MDC-C5i
USER GUIDE

PLUG INTO THE FUTURE OF TECHNOLOGY

ARNOUSE DIGITAL DEVICES CORPORATION

Revision History

Revision	Notes
V1.0	Revision 1.0 was published in May of 2022.

Table of Contents

Section 1	Receiving Your MDC-C5i	5
Section 1.1	What's in the Box?	5
Section 2	MDC-C5i Preparation	6
Section 2.1	Preparing For Your MDC-C5i	6
Section 2.2	Installing Your BioDigitalPC®s	7
Section 2.3	Connect Antennas and Power On Your MDC-C5i	8
Section 3	MDC-C5i Overview	9
Section 3.1	SR-10 Module	10
Section 3.2	Side Panel	11
Section 3.3	KVM USB and Video	11
Section 3.4	Front Panel	12
Section 4	ROMware Software	13
Section 4.1	Login	13
Section 4.2	Main Screen Overview	13
Section 4.3	DC Power Control & Monitoring	14
Section 4.4	BioDigitalPC® Power Control & Monitoring	15-17
Section 4.5	MDC-C5i System Settings	18
Section 4.6	Front Panel Touchscreen Over-view	19-22
Section 5	Cradlepoint LTE Wireless Router	23
Section 5.1	Router Features and Specs	23
Section 5.2	Cradlepoint NetCloud Login	24
Section 5.3	NetCloud Admin Dashboard	25

How to Read this Document

This manual details installation of the mobile data center, the components inside of the mobile data center, and notable features of the MDC-C5i mobile server solution.

Installations will be supported by ADDC. Unless otherwise specified, all instructions provided in this manual will assume that a user is a trained technician.

Notes, Important Information & Warnings

⚠ You will see this icon throughout the manual intended to point out warnings, important information, and briefly explain any new terminology.

Section 1.0 - Receiving Your MDC-C5i

Section 1.1 - What's in the Box?

MDC-C5i Case

Equipment (Included)

- MDC-C5i Case
- Magnetized Screen Cover
- BioDigitalPC® Server Cards [Check Invoice for Quantity]
- (1) AC Power Cord
- (2) 4G antennas
- (4) 5/2.4GHz antennas
- (2) 5GHz antennas
- (1) GPS antenna

Equipment (Not Included)

- Laptop or Testing Network

Magnetized Screen Cover

- (2) 4G antenas
- (4) 5/2.4GHz antennas
- (2) 5GHz antennas
- (1) GPS antenna

AC Power Cord

Section 2 - MDC-C5i Preparation

Section 2.1 - Preparing For Your MDC-C5i

Temperature Considerations
Your MDC-C5i is designed to operate at room temperature with its self-contained cooling.

Power Considerations
When properly configured and installed the MDC-C5i can draw up to 400 Watts depending on the number, load, and version of the BioDigitalPC®s used.

⚠ To prevent improper cooling of equipment, do not block the fans.

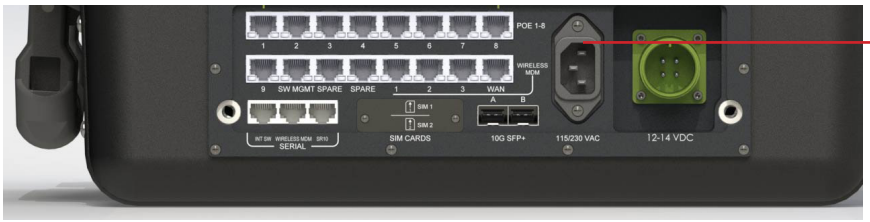
Section 2.2 - Installing Your BioDigitalPC®s

BioDigitalPC®s are hot-pluggable, meaning technicians do not need to remove power to begin adding or removing them.

⚠ Only trained technicians are authorized to work beneath the MDC-C5i System Cover and access any of the components inside the system.

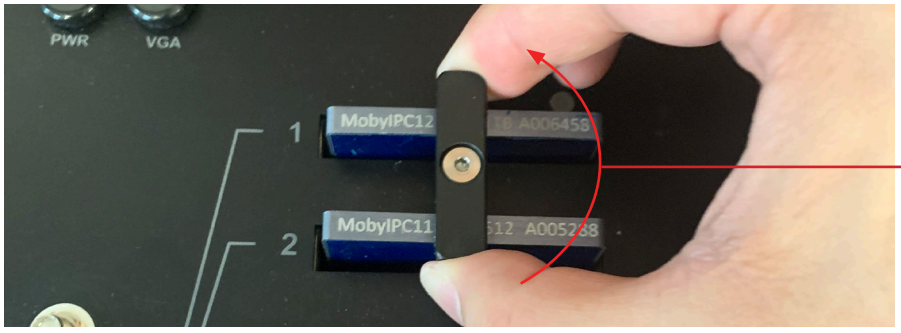
Section 2.2.1 - Opening the MDC-C5i Case:

Section 2.2.2 - Connect AC Power Cord



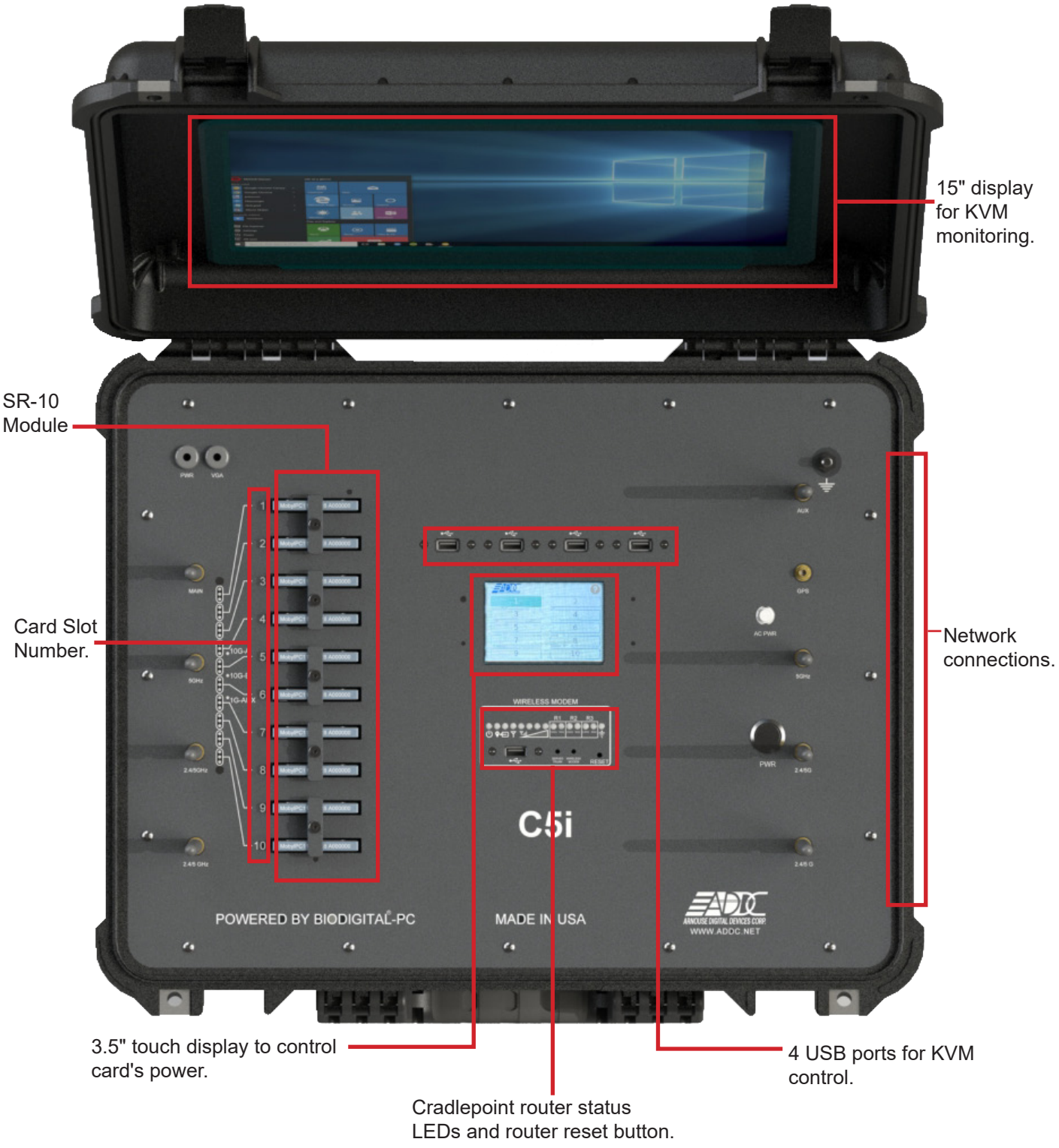
Section 2.2.3 - Installing a BioDigitalPC®

Section 2.2.4 - Secure BioDigitalPC® With the Card Holder



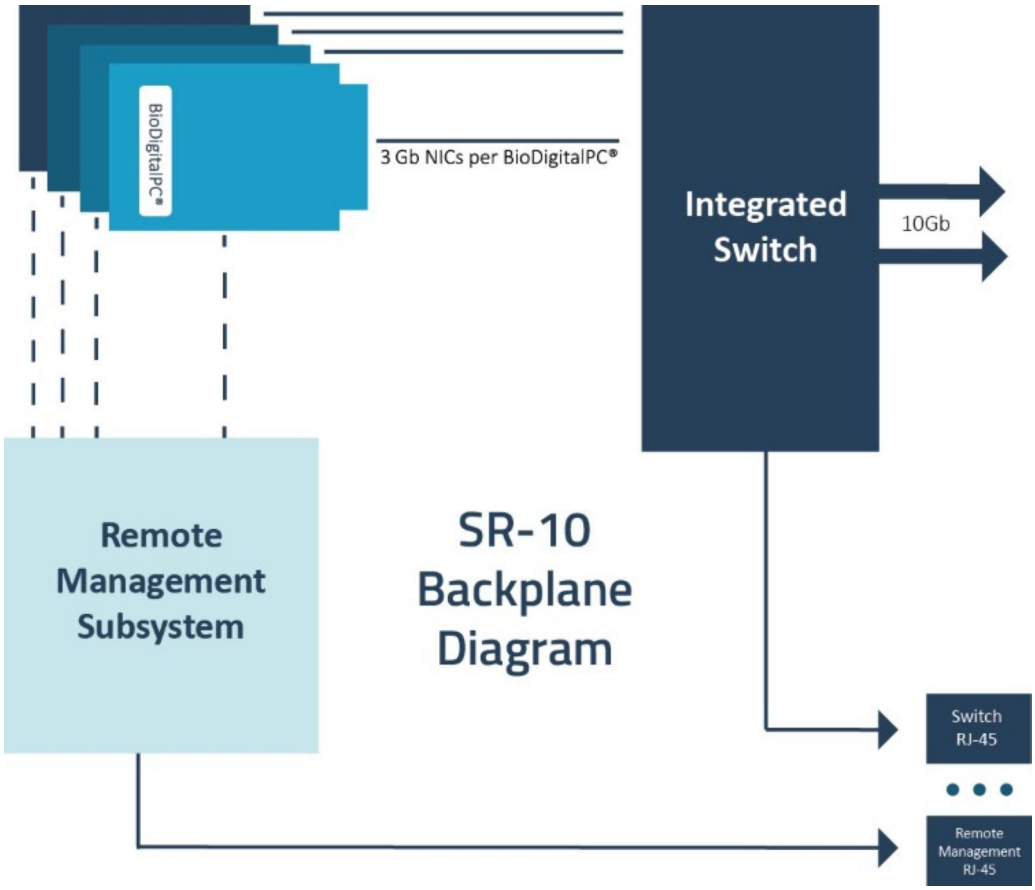
Section 2.3 - Connect Antennas and Power On Your MDC-C5i

Section 3 - MDC-C5i Overview

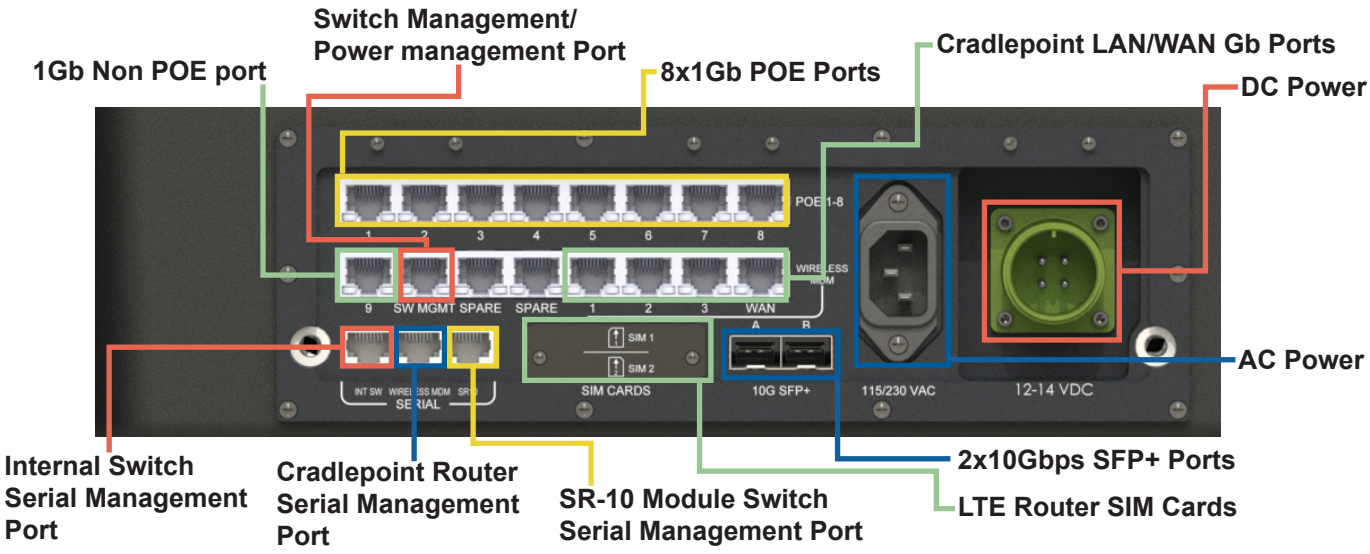


Section 3.1 - SR-10 Module

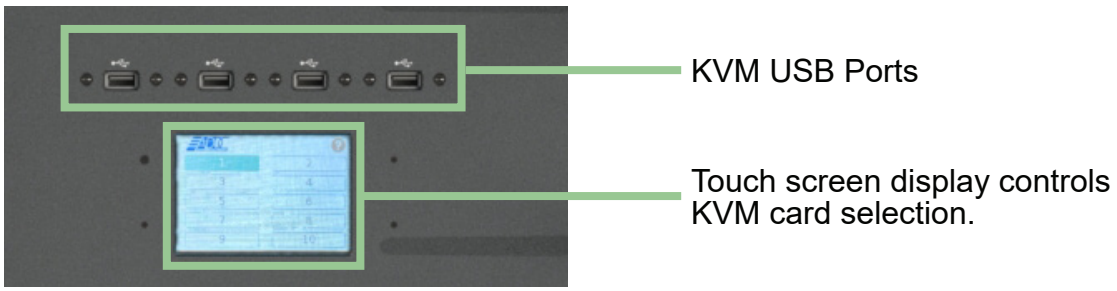
As shown in Section 3, the MDC-C5i consists of a single SR-10 Module. The SR-10 Module contains 10 BioDigitalPC® slots, each having three 1Gbps NICs attached to an integrated switch. Each switch has two SFP+ 10Gbps connectors and one 1Gbps RJ-45 connector broken out to the side panel of the MDC-C5i (See Section 3.2 for additional information). Each SR-10's integrated switch and BioDigitalPC® power control are managed via the MDC-C5i's Web-based management program called: ROMWare (See Section 4 for additional information).



Section 3.2 - Side Panel



Section 3.3 - KVM USB and Video



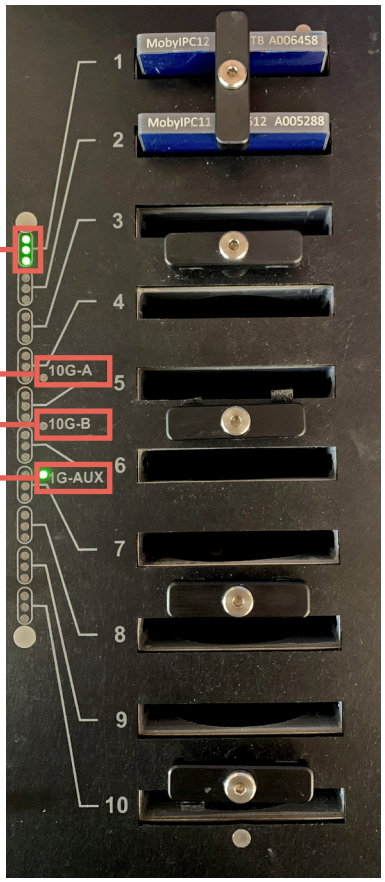
Section 3.4 - Front Panel

Touch Screen that can control each individual card: I.E. Reboot, shutdown, power on, and KVM.

Cradlepoint Wireless Router status LEDs.

Cradlepoint Wireless Router reset button.

MDC-C5i Power Button



An individual slot's 1Gbps NIC LEDs. One LED for each 1Gbps NIC

10G-A: SR-10's 10Gbps SFP+ Port Status LED

10G-B: SR-10's 10Gbps SFP+ Port Status LED

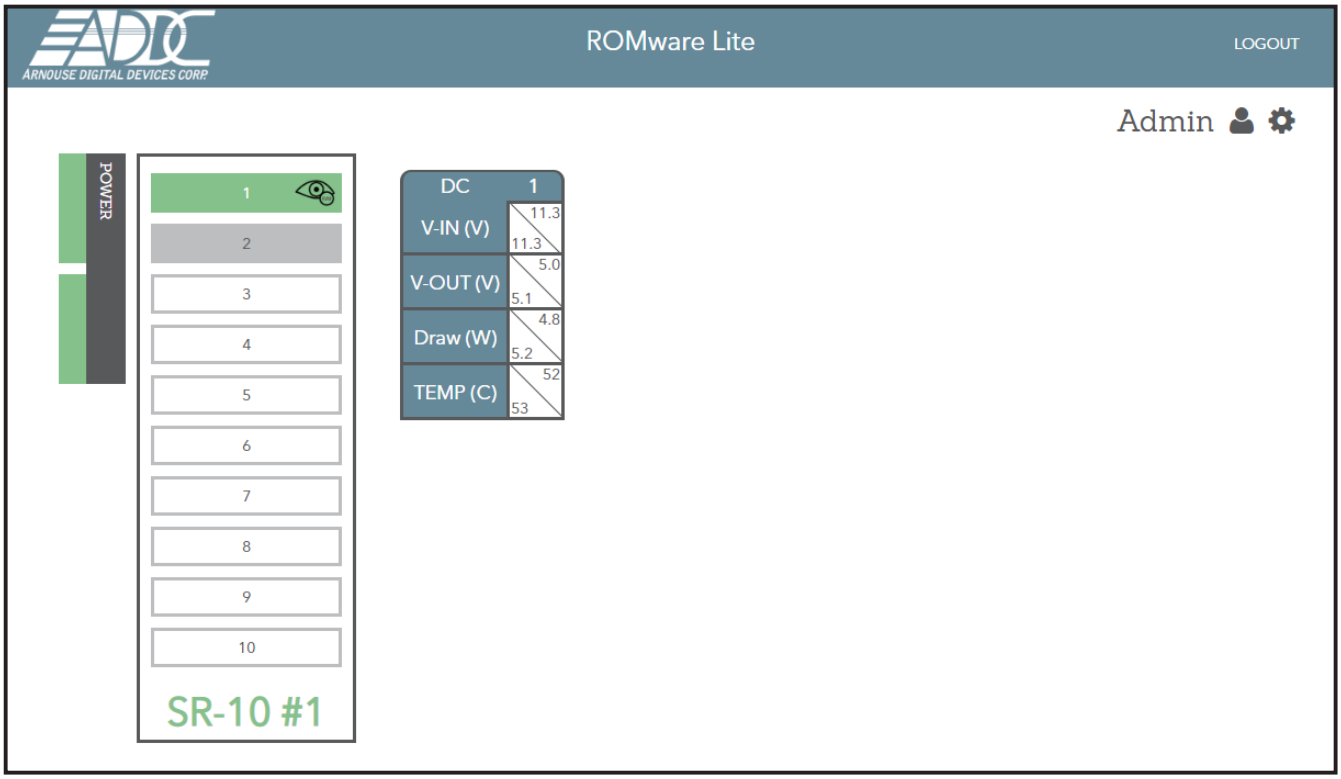
1G-AUX: SR-10's auxiliary one Gigabit Port Status LED

Section 4 - ROMware Software

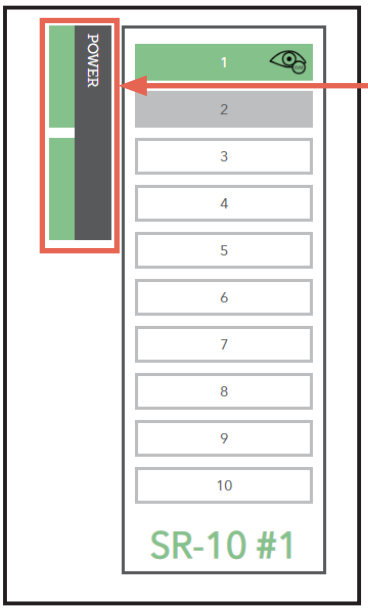
Section 4.1 - Login

The web interface for ROMWare asks for credentials to log in and begin management and/or monitoring of your MDC-C5i Users are supplied with administrative credentials that have been factory set. Only one admin can be logged in at once, through the IP 10.0.1.254.

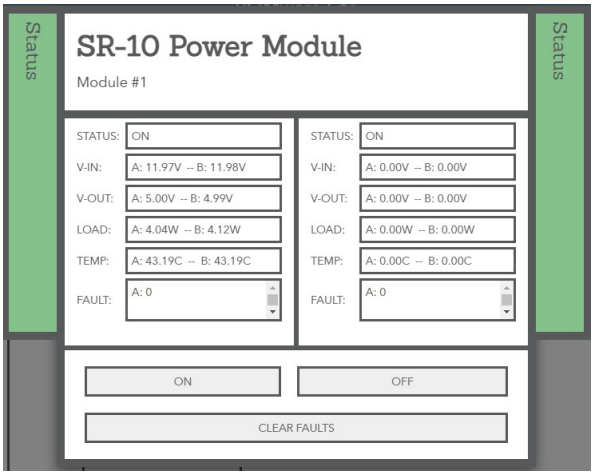
Section 4.2 - Main Screen Overview



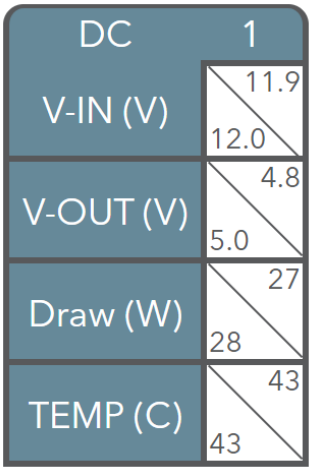
Section 4.3 - DC Power Control & Monitoring



To verify the SR-10's Module Power Supply is operating optimally, you can press the button labeled "Power" for more information



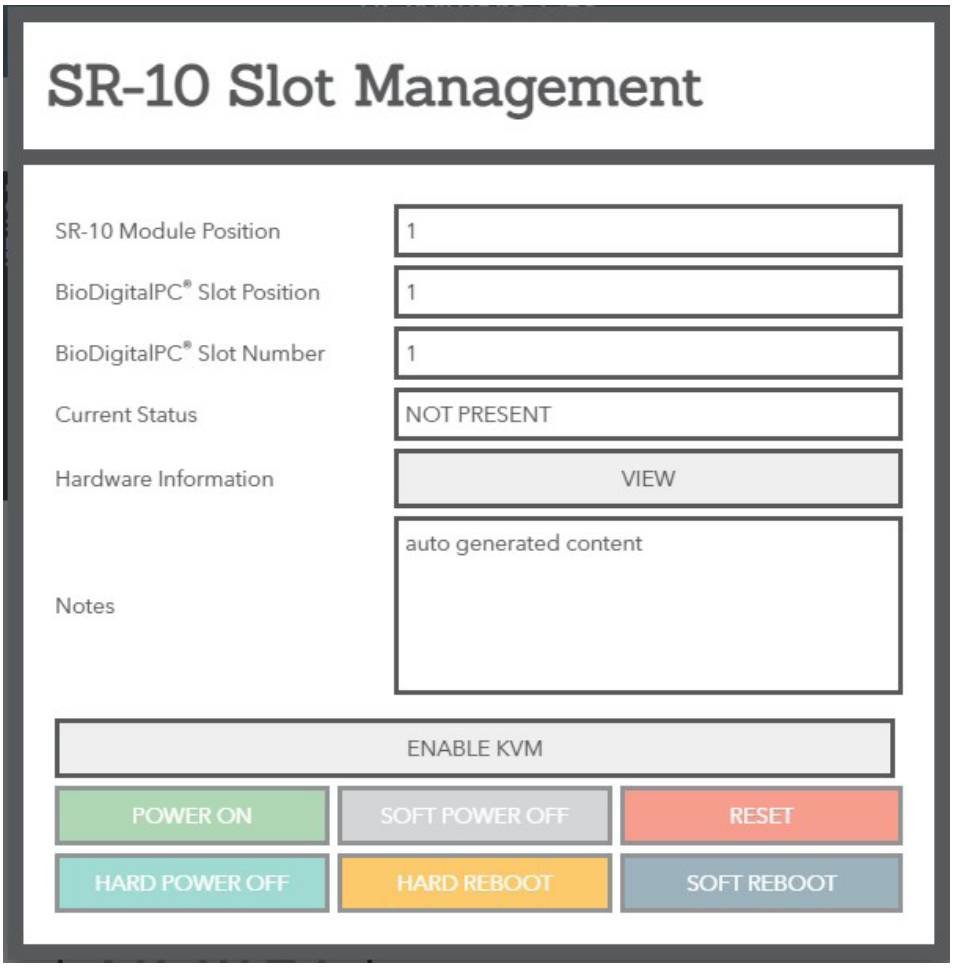
This screen shows various power related information and allows users to turn “On” and “Off” each SR-10 Power Module. “Clear Faults” will clear faults for this SR-10's power supply.



Clicking on a box will show more information regarding the current status of the DC Power Supplies.

Section 4.4 - BioDigitalPC® Power Control & Monitoring

Displaying the card management features of the MDC-C5i is done by clicking the **Slot Number.**



ENABLE KVM — Activates KVM on selected BioDigitalPC® Server card

POWER ON — Powers on the BioDigitalPC® Server card.

HARD POWER OFF — Immediately removes power from the BioDigitalPC® Server card.

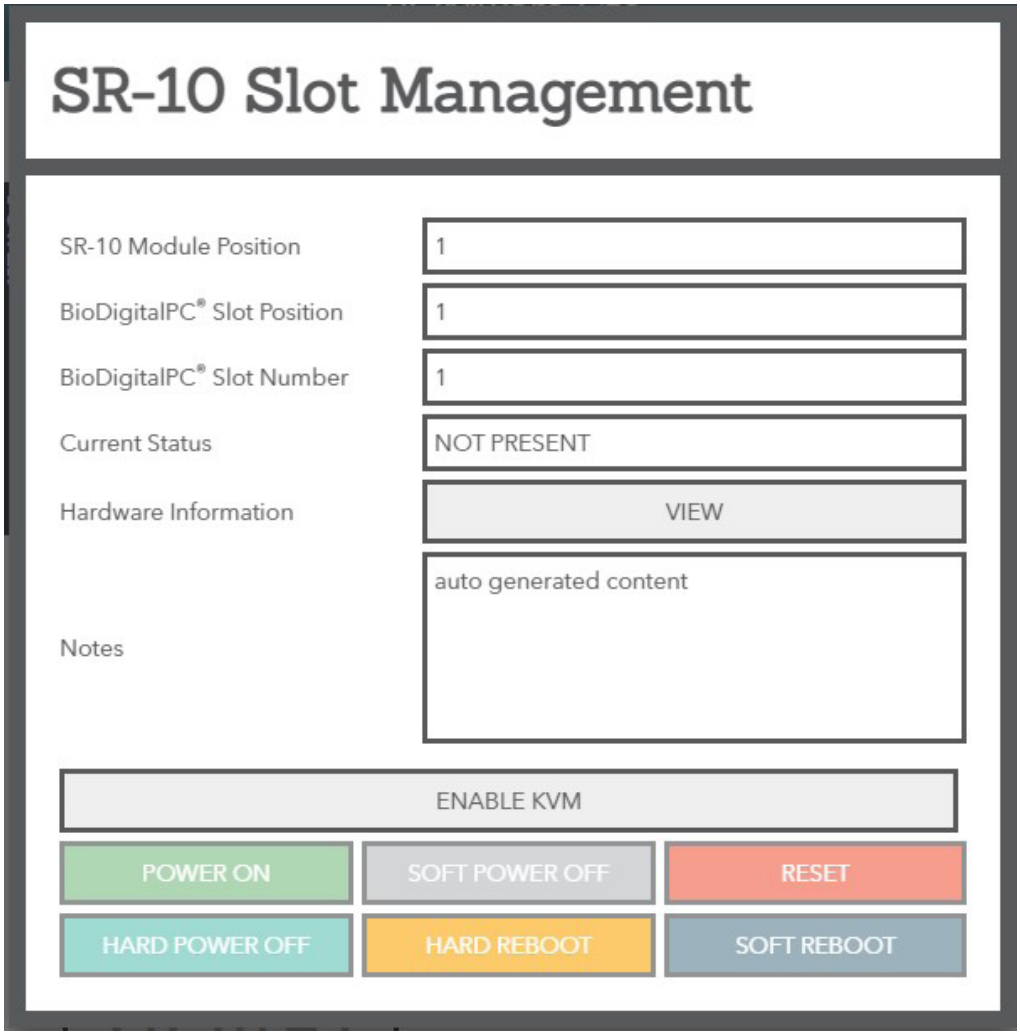
SOFT POWER OFF — Sends a signal to the BioDigitalPC® Server card to shut down gracefully

HARD REBOOT — Removes power from the BioDigitalPC® Server card, waits 30 seconds and then applies power back to the BioDigitalPC® Server card.

RESET — Removes power from the remote power control. Do not use this unless specifically instructed to.

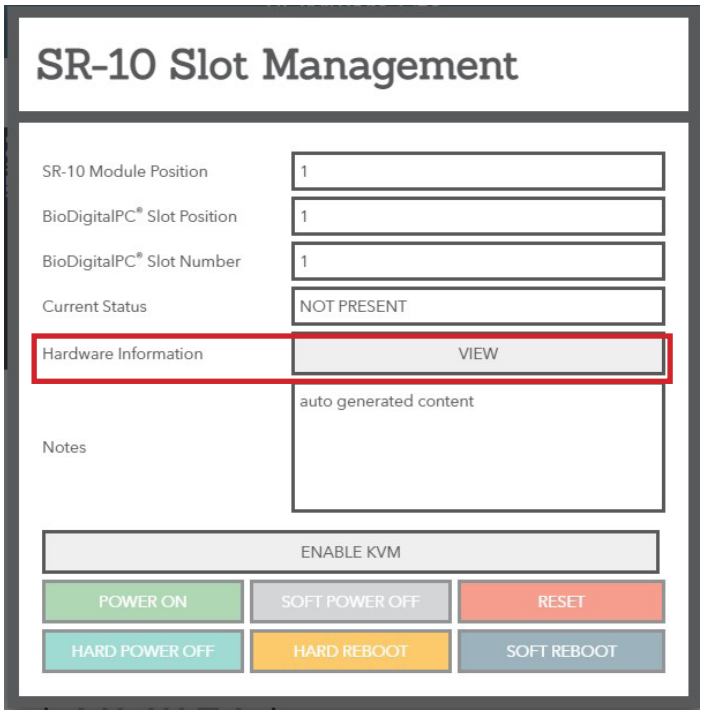
SOFT REBOOT — Gracefully reboots the BioDigitalPC® Server card.

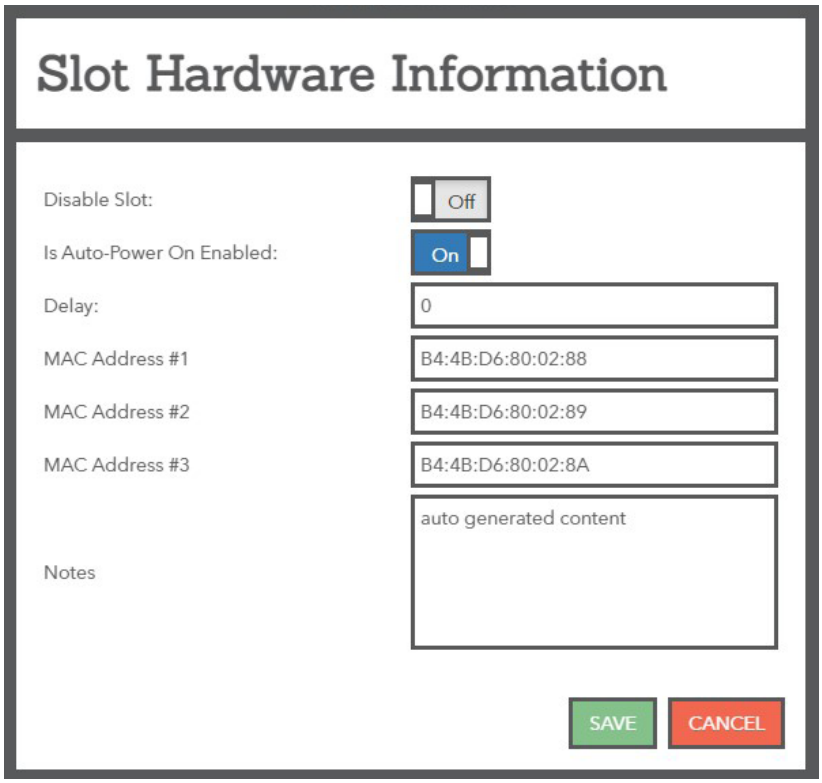
Section 4.4 - BioDigitalPC® Power Control & Monitoring



BioDigitalPC® Slot Number	The unique MDC-C5i slot number
SR-10 Module Position	The position number of the SR-10 Module within the MDC-C5i
BioDigitalPC® Slot Position	The Position of the Slot within the SR-10 Module
Current Status	Displays the current status of the slot: Present, Not Present, On and Off
Hardware Information	Click "View" to show the Slot Hardware Information. See the page 21 for more information.

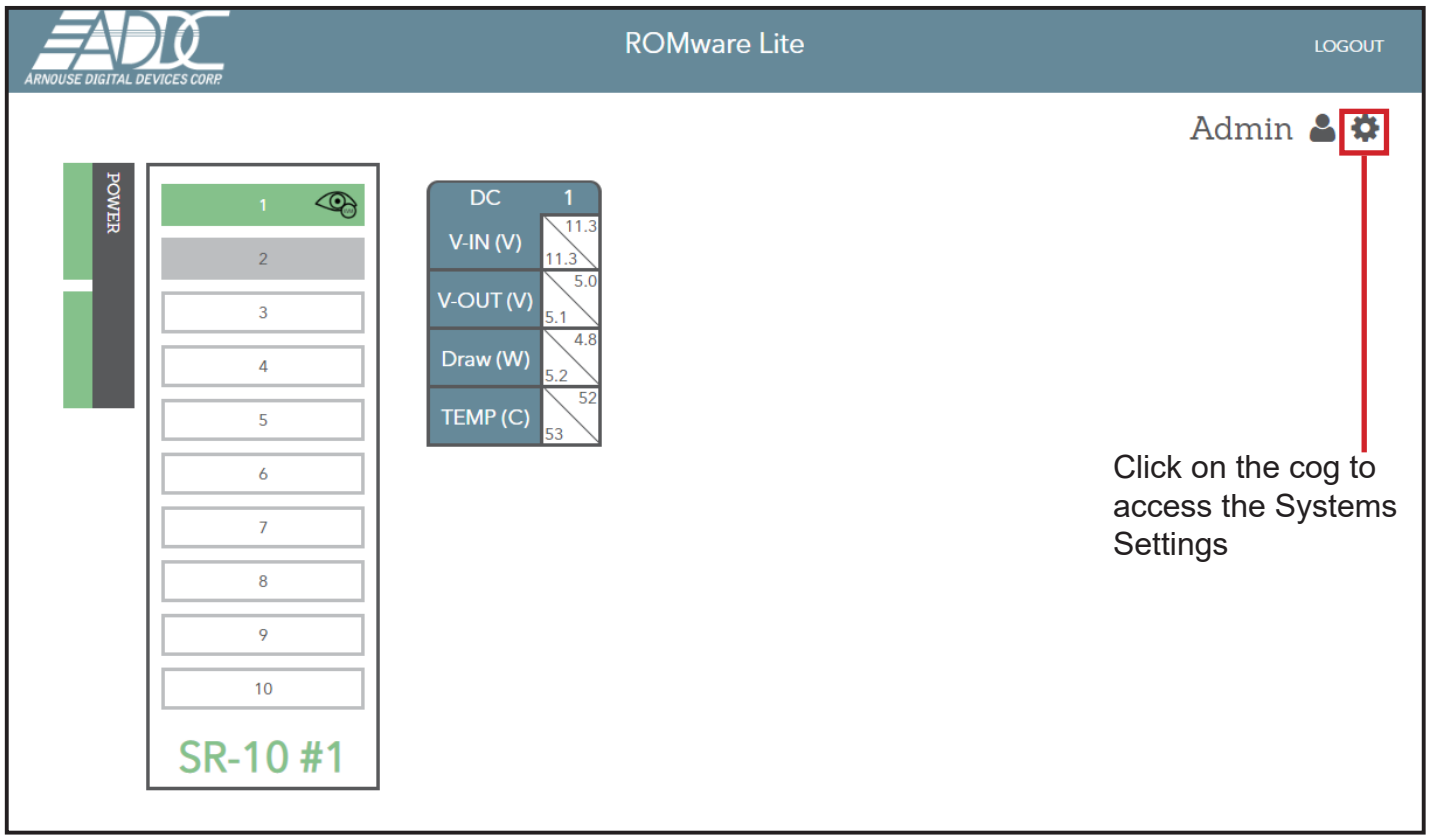
Section 4.4 - BioDigitalPC® Power Control & Monitoring

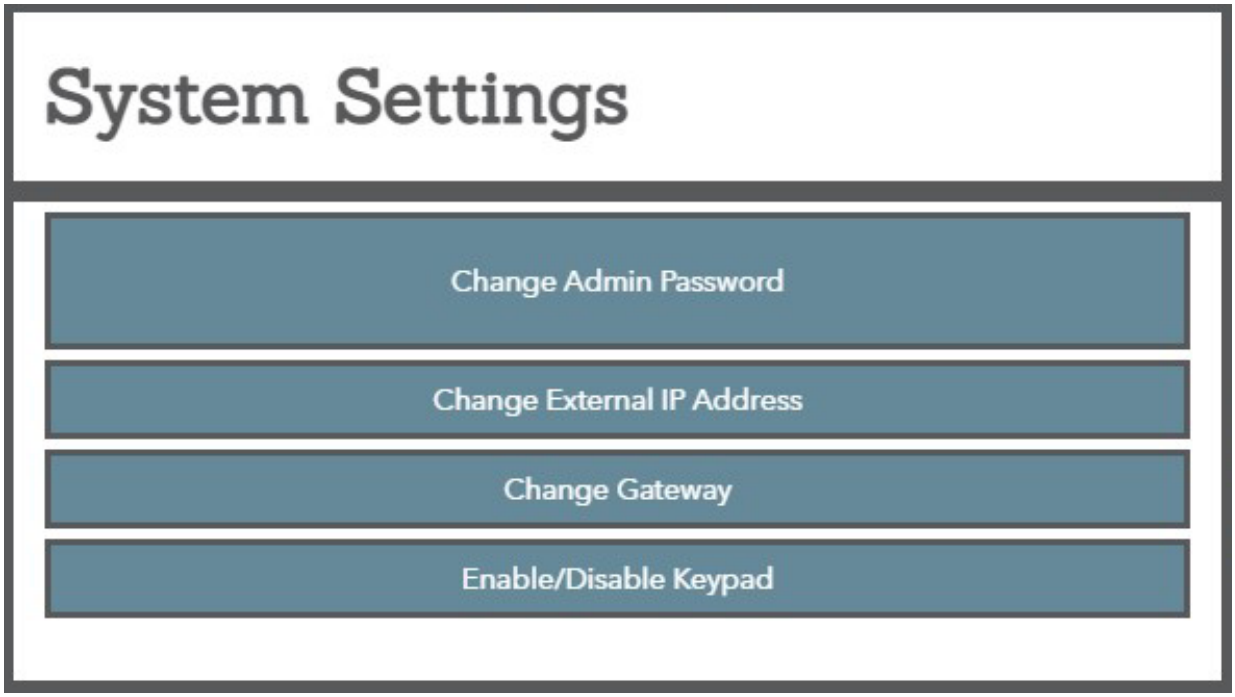




Disable Slot	Disables the slot for this SR-10 module.
Is Auto-Power On Enabled	With this option enabled, after boot up of the MDC-C5i the BioDigitalPC® in this slot will be powered on (if present) automatically after the number of seconds specified in the delay box (below).
Delay	The number of seconds to wait after power up of the MDC-C5i before powering on the BioDigitalPC® (if present) in this slot.
MAC Address [1, 2, 3]	MAC addresses of the 3 1Gbps NICS for this slot.

Section 4.5 - MDC-C5i System Settings

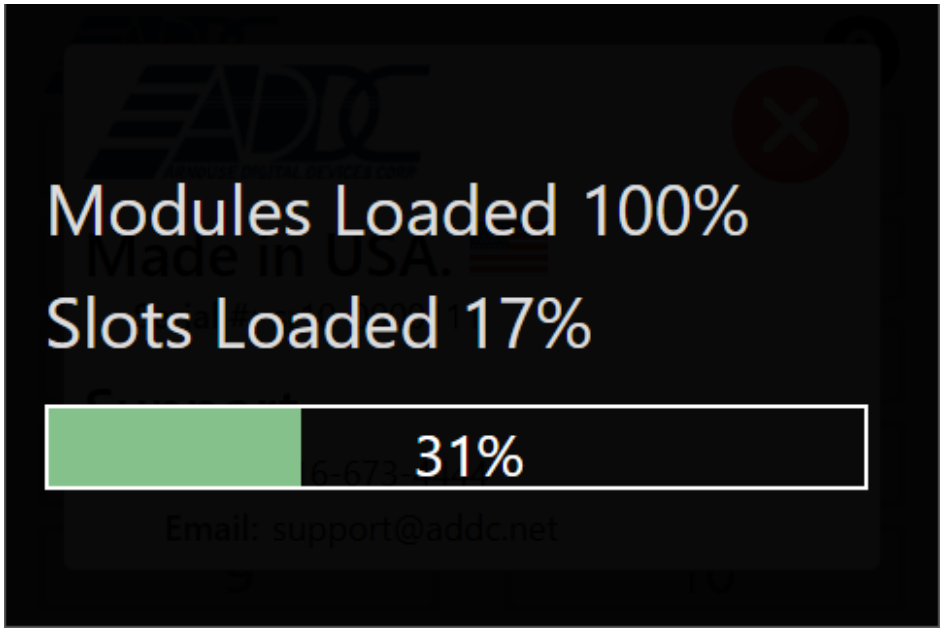




The System Settings allows the user to change four things: ROMware password, the machines IP address, the machines Gateway and the ability to enable or disable the Keypad

Section 4.6 - Front Panel Touchscreen Overview

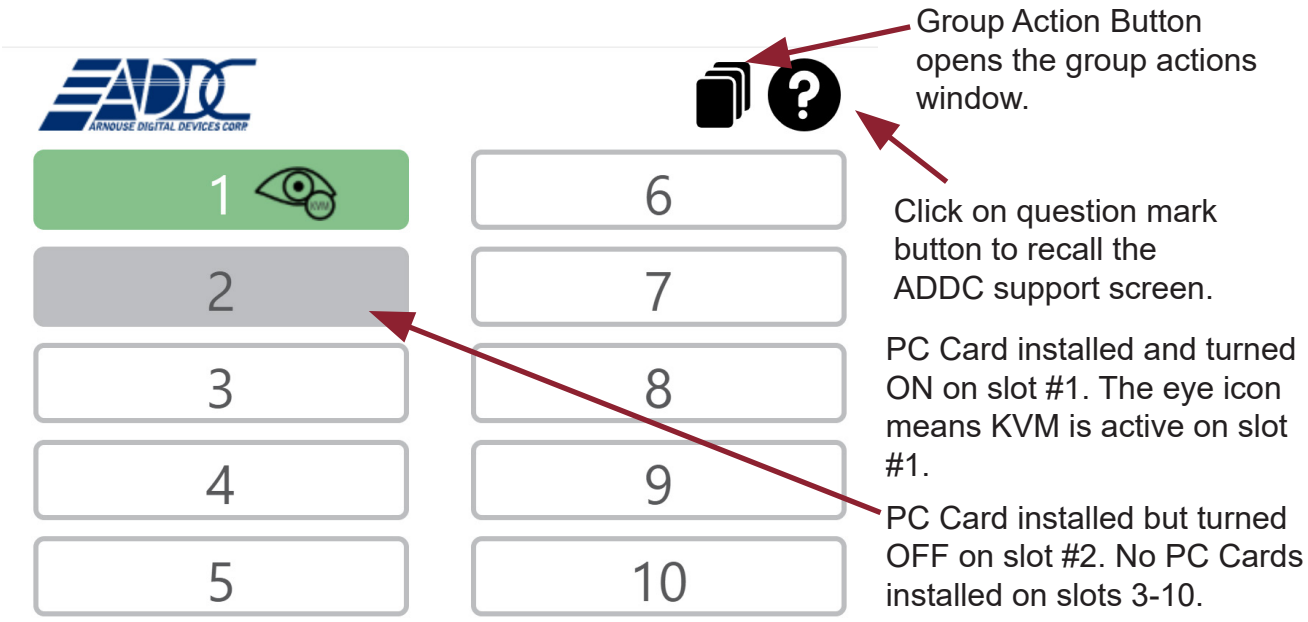
- System Startup Screen – Allow 3-4 minutes for system to boot up

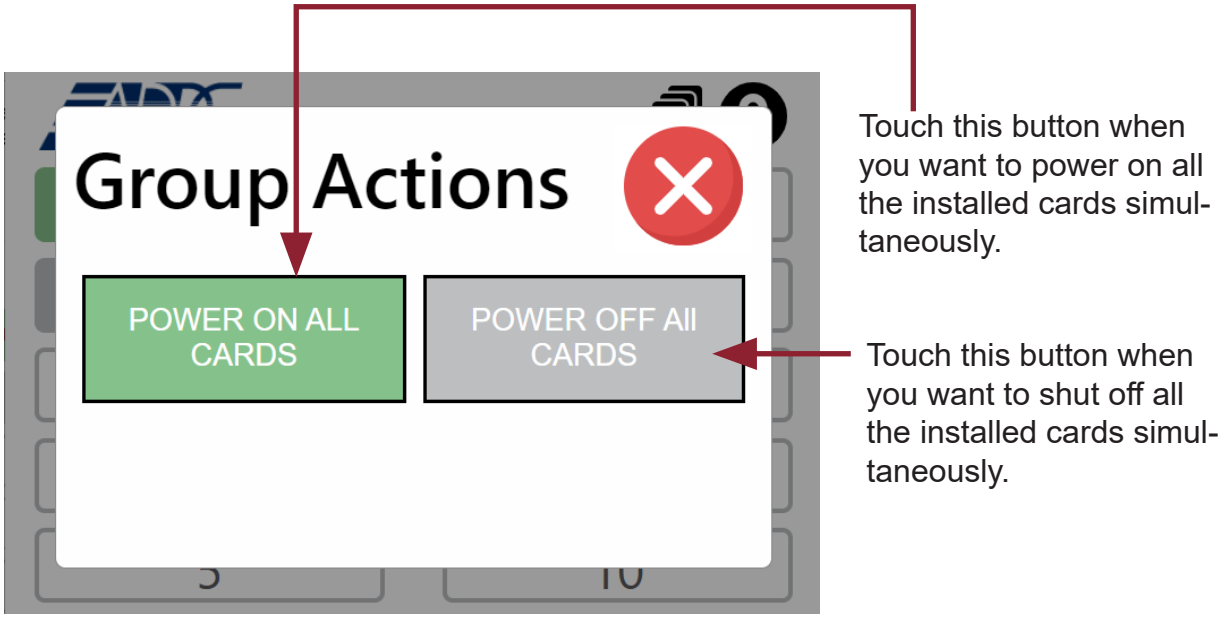


- ADDC Support Screen – This screen is displayed right after the system boots up and will be closed after ten seconds or it can also be closed by clicking on the red button.

Section 4.6 - Front Panel Touchscreen Overview

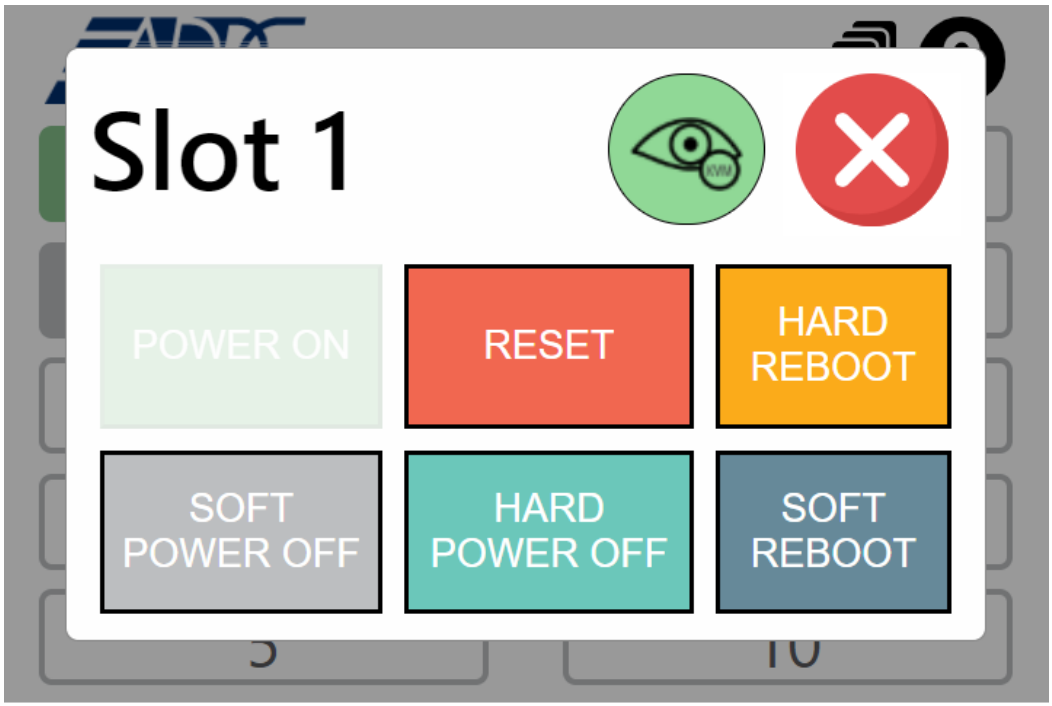
- PC Card Slots Power Status Screen – This screen is displayed after the ADDC support screen is closed. WHITE indicates there is no PC Card installed, GRAY indicates there is a PC Card installed but is turned OFF, GREEN indicates that there is a PC Card installed and turned ON.





Section 4.6 - Front Panel Touchscreen Overview

Displaying the card management features of the MDC-C5i is done by clicking the **Slot Number.**



Activates KVM on selected BioDigitalPC® Server card.

Powers ON the BioDigitalPC® Server card.

Immediately removes power from the BioDigitalPC® Server card.

Sends a signal to the BioDigitalPC® Server card to shut down gracefully

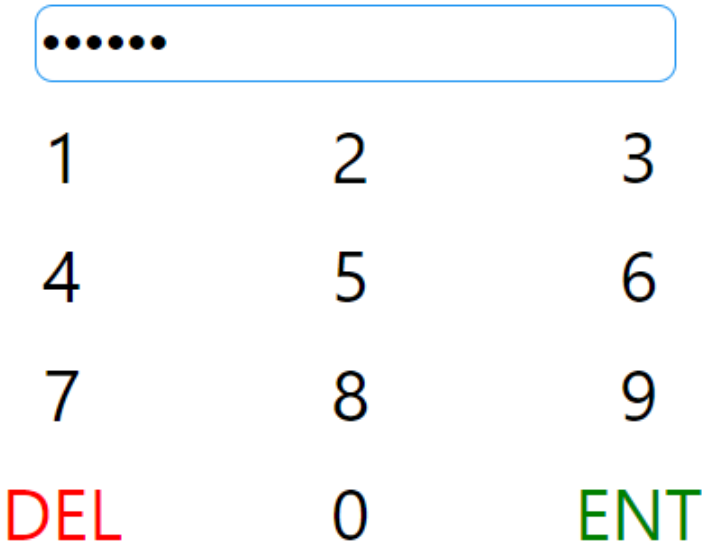
Removes power from the BioDigitalPC® Server card, waits 30 seconds and then applies power back to the BioDigitalPC® Server card

Removes power from the remote power control. Do not use this unless specifically instructed to.

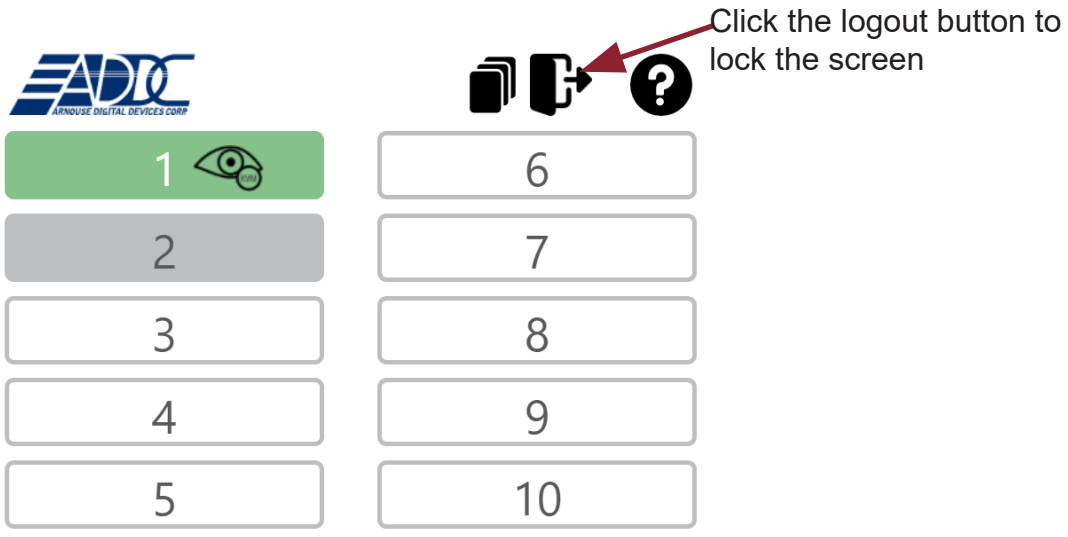
Gracefully reboots the BioDigitalPC® Server card.

Section 4.6 - Front Panel Touchscreen Overview

- A lock screen can be activated from the web interface. By default, the lock screen is disabled; however, it can be enabled from ROMWare Lite. When enabled, the lock screen will require you to enter the default pin number 123123 to access the PC Card Slots Power Status Screen. It is recommended that you change the default pin number, it can be changed from ROMWare Lite



- When the lock screen is enabled, there will be a logout button next to the question mark button; the logout button will lock the screen. There is a default session timeout of six minutes, if there is no user activity in six minutes the session will end, and the screen will be locked. The default session timeout can be changed from ROMWare Lite.



Section 5 - Cradlepoint Wireless LTE Router

Section 5.1 - Cradlepoint Router Features and Specs

Cradlepoint endpoints provide industry-leading, Gigabit-Class LTE connectivity as well as Ethernet and Wi-Fi. These purpose-built endpoints are sold with a subscription to NetCloud Service for Mobile which provides streamlined configuration and continuous cloud, modem, and router software feature enhancements..

Front

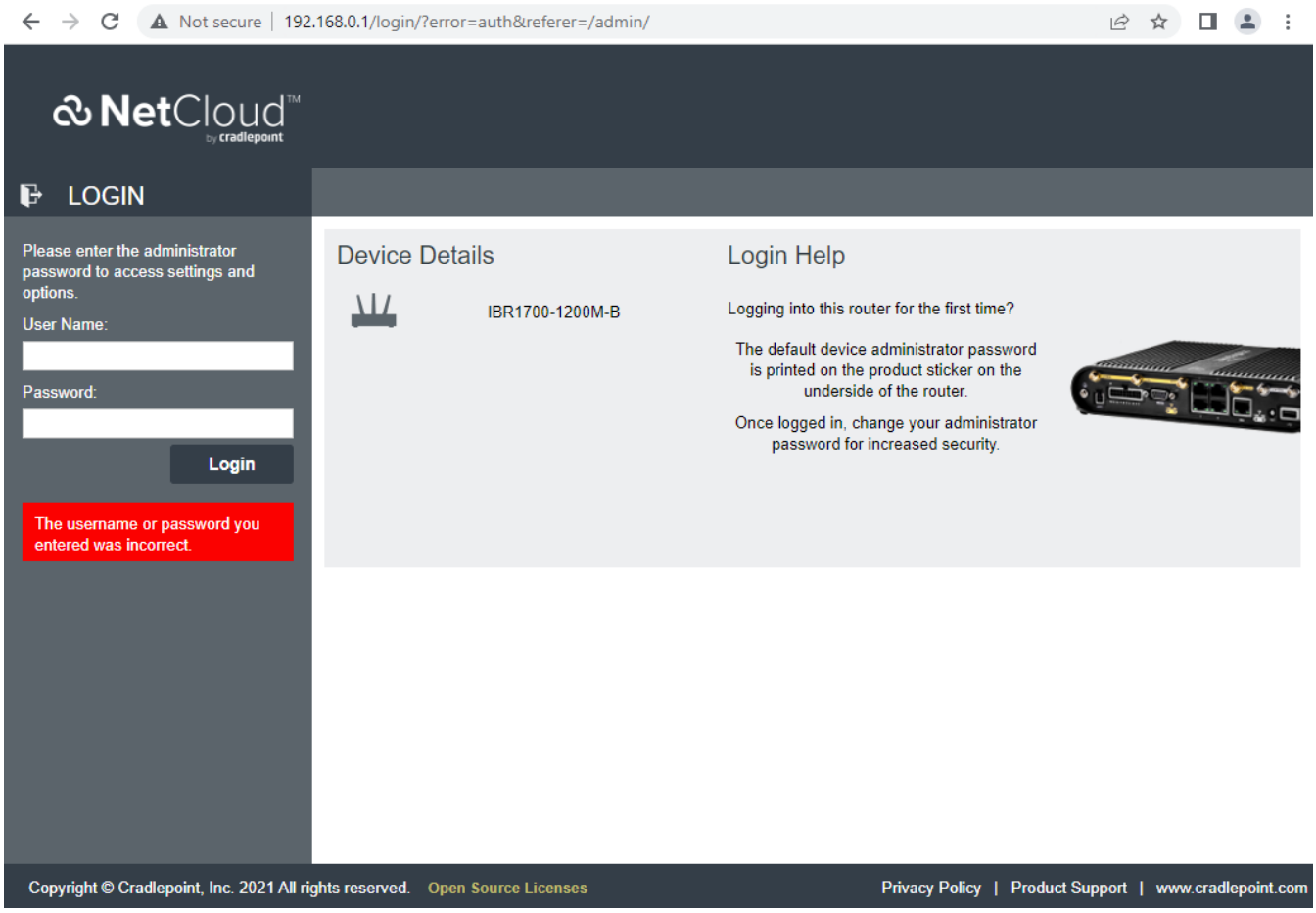
Back

Specs

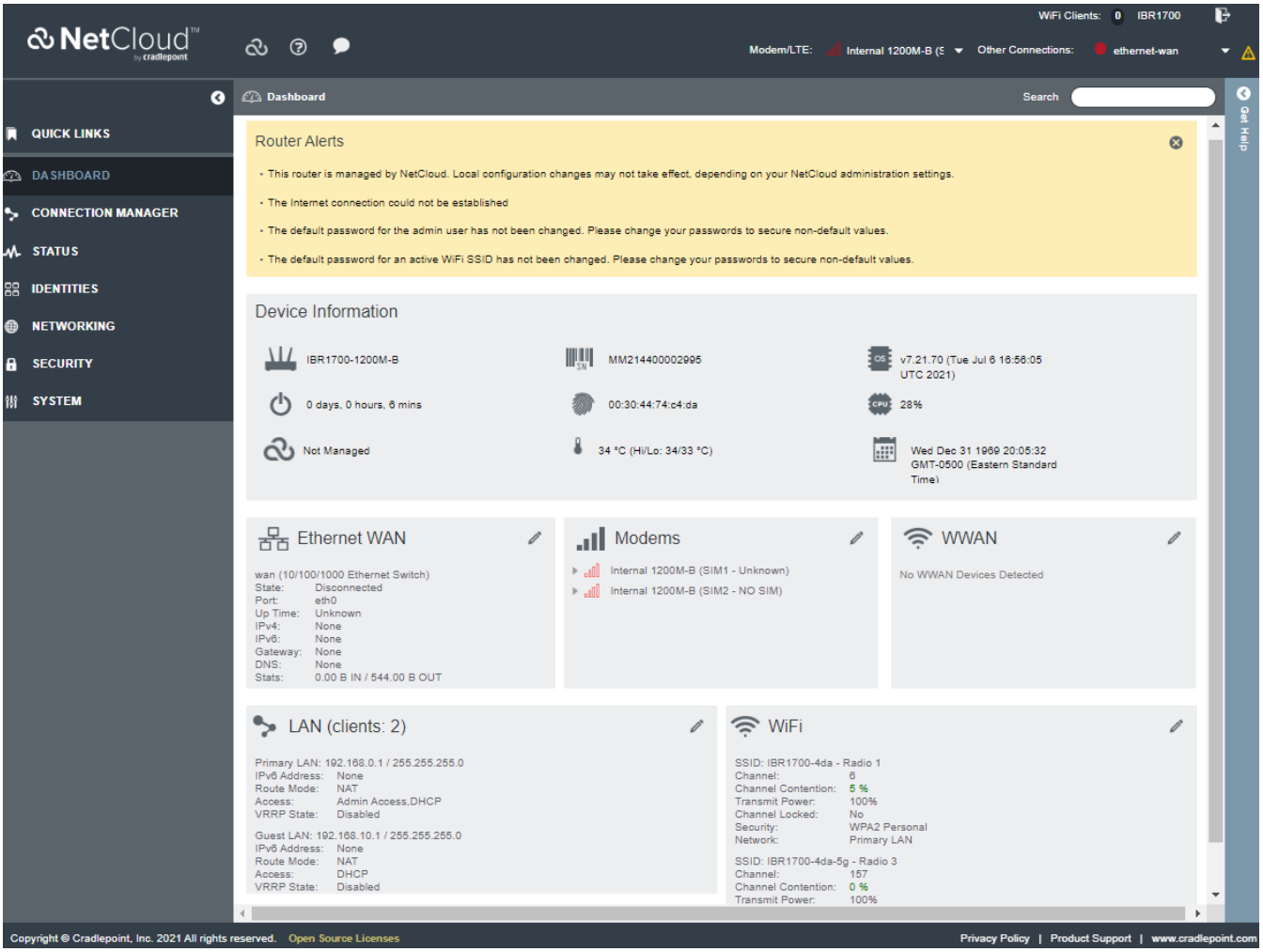
Cloud Management	Yes
Wireless Connectivity	Gigabit-Class LTE
5G Status	5G Ready
Form Factor	Ruggedized Metal
Ethernet Ports	5 GbE (LAN/WAN switchable)
USB Ports	1
Serial Ports	1
Dual-Modem Support	Yes
Throughput	Throughput
VPN Tunnel Count	10
Wi-Fi	Dual-band, tri-radio Wi-Fi; 802.11ac Wave 2 (Wi-Fi 5)
GNSS/GPS	Active
Private Cellular Network	Yes

Section 5.2 - Cradlepoint NetCloud Login

The MDC-C5i has an integrated Cradlepoint LTE wireless router. To access the router's web management interface "NetCloud" connect to any of the MDC-C5i's 1GB ports on the side to obtain an IP address from the router's DHCP server, then enter NetCloud's default IP address 192.168.0.1 into any web browser where you will see the login page below.



To log in enter the default username "admin" and the default password "MDCc5i!".

Section 5.3 - Cradlepoint NetCloud Admin Dashboard

From the admin dashboard you can fully manage all the router's settings such as vlans, VPN tunnels, firewall policies, password change and much more. For further details go to cradlepoint's official documentation https://cradlepoint.com/product/endpoints/ibr1700