CADD®-Solis Ambulatory Infusion Pump with Wireless Communication

Safe, Simple, Smart and Secure. Now Smarter with Wireless
CADD®-SOLIS AMBULATORY INFUSION PUMP WITH WIRELESS COMMUNICATION

A SMART SYSTEM THAT COMBINES SMART CONNECTIVITY WITH SAFE AMBULATORY INFUSION

Wireless communication transforms the CADD®-Solis system from a standalone pump to an integrated system with PharmGuard® Server software that helps increase efficiency and safety within hospitals, decrease cost, and improve outcomes.

- Provide actionable reports when you need them, where you want them
- Deploy protocol libraries and software updates from the server to the pump
- Helps improve safety and effectiveness of drug protocols with PharmGuard® Device Reports
- Monitor drug dosing
- Enable patient mobility to assist in faster recoveries and reduced length of stay and complications
- Note: The wireless feature can be turned off or on without affecting pump delivery. Wireless connection does not impact pump delivery or data retention.

PHARMGUARD® SERVER SOFTWARE CAN REPORT ACROSS YOUR FACILITY OR EVEN BETWEEN MULTIPLE FACILITIES WITHIN THE SAME WIRELESS NETWORK

The PharmGuard® Server software connects your pumps, libraries and stakeholders to create reports by group, facility, library, profile and date.

INFUSING | CONNECTING | PHARMGUARD® DEVICE REPORTS

- Medfusion® Pumps
- CADD®-Solis Pumps
- PharmGuard® Server Software

- View separate facilities
- Review protocol compliance and utilization
- Drill through reports for more detail
- Analyze safety events
- Customize pain management reports
- Track pump location to last known wireless access point
- Automate delivery of customized reports to email at preferred intervals
A SMART AMBULATORY INFUSION PLATFORM THAT JUST GOT SMARTER

STANDARIZE ON THE VERSATILITY, FLEXIBILITY AND MOBILITY OF THE CADD®-SOLIS SYSTEM PLATFORM FOR ALL YOUR INFUSIONS

Versatility of Therapies
Visually differentiate routes of administration with color-coded screens

- Epidural
- Peripheral Nerve Blocks
- Local Infiltration Analgesia
- Subcutaneous
- Intrathecal
- IV PCA
- And more

Flexibility of Care Areas
Advance infusions across in-patient and out-patient care settings, like:

- Post-Op
- Labor & Delivery
- ICU
- Trauma
- Pediatrics
- Oncology
- ER
- And more

Mobility by Design
- Exclusive CADD™ medication cassette reservoirs promote patient mobility
- Seamless pump information collected and reported throughout the hospital network
**SMART PUMP FEATURES HELP PROMOTE CLINICIAN CONFIDENCE AND PATIENT SAFETY**

- Task-based interface helps improve program efficiency and user confidence
- On-screen color graphs and trending data provide immediate patient assessment and helps support the clinician at bedside

- On-board library provides up to 500 protocols that can be edited within the safety limits for specific patient needs
- Pump programming errors are prevented by:
  - Soft and hard maximum and minimum programming limits
  - Tall man/Short man with no trailing zeroes
  - Support for full drug names

**COMBINES SAFE AMBULATORY INFUSION WITH SMART CONNECTIVITY AND VERSATILITY**

**ADVANTAGES OF THE CADD®-SOLIS AMBULATORY INFUSION SYSTEM**

- Immediate visual indication of pump status with color-coded status bar
- Drug protocol always displayed on Protocol Bar with selected Therapy, Qualifier and Drug
- Intuitive programming with step-by-step instructions on color-coded screen
- Easy navigation with soft key interface
- Helps reduce numeric key press errors with scrolling keys
- Promotes clinician confidence with pump lock status indicator
- Helps reduce medication errors with clearly displayed infusion delivery parameters with unit of measure
- Effortless disposable attachment with cassette latch lever
- Convenient PCA dosing while ambulatory with PCA dose key or handheld remote dose cord

**Wireless communication status at a glance**

New with version 4

<table>
<thead>
<tr>
<th>Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wireless Off</td>
<td>Wireless Off (white indicator)</td>
</tr>
<tr>
<td>Wireless On</td>
<td>Wireless On, not associated with wireless access point (orange indicator)</td>
</tr>
<tr>
<td>Wireless On</td>
<td>Wireless On, associated with wireless access point (orange indicator with green center)</td>
</tr>
<tr>
<td>Wireless On</td>
<td>Wireless On, associated with wireless access point, and communicating with PharmGuard® Server software (green indicator with green center)</td>
</tr>
</tbody>
</table>

Dosing graph

Delivery chart
SAFE. SIMPLE. SMART. NOW SMARTER WITH WIRELESS

The performance of any system comes from the quality of its components. The CADD®-Solis infusion pump platform includes innovative products that are known for delivering a high standard of performance and safety.

**CADD®-Solis Ambulatory Infusion Pump and Communication Module**
The pump is still the heart of the system, now with a wireless Communication Module (CM), 802.11 a/b/g radio and Li-Ion battery.

**CADD™ Medication Cassette Reservoirs**
Provide medication security and free-flow protection of fluid delivery.

**PharmGuard® Administrator Medication Safety Software**
PC software for developing protocol libraries. Version 4 now supports longer drug names and profiles.

**PharmGuard® Server Software**
Loaded onto hospital servers to store infusion data and communicate to and from CADD®-Solis infusion pumps.

**PharmGuard® Device Reports Software**
Provides Continuous Quality Improvement (CQI) reports that enable data-driven analysis.

**PharmGuard® SureLink® Remote Support Software**
Provides secure support and distribution of infusion pump firmware and PC/server software.
| **Indications** | Intravenous, intra-arterial, subcutaneous, intraperitoneal, in close proximity to nerves, into an intraoperative site (soft tissue, body cavity/surgical wound site), epidural space, or subarachnoid space infusion. The pump is intended for therapies that require a continuous rate of infusion, and/or an intermittent bolus, and/or with patient-controlled demand doses, and/or clinician boluses. |
| **Pump Size** | 1.6 in. x 4 in. x 5 in. excluding cassette or other accessories. 1.6 in. x 4 in. x 7 in. with CM attached |
| **Screen Size** | 2.12 in. x 2.12 in. (320 pixels x 320 pixels) |
| **Weight** | 21 oz. (595g) including 4 AA alkaline batteries, excluding other accessories. |
| **On-board Protocol Library** | Stores up to 500 protocols |
| **Security** | Cassette/keypad lock and three customizable security access levels: keypad code; clinician code; administrator code |
| **Accuracy** | +/- 6% (nominal) |
| **Delivery Methods** | Continuous rate; PCA dose; Clinician bolus; Intermittent Bolus |
| **Reservoir Volume** | 0 to 9999 mL; programmable in 1 mL increments, displayed in 0.1 mL increments |
| **Units** | Milliliters (mL), milligrams (mg), micrograms (mcg) |
| **Concentration** | mg/mL: 0.1 to 0.5 mg/mL in increments of 0.1 mg/mL 0.5 to 1 mg/mL in increments of 0.5 mg/mL 1 to 15 mg/mL in increments of 1 mg/mL 15 to 100 mg/mL in increments of 5 mg/mL mcg/mL: 1 to 15 mcg/mL in increments of 1 mcg/mL 15 to 100 mcg/mL in increments of 5 mcg/mL 100 to 500 mcg/mL in increments of 100 mcg/mL |
| **Continuous Rate** | 0 to 100 mL/hr (or the mg or mcg equivalent) |
| **PCA Dose** | 0 to 50 mL (or mg or mcg equivalent) Intermittent Bolus, Clinician Bolus, and PCA Dose: with standard volume tubing: 40-250 mL/hr with high volume tubing: 40-500 mL/hr (high volume tubing compatible with Model 2110 pumps only) |
| **PCA Dose Lockout** | 1 minute to 24 hours in the following increments: 1 minute for values between 1 and 20 minutes 5 minutes for values between 20 minutes and 24 hours |
| **Max Doses Per Hour** | 1 to 60 |
| **Delivery Limit Amount** | 0.1 to 1000 mL (or the mg or mcg equivalent) in increments of: 0.01 mL from 0.01 to 0.5 mL 0.5 mL from 0.5 to 100 mL 1.0 mL from 100 to 1000 mL |
| **Intermittent Bolus** | 0 mL to 50 mL (or the mg or mcg equivalent) |
| **Intermittent Bolus Interval** | 0 to 4 hours |
| **Next Bolus** | 0 to 4 hours |
| **Given** | 0 to 99,999.99 in 0.01 unit increments |
### PharmGuard® Medication Safety Software v4.1

The following are the minimum system requirements for the PharmGuard® Administrator or PharmGuard® Point of Care software applications:

| Operating systems (32-bit) | Microsoft® Windows® XP Professional (SP3)  
|                          | Microsoft® Windows® Vista® Business Edition (SP2)  
|                          | Microsoft® Windows® 7 Professional (SP1)  
|                          | Microsoft® Windows® 8 Professional  |

| Operating systems (64-bit) | Microsoft® Windows Vista® Business Edition (SP2)  
|                          | Microsoft® Windows® 7 Professional (SP1)  
|                          | Microsoft® Windows® 8 Professional  |

| Supported operating system languages | English, Danish, Spanish, French, German, Italian, Japanese, Dutch, Portuguese, Swedish, Norwegian, and Finnish.  |

| Server | Microsoft® SQL Server® 2005 or 2008 or 2012  
|        | (Required if installing the PharmGuard® software database onto your own Microsoft® SQL Server® instance. Microsoft® SQL Server® may be installed on Microsoft® Windows Server® 2003 or 2008 SP2 (x64) or 2012 which may be optionally hosted using VMware® ESXi virtual server technology.)  |

| RAM | 256 MB  |

| Hard disk space | 70 MB (application); 350 MB (database)  |

| Ports | USB port and USB Type A to Type Mini-B cable (for connection to a CADD®-Solis or CADD®-Solis VIP Ambulatory Infusion Pump)  |

| Display | 1024 x 768 display with 16-bit video card  |

| Navigation | Mouse or other pointing device  |

| Reports | Adobe® Reader® 9.4 or greater (for viewing reports exported in PDF format)  |

The following items are required if using the barcode reading and label printing features of PharmGuard® software. For information about installing and configuring barcode reading or printing equipment, refer to the manufacturer’s instructions.

- A barcode scanner configured as a Human Interface Device (HID) and compatible with Code 128 barcode
- A printer capable of printing a 1.5 inch (3.81 centimeters) high by 3 inches (7.62 centimeters) wide label as an image
- USB ports for connection to the barcode reader and/or barcode label printer

### PharmGuard® Server Software v2.1

| Hardware Software | Install on hospital-selected vendor independent hardware  
| PharmGuard® Server Software | Microsoft® Windows Server® 2008 R2/2012 (native or virtualized)  
|                          | Requires Microsoft®.NET Framework v4.5  
|                          | Supports VMware® ESX 5.X, and Microsoft® Windows Server® 2008 Hyper-V®  
|                          | Transactions: XML/SOAP via secure sockets using SSL  |

| Single Server Configuration |  
|                            | Combined web, database, and medical device application server with:  
|                            | Two 64-bit processors designed or certified for Microsoft® Windows Server® 2008 R2 or Windows Server® 2012  
|                            | 48 GB of RAM with 16 GB reserved for SQL Server®  
|                            | 1TB GB for data storage for 1,000 devices at full utilization for two years  |

| Software | Microsoft® Windows Server® 2008 R2/2012  
|          | Microsoft® Internet Information Server (IIS)  
|          | Microsoft® SQL Server® 2012  
|          | Microsoft®.NET Framework v4.5  |

| Multi-Server Configuration |  
|                            |  
| Separate database server |  
|                            | Combined web, database, and medical device application server with:  
|                            | Two 64-bit processors designed or certified for Microsoft® Windows Server® 2008 R2 or Windows Server® 2012  
|                            | 16 GB reserved for SQL Server®  
|                            | 2TB for data storage for 2,000 devices at full utilization for two years  |

| Software | Microsoft® Windows Server® 2008 R2/2012  
|          | Microsoft® Internet Information Server (IIS)  
|          | Microsoft® SQL Server® 2012  
|          | Microsoft®.NET Framework v4.5  |

| Separate webserver |  
|                   | Combined web, database, and medical device application server with:  
|                   | Two 64-bit processors designed or certified for Microsoft® Windows Server® 2008 R2 or Windows Server® 2012  
|                   | 16 GB of RAM  
|                   | 40 GB+ of available disk space  |

| Software | Microsoft® Windows Server® 2008 R2/2012  
|          | Microsoft® Internet Information Server (IIS)  
|          | Microsoft®.NET Framework v4.5  |

| Separate medical device application server (MDS) |  
|                                                | Combined web, database, and medical device application server with:  
|                                                | One 64-bit processor designed or certified for Microsoft® Windows Server® 2008 R2 or Windows Server® 2012  
|                                                | 16 GB of RAM  
|                                                | 120 GB+ of available disk space  |

| Software | Microsoft® Windows Server® 2008 R2/2012  
|          | Microsoft®.NET Framework v4.5  |

| Separate PharmGuard® Interoperability Platform server software |  
|                                                              | Combined web, database, and medical device application server with:  
|                                                              | Two 64-bit processors designed or certified for Microsoft® Windows Server® 2008 R2 or Windows Server® 2012  
|                                                              | 32 GB of RAM  
|                                                              | 450 GB+ of available disk space  |

| Software | Microsoft® Windows Server® 2008 R2/2012  |
802.11 a/b/g Network Configurations Supported

<table>
<thead>
<tr>
<th>Network Mode</th>
<th>Select the network mode to match the network:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>802.11 a/b/g</td>
</tr>
<tr>
<td></td>
<td>802.11 b/g</td>
</tr>
<tr>
<td></td>
<td>802.11 a</td>
</tr>
</tbody>
</table>

**Authentication Mode**

- OPEN
- WPA-Enterprise
- WPA2-Enterprise
- WPA-Personal
- WPA2-Personal

**EAP Mode**

- None
- TLS
- TTLS
- PEAPV0 (PEAP with MS-CHAPv2)
- PEAPV1 (PEAP with GTC)
- LEAP

NOTE: EAP mode is not applicable for OPEN, WPA-Personal, WPA2-Personal authentication mode.

**Encryption Mode**

- The encryption mode for the network:
  - TKIP
  - CCMP

**Wireless Encryption Key**

You can either enter a key consisting of 64 characters or a passphrase consisting of between 8 and 63 printable ASCII characters.

NOTE: This field is not used with Enterprise authentication modes.

**Identity**

Enter your identity (if necessary)

**Client Certification**

- Client Certificate: Browse to select your client certificate file (in .pem format with maximum size of 4000 bytes)
- Client Key: Browse to select your client key file (in .pem format with maximum size of 2000 bytes)
- Private Key Password: Enter your private key password
- Certificate of Authority: Browse to select your certification authority certificate file (in .pem format with maximum size of 4000 bytes)

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**Wireless Communication Module Specifications**

- **Battery type**: Rechargeable Lithium-ion battery [2 cells] Equivalent Lithium content <1.6 g
- **Battery capacity**: 18.7 Wh (when fully charged)
- **Battery output**: 3.6V (nominal)
- **Rechargeable battery weight**: <100 g
- **Product battery life**: 400 full cycles (charge / discharge) at room temperature, 23°c (73°F) Battery discharge cycle of 4 hours at nominal condition
- **Maximum charge time [low battery to full charge]**: 10 hours when plugged into AC Adapter

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CADD®-Solis Ambulatory Infusion Pump with Wireless Communication

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Contact your sales representative at 1-800-258-5361 or for more information visit our website at www.smiths-medical.com