Technical Specification

Q6133 13.3 inch Touch & Display All-in-One Machine

- Rockchips RK3568 CPU

- 2GB DDR + 8G EMMC

- 1 * 100Mbps LAN Interface

- 2 * DB9 Male Socket Serial Interface RS-232

- 1 * Customized Button

- 1 * Micro USB OTG Upgrade Port

- 1 * Speaker Interface

- 4 * USB2.0 Interface

- 1 * SIM Card

- DC12V Power Input Interface

Content

Revision History

Version	Date	Name	Modify Content
V1.0	2022.03.30	Xiaobo He	First Version
V1.1	2022.05.24	Tim Wu	Overseas Version

1. Overview

Q6133 13.3inch touch & display industrial all-in-one machine with high performance processor RK3568 and Android 11 OS, is a highly stable intelligent industrial control device. The device support 3G/4G Cellular network. The city service and commercial APP can be directly run in the Android OS to provide convenient interactive services for end users. There are rich peripheral interfaces and strong image process can be widely used in city services and new retail fields, the device can meet the needs of IoT fields, such as food-pickup lockers, coffee machines, face payment vending machines, express lockers, robots, vehicle control, medical and other industry application needs.

2. Specification

Processor	CPU	RK3568 4C 2.0 GHz
	NPU	0.8TOPS computing power, embedded neural network hardware accelerator, support INT8, INT16, FP16 efficient operation. NPU hardware natively supports technologies such as pre-processing merging, channel quantization, and jumping zero. Supports lossless compression of INT8, INT16, FP16 neural network parameters. Support one-click conversion, support mainstream architecture models about Caffe/ TensorFlow/ TF-Lite/ ONNX/ PyTorch/ Keras/ Darknet.
OS	Android	Android 11
RAM	DDR	1GB or 2GB
Storage	EMMC	8GB eMMC
GPU	Video Encoding	Supports H.264 and H.265 encoding at 1080p 60fps Support dynamic bit rate, frame rate, resolution adjustment
	Video Decoding	Support HD decoding formats about 4KP60 H.264/H.265/VP9 Support simultaneous decoding of multiple video sources Support HDR10, excellent color and dynamic range Support image post-processing, de-interlacing, de-noising,
Network	WIFI	Support WIFI IEEE802.11b/g/n 150Mbps
	4G	4G Cellular Network, Drawer SIM card holder
Interface	SPK	1 * 2.0mm interval 4PIN Interface（2.5mm Optional）

	Serial	2 * RS232
	Ethernet	1 * 100Mbps LAN Interface
	USB	4 * USB2.0 HOST，1 * OTG for Debug
Indicator	LED	PWR、SYS、4G
Button	Button	1 * Customized Buttons
Display	HDMI	1 * HDMI, Highest 4K@30Hz，with audio
Display Performance	Liquid Crystal	LED Display Screen
	Screen Size	13.3 inch
	Overall Size	325.2×196.77×39.4mm
	Screen Ratio	16:9
	Resolution	1366 * 768
	Brightness	250cd/m2
	Contrast	800：1
	Visual Angle	80/80/80/80
	Frequency	60Hz
	Light Type	WLED
Contact Performance	Surface Hardness	6H
	Transmittance	≥85%
	Contact	Multi-Touch
	Mode	Touch + Gesture
	Max Touch Points	Simultaneous 10-Point Touch
	Glass Material	Tempering
Power Power	Max Power Consumption	<25W
	Max Power Consumption	DC 12V

Environment	Operating	0℃ ~ 50℃, 0% ~ 90% relative humidity (no condensation)
	Storage	-20℃ ~ 70℃, 0% ~ 90% relative humidity (no condensation)

3. Structural and Interface Definition

3.1 Structural and Interface Definition

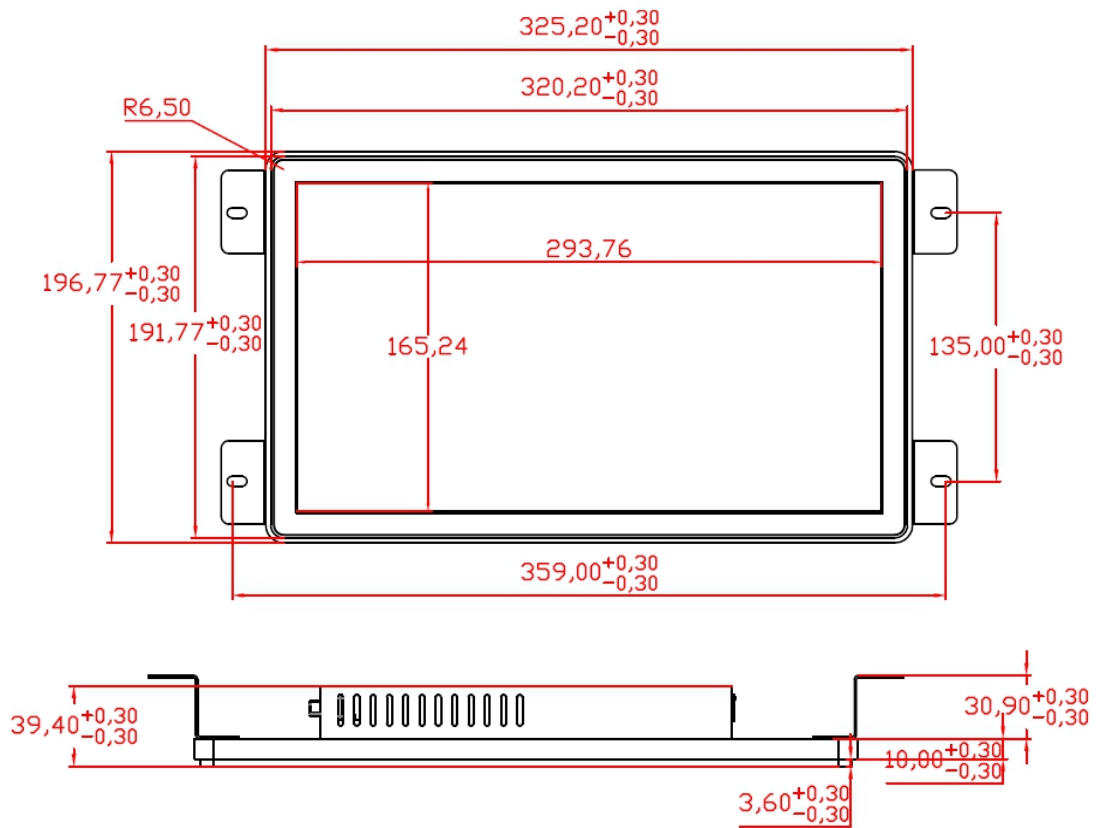Structural as Figure 3-1, and the unit of the actual equipment is millimeters.

Figure 3-1 All-in-one machine structural dimensions

3.2 Rendering

Figure 3-2 All-in-one machine

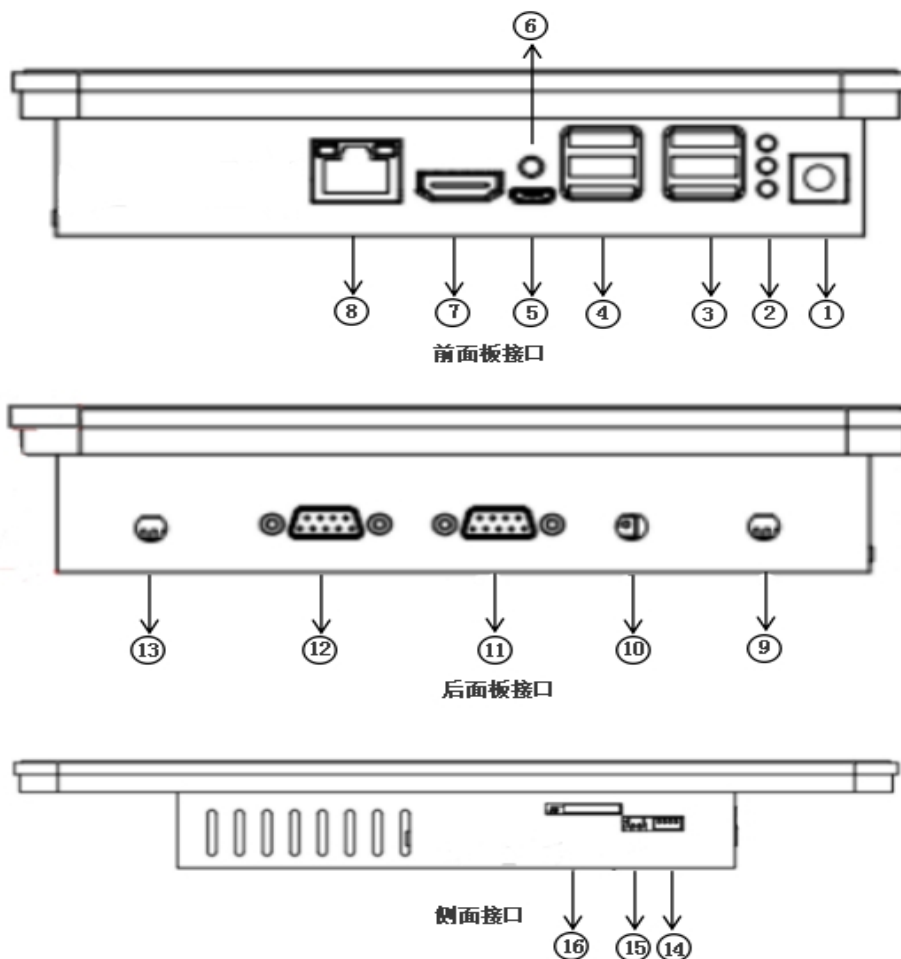# 3.3 Panel Interface

The panel interface diagram as Figure 3-3-1.

前面板接口

后面板接口

侧面接口

Figure 3-3-1 Panel interface

The panel interface diagram as Table 3-3-2.

SN	Explain
①	+12V DC Power Input
②	Indicator （Above: 4G　 Middle: SYS　 Under: POWER ）
③	Double Deck USB2.0 Interface
④	Double Deck USB2.0 Interface
⑤	OTG for Upgrade
⑥	Button（Customized, used as the APP boot and exit, upgrade, maintenance mode, etc.）
⑦	HDMI Display
⑧	Ethernet RJ45 100Mbps
⑨	4G Antenna
⑩	WIFI/BT Antenna
⑪	COM1 DB9 **Male Socket** Serial RS232
⑫	COM2 DB9 **Male Socket** Serial RS232
⑬	GPS Antenna（Optional）
⑭	PH2.0-4P Speaker（External Speaker）
⑮	PH2.0-2P MIC
⑯	Drawer SIM Holder

Table 3-3-2 Interface Definition

3.4 Interface Definition Instructions

3.4.1 DB9 Interface Definition
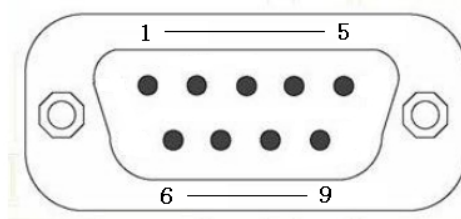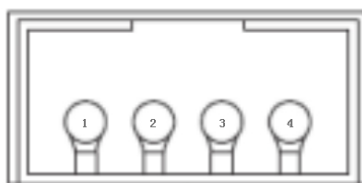
Item description: DB9 RS-232 Interface has 9 Pin.

Figure: Serial data interface

Table of RS-232 interface pin

Pin SN	Definition	Explain
PIN 1	——	——
PIN 2	RS232_RX	RS232 Level
PIN 3	RS232_TX	RS232 Level
PIN 4	——	——
PIN 5	GND	Signal Ground
PIN 6	——	——
PIN 7	——	——
PIN 8	——	——
PIN 9	——	——

3.4.2 SPK Amplifier Interface Definition

Item description: 1 * 4Pin 2.0mm interval

R+ R- L- L+

Figure: Speaker interface

Table of speaker interface pin

Pin SN	Definition	Explain
PIN 1	R+	Right channel positive
PIN 2	R-	Right channel negative
PIN 3	L-	Left channel negative
PIN 4	L+	Left channel positive

3.4.3 MIC Interface Definition
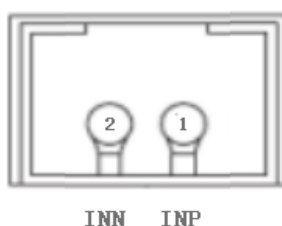
Item description: 1X2Pin 2.0mm interval

Figure: MIC interface

Table of MIC interface pin

Pin SN	Definition	Explain
PIN 1	MIC1_INN	Audio input negative
PIN 2	MIC1_INP	Audio input positive

3.4.4 In-board Expansion USB Interface Definition
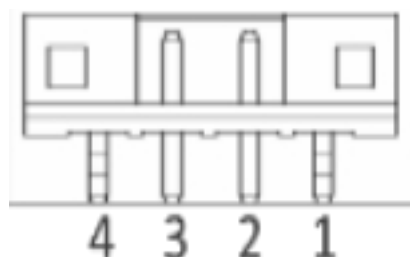
Item description: 1X4P PH-2.0MM 180°

Figure: Extended USB interface

Table of Extended USB interface

Pin SN	Definition	Explain
PIN 1	USB_5V	External USB2.0 device expansion interface
PIN 2	USB_DM	
PIN 3	USB_DP	
PIN 4	GND	

3.4.5 USB OTG Interface Definition

Item description: CONN MICRO USB 5S SMD
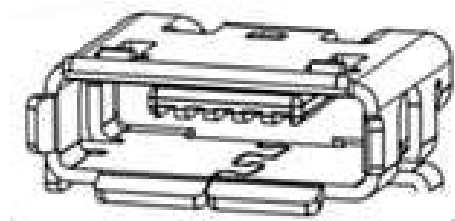
Figure: USB OTG interface

Table of USB OTG interface pin

Pin SN	Definition	Pin SN	Definition
PIN 1	NC	PIN 2	USB_OTG _DN
PIN 3	USB_OTG _DP	PIN 4	USB_OTG_ID
PIN 5	GND	PIN 6	CHASSISGND2
PIN 7	CHASSISGND2		
This is a precision device, do not use too much force when plugging and unplugging the data cable, the OTG interface used for upgrade firmware.			

3.4.6 Double Deck USB

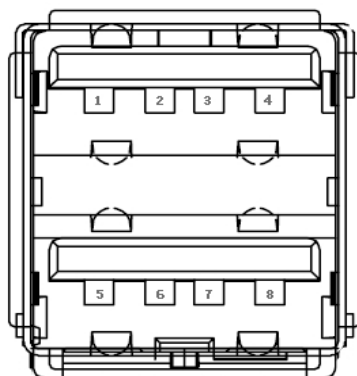Item description: USB 2.0, double deck, AF90° horizontal, 8P+4 DIP-12, NPB

Figure: Double deck USB interface

Table of double deck USB interface pin

Pin SN	Definition	Pin SN	Definition
PIN 1	USB VCC1	PIN 2	USB_DM1
PIN 3	USB_DP1	PIN 4	GND1
PIN 5	USB VCC2	PIN 6	USB_DM2
PIN 7	USB_DP2	PIN 8	GND2

1. Supports full plug-and-play and hot-swap. USB interface complies with USB UHCI, Rev. 2.0 Standard

2. The USB interface provides highest load capacity 1A.

3.4.7 HDMI Display Interface Definition
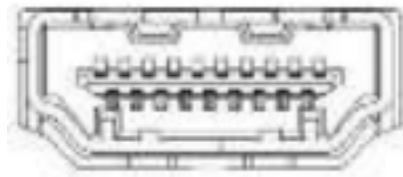
Item description: HDMI Port D-Sub 15Pin Female DIP

Figure: HDMI interface

Table of HDMI interface pin

Pin SN	Definition	Pin SN	Definition
1	HDMI_D2P	2	GND
3	HDMI_D2N	4	HDMI_D1P
5	GND	6	HDMI_D1N
7	HDMI_D0P	8	GND
9	HDMI_D0N	10	HDMI_CLKP
11	GND	12	HDMI_CLKN
13	HDMI_CEC_IN	14	NC
15	HDMI_SCL	16	HDMI_SDA
17	GND	18	VDD_5V
19	HPD	20	CHASSISGND
1. Provides an integrated 19-pin socket interface HDMI Type A, HDMI 1.4A standard. 2. Supports up to 2K video resolution with audio signal.			

4. Panel Indicator Status

The description of the indicator light status as the Table 4-1.

Indicator	Always bright	Off	Flashing
PWR	Normally	Abnormal	/
SYS	Abnormal	Abnormal	0.2s： Operation Normally
4G Network	Dialing Succeeded	Dialing Failed / Module not found	/