

ED-HMI3020-101C

Datasheet

by EDA Technology Co., Ltd

built: 2025-12-24

ED-HMI3020-101C

10.1-inch Industrial HMI Based on Raspberry Pi 5

- 10.1" TFT, resolution 1280x800, multi-point capacitive touch screen
- Broadcom BCM2712 2.4GHz quad-core 64-bit Arm Cortex-A76 CPU
- Up to 16GB LPDDR4X RAM
- Support Micro SD Card and M.2 NVMe SSD storage expansion
- 1 x Gigabit ethernet port with optional PoE
- Optional 8-megapixel front camera
- 2 x USB 3.0, 2 x USB 2.0, 1 x RS232, 1 x RS485 and 1 x Buzzer
- Dual 4Kp60 HDMI display output
- Stereo audio input and output with separately 3.5mm audio jack, built-in speaker
- 5V DC power input via USB-C, support ON/OFF power button
- Built-in RTC, support SuperCAP and CR1220 battery backup
- Aluminum CNC + sheet metal case, fanless design, providing excellent cooling performance



Specifications

System	
CPU	Broadcom BCM2712 2.4GHz quad-core 64-bit Arm Cortex-A76
VPU	4Kp60 HEVC decoder
GPU	OpenGL ES 3.1 & Vulkan 1.2
Memory	4GB, 8GB and 16GB LPDDR4X-4267 SDRAM are optional
Storage	Micro SD Card Slot, supporting to select the 00GB/32GB/64GB SD card M.2 NVMe SSD, supporting to select the 00GB/128GB/256GB SSD

Software	
Operating System	Raspberry Pi OS(Desktop) 64-bit Raspberry Pi OS(Lite) 64-bit

Front I/O	
Camera	Built-in 8-megapixel front camera(optional)

Side I/O	
Audio OUT	1 x Audio Output(HPO), 3.5mm audio jack connector (green), stereo audio output.

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Side I/O	
Audio IN	1 x Audio Input(LINE IN), 3.5mm audio jack connector (red), supporting stereo audio input.
Speaker	1 x PA output, built-in a 4Ω 3W speaker.
RS485	1 x RS485 port, 3-Pin 3.5mm pitch phoenix terminals with 120Ω terminal resistor. The signal is defined as GND/A/B.
RS232	1 x RS232 port, 3-Pin 3.5mm pitch phoenix terminals, the signal is defined as GND/TX/RX.
USB 2.0	2 x USB 2.0 ports, dual layer type A connector, each channel supports up to 480Mbps.
USB 3.0	2 x USB 3.0 ports, dual layer type A connector, each channel supports up to 5Gbps.
1000M Ethernet	1 x adaptive 10/100/1000M ethernet port, RJ45 connector. It can be used to access the network. PoE can be supported through expansion module.
SD Card Slot	1 x Micro SD card slot, which is used to install Micro SD card. It supports booting the OS from Micro SD card.
HDMI	2 x HDMI ports, Micro HDMI connector, supporting 4K 60Hz
Power	1 x power in port, USB Type-C connector, supporting 5V/5A DC power input.

Buttons and Indicators	
ON/OFF	1 x power button, which is used to turn on and turn off the device.
PWR	1 x red power indicator, which is used to check the status of device power-on and power-off.
ACT	1 x green system indicator, which is used to check the working status of device.
COM1~COM2	2 x green UART indicators, which is used to check the communication status of UART port.

Internal I/O	
M.2 M	1 x M.2 M port, M.2 M Key connector, using to connect SSD and other fast peripherals. It compatibles with M.2 2230, M.2 2242 and M.2 2260, supporting to boot the OS from SSD.

LCD	
LCD Size	10.1" TFT
Resolution	1280 x 800
Colors	16.7MB
Active Area	216.576mm(H) x 135.36mm(V)
Backlight	LED
MTBF	>30000h
Pixel Pitch	250cd/m^2

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LCD	
Contrast Ratio	1000:1
Response Time	30ms
Viewing Angle (CR≥10)	80°(L)/80°(R)/80°(U)/80°(D)

Touch Screen	
Type	Multi-point Capacitive Touch Screen
Transmittance	≥85%
Connection Method	COF
Controller Interface	I2C
Driver Support	Linux
Multi-touch	10 points
Surface Hardness	6H

Expansion Functions	
RTC	RTC with 1F SuperCAP backup, which can ensure that the system clock is not affected bydevice power-off. We also provide a battery base, and you can buy a CR1220 batterybackup for RTC.
Buzzer	A tip or an abnormity can be configurated according to actual application, which realizesthe alarm function.

Electrical Characteristics	
Input Voltage	5V DC
Power Consumption	25W (Max)

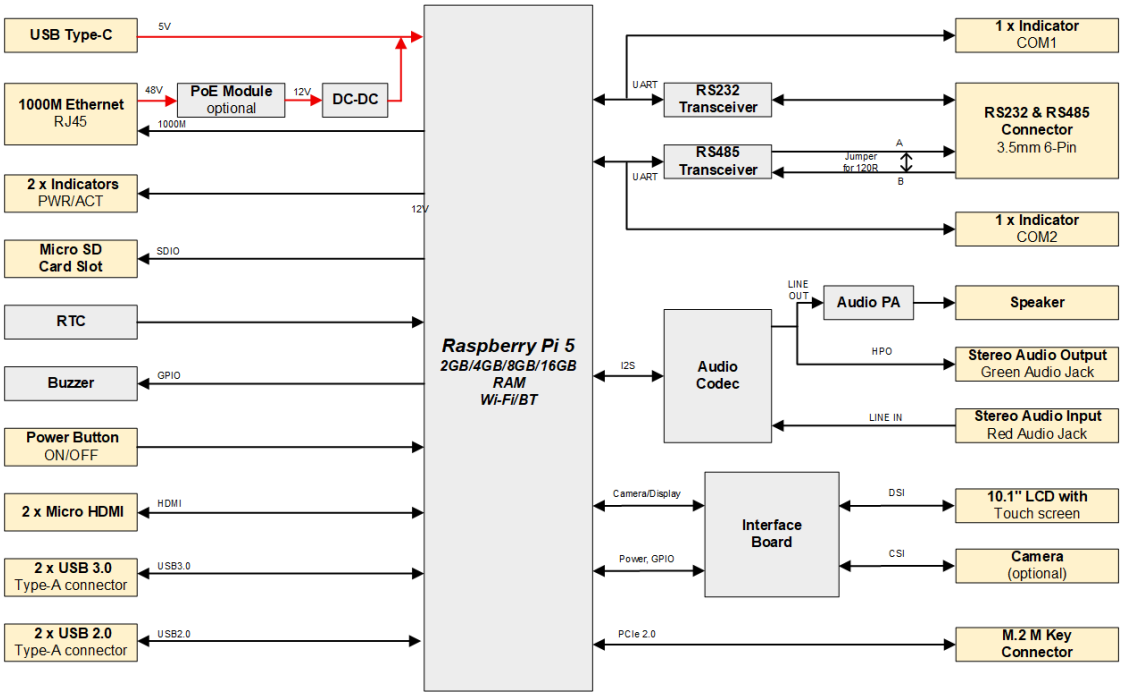
Mechanical Characteristics	
Dimensions	258mm x 172mm x 39.6mm (WxDxH)
Weight	About 1Kg
Installation	Embedded front installation

Wireless	
Wi-Fi	Dual-band 802.11ac Wi-Fi
Bluetooth	Bluetooth 5.0 / Bluetooth Low Energy (BLE)

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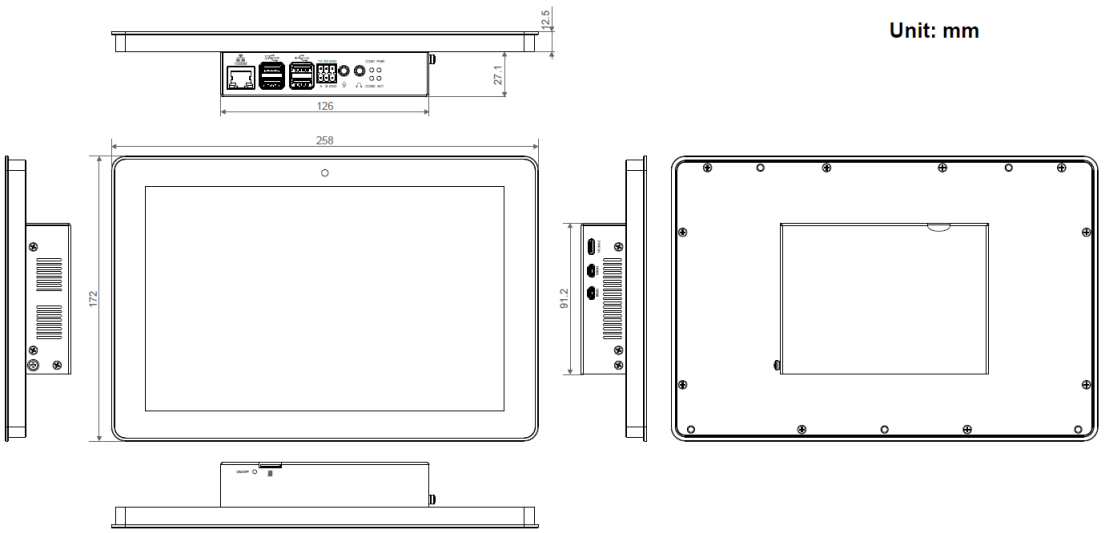
Environmental & Regulatory	
Operating Temperature	-20°C ~ 60°C
Storage Temperature	-25°C ~ 60°C
Ambient humidity	5% ~ 95% (non-condensing)
Certifications	• FCC ◦ FCC 47 CFR Part 15 Subpart B • CE ◦ EN IEC 62368-1:2020 + A11:2020 ◦ EN IEC 62311:2020 ◦ ETSI EN 301 489-1 V2.2.3 (2019-11)/ETSI EN 301 489-3 V2.3.2 (2023-01) Draft ETSI EN 301 489-17 V3.2.6 (2023-06)/EN 55032:2015 + A1:2020 + A11:2020 EN 55035:2017 + A11:2020/EN IEC 61000-3-2:2019 + A1:2021 EN 61000-3-3:2013 + A1:2019 + A2:2021 ◦ ETSI EN 300 328 V2.2.2 (2019-07)/ETSI EN 301 893 V2.1.1 (2017-05) ETSI EN 300 440 V2.2.1 (2018-07)

System Diagram

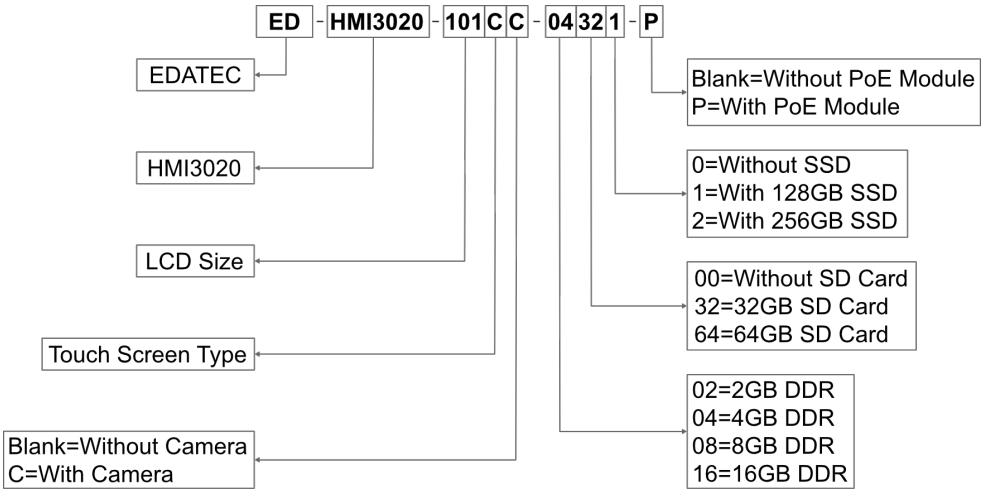


Dimensions

Unit: mm



Ordering Code



Note:
Because Raspberry Pi 5 does not have eMMC, so when you select a product model, you need choose at least one of SD card and SSD.

Example

P/N: **ED-HMI3020-101CC-04321-P**
Configuration: 10.1-inch Industrial HMI Based on Raspberry Pi 5, with 4GB DDR, Camera, 32GB SD card, 128GB SSD and PoE Module.

Optional Accessory

You can choose a Raspberry Pi Power Adapter according to actual needs.

Model	Description	Picture
SC1149	Raspberry Pi 27W USB-C Power Supply White UK	

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Model	Description	Picture
SC1150	Raspberry Pi 27W USB-C Power Supply White AU	
SC1151	Raspberry Pi 27W USB-C Power Supply White IN	
SC1152	Raspberry Pi 27W USB-C Power Supply White EU	
SC1153	Raspberry Pi 27W USB-C Power Supply White US	
SC1154	Raspberry Pi 27W USB-C Power Supply Black UK	
SC1155	Raspberry Pi 27W USB-C Power Supply Black AU	
SC1156	Raspberry Pi 27W USB-C Power Supply Black IN	
SC1157	Raspberry Pi 27W USB-C Power Supply Black EU	
SC1158	Raspberry Pi 27W USB-C Power Supply Black US	

Packing List

- 1 x ED-HMI3020-101C Unit
- 1 x Mounting Kit (including 4 x buckles, 4 x M4*10 screws and 4 x M4*16 screws)

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