



Getting Started Guide

R-PH Proximity Card Reader

WI2596BLF draft .06 7/24

Carefully follow this Getting Started Guide for the model **R-PH 125 kHz Proximity Reader** to ensure all wiring connections are made accurately.

Features

- Indoor / Outdoor use
- Single / Dual Line LED Control.
- Standard Wiegand D0-D1 Data Output
- Field Firmware Upgradable using the **PR-PROG Reader/Programmer**
- Auto Configuration of Single Line LED or Dual Line LED Control*
- Low Current Consumption
- Up to 500ft. Reader to Panel Wire Length

Normal Operation

- Connected to an access control panel: Presenting a supported proximity credential will result in reader beeping, the blue LED turns off and the green LED turns on. Indicates credential has been validated and door is ready to open
- If NOT connected to an access control panel: Presenting a supported proximity credential will result in the reader beeping and the blue light bar flashing. The green light bar will *not* turn on

Cable Requirements

Use minimum 24AWG multi-conductor stranded wire with an overall foil shield (e.g., Belden 9535 or similar 5-conductor 24AWG gauge wire) comprising the physical layer of the Wiegand interface (power, ground, Data 0, Data 1, and/or beeper and LED). Alternatively use Belden 9539 or similar 9-conductor 24AWG wire.

Mounting

Suitable for indoor or outdoor installations. Use the supplied mounting screws or security screws appropriate for the installation and/or mounting surface. Supplied are two #6-32 screws for metal / single gang box mounting (cover plate also supplied); also supplied are two #6 sheet metal screws and drywall anchors. Stainless steel screws recommended for outdoor installations.

Reader Wiring

Wiegand	
Conductor	Function
Red	DC (7.5-16 VDC)
Black	Ground
Green	Data 0
White	Data 1
Brown	Green/Blue LED Control Input ^a
Orange	Green LED Dual Line Control ^b
Yellow	Card Present
Blue	Sounder
Drain	Shield Ground

WIRING NOTES:

^a **Single Line LED:** This is the standard operating mode (Orange conductor not used). The LED is Blue 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 uses both the Brown and Orange conductors. The Brown conductor controls the Blue LED and the Orange conductor controls the Green LED, as determined by the access control panel.

Unused conductors should be trimmed, isolated and taped back to prevent unintended current flows.

Data Output

Wiegand D0-D1 26-bit to 37-bit.

Signals

Note that the Brown, Orange, Yellow and Blue signal lines are active low.

Shield Connection

The shield and the reader ground wire should be tied together at the access panel and connected to an earth ground at one point. Follow all earth-grounding requirements as detailed by the access control panel manufacturer.

Power

Power the reader by an access control panel or an independent external power supply.

When the reader is powered on, it beeps 3 times and the light bar will light green, then blue. **Note:** The access panel controls LED functionality, such as switching the light bar to green (see **Reader Wiring**).

*By default, the unit powers up in **Single Line LED** mode; but when the orange conductor sees activity (pulled active low), the unit changes to **Dual Line LED** mode. Refer to **Reader Wiring**, above.

Voltage / Current

- **Rated 7.5VDC (48mA while active) to 16VDC (80mA while active) voltage measured at the reader**

The use of 22AWG (or heavier) wire for longer cable runs is recommended.

Connection

All wiring should be performed within all appropriate local electrical codes.

Troubleshooting

If the reader does not function correctly when a proximity credential is presented, see the table below for possible causes.

Symptom	Possible Cause
Short proximity card read range or blue light bar will not light	Typical card read range is up to 4". Verify a minimum of 7.5V at the reader. If voltage is too low, the cable may be too thin.
Short proximity card read range or no read range	Noise on the power supply (temporarily power unit with a 9V battery to determine if performance improves). Improper panel and shield grounding or the use of unshielded wire.
No response from reader when card is presented	Verify correct card type. Unit may be defective.

If performance is still not improved after taking corrective action, remove power by disconnecting the reader from the access control panel and power the reader with a separate power supply or a 9VDC battery, then re-test proximity credential functionality. If performance is not improved, the unit may be defective; contact NAPCO Technical Support at 1-800-645-9440.

Specifications

Operating Temperature

-40°F to +150.8°F (-40°C to +66°C)

Operating Humidity

0% to 90% Relative Humidity

IP Rating

IP67-rated for outdoor use

Typical Card Read Range

Up to 4" (10cm)

Access Control Levels

- **Destructive Attack: Level I**
- **Line Security: Level I**
- **Endurance: Level IV**
- **Standby Power: Level I**

FCC Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. 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.