# ED-HMI3020-070C

## Datasheet

by EDA Technology Co., Ltd

built: 2025-12-24

# ED-HMI3020-070C

7.0-inch Industrial HMI Based on Raspberry Pi 5

- 7.0" TFT, resolution 1024x600, multi-point capacitive touch screen
- Broadcom BCM2712 2.4GHz quad-core 64-bit Arm Cortex-A76 CPU
- Up to 8GB 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 and 8GB LPDDR4X-4267 SDRAM are optional |
| Storage | Micro SD Card Slot, supporting to select the 00GB/32GB/64GB SD card<br>M.2 NVMe SSD, supporting to select the 00GB/128GB/256GB SSD |

| Software | |
|---|---|
| Operating System | Raspberry Pi OS(Desktop) 64-bit<br>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. |

| 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.<br>The signal is defined as GND/A/B. |
| RS232 | 1 x RS232 port, 3-Pin 3.5mm pitch phoenix terminals, the signal is defined RS232 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. |
| 1000MEthernet | 1 x adaptive 10/100/1000M ethernet port, RJ45 connector. It can be used to access thenetwork.<br>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.<br>It compatibles with M.2 2230, M.2 2242 and M.2 2260, supporting to boot the OS from SSD. |

| LCD | |
|---|---|
| LCD Size | 7.0" TFT |
| Resolution | 1024 x 600 |
| Colors | 16.7MB |
| Active Area | 154.21mm(H) x 85.92mm(V) |
| Backlight | LED |
| MTBF | >30000h |
| Pixel Pitch | 400cd/$m^2$ |

| LCD | |
|---|---|
| Contrast Ratio | 800:1 |
| Response Time | 30ms |
| Viewing Angle (CR≥10) | 85°(L)/85°(R)/85°(U)/85°(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.<br>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. |

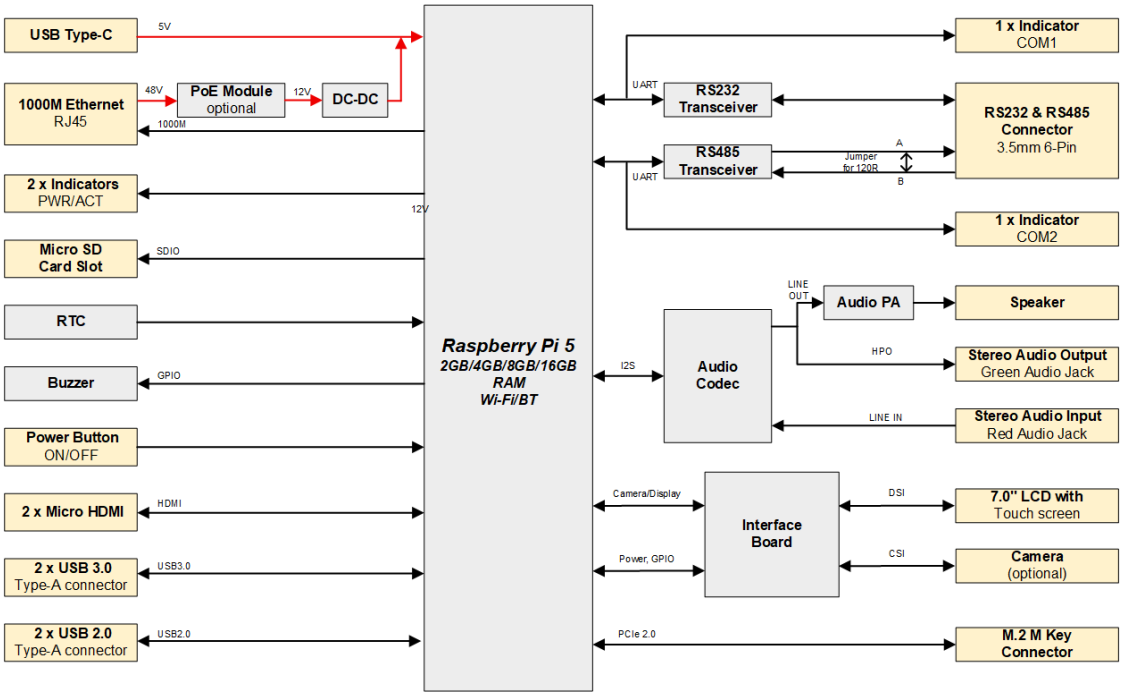
| Electrical Characteristics | |
|---|---|
| Input Voltage | 5V DC |
| Power Consumption | 25W(Max) |

| Mechanical Characteristics | |
|---|---|
| Dimensions | 188mm x 123mm x 40.6mm (WxDxH) |
| Weight | About 900g |
| Installation | Embedded front installation |

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

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

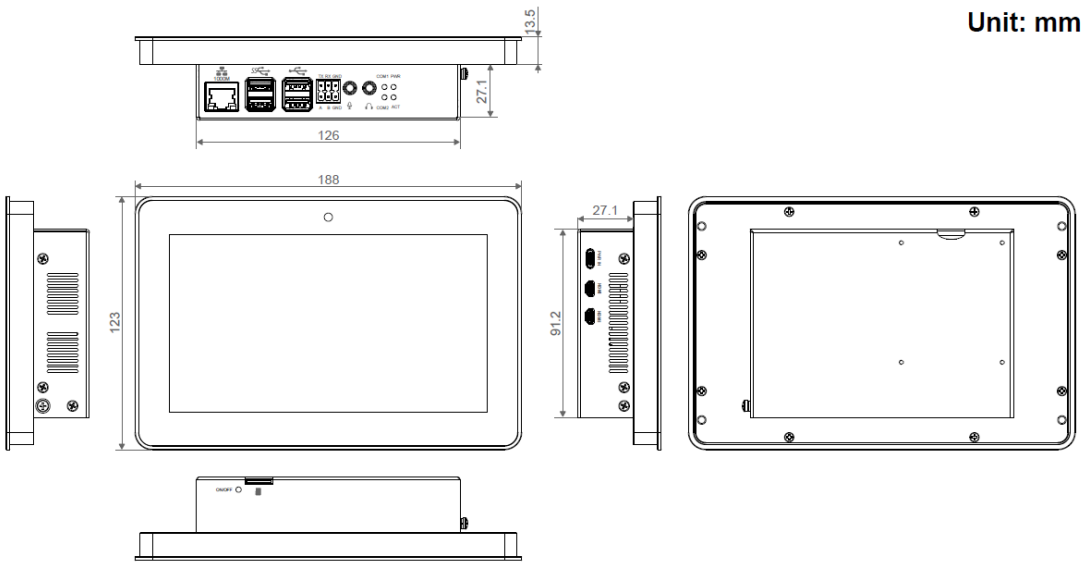
# System Diagram



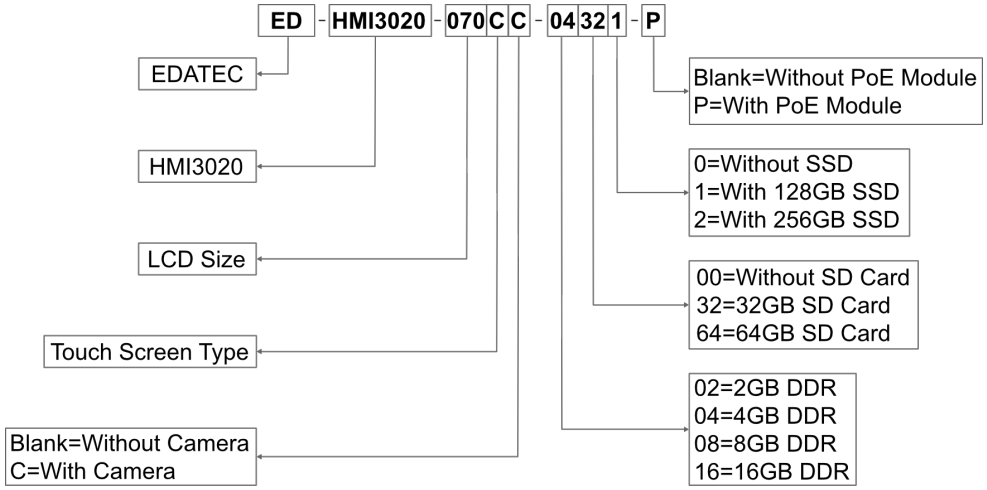

# Dimensions

Unit: mm

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-HMI3020-070CC-04321-P**
Configuration: 7.0-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 | |

| 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-HMI3020-070C Unit
- 1 x Mounting Kit (including 4 x buckles, 4 x M4*10 screws and 4 x M4*16 screws)