

# ED-HMI2020-070C

## 7.0-inch Industrial HMI Based on Raspberry Pi CM4

- ◆ 7.0" TFT, resolution 1024x600, multi-point capacitive touch screen
- ◆ Broadcom BCM2711, quad core Arm Cortex-A72 (ARM v8) 64-bit SoC @ 1.5GHz
- ◆ Up to 8GB LPDDR4 RAM and 32GB eMMC storage
- ◆ Lan supports up to 1Gbps
- ◆ 2.4GHz and 5GHz dual-band Wi-Fi and Bluetooth
- ◆ Support Micro SD Card; integrated RTC, EEPROM and encryption chip
- ◆ Wide voltage power input range of DC 9V~28V with reverse polarity protection, overvoltage protection and overcurrent protection
- ◆ Embedded installation, compatible with VESA standard bracket installation



## Specifications

System	
CPU	Broadcom BCM2711, quad core Arm Cortex-A72 (ARM v8) 64-bit SoC @ 1.5GHz
VPU	H.265(HEVC), up to 4Kp60 decode H.264, up to 1080p60 decode, 1080p30 encode
GPU	OpenGL ES 3.1 & Vulkan 1.0
Memory	Options for 1GB, 2GB, 4GB, 8GB LPDDR4-3200 SDRAM
Storage	<ul style="list-style-type: none"> <li>• Options for 8GB, 16GB, 32GB eMMC storage</li> <li>• Micro SD card (user storage expansion)</li> </ul>

Software	
Operating System	<ul style="list-style-type: none"> <li>• Raspberry Pi OS(Desktop) 32-bit</li> <li>• Raspberry Pi OS(Lite) 32-bit</li> <li>• Raspberry Pi OS(Desktop) 64-bit</li> <li>• Raspberry Pi OS(Lite) 64-bit</li> </ul>

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

Side I/O	
Power	1 x DC IN, DC Jack connector, supporting 9V~28V input.
Audio	1 x Audio In/Stereo Out, 3.5mm audio jack connector. It can be used as MIC IN and Audio OUT. <ul style="list-style-type: none"> <li>When a headphone is connected, the audio output switches to the headphone.</li> <li>When no headphone is connected, the audio output switches to the speaker.</li> </ul>
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, using to install SD card for storing user data.
HDMI	1 x HDMI port, type A connector. It is compatible with HDMI 2.1 and supports 4K 60Hz.
USB 2.0	1 x USB 2.0 port, type A connector, which supports up to 480Mbps transmission rate.
USB 3.0	2 x USB 3.0 ports, type A connector, which support up to 5Gbps transmission rate.
Antenna	1 x SMA port, using to connect Wi-Fi/BT antenna.
Speaker	1 x PA output, built-in a 4Ω 3W speaker.

Buttons and Indicators	
Reset	1 x Reset button, which can reset the device.
PROGRAM	1 x PROGRAMMING button, which is used to flash to eMMC for the system.
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.

Expansion I/O	
12V 1A	1 x DC OUT, 2-Pin 2.0mm pitch WTB connector, supporting 12V 1A output. These pins are defined as GND/12V, reserving to provide power supply for extended LCD.
40-Pin GPIO	1 x GPIO, 2x20-Pin 2.54mm pitch pin header, using to lead out the GPIO ports of CM4. <ul style="list-style-type: none"> <li>These pins are defined as GPIO1~GPIO27/3V3/5V2/GND.</li> <li>It is compatible with expansion modules, reserving to connect expansion accessories.</li> </ul>
HDMI	1 x FPC HDMI, 40-Pin 0.5mm pitch FPC connector, which can be reserved to connect extended LCD, supporting USB/I2C touch screen and backlight adjustment.
USB	1 x USB 2.0, 5-Pin 1.27mm pitch WTB connector, supporting to expand the USB 2.0 port.

Expansion Performance	
EEPROM	Supports 4K byte storage and improves the ease of use of device.
Crypto Authentication	It can be matched to realize the required upper layer application and improves the security of device.
RTC	RTC with CR1220 battery backup, which can ensure that the system clock is not affected by device power-off. <b>Note: A CR1220 battery is provided by default in China.</b>
Buzzer	A tip or an abnormality can be configurated according to actual application, which realizes the alarm function.

<b>LCD</b>	
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
Luminance	400cd/m <sup>2</sup>
Contrast Ratio	800:1
Response Time	30ms
Viewing Angle (CR≥10)	85°(L)/85°(R)/85°(U)/85°(D)

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

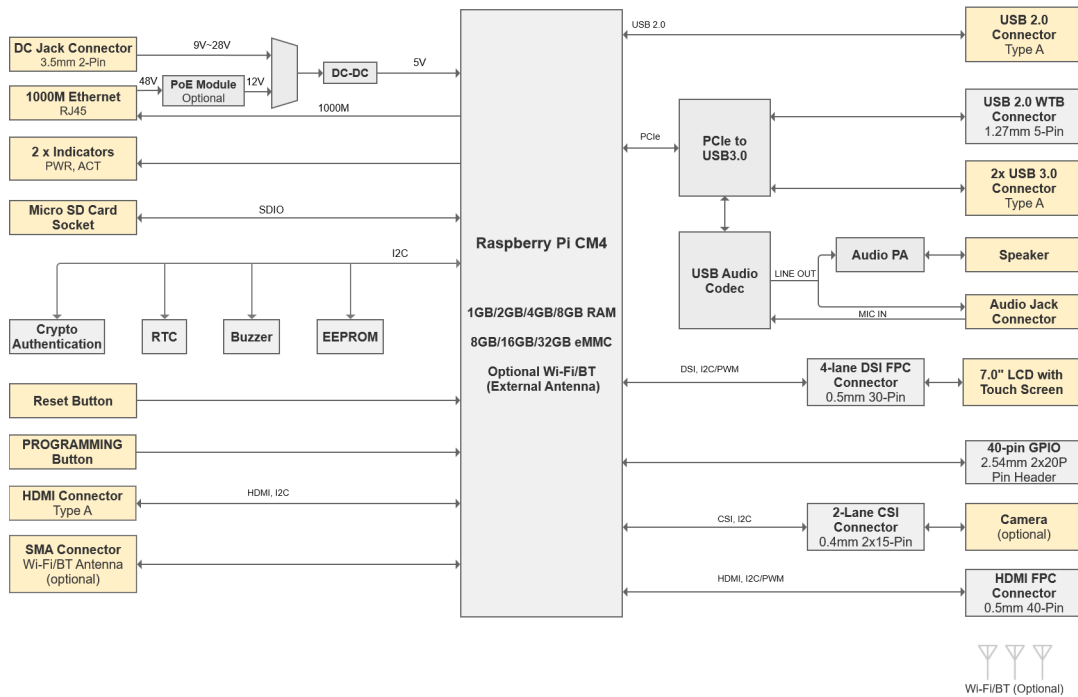
<b>Electrical Characteristics</b>	
Input Voltage	9V ~ 28V DC
Maximum Power Consumption	20W

<b>Mechanical Characteristics</b>	
Dimensions	188mm x 123mm x 42mm (WxDxH, antenna is not included.)
Weight	900g
Installation	Embedded front installation

<b>Wireless</b>	
Wi-Fi/Bluetooth (optional)	2.4GHz & 5GHz dual-band Wi-Fi and Bluetooth with antenna. <ul style="list-style-type: none"> <li>• 2.4GHz Wi-Fi: Compatible with IEEE 802.11 b/g/n</li> <li>• 5GHz Wi-Fi: Compatible with IEEE 802.11 a/n/ac</li> <li>• The Bluetooth supports 2402MHz ~ 2480MHz frequency</li> </ul>

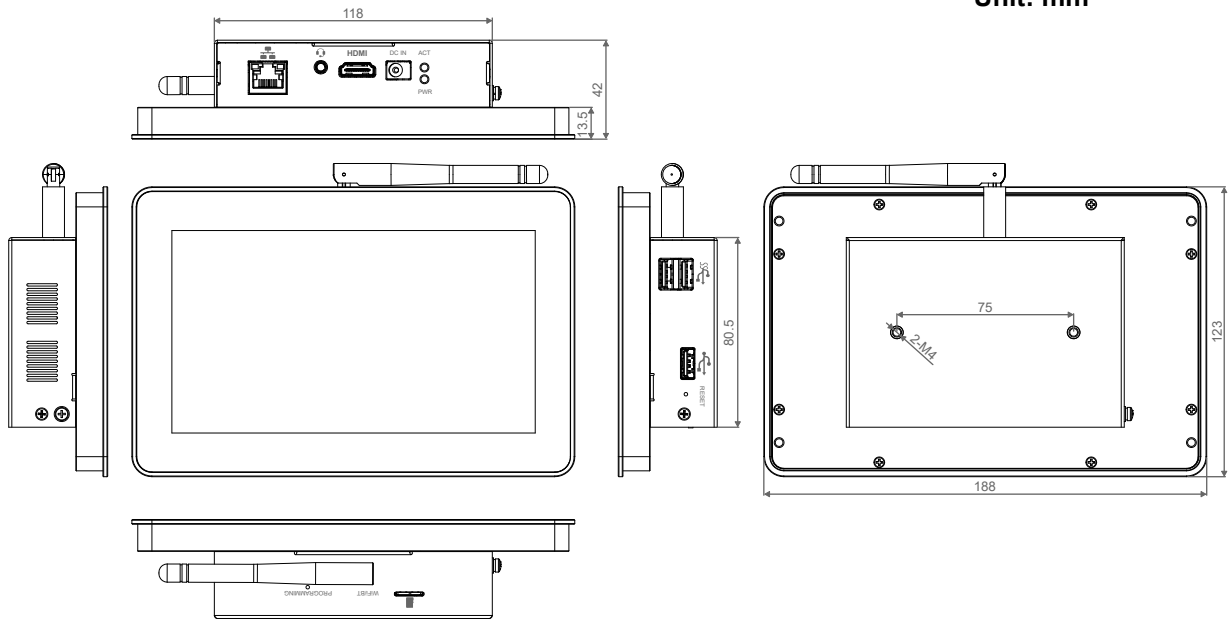
Environmental & Regulatory	
Operating Temperature	-20°C ~ 60°C
Storage Temperature	-25°C ~ 60°C
Ambient Humidity	5% ~ 95% (non-condensing)
Certifications	<ul style="list-style-type: none"> <li>• <b>FCC</b> FCC 47 CFR Part 15 Subpart B</li> <li>• <b>CE</b> EN IEC 62368-1/EN IEC 62311/EN IEC 61000-3-2/EN IEC 61000-3-3 EN 55032/EN 55035 EN 301 489-1/EN 301 489-3/EN 301 489-17/EN 301 489-52 EN 301 328/EN 301 440/EN 301 511/EN 301 908-1/EN 301 908-2</li> </ul>

## System Diagram

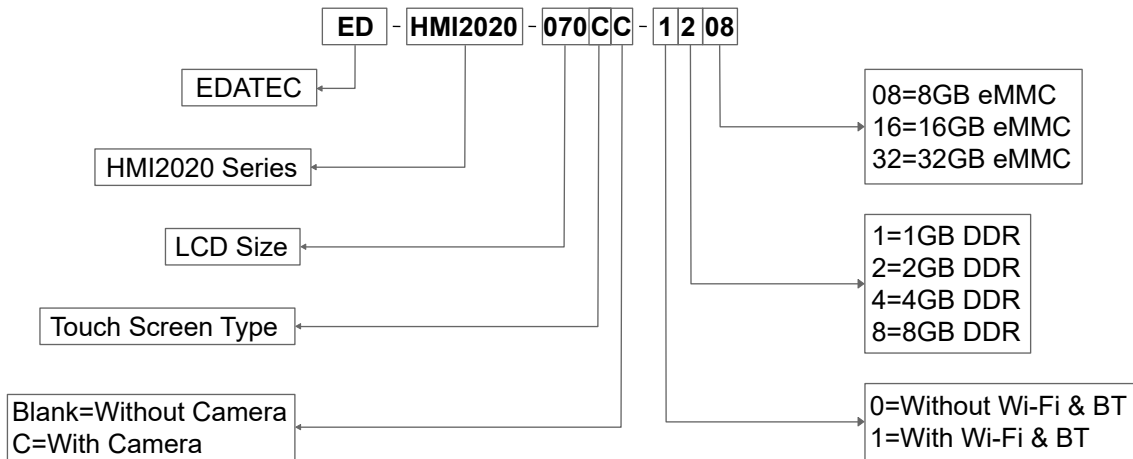


## Dimensions

Unit: mm



## Ordering Code



**Example**  
 P/N: **ED-HMI2020-070CC-1208**  
 Configuration: 7.0-inch Industrial HMI Based on Raspberry Pi CM4, with Wi-Fi & Bluetooth, 2GB DDR, 8GB eMMC and Camera.

## Optional Accessory

You can choose a power adapter according to actual needs.

Model	Description	Picture
ED-PSU1202-UK	100~240VAC to 12VDC/2A Adapter, with UK AC plug, 5.5mm DC plug	
ED-PSU1202-US	100~240VAC to 12VDC/2A Adapter, with US AC plug, 5.5mm DC plug	
ED-PSU1202-AU	100~240VAC to 12VDC/2A Adapter, with AU AC plug, 5.5mm DC plug	
ED-PSU1202-EU	100~240VAC to 12VDC/2A Adapter, with EU AC plug, 5.5mm DC plug	

**NOTE: Each model contains only one of the UK, US, AU and EU plugs.**

## Packing List

- 1 x ED-HMI2020-070C Unit
- 4 x buckles (including 4xM4\*8 screws and 4xM4\*16 screws)
- **[Wi-Fi/BT Version - optional]** 1 x 2.4GHz/5GHz Wi-Fi/BT Antenna