

**Industrial PC** 

# AIO-PX30-101



PN: CS12800PX101A

Content can change at anytime, check documentation website for latest information.

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# AIO-PX30-101

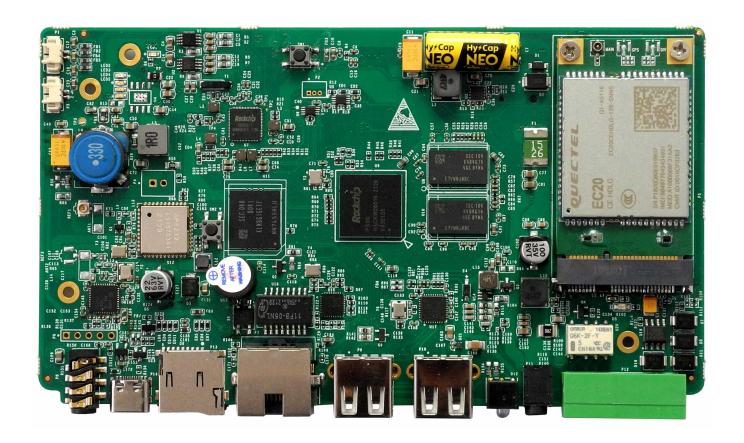
# Front View



# Rear View



# Front View (Embedded Variant)



# Rear View (Embedded Variant)



AIO-PX30-101 Product Overview

### **Product Overview**

The AIO-PX30-101 Industrial PC (PN: CS12800PX101A) is an all-in-one desktop computer based on Rockchip PX30. It features a 10.1" IPS display with a maximum brightness of 350 cd/m<sup>2</sup>.

### **Key Applications**

- Human Machine Interface HMI
- Process Control
- Process Monitoring
- HMI
- IIoT node
- Environmental Monitoring
- PLC
- Automotive applications
- ATM...

AIO-PX30-101 Ordering Options

## **Ordering Options**

Chipsee products can be customized during the ordering process. The product will be shipped with the pre-installed factory defaults if no extra requirements are specified. The table in the Hardware Features section provides information about the default options bundled with the product.



You can order AIO-PX30-101 from the official Chipsee Store or from your nearest distributor.

### **Operating System**

This product comes with a pre-installed Android OS or Debian OS. Chipsee software engineers have created all the drivers, so every hardware feature is readily available for any standard development tool.

If your project requires a different OS, please **Contact us**, and we'll make a customized version that suits your needs.

AIO-PX30-101 **Optional Features** 

### **Optional Features**

The AIO-PX30-101 Industrial PC does not include the 4G/LTE modules by default. These modules are optional and can be selected at the Chipsee store during the ordering process.



#### Warning

Installation, repair, and maintenance tasks should be performed by trained personnel only. Chipsee does not bear any responsibility for damage caused by inadequate handling of the product. AIO-PX30-101 Hardware Features

## **Hardware Features**

The AIO-PX30-101 Industrial PC offers a board range of performance and connectivity options for scalable integration, providing expandability according to future needs. Some of the key features are listed in the table below.

AIO-PX30-101			
CPU	Rockchip PX30, Quad Cortex-A35 at 1.5GHz		
Storage	1 x TF card slot designed for storage expansion		
RAM	1GB DDR		
еММС	8GB		
Display	10.1" IPS LCD, 1280 x 800 resolution px, brightness 350 cd/m <sup>2</sup>		
Touch	10-point capacitive touch with 1.0mm Armored Glass		
USB	2 x USB 2.0 Host, 1 x mini USB OTG		
LAN	1 x Channel 100Mbps LAN		
Audio	Mic input on the front panel, 2W internal stereo speaker, 3.5mm audio In/Out connector		
Buzzer	Internal Buzzer		
RTC	Yes, High accuracy internal RTC (keep track of time one week after power off)		
RS232	1 x RS232 default, 2 Channels at most.		
RS485	1 x RS485 default, 2 Channels at most. The RS485 circuit automatically controls the Input and Output direction (no need for software control)		
CAN	1 x CAN Bus.		
Relay	1 x relay with "Normally Connected" and "Normally Open" output		
WiFi/BT	WiFi/BT module		
ZIGBEE	Internal Zigbee supported, not mounted by default		
4G/LTE	Internal 4G/LTE module supported, not mounted by default		
Power Input	12V DC		
Current at 12V	500mA Max		
Power Consumption	6W Typical		
Working Temperature	From 0°C to +50°C		
os	Android, Debian		
Dimensions	260.54 x 178.54 x 26.9mm		

AIO-PX30-101 Hardware Features

AIO-PX30-101		
Weight	620g	
Plastic Case Color	Black, White	
Certification	CE, ROHS	

Table 240 Key Features

AIO-PX30-101 Power Input

## **Power Input**

The AIO-PX30-101 Industrial PC can be powered by a wide range of input voltages: 12V DC. The total power consumption is typically about 6W. The power input connector is a 3.4/1.7mm DC connector. For a proper DC power adapter, refer to the figure below. We also provide a customzied power cable of 3.4/1.7mm to 5.5/2.1mm for customer.

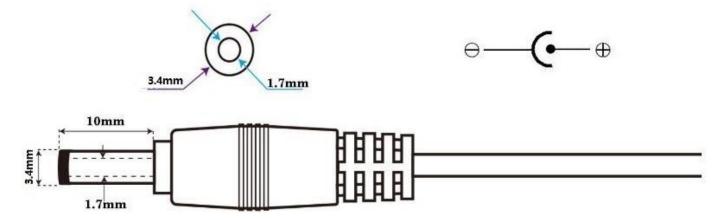


Figure 821: Power Adapter

AIO-PX30-101 Buttons and Status LED

### **Buttons and Status LED**

#### **Status LED**

This product has an LED status indicator on the backside, as the figure below shows. The LED turns GREEN when the device is turned on and flashes YELLOW when the CPU is working.



Figure 822: Status LED

#### **Buttons**

There are three (3) buttons on the backside of the case: Volume +, Volume -, and Power, as the figure below shows.



Figure 823: Buttons

The AIO-PX30-101 Industrial PC will boot automatically after power on, don't need to press Power button. After system booted, we can use Power button to sleep and awake system.

AIO-PX30-101 Connectivity

# Connectivity

There are many connectivity options available on the AIO-PX30-101 industrial PC. It has 2 x USB 2.0 Host, 1 x mini USB OTG, 1 x Channel 100Mbps LAN (RJ45) Ethernet connector supporting up to 100Mbps, and RS232+RS485+CAN+Relay connector.

#### **USB HOST and USB OTG**

There are 2 x Type A **USB HOST connectors** and 1 x **USB-OTG Connector** onboard, as shown on the figures below.



Figure 824: USB HOST and USB OTG Connectors



- External USB peripherals like a USB disk or USB mouse or keyboard can connect to the USB HOST.
- You can download software to the eMMC using the USB OTG.

AIO-PX30-101 LAN Connectors

#### **LAN Connectors**

**LAN (RJ45) connector** provides Ethernet connectivity over standardized Ethernet cables as shown the figure below. The integrated Ethernet interface supports up to 100Mbps data throughput.



Figure 825: RJ45 LAN Connectors



Use CAT5 or better cables to achieve full data throughput over maximum distance defined by the 1000BASE-T standard (100m).

AIO-PX30-101 TF Card and SIM Card Slots

### **TF Card and SIM Card Slots**

The AIO-PX30-101 Industrial PC features 1 x **TF Card (micro SD) slot** and 1 x **SIM Card slot**. You can use the SIM card slot when you mount the 4G/LTE module.

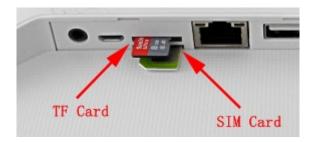


Figure 826: TF Card Slot (upper) and SIM Card Slot (lower)



1. The product does not come shipped with the TF Card and the SIM Card by default.

AIO-PX30-101 Audio In/Out Connector

## **Audio In/Out Connector**

The product features audio In/Out connector as shown on the figure below.



Figure 827: Audio 10 Connector

AIO-PX30-101 **ZIGBEE Module** 

### **ZIGBEE Module**

The AIO-PX30-101 Industrial PC supports an onboard Zigbee module. The Zigbee controller is TI CC2531, and the Raspberry Pi forum supports it.



#### **Attention**

The product does not come with the Zigbee module by default.

### RS232/RS485/CAN/Relay Connector

The serial communication interfaces (RS485, RS232, CAN and Relay) are routed to a 10-pin **2.5mm connector**, as illustrated on the figure below.



Figure 828: RS232/RS485/CAN/Relay Connector

The table below offers more detailed description of every pin and its definition:

RS232 / RS485 / CAN / Relay Pin Definition:			
Pin Number	Definition	Description	
Pin 1	GND	System Ground	
Pin 2	RS232_1_RXD	CPU UART3, RS232 RXD signal	
Pin 3	RS232_1_TXD	CPU UART3, RS232 TXD signal	
Pin 4	RS485_1+	CPU UART5, RS485 +(A) signal	
Pin 5	RS485_1-	CPU UART5, RS485 –(B) signal	
Pin 6	CAN1_H	CPU CAN Channel 1 H signal	
Pin 7	CAN1_L	CPU CAN Channel 1 L signal	
Pin 8	Relay NO	Relay Normally Open	
Pin 9	Relay COM	Relay Common	
Pin 10	Relay NC	Relay Normally Connected	

Table 241 RS232/RS485/CAN/Relay Connector



#### Attention

- 1. The RS232\_1 can be set as the RS485 signal. If you need it to work as RS485, please **Contact us** before shipping.
- 2. The RS485\_1 can be set as the RS232 signal. If you need it to work as RS232, please Contact us before shipping.
- 3. RS485 automatically controls input/output direction. It does not need software control.
- 4. The  $120\Omega$  match resistor for the RS485 is mounted by default.
- 5. The Relay Max switching voltage is 125VAC or 60VDC. The maximum switching current is 1A. Rated load is 0.3A at 125VAC and 1A at 30VDC.

AIO-PX30-101 Mic Input

### **Mic Input**

The AIO-PX30-101 Industrial PC has an integrated microphone on the front panel, as shown on the figure below.



Figure 829: Microphone Input

AIO-PX30-101 Mounting Procedure

# **Mounting Procedure**

You can mount AIO-PX30-101 with the Vesa (75  $\times$  75mm) and Stand mounting methods, as shown in the figures below.





Figure 830: VESA mounting

AIO-PX30-101 Mounting Procedure



Figure 831: Stand mounting



#### Attention

Please make sure the display is not exposed to high pressure when mounting into an enclosure.

You can find detailed information about mounting in the Mount IPC Guide.

AIO-PX30-101 Mechanical Specifications

# **Mechanical Specifications**

The outer mechanical dimensions of AIO-PX30-101 are  $260.54 \times 178.54 \times 26.9 \text{mm}$  (W x L x H). Please refer to the technical drawing in the figures below for details related to the specific product measurements.



Figure 832: Front Panel Dimension Technical Drawing

AIO-PX30-101 Mechanical Specifications



Figure 833: Backside Dimension Technical Drawing



Figure 834: Side Dimension Technical Drawing

AIO-PX30-101 Disclaimer

### **Disclaimer**

This document is provided strictly for informational purposes. Its contents are subject to change without notice. Chipsee assumes no responsibility for any errors that may occur in this document. Furthermore, Chipsee reserves the right to alter the hardware, software, and/or specifications set forth herein at any time without prior notice and undertakes no obligation to update the information contained in this document.

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