N970WA

7” Mobile Data Terminal with Allwinner A20

Features

- 7” WVGA LCD with 3 programmable hot keys
- Android 4.2.2
- Supports analog video input 4*CVBS input, 2*RS232, 1*USB Host, 1*USB OTG, 3*DI/1*DO
- Supports CDMA/HSDPA/GPRS, GPS,WIFI and BT communications
- 8V-32V / No battery
- Fanless and ruggedized iron chassis, able to work under -20~70℃

Introduction

N970WA is a new generation, all-in-one 7" mobile data terminal with touchscreen, with a compact design for commercial vehicles. With an ARM Cortex-A7 Dual-Core 1GHz CPU processor. The system is high performing with network services using easily with CDMA/ HSDPA/ GPRS/ GPS/ WIFI / BT communications. Focused on the automotive market, N970WA is designed with vehicle power car battery, ensuring the system is more stable during engine starts. Die casting and a ruggedized chassis not only provide more capabilities in a wide range of temperatures (-20 ~ 70° C), but N970WA is also suitable for harsh environments subject to shock and vibration.

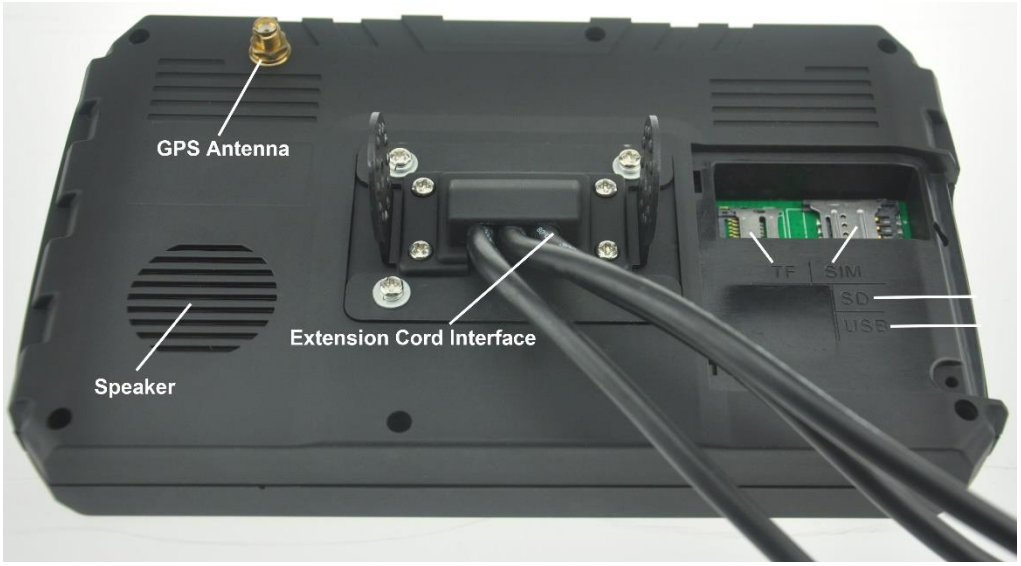
Specifications

Processor & Operating System	
CPU	ARM Cortex-A7 Dual Core 1GHz, Allwinner A20
Operating System	Android 4.2.2
Memory	
DDR	1GB
EMMC	4GB
Display	
	7 inch WVGA 800*480
	LED backlight, wide type
	350 nits
Keypad & Buttons	
	2 function keys (support external keyboard)
	1 power button

	1 LED
Interface ports	
RS232 serial ports	2
RS485	1
CVBS Input	4
USB ports	2 x 2.0 USB Host
	1 x 2.0 USB Device
Accessible Expansion Slots	
Internal/External SD socket	1 x Micro SD and 1 x External SD, support up to 32G
Internal SIM card	GSM communication
I/O port	
	Digital input x 3 line
	Digital output x 1 line
Audio	
Speaker	2W 8ohm, Size:40mm
	EAR & MIC
GPS	
	u-blox GPS module
	56 channels
	Sensitivity -163 dBm
GSM/GPRS/WCDMA	
	QUECTEL UC15, 6-bands
	Sensitivity -106 dBm
Wireless Communication	
Wi-Fi	RTL8723AS –VAU
Bluetooth(optional)	Class 2, 2.0 (GAP/SPP)
Antenna	
GPS Antenna	Internal / External(optional)
GSM Antenna	Internal
Physical Characteristics	
Size	200*118*28mm
Weight	1.5 kg
Environment	

Main Power	8~32V
Battery(Built-in)	Polymer Li-Ion Battery 3.7V@1200mAH
Operating Temperature	-20℃ to +70℃
Humidity	5% - 90%

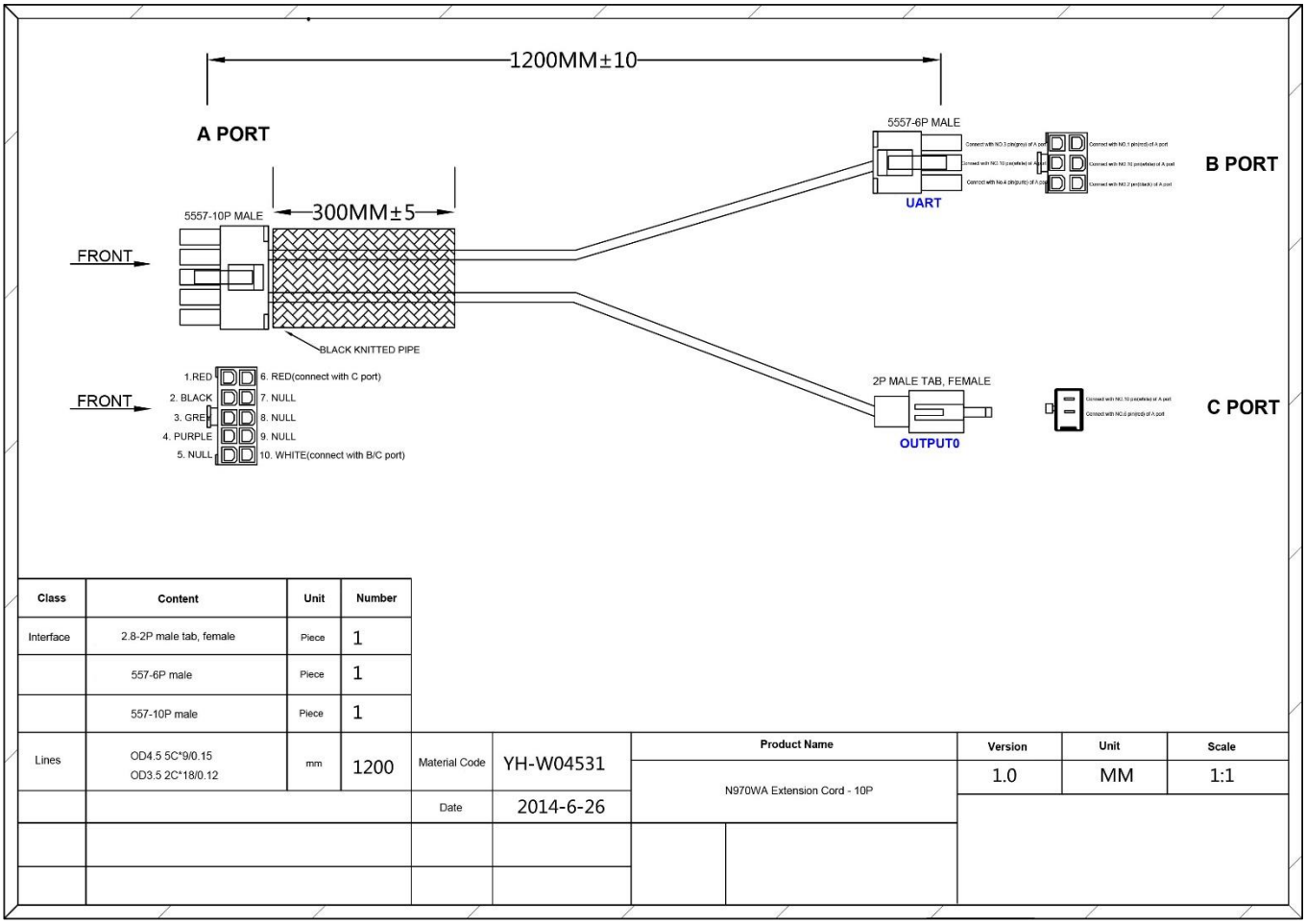
I/O Connector



Pin Assignment

1. Cable Define

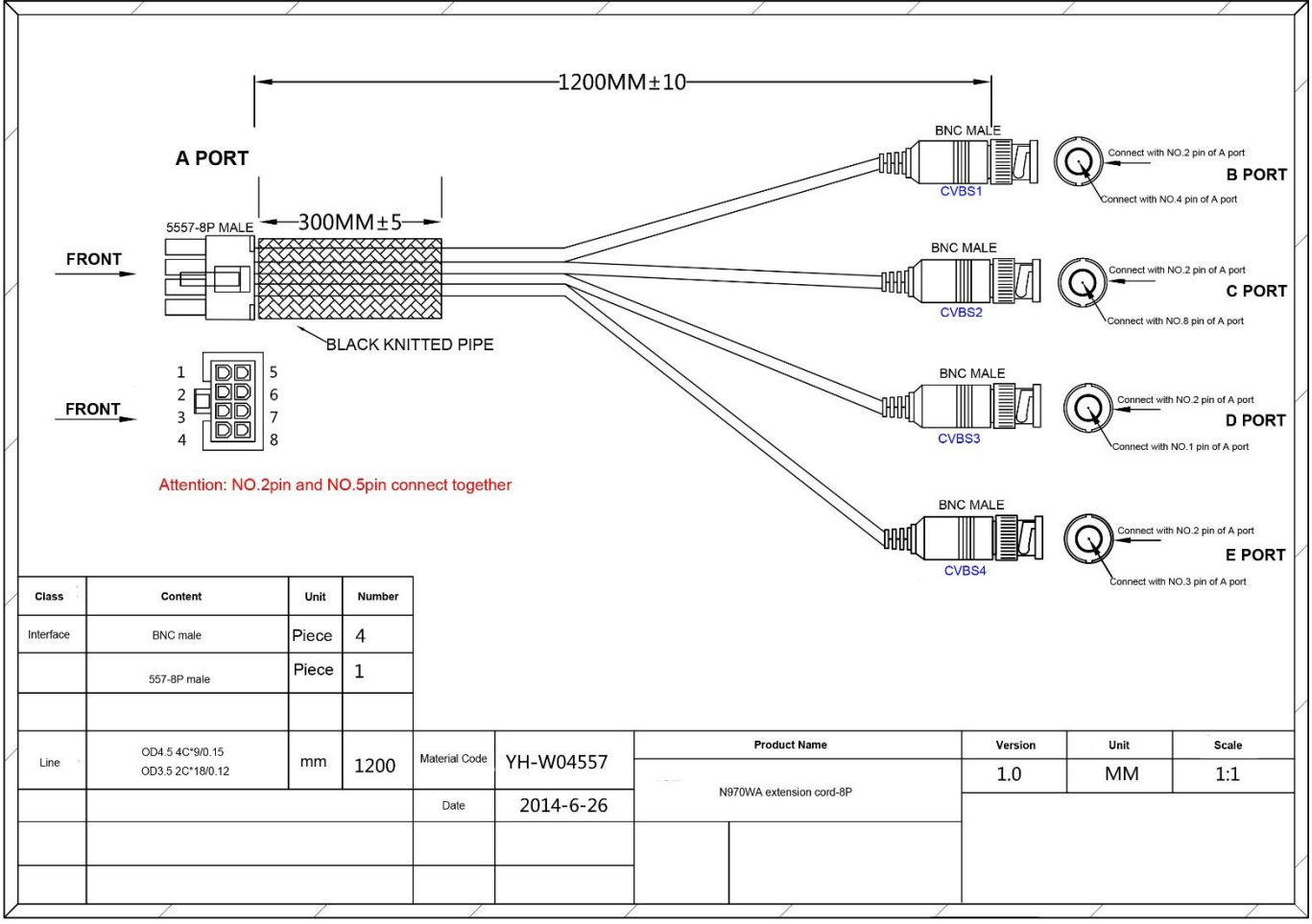
1.1 10Pin 5557 Extension Cord



Class	Content	Unit	Number
Interface	2.8-2P male tab, female	Piece	1
	557-6P male	Piece	1
	557-10P male	Piece	1

						Product Name	Version	Unit	Scale
Lines	OD4.5 5C*9/0.15 OD3.5 2C*18/0.12	mm	1200	Material Code	YH-W04531	N970WA Extension Cord - 10P	1.0	MM	1:1
				Date	2014-6-26				

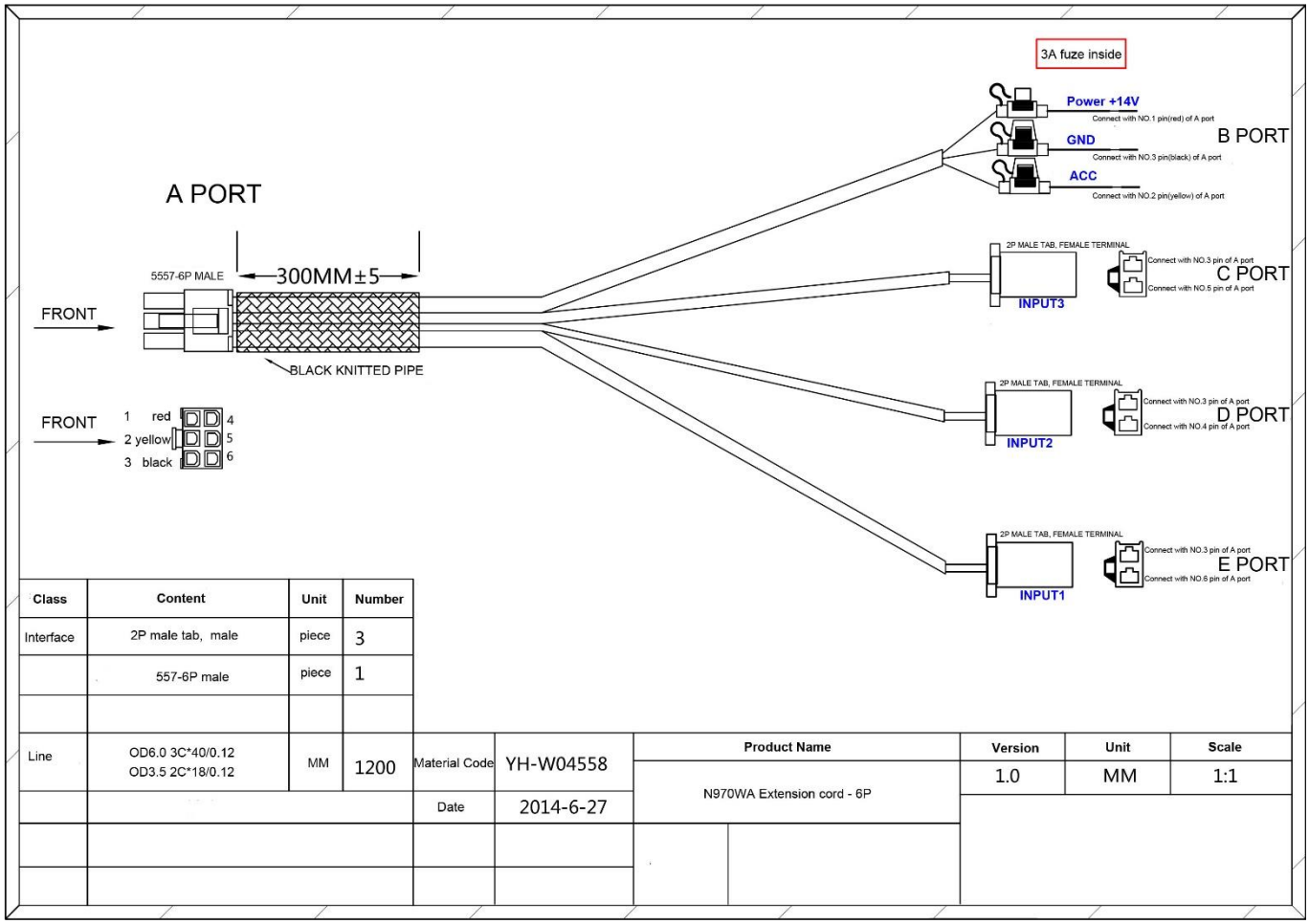
1.2 8Pin 5557 Extension Cord



Class	Content	Unit	Number
Interface	BNC male	Piece	4
	557-8P male	Piece	1
Line	OD4.5 4C*9/0.15 OD3.5 2C*18/0.12	mm	1200

		Product Name	Version	Unit	Scale
Material Code	YH-W04557	N970WA extension cord-8P	1.0	MM	1:1
Date	2014-6-26				

1.3 Pin 5557 Extension Cord



Class	Content	Unit	Number
Interface	2P male tab, male	piece	3
	557-6P male	piece	1
Line	OD6.0 3C*40/0.12 OD3.5 2C*18/0.12	MM	1200

Material Code	YH-W04558
Date	2014-6-27

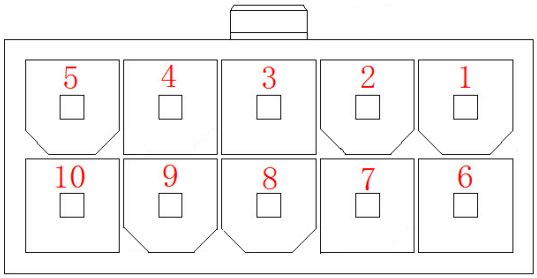
Product Name	Version	Unit	Scale
N970WA Extension cord - 6P	1.0	MM	1:1

2. Pin port Define

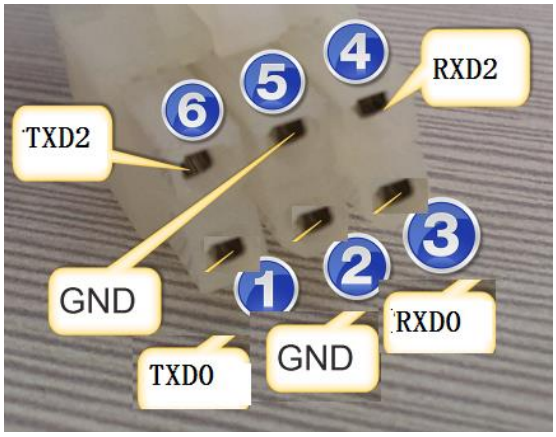
2.1 10PIN function define

PIN NO. (PIC 1)	Function Define	Line Spec.	Relevant Terminal
1	**UART1_RXD0，ttyS0** receive	26AWG 1200mm	PIC 2，NO.3 pin
2	**UART1_TXD0，ttyS0** transmit	26AWG 1200mm	PIC 2，NO.1 pin
3	**UART1_RXD2，ttyS3** receive	26AWG 1200mm	PIC 2，NO.4 pin
4	**UART1_TXD2，ttyS3** transmit	26AWG 1200mm	PIC 2，NO.6 pin
5	NC		
6	OUTPUT0，12V output	26AWG 1200mm	PIC 3，2PIN MALE
7	NC		
8	NC		
9	NC		
10	GND	26AWG 1200mm	Terminals share GND

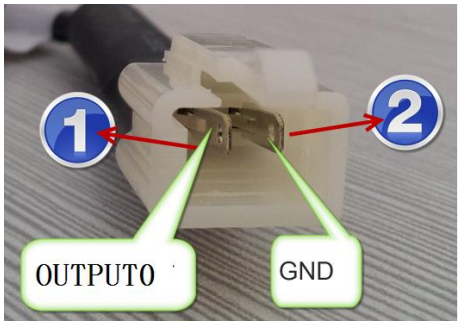
PIC 1: 10PIN of 5557 female



PIC 2: UART



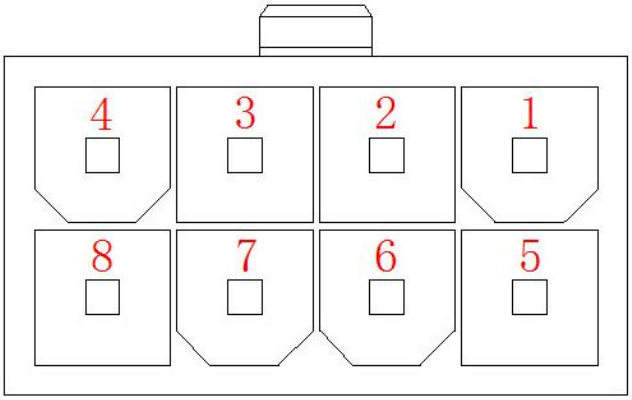
PIC 3: OUTPUT0



2.2 8PIN function define

PIN NO. **(PIC 1)**	**Function Define**	**Line Spec.**	**Relevant Terminal**
1	CVBS4，CVBS input	26AWG 1200mm	**PIC 2**, NO.1 pin
2	GND	26AWG 1200mm	Terminals share GND
3	CVBS3，CVBS input	26AWG 1200mm	**PIC 2**, NO.1 pin
4	CVBS2，CVBS input	24AWG 1200mm	**PIC 2**, NO.1 pin
5	GND	26AWG 1200mm	Terminals share GND
6	NC		
7	NC		
8	CVBS1，CVBS input	24AWG 1200mm	**PIC 2**, NO.1 pin

PIC 1: 8PIN of 5557 female

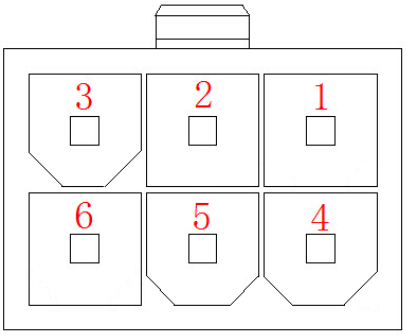


PIC 2: CVBS1, CVBS2, CVBS3, CVBS4

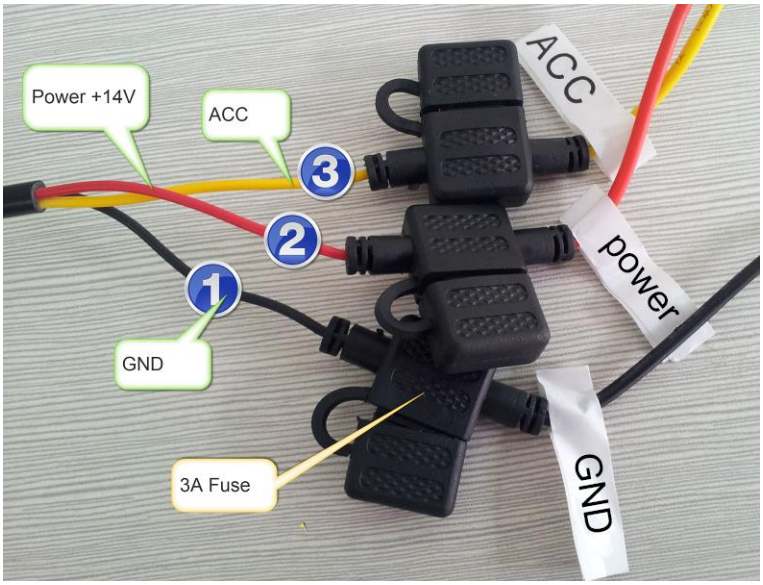
2.3 6PIN function define

PIN NO. **(PIC 1)**	Function Define	Line Spec.	Relevant Terminal
1	Car_14V_IN，car battery positive input	**22AWG 1200mm**	**PIC 2**，RED line
2	Car ACC，ACC input	26AWG 1200mm	**PIC 2**，YELLOW line
3	GND，	**22AWG 1200mm**	GND share，BLACK line
4	INPUT_2，detection input	26AWG 1200mm	**PIC 3**，NO.1 pin
5	INPUT_3，detection input	26AWG 1200mm	**PIC 4**，NO.1 pin
6	INPUT_1，detection input	26AWG 1200mm	**PIC 5**，NO.1 pin

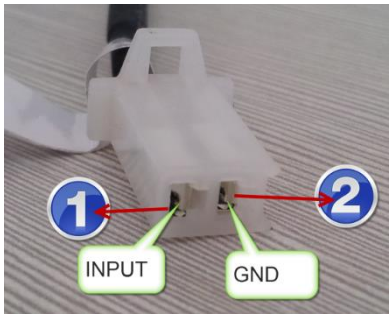
PIC 1：6PIN of 5557 female



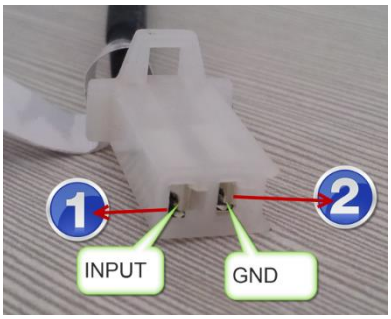
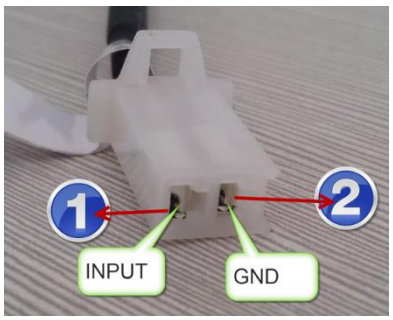
PIC 2:



PIC 3:



PIC 4:



PIC 5: