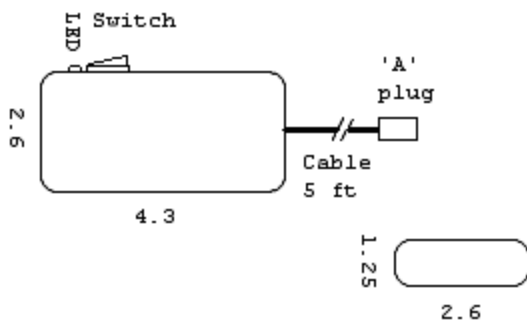


## HH-RO2-USB

The HH-RO2-USB is a simple to use, complete, handheld RFID reader with USB interface. RFID tag data packets are continuously transmitted when a tag is within read range. The low-power idle mode makes it ideal for laptop use. It plugs into a standard Type A USB receptacle. The HH-RO2-USB mimics data entry from a keyboard by using the HID interface: whenever a tag is scanned, the tag data is displayed on screen as if typed on the keyboard.

The HH-RO2-USB board performs all the functions necessary for a RFID reading station. It continuously powers, reads, and decodes transponders that are within its reading range. When a transponder tag passes within range of the reader antenna, the RF magnetic field generated by the reader powers the tag. The tag then transmits its data. The reader board demodulates and decodes the data. The data is then sent as a packet using the USB HID interface. While the tag remains within reading range it will be continuously powered and the reader will continuously transmit its data. The HH-RO2-USB is powered by the USB interface (no batteries are needed).



### Specifications

<b>Description</b>	Complete read-only RFID reader for handheld or desktop use
<b>Interface</b>	USB – HID (human interface device)
<b>Read Range</b>	Tag dependent (about 4 inches maximum)
<b>Power Requirements</b>	Powered by USB port (via 5 ft USB cable with Type A plug) Active mode ('1' down): 5VDC, 80 mA max Idle mode ('0' down): 5VDC, 7 mA min
<b>Dimensions</b>	4.3 x 2.6 x 1.25 inches (11x7x3 cm)
<b>Operating Temperature</b>	0 C° to +50 C°
<b>Protection</b>	IP50
<b>Material</b>	ABS, Gray
<b>Part Numbers</b>	HH-RO2-USB-FS <i>-FS for fast tag option</i>
<b>Pricing</b>	\$195.00 each

# HH-RO2-USB

## Operating Instructions

- Press switch to OFF position ('0' down).
- Plug cable into an available USB port.
- Press switch to ON position ('1' down). LED will turn red and stay red until communication with the computer is established. The HID driver (supplied with your OS) may require installation. Please follow the instructions for your operating system.
- Once the LED turns green, the unit is ready to read a tag. The antenna is on the bottom of the unit (label side) and a better range can be obtained if the tag is on that side.
- Start the appropriate software for capturing tag information. For testing, a text editor such as Notepad works well.
- Read tags.  
*Caution should be taken since the stop byte of the data packet is a carriage return.*
- To conserve power (or to prevent unintended 'ENTER's) press switch to OFF position ('0' down).

## Data Transmission

Using the USB-HID interface, the information is received by the computer as if it was typed on the keyboard.

The start byte is always a ':' (58d, 3Ah). The 10 data bytes are an ASCII representation of the ten hexadecimal serial code digits (5 numbers) stored in the tag that has just been read. The checksum is two bytes long. It is an ASCII representation of the 8-bit sum of the 10 data byte sent. The stop byte is always an ASCII 'carriage return' (13d, 0Dh).

As an example, when tag serial number 7,234,567,890 decimal (01 AF 36 BE D2 hexadecimal) is decoded, the following 14-byte packet would then be transmitted (shown in hexadecimal):

3A	30 31 41 46 33 36 42 45 44 32	34 45	0D
<i>Start byte</i>	<i>ASCII codes of the data (5 numbers - 10 digits)</i>	<i>Checksum</i>	<i>Stop byte</i>

The data packet is sent every time a tag is detected. If a tag remains in the reading field, its data will be sent continuously.