enLOGIC

A Division of CIS Global

Electronic Rack eHandle

User Manual

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1: Introduction

1.1 The SmartZone G5 eHandle products are intended to provide access control solutions with a series of electronic locking options for Panduit Standard Cabinets monitored and controlled through the Panduit SmartZone G5 PDU.

1.2 There are five configuration options available for the eHandle family products as the following:

SKU No	P/N	Description
EA9502	EH01	eHandle RFID (125kHz / 13.56MHz) with integral humidity sensor
EA9500	EH02	eHandle RFID (125kHz / 13.56MHz) and Keypad with integral humidity sensor
EA9503	EH03	eHandle No Card Reader with integral humidity sensor
EA9501	EH04	eHandle No Card Reader with Keypad with integral humidity sensor

1.3 The eHandle accessories and harnesses supported by the SmartZone G5 eHandle products are listed below:

P/N	Description
ACF10	eHandle (1) Temperature and (1) Door Sensor
ACF11	eHandle (3) Temperature Sensors and (1) Door Sensor
ACF20	eHandle to Panduit G5 PDU Harness
ACF30	eHandle Standard Key (10 pack)
ACF31	eHandle Alternate Key Option 1 (10 pack)
ACF32	eHandle Alternate Key Option 2 (10 pack)
ACF33	eHandle Alternate Key Option 3 (10 pack)
ACF34	eHandle Alternate Key Option 4 (10 pack)
ACF35	eHandle Alternate Key Option 5 (10 pack)
ACF36	eHandle Standard Tumbler (10 pack)
ACF37	eHandle Alternate Tumbler Option 1 (10 pack)
ACF38	eHandle Alternate Tumbler Option 2 (10 pack)
ACF39	eHandle Alternate Tumbler Option 3 (10 pack)
ACF40	eHandle Alternate Tumbler Option 4 (10 pack)
ACF41	eHandle Alternate Tumbler Option 5 (10 pack)

Note!

1. **The tumbler locking mechanism should only operate when combined with the corresponding key for the same option group.**
2. **The Standard Tumbler should only operate when combined with the Standard Key.**

2: eHandle Overview

2.1 Specifications and Functions

Specifications

Power supply requirement:

Handles shall receive power via RJ45 connector through custom patch cable connected to CIS manufactured power distribution unit

- eHandle shall be powered by 5VDC power source
- 5VDC tolerance: ±10%
- Standby current: 50mA Max
- Typical operating current shall be less than 500mA @ 5VDC
- Maximum peak/stall operating current shall be less than 1,150mA @ 5VDC

Four types of Handles are listed below.

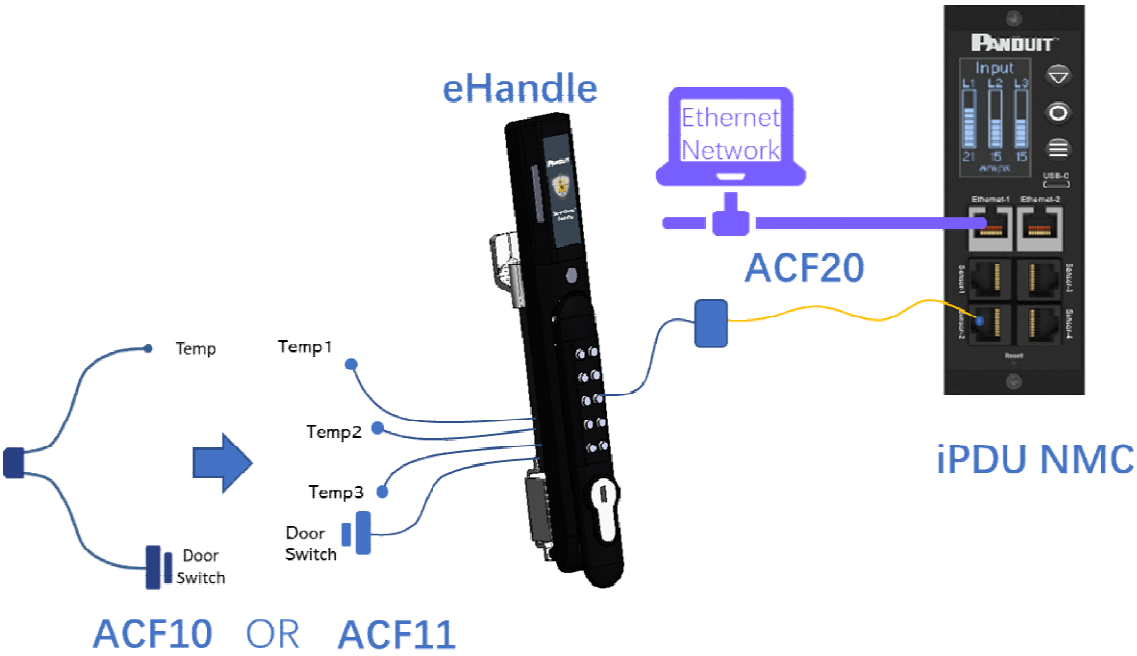
EH01 RFID Card Reader	EH02 RFID Card+Keypad Reader	EH03 Electronic only Handle	EH04 Keypad Handle

Functions of each type of Handles

P/N	eHandle Types	Description
EH01	RFID Card Reader	- eHandle RFID (125kHz /13.56MHz) with integral humidity sensor - Support Single factor RFID card authentication - Remote lock/unlock capability
EH02	RFID Card+Keypad Reader	- eHandle RFID (125kHz /13.56MHz) and Keypad with integral humidity sensor - Support Dual Authentication - Remote lock/unlock capability - Need to provide an option in firmware to hide the pin with * when pin is typed. This hidden pin mode can be enabled and disabled in firmware.
EH03	Electronic only eHandle	- eHandle No Card Reader with integral humidity sensor - Remote lock/unlock capability - RF support to be disabled in factory firmware mode.
EH04	Keypad only eHandle	- eHandle No Card Reader and Keypad with integral humidity sensor. - Support User pin authentication - Physical key override - Remote lock/unlock capability - RF support to be disabled in factory firmware mode.

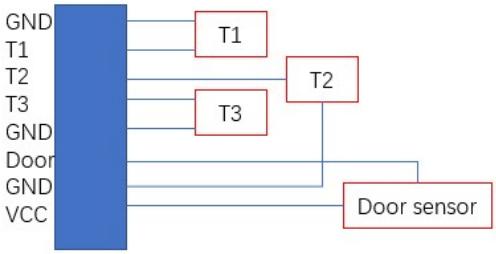
2.2 eHandle Wiring Diagram

The wiring diagram below provides a visual illustration of the physical connections and physical layout of a typical electronic rack eHandle system, demonstrating the interconnections between an electronic rack eHandle, a Panduit PDU, and relative sensors.

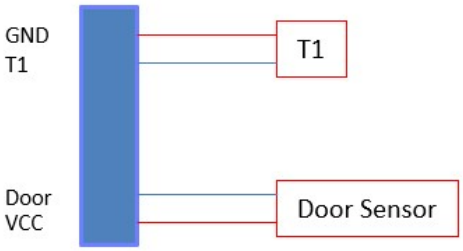


The sensor assembly includes harness, sensors and accessories.

Front door with wire harness with 1 door position magnetic dry contact sensor and 3 temperature sensors (ACF11)



Rear door with wire harness with 1 door position magnetic dry contact sensor and 1 temperature sensor (ACF10)



2.3 eHandle General Features

2.3.1 eHandle Compatibility

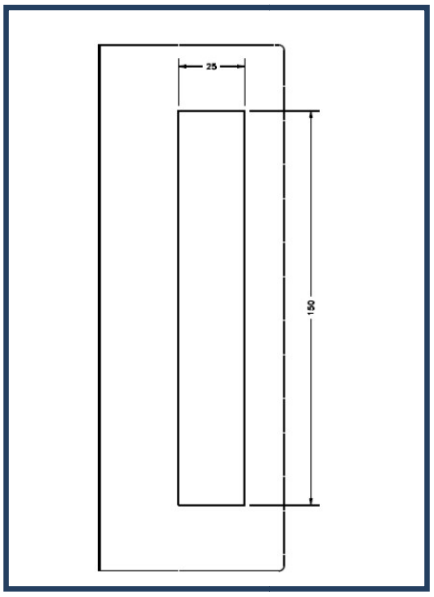
1. The eHandle system is compatible with all applicable SmartZone G5 PDUs
   SmartZone G5 1.0 without PowerShare support (with required firmware upgrade).
   SmartZone G5 1.5 with PowerShare support.
   Future SmartZone G5 PDU versions support.
2. Any eHandle is compatible in fit and function with any SmartZone G5 deployment without disrupting the operation of the existing G5 PDU and Sensor configuration.
   - No disruption of Temperature Sensor Kit (EA001)
   - No disruption of Temperature & Humidity Sensor Kit (EB001)
   - No disruption of the (3) Temperature & Humidity Sensor Kit (EC001)
   - No disruption of Rope Fluid Leak Sensor Kit (ED001)
   - No disruption of Spot Fluid Leak Sensor Kit (EE001)
   - No disruption of Sensor Hub Kit (EF001)
   - No disruption of Rope Fluid Leak Sensor Extension Kit (EG001)
   - No disruption of Door Switch Sensor (ACA01)
   - No disruption of Dry Contact Cable (ACC01)
   - No disruption of USB Light Strip (ACD01)
   - No disruption of Access Hub (ACB01 & RACB11-Q)

3. Number of Handles Supported per G5 PDU
   Two Handles supported per PDU when not in a daisy chain configuration
   One eHandle supported per PDU when in a daisy chain configuration
   (TBD) Handles supported on Horizontal/Vertical, PowerShare/Non-PowerShare PDUs

4. Mechanical Requirements

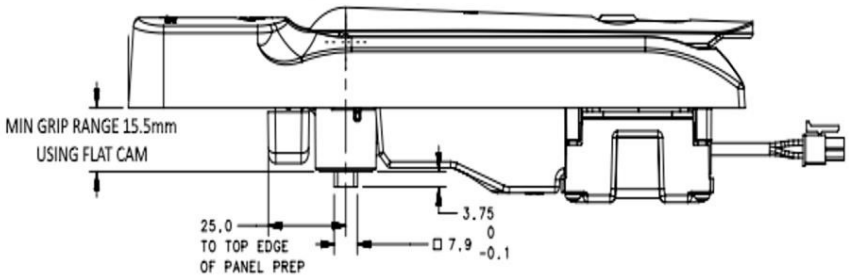
   4.1 Cutout dimensions

   Cutout width: 25mm +0.3/-0
   Cutout height: 150mm +0.3/-0



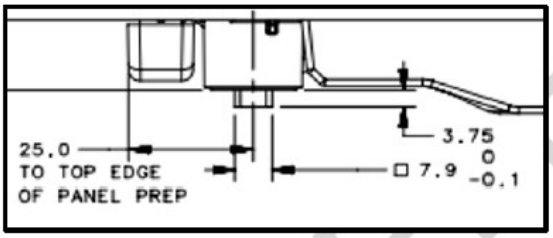
4.2 Panel thickness range: 1mm to 2.5mm thick

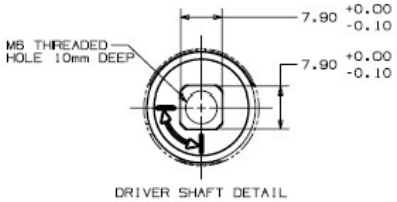
4.3 Flat CAM Grip range: 15.5mm



4.4 The physical location of the center of the Driver Shaft must be central to the cutout, 25mm below the top of the panel cutout.

4.5 Recommended mechanical interface between the Driver Shaft and the door locking mechanism

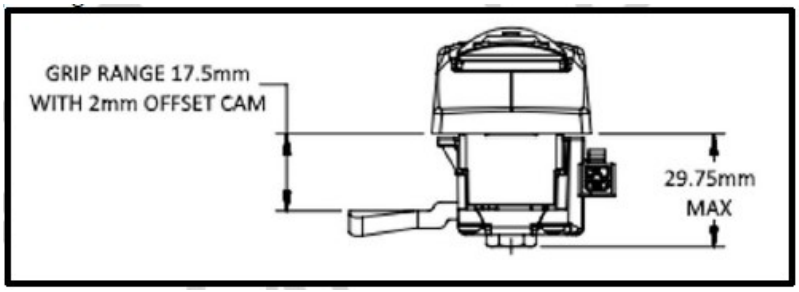




Driver Shaft Critical Dimensions

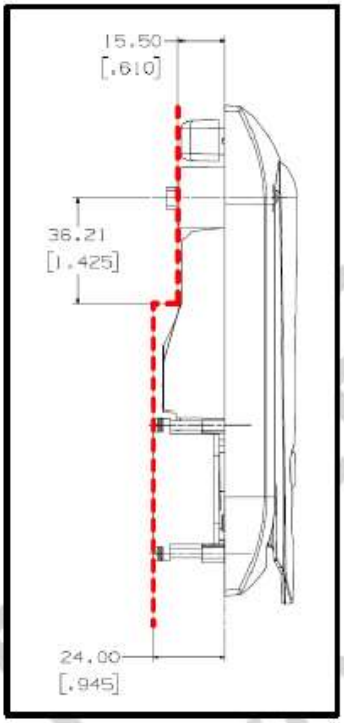
Cross sectional width:	7.9mm +0/-0.1
Cross sectional height:	7.9mm +0/-0.1
Shaft Protrusion Depth:	3.75mm
Central Thread:	M6 threaded hole >= 10mm deep

4.6 Grip Range with 2mm offset CAM: 17.5mm



4.7 Clearances behind the eHandle must not be any more restrictive than behind the existing Panduit ACE01, ACE02 & ACE03 Swinghandles, as detailed below.

- 15.5mm restriction to extend from the top of the eHandle down to 36.21mm below the center line of the driver shaft.
- 24mm restriction to extend onwards from the point 36.21mm below the center of the driver shaft.



4.8 eHandle Support Right-Hand or Left-Hand installation.

4.9 The Harness shall be routed to the side of the eHandle opposite the latch area.

2.3.2 eHandle Lock Function

The eHandle keypad includes the following features:
Input keys to support (10) inputs:

- be numbered from 0 to 9 inclusive
- be individual input keys
- be all metal construction
- be tactile when pressing keys

Key identification numbers and font to be printed in accordance with the published Panduit Branding Guidelines.
Identification numbering must not come off through expected 7 year usage.
No printing to be present on the surface of the keypad buttons.

2.3.3 Integrated LED Indicators

Integrated LED indicators are available on all configurations.
Different colors of warning and status of function can be selected by users.

Status LED has the following default configuration which can be controlled by eHandle.

Event	LED Status	Color	Time
Remote unlock	Blinking	Green	Autolock Time
if electronic latch is not closed after autolock time	Blinking	Red	Autolock Time
Card Swipe Auth success	Blinking	Green	Autolock Time
Card Swipe Auth fail	Blinking	Red	3 times
eHandle/Mechanical lock is open by Key	Blinking	Magenta	Door open time
Mechanical Lock Open more than door open time	Solid	Yellow	Door open time
Door sensor - Door open more than door open time	Solid	Red	Door open time
Door is open for more than MAX door open time	solid	red	critical alarm is raised, no time limit, keep red till door is not closed
Standby	Solid	customer selectable color	no time limit, changed on any event, return to original state after event cleared

Beacon LED has the following default configuration.

Function	LED Status	Color	Default	Description
Locate	Blinking	Blue, Green, White, Magenta	Green	Identify rack location. High Intensity. Customized color.
Critical Alarm	Blinking	Red	Red	Any critical alarm in the system
Warning Alarm	Blinking	Yellow	Yellow	Any warning alarm in the system
Normal Status	Solid	Blue, Green, Yellow, Red, White, Magenta	Led Off	Visual indicator on the PDU, Customized color.

3: eHandle Installation Instruction

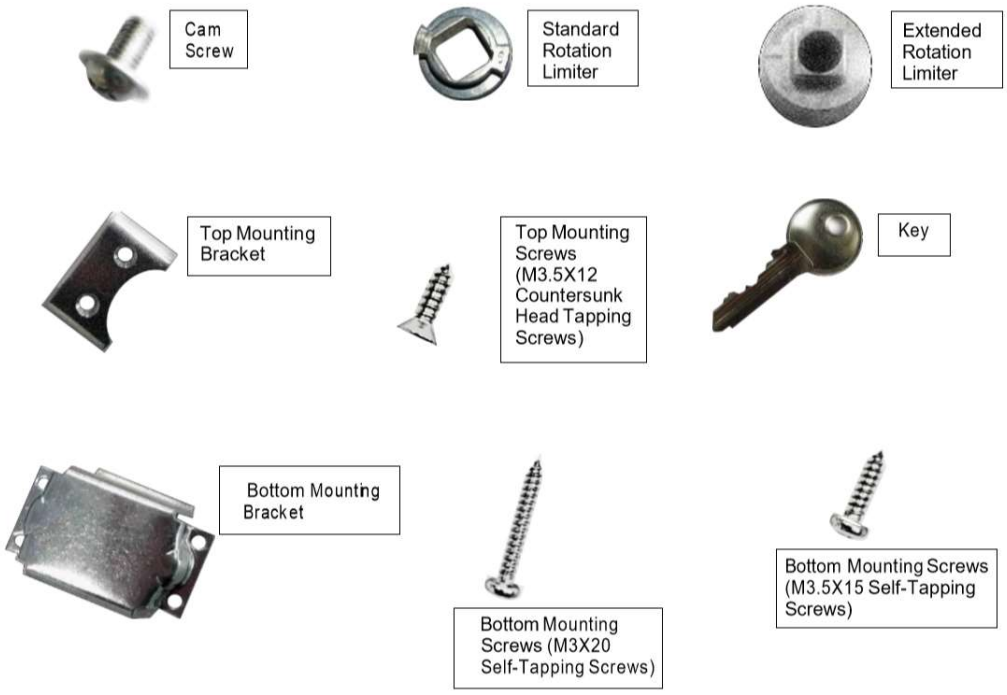
3.1 Types of SmartZone G5 eHandle

EH01: - eHandle RFID (125kHz / 13.56MHz) with integral humidity sensor
EH02: - eHandle RFID (125kHz / 13.56MHz) and Keypad with integral humidity sensor
EH03: - eHandle No Card Reader with integral humidity sensor
EH04: - eHandle No Card Reader and Keypad with integral humidity sensor

ACF01, ACF03

ACF02, ACF04

3.2 eHandle Included Installation Parts

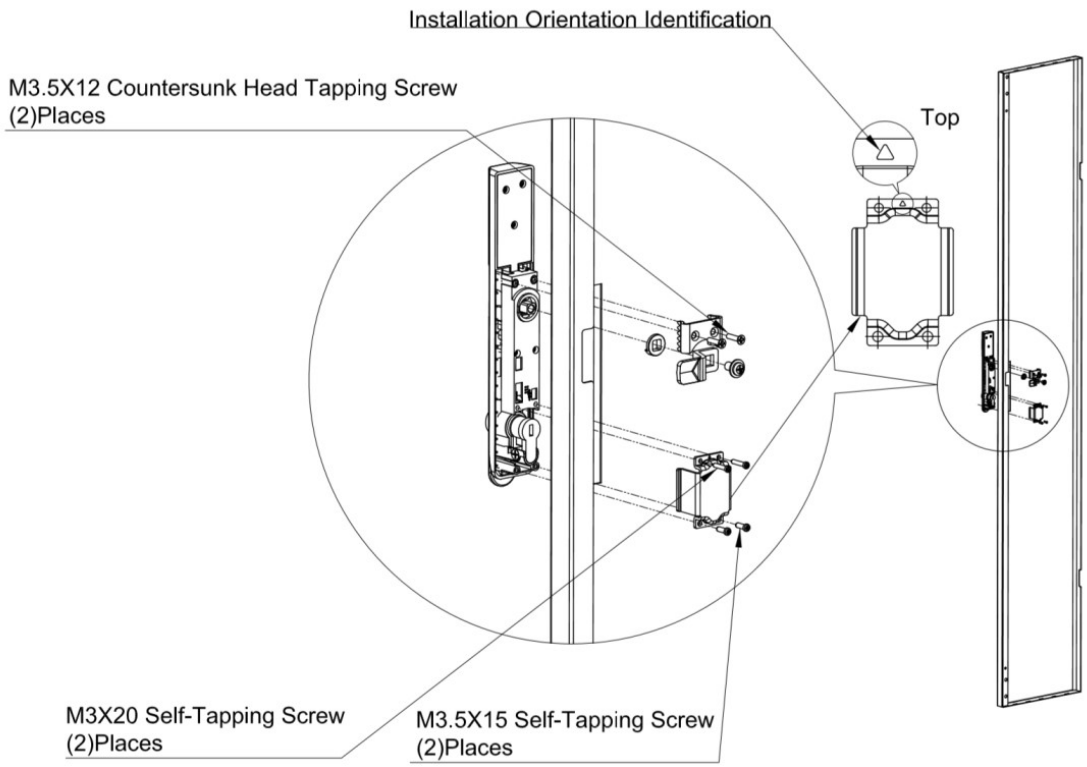


3.3 eHandle Lock Mounting Option for Front and Rear Door

3.3.1 If needed, remove any existing lock mechanism. Save the Cam (latch) for later steps.
NOTE: The eHandle's lock requires a cut-out of 150x25mm. Reference Figure below for the following steps.

3.3.2 Position the lock body within the cut-out and flush to the outer face of the cabinet door. Use the 12mm Top Mounting Screws and Top Mounting Bracket to secure the lock to the door.

3.3.3 Select a suitable Rotation Limiter (standard or extended) and mount the cam assembly from Step 1. Secure using the included Cam Screw. Pay careful attention to the orientation of the Rotation Limiter according to your installation requirements.



3.3.4 Ensure that the orientation of the lock plug corresponds to the orientation of the Bottom Mounting Bracket and install the Bracket using the included 15mm and 20mm Bottom Mounting Screws.

4: eHandle WEB Configuration

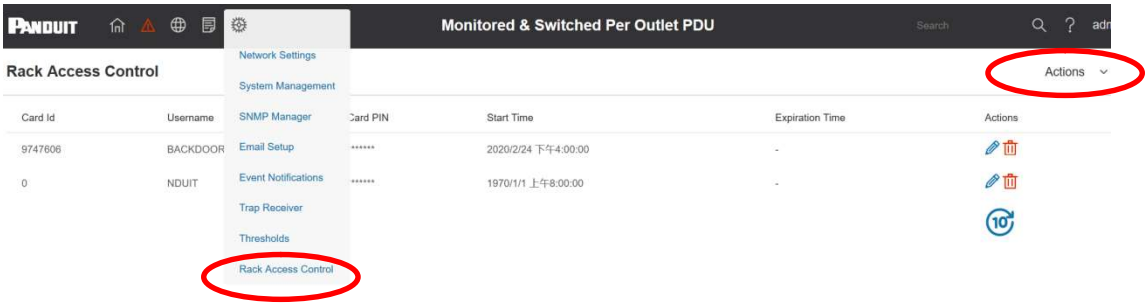
4.1 ID User Authorization/Add Card

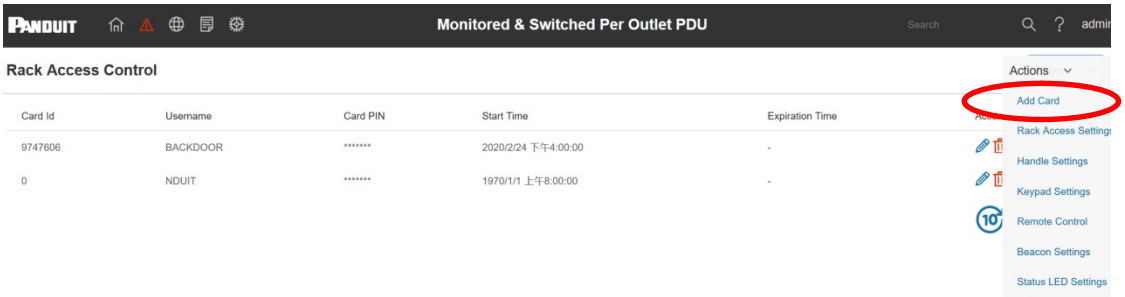
Once connected, users can be assigned HID cards to complete authentication & authorization.
Please go to PDU web by ip address (can get from PDU screen), and enter a username and password to log in.

Username: admin
Password: 12345678

ID User Authorization/Add Card

1. The Administrator can use Web Interface or SNMP to create user entry with an associated ID card. Go to Smart Rack Access Control>Actions>Add Card.

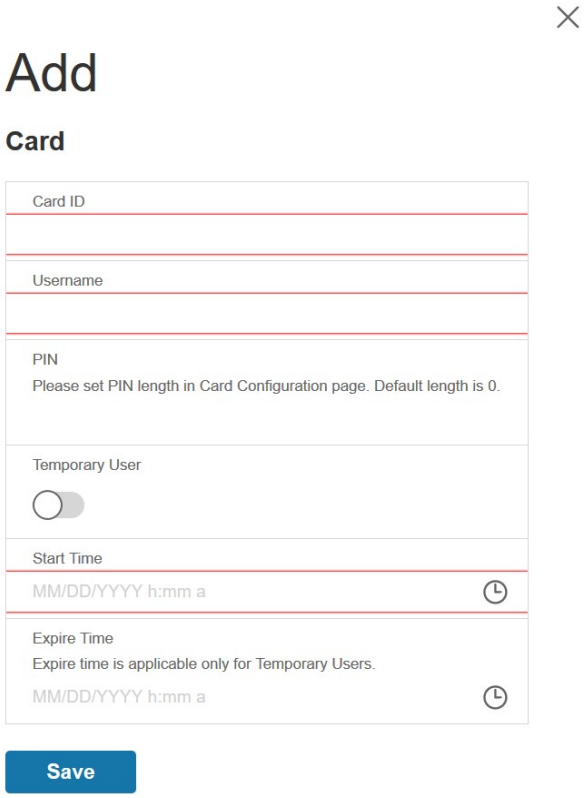




2. Input the Card ID, user name, PIN and date, then click save to add a Card.
3. Each code can be assigned a User Name up to 31 characters long. Note: User name is related to filed name.
4. Expiration time is only applicable to temporary users. After the expiry Date/Time, the expired ID code will no longer be valid. (start when it's created).
5. Click Save to complete Add Card.

Note!

If authentication failed, the LED will blink Red three times. The default color is Red.

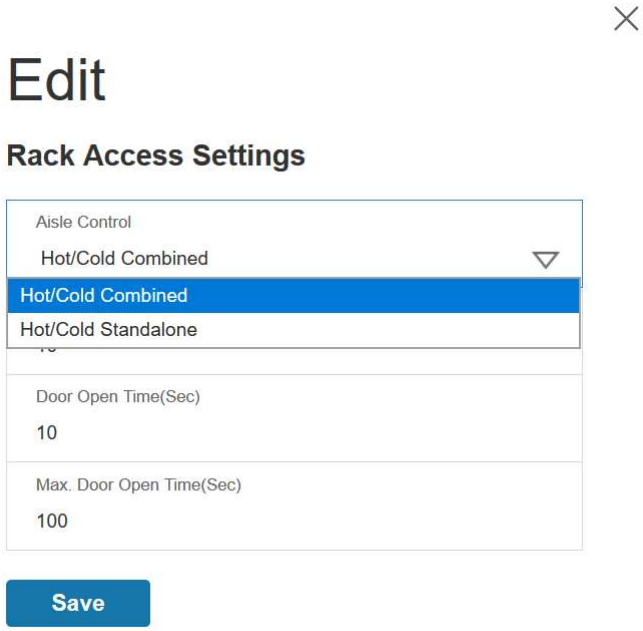


4.2 Rack Access Settings

For Rack Access Settings, please go to Smart Rack Access Control>Actions>Rack Access Settings.

- Select Aisle Control. Two options can be selected which are Hot/Cold Combined and Hot/Cold Standalone.
- Hot/Cold Standalone– When this is selected, aisle control is individual. Hot aisle can control hot aisle, cold aisle can control cold aisle.

  Hot/Cold Combined – When this is selected, one aisle can be controlled by opposite aisle. Hot aisle can control cold aisle.
- Select Autolock Time and Door Open Time as 10 seconds. Max Door Open Time is set as 100 seconds.
- Click Save to complete Rack Access Settings.



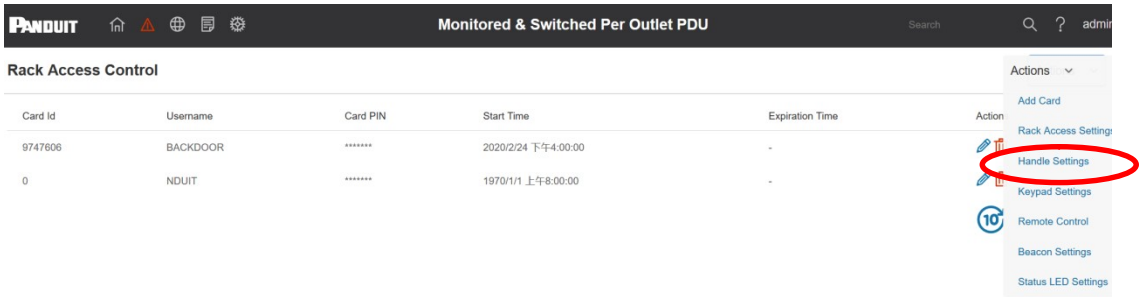
Note!

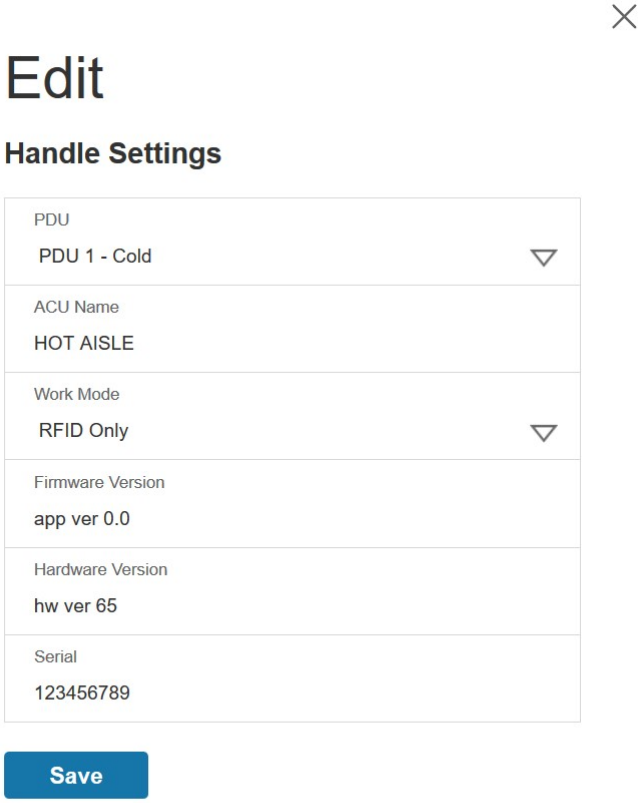
Lock not sensed after xx seconds and door sensor is sensed, or Lock not sensed after yy seconds and door sensor is not sensed. LED blinks YELLOW for Door Open Time(Sec).

4.3 eHandle Settings

For eHandle Settings, please go to Smart Rack Access Control>Actions>eHandle Settings.

- Select PDU
- Input ACU name such as HOT AISLE.
- Select eHandle Work Mode. Currently RFID only mode can be selected.
- Firmware version, hardware version and serial number are Read Only.
- Click Save to complete eHandle Settings.



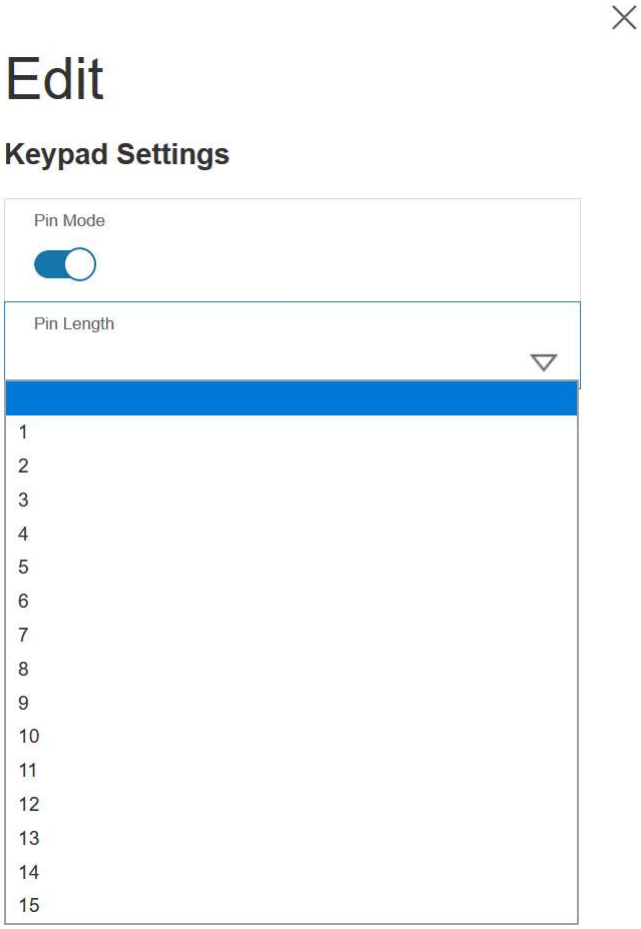


4.4 Keypad Settings

For Keypad Settings, please go to Smart Rack Access Control>Actions>Keypad Settings.

Keypad Settings can be achieved through WEB interface or SNMP.

1) PIN Code length 1 to 15 numeric digits 0 to 9 (default is blank), can be updated in WEB and SNMP, no entry in the MIB.
2) Each PIN code can be assigned a Name up to 31 characters long.

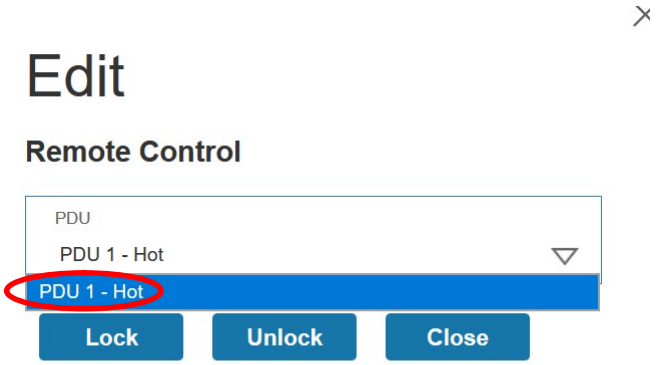


3) Each code can be entered in a hidden way such a *(invisible by the user) or readable (plain text).
   This is configurable by pin mode in WEB GUI (Graphical User Interface). When pin mode is active, pin is hidden and displayed as *. When pin mode is disables, pin is visible.
4) Hidden codes are reset to blank if the user changes from Hidden mode to Readable mode.
5) 6 PIN entry uses a 5 second key to key press timeout.
6) Click Save to complete Keypad Settings.

4.5 Remote Control

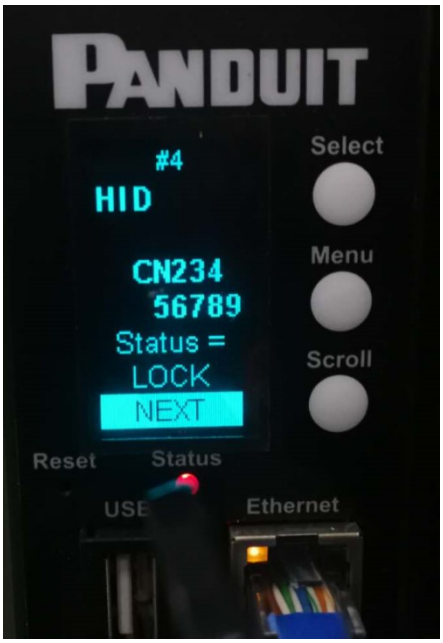
4.5.1 Please go to Smart Rack Access Control>Actions>Remote Control.

The HID card can now be used to access to the rack. In addition, a eHandle can be also set by remote control in Web. Hot Aisle can be selected in Aisle options.



Clicking Lock/Unlock/ on the interface can realize the remote control of the eHandle on site.

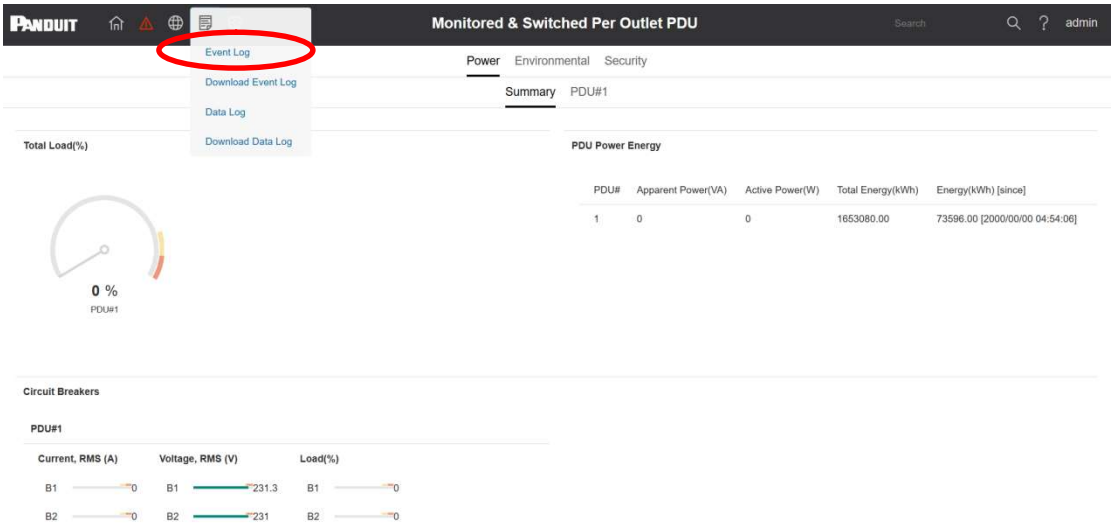
But actually clicking Unlock on the interface, the Status on the panel is LOCK.
Clicking Lock on the interface, the Status on the panel is CLOSED.
Picture

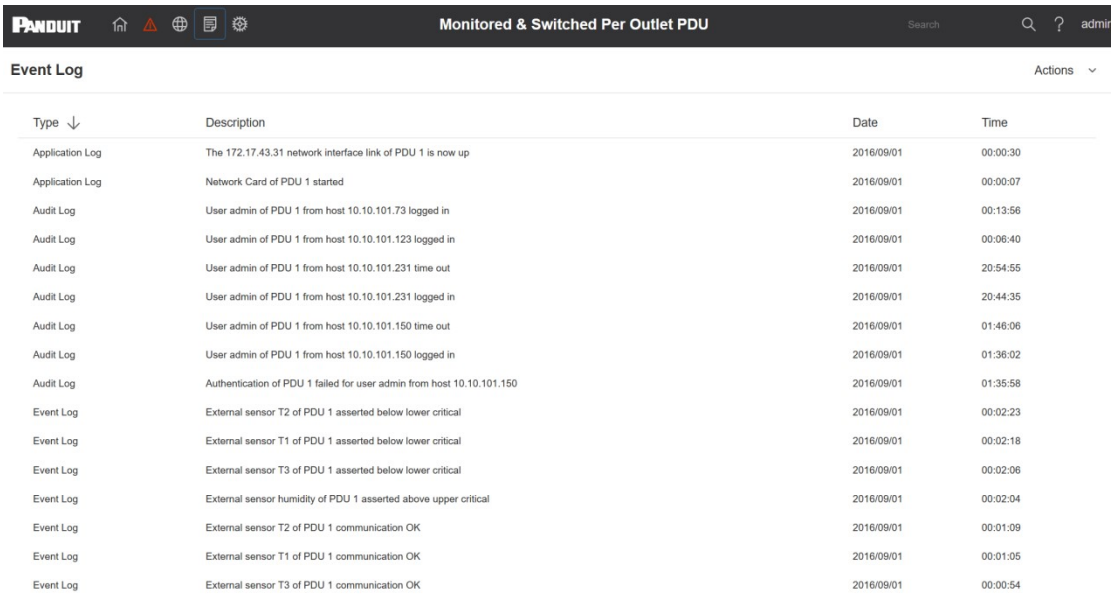


Note!

Handles can be unlocked by remote control. Once Authentication is received and lock mechanism is opened. Lock mechanism stays open for AUTOLOCK TIME seconds. LED BLINK GREEN for AUTOLOCK TIME.

4.5.2 Any attempt to use this card will be recorded in PDU event log. Both of event log and data log can be downloaded.





Type	Description	Date	Time
Application Log	The 172.17.43.31 network interface link of PDU 1 is now up	2016/09/01	00:00:30
Application Log	Network Card of PDU 1 started	2016/09/01	00:00:07
Audit Log	User admin of PDU 1 from host 10.10.101.73 logged in	2016/09/01	00:13:56
Audit Log	User admin of PDU 1 from host 10.10.101.123 logged in	2016/09/01	00:06:40
Audit Log	User admin of PDU 1 from host 10.10.101.231 time out	2016/09/01	20:54:55
Audit Log	User admin of PDU 1 from host 10.10.101.231 logged in	2016/09/01	20:44:35
Audit Log	User admin of PDU 1 from host 10.10.101.150 time out	2016/09/01	01:46:06
Audit Log	User admin of PDU 1 from host 10.10.101.150 logged in	2016/09/01	01:36:02
Audit Log	Authentication of PDU 1 failed for user admin from host 10.10.101.150	2016/09/01	01:35:58
Event Log	External sensor T2 of PDU 1 asserted below lower critical	2016/09/01	00:02:23
Event Log	External sensor T1 of PDU 1 asserted below lower critical	2016/09/01	00:02:18
Event Log	External sensor T3 of PDU 1 asserted below lower critical	2016/09/01	00:02:06
Event Log	External sensor humidity of PDU 1 asserted above upper critical	2016/09/01	00:02:04
Event Log	External sensor T2 of PDU 1 communication OK	2016/09/01	00:01:09
Event Log	External sensor T1 of PDU 1 communication OK	2016/09/01	00:01:05
Event Log	External sensor T3 of PDU 1 communication OK	2016/09/01	00:00:54

4.6 Beacon Settings

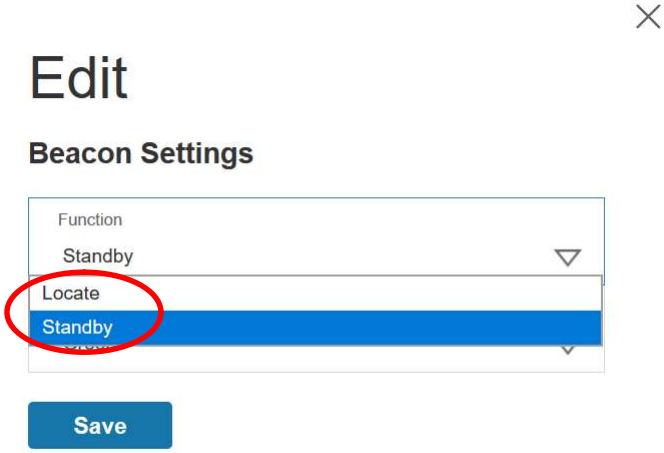
Please go to Smart Rack Access Control>Actions>Beacon Settings.
Rack can be located and LED color (vertical) can be set in Beacon Settings.

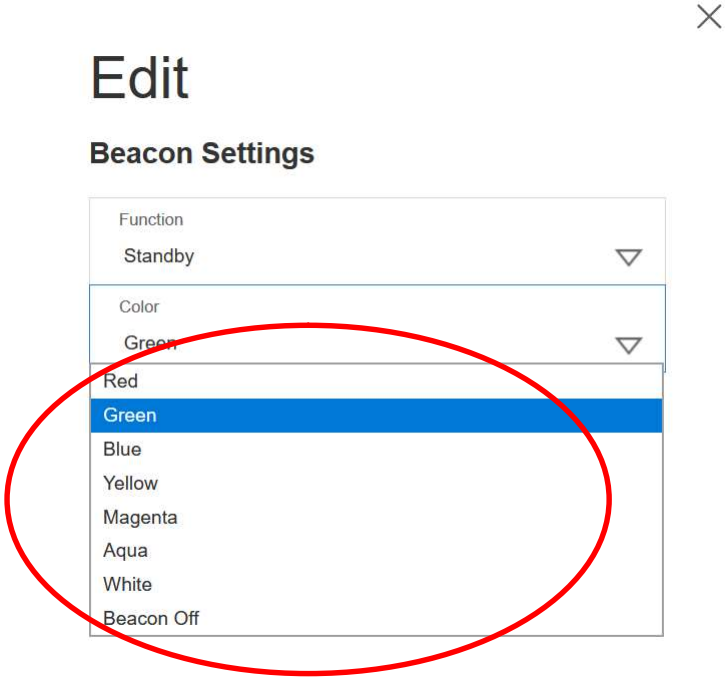
Locate and Standby options can be selected in the dropdown.

Locate – This is employed to locate the rack in the data center. When locate is selected beacon will blink with user selected color, helping the user to identify the rack in data center

Standby- This is the standby option for beacon. When standby is selected, beacon will stay solid with the color that user selected.

6 colors Red, Blue, Magenta, Green, Aqua and White can be selected. Beacon off is also an option for users.



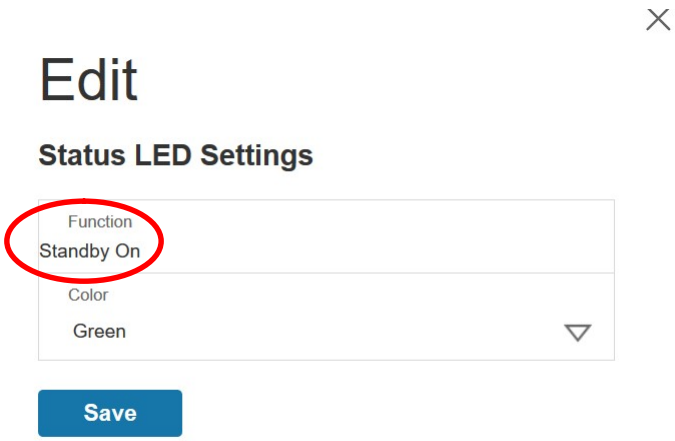


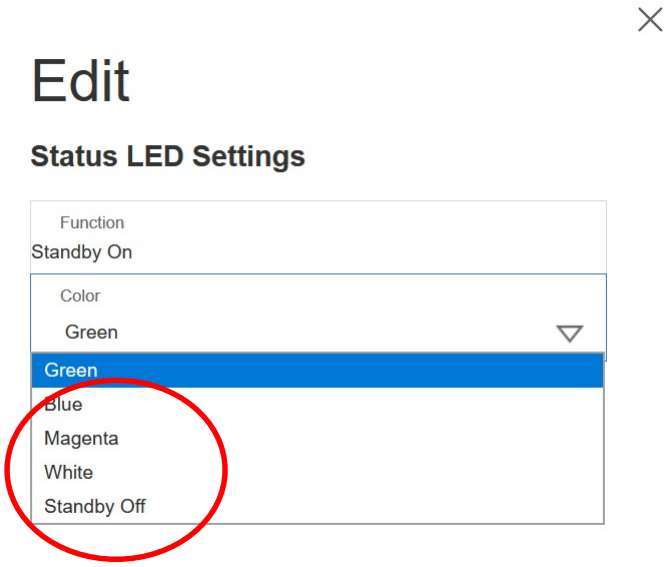
4.7 Status LED Settings

Please go to Smart Rack Access Control>Actions>Status LED Settings.

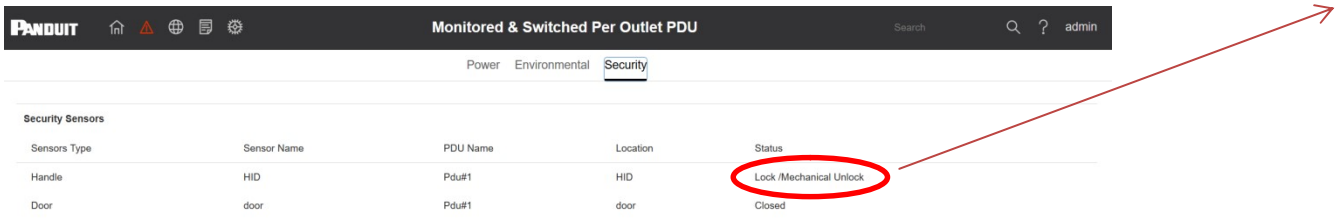
In function of Standby On, LED stays solid and the default color is Green.

4 Colors Green, Blue, Magenta and White can be selected. Standby off is also an option for users.





eHandle status is shown in PDU Security section. When swiping HID card to unlock the eHandle, the status still shows Lock.



5: FCC Statement

1. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

   (1) This device may not cause harmful interference and
   (2) This device must accept any interference received, including interference that may cause undesired operation.

2. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

IC WARNING

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

(1) This device may not cause interference.

(2) This device must accept any interference, including interference that may cause undesired operation of the device.

(3)Minimum product use distance of 10 cm.

Cet appareil contient des émetteurs / récepteurs exemptés de licence conformes aux RSS (RSS) d'Innovation, Sciences et Développement économique Canada. Le fonctionnement est soumis aux deux conditions suivantes :

(1) Cet appareil ne doit pas causer d'interférences.

(2) Cet appareil doit accepter toutes les interférences, y compris celles susceptibles de

provoquer un fonctionnement indésirable de l'appareil.

Declaration of Conformity

1.The product conforms to RIFD specifications and technical standards.

2.The product conforms to DOC declaration.

3.The product meets the basic requirements and other relevant provisions of the 2014/53 / EU directive.

4.The product is allowed to be used in all EU member states.