

Gen-2 IR Location Reader

Wiring Guide - For P/N: 5-IRB00880

Elpas
Active RFID/RTLS Solutions

Introduction

This wiring guide provides basic instructions for common installation scenarios. For advanced functionality, this document should also be used in conjunction with the Elpas Gen-2 IR Reader Installation & Configuration Guide.

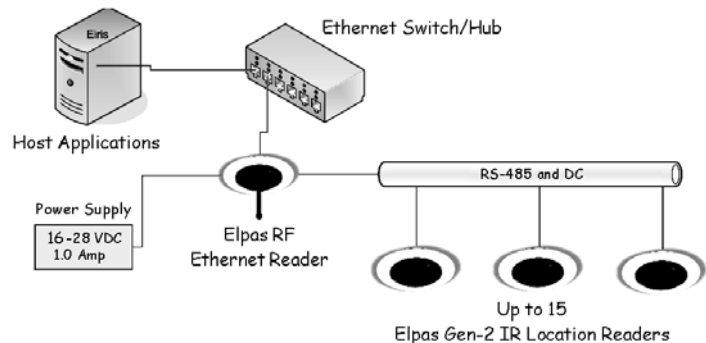
Download from the **EIRIS Software Download Page** (<http://www.visonictech.com/Eiris.html>) of the VT Website the **Elpas 4.6.3 Installer** file, which contains all the necessary software extensions and updates for enrolling and configuring Gen-2 IR Location Readers into existing or new EIRIS installations. It is highly recommended that you ensure that the EIRIS installation on the host machine has been properly updated before wiring the readers.

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 Gen-2 IR Location Reader is a supervised; fixed receiving device that detects and relays 'State' and sub-room 'Location' data from Elpas Active RFID IR-enabled tags to host applications over wired or wireless Ethernet/Wi-Fi networks in real-time.

The reader's onboard I/O enables the local monitoring of one general purpose analogue input and control of one open-collector digital switched device. The reader also supports RS-485 data transmission to fourteen other Elpas RS-485 BUS devices plus to one Elpas RF Ethernet Reader.



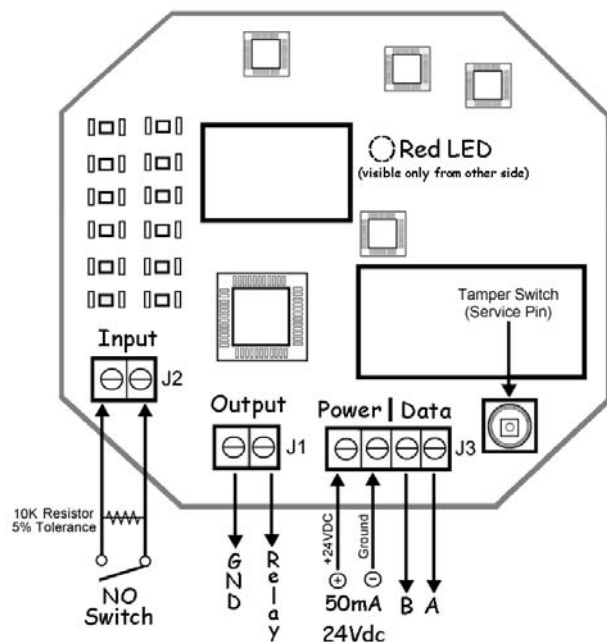
FCC Compliance: PART 15, Sub-part B, Class B FCC ID: O4X5-IRB0088

CE Compliance: EN300220-1, EN300220-2, EN60950-1, ICES-003, CAN/CSA-CEI/ICE CISPR 22

IC Compliance: 1467G IRB00880

Circuit Board Terminal Blocks

The Gen-2 IR Location Reader has one analogue input (J2) and one digital open-collector output (J1) located on the right-hand side of the board. The reader also includes a four position color-coded removable RS-485 terminal block (J3) for data and power connections (see page 2 for details).



The Gen-2 IR Location Reader has a Service Pin/Tamper Switch that generates service messages when pressed to aid device registration. The Service Pin/Tamper Switch is also used to indicate attempts to remove the device's cover after the device has been enrolled in EIRIS.

Power

Ensure that the Gen-2 IR Location Reader is connected to the power source. Then switch off the device till you have wired the I/O and the RS-485 BUS terminal blocks to prevent accidental shorts or power spikes from causing damage to the reader.

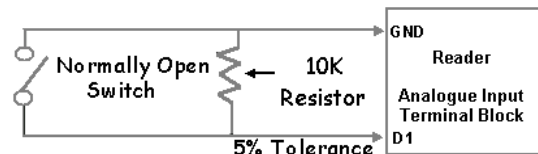
Power Requirements: 100mA/24Vdc

Recommended Cable: CAT5 Stranded (4x2x26AWG)

Max Distance: Refer to wiring topologies on page 2

Analogue Input

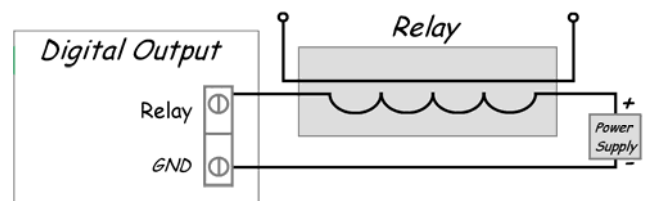
The Gen-IR Location Reader is equipped with one general purpose analogue input (**Terminal Block J2**). The input is a two-wired supervised circuit for monitoring alarm detection devices such as ultrasonic motion detectors and door contacts.



Recommended Cable: 22 AWG, unshielded/twisted pair

Digital Outputs

The Gen-IR Location Reader has a general purpose digital output (**Terminal Block J1**) that provides open-collector switching (up to 100mA, 28Vdc).



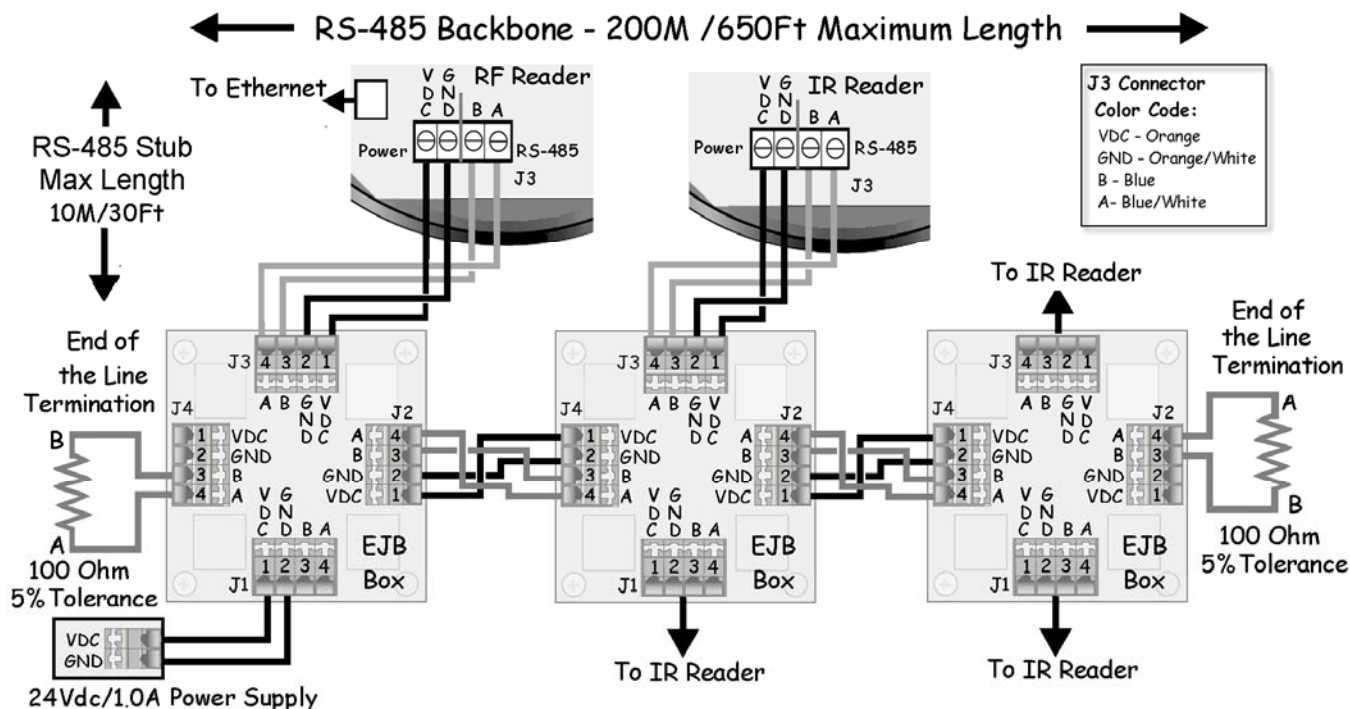
Terminal Block J1

Recommended Cable: 22 AWG, unshielded/twisted pair

RS-485 BUS/Stub Topology

The Elpas-2 RS-485 BUS may be wired using a BUS/Stub topology using 4-port EJB boxes (P/N: 5-EJB00001). This topology supports data transmission between **1 RF Ethernet Reader** (BUS-Master) and up to **15 BUS Slaves** (IR Readers, I/Os, RDU's...etc). Additionally the reader may be connected at any location along the RS-485 data BUS.

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



Recommended Cable Type: CAT5 Stranded (4x2x26AWG)

For Power: Use three twisted pairs (six conductors) between EJBs Use one twisted pair (two conductors) between each EJB and Reader.

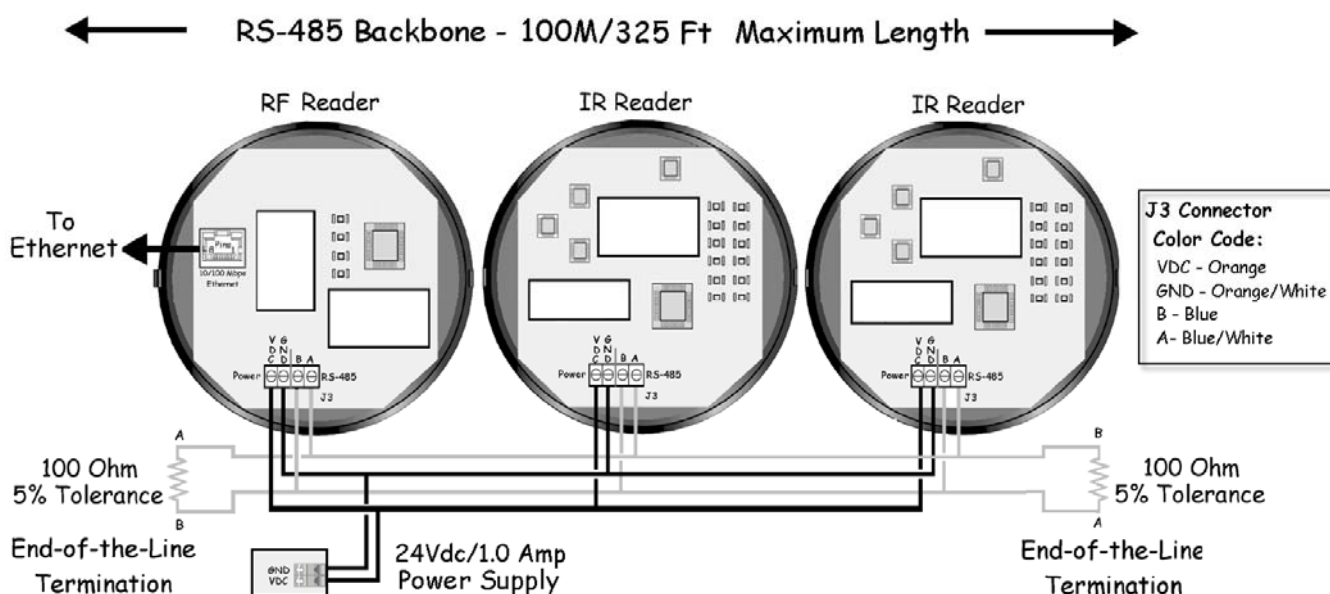
For Data: Use one-twisted pair (two conductors)

RS-485 Daisy Chain Topology

The Elpas-2 RS-485 BUS may be wired using a Daisy Chain topology. This configuration supports data transmission between **1 RF Ethernet Reader** (BUS-Master) and up to **7 BUS Slaves** (IR Readers, I/Os, RDU's...etc).

The RF Ethernet Reader may be connected at any location along the RS-485 data chain as long as the power supply is connected to the power BUS in close proximity to the RF reader.

100M/325 Ft: Maximum cable length **100 Ohm Termination:** Required at each end of the daisy chain



Recommended Cable Type: CAT5 Stranded (4x2x26AWG)

For Power: Use one twisted pair (two conductors) **For Data:** Use one-twisted pair (two conductors)



WEEE 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.