



IMPROX IR OEM

ImproX (IR) OEM Infrared Receiver INSTALLATION MANUAL

SPECIFICATIONS

Working Environment The Receiver is designed to work in an indoor or outdoor environment similar to IP55. The Receiver is sealed against water.

Input Voltage..... 10 V DC to 16 V DC.

Power Requirements **Current (mA)** **Power (W)**

 Input Voltage 10 V DC 17 0.17

 Input Voltage 16 V DC 17 0.27

RS485 Port

 Baud Rate 9 600.

 Data Format 8 data bits, 1 stop bit, no parity bit.

 Communications Protocol ASCII (no commands can be received).

RS232 Port

 Baud Rate 9 600.

 Data Format 8 data bits, 1 stop bit, no parity bit.

 Interface Protocol ASCII (no commands can be received).

Wiegand Bus

 Data Format 26-bit or 44-bit.

Installation Interfaces

 Status Indicator

 Status LED Red LED.

 Buzzer

 Volume and Tone Single tone, single volume.

INSTALLATION INFORMATION

Accessories

Find the following when unpacking the Receiver:

- An ImproX (IR) OEM Infrared Receiver housed in a Grey, ABS Plastic housing with a Black Lens Cover and Mounting Bracket.
- Two Brass Wood Screws (3.50 mm x 25 mm).
- Two Wall Plugs (7 mm).
- An extra Serial Number Label.

General

Remember the following when installing the Receiver:

Communications Distance

- The RS485 connections should be made using a shielded, stranded, 2-core (twisted) screened cable, with a minimum cross-sectional area of 0.2 mm^2 (0.0003 in^2). The maximum length of the cable **MUST NOT** exceed 1 km (1 090 yd). To reduce reflections on the line, the line should be terminated at the Receiver using a resistor value of 100 ohms to 1 000 ohms connected across the A and B lines.
- The RS232 connections should be made using a stranded 4-core (twisted-pair) cable, with a minimum conductor cross-sectional area of 0.2 mm^2 (0.0003 in^2). The maximum length of the cable **MUST NOT** exceed 25 m (82 ft). In electrically noisy environments, a screened cable may be used, with the screen grounded.
- Wiegand connections should be made using a stranded 4-core (twisted-pair) cable, with a minimum conductor cross-sectional area of 0.2 mm^2 (0.0003 in^2). The maximum length of the cable **MUST NOT** exceed 10 m (32.80 ft). In electrically noisy environments, a screened cable may be used, with the screen grounded.

Jumper Links

Place the jumper link across pins 1 and 2 to select the Wiegand 26-bit option, or place the jumper link across pins 2 and 3 to select the Wiegand 44-bit option.

Receiver Range

The Infrared Receiver has a typical read range of 15 m (16.40 yd) outdoors line of sight.

CAUTION: You will experience a reduction in range in bright sunlight conditions.

CAUTION: If you use the Receiver through the windscreen of a motor vehicle, the range can decrease to 8 m (8.74 yd).

Blank Space

Mounting the Receiver

CAUTION: DO NOT mount the Receiver in direct sunlight.

CAUTION: If installing the Receiver in an outdoor location use a suitable outdoor rated cable.

CAUTION: Make certain that you mount the Receiver on a vibration-free surface.

NOTE: Test the Receiver, in the proposed installation location before mounting in position, ensuring the read range meets your needs.

The actual mounting position of the Receiver is not critical; mount it on a stand, on the gate surround or on a side wall of the entrance point.

Position the Receiver in clear line of sight, preferably 1.21 m to 1.82 m (4 ft to 6 ft) above the ground, in the direction of movement.

Secure the Receiver to the mounting surface, using two suitable screws and wall plugs (supplied), nuts and bolts or rivets.

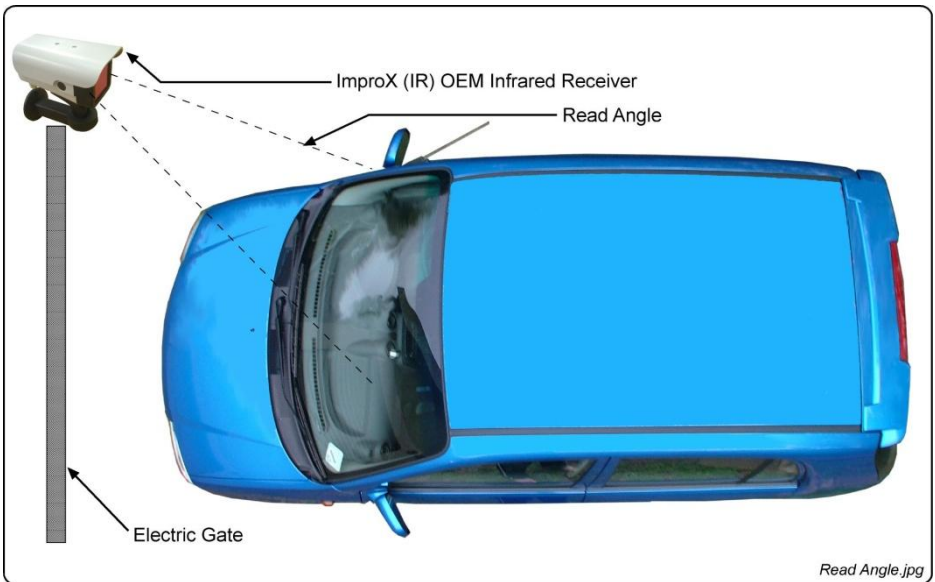


Figure 1: Read Angle

Blank Space

CONNECTING THE RECEIVER

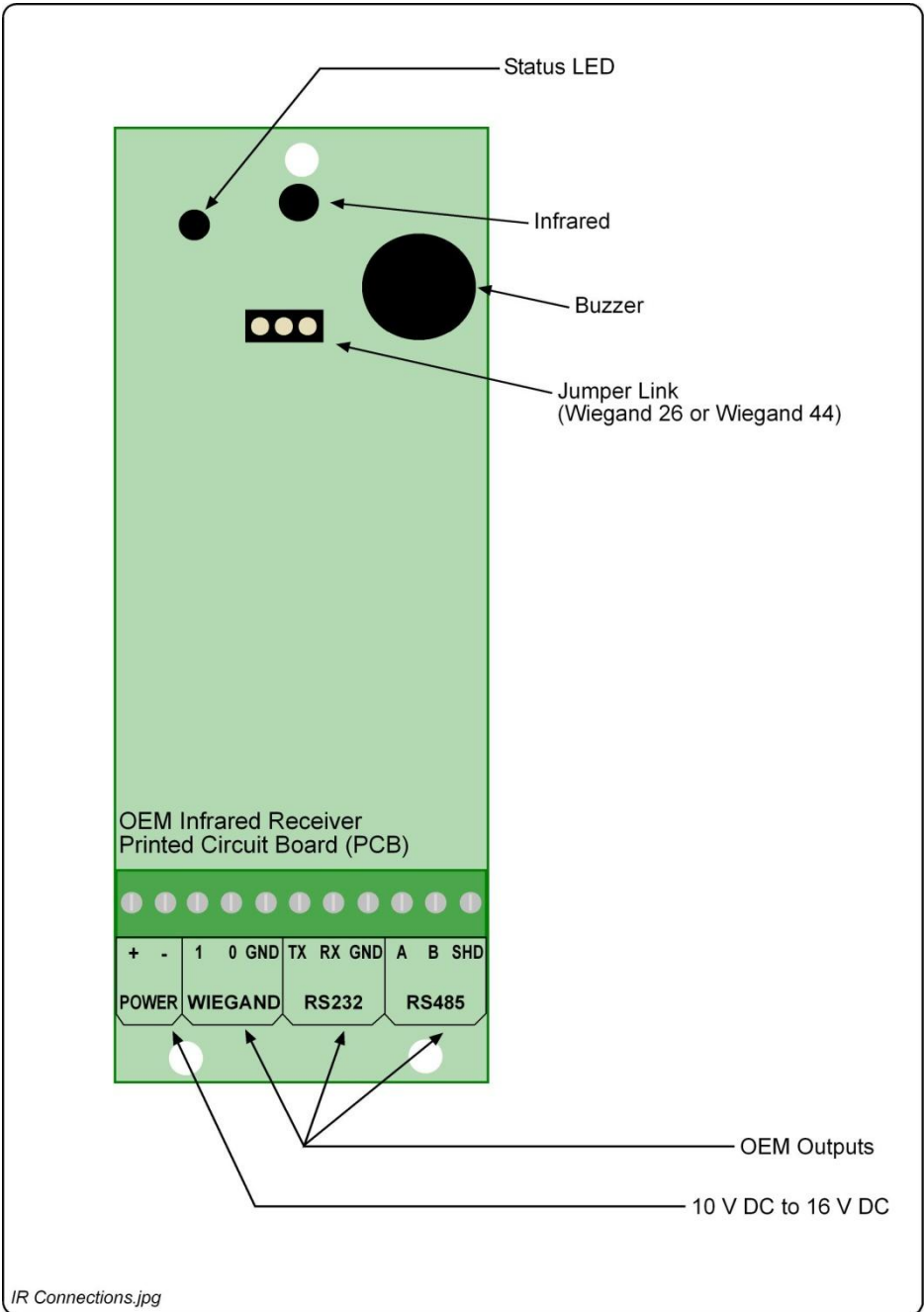
Figure 2 and Figure 3 show assembly and connection diagrams for the Receiver.



Figure 2: Assembly Sequence

Assembly Sequence

1. Firmly press the Lens Cover Clips on either side of the housing releasing the Lens Assembly. Pull out the Receiver's Printed Circuit Board.
2. Remove the Cable Gland Cover, and feed the Mylar Cable through the Cable Gland into the Receiver's housing.
3. Pull the Cable through to the front of the housing and connect to the Printed Circuit Board.
4. Feed the Printed Circuit Board back into the housing while pulling the cable back through the Cable Gland.
5. Re-attach the Cable Gland Cover and the Lens Assembly.



IR Connections.jpg

Figure 3: OEM Infrared Receiver Component Layout Diagram

Uni-Scan Protocol

Uni-Scan Report Format

The data stream is ASCII with the report format as described below:

Infrared Tags are reported in 15 bytes with no spaces: #<10 Digit Number><Check Digit> CR CR LF.

Example: #0289644556 9 CR CR LF. The check digit is the sum of the preceding digits modulus 10.

Wiegand Protocol

Either 26-bit or 44-bit, the Wiegand Protocol is Jumper selectable.

Wiegand 44-bit Protocol

Infrared Tags have an 8-bit user code and a 32-bit serial number. These are reported as follows:

- The 8-bit user code is reported in bits 1 to 8 of the protocol.
- The 32-bit serial number is reported in bits 9 to 40 of the protocol.
- Bits 41 to 44 of the protocol are the exclusive or of the preceding 40 bits taken 4 at a time.

Wiegand 26-bit Protocol

If Wiegand 26-bit is selected then only the least significant 24 bits of the Tag Serial Number can be reported.

- Bit 1 is the even parity over the first 13 bits.
- Bits 2 to 25 are the least significant 24 bits of the Tag serial number.
- Bit 26 is the odd parity over the last 13 bits.

Same Tag Reporting

After a Tag has been reported, it will not be reported again unless it has not been detected for at least 0.5 seconds.

GUARANTEE OR WARRANTY

This product conforms to our Guarantee or Warranty details placed on our Web Site, to read further please go to www.impro.net.

USER NOTES



This manual is applicable to the ImproX (IR) OEM Infrared Receiver,
ITR902-0-0-GB-00.

(The last two digits of the stock code indicate the issue status of the product).

ITR301-0-0-GB-03

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