PPC-A9-170-C

User Manual

Release 2.0

Chipsee Products Naming Rules

	CS12102F170P-C111	
CS	**Chipsee Product Abbreviations**	
12	**Horizontal Resolution** **80** Means 800 Pixel **10** Means 1024 Pixel **12** Means 1280 Pixel **14** Means 1440 Pixel **19** Means 1920 Pixel	
102	**Vertical Resolution** **480** Means 480 Pixel **600** Means 600 Pixel **768** Means 768 Pixel **800** Means 800 Pixel **900** Means 900 Pixel **102** Means 1024 Pixel **108** Means 1080 Pixel	
F(T)	**Product based on Freescale (TI) CPU**	
170	**LCD Dimension** **050** Means 5.0 Inch **070** Means 7.0 Inch **080** Means 8.0 Inch **097** Means 9.7 Inch **101** Means 10.1 Inch **104** Means 10.4 Inch **120** Means 12.0 Inch **150** Means 15.0 Inch **170** Means 17.0 Inch **190** Means 19.0 Inch **215** Means 21.5 Inch	
P	**Means Embedded PC or Panel PC** **E** Means Embedded PC without Case **P** Means Panel PC with Case	

C	**Means Touch Type** **R** Means Resistive Touch **C** Means Capacitive Touch
1	**Means LCD Brightness** **1** Means Common Brightness **2** Means High Brightness
1	**PCB Version** Baseboard PCB Version Number
1	**PCB Version** SOM Module PCB Version Number

Hardware Features

Key Features:	
CPU	iMX6Q, Quad-A9, 1GHz
RAM	2GB DDR3
eMMC	8GB
Storage	TF card supports up to 32GB SDHC
Display	17 Inch LCD, 1280*1024 Pixel Resolution, 4:3
Touch	Ten-Point Capacitive Touch
USB	4 x USB 2.0 Host, 1 USB OTG
LAN	1 Channel 1000M LAN
Audio	3.5mm Audio In/Out Connector, 2W Speaker Internal
Buzzer	1
RTC	Yes
RS232	4 Channels
RS485	Optional
CAN	Optional

WiFi/BT	On-Board WIFI/BT
HDMI	1 Channel
SATA II	1 Channel
4G/LTE	Optional
Power Input	15~36V DC
Current @ 15V	2000 mA max
Power Consumption	20W Typical
Working Temperature	-20°C to +70°C
OS	Android, Ubuntu, Linux
Dimension	392*330*62mm
Weight	5200g

* This product has 5 channels of UART in total. One UART channel is used for Bluetooth. The default setting is 4*RS232+Bluetooth. The UART can be easily changed between RS232 and RS485. If you need different settings, please contact us.

CS12102F170P-C111

Figure 1: Front View (Android)
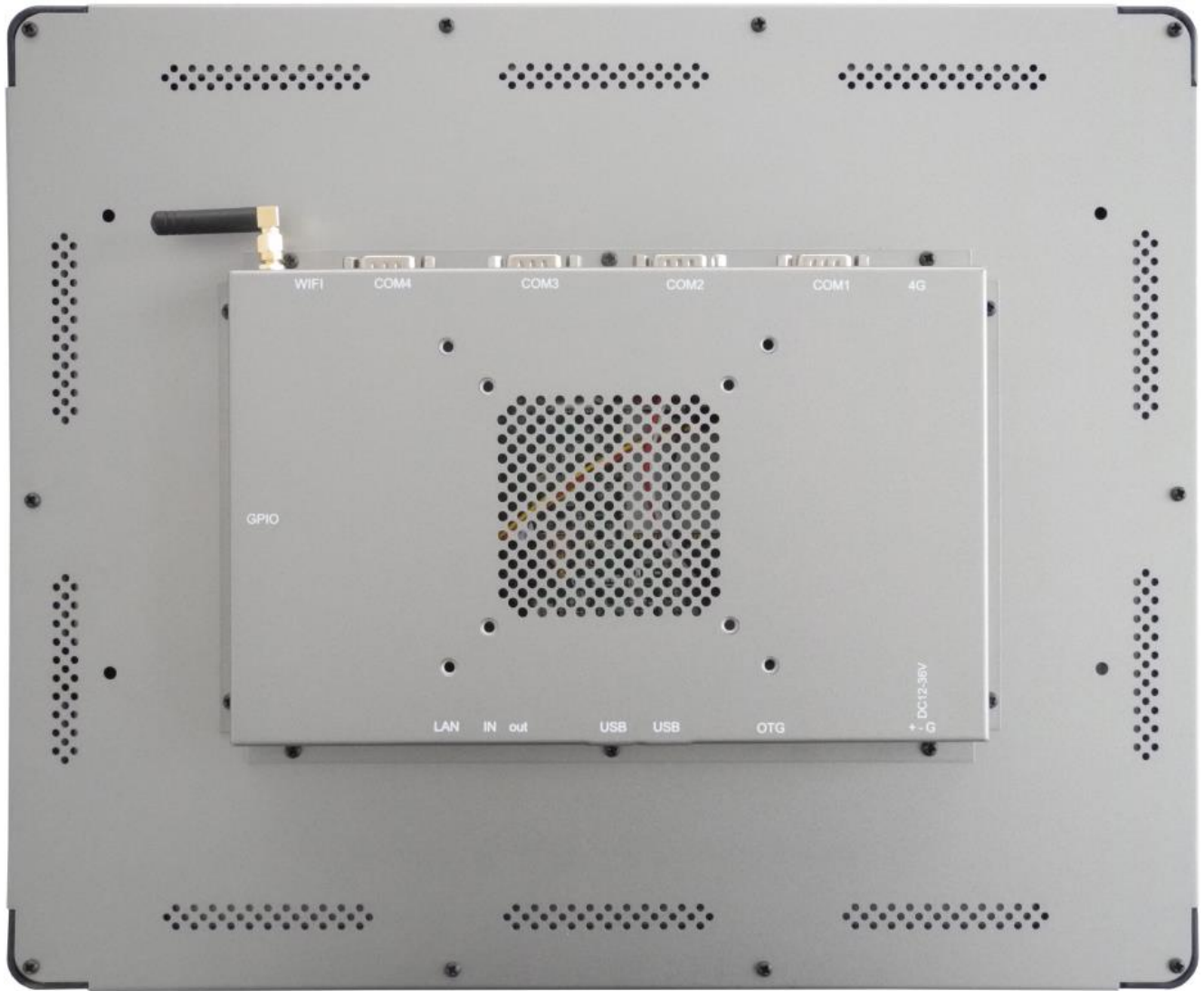
Figure 2: Back View

Power Input Connector

The product CS12102F170P-C111 uses a wide-range power input **DC 15~36V**. The total power consumption is normally about **20W**. The Power Input Connector is 3 Pin 3.81mm Screw Terminal Connector as Figure 3 shows.

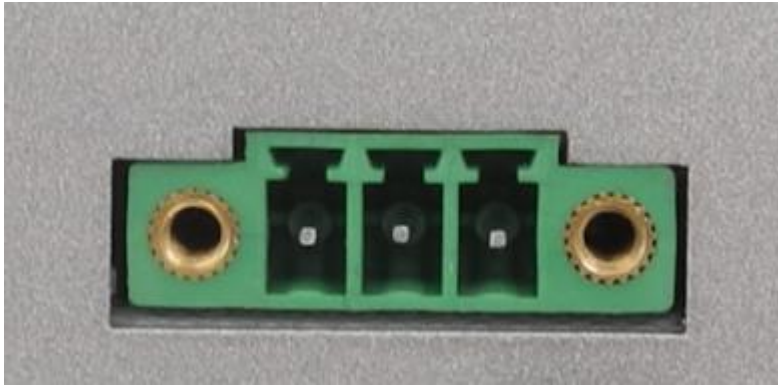A detailed description of the power input connector pins is provided in Table 1.

Figure 3: Power Input Connector

Table 1

Power Input Pin Definition:		
Pin Number	Definition	Description
Pin 1	Positive Input	Connect to DC Power **Positive Terminal**
Pin 2	Negative Input	Connect to DC Power **Negative Terminal**
Pin 3	Ground	Connect to **Power System Ground**

ATTENTION:

*The system ground **"GND"** has been connected to power negative **"-"** on board.*

Capacitive Touch

The product CS12102F170P-C111 uses a ten-point capacitive touch.

ATTENTION:

Capacitive touch is very sensitive to power noise. Ripple voltage/current from the power adapter will cause the LCD ripples and also the capacitive touch to malfunction. If you

use the APK Multi-Touch under Android to test, you can find the touchpoint float. There are several ways to solve this problem:

1) Use a high-quality power adapter, or a battery to provide power like a cell phone or tablet PC.

*2) If the power adapter isn't good enough, make sure the CS12102F170P-C111 power input connector **Pin 3 is connected to the Ground**. This method can eliminate the problem totally. You can test it by touching the GND of CS12102F170P-C111 with one hand, while the other hand operates on the capacitive touch screen. In this case, the user's body acts as the Power System Ground.*

DB9 Connector

The product CS12102F170P-C111 has 4*DB9 connectors configured as RS232 by default as shown in Figure 4. COM3/COM4 can be configured as RS485. If you need other settings different from the default one, please contact us.
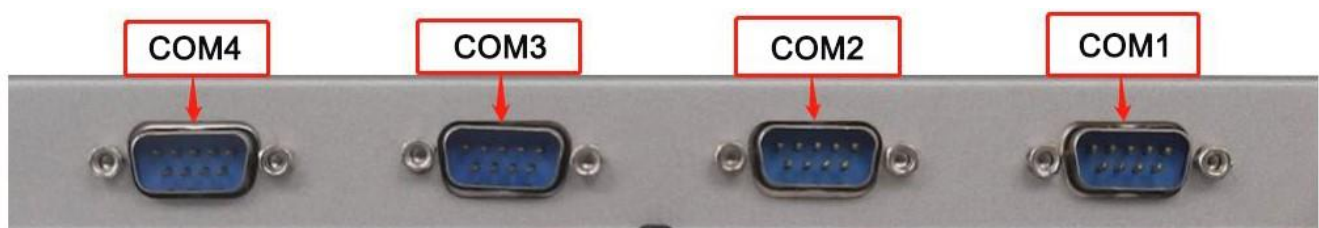

Figure 4: DB9 Connector

USB HOST Connector

There are two dual USB ports, as Figure 5 shows. Each USB port can provide a current of 500mA.

Figure 5: USB HOST Connector

USB OTG Connector

The product CS12102F170P-C111 has one USB OTG connector, shown in Figure 6, that works as a slave by default. It can be used to establish a connection with the host PC.
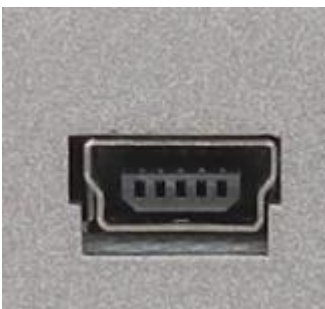

Figure 6: USB OTG Connector

LAN Connector

The product CS12102F170P-C111 has one channel 1000Mbit Ethernet Connector, as Figure 7 shows.

Audio Connector

There is one Audio Input ("Line-in") and one Audio Output ("Line-out"), as Figure 8 shows. As well as an internal 2W speaker.
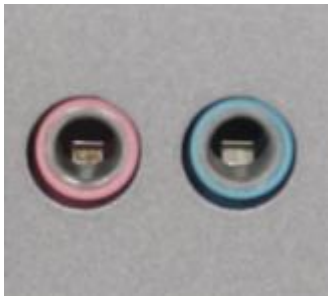

Figure 8: Audio Connector

ATTENTION:

The TF card slot doesn't come with a TF card by default.

WiFi+BT

The product CS12102F170P-C111 has one WiFi+BT. It uses Realtech RTL8723 which integrates WiFi and BT. There is a connector on the backside case that is used to connect the external WiFi/BT Antenna, as Figure 9 shows.

Figure 9: WiFi+BT Antenna

HDMI Connector

The product CS12102F170P-C111 has one HDMI connector as shown in Figure 10. The HDMI output resolution can be configured by software.

Figure 10: HDMI Connector

Boot Switch

The product CS12102F170P-C111 has a boot switch, shown in Figure 11, used to change the boot sequence. For more details on the boot switch configuration, please refer to Table 2.
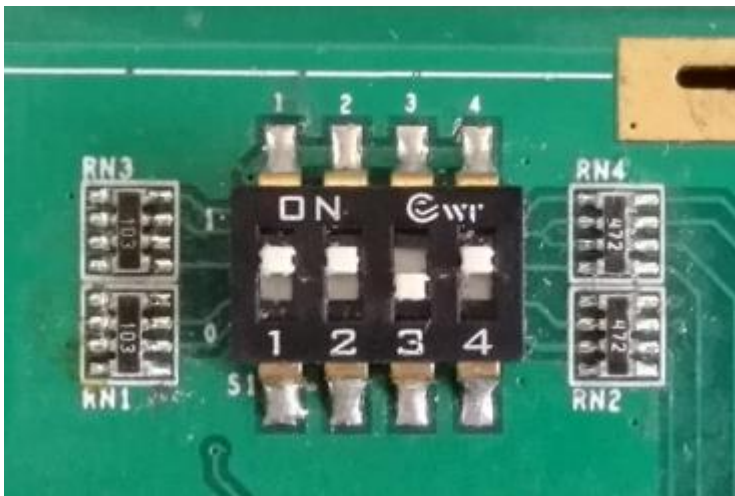

Figure 11: Boot Switch

Table 2

Boot Config Select:				
Mode	1	2	3	4
TF Card	1	0	0	0
eMMC	1	1	0	1
Download	0	1	1	0

Expansion Connector

The product CS12102F170P-C111 has one Expansion Connector, as Figure 12 shows. This connector is labeled as P28 on the PCB and is connected to CPU GPIO/I2C signals. As for the definition of every pin, please refer to Table 3.

Figure 12: Expansion Connector

Table 3

GPIO Connector Definition		
Pin Number	Definition	
Pin 1	INPUT4	
Pin 2	INPUT3	
Pin 3	INPUT2	
Pin 4	INPUT1	
Pin 5	OUTPUT4	
Pin 6	OUTPUT3	
Pin 7	OUTPUT2	
Pin 8	OUTPUT1	
Pin 9	GND_ISO	

Pin 10	VCC_ISO

ATTENTION:

All signals are optocoupler isolated. VCC_ISO supports 5V ~ 24V input.

Dimensions and Mounting

Dimensions

The dimensions of CS12102F170P-C111 are 392*330*62mm.

Mounting Method

This product CS12102F170P-C111 can be mounted by VESA mounting method (100x100cm or 75x75cm), as Figure 13 shows. Please make sure the display is not exposed to high pressure when mounting into an enclosure.
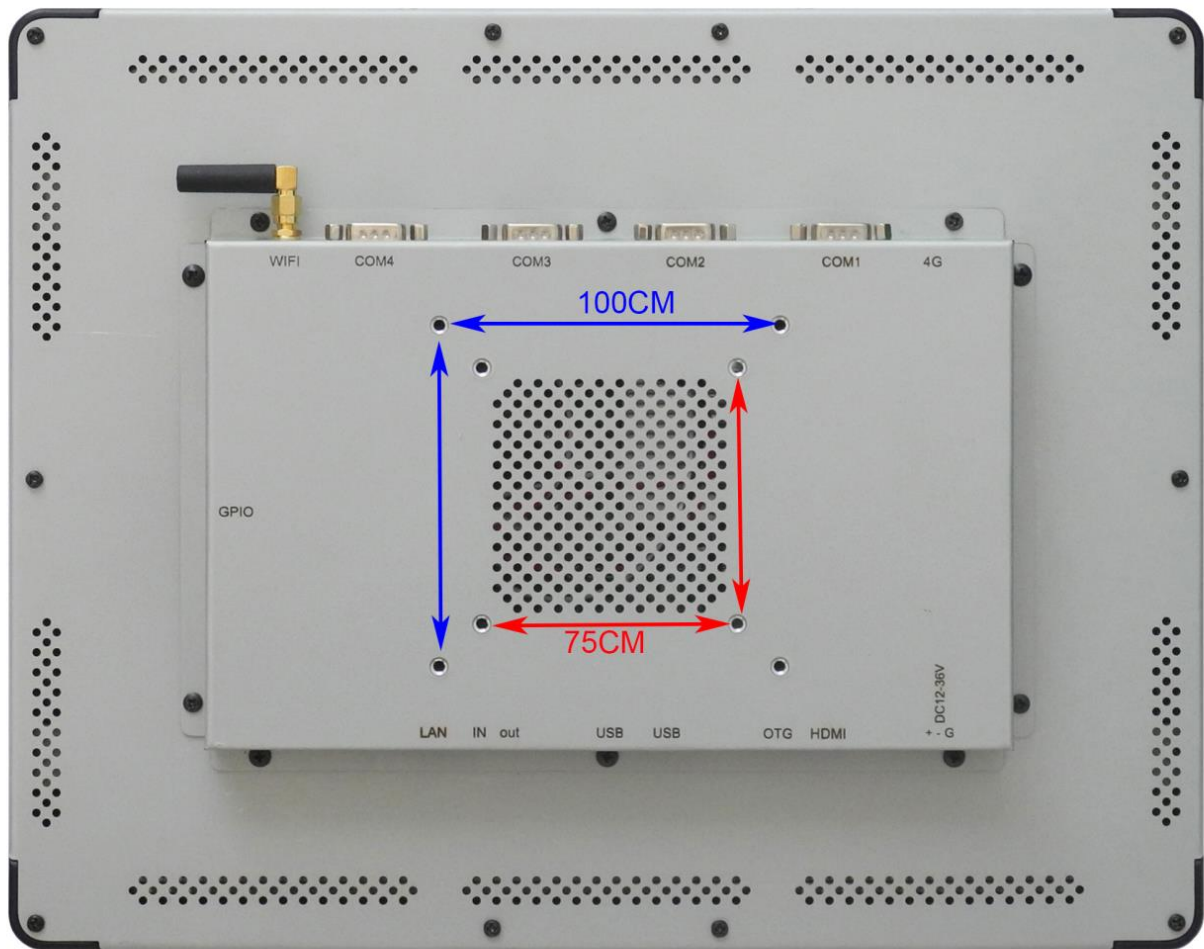
Figure 13: Mounting Method

How to Get Support

Please feel free to contact us with any questions, queries or suggestions.

If your question is about technical support or troubleshooting for one of our products, we kindly ask you to first check our documentation for a possible solution.

If you cannot find the solution you are looking for then please write to contact@chipsee.com providing all possible details.

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