Options > 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 appears on the Home screen.

Display Options

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

To adjust the display options:

1. Press ◎ and go to the Display Options screen.

   Options > 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. Use a lower level setting to preserve battery life.

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. Set the screen timeout to 15 or 30 seconds to preserve battery life.

4. Select **Save**.

Language

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

To change the Language setting:

1. Press ◎ and go to the Language screen.

   Options > 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

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

The following table describes the Manage Settings options:

Option	Description
Save Settings	The Save Settings option records your current settings that you can use if a future event requires you to re-enter your settings.
Restore Settings	The Restore Settings option lets you restore your settings with the backup settings that you saved using the Save Settings feature.
Clear All Settings	The Clear All Settings option erases your settings and returns them to the factory defaults. To use your pump again after you clear all settings, you may use Restore Settings or manually re-enter your settings. This option enables you to restore a previous version of your settings or enter your settings again.
Clear Active Insulin	This option appears only if you have never cleared your active insulin. It clears both Active Insulin and sets your total daily dose to 0 for Auto Mode. Use this option when you are ready to use your pump with insulin for the first time or when directed by your healthcare professional. You can only clear your active insulin once.
Settings History	The Settings History option shows a history of recent activities that relate to managing your settings, such as when you saved, cleared, or restored your settings.

Saving your settings

Save a record of your settings so they can be restored at a later date, if necessary.

To save your current settings:

1. Press ◎ and go to the Manage Settings screen.

   Options > Utilities > Manage Settings

2. Simultaneously press and hold > and ↩ until the Manage Settings screen appears.

3. Select **Save Settings**.

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

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

Restoring your settings

The Restore Settings option replaces 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. Press ◎ and go to the Manage Settings screen.

   Options > Utilities > Manage Settings

2. Simultaneously press and hold > and ↩ until the Manage Settings screen 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 option erases your current settings and returns them to the factory defaults. After you clear your settings, your pump displays the Startup Wizard, where you re-enter your pump settings. You must re-enter your settings to continue using your pump.

The Clear All Settings option does not delete paired devices, such as your transmitter or meter.

CAUTION: Do not clear your pump settings unless directed by your healthcare professional. If you clear your pump settings, it will be necessary to reprogram all your personal pump settings as directed by your healthcare professional.

To clear all your settings:

1. Make sure the pump is not connected to your body.
2. Press ◎ and go to the Manage Settings screen.

   Options > Utilities > Manage Settings
3. Simultaneously press and hold > and ↩ until the Manage Settings screen appears.
4. Select **Clear All Settings**.

   A screen appears and tells you to confirm.
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 41*.

Clearing your active insulin

Use the Clear Active Insulin option when you are ready to use your pump with insulin for the first time. This feature clears the total daily dose and any active insulin values that your pump has tracked and then 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.

To clear your active insulin:

1. Press ◎ and go to the Manage Settings screen.

   Options > Utilities > Manage Settings

2. Simultaneously press and hold > and ↩ until the Manage Settings screen 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 screen appears and tells you to confirm.

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 to confirm 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 when you saved, restored, or cleared your settings.

1. Press ◎ and go to the Manage Settings screen.

   Options > **Utilities** > **Manage Settings**

2. Simultaneously press and hold > and ↩ until the Manage Settings screen appears.

3. Select **Settings History**.

   The Settings History screen appears.

Upload to CareLink software

Upload system data to CareLink software with the MiniMed Mobile app or the blue adapter (ACC-190).

The following steps are instructions to upload system data to CareLink software with the blue adapter. Refer to the MiniMed Mobile app user guide for instructions to upload system data to CareLink software with the app.

To upload to CareLink software with the blue adapter:

1. Press and hold ⌄, or press ◎ and go to the CareLink screen.

   Options > Utilities > CareLink
2. Follow the instructions on the CareLink uploader.
3. The CareLink uploader tells you to enter a pump code if the pump is new to the CareLink account. Enter the **Pump Code** from the CareLink screen on the pump.
4. Select **Next** on the CareLink uploader.
5. Select **Upload Now** on the pump screen.

Self Test

Self Test is a safety utility that lets you 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.

Note: Your insulin delivery suspends for up to two minutes while your pump runs a self test.

Self Test includes the following tests:

Test	Description
Display	The display turns on for up to 45 seconds.
Notification light	The notification light turns on for three seconds, and then turns it off.
Vibration	Two vibration tones are generated.

Test	Description
Tone	An alert tone, an Easy Bolus step tone, and an alarm tone are generated.

The pump performs 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. Press ◎ and go to the Self Test screen.

   Options > 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 24-Hour Technical Support.

Sensor Demo

Sensor Demo lets you see what the Home screen would look like if you were using the optional CGM feature. For more information about sensor graphs, see *The sensor graph, on page 211*.

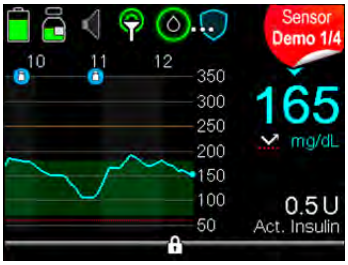
WARNING: Do not use Sensor Demo to make any decisions related to your therapy. Information seen in the Sensor Demo is not real data. It is an example of the type of information you can access when using the sensor feature. Making treatment decisions based on data that is not real can cause hypoglycemia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

To view the sensor graph example screens:

1. Press ◎ and go to the Sensor Demo screen.

Options > Utilities > Sensor Demo

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



2. Press > to view the sensor graph examples.
3. Press the < or > buttons to view the different sensor screen examples.

   Sensor Demo simulates an SG 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 mg/dL scale. For details, see *The sensor graph, on page 211*.
4. To exit Sensor Demo, press ↩.

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. Press ◎ and go to the Time & Date screen.

   Options > 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 CGM

10 Setting up CGM

This chapter explains how to pair your pump and transmitter, enter your sensor settings, and set up CGM on your pump. You need the following:

- MiniMed 770G insulin pump
- Sensor glucose (SG) settings provided by your healthcare professional
- Guardian Sensor (3)
- Guardian Link (3) transmitter with Bluetooth wireless technology kit

WARNING: Do not make therapy treatment decisions based on sensor glucose values. Sensor glucose (SG) and blood glucose (BG) 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 CGM

The Sensor feature on the pump lets you integrate and use CGM. CGM is an SG 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 in the following ways:

- It records your glucose values throughout the day and night.
- It shows the effects that your diet, exercise, and medication can have on your glucose levels.

- It gives you additional tools to help you prevent high and low glucose levels.

> **Note:** If you lose sensor functionality, you will no longer have access to CGM features. For details on restoring sensor functionality, see *Troubleshooting sensor issues, on page 288.*

SG readings and BG meter readings are not the same.

SmartGuard Technology

SmartGuard technology automatically adjusts insulin delivery based on your SG values. SmartGuard technology can be used in two modes: Manual Mode and Auto Mode. This chapter describes SmartGuard technology used in Manual Mode with the SmartGuard suspend (Suspend before low and Suspend on low) features. SmartGuard suspend features can automatically stop and resume insulin delivery based on your SG values and low limit. When your pump suspends insulin delivery based on your SG values and your low limit, it is called a SmartGuard suspend event. Your low limit should be set based on recommendations from your healthcare professional. When a SmartGuard suspend event occurs, basal insulin delivery automatically resumes if your SG values are rising and have met the specified criteria, or if the maximum suspend time of two hours is reached.

Auto Mode is also part of SmartGuard technology. When your pump is in Auto Mode, your basal insulin delivery is automatically controlled. For details, see *About SmartGuard Auto Mode, on page 219.*

The following table lists SmartGuard features and where to find them.

To learn more about:	Go to this section:
How to use SmartGuard technology to automatically suspend your insulin delivery before you reach your low limit.	*SmartGuard Suspend before low, on page 179.*
How to use SmartGuard technology to automatically suspend your insulin delivery when you reach your low limit.	*SmartGuard Suspend on low, on page 183.*
How SmartGuard technology automatically resumes your basal insulin delivery after a SmartGuard suspend event.	*Automatically resuming basal delivery after a SmartGuard suspend event, on page 186.*

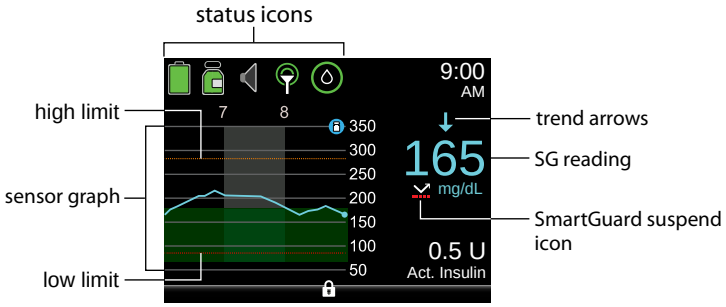
To learn more about:	Go to this section:
How SmartGuard Auto Mode works.	*About SmartGuard Auto Mode, on page 219.*

To set up the SmartGuard suspend features, see *Setting up the low SG settings, on page 195.*

Home screen with CGM in Manual Mode

When you turn on the Sensor feature, the Home screen on your pump changes to display a real-time graph that shows your SG information. For more information, see *Turning on the Sensor feature, on page 192.*

Note: To see the Home screen in Auto Mode, see *Home screen with SmartGuard Auto Mode, on page 225.*



The following items appear on your Home screen with CGM in Manual Mode:

Item	Description
Calibration icon	The calibration icon indicates the approximate time left until your next sensor calibration is due. The calibration icon appears only when the Sensor feature is turned on. The color and the circle around the icon indicate the status. When your sensor is fully calibrated, the icon has a solid green circle around it. As the time for your next sensor calibration approaches, the green circle around the icon becomes smaller, and the color of the icon changes as shown in the following example. For more information about calibrating your sensor, see *Calibrating your sensor, on page 204*. • Time to your next sensor calibration is more than 10 hours. • Time to your next sensor calibration is 8 to 10 hours. • Time to your next sensor calibration is 6 to 8 hours. • Time to your next sensor calibration is 4 to 6 hours. • Time to your next sensor calibration is 2 to 4 hours. • Time to your next sensor calibration is less than 2 hours. • Sensor calibration is required now. • Time to your next sensor calibration is unavailable. • Sensor is not ready for a calibration. This occurs when a new sensor is connected or within 15 minutes of a Calibration not accepted alert.
Connection icon	The connection icon appears green when the Sensor feature is on and your transmitter is successfully communicating with your pump. The connection icon appears with a red X 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 *Understanding CGM, on page 171*.

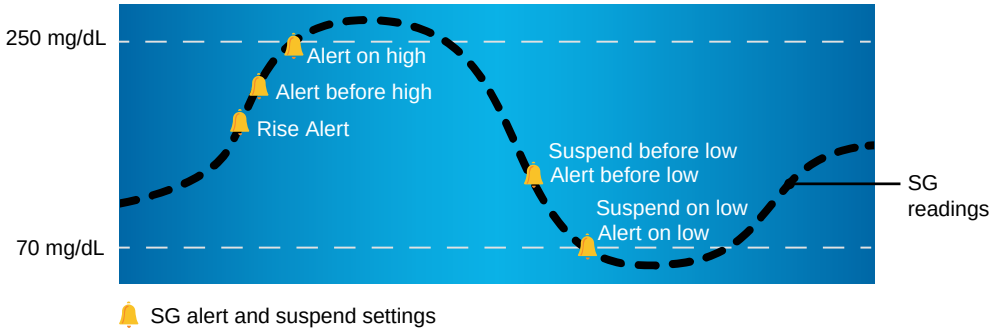
Item	Description
Auto Mode Readiness icon	The Auto Mode Readiness icon indicates whether your pump is ready to enter Auto Mode. The icon appears with a loading symbol when the pump is updating a condition that requires you to wait. The icon appears with a question mark when the pump requires an action from you to enter Auto Mode. For more information about Auto Mode Readiness, see *SmartGuard Auto Mode Readiness, on page 223*. When your pump is in Auto Mode, the SmartGuard Auto Mode shield appears in the center of your Home screen. For more information, see *Home screen with SmartGuard Auto Mode, on page 225*.
Sensor graph	The sensor graph shows your SG readings over a period of three hours. The orange line represents your high SG limit, and the red line represents your low SG limit. The blue line represents your SG trends during the specified period. For more information, see *The sensor graph, on page 211*.
Sensor life icon	The number in the center of the sensor life icon indicates the number of days that remain until the sensor expires. The icon appears only when the Sensor feature is turned on. When you insert a new sensor, the icon is solid green. When one day remains until the sensor expires, the icon color turns red. 7 6 5 4 3 2 1 If the number of days that remain until the sensor expires is unavailable, the sensor life icon appears with three dots ... When the system is waiting for the sensor to be started, the sensor life icon appears with a question mark ?.
SG reading	The pump shows your current SG reading, which is sent wirelessly to your pump by the transmitter.

Item	Description
SmartGuard suspend icon	The SmartGuard suspend icon appears only when either the Suspend before low or Suspend on low feature is set to on. For details on SmartGuard technology, see *SmartGuard Technology, on page 172*. The SmartGuard suspend icon indicates the current status of the suspend features, as follows: • The icon is a white arrow with a dotted red line when either the Suspend on low or Suspend before low is turned on and ready. • The arrow icon flashes if your insulin delivery is currently suspended due to a Suspend on low or Suspend before low event. • The icon appears as a gray cross with a dotted line under it when neither suspend feature is available. The suspend features might be unavailable due to a recent suspend or because there are no SG values available. It might also be unavailable because the pump is not currently delivering insulin.
Trend arrows	The trend arrows indicate the rate at which the most recent SG level is rising or falling. • ↑ or ↑↑ or ↑↑↑ - Rising trend arrows • ↓ or ↓↓ or ↓↓↓ - Falling trend arrows For more information about trend arrows, see *Identifying rapid changes in SG, on page 212*.

Understanding glucose settings

There are several types of glucose alerts you can set to tell you when your glucose values change at a particular rate, or when they approach or reach a specified low or high limit. You can also set your pump to automatically suspend insulin delivery before or when you reach your low limit.

The following graph shows the different high and low glucose alerts you can use.



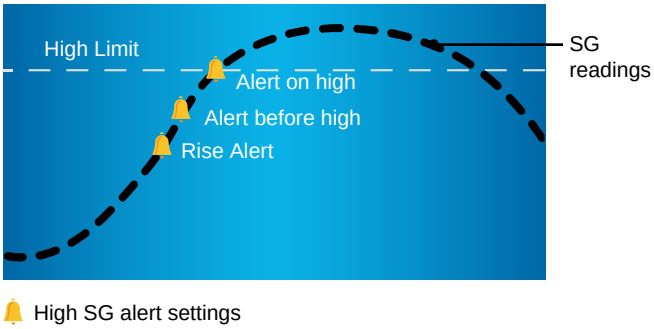
The high alerts are described in the *High SG settings* section on *page 177*. For details on low alerts and suspend options, see *Low SG settings, on page 178*.

High SG settings

These settings alert you:

- When your SG is rising rapidly (Rise Alert)
- When your SG is approaching your high limit (Alert before high)
- When your SG has reached your high limit (Alert on high)

The following graph shows the different high SG settings you can use:



The following table describes the high SG settings.

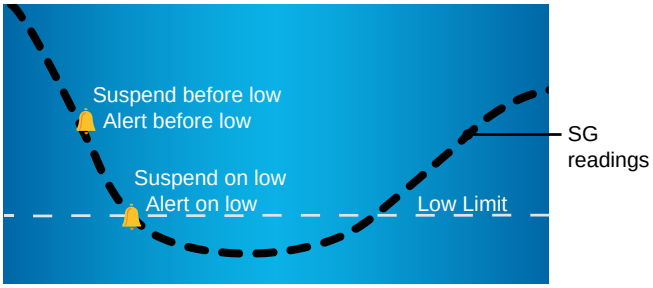
High glucose setting	Description
High limit	Your high limit is the value your other high SG settings are based on. Your high limit can be set from 100 to 400 mg/dL. You can set a different high limit for up to eight time segments throughout the day or night.
Alert before high	When Alert before high is on, the pump alert tells you any time the SG is predicted to reach the high limit. This makes you aware of potential highs before they occur.
Time before high	Time before high is only available when using Alert before high. Time before high determines when you will receive an Alert before high. You can set a time between 5 and 30 minutes.
Alert on high	When Alert on high is on, your system alerts you when your SG reading reaches or exceeds your High Limit.
Rise Alert	The Rise Alert tells you when your glucose is rising rapidly. This alert helps you understand how much your glucose levels are affected by meals or, for example, when forgetting to give a bolus. You can set the rise rate to match the arrows that display on the Home screen during a glucose rise, or to a custom rise rate. • ↑ - SG is rising at a rate of 1 mg/dL per minute or more. • ↑↑ - SG is rising at a rate of 2 mg/dL per minute or more. • ↑↑↑ - SG is rising at a rate of 3 mg/dL per minute or more. • **Custom** - SG is rising at the rate that you set which can be set from 1.0 to 5.0 mg/dL per minute.
Rise Limit	The Rise Limit determines when you will receive a Rise Alert. Rise Limit is only available when using Rise Alert.

To set up your high SG settings, see *Setting up the high SG settings, on page 192*.

Low SG settings

The low SG settings alert or suspend insulin delivery when you either approach or reach your low limit. For more information, see *SmartGuard Technology, on page 172*.

The following graph shows the different low SG settings you can use:



Low SG alert and suspend settings

WARNING: Suspend before low and Suspend on low are not intended to be a treatment for low blood glucose. Having insulin suspended when glucose is low may not bring your blood glucose back to your target range for several hours. In that case, you run the risk of hypoglycemia. Always confirm your BG readings with your BG meter and treat according to the recommendations of your healthcare professional.

The following sections describe how to set up your low SG settings in Manual Mode. For details on setting up your low SG settings in Manual Mode, see *Setting up the low SG settings, on page 195*.

Low limit

The low limit is the value on which the other low SG settings are based. The low limit can be set from 50 to 90 mg/dL. You can set a different low limit for up to eight time segments throughout the day or night.

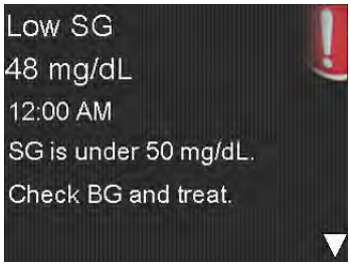
SmartGuard Suspend before low

The SmartGuard Suspend before low feature stops insulin delivery when your SG values are approaching your low limit. This feature is intended to suspend insulin delivery to minimize the amount of time spent with low BG values.

The default setting for the Suspend before low feature is off. Consult your healthcare professional for the Suspend before low setting that is best for you.

If you turn on Suspend before low, then Alert on low is automatically turned on. You also have the option to turn on Alert before low.

- If Alert before low is on, your pump alerts you when insulin delivery is suspended. For details, see *Alert before low, on page 182*.
- If Alert before low is off, then Suspend before low appears on the screen, but the pump will not beep or vibrate when insulin delivery is suspended.
- The user can enable Alert before low, Alert on low, Suspend before low, and Suspend on low. There is an additional fixed low alert at 50 mg/dL that cannot be turned off.
- Suspend before low and Suspend on low cannot be enabled at the same time. When either is enabled, the user can enable the Resume basal alert.
- The Low SG alarm appears when your SG values reach or fall below 50 mg/dL. This alarm cannot be turned off. When the alarm appears on your screen, it shows your SG value next to your Low SG alarm. In this user guide, the SG value will be represented as "Low SG XX" for this alarm.



WARNING: Always confirm your sensor glucose readings with your BG meter and treat according to the recommendations of your healthcare professional. The Suspend before low feature uses the sensor glucose value, not your blood glucose value, to automatically suspend insulin delivery. Your pump automatically suspends insulin delivery when your sensor glucose is approaching the low limit. However your blood glucose reading may be higher or lower than the sensor glucose value. Assuming that your sensor glucose value is accurate may result in the delivery of too little or too much insulin, which can cause hyperglycemia or hypoglycemia.

Suspend before low conditions

When a Suspend before low event occurs, all insulin delivery is suspended. A Suspend before low event occurs in the following situations:

- Your SG value is at or within 70 mg/dL above your low limit.
- Your SG is predicted to reach or fall below a level that is 20 mg/dL above your low limit within approximately 30 minutes.

Responding to a Suspend before low event

When you clear the Suspend before low alert, the SmartGuard suspend icon flashes and "Suspended before low" appears on your Home screen. If your SG reaches your low limit, an Alert on low occurs.

When a Suspend before low event occurs, insulin delivery will remain suspended for at least 30 minutes. Insulin delivery will be suspended for a maximum of two hours. You can manually resume insulin delivery at any time. For details, see *Manually resuming basal delivery during a SmartGuard suspend event, on page 198*. After the minimum 30-minute suspend time, basal insulin delivery will automatically resume if the following conditions are met:

- Your SG is at least 20 mg/dL above your low limit.
- Your SG is estimated to be more than 40 mg/dL above your low limit within 30 minutes.

If you do not respond to the Suspend before low alert, your pump resumes insulin delivery after two hours and displays a Basal delivery resumed alert.

When Suspend before low is unavailable

After a Suspend before low event occurs, there is a period of time when the Suspend before low functionality is unavailable. This is to prevent prolonged suspended basal delivery. The length of time it is unavailable will vary. You can manually suspend insulin delivery at any time. For details, see *Stopping and resuming your insulin delivery, on page 78*.

Note: The maximum amount of time the Suspend before low feature will be unavailable is four hours.

When the SmartGuard suspend features are unavailable, the SmartGuard suspend icon on the Home screen appears as a gray cross .

When a Suspend before low event occurs and you respond within two hours and:

- Stay suspended for the two-hour maximum suspend time, the SmartGuard suspend features will be unavailable for 30 minutes after your basal insulin delivery resumes.
- Your insulin automatically resumes due to your rising SG levels, the SmartGuard suspend features will be unavailable for 30 minutes after your basal insulin delivery resumes.
- Manually resume your basal insulin delivery, the SmartGuard suspend features will be unavailable for 30 minutes after your basal insulin delivery resumes.

If your pump has been suspended for two hours and you have not responded, basal insulin delivery automatically resumes.

If you respond within 30 minutes of basal insulin delivery being resumed, the SmartGuard suspend features will be unavailable for a total of 30 minutes. For example:

- If you respond 10 minutes after your basal insulin delivery resumes, the SmartGuard suspend features will be unavailable for an additional 20 minutes.
- If you respond 20 minutes after your basal insulin delivery resumes, the SmartGuard suspend features will be unavailable for an additional 10 minutes.

If you respond 30 minutes to four hours after your basal insulin delivery resumes, the SmartGuard suspend features will be available immediately.

If you do not respond, the SmartGuard suspend features will be unavailable for four hours after basal delivery resumes.

Alert before low

When Alert before low is on, you will receive an alert when you are approaching your low limit. This makes you aware of potential lows before they occur.

The Alert before low feature can be used with the Suspend before low and Suspend on low features. The Alert before low feature works as follows:

- If Alert before low is on, and both SmartGuard suspend features are off, you receive the Alert before low 30 minutes before you reach your low limit.

- If Suspend on low is on, and Alert before low is on, you receive an Alert before low 30 minutes before you reach your low limit.
- If Suspend before low is on, and Alert before low is on, you receive a Suspend before low alert when insulin delivery is suspended. For details, see *SmartGuard Suspend before low, on page 179*.

You can also choose to have the Alert before low off.

SmartGuard Suspend on low

The SmartGuard Suspend on low feature stops insulin delivery when your SG value reaches or falls below the low limit that you set. When a Suspend on low event occurs, all insulin delivery is suspended. This feature is used for situations when you cannot respond to a low glucose condition. It is intended to suspend insulin delivery and minimize the amount of time spent with low BG values.

WARNING: Do not use the Suspend on low feature until you have read the information in this user guide and received training from your healthcare professional. The Suspend on low feature causes the pump to temporarily suspend insulin delivery for a maximum of two hours. Under some conditions of use, the pump can suspend again, resulting in limited insulin delivery. Prolonged suspension can increase the risk of serious hyperglycemia, ketosis, and ketoacidosis.

The default setting for the Suspend on low feature is off. Consult your healthcare professional for the Suspend on low setting that is best for you.

If you turn on Suspend on low, then Alert on low is turned on automatically. For more information, see *Alert on low, on page 185*.

WARNING: Always confirm your sensor glucose readings with your BG meter and treat according to the recommendations of your healthcare professional. The Suspend on low feature uses the sensor glucose value, not your blood glucose value, to automatically suspend your pump. Your pump may automatically suspend when your sensor glucose is at or below the low limit, while your blood glucose is above that limit. Assuming that your sensor glucose value is accurate may result in the delivery of too little or too much insulin, which can cause hyperglycemia or hypoglycemia.

Responding to a Suspend on low event

When you clear the Suspend on low alarm, the SmartGuard suspend icon flashes and "Suspended on low" appears on your Home screen.

When a Suspend on low event occurs, the pump alerts you.

When a Suspend on low event occurs, insulin delivery will remain suspended for at least 30 minutes. Insulin delivery will be suspended for a maximum of two hours. You can manually resume insulin delivery at any time. For details, see *Manually resuming basal delivery during a SmartGuard suspend event, on page 198*. After the minimum 30-minute suspend time, basal insulin delivery will automatically resume if the following conditions are met:

- Your SG is at least 20 mg/dL above your low limit.
- Your SG is estimated to be more than 40 mg/dL above your low limit within 30 minutes.

If you do not respond to the Suspend on low alarm, your pump resumes insulin delivery after two hours and continues to display an emergency message.

When Suspend on low is unavailable

After a Suspend on low event occurs, there is a period of time when the suspend functionality is unavailable. This time will vary depending on whether or not you respond to the Suspend on low event. You can manually suspend insulin delivery at any time. For details, see *Stopping and resuming your insulin delivery, on page 78*.

Note: The maximum amount of time the Suspend on low feature will be unavailable is four hours. After this time period, the Suspend on low feature automatically enables.

When the SmartGuard suspend features are unavailable, the SmartGuard suspend icon on the Home screen appears gray .

When a Suspend on low event occurs and you respond within two hours and:

- Stay suspended for the two-hour maximum suspend time, the SmartGuard suspend features will be unavailable for 30 minutes after your basal insulin delivery resumes.
- Your insulin automatically resumes due to your rising SG levels, the SmartGuard suspend features will be unavailable for 30 minutes after your basal insulin delivery resumes.
- Manually resume your basal insulin delivery, the SmartGuard suspend features will be unavailable for 30 minutes after your basal insulin delivery resumes.

If your pump has been suspended for two hours and you have not responded, basal insulin delivery automatically resumes.

If you respond within 30 minutes of basal insulin delivery being resumed, the SmartGuard suspend features will be unavailable for a total of 30 minutes. For example:

- If you respond 10 minutes after your basal insulin delivery resumes, the SmartGuard suspend features will be unavailable for an additional 20 minutes.
- If you respond 20 minutes after your basal insulin delivery resumes, the SmartGuard suspend features will be unavailable for an additional 10 minutes.

If you respond 30 minutes to four hours after your basal insulin delivery resumes, the SmartGuard suspend features will be available immediately.

If you do not respond, the SmartGuard suspend features will be unavailable for four hours after basal delivery resumes.

Alert on low

The Alert on low feature is automatically turned on when either the Suspend before low or the Suspend on low feature is turned on.

When Alert on low is set to on, you receive an alert when your SG reading reaches or falls below your low limit. If your pump is suspended and you have not responded, an emergency message appears.

Automatically resuming basal delivery after a SmartGuard suspend event

In addition to suspending insulin delivery, the pump can also automatically resume delivery of basal insulin. If insulin has been suspended by either the Suspend before low or the Suspend on low feature, insulin delivery will automatically be resumed if either of the following conditions are met:

- If insulin has been suspended for a minimum of 30 minutes and SG values are at least 20 mg/dL above the low limit and expected to be more than 40 mg/dL above the low limit in 30 minutes
- After a maximum of two hours

Resume basal alert

When the Resume basal alert is on, you will be alerted when insulin is automatically resumed. If the Resume basal alert is off, basal insulin resumes, but you do not receive an alert. However, you will get a message indicating that the basal has automatically resumed.

If basal resumes after the maximum suspend time of two hours, you will be alerted even if the Resume basal alert is set to off. It is important that you check your BG and ensure your glucose is at a safe level.

For details on setting up the Resume basal alert, see *Setting up the low SG settings, on page 195*.

SmartGuard suspend examples

The following table shows the different scenarios that occur during and after a Suspend before low or Suspend on low event. Examples of scenarios are shown after the table.

	Suspend features	
What happens	**Suspend on low**	**Suspend before low**
The pump suspends insulin delivery.	Your SG value reaches or falls below the low limit that you set. The pump suspends insulin delivery for at least 30 minutes and up to a maximum of 2 hours. The pump automatically resumes basal insulin delivery between 30 minutes and 2 hours if your SG value is predicted to go above the low limit that you set.	Your SG value is approaching your low limit and is predicted to be reached within 30 minutes. The pump suspends insulin delivery for at least 30 minutes and up to a maximum of 2 hours. The pump automatically resumes basal insulin delivery between 30 minutes and 2 hours if your SG value is predicted to go above the low limit that you set.
You manually resume insulin delivery.	Your pump resumes insulin delivery at the programmed basal rate. The SmartGuard suspend features are unavailable for 30 minutes after insulin delivery resumes. The pump will not automatically suspend insulin again until after the suspend features are available and your SG value is below the low limit that you set.	Your pump resumes insulin delivery at the programmed basal rate. The SmartGuard suspend features are unavailable for 30 minutes after insulin delivery resumes. The pump will not automatically suspend insulin again until after the suspend features are available and your SG value is approaching the low limit that you set.
Your SG value is predicted to go above your low limit while insulin is automatically suspended.	The pump automatically resumes insulin delivery after 30 minutes and if your SG values are at least 20 mg/dL above your low limit and predicted to be more than 40 mg/dL above your low limit in 30 minutes.	The pump automatically resumes insulin delivery after 30 minutes and if your SG values are at least 20 mg/dL above your low limit and predicted to be more than 40 mg/dL above your low limit in 30 minutes.

	Suspend features	
What happens	**Suspend on low**	**Suspend before low**
You respond to the alert that occurs while insulin delivery is suspended. Insulin delivery is suspended for the maximum two hour suspend time.	Your pump resumes insulin delivery at the programmed basal rate. The SmartGuard suspend features are unavailable for 30 minutes after insulin delivery resumes. The pump will not automatically suspend insulin again until after the suspend features are available and your SG value is below the low limit that you set.	Your pump resumes insulin delivery at the programmed basal rate. The SmartGuard suspend features are unavailable for 30 minutes after insulin delivery resumes. The pump will not automatically suspend insulin again until after the suspend features are available and your SG value is approaching the low limit that you set.
The pump resumes insulin delivery after the maximum two hour suspend time. You respond to the alert that occurs after insulin delivery resumes.	Your pump resumes insulin delivery at the programmed basal rate. The SmartGuard suspend features are unavailable for 30 minutes. The pump will not automatically suspend insulin again until after the suspend features are available and your SG value is below the low limit that you set.	Your pump resumes insulin delivery at the programmed basal rate. The SmartGuard suspend features are unavailable for 30 minutes. The pump will not automatically suspend insulin again until after the suspend features are available and your SG value is approaching the low limit that you set.

	Suspend features	
What happens	**Suspend on low**	**Suspend before low**
You do not respond to the alerts that occur while insulin delivery is suspended. Insulin delivery is suspended for the maximum two hour suspend time.	Your pump resumes insulin delivery at the programmed basal rate. The SmartGuard suspend features are unavailable for 4 hours after insulin delivery resumes. The pump will not automatically suspend insulin again until after the suspend features are available and your SG value is below the low limit that you set.	Your pump resumes insulin delivery at the programmed basal rate. The SmartGuard suspend features are unavailable for 4 hours after insulin delivery resumes. The pump will not automatically suspend insulin again until after the suspend features are available and your SG value is approaching the low limit that you set.

The following examples describe several scenarios that illustrate different types of suspend events, user actions in response to these events, and what happens to insulin delivery in each case.

The examples cover the following:

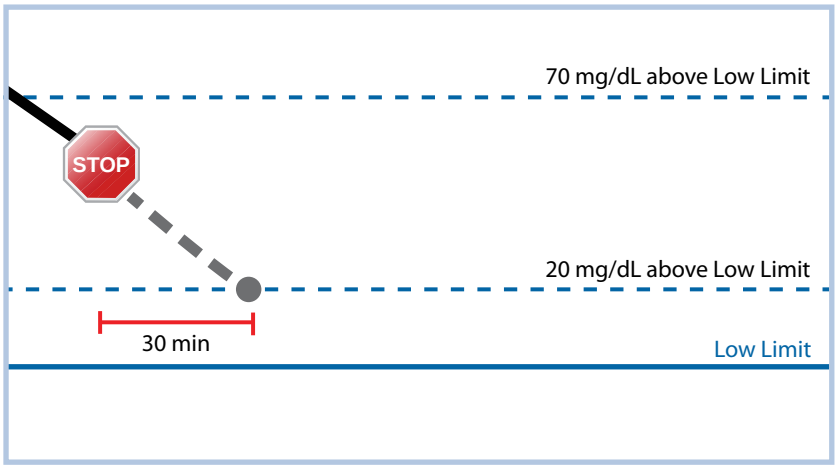
- Example 1: Suspend before low, non-responsive, auto resume basal (trending upwards)
- Example 2: Suspend before low, responsive, manually resume basal
- Example 3: Suspend before low, responsive, stays suspended
- Example 4: Suspend on low, response after basal delivery resumes

Note: During the Suspend on low siren, you can press any button to silence your pump for two minutes. The temporary silencing of the alarm does not affect the suspension or delivery of insulin.

Example 1: Suspend before low, non-responsive, auto resume basal (trending upwards)

Sarah has been experiencing low SG values. Her healthcare professional has recommended she use the Suspend before low feature. While at a concert, Sarah's SG values are approaching her low limit. Her pump recognizes that her glucose

will be at or within 20 mg/dL above her low limit within 30 minutes and suspends her insulin. Sarah has her Alert before low set to off so that she is not alerted when this occurs.



An hour later, her SG values are 21 mg/dL above her low limit. Her pump estimates her SG values will be 45 mg/dL above her low limit within 30 minutes. Her pump automatically resumes her basal insulin delivery.

When the concert ends, Sarah sees that her pump automatically suspended and resumed her insulin delivery and a potential low was avoided. She clears the messages by selecting OK.

Example 2: Suspend before low, responsive, manually resume basal

Kate decides to meet her friends at the mall. While shopping, she gets a Suspend before low alert. This indicates that her SG values are approaching the low limit she has set. She clears the alert and sees that her insulin has been suspended. Kate checks her BG to confirm. Based on her healthcare professional's recommendation, Kate stops for a snack to help avoid hypoglycemia. Knowing the carbohydrate will make her glucose rise, Kate manually resumes her basal insulin delivery by selecting Suspended before low from the Home screen and choosing Resume basal.

Kate knows that after she has manually resumed her basal insulin delivery, the suspend functions will be unavailable for 30 minutes. However, she will be alerted if she reaches her low limit.

Example 3: Suspend before low, responsive, stays suspended

Doug has just finished his evening jog on the beach. As he is walking home, he receives a Suspend before low alert. He sees that his pump has automatically suspended his insulin delivery. Doug clears the alert by selecting OK on his pump. He knows that his pump is now suspended and insulin delivery has been stopped. He checks his BG to confirm and keeps his insulin suspended.

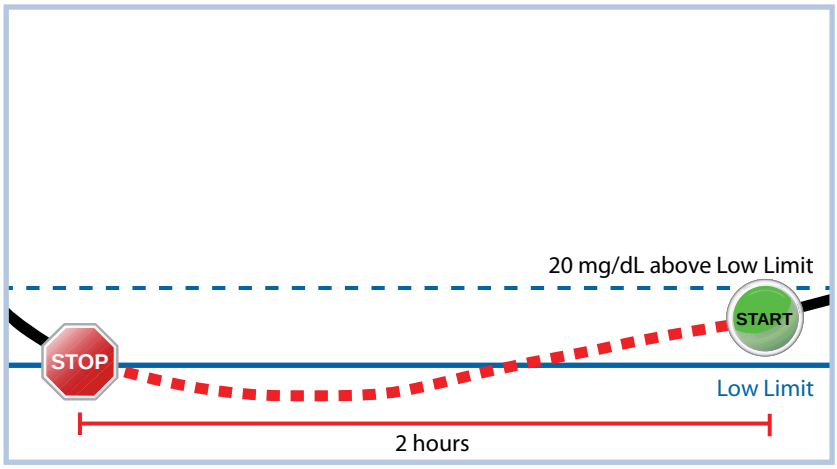
A while later, Doug receives another alert. He looks at his pump and sees that he has received an Alert on low. His SG has reached his low limit. He clears the alert and checks his BG to confirm. He eats carbohydrates to treat the low glucose as instructed by his healthcare professional.

Doug keeps his insulin suspended as directed by his healthcare professional. He knows that once his SG is above his low limit and trending upward, or reaches the maximum suspend time of two hours, basal insulin delivery will automatically resume.

Example 4: Suspend on low, response after basal delivery resumes

Michael is on his college hockey team. He played in a hockey tournament all day and is so exhausted that he falls asleep watching television. His SG value begins to drop. When his SG value reaches his low limit, the pump begins to alarm. His pump automatically suspends all insulin delivery. Michael does not respond to the alarm. After ten minutes, his pump begins to siren and shows the emergency message.

About three hours later, Michael's roommate comes home. He hears the pump sirening and wakes up Michael. Michael clears any messages by selecting OK. He sees that his basal insulin was suspended for the two hour maximum and had automatically resumed delivery. He checks his blood sugar and sees that it is within the target range.



Michael has responded to his alert. The pump will suspend insulin delivery and alarm again if his sensor value reaches or falls below his low limit again.

Turning on the Sensor feature

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

To turn on the Sensor feature:

1. Press ◎ and go to the Sensor Settings screen.

   Options > Utilities > Sensor Settings

2. Select **Sensor** to turn on the sensor feature. The sensor settings become accessible.

Setting up the high SG settings

The steps below show you how to set up the high SG settings. For details on your high SG settings, see *High SG settings, on page 177*.

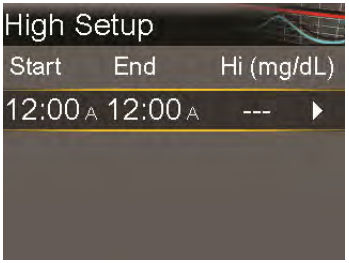
Note: When you enter your settings, you first define the time segment, and then select the high SG settings you want during that time segment.

To set up the high SG settings:

1. Press ◎ and go to the High Setup screen.

   Options > SmartGuard > High Setup

The High Setup screen appears.



2. Select the time segment. The End time starts flashing.

   The Start time of the first time segment is always 12:00 A. You can set up to eight time segments, each with a different high limit. If you set more than one time segment, the time segments must cover a 24-hour period.

3. Set the End time.

4. Set your High limit. You can enter a value from 100 to 400 mg/dL, in increments of 5 mg/dL.

5. Select the arrow to the right of the End time to select the high alerts for this time segment.

   A screen appears and shows the high alerts for the selected time segment.

6. Set the following alerts as desired:

   a. Select **Alert before high** to receive an alert before you reach your high limit.

   b. Set the **Time before high** option between 5 to 30 minutes to receive an alert before you reach your high limit.

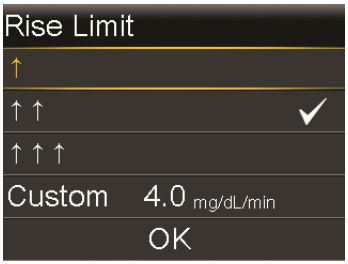
   c. Select **Alert on high** to receive an alert when you reach your high limit.

   d. Select **Rise Alert** to receive an alert when your SG is rising quickly.

      Go to step 11 if you do not select Rise Alert.

7. If you turned on the Rise Alert, you must set the Rise Limit. Scroll down and select **Rise Limit** to access this option.

   The Rise Limit screen appears.



8. Select one, two, or three arrows for the rise rate. To use a custom rate, go to step 9.

   - Select ↑ for an alert when your SG has been rising at a rate of 1 mg/dL per minute or more.
   - Select ↑↑ for an alert when your SG has been rising at a rate of 2 mg/dL per minute or more.
   - Select ↑↑↑ for an alert when your SG has been rising at a rate of 3 mg/dL per minute or more.

   Select **OK**, and go to step 11.

   Note: These arrows appear on your Home screen to indicate the rate at which your SG has been rising.

9. To enter a custom rise limit, do the following:

   a. Select **Custom**. The Custom Limit screen appears.

   b. Select **Rise Limit** and set a rise rate in 0.1 mg/dL/min increments from 1 to 5 mg/dL/min.

   c. Select **OK** to return to the Rise Limit screen, and then select **OK** again to confirm your settings.

10. After you set all the high SG settings for the selected time segment, select **Next** to continue.

11. If you entered an End time of anything other than 12:00 A, another time segment appears. After you enter the high SG settings, select **Done**.
12. Review your settings and select **Save**.

To change your high SG settings:

1. Press ◎ and go to the High Setup screen.

   Options > SmartGuard > High Setup

   The High Setup screen appears.
2. Select **Edit**.
3. Select and adjust the time segment you want to change.
4. Select any alert setting to turn it on or off or to adjust the setting.
5. Select **Next**.
6. Select **Done**.
7. Review your settings and select **Save**.

High Snooze

The High Snooze option is available once you set your high SG settings. The High Snooze option lets you set the amount of time that you want to wait before you are reminded that an alert condition still exists. You are alerted again only if the high alert condition still exists after the specified snooze time.

To set the High Snooze:

1. Press ◎ and go to the Snooze screen.

   Options > SmartGuard > Snooze

   The Snooze screen appears.
2. Select **High Snooze** and enter a value in 5-minute increments from 5 minutes to 3 hours.
3. Select **Save** to save your Snooze settings.

Setting up the low SG settings

The steps below show you how to set up the low SG settings. For details on the low SG settings, see *Low SG settings, on page 178*.

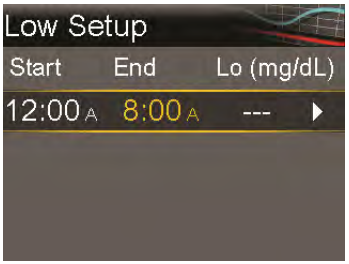
Note: When you enter your settings, you first define the time segment, and then select the low SG settings you want during that time segment.

To set up the low SG settings:

1. Press ◎ and go to the Low Setup screen.

   Options > SmartGuard > Low Setup

   The Low Setup screen appears.



2. Select the time segment. The End time flashes.

   The Start time of the first time segment is always 12:00 A. You can set up to eight time segments, each with a different low limit. If you set more than one time segment, the time segments must cover a 24-hour period.

3. Set the End time.

4. Set your low limit. Enter a value in increments of 5 mg/dL from 50 to 90 mg/dL.

5. Select the arrow to the right of the End time to select the low SG settings for this time segment.

   A screen appears and shows the available settings for the selected time period.

6. Set the following as desired:

a. Select **Suspend before low** to have insulin suspended before you reach your low limit. The Alert on low alert is automatically turned on and cannot be turned off.

b. Select **Alert before low** to receive an alert before you reach your low limit. If Suspend before low is also on, you are alerted when insulin is suspended.

c. Select **Suspend on low** to have insulin suspended when you reach or fall below your low limit. The Alert on low alert is automatically turned on and cannot be turned off.

d. Select **Alert on low** if you want to receive an alert when your SG reaches or falls below your low limit. If either suspend feature is on, this will already be on.

e. Select **Resume basal alert** if you want an alert when basal insulin delivery resumes based on SG values during a SmartGuard suspend event. If you do not turn on the alert, the Basal delivery resumed message still appears, but you will not receive an alert.

Note: When you set your low alerts:

- If you turn on Suspend before low or Suspend on low, Alert on low is turned on automatically.
- Only one SmartGuard suspend feature can be used during each time segment. You cannot turn on both Suspend before low and Suspend on low in the same time segment.

7. When you have set all the low SG settings for the selected time segment, select **Next** to continue.

8. If you entered an End time of anything other than 12:00 A, another time segment appears.

   When you are finished entering your low SG settings, select **Done**.

9. Review your settings, and select **Save**.

To change your low SG settings:

1. Press ◎ and go to the Low Setup screen.

   Options > SmartGuard > Low Setup

   The Low Setup screen appears.
2. Select **Edit**.
3. Select, and if needed, adjust the time segment you would like to change.
4. Select any alert setting to turn it on or off or to adjust the setting.
5. Select **Next**.
6. Select **Done**.
7. Review your settings, and select **Save**.

Low Snooze

The Low Snooze option is available once you set your low SG settings. The Low Snooze option lets you set the amount of time that you want to wait before you are reminded that an alert condition still exists. You are alerted again only if the low alert condition still exists after the specified snooze time.

Setting the Low Snooze:

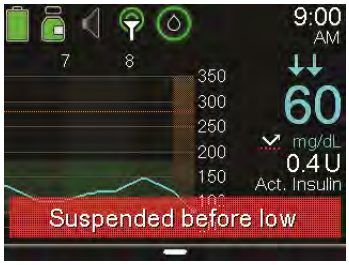
1. Press ◎ and go to the Snooze screen.

   Options > SmartGuard > Snooze

   The Snooze screen appears.
2. Select **Low Snooze** and enter a time between 5 minutes and 1 hour.

Manually resuming basal delivery during a SmartGuard suspend event

When your pump suspends insulin due to a Suspend before low or Suspend on low event, the bottom of your Home screen shows either Suspended before low or Suspended on low depending on which is active.



If you do not want to wait for your pump to automatically resume your basal insulin, you can follow the procedure below to manually resume your basal delivery.

To manually resume basal delivery:

1. Press ◎ and select **Resume Basal**.
2. Select **Resume Basal**.
3. Select **Yes** to resume basal delivery.

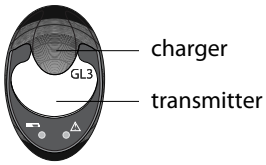
Pairing your pump and transmitter

Before you can start using your sensor, you must first pair your pump with your transmitter so they can begin communicating with each other when they are wirelessly connected.

Note that you can pair only one transmitter with your pump. If you already have a transmitter paired with 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 202*.

To pair the pump and transmitter:

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

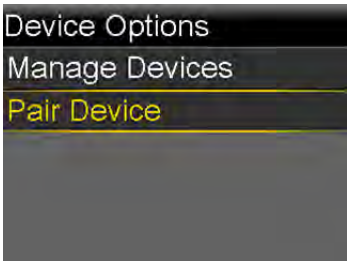


Note: Both lights on the charger are off when the transmitter is fully charged. For more information, see your transmitter user guide.

2. Press ◎ and go to the Device Options screen.

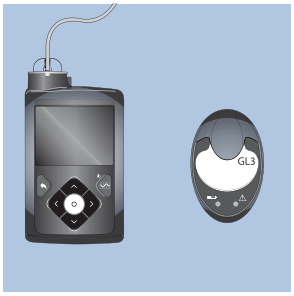
   Options > **Utilities** > **Device Options**

3. Select **Pair Device**.

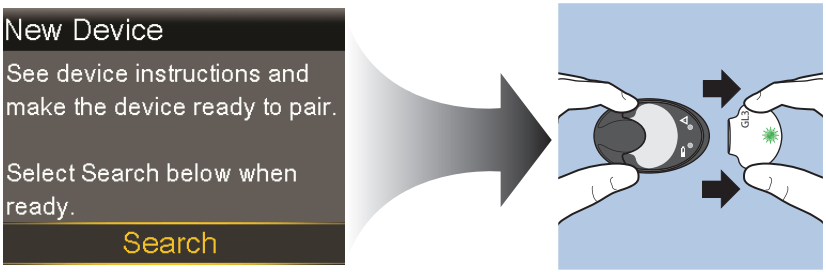


   The New Device screen appears.

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



5. 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 starts to flash.

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

The Select Device screen appears with a list of available devices.

6. Select the CGM device that matches the serial number on the back of the transmitter.

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

A message appears if the pump and transmitter are paired successfully. If the Sensor feature is turned on, the Connection icon appears on the Home screen.

If your pump does not find your transmitter, the Device not found alert appears. See the following procedure, *If your pump does not find your transmitter*.

If your pump does not find your transmitter:

1. Select **OK** on the Device not found alert. The Select Device screen appears.
2. Select CGM from the list and reconfirm to retry pairing.
3. If the pairing is unsuccessful and the Device not found alert appears a second time, select **OK**. When the Select Device screen appears, select the **Back** button to return to the New Device screen to restart the pairing process from the beginning.

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. Press ◎ and go to the Manage Devices screen.

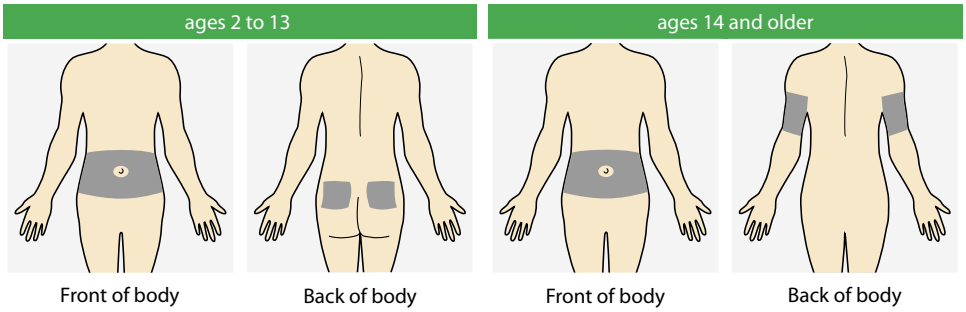
   Options > Utilities > Device Options > Manage Devices
2. Select CGM.
3. Select **Delete**. A confirmation screen appears asking if you want to delete the device.
4. Select **Yes** to confirm or **No** to cancel.

Inserting the sensor

Choose an insertion site that has an adequate amount of subcutaneous fat. The Guardian Sensor (3) has been studied and is approved for use in the following sensor insertion sites by persons of the following ages:

Approved Age	Sensor Insertion Site
2-13	Abdomen and Buttocks
14 and older	Abdomen and Arm

The following image shows the best body areas (shaded) for sensor insertion.



Note: Assistance will likely be needed for sensor insertion into the back of the upper arm and into the buttocks. Some users found it difficult to insert the sensor into their arm and buttocks by themselves.

Always refer to your sensor user guide for specific instructions on how to insert the sensor. The sensor user guide uses the abdomen insertion site as an example in the instructions.

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 to communicate with the transmitter. The pump tells you when the sensor is ready to use.

To start a new sensor:

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 five 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.

Reconnecting the sensor

There are times when you remove the transmitter from an inserted sensor. After you reconnect the transmitter to the sensor, the pump detects the connected transmitter. A "Sensor connected" message appears.

To reconnect a sensor:

1. Select **Reconnect Sensor**.

   The "Sensor warm-up started" message appears.

   > **Note:** It may take up to five 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 its first calibration.

Calibrating your sensor

Calibration is the process of entering a BG meter reading to calculate SG values. You must calibrate your sensor regularly to ensure you continue to receive SG data. For details, see *Guidelines for calibrating, on page 207*.

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 five minutes after calibration to see the first SG 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 SG 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. For better sensor performance, it is recommended that you calibrate your sensor three or four times each day at regular times throughout the day, such as before meals.

You may also receive additional Calibrate now alerts to let you know that another calibration is required to improve performance.

When the Calibrate now alert appears, the system stops calculating SG values until a calibration BG is successfully entered.

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

To calibrate your sensor:

1. Take a BG meter reading.
2. Press ◎ and go to the Calibrate Sensor screen.

   Options > Utilities > Sensor Settings > Calibrate Sensor
3. Select **BG** and enter the value.
4. Select **Calibrate**.

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.

Note: After your Accu-Chek Guide Link meter wirelessly transmits your BG reading to your pump, you will be required to confirm your BG on your pump before you can use it for calibration.