

ATTENTION:
Do not use this equipment without first reading the User's Manual.



RFID 900MHZ VEHICLE READER

User's Manual



P31679 - 02/2023
Rev. 0

Congratulations, you have just purchased a product developed with PPA quality and safety.

This manual was developed to be a reference tool for product installation and operation.

INSTALLATION AND WARNING NOTES

- If the same gate will work as an entrance and exit.
- Check that it is possible to install a sensor metal mass or active photocell to ensure that the vehicle will be in the correct reading position.
- The maximum reading distance can reach 5 meters.
- The ideal and recommended use for the reader is with a distance reading range of 1.5 meters.
- Before installing the reader, do a test with the even in the place where it will be installed, using different tags and different vehicles.
- Always use quality cables, it is recommended to use cable 3x18AWG shielded.
- Each reader must use their own font, and this font must be at a maximum distance of 2 meters.
- Do not run AC power cables together with data cables. The GND (ground) of the antenna must be connected in common with the controller GND.
- In case of installing more than one reader, ensure that one do not interfere with the reading field of the other.
- Never install this equipment on structures that spread flames.

- Install this product in places protected from the sun, rain, and moisture whenever possible. Always look for discrete but easily accessible locations to make future periodic operating checks easier.
- Only a qualified technician must install this equipment.
- For further questions, please get in touch with our technical department.

INTRODUCTION

Main features:

- Card with no battery
- 5-meter reading distance
- High reliability

Featuring the latest in RFID technology (radio frequency identification), this reader revolutionizes the access control system market by ensuring total security, comfort, and reliability. Made with high-quality material and a modern design, the reader can be easily installed in entrances and exits where the access of people and vehicles requires controlling.

The cards accepted by this reader are the ISO-1800-6C passive cards or compatible ones. These cards do not require a battery as they are powered by the magnetic field created by the reader. The reader can emit a sequence of beeps whenever a card is read to identify a reading that has taken place.

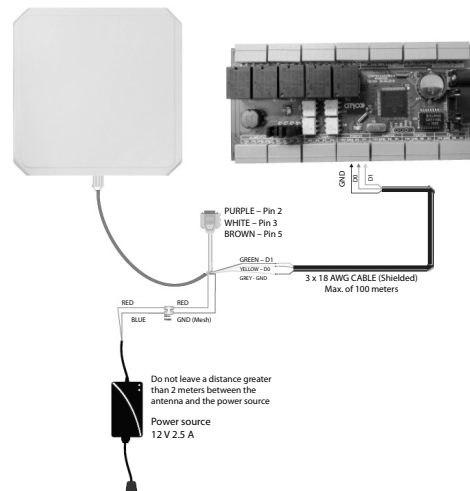
TECHNICAL FEATURES

Communication protocols	Wiegand 26/34, RS232/485 (Max. 115200 bps)
Reading indication	Sound
Type of cards accepted	Passive (ISO-18000-6C, EPC G2 protocol)
Operation frequency	922 MHz
Reading distance	Up to 5 meters
Reader power	Maximum of 30 dBm
Power supply	12 Vdc
Energy consumption	< 2 Watts
Reader polarization	7 dBi horizontal
Reading angle	60°
Dimensions	255 x 255 x 80 [mm]
Working temperature	-15° C to 75° C
Storage temperature	-50° C to 85° C
Relative ambient humidity	90%
Color	White
Recommended cable	3 x 18 AWG shielded cable
Weight	1.6 Kg
Current	0.5 A
Recommended power source	12 V – 2.0 A

WIRE DIAGRAM

Wire	Description
Red	+12 Vdc
Black	GND
Yellow	Data 0
Green	Data 1
Grey	GND (Wiegand)
Purple	RX (Pin 2 DB9)
White	TX (Pin 3 DB9)
Blue	Trigger
Light green	GND (Trigger)
Brown	GND (Pin 5 DB9)
Pink	A+ (485)
Orange	B- (485)

CONNECTION

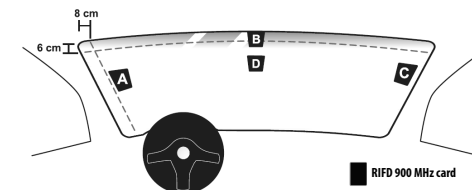


The DB9 connector is for configuration only. Between the 12 V/2 A power source and the reader, respect a maximum distance of 2 meters. Between the reader and the controller, respect the maximum distance of 100 meters (3x18 AWG shielded cable).

CARD INSTALLATION

Some vehicles have protective paint on the glass, reducing card reading (in-vehicle) because EPC G2 cards are passive (no batteries).

To solve this, position the card behind the rear-view mirror, as indicated in area D, where there is no paint, and the card reading is preserved.



A, *B, C, D Recommended positions for installing the car on the vehicle windshield.

* If there is any paint in this position, do not use it.

Some vehicles may contain specific locations for installing the card. Check the card user manual for information.

READER POSITIONING

To ensure the correct reading of 900MHz cards or tags, it is recommended to position the reader according to the diagrams below.

It is extremely important to carry out the installation in a that two cars cannot pass through the same point. We recommend using cobblestones to limit this area.

Installation side view

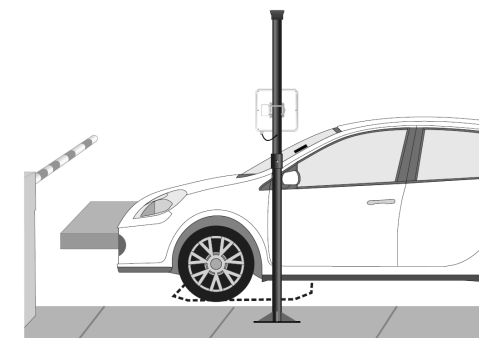


Figure 1 – Diagram 1

Define the positioning of the tag, based on the indications on page 10.

Installation front view

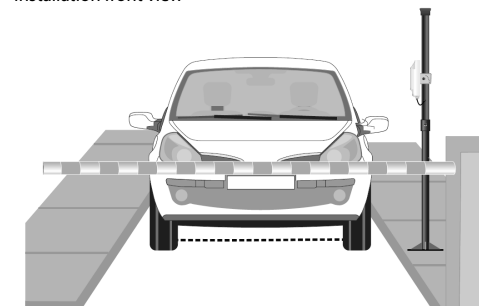


Figure 2 – Diagram 1

Installation top view

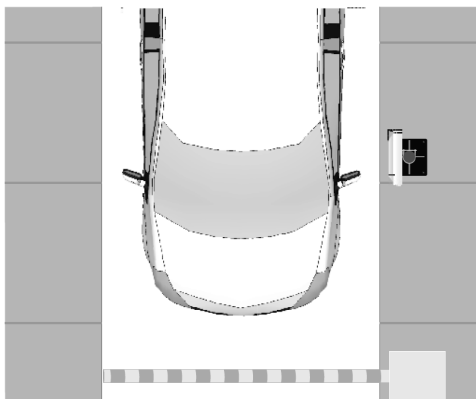


Figure 3 – Diagram 1

Installation side view

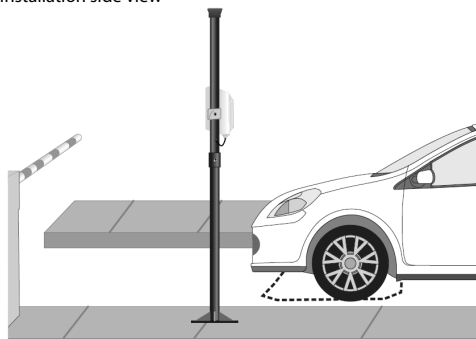


Figure 1 – Diagram 2

Installation front view

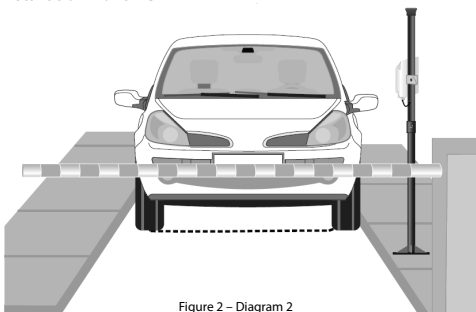


Figure 2 – Diagram 2

Installation top view 2

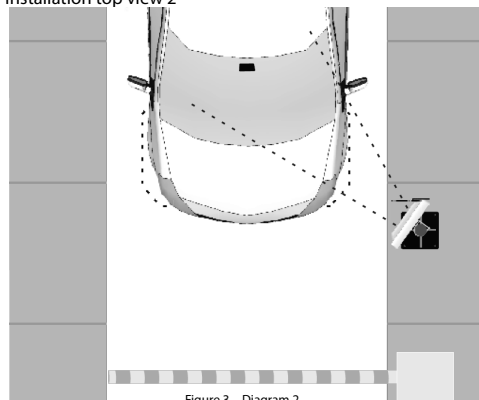
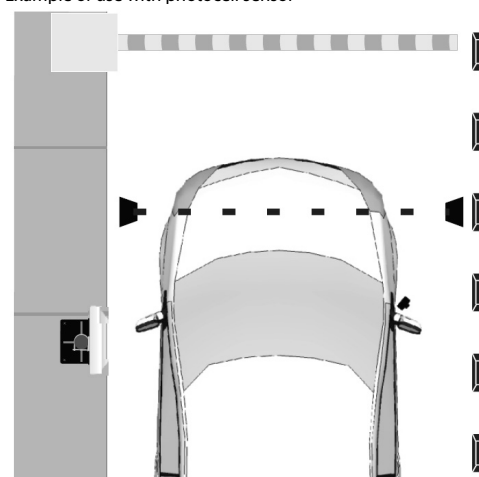
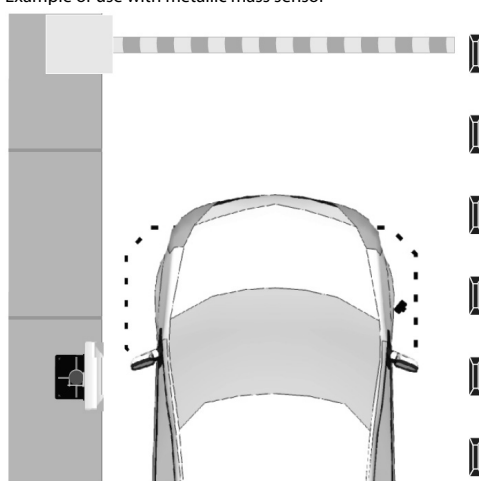


Figure 3 – Diagram 2

Example of use with photocell sensor



Example of use with metallic mass sensor



GENERAL TERMS AND CONDITIONS OF WARRANTY

Motoppar da Amazônia Indústria e Comércio de Eletrônicos Ltda., registered with the CNPJ (National Registry of Legal Entities) under Number 09.084.119/0001-64, located at Av. Açai nº 875, Distrito Industrial I, Manaus/AM, CEP 69075-904, Brasil, manufacturer of PPA Products, hereby guarantees this product against design, manufacturing or assembly defects and/or supportively as a result of material quality flaws that could make its intended use improper or inadequate, within a legal period of ninety days from time of acquisition, provided that the installation instructions described in the instruction manual are observed.

Due to the credibility and trust placed on PPA products, we will add 275 more days to the period mentioned above, reaching a warranty period of one year, likewise counted from the time of acquisition proven by consumer through proof of purchase (Customer Receipt).

In case of defect, within the warranty period, PPA responsibilities are restricted to the repair or substitution of the product manufactured by the company, under the following conditions:

1. Repair and readjustment of equipment may only be carried out by PPA Technical Assistance, which is qualified to open, remove, and substitute parts or components, as well as repair defects covered by this warranty; thus, failure on observing this guideline and the verified use of any non-original parts will cause the resignation of this warranty on the part of the user;
2. The warranty will not extend to accessories such as cables, screw kit, fixing brackets, power supplies etc.;
3. Expenses for packaging, transportation and product reinstallation will be sole responsibility of the consumer;
4. The equipment must be sent directly to the Company responsible for the sale (manufacturer's representative), through the address contained in the purchase invoice, properly packed, thus avoiding loss of the warranty;
5. Within the additional period of 275 days, visits and transportation in places where authorized technical assistance is not available will be charged. The cost of transportation of the product and/or technician will be sole responsibility of the consumer and
6. The substitution or repair of the product does not prolong the warranty time.

This warranty will be terminated if the product:

1. Is damaged by natural agents, such as atmospheric discharges, floods, wildfires, landslides etc.;
2. Is installed in an improper electric power supply or if it is not according to any of the installation instructions displayed on the manual;
3. Shows defects caused by droppings, collisions or any other physical accident;
4. Shows signs of product violation or attempted repair by unauthorized personnel;
5. Is not used for its intended purpose;
6. Is not used under normal conditions;
7. Is damaged by accessories or equipment connected to it.

Recommendation:

We recommend that both the installation and the maintenance of the operator to be performed by an authorized PPA technical service. If the product fails or has an improper operation, seek an Authorized Technical Service to fix it.



Imported by:
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