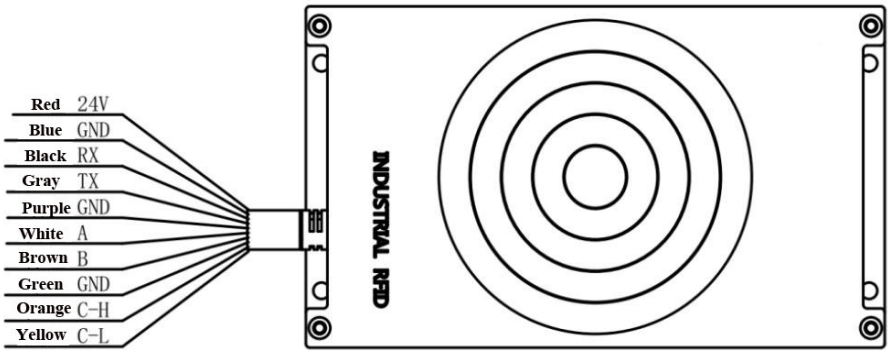
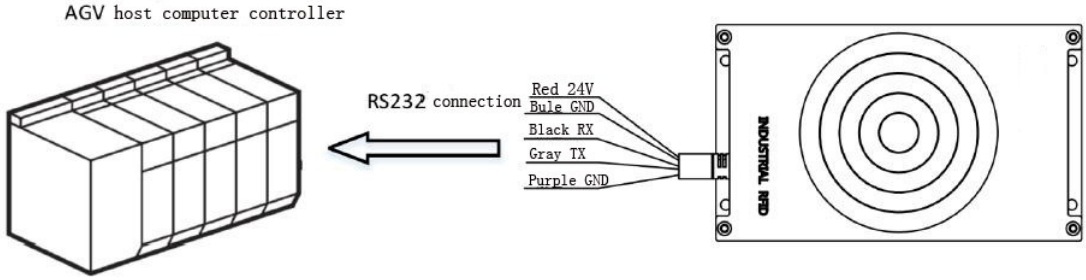
Pin definition



1. RS-232 communication connection

1.1 Connection

The cable is used to connect the host computer to the driver as follows:



2. Communicate with HS protocol

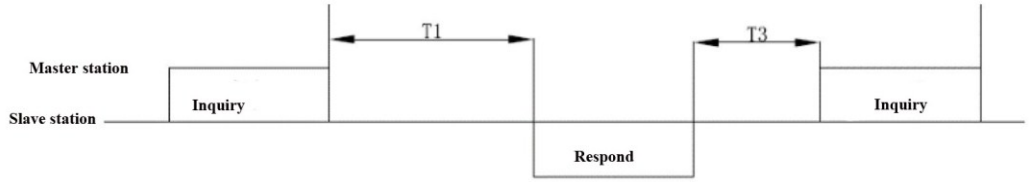
2.1 Communication specification

Parameter	Parameter information	Default setting
Way of communication	Point to point	
Accept / send method	Full duplex communication mode	
Broadcast mode	5ms，10ms，20ms，50ms，100ms	Not broadcasting
Communication ID	1-127	127
Communication rate	19200bps，115200bps	115200bps
Data bit	8 bit	8 bit
Parity bit	No parity	No parity
Stop bit	1 bit	1 bit

2.2 Master and slave communication timing

Inquiry mode

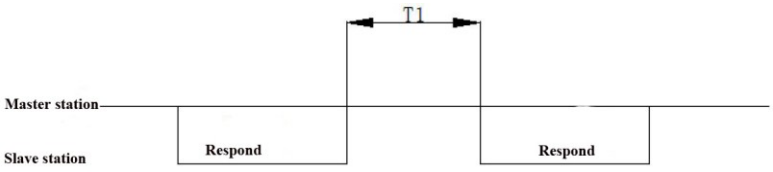
The master station transmits an inquiry to one slave station, and the slave station performs processing and responds with a response.



Number	Name	Content
T1	Response waiting interval	Within 1s
T3	Send waiting time	Recommended 5ms -30ms

Broadcast mode

The slave automatically broadcasts at the set time interval



Number	Name	Content
T1	**Broadcast time** interval	Configured in the TZBOT configuration software

2.3 Communication protocol

The host computer can read the card data and write the card data. The communication protocol consists of two parts. The following describes the operation in detail.

Read the communication of card data

RFID sensor return data mode including inquiry mode, card reading trigger mode, timed broadcast mode

Inquiry mode: After the RFID sensor receives the inquiry data from the upper computer, it returns the data.

Card Read Trigger Mode: The RFID sensor actively sends data after reading the card information.

Timed broadcast mode: RFID sensor automatically sends data according to the set time interval

Master station asks for data

Inquiry card reading data format

Master station

Identification bit	1Byte
	1Byte
	1Byte
	1Byte
	1Byte

Communication identification bit	1Byte
Check code	1Byte (low bit)
	1Byte (high bit)

Identification bit (5 Byte)

52 43 6f 64 65

Communication identification bit (1 Byte)

RS232 free protocol mode: invalid data 00

Check code (2 Byte)

3F FD

Return data from the station

The RFID sensor is in the inquiry mode, the card reading trigger mode, the timed broadcast mode, and the return data grid is consistent.

Slave sensor response data format

Slave station

Identification bit	1Byte
	1Byte
	1Byte
	1Byte
	1Byte
Communication identification bit	1Byte
Card reading status	1Byte
Card signal strength	1Byte
Card data	1Byte
	1Byte
	1Byte
	1Byte
	1Byte
	1Byte
	1Byte
	1Byte
	1Byte
Check code	1Byte (low bit)
	1Byte (high bit)

Identification bit (5Byte)

57 43 6f 64 65

Communication identification bit (1Byte)

RS232 free protocol mode: invalid data 00

Card data (8Byte)

Set the read data length to 4 bytes: the first 4 bytes are valid data in the card, and the last 4 bytes are invalid data 00

When the read data length is set to 8 bytes: 8 bytes of data are all valid;

Check code (2Byte)

After the calculation result of CRC16, please check the check code calculation formula for details.

Return data from the station

Identification bit	1Byte
	1Byte
	1Byte
	1Byte
	1Byte
Communication identification bit	1Byte
Write status	1Byte
Check code	1Byte (low bit)
	1Byte (high bit)

Identification bit (5Byte)

57 43 6f 64 65

Communication identification bit (1Byte)

RS232 free protocol mode: invalid data 00

Write status (1Byte)

00: write successfully

01: Write error or the card is locked internally

02: A card that can be written is not detected

Check code (2Byte)

After the calculation result of CRC16, please check the check code calculation formula for details.