QUICK START GUIDE
125-kHz PROXIMITY CARD READERS

Farpointe Data®
Readers • Credentials
A DORMA Group Company

This Quick Start Guide is intended for experienced installing technicians. It is a basic reference to ensure all connections are properly made. Installation and wiring of systems must be in accordance with the National Electrical Code, ANSI/NFPA 70.

1.0 Introduction

A key component of a physical security electronic access control system, a proximity card reader is based on RFID technology. In operation it is capable of reading data stored on a proximity credential via radio frequency and without physical contact, and then passing the data obtained to the physical access control system. Access control systems typically manage and record the movement of individuals through a protected area, such as a locked door.

2.0 Mounting Provisions

Each reader may be installed either indoors or outdoors.

	P-300	P-500	P-530	P-620	P-640	P-710	P-900
Mullion Mount	•			•			
Single-gang Wall Mount*		•			•	•	•
Double-gang Wall Mount*							•
Parking Bollard X-Mount*							•
European/Asian Wall Mount*			•				

*Plastic or metal.

3.0 Reader Wiring

Wiegand	
Conductor	*Function*
Red	DC (5-16 VDC)
Black	Ground
Green	Data 0
White	Data 1
Brown	Red LED[a]
Orange	Green LED[b]
Yellow	Card Present
Blue	Beeper
Violet	fleaPower
Drain	Shield Ground

Magstripe	
Conductor	*Function*
Red	DC (5-16 VDC)
Black	Ground
Green	Data
White	Clock
Brown	Red LED
Orange	Green LED
Yellow	Card Present
Blue	Beeper
Violet	fleaPower
Drain	Shield Ground

NOTES:

[a]**Single Line LED:** This is the standard operating mode and does not make use of the Orange conductor. The LED is Red when the reader is idle and flashes when a card is presented. The LED turns Green when the Brown Conductor is pulled low by the access control panel.

[b]**Dual Line LED:** This mode makes use of both the Brown and Orange conductors. The Brown conductor controls the Red LED and the Orange conductor controls the Green LED. LED states are determined by the access control system option and capability.

4.0 Cable Requirements

24 AWG minimum, multi-conductor stranded with an overall foil shield, for example Belden 9535 or similar. Per the SIA's Wiegand specification, maximum cable length is 500 feet (152 m).

5.0 Output Formats

Wiegand (industry standard 26-bit Wiegand and custom Wiegand formats).

6.0 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 at one point.

7.0 Power

Reader may be powered by the access panel. A linear power supply is recommended for best operation.

8.0 Voltage
5 to 16 VDC. 12 VDC at the reader is recommended for best operation.

Model	P-300	P-500	P-530	P-620	P-640	P-710	P-900
Current Draw	30 - 75 mA	35 - 75 mA	30 - 75 mA	70 - 110 mA	70 - 110 mA	215 - 600 mA	290 - 500 mA

9.0 fleaPower™ Control Line
To reduce the average current required by the reader, pull the purple conductor low.

10.0 Connection
Connection must be done in accordance with NFPA 70. Do not connect to a receptacle controlled by a switch.

11.0 Troubleshooting
1. When the reader is first powered on it will beep 4-times, and the LED will shine red.
2. Presenting a supported access credential will result in the reader beeping and the LED flashing once.

NOTE: The access panel controls LED functionality, such as switching the LED to green.

If the reader does not recognize the card or tag (no beep, no LED flash) or exhibits short read range, please see the table below for possible causes and solutions.

Possible Cause	Corrective Action
Incorrect cabling	Verify gauge, connections and cabling length
Not enough power	12 VDC recommended, 5 VDC at reader is minimum
Incorrect card used	Verify if card technology is supported
Reader/access panel not properly grounded	Earth ground needed—verify shield and reader ground are tied at access panel and connect to ground at one point
Supply generating interference	Linear power supply recommended, verify switching power supply before use

Should any of the corrective actions mentioned above not improve performance, disconnect the reader from the access panel and power it with a separate power supply or 9VDC battery, and re-test card functionality. By powering the readers separately, most variables that may lead to reduced performance can be eliminated. Should the problem persist, please contact Farpointe directly.

Many Farpointe Data Readers carry the following certifications:

FCC compliance Statement: This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:
(1) this device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

Product can be used without license conditions or restrictions in all European Union countries, including Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Luxembourg, The Netherlands, Portugal, Spain, Sweden, and the United Kingdom, as well as other non-EU countries, including Iceland, Norway, and Switzerland.

Farpointe Data reserves the right to change specifications without notice.

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