use in the electromagnetic environment specified below. The customer or the user of the MiniMed 620G insulin pump should make sure that it is used in such an environment.</p> | | |
| Emissions Test | Compliance | Electromagnetic Environment - Guidance |
| RF emissions Test: 47 CFR Part 15, Subpart C Section 15.247(a)(2)/RSS-210 FHSS- DAOO-705, DTS-KDB 558074, ANSI C63.4, RSS-Gen, FCC Part 15 Section 15.109, Class B/ANSI c63.4 (2009) | <ul style="list-style-type: none"> • 6 dB and 99% Bandwidths: Pass • Maximum Output Power: Pass • TX Spurious Emissions: Pass • Power Spectral Density: Pass | The MiniMed 620G insulin pump must emit electromagnetic energy in order to perform its intended function. Nearby electronic equipment may be affected. |
| RF emissions EN55011 (2009)+A1 | Class B | The MiniMed 620G insulin pump is suitable for use in aircraft and in all establishments, including domestic and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes. |
| RTCA DO 160G (2010) 20.5 and 21.5 | Complies | |
| ARIB STD-T66 | Complies | |

Guidance and Manufacturer's Declaration - Electromagnetic Immunity

The MiniMed 620G insulin pump is intended for use in the electromagnetic environment specified below. The customer or the user of the MiniMed 620G insulin pump should assure that it is used in such an environment.

| Immunity Test | IEC 60601 Test Level | Compliance Level | Electromagnetic Environment - Guidance |
|--|--|------------------------------------|---|
| Electrostatic discharge (ESD) IEC 61000-4-2 | ±8 kV contact ±15 kV air | ±30 kV air (<5% relative humidity) | For use in a typical domestic, commercial, or hospital environment. |
| Electrical fast transient/burst IEC 61000-4-4 | ±2 kV for power supply lines ±1 kV for input/output lines | Not applicable | Requirement does not apply to this battery powered device. |
| Surge IEC 61000-4-5 | ±1 kV line(s) to line(s) ±2 kV line(s) to earth | Not applicable | Requirement does not apply to this battery powered device. |
| Voltage dips, short interruptions and voltage variations on power supply lines IEC 61000-4-11 | <5% U_T (>95% dip in U_T) for 0.5 cycle | Not applicable | Requirement does not apply to this battery powered device. |
| Power frequency (50/60 Hz) magnetic field IEC 61000-4-8 | 400 A/m (continuous field at 60 seconds) 4000 A/m (short duration at 3 seconds) | 400 A/m 4000 A/m | Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment. |

Note: U_T is the a.c. mains voltage prior to application of the test level.

Guidance and Manufacturer's Declaration - Electromagnetic Immunity

The MiniMed 620G insulin pump is intended for use in the electromagnetic environment specified below. The customer or user of the MiniMed 620G insulin pump should assure that it is used in such an electromagnetic environment.

| Immunity Test | IEC 60601 Test Level | Compliance Level | Electromagnetic Environment Guidance |
|------------------------------|--------------------------------|----------------------------------|---|
| Radiated RF IEC 61000-4-3 | 10 V/m 80 MHz to 2.5 GHz | 10 V/m 80 MHz to 6 GHz | <p>Portable and mobile RF communications equipment should be used no closer to any part of the MiniMed 620G insulin pump, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.</p> <p>Recommended separation distance:</p> $d = 1.2 \sqrt{P}$ <p style="text-align: center;">80 MHz to 800 MHz</p> $d = 2.3 \sqrt{P}$ <p style="text-align: center;">800 MHz to 6 GHz</p> <p>Where P is the maximum output power rating of the transmitter in Watts (W) according to the transmitter manufacturer and d is the recommended separation distance in meters (m).</p> <p>Field strength from fixed RF transmitters should be less than the compliance level in each frequency range^a. The field strength values could be determined by an electromagnetic site survey^b.</p> <p>Interference may occur in the vicinity of equipment marked with the following symbol:</p>  |

Guidance and Manufacturer's Declaration - Electromagnetic Immunity

The MiniMed 620G insulin pump is intended for use in the electromagnetic environment specified below. The customer or user of the MiniMed 620G insulin pump should assure that it is used in such an electromagnetic environment.

| Immunity Test | IEC 60601 Test Level | Compliance Level | Electromagnetic Environment Guidance |
|---------------|----------------------|------------------|--------------------------------------|
|---------------|----------------------|------------------|--------------------------------------|

Note: At 80 MHz and 800 MHz, the higher frequency range applies.

Note: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption, and reflection from structures, objects and people.

Note: The table is per IEC (EN) 60601-1-2 Edition 3.

- a. Over the frequency range 150 kHz to 80 MHz, field strength should be less than 3 V/m.
- b. Field strength from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcasts and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the MiniMed insulin pump is used exceeds the applicable RF compliance level above, the insulin pump should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating the MiniMed insulin pump.

Recommended separation distances between the MiniMed 620G insulin pump and common household radio transmitters

| Household RF Transmitter | Frequency | Recommended Separation Distance (meter) | Recommended Separation Distance (inch) |
|--|-----------|---|--|
| Telephones | | | |
| Cordless Household | 2.4 GHz | 0.3 | 12 |
| Cordless Household | 5.8 GHz | 0.3 | 12 |
| TDMA-50 Hz (cell phone) | 1.9 GHz | 0.3 | 12 |
| TDMA-50 Hz (cell phone) | 800 MHz | 0.3 | 12 |
| PCS (cell phone) | 1.9 MHz | 0.3 | 12 |
| DCS (cell phone) | 1.8 MHz | 0.3 | 12 |
| GSM (cell phone) | 900 MHz | 0.3 | 12 |
| GSM (cell phone) | 850 MHz | 0.3 | 12 |
| CDMA (cell phone) | 800 MHz | 0.3 | 12 |
| Analog (cell phone) | 824 MHz | 0.3 | 12 |
| CDMA (cell phone) | 1.9 MHz | 0.3 | 12 |
| Wi-Fi Networks | | | |
| 802.11b | 2.4 GHz | 1 | 39.5 |
| 802.11g | 2.4 GHz | 1 | 39.5 |
| 802.11n | 2.4 GHz | 1 | 39.5 |
| Bluetooth wireless technology 500 kb/s | 2.4 GHz | 0.1 | 3.93 |
| ZigBee 250 kb/s | 2.4 GHz | 0.1 | 3.93 |

Recommended separation distances between portable and mobile RF communications equipment and the MiniMed 620G insulin pump

The insulin pump is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or user of the MiniMed 620G insulin pump can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the MiniMed 620G insulin pump as recommended below, according to the maximum output power of the communications equipment.

| Rated maximum output power of transmitter (W) | Separation distance according to the frequency of transmitter (m) | |
|---|---|--|
| | 80 MHz to 800 MHz $d = 1.2 \sqrt{P}$ | 800 MHz to 6 GHz $d = 2.3 \sqrt{P}$ |
| 0.001 | 0.038 | 0.073 |
| 0.01 | 0.12 | 0.23 |
| 0.1 | 0.38 | 0.73 |
| 1 | 1.2 | 2.3 |
| 10 | 3.8 | 7.3 |
| 100 | 12 | 23 |

For transmitters rated at a maximum output power not listed above, the recommended separation distance d in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where p is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

Note: At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

Note: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

Wireless communication

Quality of service

The CGM transmitter and MiniMed 620G insulin pump are associated as part of an 802.15.4 network for which the pump functions as the coordinator and the CGM transmitter as an end node. In an adverse RF environment the MMT-1710 pump will assess channel changing needs based on "noise" levels detected during an energy scan. The pump will perform the energy scan if after 10 minutes no CGM transmitter signal has been received. If the channel change occurs the pump will send beacons on the new channel.

The CGM transmitter will initiate a channel search when beacon detection fails on the associated channel. The search will be conducted across all five channels. When the beacon is located the transmitter will rejoin on the identified channel. Upon re-association any missed packets (up to 10 hours) will be transmitted from the CGM transmitter to the pump.

In normal operation the CGM transmitter will transmit a packet every 5 minutes and retransmit the packet if the data is corrupted or missed.

Radio frequency (RF) communications specifications

Utilizes the IEEE 802.15.4 protocol with the proprietary data format.

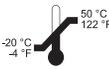
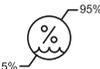
| | |
|-----------------------------|--|
| Pump frequency | 2.4 GHz; proprietary Medtronic protocol; range up to 1.8 meters (6 feet) |
| Maximum output power (EIRP) | -4 dBm (.398 mW) |
| Operating frequencies | 2420 MHz, 2435 MHz, 2450 MHz, 2465 MHz, 2480 MHz |
| Bandwidth | 5 MHz which is allocated channel bandwidth per the IEEE protocol |

Data security

The MiniMed 620G insulin pump is designed to only accept radio frequency (RF) communications from recognized and linked devices (you must program your pump to accept information from a specific device).

The MiniMed 620G system ensures data security via proprietary means and ensures data integrity using error checking processes, such as cyclic redundancy checks.

Icon table

| | |
|---|---|
| Follow instructions for use. |  |
| Manufacturer |  |
| Date of manufacture |  |
| Use by |  |
| Catalogue number |  |
| Serial number |  |
| Storage temperature range |  |
| Storage humidity range |  |
| Magnetic Resonance (MR) unsafe |  |
| Type BF Device (protection from electrical shock) |  |
| Non-ionizing electromagnetic radiation (RF communication) |  |
| Pump: Protected against the effects of continuous immersion in water (3.6 meters for 24 hours). | IPX8 |
| Signifies compliance with Australian EMC, EME and Radio communications requirements |  |
| This symbol means that the device fully complies with MDD 93/42/EEC (NB 0459) | CE 0459 |
| Complies with Japan Radio Law Notice 88 |  |

■ Appendix A: End-user software license agreement



End-user software license agreement

End user software license agreement

NOTICE TO USER: Certain portions of software contained in this product may be covered by the GNU General Public License, Version 2 or Version 3 (“Open Source”), which can be obtained through the GNU web site at www.gnu.org/copyleft/gpl.html. The source code for any Open Source can be obtained, for a nominal fee to cover the cost of shipping and media, by contacting Medtronic MiniMed, Inc., **Director of Software Development**, 18000 Devonshire Street, Northridge, CA 91325-1219, USA, tel: +1-866-948-6633.



Glossary

| | |
|----------------------------------|---|
| active insulin | Bolus insulin that has been delivered by the pump and is still working to lower your blood glucose levels. |
| active insulin adjustment | The amount of insulin that is subtracted from your BG correction bolus to account for the active insulin that is tracked by the Bolus Wizard. |
| Active Insulin Time | A Bolus Wizard setting that lets you set the length of time that bolus insulin is tracked as active insulin. |
| Activity Guard | An attachment that can be used to ensure that the reservoir stays secure during activity, or when the pump is worn by a child. |
| Airplane Mode | A feature that temporarily stops your device from communicating wirelessly. |
| alarm | An audible beep or vibration with a message to inform you that the pump is no longer delivering insulin. Alarms require immediate action. |
| Alarm History | A feature that stores information about recent alarms and alerts. |
| alert | An audible beep or vibration with a message to inform you of a situation that may require your attention. |
| Alert Limits | The values that you set to determine when low and high glucose alerts are triggered. |
| Auto Suspend | An alarm that you set to suspend insulin delivery and trigger an alarm if no buttons are pressed for a specified |

period of time. Clearing the alarm resumes insulin delivery.

| | |
|--------------------------------|---|
| Awake mode | A state in which the pump screen is on. Unless you are actively using another screen, your Home screen appears. |
| basal insulin | Insulin that is continuously delivered by the pump to meet your individual insulin needs between meals and during sleep. |
| basal pattern | A set of one or more basal rates that covers a 24-hour period. |
| basal rate | The amount of continuous basal insulin that you program your pump to automatically deliver per hour. |
| BG | Abbreviation for blood glucose. See <i>blood glucose</i> . |
| BG Targets | The high and low values to which your blood glucose is corrected when using the Bolus Wizard. |
| BG unit | The unit of measure for blood glucose, either milligrams per deciliter (mg/dL) or millimoles per liter (mmol/L). |
| Block Mode | A feature that restricts the ability to change all settings. You can still perform certain functions, such as suspending insulin delivery, reviewing history, testing your pump, or clearing alarms and alerts. |
| blood glucose (BG) | Refers to glucose (sugar) that is present in the blood, commonly measured by a blood glucose meter. |
| blood glucose meter | A device that measures glucose levels in the blood. |
| Bolus BG Check reminder | A reminder that you set just after you program a bolus. The reminder notifies you to check your blood glucose when the time period that you specified has passed. |
| bolus insulin | Insulin used to cover an expected rise in glucose levels from carbohydrates, or to lower a high blood glucose value down to your target range. |
| Bolus Speed | A feature that lets you choose the speed at which your device delivers bolus insulin. |
| Bolus Wizard | A feature that uses your individual Bolus Wizard settings to calculate an estimated bolus amount based on the BG |

values and carbs that you enter. These settings include Carb Ratio, Insulin Sensitivity Factor, BG Target Range, and Active Insulin Time.

| | |
|--|--|
| calibrate | The process of using a meter blood glucose reading to calculate sensor glucose values. |
| Calibration reminder | A reminder you can set to let you know when your next calibration is due. |
| cannula | Short, thin, and flexible tube placed in the tissue below the skin. Insulin is delivered through the cannula into the body. |
| carb ratio | The number of grams of carbohydrates covered by one unit of insulin. The carb ratio is used to calculate bolus amounts. |
| carb unit | The unit of measure for carbohydrates, either grams (g) or exchanges (exch). |
| CGM | Abbreviation for continuous glucose monitoring. See <i>continuous glucose monitoring</i> . |
| continuous glucose monitoring (CGM) | A monitoring tool that uses a glucose sensor placed below the skin to continuously measure the amount of glucose in your interstitial fluid. |
| correction bolus | Insulin used to lower a high blood glucose value down to your target range. |
| Daily History | A feature that displays the actions that you performed using your device. |
| Dual Wave Bolus | A type of bolus that provides a dose of insulin delivered as a combination of a Normal Bolus followed by a Square Wave Bolus. |
| Easy Bolus | A feature that lets you deliver a Normal Bolus in preset increments using only audio or vibrate confirmation. |
| Event Marker | A feature that allows you to record events, such as blood glucose readings, injections, carbohydrates, and exercise. |
| exchange ratio | The number of insulin units that are needed to cover 1 carbohydrate exchange. The exchange ratio is based |

on your individual needs and is used to calculate bolus amounts.

| | |
|-----------------------------------|--|
| food bolus | A dose of insulin you give to cover an expected rise in glucose levels from carbohydrates. |
| High SG alert | The alert that occurs when sensor glucose values reach the high value that you have set in Alert Limits. |
| infusion set | Tubing that connects to the reservoir on one end, and has a needle or cannula on the other end, that you insert into your body. Insulin travels from the pump through the infusion set into your body. |
| infusion site | The location on the body where the infusion set is inserted. |
| insulin sensitivity factor | The amount that blood glucose is reduced by one unit of insulin. The insulin sensitivity factor is used to calculate correction bolus amounts. |
| interstitial fluid | The fluid that surrounds the cells in the body. |
| ISIG | The signal created by the sensor that is used to calculate your sensor glucose value. Typically used by Medtronic technical support representatives when troubleshooting. |
| lock | A pump feature that prevents accidental button presses. |
| Low SG alert | The alert that occurs when sensor glucose values reach the low value that you have set in Alert Limits. |
| Manual Bolus | A feature that allows you to enter and deliver a dose of insulin in the amount that you have determined is necessary. |
| Max Basal Rate | A feature that allows you to set the maximum amount of basal insulin that can be delivered per hour. |
| Max Bolus | A feature that allows you to set the maximum bolus amount that can be delivered in one dose. |
| meter | A term for any blood glucose meter. |
| Missed Meal Bolus reminder | A reminder that a bolus was not delivered during time periods that you specify, often set around your meal times. |

| | |
|--------------------------------|---|
| Normal Bolus | A type of bolus that provides an entire dose of insulin immediately. |
| notifications | All notifications are designed to get your attention and convey different types of information. They include alarms, alerts, reminders, and messages. |
| occlusion | A blockage or crimp of the cannula or tubing that prevents proper insulin flow. |
| piston | The part of the insulin pump that engages the reservoir and moves insulin through the tubing. |
| Power save mode | A state in which your pump is fully functional, but the screen goes dark to save power. You can set how long it takes for your screen to enter power save mode by changing the Backlight setting. |
| Preset Bolus | A feature that allows you to set up and save a bolus for specific meals or snacks that you frequently eat or drink. |
| Preset Temp Basal | A feature that allows you to set up and save temporary basal rates for repeated use. |
| Rate alert | An alert that notifies you if your sensor glucose value has been rising or falling faster than the Rise Limit or Fall Limit that you have set. |
| reminder | A type of notification that you can set to help you remember to do something. |
| reservoir | The small container that you fill with insulin and insert into your delivery device. |
| Rewind | A feature used when changing a reservoir. It returns the piston to its starting position and allows a new reservoir to be placed into the pump. |
| sensitivity | See <i>insulin sensitivity factor</i> . |
| sensor (glucose sensor) | The small part of the continuous glucose monitoring system that you insert just below your skin to measure glucose levels in your interstitial fluid. |
| sensor glucose (SG) | Refers to glucose (sugar) that is present in the interstitial fluid and is measured by a glucose sensor. |

| | |
|---|--|
| Set Change reminder | A reminder that you can set to change your infusion set. |
| SG | Abbreviation for sensor glucose. See <i>sensor glucose</i> . |
| Sleep mode | A state in which your pump is fully functional, but the screen is dark. Your pump automatically enters sleep mode when you have not pressed any buttons for about two minutes. |
| Square Wave Bolus | A bolus delivered evenly over a specified time period. |
| Suspend Delivery | This feature stops all insulin delivery until you resume it. Only the basal insulin restarts when delivery is resumed. |
| Temp Basal Rate (temporary basal rate) | A feature that allows you to temporarily increase or decrease your current basal rate for a duration of time that you specify. |
| transfer guard | The plastic piece that comes attached to the reservoir. It is used to connect the reservoir to the insulin vial while filling the reservoir with insulin. |
| transmitter | A device that connects to a glucose sensor. The transmitter collects data measured by the sensor and wirelessly sends this data to monitoring devices. |



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