



USER MANUAL

RFID Parking

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Designed by Fresh USA inc.

UHF LONG RANGE READER

INTRODUCTION:

This model is compatible with few protocol, easy to carry, high speed of the reading, multiple card reading, circular polarization antenna and waterproof.

Integrated, high performance 12dBi vertical antenna ensure long-range reading& writing and easy installation;

Multi-protocol support: ISO 18000-6B&ISO 18000-6C(EPC Gen2);

Super anti-interference ability for its FHSS frequency working method;

Software with different Programming language allows easy upgrade;

Waterproof and sunshine defending, idea for outdoor applications;

All kinds of communication interfaces and customizing is available too.

SPECIFICATION:

Frequency range:	902MHz~928MHz or 865MHz~868MHz
Protocol:	ISO18000 6C Gen 2
Operating method:	FHSS or fixed frequency
Antenna:	12dBi polarization
Power smothness:	<0.5DB
RF power range:	0~30dBm (adjust by software)
Software:	Parking Management Grand Parking Management
Identify tag time:	<10ms (single tag)
Reading distance:	16-50ft /5-15m
Communication interface:	Wiegand, RS232,TCP/IP (RS485 , WIFI customized)
Input/output:	1 road trigger input and 1 road relay output
Power supply:	DC7.5V-12V , 3A
Antenna power:	1W
Dimension:	450*450*50mm
Weight:	9kgs
Working temperature:	-45° to 65°
Storage temperature:	-30° to 75°

APPLICATION:

- 1) Transportation management
- 2) Vehicle management
- 3) Road and bridge toll
- 4) Custom management
- 5) Warehouse management
- 6) Car parking management
- 7) Access control management
- 8) Production management

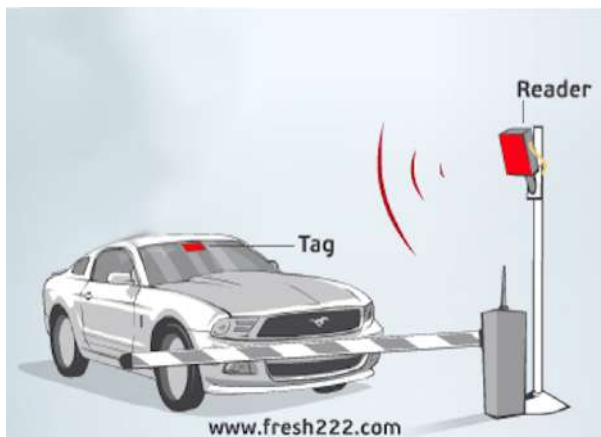
MAIN FUNCTION:

- a. wake up tags : the tag which only be waked up can communicate with reader, prevent the disturbing from other tags, ensure the correct information between reader and system's tag.
- b. Read data : it can get the ID number of tag, and also get the data which in the specify area, multi tags reading will be available.
- c. Write data: can write data in specify tag's storage area.
- d. Can connect with the device which has W26 and W34 interface, no need to develop.
- e. Communicate with controller or PC, that can get the data; provide SDK development kit, user can develop it.

ATTENTION:

- 1) SYC series reader get the data by RS232 communication with PC. Because of customer only read/write the card when received the control order, we provide the SDK, user can do software development.
- 2) Working temperature : -40° ~+65° , so, please power on with 15 minutes before read/write card when use it in cold area and season.
- 3) Please do not put any obstructions within 10m on the front side of reader when do testing;user take the card's edge and put the card on the front of the reader to ensure the reading effect.
- 4) It should connect with GND when use wiegand communication.
- 5) If the installation height is over 1.5m, the pole diameter can not be over 7cm, the reader also should be tilt down a bit.

INSTALLATION PICTURE:



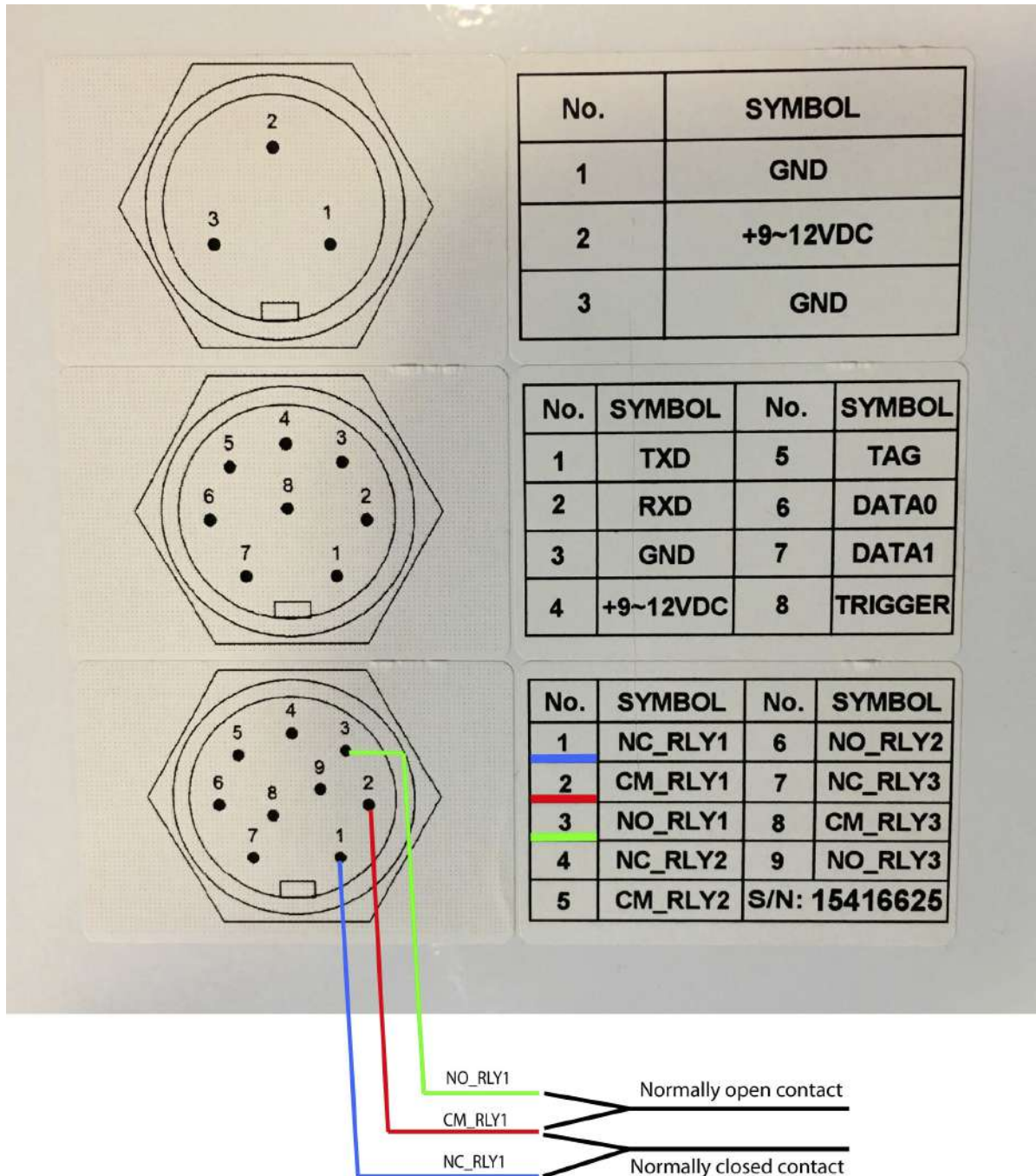
INTERFACE INTRODUCTION:

Wire introduction

Power	GND	485+	485-	WG D0	WG D1	Trigger T+	Trigger T-	RXD	TXD	Ground
Red	Black	Purple	Orange	Yellow	Grey	Rose red	Black	Brown	White	Black

RFID Integrated Reader				RELAY			
Red: +9~12VDC	Black: GND	Green: NO-RLY1	White: NC-RLY1				
Green: TXD	White: RXD	Brown: CM-RLY1					
Yellow: DATA0	Blue: DATA1						
Purple: 485R+	Orange: 485R-	Purple: NC-RLY2	Orange: NO-RLY2				
Gray: TRIGGER	Brown: GND	Gray: CM-RLY2					
S/N: 17160295				designed by Fresh USA			

INTERFACE INTRODUCTION:



Connect with main controller(PC) by RS232 communication interface. The data format of RS232 interface is 8bits, 1 start bit and 1 stop bit, no parity bit; data rate can choose 9600, 19200, 38400, 57600 and 115200. RS232 communication interface support parameter configuration, demo program and serial communication secondary development kit function.

1.2 TCP/IP

Reader has TCP/IP communication interface, TCP/IP can connect with PC, in this condition, TCP/IP is the data output interface. When upload the data, can choose below mode:

Timing mode : upload the data when read it

Master-slave: waiting for the order from host

Trigger : when read the card, upload the data every 10s, until the host order it

TAG OPERATING:

EPC GEN2 (ISO18000-6C) tags

- Single tag initialization: EPC is 96bits
- Single tag writing : write tag's EPC, can write one address or more.
- Single tag lock : after locked, the EPC can not be changed.
- Single tag destroy : after destroyed, the tag will not be used.

WORKING MODE:

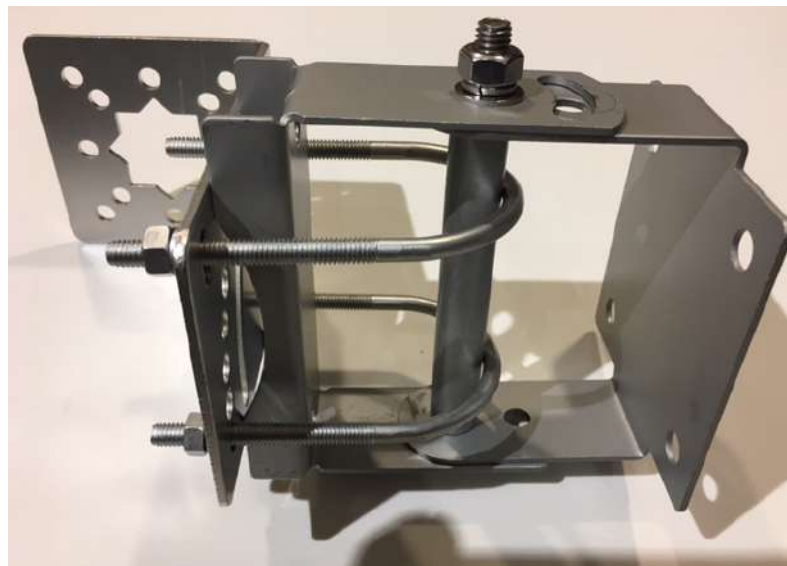
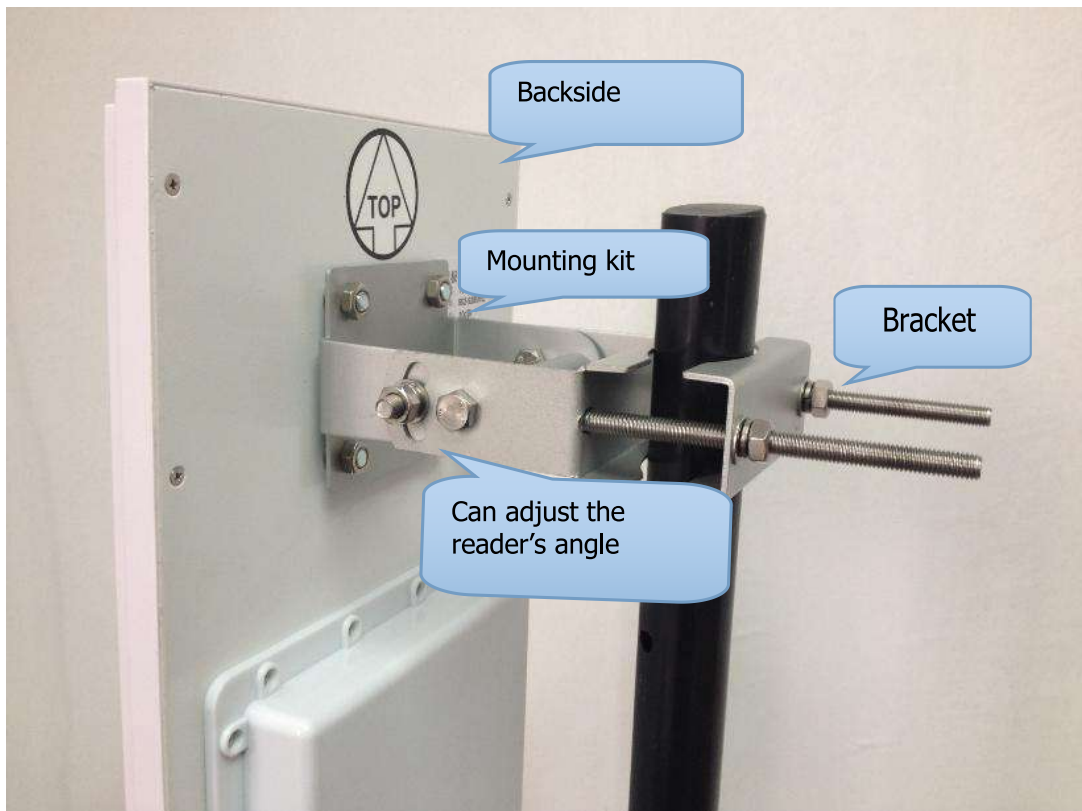
- **COMMAND** : under this working mode, reader works under PC or other controller. It can be communicated USB, RS485 or Ethernet communication. This working mode support the secondary development.
- **TIMING READ** : reader read cards by a period, output the reading data by communication interface. This working mode is reading only.
- **TRIGGER READ** : when input with low level, reader will read cards with a period, after a while, it will be auto closed.

ID ADJACENT DISCRIMINANT:

When the reader read one card continuously, it will upload one group reading data. User also can set a valid time for this function. it communicate by wiegand normally.

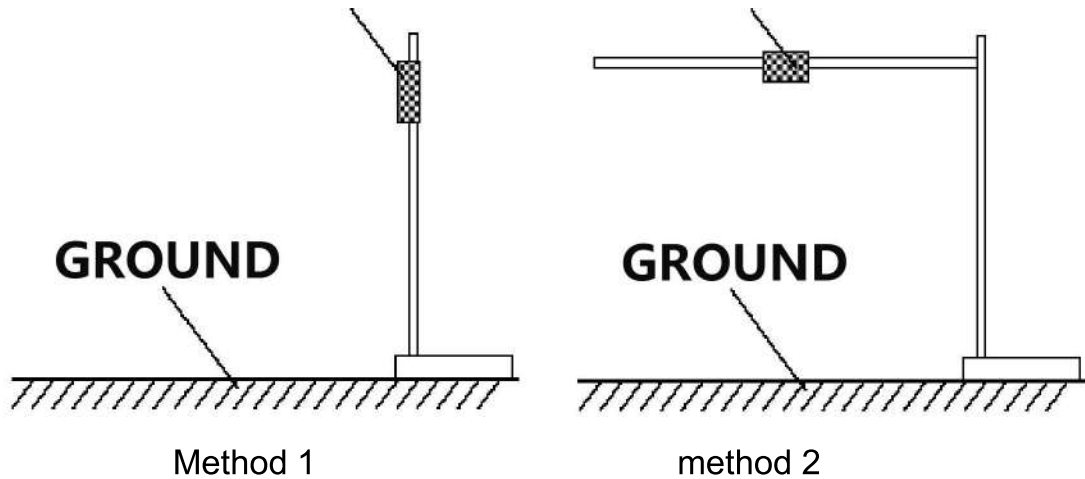
INSTALLATION:

Installation method



INSTALLATION:

Reader two kinds of installation method, generally, user choose method 1, it is easy to install; method 2 has better reading distance, but difficult to install.

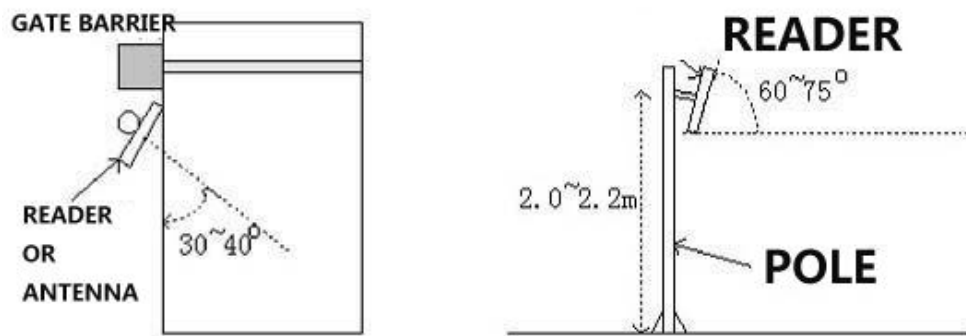


The fixation and height adjustment

When user choose method 1, the diameter of pole should be 25-35mm, length 2.2m, with stainless steel materials.

When user choose method 2, the diameter of pole should be 60-80mm, the diameter of other pole(which is parallels with ground) is 25-35mm, with stainless materials. The distance should be 3.5m - 4m between the pole and ground.

Azimuth Angle adjustment



Antenna depression angle is about 60~75°

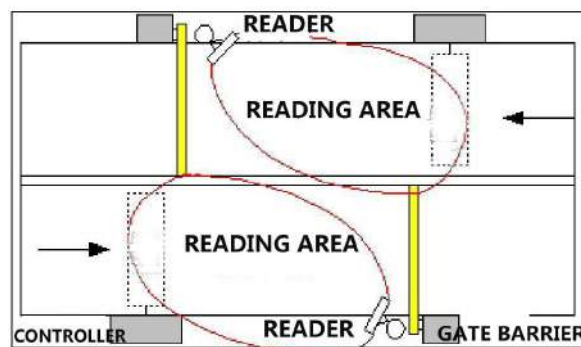
Antenna azimuth angle is about 30~40°

CAR PARKING MANAGEMENT

- (1) Reader The distance is not over than 1m between the reader and gate barrier
- (2) Reader There is no any obstruction between the reader and testing tags
- (3) Reader The distance between reader and PC will be very closer.

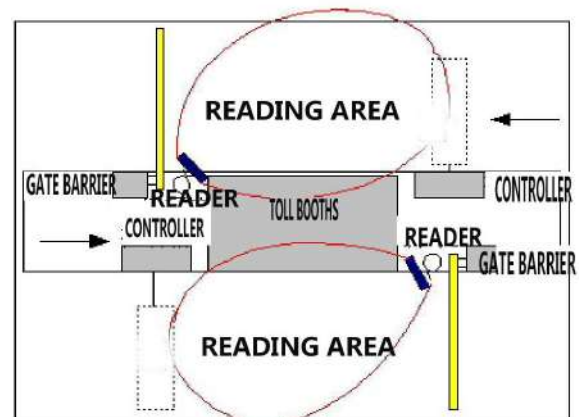
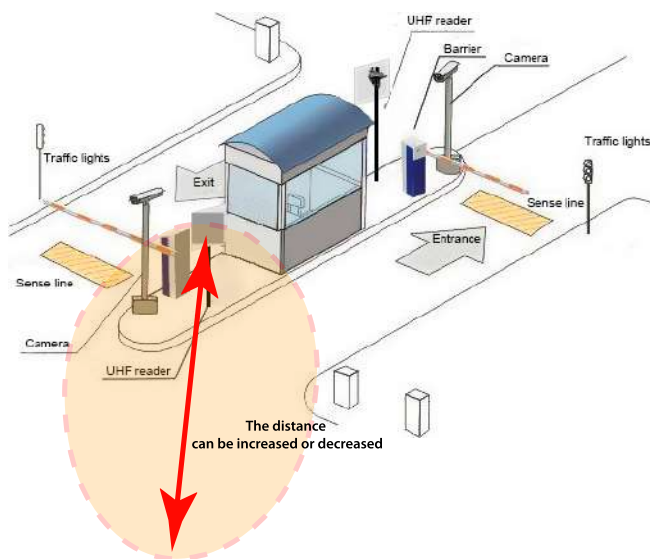
1) Installation method 1: there is no safety island on the road, the vehicle go through this reading area with the speed less than 18mph/30km/h.

In this condition: the reader should be closed with gate barrier device, and the tag reading distance should be 2-26ft /0.5-6m or 16-50ft /5-15m (depending on the device)



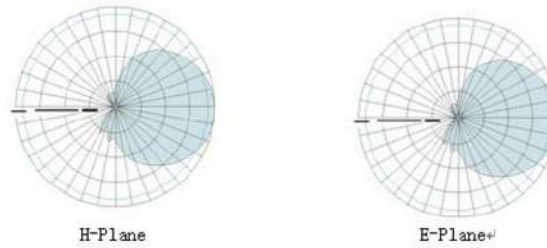
2) installation method 2: there is the safety island on the road, the speed of vehicle should be less than 10mph/ 15km/h.

In this condition: the reader should be closed with gate barrier device, and the tag reading distance should be 2-26ft /0.5-6m or 16-50ft /5-15m (depending on the device)

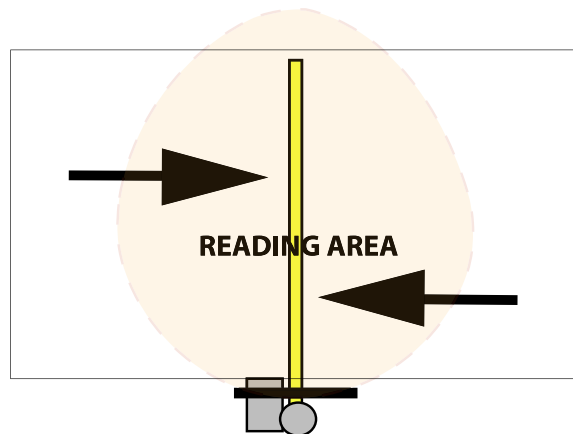


EXAMPLES OF ORGANIZING PARKING SOLUTIONS

Directional diagram



A simple stand-alone solution



Parking management Grand parking management

