

INSTALLATION INSTRUCTIONS

PFH-9210-60-1/W

PFH-9210-60-1/R2 Long Range Proximity Reader

PFH-9210-60-1/R5

• INTRODUCTION

PFH-9210-60 is an advanced vicinity RFID contact less reader with internal epoxy potted to read the low cost 125kHz, EM compatible card or tag for identify the ID and send out the ASCII type data by RS-232 / RS-485 / Wiegand interface. It can be directly interfaced to PC or other access controller for data recording or medium range personal or vehicle access authorization.

• SPECIFICATIONS

| | | | |
|-----------------------------|---|--------|--------|
| Model No. | PFH-9210 | | |
| Type | W | R2 | R5 |
| Output Interface | Wiegand | RS-232 | RS-485 |
| Operating Frequency | 125 KHz | | |
| Reading Range | Max. 60~70 cm(According to card) | | |
| Modulation | Transmit coded –ASK; Receiving – Super Heterodyne | | |
| Directivity | Omni-directional | | |
| Card / Keytag | 1.8mm unprintable prox. card:PG-PROXS-L-Y1, PG-PROXS-N10-G1 0.8mm printable prox. card : PG-PROXC-N10-G1 Proximity keytag : PG-PROXK-N10-G3 | | |
| Mounting / waterproof | Surface Mount, Waterproof | | |
| Indications | 2 pieces of color LEDs (Red and Green) with built-in buzzer | | |
| Dimension | 270 (L) x 273 (W) x 39 (H) mm | | |
| Operating Temperature | -10°C ~50°C | | |
| Humidity | 0% ~ 90%RH, non condensing | | |
| Material | ABS | | |
| Operating Voltage / Current | 12 VDC, 200 mA | | |
| Weight | 2.00 Kgs ± 5% | | |

• INSTALLATION GUIDE

1. Please select an appropriate place to install the reader and then mark the location of mounting holes through the holes position on bottom pedestal.
2. Drill a 8 mm hole on the wall for threading through the reader's cable.
3. Drill two 5 mm holes to fix the reader to the wall by using the provided screws.
4. When the reader is power on, the right LED will turn to Red; if the legal card is read, the left LED will turn to Green.
5. Please make sure that 12 VDC regulated and filtered type power supply that is isolated from other devices.
6. Once you use a separate power supply for the reader, a common ground should be connected between the reader and control system.

Note :1. Please “warm-up” 10 seconds before using to get better performance.

2. Please use our switching power to maintain proper 60~70cm reading distance.

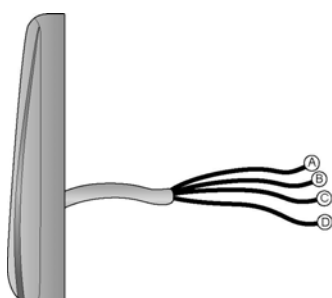
! Note: 1. To cut off the power before wiring & installation.

2. To check the electric circuit's insulation before power on.

• WIRING DESCRIPTION

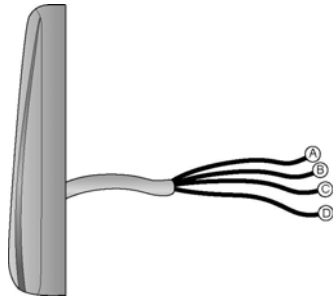
A. Wiegand output

1. If you connect the PFH-9210-60-1/W with Pegasus controller, please refer to the following wiring description to make sure the reader ID number coincides with the card Nr. printed on the card.



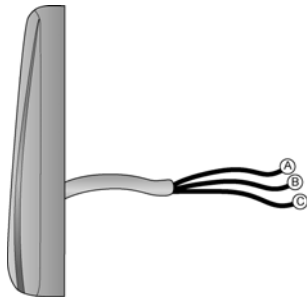
| Pin No. | Wire Color | Wire assignment |
|---------|------------|-----------------|
| A | Red | +12VDC |
| B | Black | Ground |
| C | Green | Data 1 |
| D | White | Data 0 |

2. If you connect PFH-9210-60-1/W with other controller , please refer to the following wiring description.



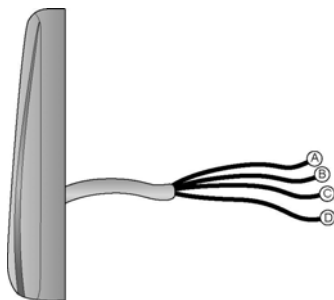
| Pin No. | Wire Color | Wire assignment |
|---------|------------|-----------------|
| A | Red | +12VDC |
| B | Black | Ground |
| C | Green | Data 0 |
| D | White | Data 1 |

B. RS-232 output



| Pin No. | Wire Color | Wire assignment |
|---------|------------|-----------------|
| A | Red | +12VDC |
| B | Black | Ground |
| C | White | TX + |

C. RS-485 output



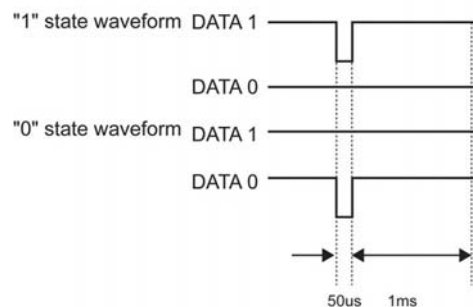
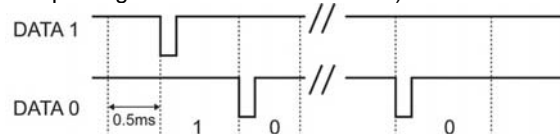
| Pin No. | Wire Color | Wire assignment |
|---------|------------|-----------------|
| A | Red | +12VDC |
| B | Black | Ground |
| C | Green | Tx-, (Data B) |
| D | White | Tx+, (Data A) |

• **TRANSMISSION FORMAT FOR RS-232/RS-485:** Default 9,600 bps, N, 8, 1.

• CODE FORMAT

A. Wiegand data format

Please note the Wiegand input of the controller must be pulled high to suitable voltage (power supply voltage of the receiver circuit). Otherwise, extra pull high resistors must be wired)



Parity calculation

1st Bit (MSB – Most Significant Bit)

bit 26(LSB)

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------|---|---|---|---|---|---|---|---|----|----|----|----|----------------|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| P | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | P |
| P | E | E | E | E | E | E | E | E | E | E | E | E | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | O | O | O | O | O | O | O | O | O | O | O | P |
| Even parity (E) | | | | | | | | | | | | | Odd parity (O) | | | | | | | | | | | | |

1st Bit (MSB – Most Significant Bit)

bit 34 (LSB)

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|--|--|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | | | |
| P | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | C | P | | | |
| P | E | E | E | E | E | E | E | E | E | E | E | E | E | E | E | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | P | | | |
| Even parity (E) | | | | | | | | | | | | | | | | | Odd parity (O) | | | | | | | | | | | | | | | | | | | |

B. RS-232 data format

If the DIP SW X is on, then it send out the RS-232c or RS-485 format as following:

N,8,1 9,600 Bps.

STX | T R x C1 C2 C3 C4 P5 P6 | ETX | LRC1 | LRC2 | CR | LF |

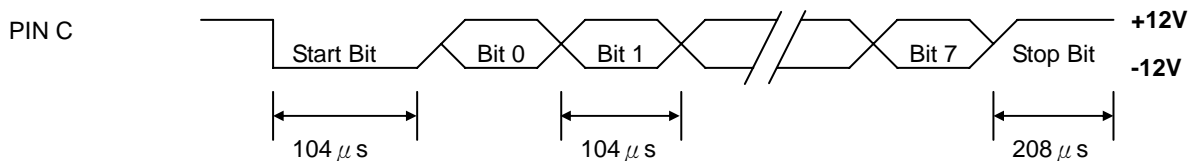
WHERE

- STX --ASCII CODE 02, Start of Text.
- T --Message type, default as "A" in this type.
- R --Reader type. "1" for "out " reader, and "0" for "in" reader.
- C1 --C4-- 4 digits card number
- P5-P6 --Two digits project number
- ETX --End of the text. Ascii code is "XX03H"
- LRC1 --First byte of checksum.
- LRC2 --Second byte of checksum.
- CR --Carriage return. ASCII code is xx0DH.
- LF --Line feed. ASCII code is xx0AH.

Calculation formula for checksum:

the checksum is "EOR" or "Exclusive Or" the message from T to P6, and then divide the 8 bits result in to higher 4 bits nibble (for LRC1)and the lower 4 bits nibble(for LRC2). Each nibble add "xx30H" to get the corresponding LRC1 and LRC2.

Serial clock output



C. RS-485 data format

If the DIP SW X is on, then it send out the RS-232c or RS-485 format as following:

N,8,1 9,600 Bps.

STX | T R x C1 C2 C3 C4 P5 P6 | ETX | LRC1 | LRC2 | CR | LF |

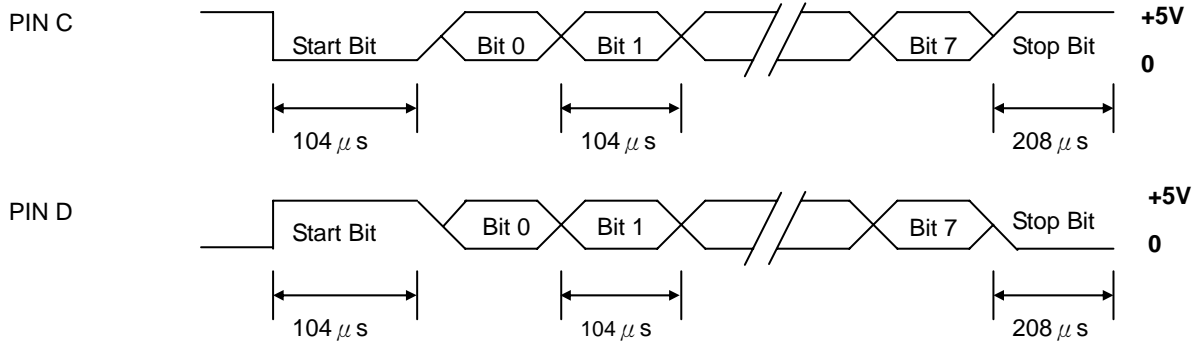
WHERE

- STX --ASCII CODE 02, Start of Text.
- T --Message type, default as "A" in this type.
- R --Reader type. "1" for "out " reader, and "0" for "in" reader.
- C1 --C4-- 4 digits card number
- P5-P6 --Two digits project number
- ETX --End of the text. Ascii code is "XX03H"
- LRC1 --First byte of checksum.
- LRC2 --Second byte of checksum.
- CR --Carriage return. ASCII code is xx0DH.
- LF --Line feed. ASCII code is xx0AH.

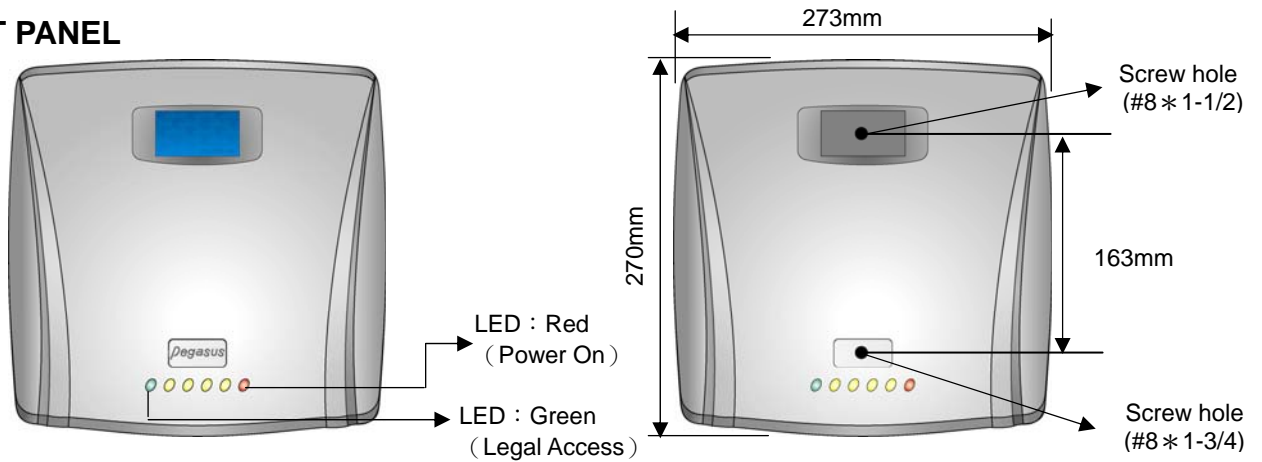
Calculation formula for checksum:

the checksum is "EOR" or "Exclusive Or" the message from T to P6, and then divide the 8 bits result in to higher 4 bits nibble (for LRC1)and the lower 4 bits nibble(for LRC2). Each nibble add "xx30H" to get the corresponding LRC1 and LRC2.

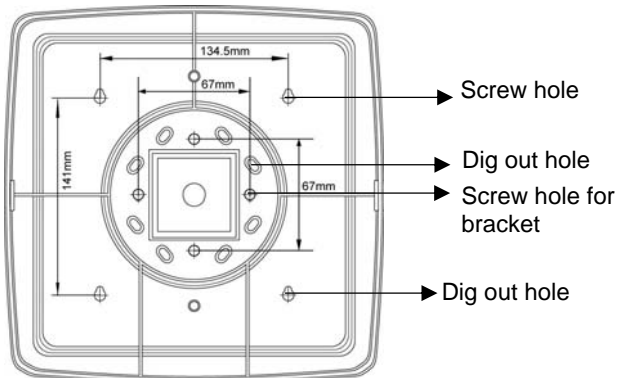
Serial clock output



FRONT PANEL



• BOTTOM PANEL



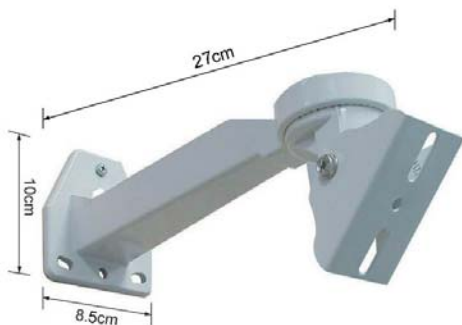
•SIDE VIEW



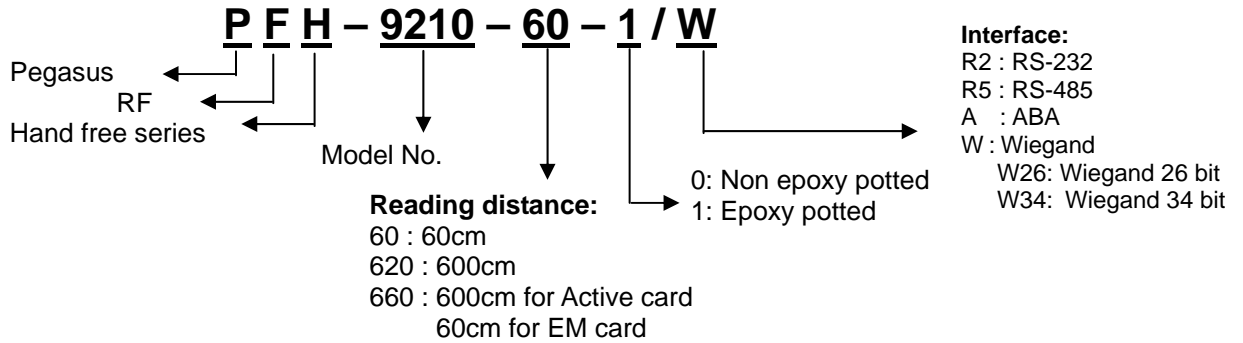
• PACKING LIST

| DESCRIPTION | Q'TY |
|------------------------------|------|
| Screw | 2pcs |
| Screw (M5X20) | 2pcs |
| Screw nut | 2pcs |
| Washer | 2pc |
| Regulated power supply 12VDC | 1pc |
| Sticker | 2pcs |
| Manual | 1pc |

• OPTIONAL ACCESSORY: the bracket for PFH-9210 series: (Model no. : PGV-BRACKET/205N)



•HOW TO ORDER



FCC STATEMENT

• Federal Communication Commission Interference 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.

• FCC Caution :

To assure continued compliance, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. (Example - use only shielded interface cables when connecting to computer or peripheral devices).

Specifications are subject to change without any notice for further modification.