ZJ Technology Limited.

Z640-RS232 User Manual

Rev. 1.5

Alex Chen
2022/6/22

Content

1. Product Outline

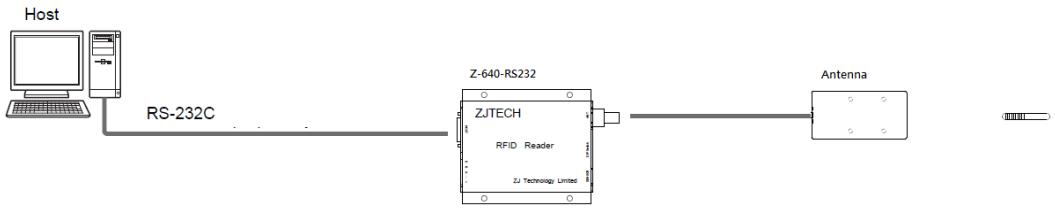
The Z640-RS232 Reader, designed to meet SEMI and Carrier ID standards, Read and write to the Tag.

The main component of this unit is a transmitter than generates radio waves through an antenna. This Tiris compatible, low-frequency(134.2KHz), low-power RF energy is used to read from or wrote to a transponder near the antenna. The RFID Reader/Writer provides serial communication with a host trough an RS0232 port, using ASCII.

Technical Data(Specifications)

Power	DC 24V, 100mA
Communications	Serial RS-232 Protocol: ASCII
Environmental	Operating Temperature 0~30 C(non-condensing) Operating Humidity 30%~90% (non-condensing) Storge Temperature 0 ~ 55 C Storge Humidity 5%~90%
Housing material	Aluminum, ABS
Dimension	L:93,W:80,H:29 (mm)

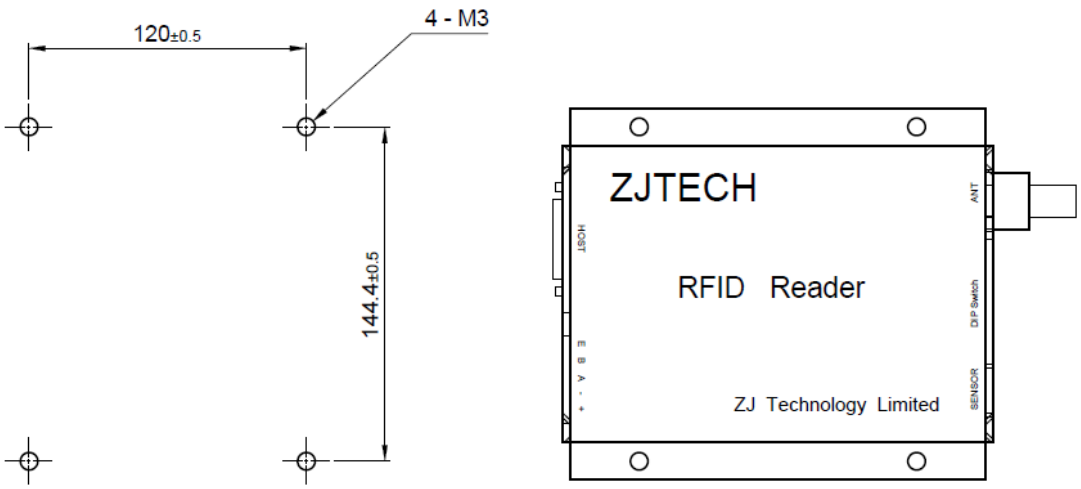
System Configuration



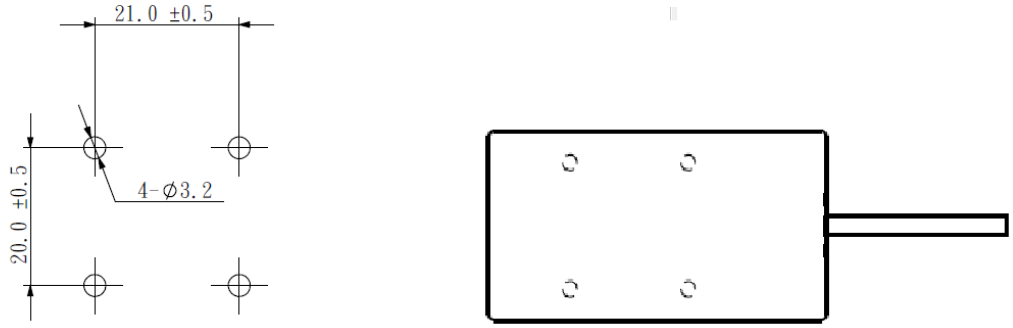
2. Installation and Connections/Wiring

Install

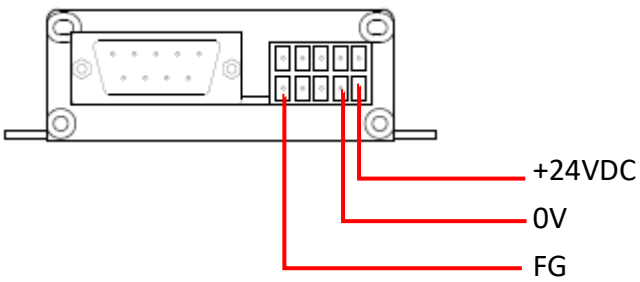
Main Unit: (unit: mm)



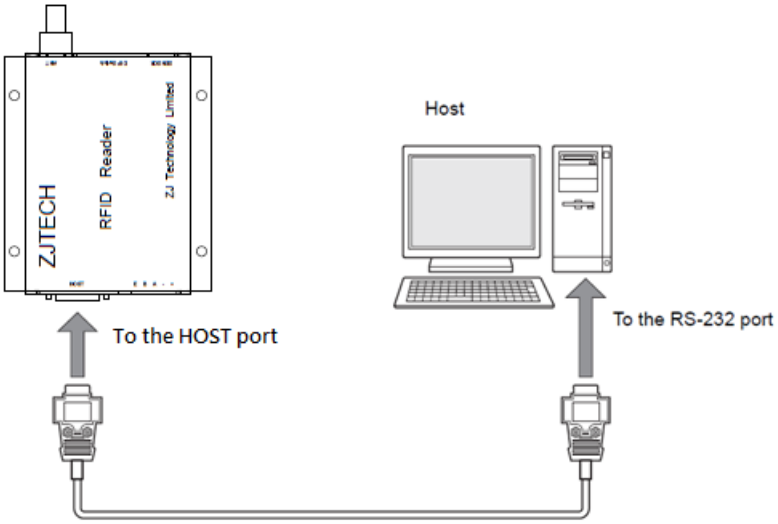
Antenna: (unit: mm)



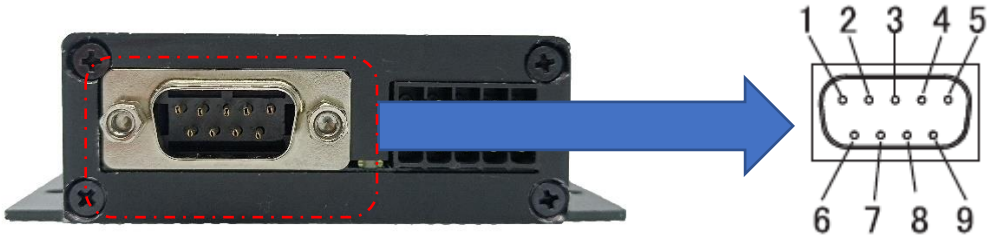
Power Supply:



HOST Port

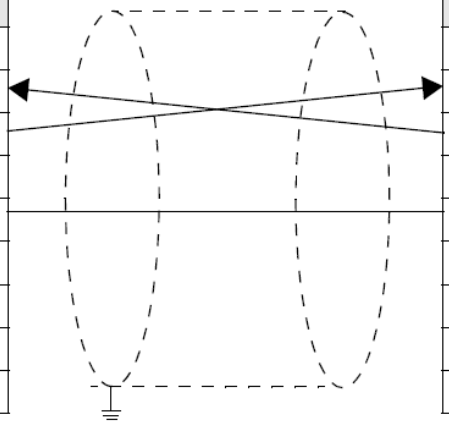


Connector:



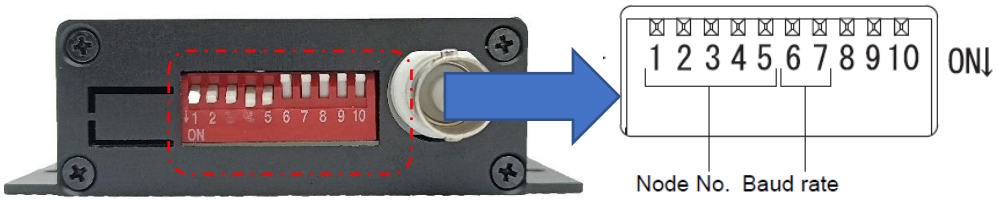
Wiring

CIDRW Controller Z640-232 D-SUB, 9-pin Female	
Name	Pin No.
NC	1
RD	2
SD	3
NC	4
SG	5
NC	6
RS	7
NC	8
NC	9



PC/AT Computer D-SUB, 9-pin Socket type #4-40	
Pin No.	Name
1	NC
2	RD
3	SD
4	NC
5	SG
6	NC
7	RS
8	CS
9	NC

Setting The Communications Conditions



Node:

Node	DIP Switch				
	1	2	3	4	5
1	OFF	OFF	OFF	OFF	OFF
2	ON	OFF	OFF	OFF	OFF
3	OFF	ON	OFF	OFF	OFF
4	ON	ON	OFF	OFF	OFF
5	OFF	OFF	ON	OFF	OFF
6	ON	OFF	ON	OFF	OFF
7	OFF	ON	ON	OFF	OFF

Node	DIP Switch				
	1	2	3	4	5
17	OFF	OFF	OFF	OFF	ON
18	ON	OFF	OFF	OFF	ON
19	OFF	ON	OFF	OFF	ON
20	ON	ON	OFF	OFF	ON
21	OFF	OFF	ON	OFF	ON
22	ON	OFF	ON	OFF	ON
23	OFF	ON	ON	OFF	ON

8	ON	ON	ON	OFF	OFF
9	OFF	OFF	OFF	ON	OFF
10	ON	OFF	OFF	ON	OFF
11	OFF	ON	OFF	ON	OFF
12	ON	ON	OFF	ON	OFF
13	OFF	OFF	ON	ON	OFF
14	ON	OFF	ON	ON	OFF
15	OFF	ON	ON	ON	OFF
16	ON	ON	ON	ON	OFF

24	ON	ON	ON	OFF	ON
25	OFF	OFF	OFF	ON	ON
26	ON	OFF	OFF	ON	ON
27	OFF	ON	OFF	ON	ON
28	ON	ON	OFF	ON	ON
29	OFF	OFF	ON	ON	ON
30	ON	OFF	ON	ON	ON
31	OFF	ON	ON	ON	ON
1:1 protocol	ON	ON	ON	ON	ON

Baud Rate

Option	DIP-SW	
	6	7
38400 bps	ON	ON
19200 bps	OFF	ON
9600 bps (default setting)	OFF	OFF
4800 bps	ON	OFF

Communications Conditions

Interface:RS-232C

Start bit: 1

Data bits: 8

Parity bit: Even

Stop bit: 1

3. Communication Protocol

1:1 Protocol (ASCII)

Command

Command code		Test Data								CR
		Data1		Data2		Data3		Data4		
1	0	1	2	3	4	5	6	7	8	0Dh

Response

Response code		Test Data								CR
		Data1		Data2		Data3		Data4		
0	0	1	2	3	4	5	6	7	8	0Dh

Command List

Name	Value	Function
READ	0100	When this command is received, the system communicates with the ID Tag, and reads the specified page(s) of data. Any pages up to a maximum of 16 can be selected.
WRITE	0200	When this command is received, the system communicates with the ID Tag, and writes the specified page(s) of data. Any pages up to a maximum of 16 can be selected.
SAME WRITE	0300	When this command is received, the system communicates with the ID Tag, and writes the same data in page units to the specified pages. Up to 17 pages, which is the maximum number of pages for an ID Tag, can be specified.
TEST	10	Sends received data to the host devic

Response Code List

Type	Response code	Name	Description
Normal end	00	Normal end	Command execution is completed normally.
Host communications error	14	Format error	There is a mistake in the command format. (For example, the command code is undefined, or the page or address specification is inappropriate.) Communications error
Communications error	70	Communications error	Noise or another hindrance occurs during communications with an ID Tag, and communications cannot be completed normally.
	71	Verification error	Correct data cannot be written to an ID Tag.
	72	Verification error	Either there is no ID Tag in front of the CIDRW Head, or the CIDRW Head is unable to detect the ID Tag due to environmental factors (e.g., noise).
	7B	Outside write or	A write operation was not completed normally because the ID Tag was in an area in which the ID Tag could be read but not written.
	7E	ID system error (1)	The ID Tag is in a status where it cannot execute command processing
	7F	ID system error (2)	An inapplicable ID Tag has been used.

READ [0100]

Command

Command	Page designation (8 bytes)								CR
0100									0Dh

Bit	7	-	0	7	-	3	2	1	0	7	6	-	1	0	7	6	-	2	1	0
Page	sys	-	Sys	Sys	-	Sys	17	16	15	14	13		8	7	6	5	-	1	Sys	Sys
	0	0		0	0	0	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	-	0/1	0	0
Value	00			00~07						00~FF					00~FC					

Response

Response code		Read data														CR
		Page n								Page m(n<m)						
		Data 1		…		Data 8				Data 1		…		Data 8		
0	0															0Dh

Example: read page 1 and page 2. (MID)

The ID Tag status on normal completion is as shown below:

Page 1	12h	34h	56h	78h	90h	12h	34h	56h
Page 2	11h	22h	33h	44h	55h	66h	77h	88h
Page 3								
…								
Page 17								

Command

Command	Page designation (8 bytes)								CR
0100	0	0	0	0	0	0	0	C	0Dh

0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0

Response

Response code	Page 1	Page 2	CR

0	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	0Dh

WRITE [0200]

Command

Command Code	Page designation (8 bytes)	Write data								CR
		Page n			…	Page m(n<m)				
		Data1	…	Data8	…	Data1	…	Data8		
0200										0Dh

Bit	7	-	0	7	-	3	2	1	0	7	6	-	1	0	7	6	-	2	1	0
Page	sys	-	Sys	Sys	-	Sys	17	16	15	14	13		8	7	6	5	-	1	Sys	Sys
	0	0		0	0	0	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	-	0/1	0	0
Value	00			00~07						00~FF					00~FC					

Response

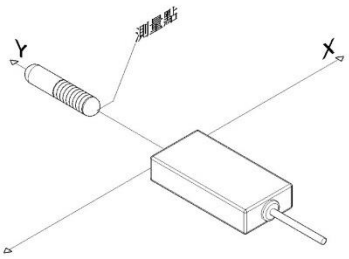
Response Code		CR
0	0	0Dh

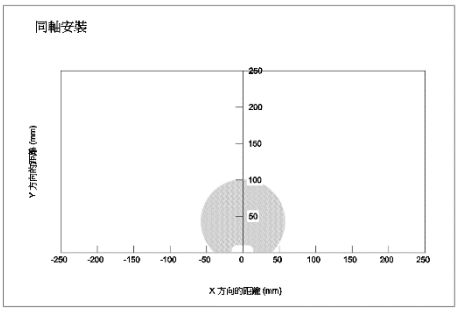
4. Maps of Communications Areas

(Reference Only)

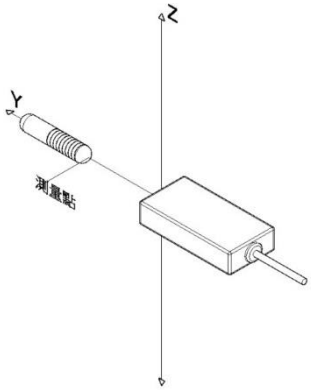
Antenna type: Z640-HS61

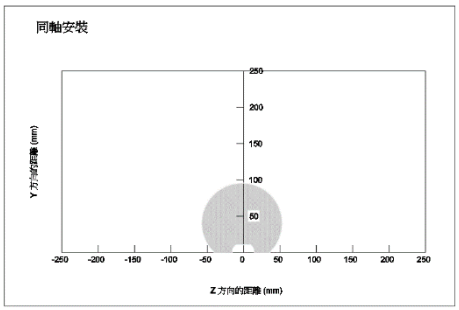
■ Coaxial Mounting Tag:RI-TRP-DR2B-30



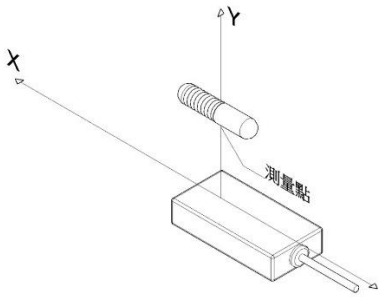


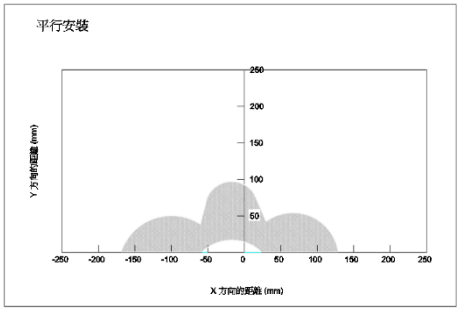
■ Coaxial Mounting Tag:RI-TRP-DR2B-30



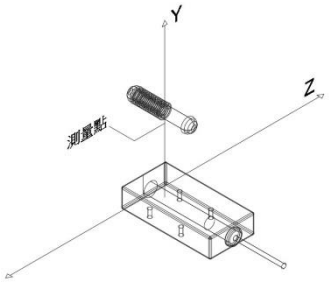


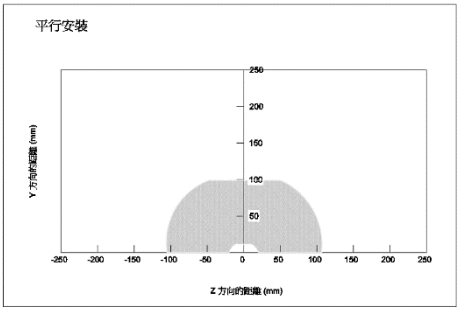
■ Parallel Mounting Tag:RI-TRP-DR2B-30



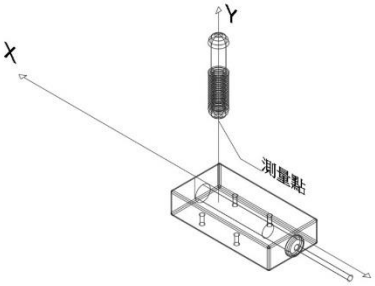


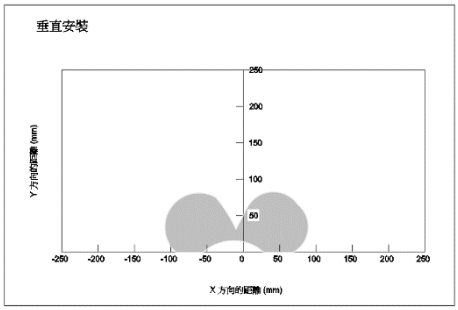
■ Parallel Mounting Tag:RI-TRP-DR2B-30





■ Vertical Mounting Tag:RI-TRP-DR2B-30





■ Vertical Mounting Tag:RI-TRP-DR2B-30