

PCR942/943/944/947/948 & PCR942A/943A/947A/948A

Instructions

A. Introduction

PCR942 is a proximity reader with RS232 interface. So you can connect to host computer via the cable WAS1400. PCR942A is with keypad.

PCR943 is a proximity reader with WIEGAND interface. So you can connect to WIEGAND controller via the cable WAS1401. PCR943A is with keypad.

PCR944 is a proximity reader with RS422 interface. So you can connect to host computer or another device via the cable WAS1402.

PCR947 is a proximity reader with standard MSR TK2 interface. PCR947A is with keypad.

PCR948 is a proximity reader with RS485 interface. So you can connect to host computer or another device via the cable WAS1401. PCR948A is with keypad.

When you supply the correct voltage for PCR942/943/944/947/948/942A/943A/947A/948A. The reader's LED will switch to green and buzzer will beep. It is continuously monitoring the presence of a tag in its readable range. Once a tag enters its readable range. Then the reader will read the data from the tag. At the same time, the reader's LED will turn orange for a while and buzzer beeps. Later the reader's LED switches to green until it sends out data completely. If that tag has not even left its readable range, it should not read that tag again. The same tag must leaves its readable range for about 1 second, and have that tag re-enter its readable range, it will read again. But if use another tag, different from the one read, then don't need to wait 1 second to read another tag.

When you press a key from PCR942A/943A/947A/948A keypad, the buzzer will beep until you release it. The key data will be kept in memory, except you press function key (like ENT, F1, F2, F3). If memory space were already full, it would not be kept. Once you press ENT key, the key data kept in memory will be send out.

B. JUMPER LOCATION

PCR944 use fig.1

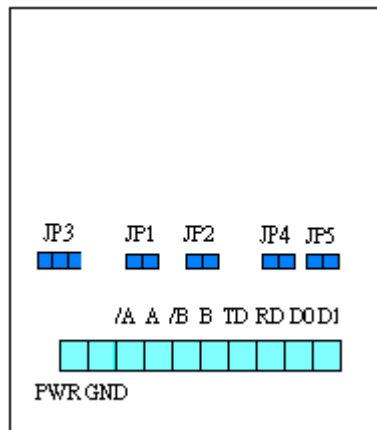


Fig.1

PCR942/942A/943/943A/947/947A/948/948A use fig.2

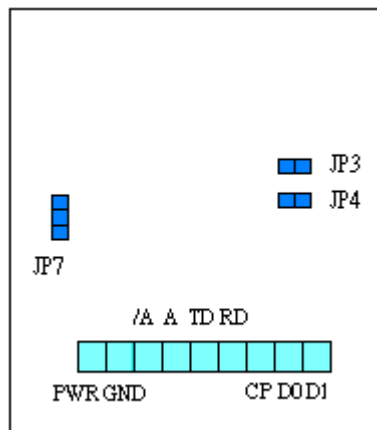


Fig.2

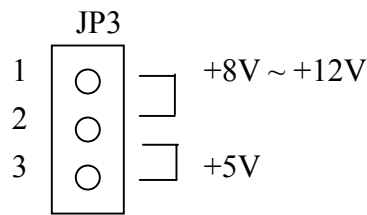
C. Power

PCR944 can accept 2-type input voltage.

1. +8V to +12V
2. +5V

If you want to supply for +8V~+12V, you should close pin 1,2 in JP3. And if you

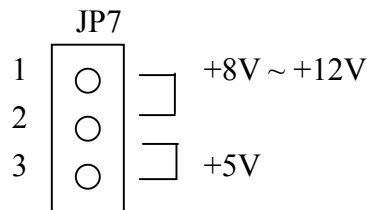
want to supply for +5V, you should close pin 2,3 in JP3. Factory setting is with pin 1,2 closed.



PCR942/942A/943/943A/947/947A/948/948A can accept 2-type input voltage.

1. +8V to +12V
2. +5V

If you want to supply for +8V~+12V, you should close pin 1,2 in JP7. And if you want to supply for +5V, you should close pin 2,3 in JP7. Factory setting is with pin 1,2 closed, Besides PCR947/947A close pin2,3.



D. Format

PCR942/942A/944/947/947A/948/948A has a DIP switch on PCB. You can decide what output format would be. But PCR943/943A has no DIP switch.

S4 switch setting(PCR947/947A)

SW3	SW4	SW5	SW6	OutLen
OFF	OFF	OFF	OFF	8*
ON	OFF	OFF	OFF	9
OFF	ON	OFF	OFF	10
ON	ON	OFF	OFF	11
OFF	OFF	ON	OFF	12
ON	OFF	ON	OFF	13
OFF	ON	ON	OFF	14
ON	ON	ON	OFF	15
OFF	OFF	OFF	ON	16
ON	OFF	OFF	ON	17

OFF	ON	OFF	ON	18
ON	ON	OFF	ON	19
OFF	OFF	ON	ON	20
ON	OFF	ON	ON	21
OFF	ON	ON	ON	22
ON	ON	ON	ON	23

Note:1. The value with * means the default setting (Factory preset).

2. OutLen means PCR947/947A send out how many digits of characters(output data length).

S4 switch setting: (for PCR942/PCR942A/PCR944/948/948A)

SW1	BAUDRATE		SW2	MODE
ON	9600 BAUD*		ON	Buffered
OFF	19200 BAUD		OFF	Nonbuffered*
SW3	SW4	SW5	SW6	ADDRESS
OFF	OFF	OFF	OFF	30(HEX)*
ON	OFF	OFF	OFF	31(HEX)
OFF	ON	OFF	OFF	32(HEX)
ON	ON	OFF	OFF	33(HEX)
OFF	OFF	ON	OFF	34(HEX)
ON	OFF	ON	OFF	35(HEX)
OFF	ON	ON	OFF	36(HEX)
ON	ON	ON	OFF	37(HEX)
OFF	OFF	OFF	ON	38(HEX)
ON	OFF	OFF	ON	39(HEX)
OFF	ON	OFF	ON	3A(HEX)
ON	ON	OFF	ON	3B(HEX)
OFF	OFF	ON	ON	3C(HEX)
ON	OFF	ON	ON	3D(HEX)
OFF	ON	ON	ON	3E(HEX)
ON	ON	ON	ON	3F(HEX)

Note: The value with * means the default setting (Factory preset).

Following is a description of the operating mode

a. Non-buffered mode

In the non-buffered operating mode, data-package from the reader is automatically sent to the host without being requested. When the reader read completely (red LED on and buzzer beep), data-package is transmitted immediately and is not retained (red LED off).

The reader does not need to receive commands from the host in order to transmit data.

b. Buffered mode

In the buffered operating mode. When the reader read completely (red LED on and buzzer beep), the reader stores the tag's ID in a memory buffer and does not transmit any data-package to the host until an Inquire Command is received. Upon receipt of an Inquire Command, data-package is transmitted to the host (red LED off), and the reader clear memory buffer. If there is no tag's ID in the memory buffer, and reader receives Inquire Command, characters as "NO DATA " in data-package is transmitted.

Reader to Host Message Format Package (for PCR942/944/948/942A/948A):

STX	ADDRESS	DATA STRING	LRC	ETX	CR	LF
02(HEX)	1.Tag's ID use 10 digits in HEX 2.Version use 10 digits 3."NO DATA " 10 digits			03(HEX)		
Decided by SW3~SW6 setting					0D(HEX)	
						0A(HEX)

from ADDRESS to the end of DATA STRING XOR byte by byte

Host to Reader Command Format and Commands (for PCR942/944/948/942A/948A only):

ESC(1 byte)	ADDRESS(1 byte)	COMMAND(1 byte)
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The kinds of command:

1.I Command(inquire data):

Example:

Suppose there is a tag, and its ID (0000001234) is known. And now, the reader already get and keep this ID in the memory buffer.

Host sent: ESC--ADDR—I

And later, reader echo: STX—ADDR—0000001234—LRC—ETX—CR—LF

So, Host can get data from above data-package.

2.U Command(inquire version):

Example:

Host sent: ESC—ADDR—U

Reader answer: STX—ADDR—Ver:A 0299—LRC—ETX—CR—LF

3.X Command(red LED on):

Example:

Host sent: ESC—ADDR—X

Then red LED on the reader turns on

4.Y Command(green LED on):

Example:

Host sent: ESC—ADDR—Y

Then green LED on the reader turns on

5.Z Command(all LED off):

Example:

Host sent: ESC—ADDR—Z

Then both red and green LED on the reader turn off

6.B Command(beep):

Example:

Host sent: ESC—ADDR—B

Then buzzer beeps

7.R Command(software reset):

Example:

Host sent: ESC—ADDR—R

Then the reader is reset

8.E Command(alarm beep):

Example:

Host sent: ESC—ADDR—E

Then buzzer beep—beep—beep—beep 4 times

9.S Command(sleep):

Example:

Host sent: ESC—ADDR—S

Then the reader become sleep mode. Once become sleep, it cannot read any tag, unless use wake-up command to evoke the reader.

10.W Command(wake-up):

Example:

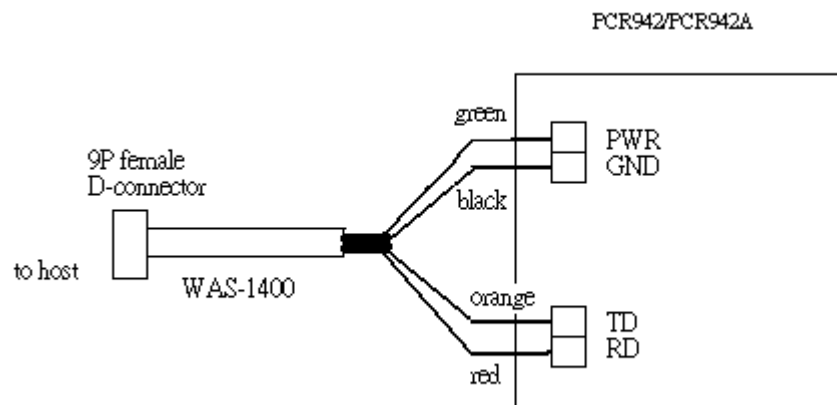
Host sent: ESC—ADDR—W

Then the reader wakes up from sleep.

E. Installation

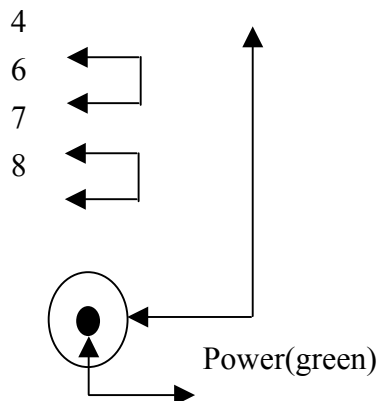
1. PCR942/942A connect to host computer

Enclose a cable (WAS-1400) to make you easy to communicate with host computer



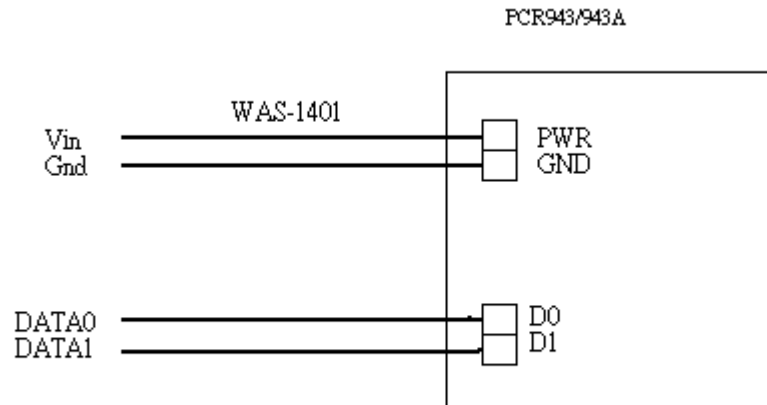
9P female D-connector

pin	signal
2	RxD(red)
3	TxD(orange)
5	Ground(black)

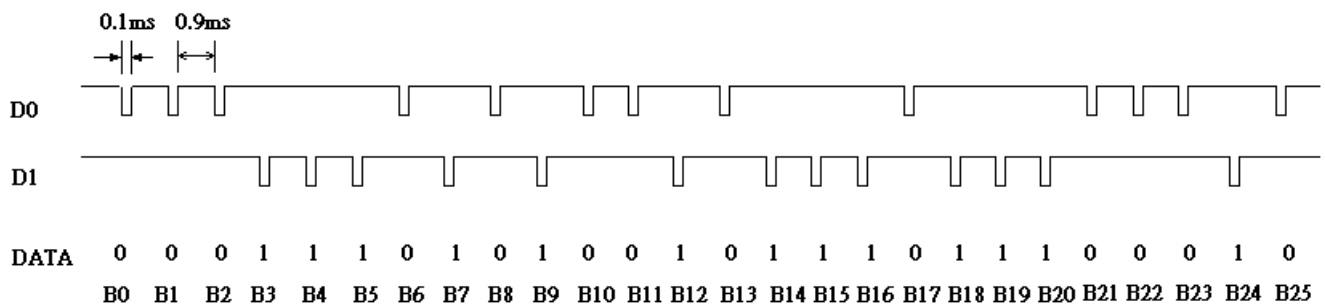
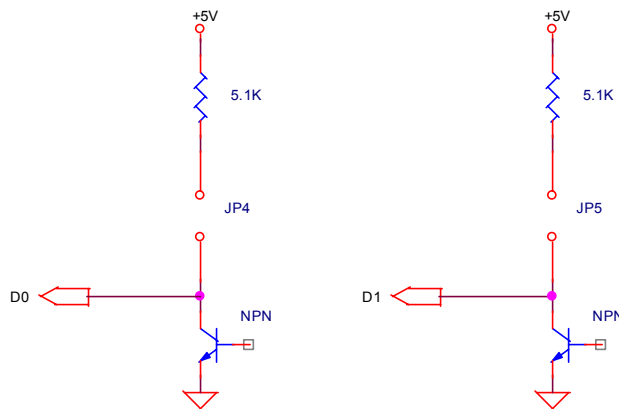


2. PCR943/943A connect to WIEGAND controller

Enclose 4 wire (WAS-1401) to make you communicate with WIEGAND controller

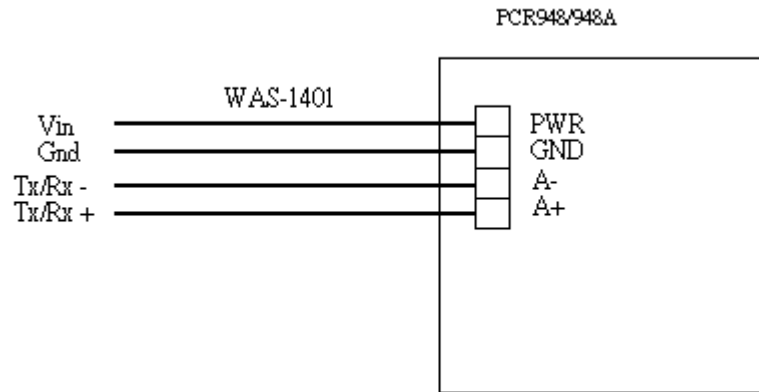


Note: PCR943 provides JP4, JP5 (PCR943A use JP4, JP3) for choices. If you open the 2 jumper, it would be open-collect output. And if you close the 2 jumper, it would pull-up 5.1KΩ to output.



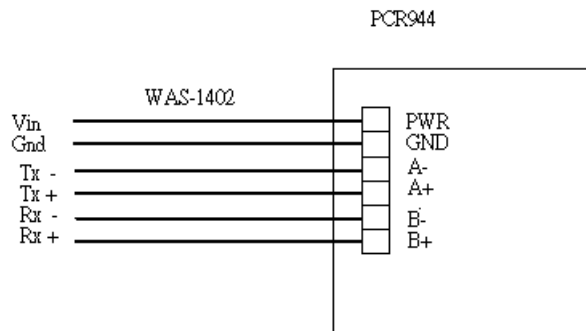
B0: Even Parity (from B1 to B12)
 B25: Odd Parity (from B13 to B24)
 B1~B24: DATA BIT

3. PCR948/948A connect to host computer



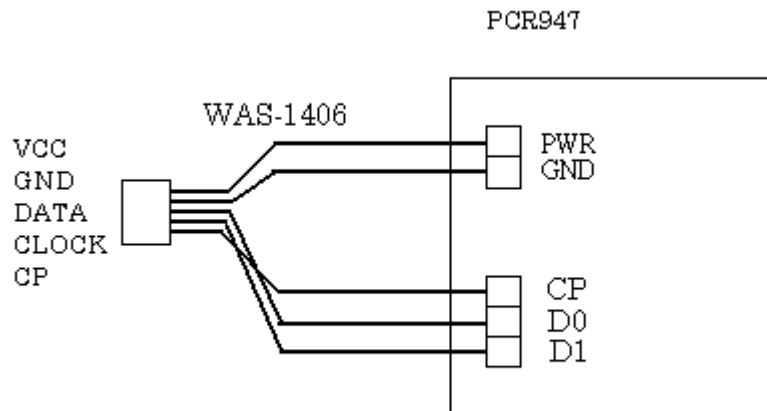
Note. PCR948 provides JP1. You can close this jumper, when you need to have terminal-resistor($120\ \Omega$).

4. PCR944 connect to host computer



Note. PCR944 provides JP1 and JP2. You can close these two jumpers, when you need to add terminal-resistors($120\ \Omega$).

5. PCR947/947A connect to MSR controller.



F. Keypad

PCR942A/943A/947A/948A have a keypad. Like following.

1	2	3	F1
4	5	6	F2
7	8	9	F3
*	0	#	ENT

	PCR942A	PCR943A	PCR947A	PCR948A
0	30(HEX)	0000(BIN)	10000(BIN)	30(HEX)
1	31(HEX)	0001(BIN)	00001(BIN)	31(HEX)
2	32(HEX)	0010(BIN)	00010(BIN)	32(HEX)
3	33(HEX)	0011(BIN)	10011(BIN)	33(HEX)
4	34(HEX)	0100(BIN)	00100(BIN)	34(HEX)
5	35(HEX)	0101(BIN)	10101(BIN)	35(HEX)
6	36(HEX)	0110(BIN)	10110(BIN)	36(HEX)
7	37(HEX)	0111(BIN)	00111(BIN)	37(HEX)
8	38(HEX)	1000(BIN)	01000(BIN)	38(HEX)
9	39(HEX)	1001(BIN)	11001(BIN)	39(HEX)
*	2A(HEX)	1010(BIN)	*clear	2A(HEX)
#	23(HEX)	1011(BIN)	*clear	23(HEX)
F1	20(HEX)	1100(BIN)	*clear	20(HEX)
F2	1B(HEX)	1101(BIN)	*clear	1B(HEX)
F3	*clear	*clear	*clear	*clear

- *clear means cancel all saved key in memory.

Note. PCR943A has 6 digits memory space. It means you can only input 6 digits.