

## REGULATORY INFORMATION



This product is RoHS Compliant (2011/65/EU).



FCC ID: S6J1166

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

- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation.

The reader operates using the specified frequencies up to the maximum output powers as in the table below:

Radio	Frequency of operation	Maximum Output Power
Bluetooth®	2.4 GHz - 2.4835 GHz	3 dBm
UHF RFID	902 MHz - 928 MHz	30 dBm

## HEALTH AND SAFETY RECOMMENDATIONS

### Ergonomic Recommendations

Caution: In order to avoid or minimize the potential risk of ergonomic injury, follow the recommendations in the Mercury Reader User Guide ([www.vulcanRFID.com/support](http://www.vulcanRFID.com/support)). Consult with your local Health & Safety Manager to ensure that you are adhering to your company's safety programs to prevent employee injury.

### Power Supply

Use only approved cradles, chargers and power supplies with the Mercury Reader. Use of an alternative power supply will invalidate any approval given to this device, void the warranty for the product and may be dangerous.

### Battery Safety

Disposal of a battery into fire or a hot oven, or mechanically crushing or cutting a battery, can result in an explosion.

Leaving a battery in an extremely high temperature environment can result in an explosion or the leakage of flammable liquid or gas.

A battery subjected to extremely low air pressure may result in an explosion or the leakage of flammable liquid or gas.



## SUPPORT

### User Documentation

To download the Mercury User Guide, visit:  
[www.vulcanRFID.com/support](http://www.vulcanRFID.com/support)



### Troubleshooting

If you are having difficulties using your Mercury Reader, please use the online Troubleshooting Guide at [www.vulcanRFID.com/support](http://www.vulcanRFID.com/support).

If you have consulted both the Mercury Reader User Guide and the online Troubleshooting Guide and still need assistance, visit:  
[www.vulcanRFID.com](http://www.vulcanRFID.com).

## Waste Electrical and Electronic Equipment (wEEE)

For EU Customers: All products at the end of their life must be returned to Vulcan RFID™ for recycling. For information on how to return product please contact Vulcan RFID™.

### Warranty Information

For warranty information and provisions, please see the Warranty section of the Mercury Reader User Guide (available to download at [www.vulcanRFID.com/support](http://www.vulcanRFID.com/support)).

## ABOUT



**VULCAN RFID™**

Vulcan RFID™ offers a broad range of innovative RFID readers, antennas, custom RFID tags, and accessories suited for a wide variety of industries and applications. Designed to deliver superior accuracy and reliability, Vulcan RFID™ products offer exceptional flexibility and performance. Vulcan RFID™ delivers an extensive product portfolio that includes both UHF and NFC products that support a large variety of market solutions. Manufactured to withstand environments ranging from mild to extreme, Vulcan RFID™ products enable end-users to reach and sustain high levels of performance in the UHF or NFC frequency bands.

### Contact

#### Address:

112 28th Street South, Birmingham, AL 35233

#### Phone:

Phone: +1 205-383-2244

#### Email:

Sales, Product, & Return Information:  
[info@vulcanRFID.com](mailto:info@vulcanRFID.com)

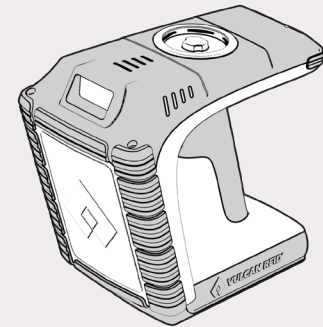
#### Website:

[www.vulcanRFID.com](http://www.vulcanRFID.com)



**VULCAN RFID™**

# Mercury Bluetooth® UHF RFID Reader



## QUICK-START GUIDE

**FCC**

[www.vulcanRFID.com](http://www.vulcanRFID.com)

## PARTS OF THE READER

Vulcan RFID™'s Mercury Reader provides Ultra High Frequency (UHF) Radio Frequency Identification (RFID), with optional barcode scanning functionality. The unit can be used stand alone or paired with a *Bluetooth®* wireless technology enabled host device. The Mercury Reader can read and write to EPC Global Class 1 Gen 2 UHF RFID transponders.

For detailed information on setting up and using the Mercury Reader, please visit [www.vulcanRFID.com/support](http://www.vulcanRFID.com/support) to download the Mercury Reader User Guide.

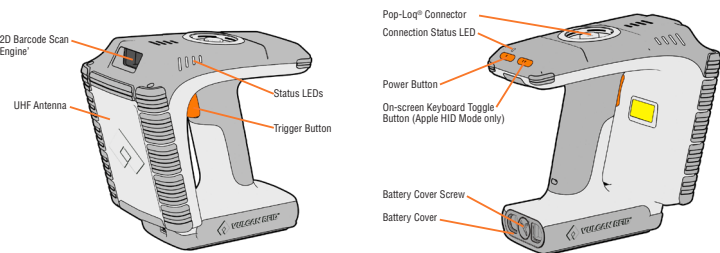
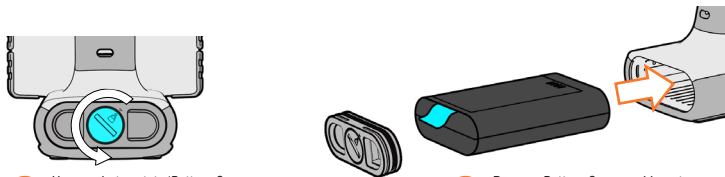


FIGURE 1: Parts of the Mercury Reader

## BATTERY INSTALLATION



1 Use a coin to rotate 'Battery Cover Screw' counter-clockwise.

2 Remove Battery Cover and insert Battery, ensuring that the battery contacts align correctly.



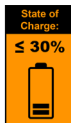
**WARNING!**  
RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE.  
DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

3 Replace Battery Cover, ensuring that the Battery Pull Tab is tucked out of the way.

4 Rotate 'Battery Cover Screw' clockwise until the padlock symbol meets the arrow. Do not over-tighten.

## CHARGING

To comply with international shipping regulations, **all batteries included with Vulcan RFID™ products are discharged to less than 30% of their maximum capacity when shipped.** It is therefore important that the unit is fully charged before using your Mercury Reader for the first time.



The Mercury Reader can be charged using the Docking Station Kit (VUL-DOCK-MERCURY-US-KIT).

**The Power Supply (PSU) should be connected to an accessible power outlet to permit easy disconnection if required.**

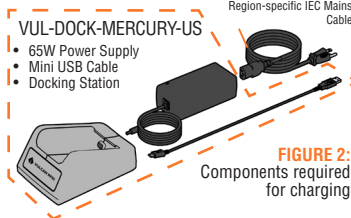


FIGURE 2: Components required for charging

## USING THE DOCKING STATION

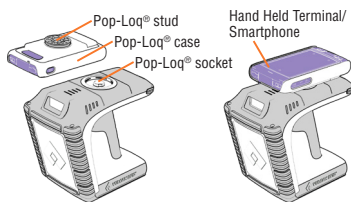
To dock the Mercury Reader, slide it into the docking station in the direction shown:



FIGURE 3: Docking the Mercury Reader.

## FITTING A POP-LOQ® CASE

The Mercury Reader has a Pop-Loq® mounting system which allows smartphones and mobile terminals to be physically attached to the Reader using custom Pop-Loq® cases.

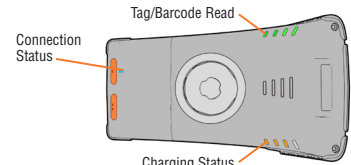


1. Ensure the smartphone or handheld terminal is fitted into its Pop-Loq® case before attaching the case to the Mercury Reader. This prevents over-flexing of the case.
2. Make sure all of the contacts - on both the socket and stud - are clean and free from dirt or debris.
3. Align the Pop-Loq® stud with the Pop-Loq® socket - ensuring that the front of the host device is pointing towards the antenna - and press the two parts together until they click into place.
4. To remove the Pop-Loq® case, pull in the opposite direction. Do not twist the devices when separating.

## STATUS LEDS

The status LEDs on the Mercury Reader provide an indication of the operating status:

- Off - the reader is not awake
- Flashing - Reader is awake but there is no connection
- On - Reader is awake and connected to a host
- No lights - Nothing read
- Tag/barcode successfully read



- Not Charging
- Charging, battery level 50 - 75%
- Charging, battery level < 25%
- Charging, battery level 25 - 50%
- Charging, battery level 75 - 99%
- Battery Fully Charged

FIGURE 4: Status LEDs

## PAIR WITH A BLUETOOTH® HOST DEVICE



Install a compatible application (such as the Vulcan RFID™ Explorer App) on your smartphone, tablet or other *Bluetooth®* compatible host device. The Vulcan RFID™ Explorer App can be downloaded from the App Store or the Google Play Store. Squeeze the trigger button to wake up the Mercury Reader - wait for the blue LED light to start flashing (if it does not flash, check the battery is charged and properly installed).

In your host device's '*Bluetooth®* Settings' page, search for and pair with the Mercury Reader. In the list of *Bluetooth®* devices, the Mercury Reader will be identified by its serial number (xxxxx-Mercury). Make sure the reader hasn't 'timed-out' and gone to sleep, as it will not be discoverable.

Bluetooth	
Bluetooth	<input checked="" type="checkbox"/>
DEVICES	
V01331-Mercury	Not Paired
V00798-Mercury	Not Paired

Once a connection has been established, the Blue LED will stop flashing and stay on continuously. Open your compatible application and select the Mercury Reader from the list of available devices. The Mercury Reader should now be ready to use! For further information on connecting, contact us at [info@vulcanRFID.com](mailto:info@vulcanRFID.com).

## BLUETOOTH® MODES

PLEASE NOTE: The Mercury Reader supports two different modes of operation over *Bluetooth®*:

### 1. Bluetooth® SPP Mode (Default)

In this mode, the Mercury Reader will only work with Apps that have been written with specific support for the Mercury Reader. SPP Mode allows access to the full range of features available on the Mercury Reader.

The Mercury Reader must be set to SPP mode in order to work with Vulcan RFID™ Explorer or any of the other Demo Apps.

### 2. Bluetooth® HID Mode

In HID mode, the Mercury Reader appears as a *Bluetooth®* Keyboard, making it compatible with the

majority of Apps or Web Apps. Apps receive input as key strokes from the Reader. HID mode is limited to reading single tags one at a time.

### Further Information

For a detailed comparison between *Bluetooth®* HID and SPP modes - and instructions on how to switch between these modes - download the '*Bluetooth® HID mode*' and '*Comparison of Bluetooth® Modes*' documents from [www.vulcanRFID.com/support](http://www.vulcanRFID.com/support).

## BUTTON OPERATION

The Mercury Reader has a Primary button action and a Secondary button action, which can be initiated by single or double-clicks of the Trigger Button:

### Single-click and hold:

Primary action (by default, the Primary action scans for UHF transponders).

### Double-click and hold:

Secondary action (by default, the Secondary action initiates the barcode scanner).

The Single and Double-click button options are also programmable for custom applications.

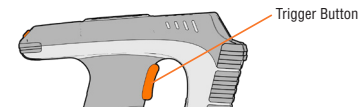


FIGURE 5: Trigger Button location

## READING TRANSPONDERS

RFID transponders can be read when they are in range of the antenna. The antenna is located on the front of the Mercury Reader. The range at which a transponder can be read depends on the transponder type and size, and the number of transponders in the field.



FIGURE 6: Antenna read direction