Alarms

High Priority Alarm

If the pump is running, it always stops when a high priority alarm is activated. Accompanied by a red screen, it continues until acknowledged or until the condition that triggered the alarm goes away.

Medium Priority Alarm

This alarm does not stop the pump. Accompanied by an amber screen, it continues until acknowledged or until the condition that triggered the alarm goes away.

Low Priority Alarm

A low priority alarm does not stop the pump. Accompanied by a blue screen, the alarm automatically clears after 5 seconds or until the condition that triggered the alarm goes away.

Informational Message

This alarm does not stop the pump. This message appears in the status bar. It is displayed for 5 seconds and is generally silent, requiring no acknowledgement.

Troubleshooting

Screen is blank and alarm is sounding

Alarm Priority High. The pump has lost power and is no longer delivering. The pump was delivering and the batteries were removed or the battery door was opened. Clear this alarm by replacing the batteries or closing the battery door. Then turn the pump back on or the alarm stops after the power has been off for a minimum of 2 minutes.

Air-in-line detected. Press "acknowledge" then prime tubing

Alarm Priority High. The pump is stopped and can not run.The air detector has detected air in the fluid path; the fluid path may contain air bubbles. Acknowledge the alarm. Then, if the fluid path contains air bubbles, close the clamps, disconnect the fluid path from the patient, and follow the instructions for priming to remove the air.

Battery depleted. Pump stopped.

Alarm Priority High. Install 4 new AA batteries or a fully charged rechargeable battery pack. In order to start delivery, good batteries must always be installed, even when an external source of power is connected. If appropriate, restart the pump.

Battery low. Replace battery.

Alarm Priority Low. Change the rechargeable battery pack or the 4 AA batteries soon.

Current settings require high/standard volume set. Change cassette

Alarm Priority High. A high volume or standard volume administration set is required. The pump is stopped and will not run. Remove the administration set to continue.

Delivery limit reached. Or, delivery limit reached and partial dose delivered Pump's status bar reads "KVO = 0"

Alarm Priority Low. The programmed delivery limit hasbeen reached, and the pump is not delivering fluid. This alarm occurs when the continuous rate or a PCA dose has caused the delivery limit to be exceeded. Acknowledge the alarm (the alarm automatically clears after 5 seconds).

Pump's status bar reads "Del Limit"

Alarm Priority Low. The programmed delivery limit has been reached, and the pump is delivering fluid at the KVO rate of 0.1mL/hr. This alarm occurs when the continuous rate or a PCA dose has caused the delivery limit to be exceeded. Acknowledge the alarm (the alarm automatically clears after 5 seconds).

Troubleshooting continued

Downstream occlusion. Clear occlusion between pump and patient

Alarm Priority High. The pump has detected high pressure, which may be resulting from a downstream blockage, kink in the fluid path, or a closed tubing clamp. Delivery pauses and resumes if the occlusion is removed. Remove the obstruction or stop the pump to silence the alarm for 2 minutes, then remove the obstruction and restart the pump.

Reservoir volume low

Alarm Priority High. (depending on how the alarm is programmed in Admin Settings). Level of fluid in the reservoir is low. Prepare to install a new reservoir, if appropriate.

Reservoir volume is zero. Pump stopped

Alarm Priority High. The reservoir volume has reached 0.0 ml. The pump stops and can not run. Acknowledge the alarm. Install a new fluid container. Reset or edit the value of the reservoir volume.

Upstream occlusion. Clear occlusion between pump and reservoir

Alarm Priority High. Fluid is not flowing from the fluid container to the pump, which may be resulting from a kink, a closed clamp, or air bubble in the tubing between the fluid container and pump. Delivery is paused and will resume if the occlusion is removed. Remove the obstruction to resume operation. The alarm clears when the occlusion is removed. You will be required to acknowledge this alarm after it clears if it has occurred and cleared more than 3 times within 15 minutes.

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Ambulatory Infusion System with Programmed Intermittent Bolus

Quick Reference Card for Clinicians

A. Battery Compartment
B. Display
C. Indicator Lights
D. USB Port
E. Blue AC Power Light
F. AC Power Jack
G. Remote Dose Cord Jack
H. Keypad
I. Cassette Latch
J. Cassette/Keypad Lock
K. Power Switch

Setting up the Pump for a New Patient

Prepare the pump for a new patient
1. Begin without the cassette attached to the pump.
2. Insert four new 1.5 volt AA alkaline batteries or a rechargeable battery pack.
3. Press the power switch to turn the pump on.

Start New Patient
4. Screen displays "Do you want to start a new patient?" Press Yes.
5. The "Select Therapy" menu is displayed.
6. Scroll ▲ or ▼ to highlight the desired therapy. Press Select.
7. Scroll ▲ or ▼ to highlight the desired qualifier. Press Select.
8. Scroll ▲ or ▼ to highlight the desired drug and concentration (or unit). Press Select.
9. Unlock the keypad using the security code or the pump key.
10. Confirm that you have selected the correct therapy, qualifier, drug and concentration [or unit]. Verify and press Yes.
11. "Review pump settings" displays. Press Review.
12. To edit for a patient specific parameter press Select. Scroll ▲ or ▼ to the new value then press Save.

Note: If the desired value is outside the soft limit, press Confirm. Verify the soft limit override by pressing Yes.
Note: The next bolus setting allows for a one time override of the intermittent bolus cycle as defined by the bolus interval.

13. Continue until all patient specific parameters have been reviewed and/or edited. Press Accept Value for each setting. A check mark appears next to each patient specific parameter you have accepted.
14. To change a patient specific parameter after you have accepted it, repeat step 12. When completed press Next.
15. "Cassette not attached. Attach cassette before starting pump." is displayed.

When programming for the new patient is complete
16. Attach, latch, and lock the cassette to the pump.
17. "Prime Tubing?" displays. Press Yes if priming is needed.
18. "Disconnect tubing..." displays. Press Prime. Press Stop Priming when complete.
19. "Continue Priming?" displays. Press Yes or No.
20. "Start pump?" displays. Press Yes when you are ready to begin the infusion. The pump begins running.

Changing a patient's current program while the pump is running

With the pump running, all parameters can be changed except reservoir volume

Program the pump
1. Scroll ▲ or ▼ to highlight the patient specific parameter you want to change. Press Select.
2. Unlock the keypad using the security code or the pump key.
3. The patient specific parameter is displayed. Scroll ▲ or ▼ to the new value then press Save.

Note: If the desired value is outside the soft limit, press Confirm. Verify the soft limit override by pressing Yes.

Repeat steps 1 and 3 for each patient specific parameter that you want to change.

Note: If a security code was used to unlock the keypad, always relock the keypad after making a change by pressing the right soft key twice (Tasks, then Lock Keypad). If a key was used, turn the key clockwise to relock the cassette and keypad.

4. Verify that the keypad and cassette are locked.

Clinician bolus

Pump must be running
1. From the home screen press Tasks.
2. "Give Clinician Bolus" displays. Press Select.
3. Enter the clinician security code.
4. The screen displays the clinician bolus scroll range available. Scroll ▲ or ▼ until the desired value appears. Press Deliver.

Note: If the desired value is outside the soft limit, press Confirm. Verify the soft limit override by pressing Yes.

5. Choose Stop Bolus anytime during delivery to cancel the bolus.

Note: Never leave the pump unattended while on the Clinician Bolus Edit screen.
You must press Deliver to deliver the programmed value or Cancel to leave the screen.

Changing a patient's current program with the pump stopped

Stop the pump
1. Press Stop/Start.
2. "Stop Pump?" displays. Press Yes.

Program the pump
3. Scroll ▲ or ▼ to highlight the patient specific parameter you want to change. Press Select.
4. Unlock the keypad using the security code or the pump key.
5. The patient specific parameter is displayed. Scroll ▲ or ▼ to the new value then press Save.

Note: If the desired value is outside the soft limit, press Confirm. Verify the soft limit override by pressing Yes.
Note: The next bolus setting allows for a one time override of the intermittent bolus cycle as defined by the bolus interval.
Repeat steps 3 and 5 for each patient specific parameter that you want to change.

Stop the pump
6. Press Stop/Start.
7. "Review pump settings" displays. Press Review.
8. Choose Accept Value to confirm the value is correct for the highlighted patient specific parameter or press Select to edit the highlighted parameter.
9. Continue until all patient specific parameters have been reviewed, accepted and display checkmarks. Press Next.
10. "Start Pump?" displays. Press Yes.

Note: If a security code was used to unlock the keypad, the keypad automatically relocks when the pump is started. If a key was used to unlock the cassette/keypad, use the key to relock the cassette/keypad lock.

Screensaver

The screensaver allows the pump to conserve battery power when not in an edit mode and if no keypad buttons have been pressed for 30 seconds. The pump displays a blank screen. Press any button on the keypad to turn the display on.

Resetting the reservoir volume without changing the cassette

Changing the IV bag or syringe without changing the tubing

Stop the pump
1. Press Stop/Start.
2. "Stop Pump?" displays. Press Yes. Aseptically remove the empty IV bag or syringe from the tubing and attach the new IV bag or syringe.

Reset reservoir volume
3. Scroll ▼ until Reservoir Vol is highlighted. Press Select.
4. Screen displays "Reservoir Volume remaining: XXmL Reset?" Press Yes.
5. Unlock the keypad using the security code or the pump key.
6. The screen displays the current reservoir volume and a scroll range.
7. Press Select to reset the reservoir volume or scroll ▲ or ▼ to adjust the value. Press Save.

When programming is complete
8. Press Stop/Start.
9. Screen displays "Reservoir Volume remaining: XXmL Reset?" Press Yes.
10. Choose Accept Value to confirm the value is correct for the highlighted patient specific parameter or press Select to edit the highlighted parameter.
11. Continue until all patient specific parameters have been reviewed, accepted and display checkmarks. Press Next.
12. "Start Pump?" displays. Press Yes.

Note: If a security code was used to unlock the keypad, the pump will automatically relock when the pump is started. If a key was used to unlock the cassette/keypad, use the key to relock it.

13. If you're not starting the pump immediately, press No when "Start Pump?" appears. Lock the keypad by pressing the right soft key twice (Tasks then Lock Keypad). Ensure that the cassette is also locked by turning the cassette/keypad lock clockwise to the locked position.

On-board Pump Reports:

Event Log, Delivery History, PCA Dose Graph and Amount Given Pie Chart. Press Reports and scroll through the selections.

Viewing reports

Pump reports should be cleared in accordance with institution policy.
Pump may be running or stopped to view reports.

Option 1:
1. Press Stop/Start.
2. "Stop Pump?" displays. Press Yes. Aseptically remove the empty IV bag or syringe from the tubing and attach the new IV bag or syringe.

Option 2:
1. Scroll ▼ until Reservoir Vol is highlighted. Press Select.
2. Screen displays "Reservoir Volume remaining: XXmL Reset?" Press Yes.

To clear Given and PCA dose counters
1. Press Stop/Start.
2. Screen displays "Reservoir Volume remaining: XXmL Reset?" Press Yes.
3. Choose Accept Value to confirm the value is correct for the highlighted patient specific parameter or press Select to edit the highlighted parameter.
4. Continue until all patient specific parameters have been reviewed, accepted and display checkmarks. Press Next.

Changing the batteries

Stop the pump
1. Press Stop/Start.
2. "Stop Pump?" displays. Press Yes.
3. Remove the used batteries.
4. Insert the new batteries.
5. Press the power switch to turn the pump on.
6. The screen displays "Do you want to start a new patient?" Press No.
7. Press Stop/Start to start the pump.
8. "Start Pump?" displays. Press Yes.