

Elpas Outdoor RF IP Reader

For P/N: 5-ELC00433-4

Wiring Guide

Introduction

This wiring guide provides basic instructions for common Outdoor RF IP Reader installation scenarios.

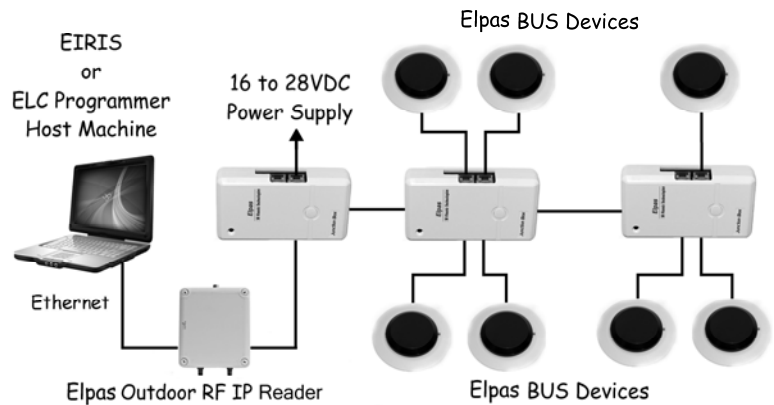
Note: VT is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

Product Description

The Elpas Outdoor RF IP Reader is a supervised, indoor/outdoor 433MHz RTLS fixed receiver. The device is designed to forward real-time 'Location' and/or 'State' data detected from Elpas Tags directly to Eiris Enterprise Software or to a third-party RTLS application using an IP XML protocol over standard wired or wireless Ethernet/Wi-Fi networks.

The reader has the functionality of an Elpas Local Controller (ELC) and serves as a RS-485 BUS Master for relaying bi-directionally, data between the host application and up to 15 Elpas BUS devices. Housed in an IP-66 water-rated enclosure, the reader is suitable for deployment in rugged conditions (such as warehouses, garages or external yards) and can be wall ceiling or post-mounted. The reader handles large tag populations at read-distances up to 200M/650ft in open environments using its optional Yagi antenna and is remotely configurable for customized applications.

On-board I/Os enable the monitoring of one supervised input and control of two open-collector digital switched outputs.



Outdoor RF IP Reader - Sample Network Topology
(Refer to page 2 for wiring & specification details)

Circuit Board Terminal Blocks

Ethernet Interface: The reader has a female RJ-45 (8P8C) connector for linking the reader via Ethernet to the host RTLS application machine such as the Eiris Enterprise Software Platform.

Recommended Cable: CAT5 shielded cable.

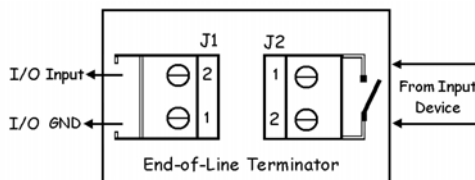
RS-485 Interface: The reader includes both a four position color-coded removable terminal block (J3) and a 6-pin female RJ-11 connector (J4) for wiring RS-485 data and power. (See page 2 for details.)

NOTE: Only one of the two interfaces (the RJ-11 connector or the terminal block) can be used at a time to wire the reader to the RS-485 BUS.

Tamper Switch: The reader contains a spring loaded tamper switch that when pressed, generates a 'State' message that is useful for registering the device in the host application.

Once registered, the tamper switch can also be used as an input trigger for a device tamper alert indicating any non-authorized attempts to remove the device's cover.

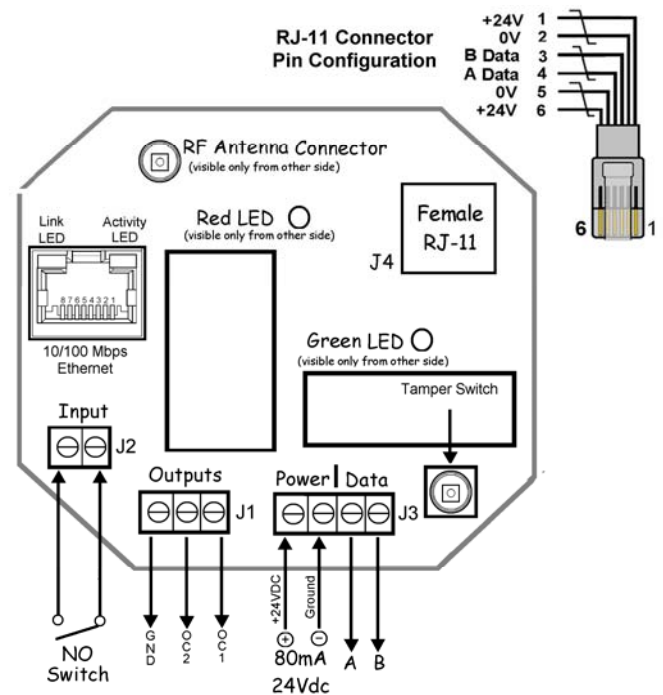
Supervised Input: The reader has one supervised input. EOL supervision may be added to any of the inputs to detect: Open, Close, Line Cut and Line Short circuit conditions using Elpas End-of-Line Terminators (P/N: 5-IOX00001),



Recommended Cable: 22 AWG, unshielded/twisted pair

Outputs: The reader contains two digital open-collector outputs (J1) located on the right-hand side of the board that provide open-collector switching (up to 100mA, 28Vdc).

Recommended Cable: 22 AWG, unshielded/twisted pair



Outdoor RF IP Reader – Circuit Board Details

IMPORTANT: The Reader **MUST BE** powered-down while wiring the unit's I/Os and when connecting to the RS-485 BUS. This will prevent accidental shorts or power spikes causing damage to the reader.

Power Requirements: 100mA/24VDC

Recommended Cable: CAT5 Stranded (4x2x26AWG)

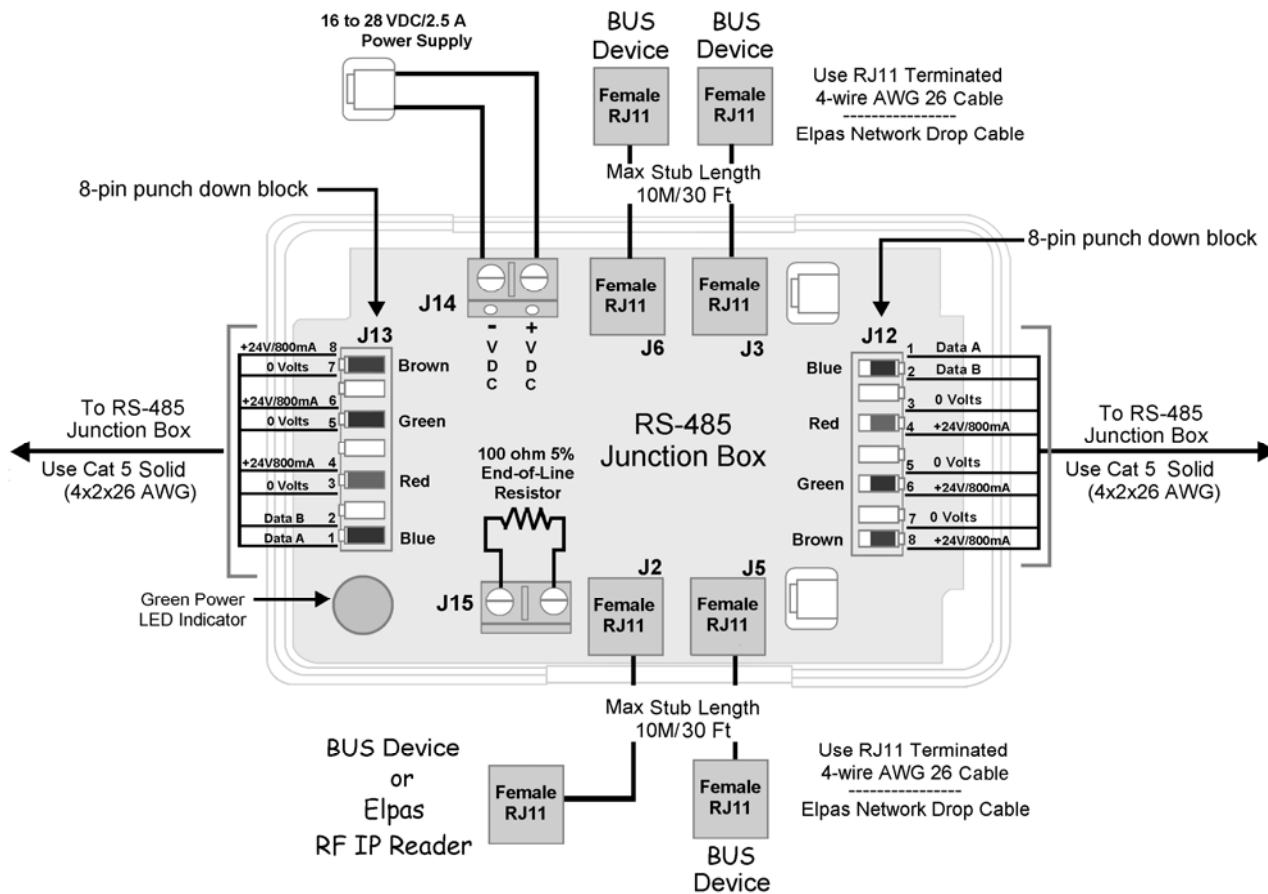
Max Distance: Refer to wiring topology on page 2.

RS-485 BUS/Stub Topology

The RS-485 BUS **MUST Be** wired using a BUS/Stub topology where the RF IP Reader is connected at any location along the BUS. This configuration supports data transmission between the Elpas RF IP Reader and up to 15 Elpas BUS Devices (such as RF readers, IR readers; LFs RDUs and I/O Boxes), using multiple Elpas RS-485 Junction Boxes (P/N: 5-JBA00485).

IMPORTANT NOTE: Only 1 Outdoor RF IP Reader and up to 7 RF BUS Readers may coexist together on a single RS-485 BUS.

200M/650Ft: Max. BUS length **10M/30Ft:** Max. Stub length **100 Ohm Termination:** Required each end of the BUS.



RS-485 Junction Box - Sample Wiring Topology

Recommended RS-485 Backbone Cable Type: CAT5 Solid (4x2x26AWG)

For Power: Use three-twisted pairs (six conductors) between RS-485 Junction boxes

For Data: Use one-twisted pair (two conductors) between RS-485 Junction boxes



W.E.E.E. Product Recycling Declaration

For information regarding the recycling of this product, you must contact the company from which you originally purchased it. If you are discarding this product and not returning it for repair then you must ensure that it is returned as identified by your supplier. This product is not to be thrown away with everyday waste. Directive 2002/96/EC Waste Electrical and Electronic Equipment.