



Long Range UHF RFID Reader And Writer

PK-UHF101
PK-UHF101-1

Ver.15.4(20151203)

■ Introduction

- PK-UHF101 is one of high-performance UHF frequency reader, combining proprietary signal processing algorithms and efficient, with a high recognition rate processing performance and fast read and write, can be widely used in logistics, parking systems, access control systems, security systems and production process control, and other radio frequency identification (RFID) systems.

■ Features

- Protocol comply with UHF EPC Gen2(ISO18000-6C), ISO 18000-6B standard.
- Working frequency 902~928MHz(PK-UHF101) / 865~868MHz(PK-UHF101-1)
- Support adjustable frequency range (FHSS) or fixed specific working frequency.
- Power output 0-30dBm (adjustable)
- Built-in 8dBi polarized antenna : Reading range 5~8M.
- Support operation Modes as Answer, Active, Trigger mode.
- Low power design, Input Power: DC +9V.
- Support RS-232, RS-485, Wiegand 26/34 Interface.

■ Specifications

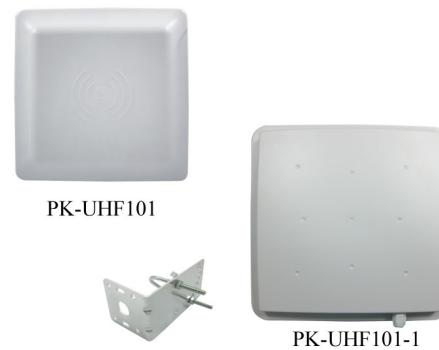
| | |
|------------------|---|
| Dimension | : 230x230x57(PK-UHF101) / 255x255x35(PK-UHF101-1)mm |
| Net Weight | : 900g(PK-UHF101) / 900g(PK-UHF101-1) |
| Gross Weight | : 1700g(PK-UHF101) / 2210g(PK-UHF101-1) |
| Protocol | : ISO18000-6B, EPC Class 1 Gen2(ISO18000-6C) |
| Protection Grade | : IP54 |
| Work Frequency | : Standard ISM 902~928MHz(PK-UHF101) 865~868MHz(PK-UHF101-1) |

| | |
|---------------------|---|
| Frequency Hopping | : FHSS |
| Power Output | : 0-30dBm(adjustable) |
| Antenna | : Built-in 8dBi linearized polarized antenna |
| Interface | : RS232, RS485, wiegand 26/34 (TCP/IP,Wifi can be customized) |
| Operating Mode | : Answer,Active,Trigger |
| Read Range | : 5~8m |
| Reading Clue | : Buzzer |
| Input Power | : 100-240V,DC+9V (Please use our switching power) |
| Power Consumption | : 1W |
| Operation Temp | : -20°C~+70°C |
| Storage Temp | : -25°C~+80°C |
| Humidity | : 80% |
| Regulatory | : Compliant with CE,FCC |
| Additional services | : Provide Demonstration software and SDK (VC, VB, C#, VB.NET, C++) for further development |

■ User manual for UHF Label/Card

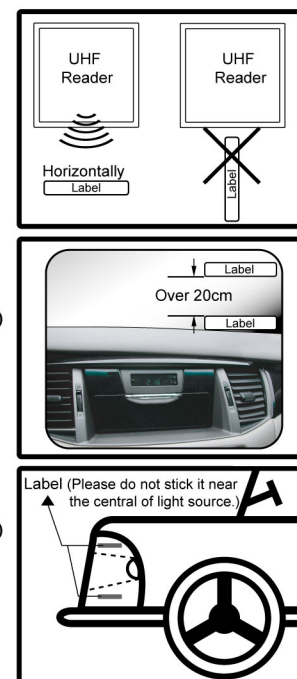
- Keep away from metals- Please don't stick the UHF label on or near the metal objects.
- The UHF label/card is directional which has to face the front side of reader and be stuck horizontally (Please don't stick the label vertically.)
- Please stick the label on flat and clear place.
- Car:
 - If the film of front windshield contains no metal, please stick the label on right bottom corner of windshield. (Suggestion: Stick the label opposite to the front of UHF reader)
 - If the film of front windshield contains metal, please stick the label on the cover of right head light. (Please stick the label near the top or bottom edge of cover. Please do not stick it near the central of light source.)
 - The Label can also be stuck on the right side of grille if that place is not made of metal.
 - If the windshield has stuck a UHF label, please use ID number of that label. One UHF label for one car will be suggested.
 - If two UHF labels need to be stuck on the same windshield, please separate them over 20cm.(as far as possible)
- Motorcycle:
 - The Label can be stuck on the non- metal place of front side of motorcycle.
 - If the front side of motorcycle is metal frame, please stick the label on the cover of head light. (Please stick the label near the top or bottom edge of cover. Please do not stick it near the central of light source.)
- Bicycle:

Not suggested. If it is necessary to stick UHF Label, please install a non-metal clamp on front side of handle bar or head light.
- Please put UHF card into card holder and place it near the windshield (face the front side of reader) to get the best reading range. Please don't put card in the pocket of clothes.

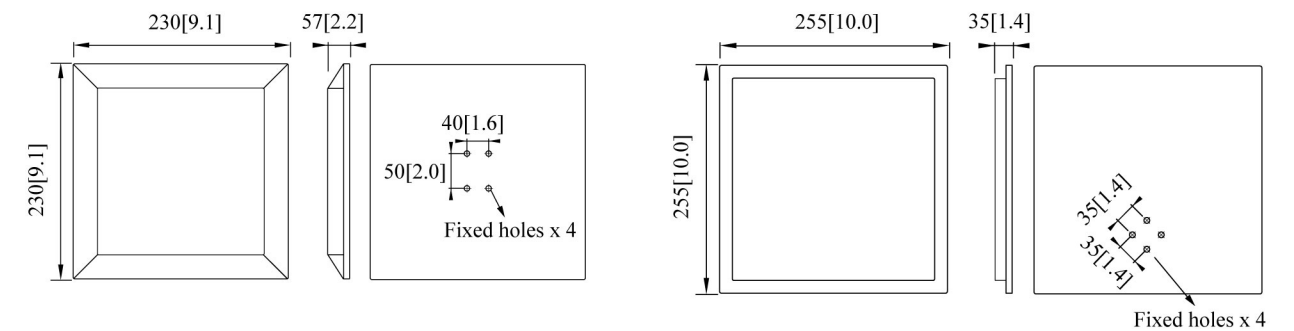


■ Wire Configuration

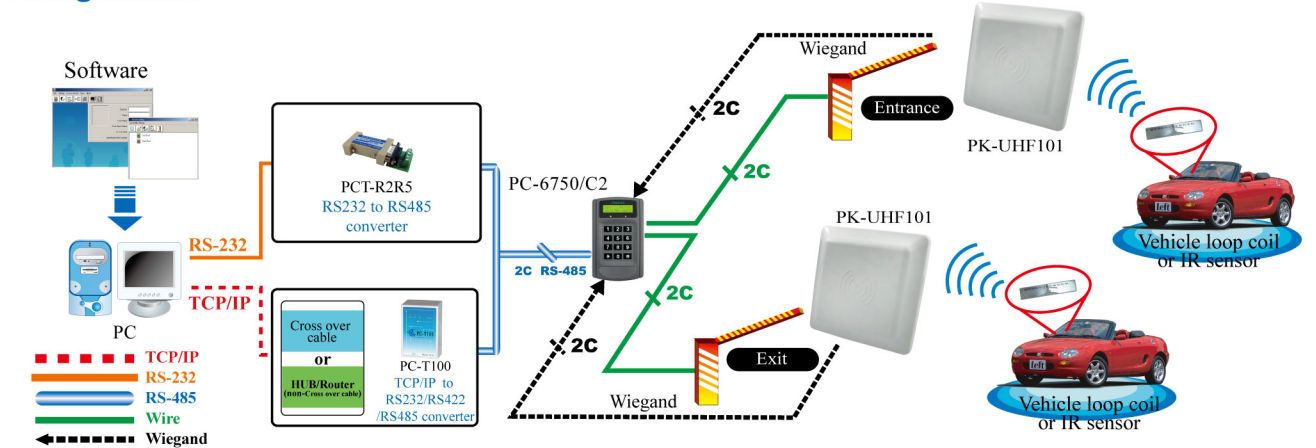
| Color | Function |
|--------|----------|
| Red | +9~12VDC |
| Green | TxD |
| Yellow | Data 0 |
| Purple | 485R+ |
| Gray | Trigger |
| Black | GND |
| White | RxD |
| Blue | Data 1 |
| Orange | 485R- |
| Brown | GND |



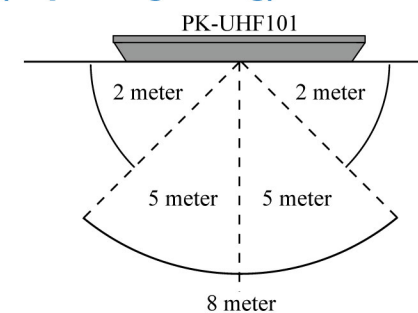
■ Dimensions Unit: mm[inch]



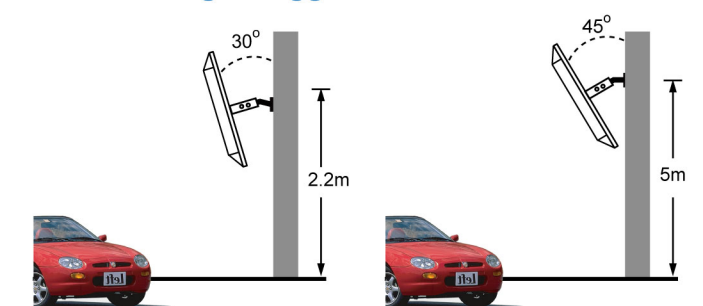
■ Configurations



■ Reading range and angle (Depending on tag)



■ Installation angle suggestion

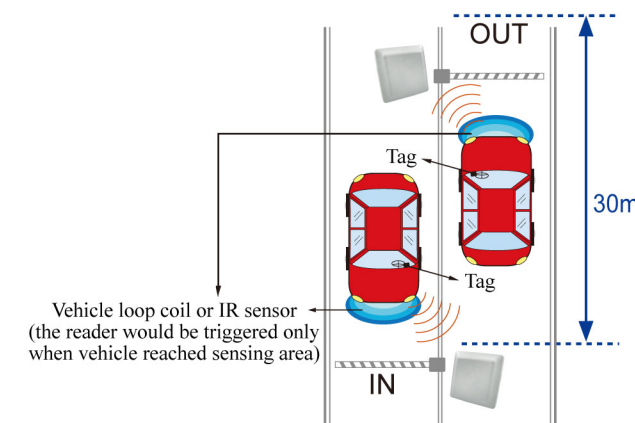


■ Installation of parking controls

Install two PK-UHF101 at left side of vehicle lane

Suggest proper installation:

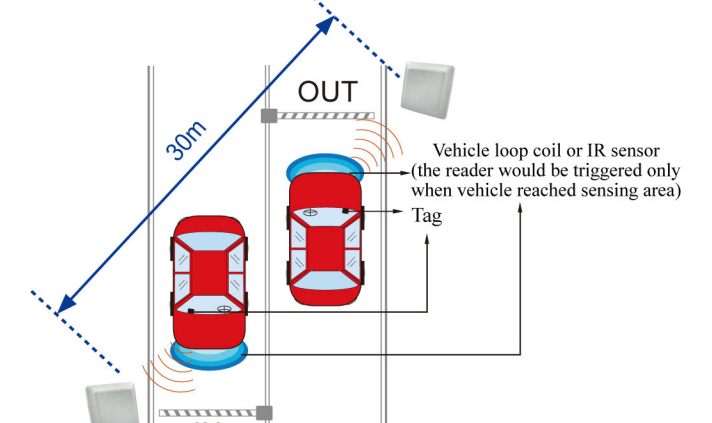
- To separate over than 30m between entrance and exit reader to avoid the mutual electrical field interference.
- Install reader at the left side of vehicle lane, and place the Tag at the left top windshield of car.



Install two PK-UHF101 at right side of vehicle lane

Suggest proper installation:

- To separate over than 30m between entrance and exit reader to avoid the mutual electrical field interference.
- Install reader at the right side of vehicle lane, and place the Tag at the right top windshield of car.



■ Q & A

Q1 : Why the reader outputs different card number everytime when reads the same tag? Even can't output anything?

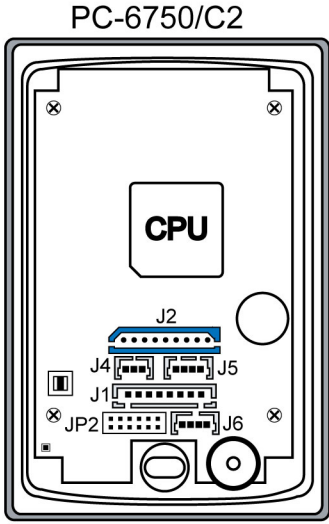
A1 : Please refer to the wiring diagram and check the wiring between PK-UHF101 and controller, PC-6750/C2 as below,

- The GND of both devices should be connected together (common grounded)
- If the wiring of Data 0 & Data 1 is correct or contrary

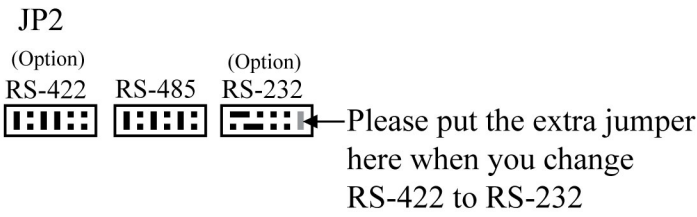
Q2 : The reader is power on but can not read?

A2 : Please refer to the wiring diagram and ensure the gray wire connected with GND through loop detector or IR sensor.
If the system excludes such devices, please also connect the gray wire to GND.

Parking Management System applied by PK-UHF101 UHF long range reader with PC-6750/C2 two doors access controller

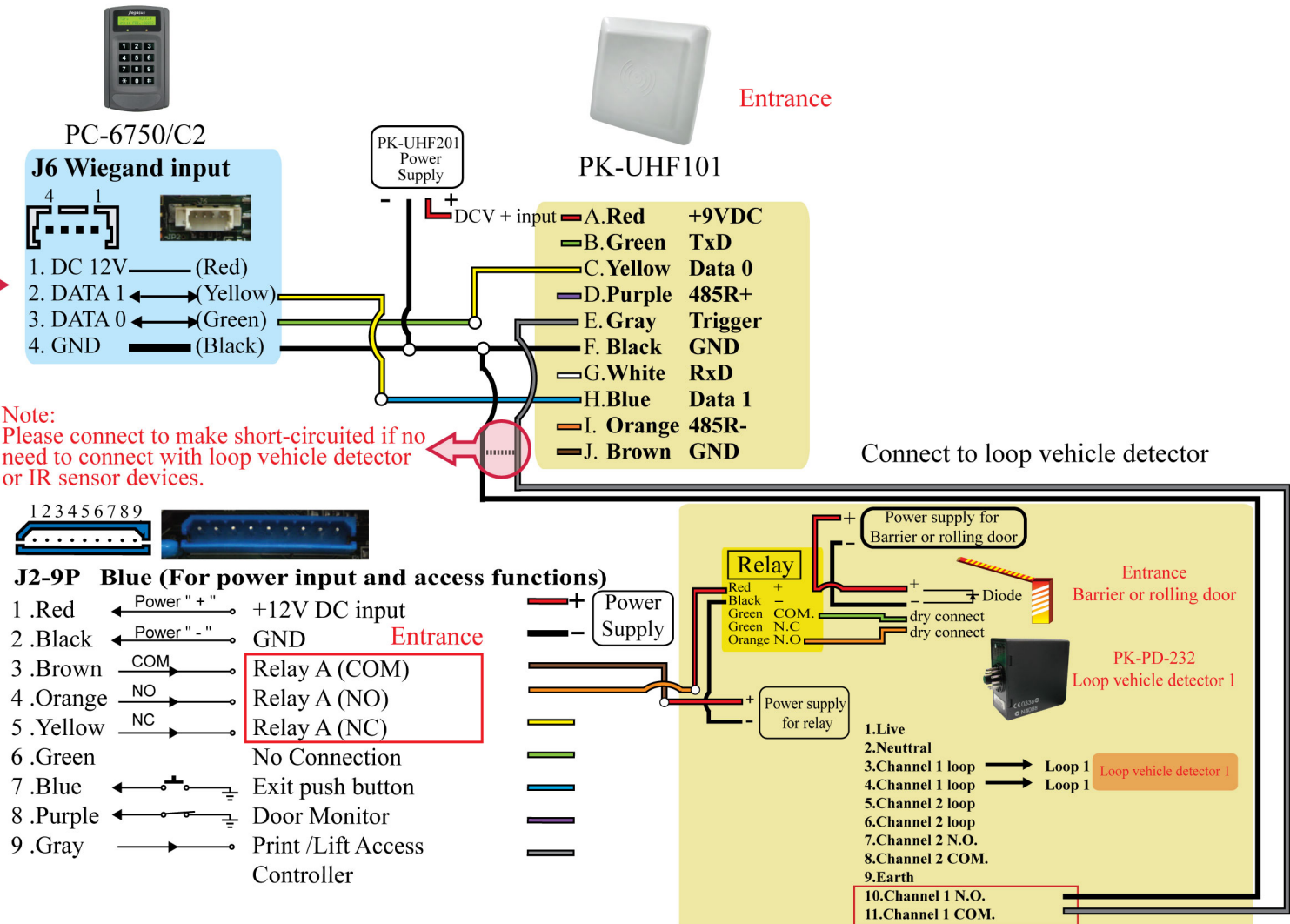


PC-6750/C2: F4=9803 To define the card display format



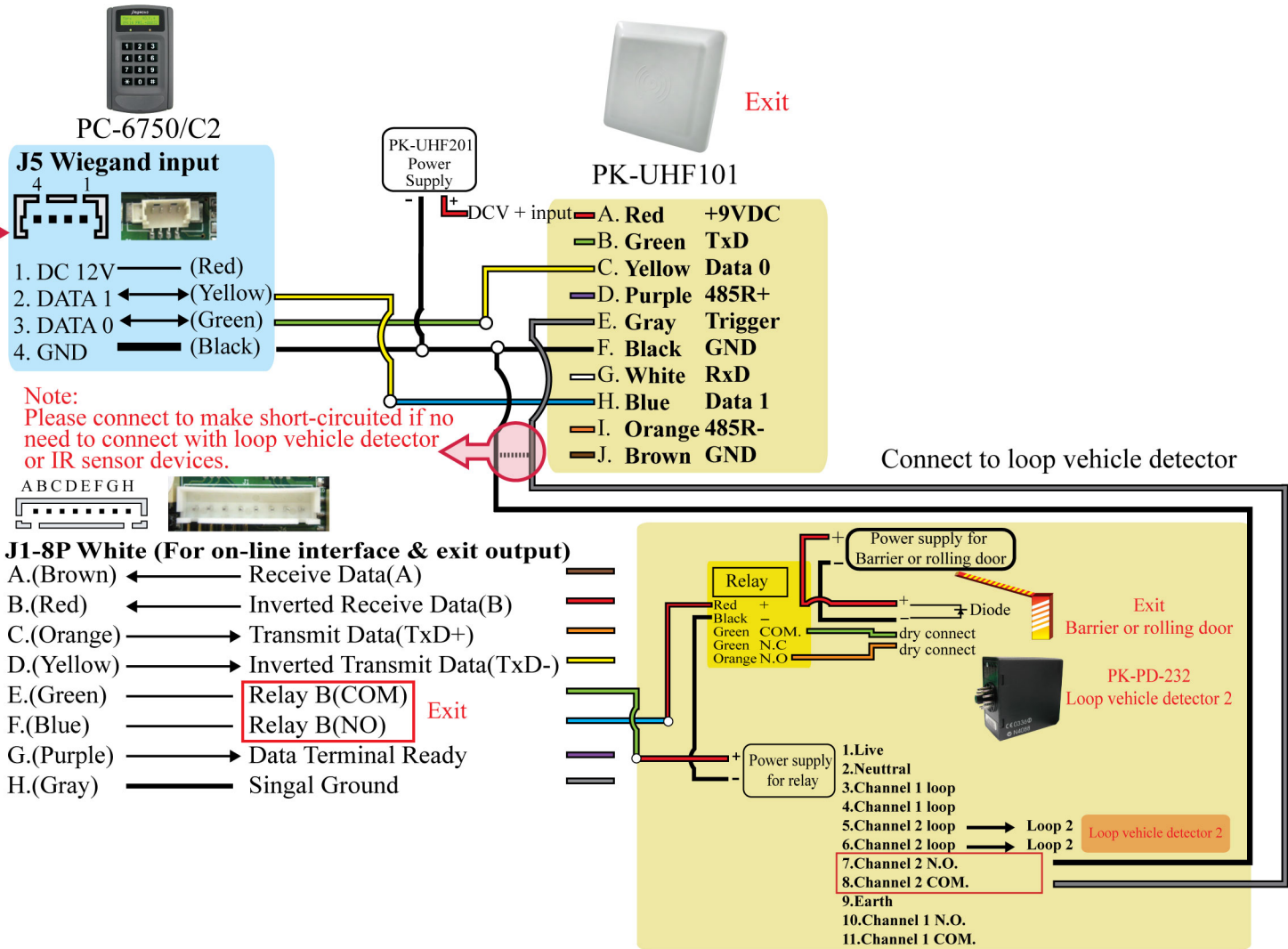
- J1-8 pins connector for Communication port
- J2-9 pins connector for Access port
- J4-3 pins connector for Tamper switch output
- J5-4 pins Power out selection for external reader(Relay B)
- J6-4 pins Power out selection for external reader(Relay A)

Entrance



Note: This is an example wiring diagram for suggested vehicle loop detector model number PK-PD-232. For other model, please refer to their official wiring diagram.

Exit



Note: This is an example wiring diagram for suggested vehicle loop detector model number PK-PD-232. For other model, please refer to their official wiring diagram.