

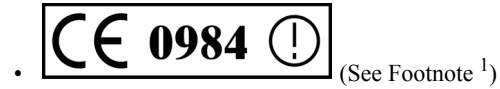
Pyramid Series Reader Quick Reference

This Quick Reference is designed for the experienced installer as a basic reference while installing pyramid readers to ensure all connections are made properly. For detailed information on installing a Pyramid Series Reader, see the [Pyramid Series Proximity Reader Quick Start Guide](#) (P/N 01866-002). This document may be downloaded from the Keri Systems website at www.kerisys.com. Click on the Downloads button, then click on the Technical Documentation link. The quick start guide is located in the Pyramid Series Proximity section.

NOTE: Installation and performance of a pyramid series reader with HID compatibility (an optional feature) is identical to standard Pyramid Series Readers.

All Pyramid Series readers are compliant with the following organizations:

- FCC



1.0 Cable Requirements

All readers operate with up to 500 feet (152 m) of cable, using seven-conductor², shielded, stranded cable. Per Wiegand specification, AWG 24 (such as Belden 9537) is the minimum gauge required for data transfer in a 500-foot run length. However, the proper wire gauge to use must be determined by the current draw requirements of the reader, the length of the cable run, and the voltage being applied to the reader.

If the reader is to be operated at 5 VDC, 5 VDC must be available at the reader (long cable runs have a voltage drop due to the resistance in the cable). A larger gauge of wire (having less resistance) or a separate power supply near the reader may be required to ensure 5 VDC is available at the reader.

2.0 Output Formats

- Industry Standard 26-bit Wiegand
- Custom Wiegand
- Magnetic Stripe (ABA Track II Clock & Data)

3.0 Grounding

Shield (Drain) continuity must run from the reader to the access panel. Shield (Drain) and reader ground must be tied together at the access panel and connect to an earth ground in one place.

4.0 Power

A reader may be powered by the access panel, so the reader is powered on when the access panel is powered on. However the best case is to power the readers by a separate linear power supply. When powered, verify the voltage at the reader meets the reader's requirements (refer to Table 1 on page 3). When the reader is powered on, its beeper beeps in the following pattern: 3 short beeps, 1 long beep.

5.0 Voltage

- 5 to 14 VDC @
- For best results, Keri recommends 12 VDC

- This product can be used without license conditions or restrictions in all European Union member countries including Austria, Belgium, Denmark, Finland, Germany, Greece, Ireland, Italy, Luxembourg, The Netherlands, Portugal, Spain, Sweden, and The United Kingdom; as well as other non-EU countries including Iceland, Norway, and Switzerland.
- Seven-conductor cable is necessary for dual LED, however less may be used with single LED. The P-400 only requires five-conductor cabling (such as Belden 9535).

6.0 Metal Mounting

P-300	P-400	P-500	P-600	P-700
YES	YES	YES (with provided spacer)	YES	YES (with a 5 inch or 127 mm spacer)

7.0 Reader Wiring

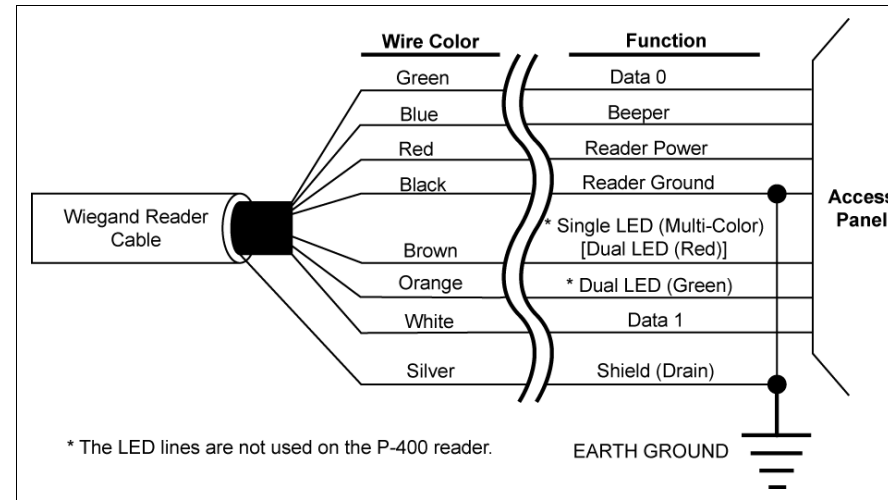


Figure 1: Wiegand Reader Wiring Connection

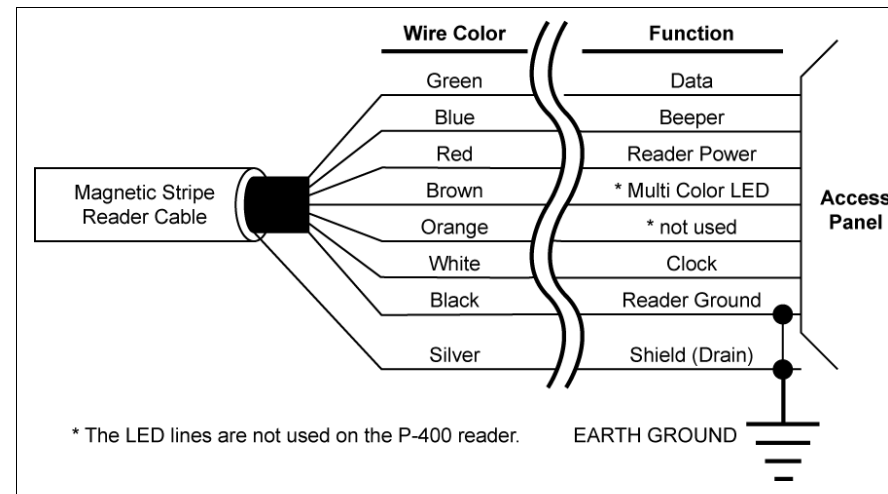


Figure 2: Magnetic Stripe Wiring Connections

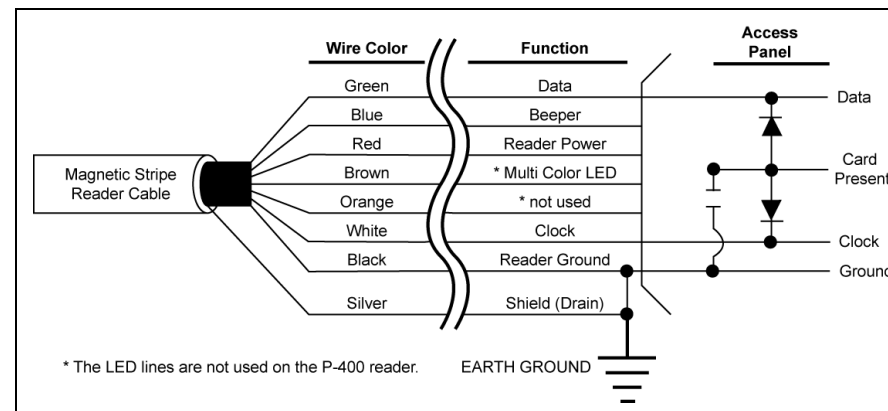


Figure 3: Magnetic Stripe Wiring Connections With Card Present Signal

8.0 Read Range³

Reader	Standard Light Proximity Card	Multi Technology Card	Proximity Key Ring Tag
P-300	up to 4 inches (102 mm)	up to 3 inches (76 mm)	up to 2 inches (51 mm)
P-400	up to 1 inch (25 mm)	up to 1 inch (25 mm)	up to 1 inch (25 mm)
P-500 ^a	up to 5 inches (127 mm using a spacer)	up to 4 inches (102 mm)	up to 3 inches (76 mm)
P-600	up to 4 inches (102 mm)	up to 3 inches (76 mm)	up to 2 inches (51 mm)
P-700 ^b	up to 14 inches (356 mm)	up to 10 inches (254 mm)	up to 6 inches (152 mm)

- When using the provided spacer to separate the reader from a metal electrical box.
- When spacing the reader at least 5 inches (127 mm) from any metal surface.

9.0 Reader Configuration

The reader configuration diagrams are not drawn to scale. For a drilling template of the P-300 reader see the [Pyramid Series Proximity Reader Quick Start Guide](#) (P/N 01866-002).

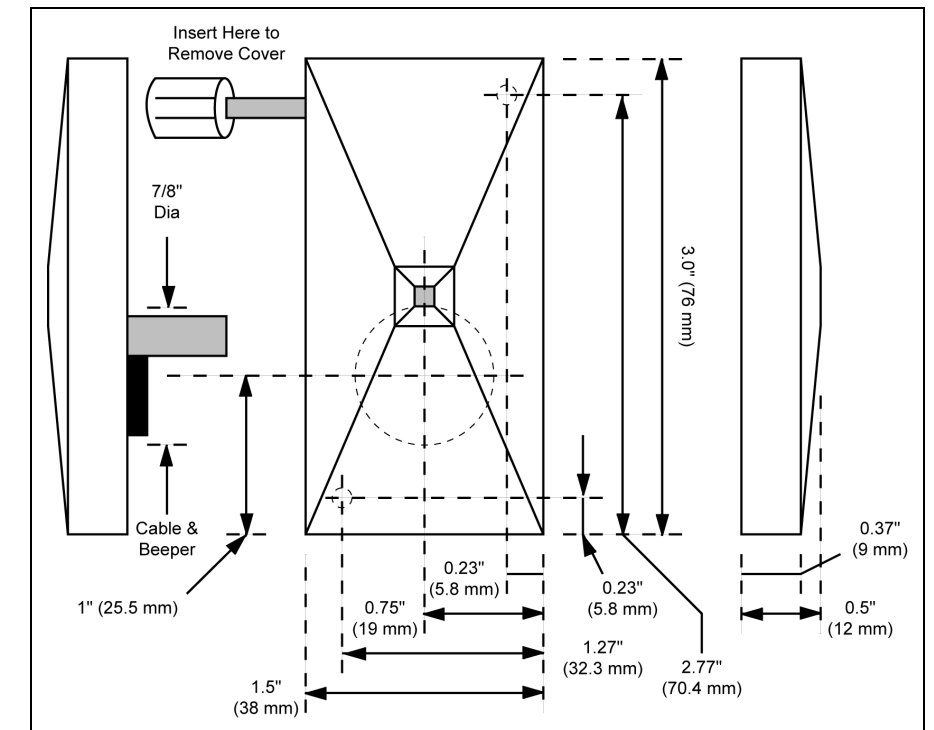


Figure 4: P-300 Mounting Diagram

- Keri along with other Proximity manufacturers always recommends the use of linear power supplies.

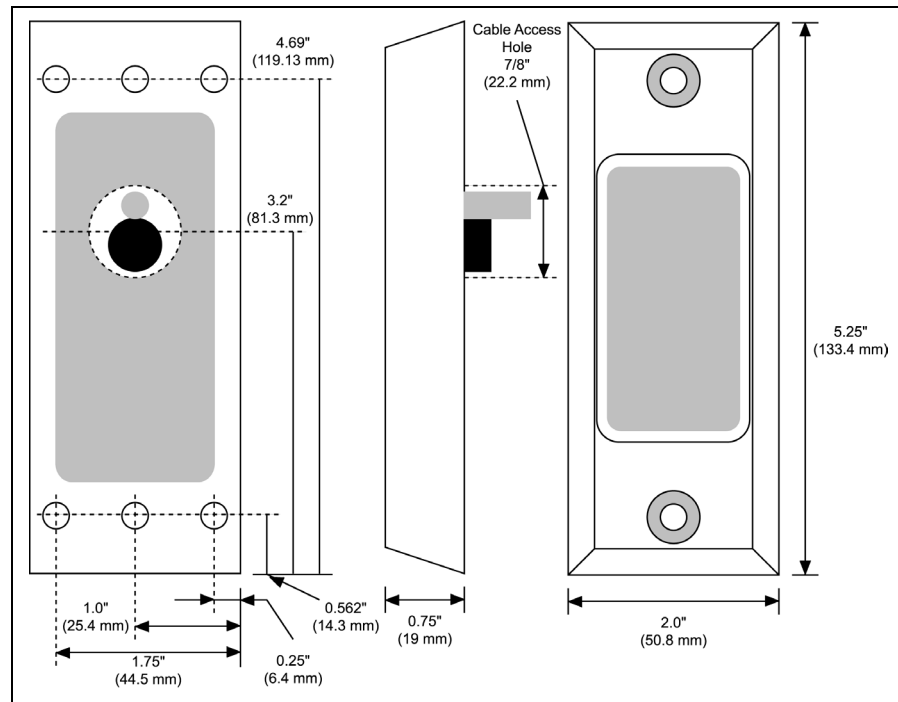


Figure 5: P-400 Mounting Diagram

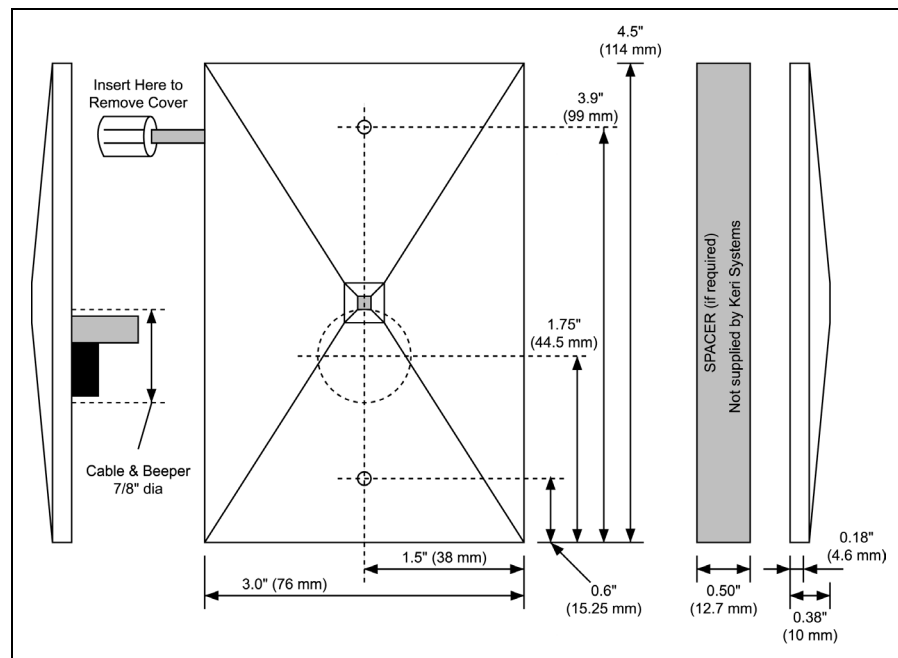


Figure 6: P-500 Mounting Diagram

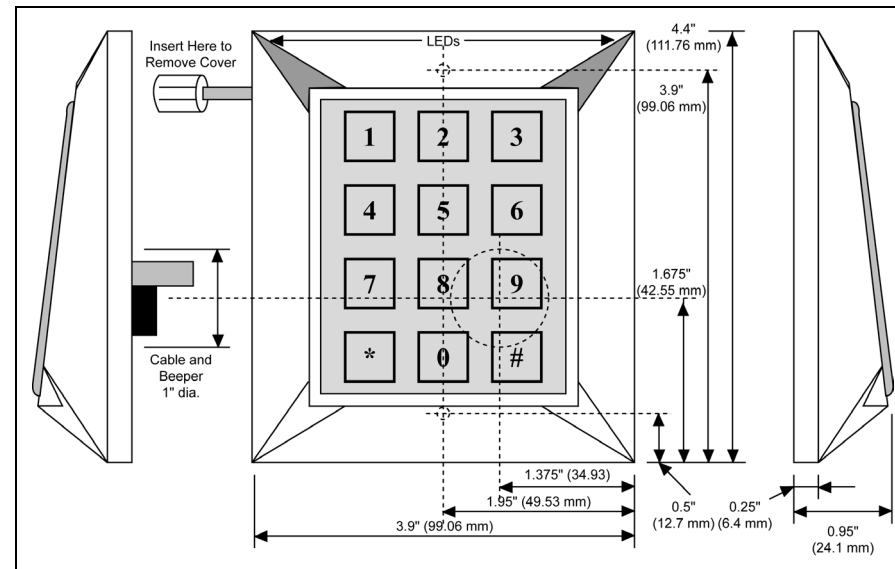


Figure 7: P-600 Mounting Diagram

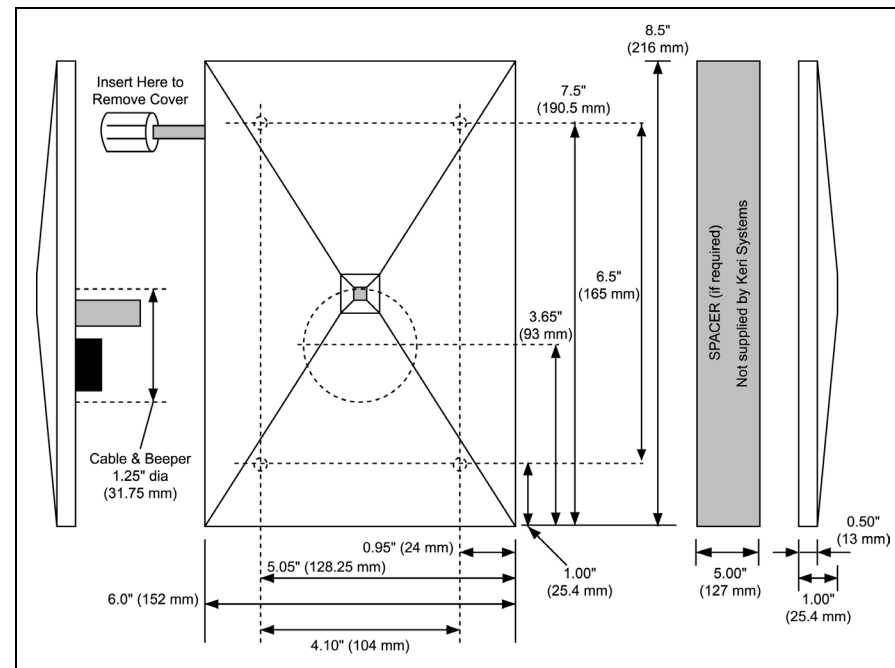


Figure 8: P-700 Mounting Diagram

10.0 Troubleshooting the Reader Installation

Problem	Possible Cause	Corrective Action
The reader does not recognize a card/tag (no beep, no LED flash).	1. One or more of the reader's wiring connections are incorrect.	• Power down the reader/access panel and verify the wiring connections are correct for the reader/access panel combination.
	2. The reader is not receiving proper power from the access panel.	• Verify the voltage supplied to the reader is between 5 and 14 VDC. ^a
	3. The reader is mounted too close to a device that radiates electromagnetic interference.	• Devices such as computer monitors radiate electromagnetic interference that affects read range. When possible, relocate either the reader or the device to provide a greater distance between the two.
	4. You are using an incorrect type of card.	• Make sure you are using an access card that is compatible with the reader.
	5. You are using an incorrect type of card.	• Make sure you are using an access card that is compatible with the reader.
The reader has a short read range.	1. The reader/access panel is not properly grounded.	• Ensure there is a quality earth ground connection made to the access panel. Refer to the access panel's documentation for information regarding the earth ground connection.
	2. The shield wire for the reader's cable has opened somewhere between the reader and the access panel.	• Verify the shield line from the access panel to the reader is one continuous, connected line. Refer to the access panel's documentation and verify the shield line is correctly connected to the access panel.
	3. The reader is mounted too close to a device that radiates electromagnetic interference.	• Devices such as computer monitors radiate electromagnetic interference that affects read range. When possible, relocate either the reader or the device to provide a greater distance between the two.
	4. The power supply is generating electromagnetic interference.	• The power supply on the access panel must be a regulated linear supply – do not use switching supplies as they are often sources of electromagnetic interference.

a. A supply voltage of 12 VDC at the reader is recommended for best operation.