User Manual

Model name:9502

Brand name:HQS

FCC ID:A379502P

The 9502 reader is a member of the 9000 Series of UHF RFID readers. It comes with features for multi-protocol and multi-tag reading, integrated and environmentally protected packaging, long-distance reading and writing, and the ability of reading multiple tags moving at high speed, One of the popular applications for the 9502 reader is toll collection at moderate speed on toll roads and bridges. 9502 is also used for vehicle identification automobile dealers and service shops, as portable (on vehicle) service records and maintenance records, warranty controls, as well as recall and upgrade implementations. Another popular applications for the 9000 family of readers are border vehicle control, container management, baggage and package identification and parking management, other dock/port vehicle and container and personnel management applications.

1、Introduction

9502 reader is a fully integrated reader with RF module, digital signal processing (DSP) module, power conditioning module, built-in circular polarized antenna and all these packaged in a weather-proof and UV protected housing. 9502 Reader operates from 902.5 MHz to 927 MHZ, allowing it to be programmed to meet local/regional regulations. The circular polarized antenna allows it to work in asset management applications and its programmable triggering modes enable the reader to work in either self-triggering or master/slave modes. Versatile I/O interface enable the 9502 to work with Wiegand 26/34,TCP/IP.

The 9502 reader is multi-protocol UHF reader, which supports ISO18000-6B and EPC protocols. It can read and write UCODE, TI, Alien and many other labels. The reader's firmware is upgradable, enabling it to support protocol expansion, feature upgrade, giving it the ability to grow with the maturing RFID technologies, making this reader a truly lasting investment.

The integrated high-gain and circular polarized antenna allows the reader to achieve a respectable read range, and the internal DSP module enable the reader to manage multi-tag arbitration at high speed, thus making it suitable for material management applications. A unique feature for the 9502 is its ability for multi-reader synchronization, making it suitable for portal applications with superior anti-interference features.

2、Introduction of Features

- **Support Multi-Protoc**ol: 9502 reader supports ISO18000-6B, EPC Class 1, EPC Class 1 GEN 2 standards, and can also be programmed to support other protocols and feature expansions through reader's software upgrade.
- **Protocol Specific Optimization:** 9502 series readers can optimize for specific

protocol, making it possible to enhance the price-quality ratio on a specific close-loop system applications.

- **One-way Trigger Input**

- **Power Control:** Each 9502 reader can be setup with specific radiating power to meet complex installation environments.（Power range 20~29dBm）

3、Technical Specifications:

9502 reader's technical details are as follows:

Item	Specifications
Operating Frequency	902.5MHz～927MHz
RF Protocol	ISO18000-6B、EPC Class 1、EPC Class 1 GEN 2
Operating Method	FHSS or fixed frequency(set by software)
Antenna Ports	Internal 7dBi circular polarized antenna
Max RF Power	29 dBm
Power Flatness	＜0.5 DB
RF Power Range	20~29 dBm，Software Adjustable
Tag ID Modes	Timed Mode - automatically reads at fixed time Trigger Mode - external trigger control to read Master/slave Mode – Under software control
Identify Tag Time	<8ms Identify single tag)
Reading/Writing Tag Time	Reads every 8 bytes in less than 5ms Writes every 4 bytes in less than 25ms
Reading/Writing Tag Distance	5~6 meters(196 ~236 inches)
Communication Interface	Wiegand 26/34、TCP/IP(custom)
Input	One way trigger input
Power Requirements	8VDC to 16VDC
Power Consumption	3A(8 V) to 1.5A (16 V)
Size	256mm×256mm×90mm (10.08*10.08*3.54inches)
Package Size	410mm×310mm×150mm (16.14*12.20*5.11 inches)
Gross Weight	3.0kg
Net Weight	2.1kg
Work Temperature	-20℃ to +70℃
Storage Temperature	-40 ℃to +85℃
Work Status Indication	Buzzer

4、Installing & Notification

The shipping package includes a 9502 reader, a serial communicating line, a power adapter, and an antenna mounting bracket.

Please check to confirm all items are present upon receiving the reader package. If any questions, please contact our dealer immediately or contact our after-sales support
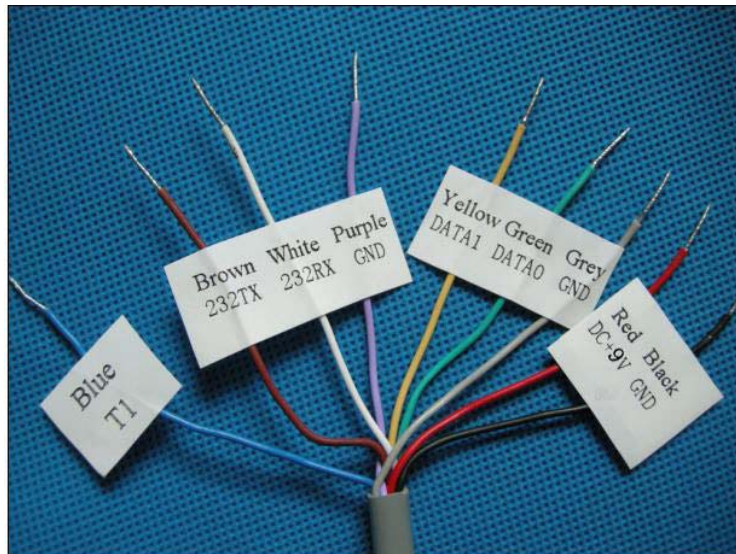
directly.

4.1 Appearance

The reader is silvery white cuboids (as picture 1). There are screw holes on its back panel for mounting and installation.

Picture 1 9502 reader face

4.2 Interface indication

Connecting line port as picture 2 and pins as follows:

Picture 2 Connecting line port

Form 2 9502A Reader connecting line pin

Color	Signal Name	Function
Brown	232TX	NC
White	232RX	NC
Purple	GND	GND Line
Yellow	DATA1	Wiegand Data 1
Green	DATA0	Wiegand Data 0
Grey	GND	GND Line

Blue	T1	Trigger
Red	DC	8~16V
Black	GND	GND Line

4.3 Installation

The mounting bracket are designed specifically for mounting the 9502 reader. The reader could be installed on wood, concrete, or brick structures and aim the antenna toward zone of coverage.
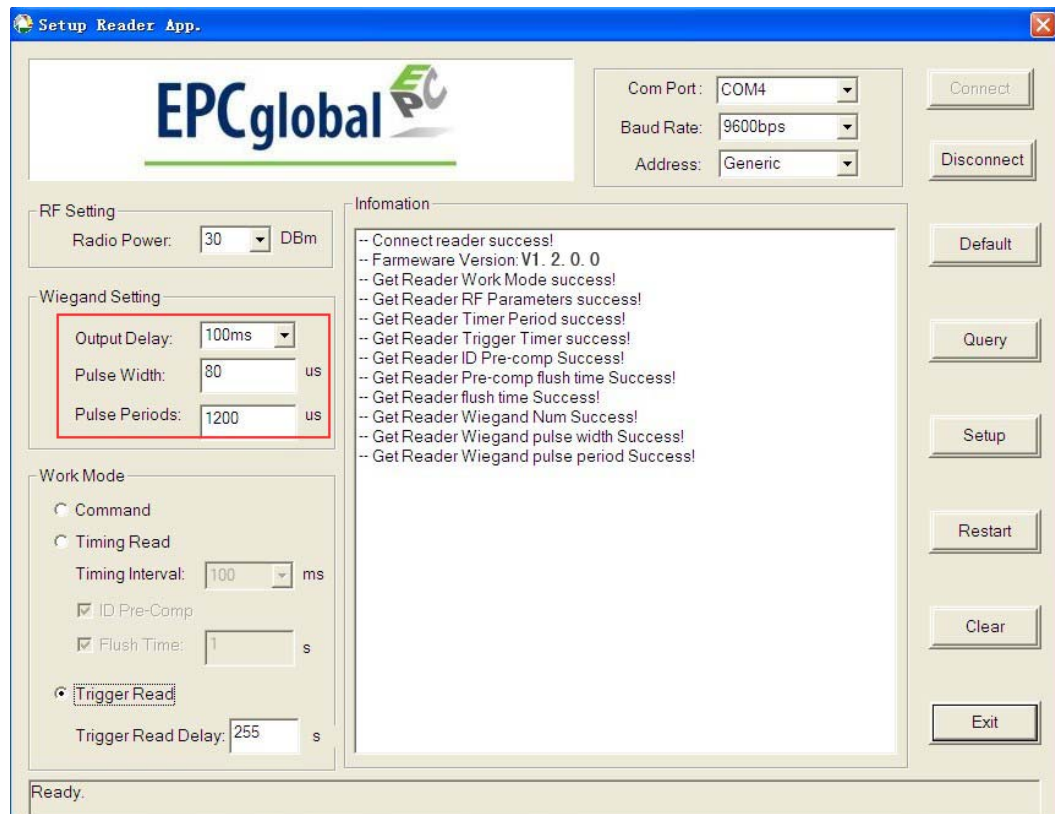

Picture 3 bracket

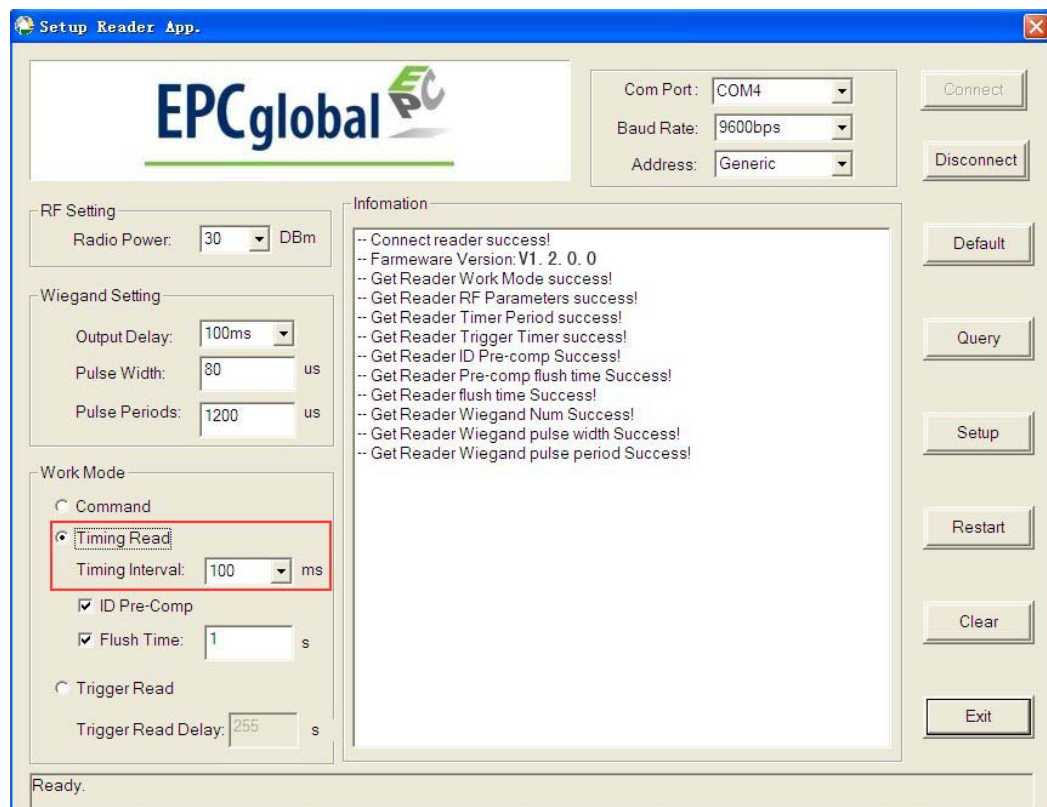Picture 4 9502 Reader of mounting

4.4 Communication Port

4.4.1 Wiegand

Use the "DATA1" "DATA0" and "GND" wires to connect the reader to access panel for applications. By setting "Output Delay" "Pulse Width" and "Pulse Periods" , it can adjust the output parameters of Wiegand

4.4.2、Timing

The 9502 reader with trigger input module, when works in timing read mode, please set the parameters as bellows:
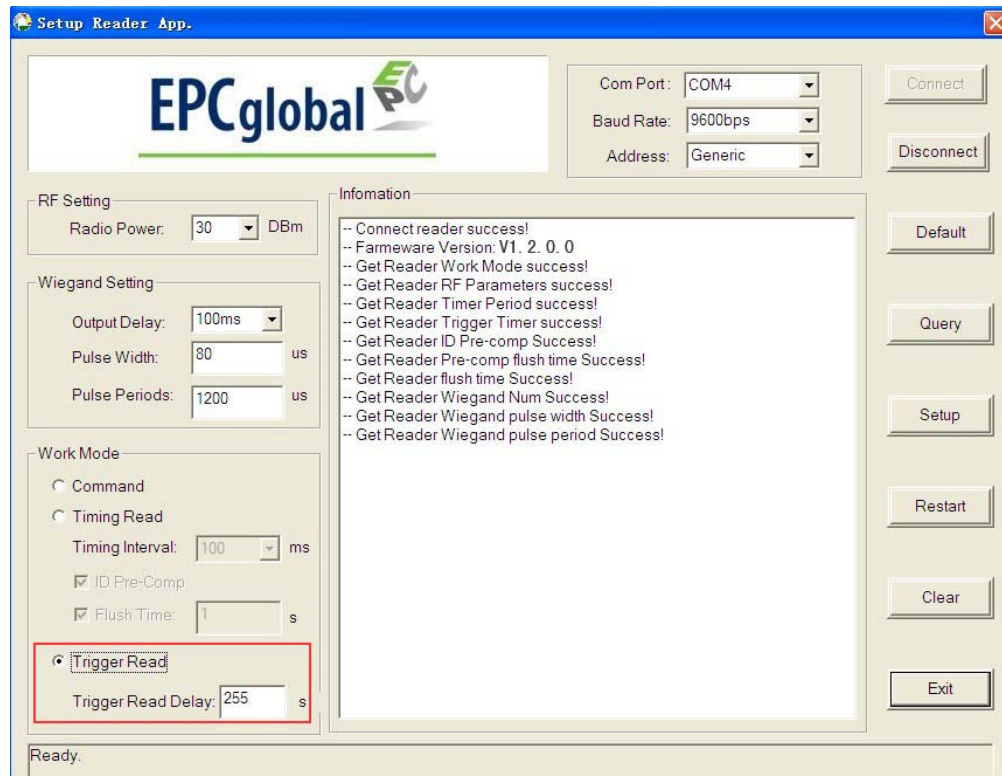

Picture 5 Reader Configuration

4.5.3、Trigger

The 9502 reader with trigger input module, when works in trigger mode, please set the parameters as bellows:

1). Set the reader works in trigger mode

2). Choose high level trigger

3). Trigger relay on time can be set according to customer requirements, it's 10s by default.

Picture 6 Trigger Read Mode

After set the trigger parameters, the reader is in standby mode, the reader works when T1 and GND shorted to trigger.

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.

Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

In order to meet the RF Exposure limits,The antenna of the product, under normal use condition is at least 0.3m away from the body of the user.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.