VI-88E

RFID Integrated Reader

Directory of Product Information

- ASKA has the right to do revisions for hardware, software and manual of product without statement. And this manual is subject to change without notice.
- Specifications and power of this product is subject to standard in origin.please being sure that voltage is up to requirement, read and learn about safety precautions, especially in open-air installation of outdoor.

Content

1 Product Summarize

VI-88E integrated reader is the latest product developed by us, which can read and write tag or card in accordance with ISO18000-6B/ISO180006C.It is widely used for vehicle access management, ETC, access management, electronic security, logistic, production automatic management and so on.

1.1 Shape And Interface

Shape of VI-88E integrated reader is as follow picture, which is with ABS shell, it can be installed inside or outside of house, is good at windproof, dustproof and rainproof.

There is an interface at the bottom of VI-88E reader, connection line shows as follows:

Red	Black	Blue	Yellow	Grey	Purple	orange	palm	darkgreen	white
+12V	Power GND	Wiegand _Data1	Wiegand _Data0	Triggering Signal Input	485+	485-	Signal GND	232Tx	232Rx

Communication interface in the table of 2-1-2 is of features as follows:

A. RS232 Communication interface:

One of RS232 interfaces (DB9jack: RxD receive, Txd send, signal) can be connected directly with PC string mouth.

B. Buzzer: inlay buzzer, it sounds whenever reader reads electronic tag.

C. Power supply interface: +12V DC outlet (the red one and black one).

D. I/O interface (12 pin)

name	signal direction	description
D0	I/O	relay
D0	I/O	relay
485+	I/O	RS485+
485-	I/O	RS485-
FIN2	I	Trigger 2 (TTL Level)
FIN1	I	Trigger 1 (TTL Level)
GND	I/O	ground wire
WD2-0	O	Output 4 (TTL Level)
WD2-1	O	Output 3 (TTL Level)
WD1-0	O	Output 1 (TTL Level)
WD1-1	O	Output 2 (TTL Level)
GND	O	Ground wire

Short circuit or disconnected on 2 connectors of relay, user can control relay by host computer.

Output 1 4: user can control high-low level by host computer.

Trigger 1: when reader in trigger mode, trigger antenna 1 and antenna 3 to work.

Trigger 2: when reader in trigger mode, trigger antenna 2 and antenna 4 towork.

- A RS485 interface (485+ (purple), 485-(orange) signal difference)-for distant signal transmission.
- A wiegand interface: offen use the interface transmission signal in access control system.

Wiegand : use WDATA1-0(yellow),WDATA1-1(blue) 2 lines

Wiegand interface:

- Signal ground (brown): one GND line for wiegand interface and RS232 interface.
- One trigger signal access,for input:FIN1(grey),low level trigger

When reader in tigger work way, if make down-lead connect with low level trigger, then reader begins to read card numbers till high level is recovered.

E. RJ45 communication port: 1 RJ45 communication port connected into network via network cable.

1.2 Performance Index

1. Read-write tag:electronic tag in accordance with ISO18000-6B/6C
2. Operating frequency: 860 960MHz
3. Way of Working:by FHSS or fixed frequency launch
4. Output power:20-30dbm(could be a little difference from various countries or area)
5. Readdistance:read distance>500cm,write

distance>100cm(antenna and tag dependent)

6 Read rate:32bits/word,6ms in time,average

7 Write rate:32bits/word,50ms in time ,avreage

8 Power supply:+12v direct current

9 power:<5w ,in average

10 Working temperature: -10 ~+55

1.3 Function

1 Read tag:electronic tag in accordance with ISO18000-6B,6C

2 Can read EPC tags in different length.(16,32,48,64,80 or 96bits)

3 Can read EPC Data.

4 Can read data from user area.

5 Can read data from TID area

6 Can read tag's access and kill password

7 Can write different length EPC code(16,32,48,64,80 and 96bits)

8 Can write data of user area

9	Can revise tag access and kill code
10	EPC,TID and user area can be write-protected
11	Password section can be write-protected
12	Can kill tag

2 Device Installation

2.1 Connection

In system, the connection of reader, antenna, tag and controller (or PC machine) shows as follows:

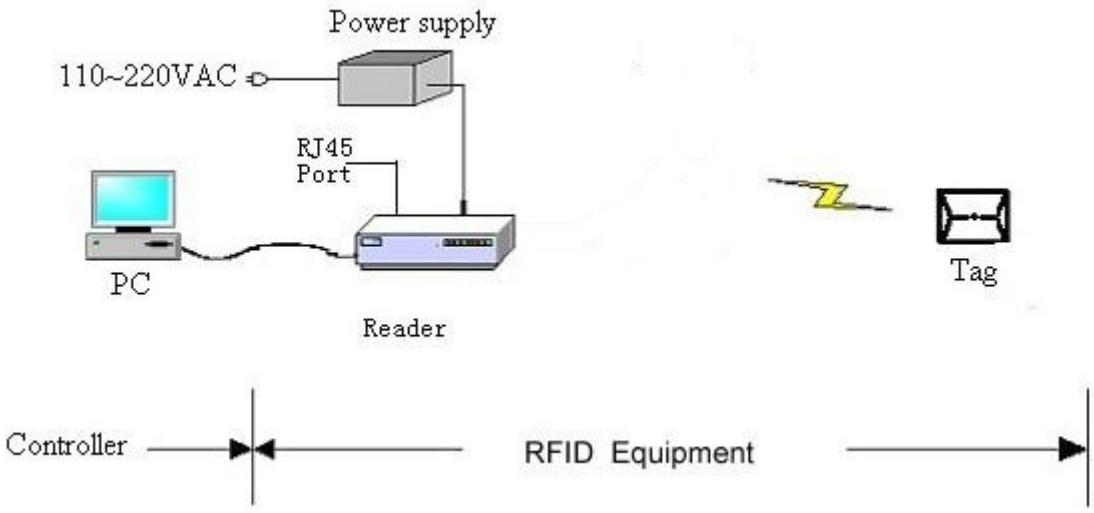


Figure 3-1-1 typical connection about the relevant equipments

2.2 Connector And Controller

VI-88E reader can connect with controller through any interface from Weigand, RS485 or RS232, RJ45.

(1) Weigand Interface

Under Wiegand port communications, need to connect 3 pins (Data0 (yellow), Data1 (blue), GND (brown)) on reader's line bank, with the relevant 3 pins on application system control. Reader Wiegand port just sends data unilaterally.

(2) RS485 interface

Under RS485 port communications, need to connect 2 pins (RS485+ (purple), RS485-(orange)) on reader's line bank, with the relevant 2 pins

on application system control. Through the converter can also connect with the PC serial port.

(3) RS232 interface

RS232 interface can connect with pc directly, by matched cable, length of RS232 interface connection line should be less than 10 meters, drawing shows as 3-2-3

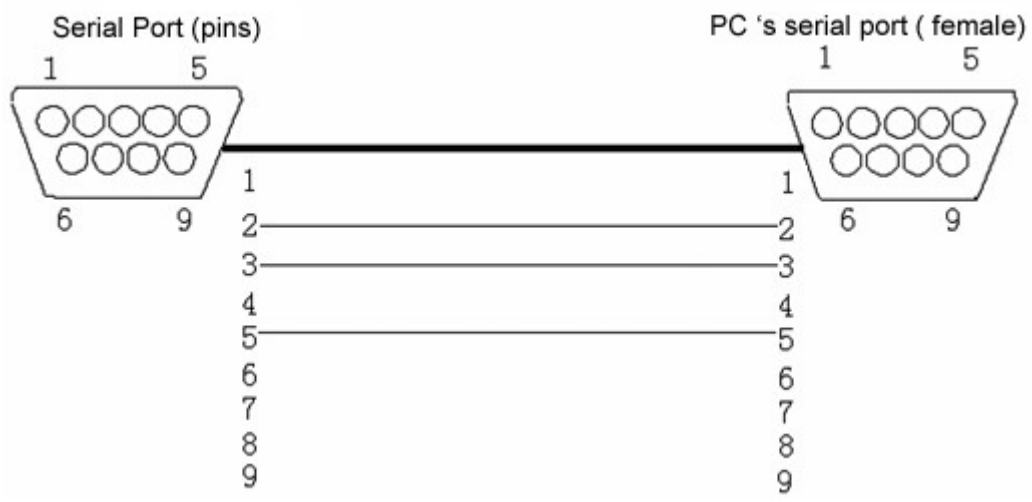


Figure 3-2-2 Reader's RS232 is connected with PC

(4) RJ45 port

Reader connection with PC directly, connection cable assignment as follows:

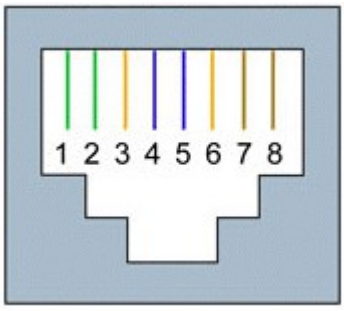
Foot 1 of reader's RJ45 – Foot 3 of PC's RJ45

Foot 3 of reader's RJ45 – Foot 1 of PC's RJ45

Foot 2 of reader's RJ45 – Foot 6 of PC's RJ45

Foot 6 of reader's RJ45 – Foot 2 of PC's RJ45

Other feet connect correspondingly.



Reader connection with PC via Hub, adopt straight cable.

2.3 Connection Power Supply

VI-88E reader adopts +12V/3A direct current power supply, we can supply you reader with required alternating and current convertor,the way to connect power is as follows:

(1) Check if voltage of alternating power supply and operating frequency is in accordance with AC 100-240V/50Hz

(2) Make DC output pin of power convertor insert into +12V direct current power interface of reader.

(3) Make 220V alternating power input line of convertor insert or connect with line of alternating power supply.

(4) If the Indicator light of power supply is turn on ,that means workable

2.4 Device Adjustment

Key of device adjustment is: adjust height, direction angle, obiquity, to make reader can read electronic tag in the expected range.Debugging method

(1) Turn on reader power supply,set reader to be mode of auto working,close parameter setting procedure ,and disconnect with PC.

(2) Ture off reader power supply first, and then turn on, reader will automatically turn into state of continuous working.

(3) As material of identified object and required tag is different,so tag should be stuck to object with same material as identified one,traverses object in the expected range of tag is to read.If reader can get tag,then inlay buzzer tweets and green LED blinks.

(4) Adjust height and angle of antenna; make reading range at the best.

Note: reader only radiates microwave power when reading tag, then adjuster should keep a distance of 30cm from antenna, that is meet American FCC requirements.

2.5 Tag Place

In work process of RFID, tag place is a usual job, some notes are as follows:

(1) Adopts gluewater recommended by factory

(2) If labeled in the surface of metal, professional glue is recommended.

(3) Labeled place has to be field tested to make sure read best.

Note: Our Company offers 2 species of tags to customers, in ISO18000-6B standard

(1) Air medium.can be held to use, also can be instead by our block set, insert card into it directly.

(2) Glass medium,card should be stuck on glass.(non water-solubility is required)

3 Usual Faults

Table 3-1 usual faults and solutions for reader

Fault Phenomena	Possible Reason	Solution
can not read card	antenna is not connected well	Check antenna connection details
	beyond to reading area of Reader	make card close to module antenna
	antenna is broken	Change a new antenna
	Parameter of RF Power is too low	Renew parameter
	tag is broken	Test in other tag
	reader is broken	Contact technician
Cannot be connected with reader	no power	Check the power supply connector and adapter
	Com ties up or broken	Check interface through software and test if it cummunicates
	baud rate is not set in accordance	Set it to be in accordance by software
	reader is broken	Contact technician
Reading distance is too near	antenna is not connected well	Check details of antenna connection
	Parameter value of RF Power is too low	renew factory parameter
	tag is not in accordance with antenna polarization	revolve tag in 90 degree
	reader is broken	Contact technician
	tag is broken	change a new tag

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