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Introduction

This user manual describes the features, specifications, and operation of the Censys UHF Reader from Brady Corporation.

The Censys reader is a small, low cost, easy to install UHF RFID reader with wireless data transport to a an application server. Its purpose is to provide a function similar to real time location system (RTLS) at reduced complexity and cost using only passive tags. Model BCENSYS-1000 takes power from a 5V 2A USB interface which can be provided using common plugin wall adapters or outlets with a properly rated USB port. Model BCENSYS12-1000 can alternatively be powered from a 12-24V central power supply for longer power runs. Each reader unit periodically scans its local area which is constrained by its read range performance. The UHF reader sub system is an EPC Gen 2 and ISO 18000-63 compliant reader. The embedded software application notifies the server of all tag events that occurred during the last scan cycle using a wireless network. A tag event may be for example when a tag first enters the reader's range. The wireless network is built upon WiFi and will typically bridge to a wired Ethernet system to provide connectivity to the server. The server may also be cloud hosted. The server and reader may also have two way communications using the wireless (and wired) network.   A high level block diagram is shown below.

The RFID Reader Kit is delivered with the following components and accessories:

- One RFID Reader with Integrated Circular Polarized Antenna
- One AC/DC Power Supply
- Mounting Hardware Kit

Read this manual first

Read and understand the contents of this manual before installing or operating this equipment. These instructions cannot cover all details, variations of the equipment, or use cases.

Installation Procedures

Contained in the box will be the following: CenSys RFID Reader, 6' 5V 2A Micro-USB Power Supply, 4ct Screw Mounting Pack, Grommet.

Product Installation for 5V USB Version

1
Insert the Micro-USB plus into the port on the reader board
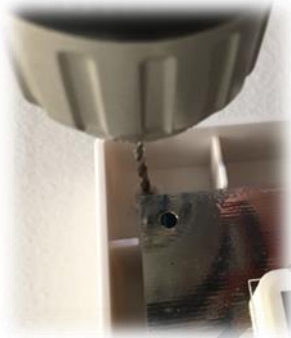
2
Wrap the cord around the cord-secure posts

3
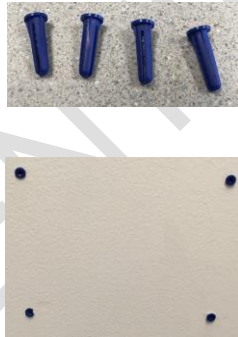Insert the grommet around the cord, and slide into the grommet channel

4
Position reader in mounting location and drill through guide holes*

5
Use drywall anchors to secure in the wall
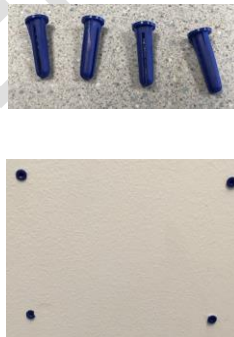
6
Secure the unit to the wall and attach the front cover

* Note: Other mounting methods such as Velcro® may be used in lieu of screw mounting.

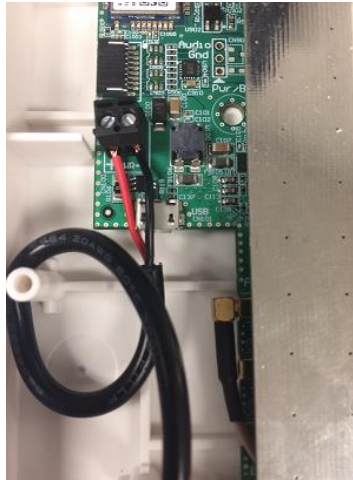**Product Installation for 12V input version**

1

Insert the 12V leads into the terminal block the of the reader board

2
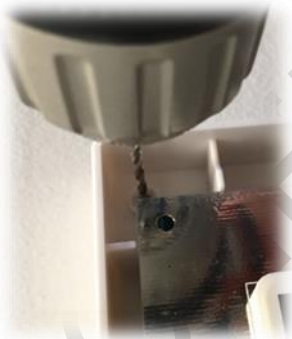
Wrap the cord around the cord-secure posts

3

Insert the grommet around the cord, and slide into the grommet channel

4

Position reader in mounting location and drill through guide holes*

* Note: Other mounting methods such as Velcro® may be used in lieu of screw mounting.

5

Use drywall anchors to secure in the wall

6

Secure the unit to the wall and attach the front cover

Configuration Procedures

Before using the product determine the appropriate configurations based on your needs.

Connecting Reader

- Connect the reader to a power source

- Using a computer or mobile device, find the "CenSys" SSID and connect to the wireless network.

- Once connected, open a web browser

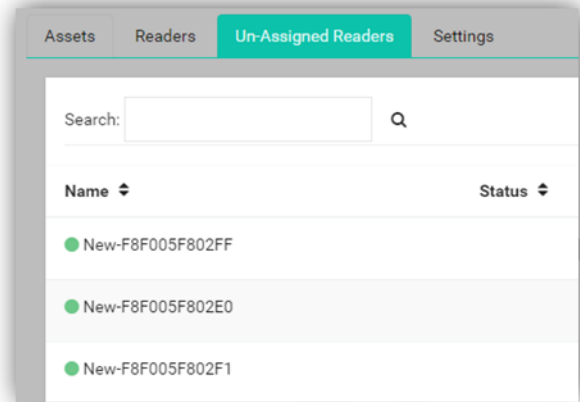- The following prompt should appear in your web

browser

- Enter your wireless network name, select the security, and enter the password

- The "Broker URL" is set to the default broker, and unless you are using your own software, this broker URL does not need to be changed.

- Enter your Site ID. Site ID will be provided within 48 hours of system purchase

Configuring reader

- Place the reader in the intended final mounting position.

- Remove any large objects, metal, or human obstructions from a 10' radius of the reader unit.

- Plug in or connect power to the reader unit.

- Stand back at least 8 feet from the reader (the reader will be detecting the natural state of environment)

- The LED light on the reader will flash red 10 times, hold steady red, and then turn blue confirming it's connected to your WiFi.

- Log into the CenSys software at *[insert URL here].* Your login will be provided to you via e-mail.

- Once logged in, on the left, click on Manage, and select "Assets"

- You will see a site named "Home" and on the right you will see four tabs; Assets, Readers, Un-Assigned Readers, and Settings.

- Make sure that the wireless network is range (note: reader does not need to be in final installation position, although it could be)

- Click "Submit." The reader will power-cycle, and you will see it go through it's start up sequence

- LED will flash red 10 times, go solid red, and then turn blue once successfully connected to the network. If successful, reader may be unplugged and installed in final location without further configuration.

- If LED turns or stays red, it was unable to connect to your WiFi. Cycle power and repeat this step until connected.

| Assets | Readers | Un-Assigned Readers | Settings |

Search: 🔍

Name ⬍	Status ⬍
● New-F8F005F802FF	
● New-F8F005F802E0	
● New-F8F005F802F1	

- Select the "Un-Assigned Readers" tab.

- Your reader should be visible here if properly connected. From here you can click on "Edit" and assign the reader to a location within your site hierarchy.

FCC / Industry Canada Compliance

CONTAINS FCC ID: 2ADHKATWINC1500

FCC:
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.

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

FCC Interference Statement
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 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.

Innovation, Science and economic Development Canada (ISED):
This Device complies with Industry Canada License-exempt RSS standard(s). Operation is subject to the following two conditions: 1) this device may not cause interference, and 2) this device must accept any interference, including interference that may cause undesired operation of the device.

Cet appareil est conforme à la norme d'Industrie Canada, exempts de licence standard RSS (s). Son fonctionnement est soumis aux deux conditions suivantes: 1) le dispositif ne doit pas causer d'interférences, et 2) le dispositif doit accepter toute interférence, y compris les interférences qui susceptible de provoquer un mauvais fonctionnement de l'appareil.

RF Exposure:

To comply with FCC and IC RF exposure limits for general population / uncontrolled exposure, the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 32 cm from all persons and operating in conjunction with any other antenna or transmitter.

Pour se conformer aux limites d'exposition RF FCC et IC pour la population générale / l'exposition incontrôlée, l'antenne utilisée pour cet émetteur doit être installée pour assurer une distance de séparation d'au moins 32 cm de toutes les personnes et fonctionnant conjointement avec toute autre antenne ou émetteur .

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and max-imum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

This device has been designed to operate with the antenna(s) listed below, and having a maximum gain of 5.5 dB. Antennas not included in this list or having a gain greater than 5.5 dB are strictly prohibited for use with this device. The required antenna impedance is 50 ohms.

En vertu de la réglementation d'Industrie Canada, cet émetteur radio ne peut fonctionner qu'avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Pour réduire les interférences radio potentielles avec d'autres utilisateurs, le type d'antenne et son gain devraient être choisis de manière à ce que la puissance éloignée isotrope équivalente (e.i.r.p.) ne soit pas supérieure à celle nécessaire à une communication réussie.

 Cet appareil a été conçu pour fonctionner avec les antennes indiquées ci-dessous et ayant un gain maximal de 5,5 dB. Les antennes non comprises dans cette liste ou ayant un gain supérieur à 5,5 dB sont strictement interdites pour être utilisées avec cet appareil. L'impédance d'antenne requise est de 50 ohms.

RFID Reader Circular Antenna

Brady Part Number: Y4509238

Polarization: RHCP

Impedance: 50 ohms

Gain: 5.5dBi max