

User Manual of Haiwell D series IoT Cloud HMI

High-speed & HD HMI User Manual



Contents

1. Product Introduction	3
1.1 Main function	3
1.2 Technical characteristics	3
2. Product Specifications	3
3. HMI Bundled software	5
4. Product dimension	5
4.1 D4	5
4.2 D7	6
4.3 D10	7
4.4 D15	8
5. HMI interface diagram	8
5.1 D4	8
5.2 D4-G/D4-E	8
5.3 D4-W	9
5.4 D7/D10	9
5.5 D7-G/D7-E/D10-G/D10-E	9
5.6 D7-W/D10-W	9
5.7 D15	10
5.8 D15-G/D15-E	10
5.9 D15-GW/D15-EW	11
6. Installation and operation	11
6.1 Hardware installation	11
6.1.1 Notice	11
6.1.1 Installation procedure	11
6.2 Antenna installation	11
6.3 Touch screen calibration	12

1. Product Introduction

1.1 Main function

Haiwell HMI Embedded System is an embedded system software running in industrial automation monitoring and management equipment. Through running Haiwell SCADA project, it can visually observe the situations of the industrial scene and communicate with various industrial control equipment, by the collected production signals of industrial sites to achieve monitor.

The alarm information of the industrial site is promptly notified to the relevant staffs through the form of screen, computer language, WeChat, SMS, and mail. Support the function of network project, so that multiple devices can be mutually client and server, share data through the network to realize distributed control. Also support recording and storing data. Analyze and record the real-time working condition data and historical working condition data to solve production failures, improve production efficiency and product quality.

Haiwell HMI high-speed version is a new series of HMI launched by Haiwell Technology Co., Ltd. in 2019, based on the original HMI system to improve the speed of the HMIS series, and on the basis of HMIS to optimize the definition of HD version HMIH series.

1.2 Technical characteristics

Haiwell HMI embedded system is based on embedded Linux system development, integrated SVG image editing and processing technology, TCP / IP network communication technology, serial communication technology, multi-threading, multi-process, Javascript extended script analysis and running engine and other technologies for development.

2. Product Specifications

Properties	Models	D4	D7	D10	D15
Display	Screen size	4.3 " TFT	7 " TFT	10.1 " TFT	15.6 " TFT
	Resolution	800x480 pixels	1024x600 pixels	1280x800 pixels	1920x1080 pixels
	Display color	16.7M			262K
	Brightness	250 cd/m ²			220 cd/m ²
	Contrast Ratio	1000:1	800:1	1000:1	800:1
	Touch panel type	Analog resistive film			
Backlight	Type	LED			
	Life	30,000 hours			15,000 hours
	Auto sleep function	Yes			
Hardware	CPU	4-core A7 processor	4-core A53 processor		
	Flash	4GB			
	RAM	512M	1GB		
	Ethernet Port	10/100 Base-T	10/100 Base-T, 1000 Base-T		10/100 Base-T
	Serial Port	RS485/RS232			
	USB(HOST)	USB2.0 x 1	USB2.0 x 2		
	RTC	Yes			
Power	Rated input voltage	24±20%VDC			
	Power consumption	6W@24VDC	8W@24VDC	10W@24VDC	15W@24VDC
	Power protection	Surge protection and anti-reverse protection			
	Withstand voltage	500VAC			
	Insulation resistance	50MΩ@500VDC			

	Vibration resistance	10 ~ 25 Hz X, Y, Z direction 2G/30 minutes			
Environment	Cooling method	Natural air circulation			
	Protection grade	Front: IP65 Rear: IP20			
	Storage temperature	-20 ~70℃			
	Operating temperature	-10℃ ~ 60℃			
	Relative humidity	10 ~ 90% RH (non-condensing)			
	Operating environment	Prevention of dust, moisture, corrosion, electric shock and external shock			
Structure	Material	ABS (fire-retardant)			Aluminum case, Glass panel
	External dimensions	137x85x30mm	194x120x32mm	261x168x33mm	394x256x41mm
	Panel cut dimensions	132x80mm	187x114mm	254x161mm	383x245mm
	Weight	0.3kg	0.8kg	1.3kg	2.6kg
	Installation	Panel mounting			
Function	WiFi (optional)	802.11b/g/n			
	Wireless network (optional)	4G			

4.3" IoT Cloud HMI

Model	TFT screen	Storage	LAN	USB	COM	Audio	WIFI	Wireless	Hole Size	Dimension W*H*D
D4	4.3" 800*480 HD	4G + 512M	1	1	2	Yes			132x80mm	137x85x30mm
D4-G		4G + 512M	1	1	2	Yes		4G (China)		
D4-W		4G + 512M	1	1	2	Yes	Yes			
D4-E		4G + 512M	1	1	2	Yes		4G (Global)		

7" IoT Cloud HMI

Model	TFT screen	Storage	LAN	USB	COM	Native video	Audio	WIFI	Wireless	Hole Size	Dimension W*H*D
D7	7" 1024*600 HD	4G +1G	2	2	3	Yes	Yes			187x114mm	194x120x32mm
D7-G		4G +1G	2	2	3	Yes	Yes		4G (China)		
D7-W		4G +1G	2	2	3	Yes	Yes	Yes			
D7-E		4G +1G	2	2	3	Yes	Yes		4G (Global)		

10.1" IoT Cloud HMI

Model	TFT screen	Storage	LAN	USB	COM	Native video	Audio	WIFI	Wireless	Hole Size	Dimension W*H*D
D10	10.1" 1280*800 HD	4G +1G	2	2	3	Yes	Yes			254x161mm	261x168x33mm
D10-G		4G +1G	2	2	3	Yes	Yes		4G (China)		
D10-W		4G +1G	2	2	3	Yes	Yes	Yes			
D10-E		4G +1G	2	2	3	Yes	Yes		4G (Global)		

15.6" IoT Cloud HMI

Model	TFT screen	Storage	LAN	USB	COM	Native video	Audio	WIFI	Wireless	Hole Size	Dimension W*H*D
D15	15.6" 1920*1080	4G +1G	1	2	3	Yes	Yes			383x245mm	394x256x41mm
D15-G		4G +1G	1	2	3	Yes	Yes		4G (China)		

D15-W	HD	4G+1G	1	2	3	Yes	Yes	Yes		
D15-GW		4G+1G	1	2	3	Yes	Yes	Yes	4G (China)	
D15-E		4G+1G	1	2	3	Yes	Yes		4G (Global)	
D15-EW		4G+1G	1	2	3	Yes	Yes	Yes	4G (Global)	

3. HMI Bundled software

3.1 Haiwell HMI needs to be used with Haiwell SCADA editing software. Please download from download center of Haiwell official website: www.haiwell.com.

3.2 Haiwell cloud service can be used by visiting Haiwell cloud website <http://cloud.haiwell.com>. It is also recommended to download Haiwell Cloud APP.

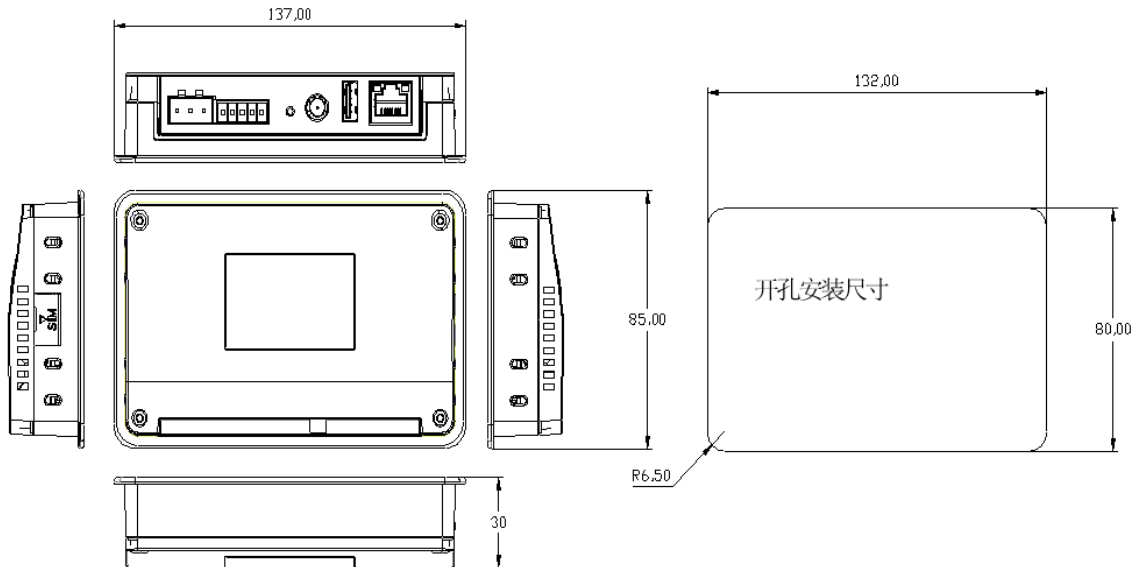
3.3 Haiwell Cloud APP download:

- ✓Login and download from Haiwell Cloud website.
- ✓For iOS terminal, it can search and download "Haiwell Cloud" APP in Apple App Store.
- ✓Scan the QR code below to download.
- ✓

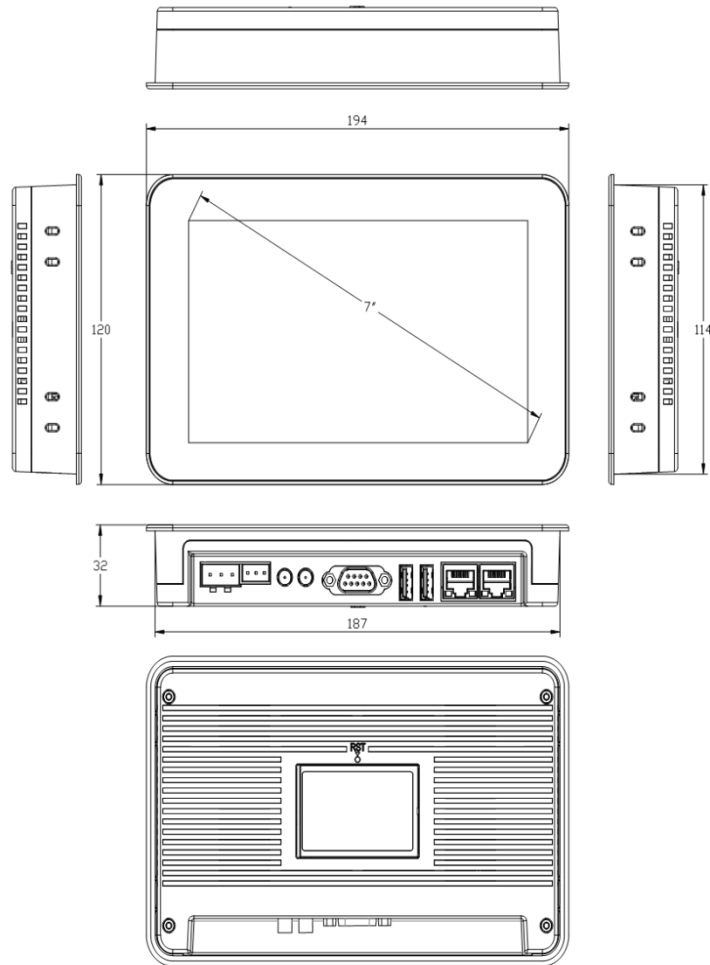


4. Product dimension

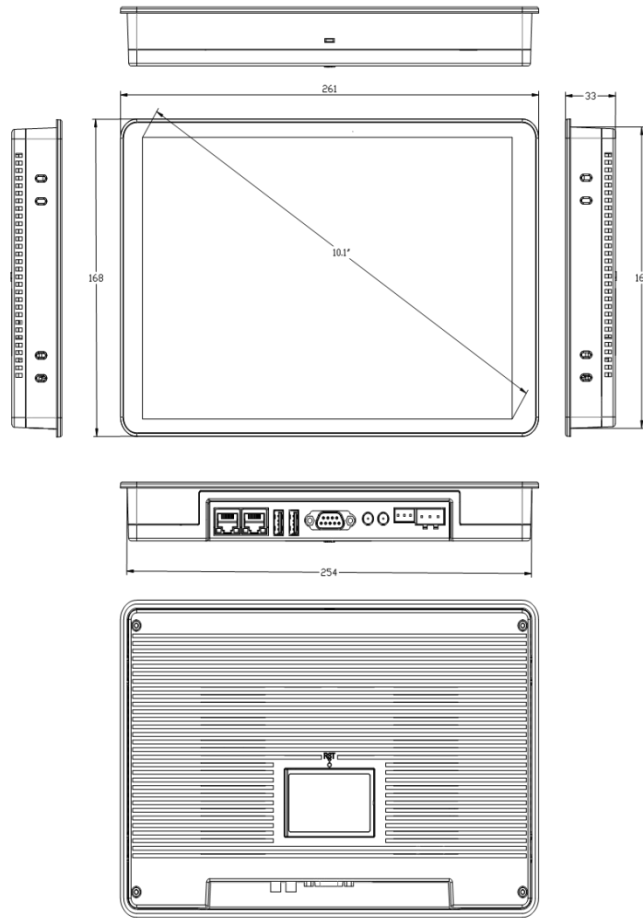
4.1 D4



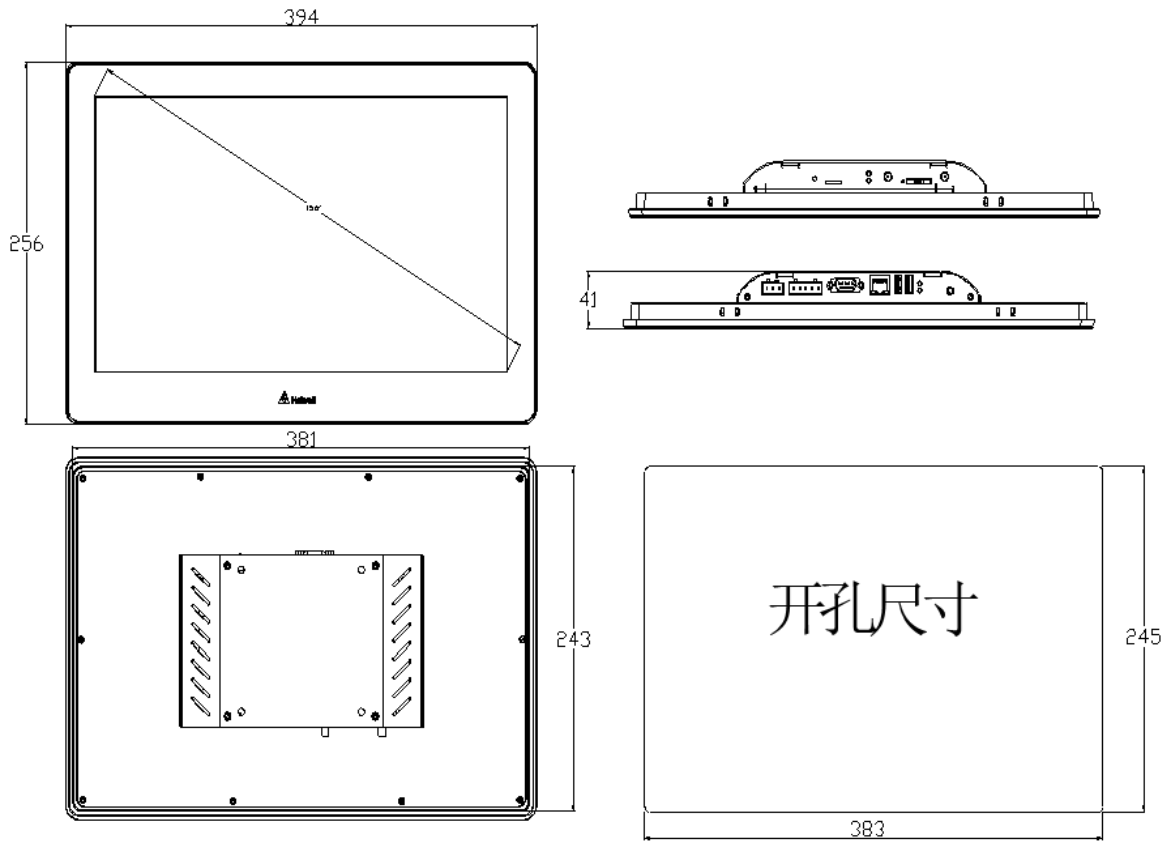
4.2 D7



4.3 D10

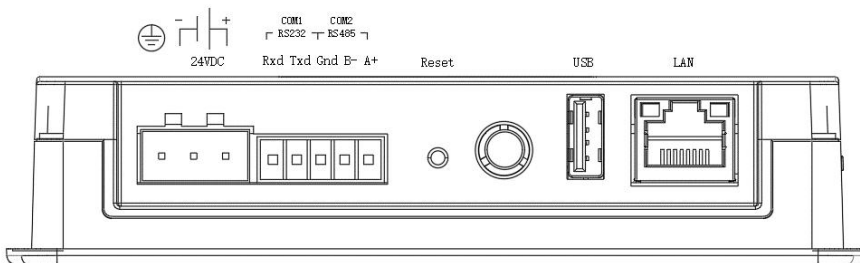


4.4 D15

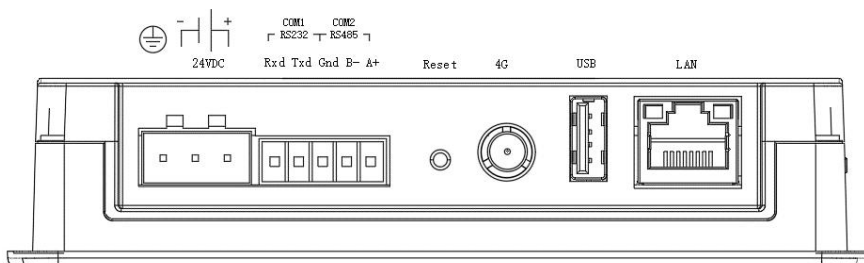


5. HMI interface diagram

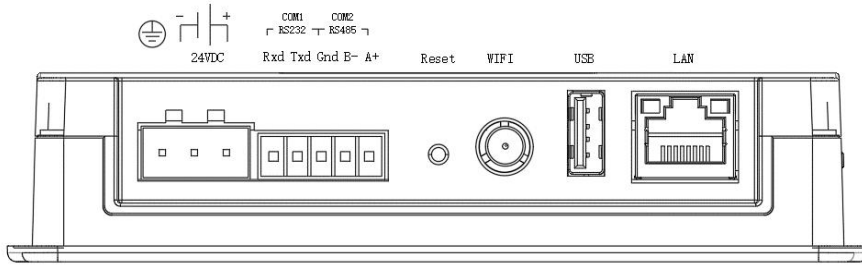
5.1 D4



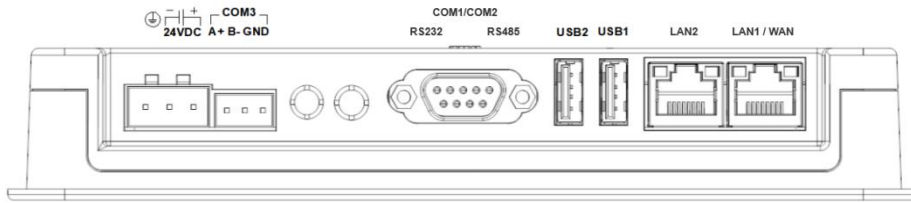
5.2 D4-G/D4-E



5.3 D4-W



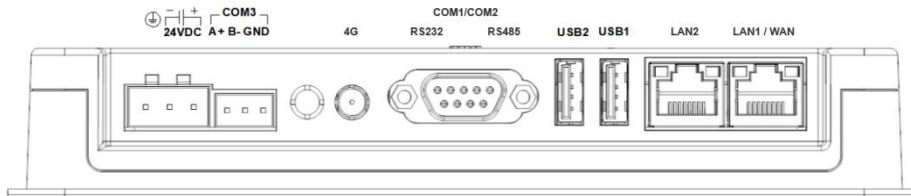
5.4 D7/D10



COM1/2 Pin definition

Pin	Definition	Pin	Definition
1	Carrier detect(DCD)	6	Data ready(DSR)
2	Receive data(RXD)	7	NC
3	Transmit Data (TXD)	8	NC
4	NC	9	NC
5	Signal ground(SG)		

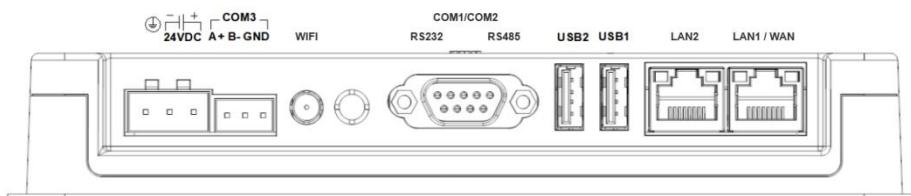
5.5 D7-G/D7-E/D10-G/D10-E



COM1/2 Pin definition

Pin	Definition	Pin	Definition
1	Carrier detect(DCD)	6	Data ready(DSR)
2	Receive data(RXD)	7	NC
3	Transmit Data (TXD)	8	NC
4	NC	9	NC
5	Signal ground(SG)		

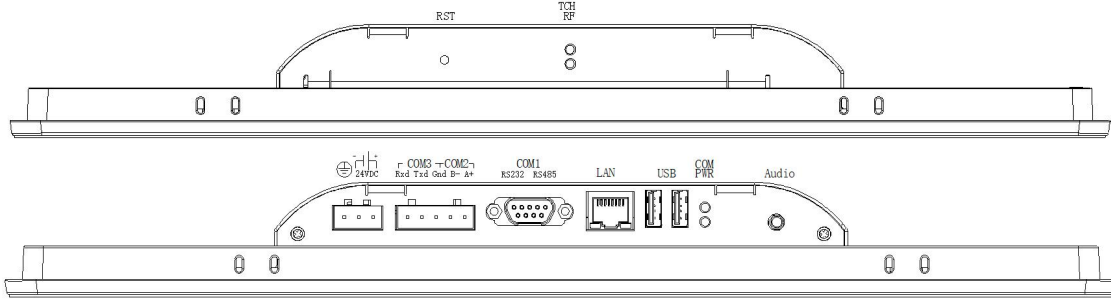
5.6 D7-W/D10-W



COM1/2 Pin definition

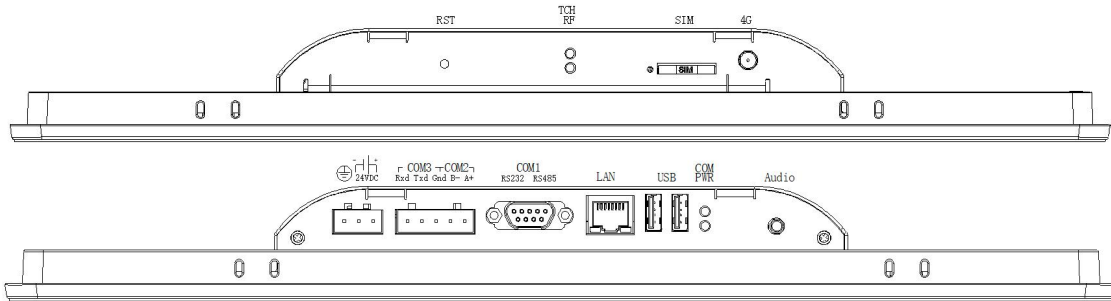
Pin	Definition	Pin	Definition
1	Carrier detect(DCD)	6	Data ready(DSR)
2	Receive data(RXD)	7	NC
3	Transmit Data (TXD)	8	NC
4	NC	9	NC
5	Signal ground(SG)		

5.7 D15



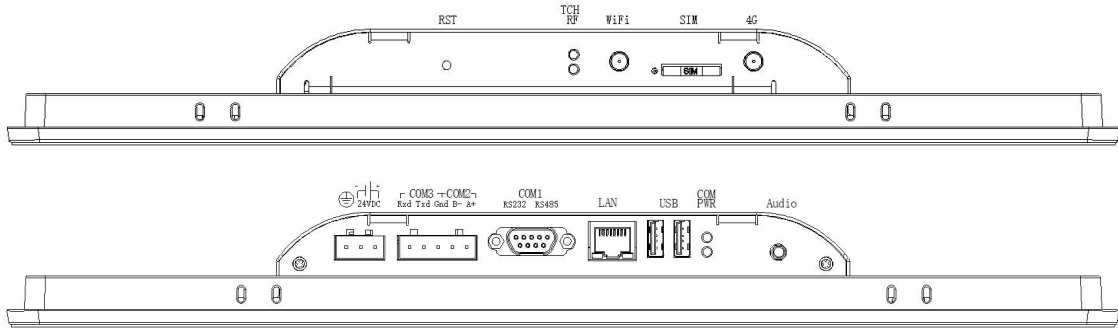
COM1 Pin definition			
Pin	Definition	Pin	Definition
1	Carrier detect(DCD)	6	Data ready(DSR)
2	Receive data(RXD)	7	NC
3	Transmit Data (TXD)	8	NC
4	NC	9	NC
5	Signal ground(SG)		

5.8 D15-G/D15-E



COM1 Pin definition			
Pin	Definition	Pin	Definition
1	Carrier detect(DCD)	6	Data ready(DSR)
2	Receive data(RXD)	7	NC
3	Transmit Data (TXD)	8	NC
4	NC	9	NC
5	Signal ground(SG)		

5.9 D15-GW/D15-EW



COM1 Pin definition			
Pin	Definition	Pin	Definition
1	Carrier detect(DCD)	6	Data ready(DSR)
2	Receive data(RXD)	7	NC
3	Transmit Data (TXD)	8	NC
4	NC	9	NC
5	Signal ground(SG)		

6. Installation and operation

6.1 Hardware installation

6.1.1 Notice

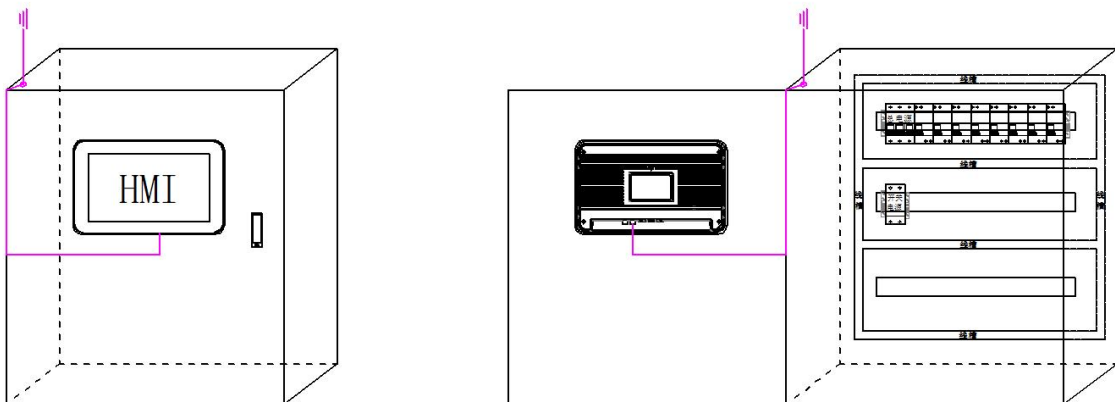
- ① Strictly follow the direction of installation marked on the terminal. Otherwise, there might be breakdowns or damage with HMI.
- ② There should be enough space between the bottom of HMI and other devices, which helps to avoid the damages caused by poor heat dissipation.

6.1.1 Installation procedure

Set the HMI in the panel cutout and tighten four screw clamps until HMI is fixed on panel.

6.2 Antenna installation

4G and WiFi are optional functions of Haiwell HMI. The antennas should be placed outside of the control cabinet in order to get better signal. After locking the antenna's connector to HMI, the antenna cable can be attached to the door of cabinet and placed on the top of cabinet, as shown below.



6.3 Touch screen calibration

Press the screen and then power up the HMI. The system will enter calibration mode after hearing three beeps. Touch the



center of sign on the top-left corner of touch screen for more than 1 second. Then the next sign will show up in the next position. Calibrate the top left, top right, low right, low left and center of touch screen.

Thanks for choosing Haiwell HMI, If you have any questions about our products or services, please let us know!

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