



For use with  
the CADD®-Solis VIP  
ambulatory  
infusion system

# Protocol Details Programming Record

## CADD™-Solis Medication Safety Software – Administrator

### Pain Management (PCA) Therapy

INSTITUTION

DATE

Library General Settings

Setup Therapies, Qualifiers, and Drugs

Specify Protocols

#### PCA

LIBRARY

THERAPY

QUALIFIER

DRUG NAME

UNITS (Milliliters, Milligrams, Micrograms)

CONCENTRATION

Delivery 1

Delivery 2

Alarms

Security

Display/Sound

#### Limits for Patient Specific Parameters

##### Requires Verification

- Drug
- Second Nurse

##### Weight-Based

- Set as Weight-Based Protocol

Maximum Weight:  
 kg

Minimum Weight:  
 kg

##### Continuous Rate mg/hr

- Display
- Allow Edit
- Require Comment

Hard Maximum:

Soft Maximum:

Initial Value:

Soft Minimum:

Hard Minimum:

##### PCA Dose mg

- Display
- Allow Edit
- Require Comment

Hard Maximum:

Soft Maximum:

Initial Value:

Soft Minimum:

Hard Minimum:

##### PCA Dose Lockout

- Display
- Allow Edit
- Require Comment

Hard Maximum:

Soft Maximum:

Initial Value:

Soft Minimum:

Hard Minimum:

Active – Protocol Available to Send to Pump

Save

Cancel

Help

**Check Active box when the protocol is ready to be sent to a pump**

**Save** allows you to save the protocol details tabs without making the protocol available to send to a pump.

**Cancel** allows you to return to selecting a therapy, qualifier, and drug and will delete any changes made.

**Help** provides additional information in creating the protocol details section.

AUTHORIZED BY

DATE

ENTERED BY

DATE

VERIFIED BY

DATE

Delivery 1

Delivery 2

Alarms

Security

Display/Sound

Delivery Limit

Delivery Limit Method:

- Not in Use
- Delivery Limit
- Max Doses/Hour

Delivery Limit Period:

Hrs (1-12)

Reservoir Reset Volume

- Display
- Allow Edit

mL (0-9999)

Maximum Delivery Rate:

mL/hr (40-175)

Limits for Patient Specific Parameters

Hour Delivery Limit mg

- Display
- Allow Edit
- Require Comment

Hard Maximum:

Soft Maximum:

Initial Value:

Soft Minimum:

Hard Minimum:

Maximum PCA Doses per hour

- Display
- Allow Edit
- Require Comment

Hard Maximum:

Soft Maximum:

Initial Value:

Soft Minimum:

Hard Minimum:

Clinician Bolus mg

Hard Maximum:

Soft Maximum:

Initial Value:

Soft Minimum:

Hard Minimum:

Save

Cancel

Help

Delivery 1

Delivery 2

Alarms

Security

Display/Sound

Pump Stopped Alarm:

- Informational
- High Priority

Reservoir Low

Trip Point:

mL (1-999)

Alarm Type:

- Insistent and One Time Only
- Non-insistent and Repeating

Reservoir Empty Alarm Type:

- One Time Only
- Repeat Until Removed

Air Detector

Enable:

- Off
- On

Sensitivity:

- High
- Low

Upstream Sensor:

- Off
- On

Downstream Sensor Sensitivity:

- High
- Low

Preventative Maintenance

Reminder:

- Off
- On

Interval:

months (1-24)

Save

Cancel

Help

Codes

Keypad Code:

(001-899)

Clinician Code:

(001-899)

Admin Code:

(001-899)

Patient Permissions

Priming Requires Security:

Off  
 On

Delayed Start Requires Security:

Off  
 On

Manual Programming Security:

Admin Code  
 Clinician Code

Keypad Security:

Code Only  
 Code or Key

Save

Cancel

Help

Backlight Intensity:

(1-10)

Alarm Volume:

Low  
 Medium  
 High

Sound Theme:

Standard  
 Intense  
 Distinctive

Key Beep:

Off  On

Date Format:

Month/Day/Year  
 Day/Month/Year  
 Year/Month/Day

Time Format:

12:00:00 AM/PM  
 12.00.00 AM/PM  
 24:00:00  
 24.00.00

Numeric Format:

1,234.56  
 1.234,56  
 1 234.56  
 1 234,56

Support Message:

Color Theme:

Purple  
 Yellow

Save

Cancel

Help

## Delivery 1 Tab

### Requires Verification

**For use with Single Protocol PC programming only.** Require drug verification via Drug ID entry or barcode scan and/or require second nurse User ID and Password entry, when selected.

### Weight - Based

**For use with Single Protocol PC programming only.** Weight-Based allows you to program delivery parameters as a property of body weight (1-60kg). When using weight-based programming, the Continuous Rate is programmed using unit/ kg/hr input; PCA Dose and Delivery Limit amounts are programmed using units/kg input.

### Display/Allow Edit/Require Comment

**For use with Single Protocol PC programming only.** Optional settings to determine whether the Delivery Parameter will be displayed, eligible for edit, and/or a comment entry will be required by the clinician should the initial setting be programmed outside of a soft range limit.

### Continuous Rate

Allows you to program the constant, hourly rate at which the drug is delivered while the pump is running, as well as the Hard and Soft titration range limits for this value. Maximum Continuous Rate for PCA delivery mode is 100 mL/hr or mg/mcg equivalent.

### PCA Dose

Allows you to program the bolus of drug to be delivered by the pump in response to the patient pressing the PCA Dose button or Remote Dose Cord button, as well as the titration range limits for this value.

### PCA Dose Lockout

Allows you to program the minimum amount of time that must pass between the start of each PCA Dose, as well as the titration range limits for this value.

## Delivery 2 Tab

### Delivery Limit Method

Allows you to select the method that will be used to limit the amount of drug delivered to the patient in a specified amount of time.

**Not In Use:** Dose will be limited only by the PCA Dose Lockout time.

**Delivery Limit:** Will limit the amount that can be delivered by the Continuous Rate and PCA Dose in a programmable 1 to 12 hour period.

**Max Doses/Hr:** Will limit the number of PCA Doses a patient can receive in a one-hour period. The actual lockout for PCA Doses will be determined by either the PCA Dose Lockout or the Max Doses/Hr, whichever is more restrictive.

### Delivery Limit Period

Programmable only if Delivery Limit is selected as the Delivery Limit Method. Allows you to select the time period from 1 to 12 hours.

### Reservoir Reset Volume

Allows you to program the volume of fluid in the reservoir. When you change the reservoir and reset the Reservoir Volume, the volume resets to the value programmed in this screen.

### Maximum Delivery Rate

Allows you to program the maximum rate at which the pump will deliver. It is the sum of the Continuous Rate and either the PCA Dose or Clinician Bolus rate.

### Display/Allow Edit/Require Comment

**For use with Single Protocol PC programming only.** Optional settings to determine whether the Delivery Parameter will be displayed, eligible for edit, and/or a comment entry will be required by the clinician should the initial setting be programmed outside of a Soft range limit.

## Delivery 2 Tab continued

### "X" Hour Delivery Limit

Programmable only if Delivery Limit is selected as the Delivery Limit Method. Allows you to program the maximum amount of drug to be delivered over the time frame displayed. It limits the amount delivered by the Continuous Rate and PCA Dose, but **does not** limit the amount delivered by Clinician Bolus. When the limit is reached, the pump automatically begins to deliver fluid at the preset KVO rate (0.1mL/hr or the mg/mcg equivalent) for a minimum of 1 minute.

### Maximum PCA Doses per Hour

Programmable only if Max Dose/Hr is selected as the Delivery Limit Method. Allows you to program the maximum number of doses that can be delivered in a one-hour period. This can be equal to or less than the number of PCA Doses that will be allowed based on the programmed PCA Dose Lockout.

### Clinician Bolus

Allows you to configure the titration range limits for how much medication can be given as a Clinician Bolus.

## Alarms Tab

### Pump Stopped Alarm

Allows you to select either a High Priority or Informational alarm to remind the clinician that the pump is stopped. The alarm will recur every five minutes while the pump is stopped.

**High Priority:** the user will be required to acknowledge the alarm.

**Informational:** the user is not required to acknowledge the alarm.

### Reservoir Low Trip Point

Allows you to program the pump to alarm when the reservoir volume reaches a specified level.

### Reservoir Low Alarm Type

Programmable if the value for the Trip Point is greater than zero. Allows you to select either a Medium Priority or Low Priority alarm to inform the clinician that the Reservoir Volume is low.

**Insistent and One Time Only:** Medium Priority- the user will be required to acknowledge the alarm, it will not reoccur once it has been acknowledged.

**Non-Insistent and Repeating:** Low Priority - the user is not required to acknowledge the alarm, it will repeat at the 75%, 50%, and 25% marks of the amount determined as the Trip Point.

### Reservoir Empty Alarm Type

Allows you to select between two types of High-Priority alarms when the reservoir is empty.

**One Time Only:** the user will be required to acknowledge the alarm, it will not reoccur once it has been acknowledged.

**Repeat Until Removed:** the user will be required to acknowledge the alarm, it will repeat every 5 minutes until the Reservoir Volume has been set to a new value, the reservoir has been removed, or the pump is powered down.

### Air Detector Enable

Allows you to control whether the Air Detector is turned on or off. This is a High-Priority alarm.

### Air Detector Sensitivity

Programmable only if the Air Detector is set to "On". Allows you to customize how sensitive you want the pump to be to the air bubbles in the tubing.

### Upstream Sensor

Allows you to control whether the Upstream Sensor is turned on or off. If this is programmed to "On", a High-Priority alarm will sound if an occlusion is detected between the pump and the fluid container. It is only detected when administration sets and bags are used. The pump will not test for an upstream occlusion with medication cassette reservoirs even when turned "On".

## Alarms Tab continued

### Downstream Sensor Sensitivity

Allows you to specify a High or Low degree of response to pressure buildup in the downstream tubing. **Note:** *Downstream Sensor is always activated. This is a High-Priority alarm.*

### Preventative Maintenance Reminder

Allows you the option to program the pump to sound a Medium-Priority alarm when it is time for preventative maintenance. The message will begin appearing on the date programmed and during every power up until the date is reset.

### Preventative Maintenance Interval

Allows you to schedule the amount of time that should pass before a PM Reminder displays.

## Security Tab

### Codes

Allows you to customize the Keypad Code, Clinician Code, and/or the Administrator Code.

### Manual Programming Security

Allows you to choose which security code will allow access to the Manual Program protocol.

### Keypad Security

Allows you to choose whether you want the clinician to have the option to choose between using a code or the key to unlock the keypad, or whether the clinician should be restricted to using the code only.

### Patient Permissions

**Priming Requires Security -** Setting this value to 'Off' allows patient/caregiver to prime the tubing on the pump without having to enter a security code.

**Delayed Start Requires Security -** Setting this value to 'Off' allows patient/caregiver to set Delayed Starts without having to enter a security code.

## Display/Sound Tab

### Backlight Intensity

Allows you to adjust the backlight intensity within the range of 1 to 10. **NOTE:** *Increasing the Backlight Intensity will shorten the battery life.*

### Alarm Volume

Allows you to determine the volume of the alarms in the protocol. **NOTE:** *High alarm volumes will shorten battery life.*

### Sound Theme

Allows you to choose between 3 different sound themes for the alarms and beeps on the pump.

### Key Beep

Allows you to turn on or off the audible beep which accompanies each key press.

### Date Format

Allows you to choose the format for how the date is displayed.

### Time Format

Allows you to choose either a 12-hr or 24-hr clock format, and to set the character used for indicating hours, minutes, and seconds separators.

### Numeric Format

Allows you to choose the character or space used to indicate the decimal point and thousands units separators.

### Support Message

Allows you to type a customized support message viewable on the pump at the end of an Alarm Help Screens sequence. **NOTE:** *The character length is restricted.*

### Color Theme

Allows you to choose between a purple or a yellow background screen color for optional, facility-defined, differentiation of PCA Delivery Mode Protocols.

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