



# **ED-HMI3630-101C**

## Datasheet

by EDA Technology Co., Ltd

built: 2024-11-26

# ED-HMI3630-101C

## 10.1-inch Industrial HMI Based on Raspberry Pi CM5

- 10.1" TFT, resolution 1280x800, multi-point capacitive touch screen
- Broadcom BCM2712, quad-core Arm Cortex-A76 (ARM v8) 64-bit SoC @ 2GHz
- Up to 16GB LPDDR4 RAM and 64GB eMMC storage
- Support Micro SD card and M.2 NVMe SSD storage expansion
- Dual Lans, 1 x Gigabit Ethernet and 1 x 100M Ethernet
- 4 x isolated RS232/485 with electrostatic and surge protection
- 2 x isolated CAN with LED indicator, support CAN 2.0B standard
- 8 x isolated DI with LED indicator, support AC input
- 8 x isolated DO with LED indicator, support overcurrent protection
- 2.4GHz and 5GHz dual-band Wi-Fi, Bluetooth, and 4G LTE
- Wide voltage power input range of DC 9V~36V with reverse polarity protection, overvoltage protection, and overcurrent protection
- Integrated supercapacitor (backup power supply, optional), RTC, Watch Dog, EEPROM, and crypto authentication
- Embedded installation, compatible with VESA standard bracket installation



## Specifications

System	
CPU	Broadcom BCM2712, quad core Cortex-A76 (ARM v8) 64-bit SoC @ 2GHz
VPU	H.265 (HEVC), up to 4Kp60 decode
GPU	OpenGL ES 3.1 & Vulkan 1.2
Memory	Options for 2GB, 4GB, 8GB, 16GB LPDDR4-4267 SDRAM
Storage	Options for 16GB, 32GB, 64GB eMMC storage Micro SD card (user storage expansion) M.2 NVMe SSD (options for 128GB, 256GB, 512GB)

software	
Operating System	Raspberry Pi OS (Desktop) 32-bit Raspberry Pi OS (Lite) 32-bit 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	
Power	<p>1 x DC IN, 2-Pin 3.5mm spacing phoenix terminals with screw holes.</p> <p>It supports 9V~36V input, the signal is defined as VIN+/GND.</p>
RS485/232	<p>12-Pin 3.5mm spacing phoenix terminals with IO isolator, which are equipped with electrostatic and surge protection.</p> <p>Different numbers of RS232 and RS485 ports can be selected according to actual application.</p> <p>The signal of RS485 is defined as IGND/A/B, and the signal of RS232 is defined as IGND/TX/RX.</p> <ul style="list-style-type: none"> <li>• ED-HMI3632-101C: 2 x RS485 + 2 x RS232</li> <li>• ED-HMI3633-101C: 3 x RS485 + 1 x RS232</li> <li>• ED-HMI3634-101C: 4 x RS485</li> </ul>
Audio	<p>1 x Audio In/Stereo Out, 3.5mm audio jack connector. It can be used as MIC IN and LINE OUT.</p> <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.
100M Ethernet	1 x adaptive 10/100M ethernet port, RJ45 connector. It can be used to access the network.
CAN	<p>2 x CAN ports, 6-Pin 3.5mm spacing phoenix terminals.</p> <ul style="list-style-type: none"> <li>• Isolation Protection: 3 KV</li> <li>• CAN Protocol: CAN 2.0B</li> <li>• Baud Rate: 10~1000 kbps</li> <li>• Signals: CANH, CANL, GND</li> </ul>
DI	<p>8 x DI ports, 10-Pin 3.5mm spacing phoenix terminals</p> <ul style="list-style-type: none"> <li>• Sensor Type: Wet Contact (NPN &amp; PNP), Dry Contact</li> <li>• Isolation Protection: 5 KV</li> <li>• Every 4 DI share one common pin (called COM): X0, X2, X4 and X6 share COMX0; X1, X3, X5 and X7 share COMX1</li> <li>• DI to COM: ON: 5~30 VDC or -30~-5 VDC OFF: 0~2 VDC or -2~0 VDC</li> </ul>
DO	<p>8 x DO ports, 10-Pin 3.5mm spacing phoenix terminals</p> <ul style="list-style-type: none"> <li>• Sensor Type: NPN</li> <li>• Isolation Protection: 5 KV</li> <li>• Output: 5~36 VDC (24 VDC is recommended), maximum current is 1.5A(per channel)</li> </ul>
SD Card Slot	1 x Micro SD card slot, which is used to install SD card for storing user data.
SIMCard Slot	1 x Nano SIM card slot, which is used to install SIM card for getting 4G signal.
Micro USB	1 x PROGRAMMING port, which supports to flash to eMMC for the system.
HDMI	1 x HDMI port, type A connector. It is compatible with HDMI 2.1 and supports 4K 60Hz.
USB 2.0	2 x USB 2.0 ports, type A connector, supporting up to 480Mbps.
Antenna	2 x SMA ports, using to connect 4G antenna and 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.
PWR	1 x red power indicator, which is used to check the status of device power-on and power-off.
4G	1 x green 4G indicator, which is used to check the status of 4G signal.
ACT	1 x green system indicator, which is used to check the working status of device.
USER	1 x green user indicator, user can customize a status according to actual application.
COM1~COM4	4 x green UART indicators, using to check the communication status of UART ports.
CAN0~CAN1	2 x green CAN indicators, using to check the communication status of CAN ports.
X0~X7	8 x green DI indicators, using to check the input status of DI ports.
Y0~Y7	8 x green DO indicators, using to check the output status of DO ports.

Expansion I/O	
12V 1A	3 x DC OUT, 2-Pin 2.0mm spacing WTB connector, supporting 12V 1A output. These pins are defined as GND/12V, reserving to provide power supply for extended LCD.
10-Pin GPIO	1 x GPIO Pin Header, 2x5-Pin 2.54mm spacing, using to lead out the expansion GPIO ports. User can customize the function according to actual application, these pins are defined as 8xGPIO/ 3V3/GND.
USB	1 x USB 2.0, 5-Pin 1.5mm spacing WTB connector, supporting to expand the USB 2.0 port.
M.2 B	1 x M.2 B, M.2 B Key connector, supporting to connect SSD. It is compatible with M.2 2230 and M.2 2242.

Expansion Performance	
EEPROM	It 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 1F SuperCAP backup, which can ensure that the system clock is not affected by device power-off. We also provide a battery base, and you can buy a CR1220 battery backup for RTC.
Buzzer	A tip or an abnormality can be configured according to actual application, which realizes the alarm function.
Watch Dog*	This function has been reserved on hardware. But we need additional software to support it, which is under development.

LCD	
LCD Size	10.1" TFT

LCD	
Resolution	1280 x 800
Colors	16.7MB
Active Area	216.576mm (H) x 135.36mm (V)
Backlight	LED
MTBF	>30000h
Pixel Pitch	400cd/m <sup>2</sup>
Contrast Ratio	1000:1
Response Time	30ms
Viewing Angle (CR≥10)	80° (L) / 80° (R) / 80° (U) / 80° (D)
Input Type	LVDS

Touch Screen	
Type	Multi-point Capacitive Touch Screen
Transmittance	≥85%
ConnectionMethod	COF
ControllerInterface	I2C
Driver Support	Linux
Multi-touch	10 points
SurfaceHardness	6H

Electrical Characteristics	
Input Voltage	9V ~ 36V DC
Power Consumption	25W (Max)

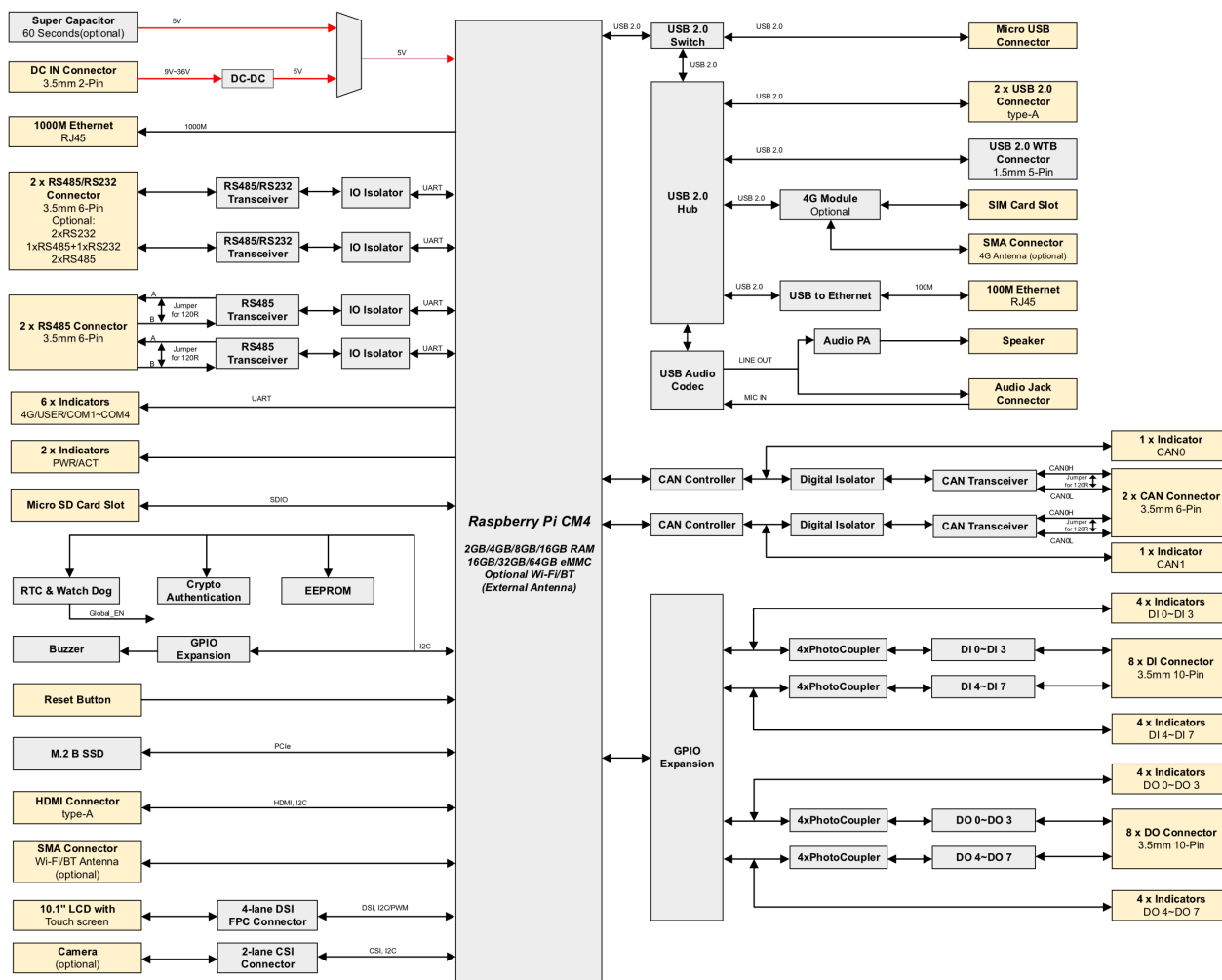
Mechanical Characteristics	
Dimensions	258mm x 172mm x 61.5mm (WxDxH, antenna is not included.)
Weight	1.3Kg
Installation	Embedded front installation

Wireless	
Wi-Fi/Bluetooth (optional)	<p>2.4GHz &amp; 5GHz dual-band Wi-Fi and Bluetooth with antenna.</p> <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>
4G (optional)	<p>Connect with various 4G LTE modules through the Mini PCIe interface, with antenna.</p> <ul style="list-style-type: none"> <li>• EC20-CE Module (China/India) <ul style="list-style-type: none"> <li>◦ LTE FDD: B1/B3</li> <li>◦ LTE TDD: B38/B39/B40/B41</li> <li>◦ TDSCDMA: B34/B39</li> <li>◦ WCDMA: B1</li> <li>◦ CDMA 1x/EVDO: BC0</li> <li>◦ GSM: 900/1800MH</li> <li>◦ GPS/GLONASS/BDS/Galileo/QZSS (optional)</li> </ul> </li> <li>• EC25-AFX Module (North America) <ul style="list-style-type: none"> <li>◦ LTE FDD: B2/B4/B5/B12/B13/B14/B66/B71</li> <li>◦ LTE TDD</li> <li>◦ WCDMA: B2/B4/B5</li> <li>◦ GSM/EDGE</li> <li>◦ GPS/GLONASS/BDS/Galileo/QZSS</li> </ul> </li> <li>• EC25-AUX Module (Latin America/Australia/New Zealand) <ul style="list-style-type: none"> <li>◦ LTE FDD: B1/B2/B3/B4/B5/B7/B8/B28</li> <li>◦ LTE TDD: B40</li> <li>◦ WCDMA: B1/B2/B4/B5/B8</li> <li>◦ GSM/EDGE: B2/B3/B5/B8</li> <li>◦ GPS/GLONASS/BDS/Galileo/QZSS</li> </ul> </li> <li>• EC25-EUX Module (Europe/Middle East/Africa/Thailand) <ul style="list-style-type: none"> <li>◦ LTE FDD: B1/B3/B7/B8/B20/B28A</li> <li>◦ LTE TDD: B38/B40/B41</li> <li>◦ WCDMA: B1/B8</li> <li>◦ GSM/EDGE: B3/B8</li> <li>◦ GPS/GLONASS/BDS/Galileo/QZSS</li> </ul> </li> <li>• EC25-EM Module (Europe/Middle East/Africa/South-East Asia) <ul style="list-style-type: none"> <li>◦ LTE FDD: B1/B3/B7/B8/B20/B28</li> <li>◦ LTE TDD: B38/B40/B41</li> <li>◦ WCDMA: B1/B5/B8</li> <li>◦ GSM/EDGE: B3/B8</li> <li>◦ GPS/GLONASS/BDS/Galileo/QZSS</li> </ul> </li> </ul>

Environmental & Regulatory	
Operating Temperature	-20°C ~ 60°C
Storage Temperature	-25°C ~ 60°C
Ambient humidity	5% ~ 95% (non-condensing)
Certifications	

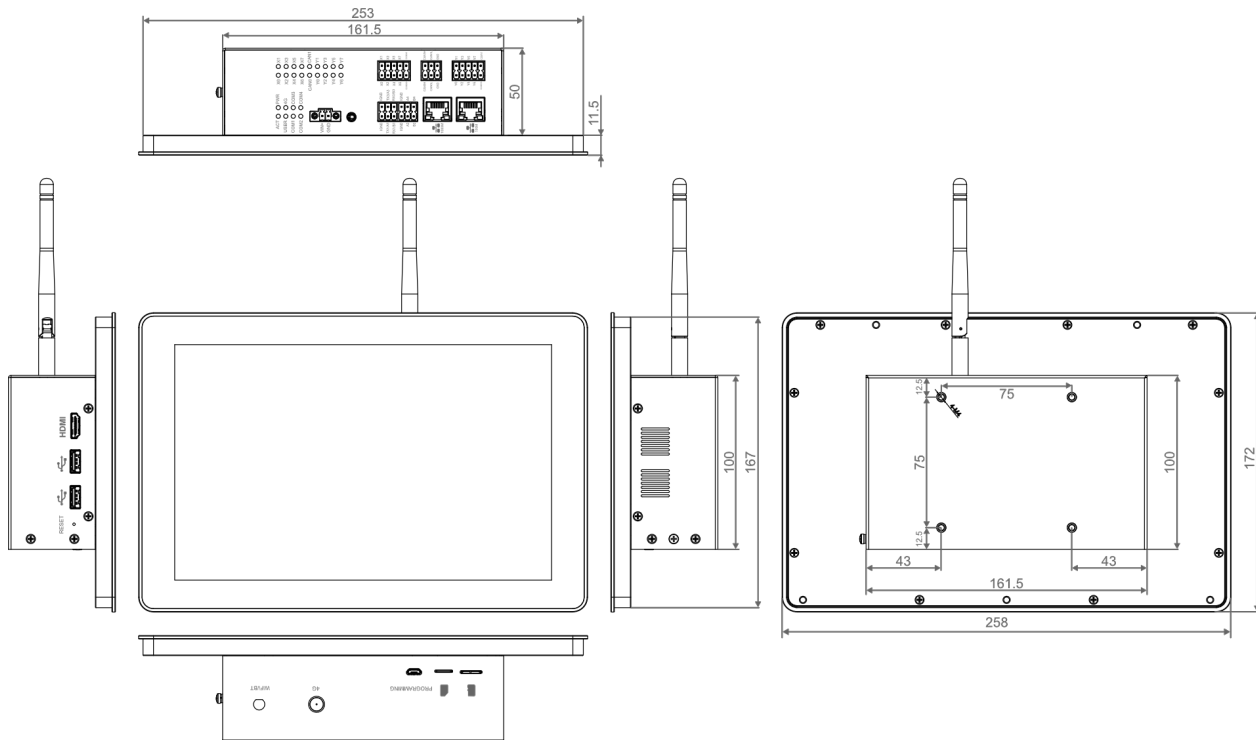
Environmental & Regulatory	
FCC	
FCC 47 CFR Part 15 Subpart B	
CE	
EN IEC 62368-1/EN IEC 62311/EN IEC 61000-3-2/EN IEC 61000-3-3	
EN 55032/EN 55035	
EN 301 489-1/EN 301 489-3/EN 301 489-17/EN 301 489-52	
EN 301 328/EN 301 440/EN 301 511/EN 301 908-1/EN 301 908-2	

## System Diagram

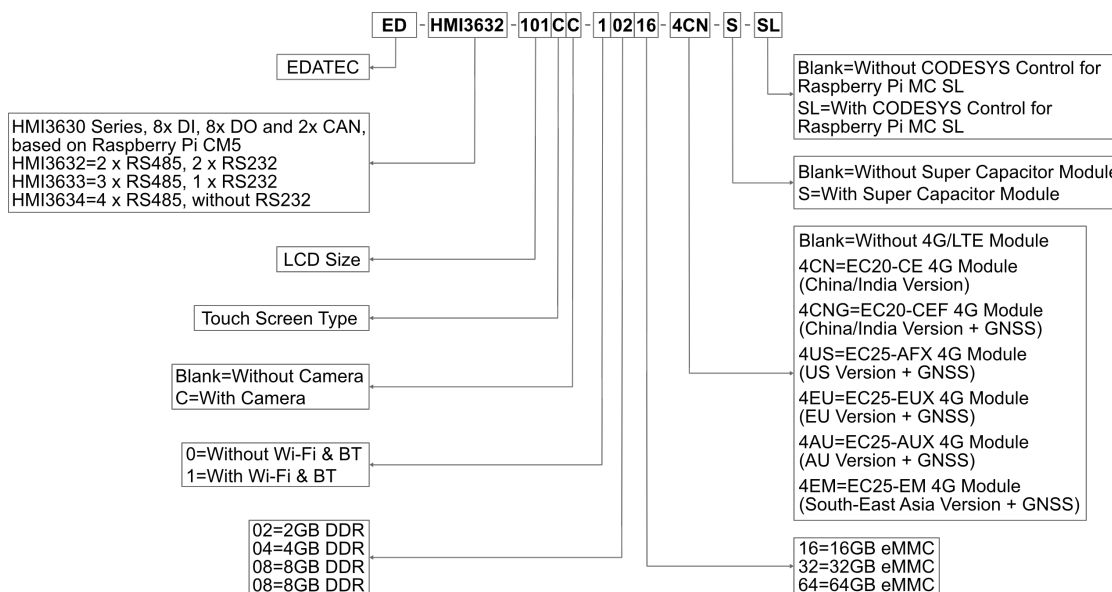


## Dimensions

Unit: mm



## Ordering Code




**Example**  
 P/N: **ED-HMI3632-101CC-10216-4CN-S-SL**  
 Configuration: 10.1-inch Industrial HMI Based on Raspberry Pi CM5, with Wi-Fi & Bluetooth, 4G (EC20-CE Module), 2GB DDR, 16GB eMMC, 8x DI, 8x DO, 2x CAN, 2 x RS485, 2 x RS232, Camera, Super Capacitor Module and CODESYS Control Raspberry Pi MC SL.

## 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	



Model	Description	Picture
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-HMI3630-101C Unit
- 1 x Mounting Kit (including 4 x buckles, 4xM4\*10 screws and 4xM4\*16 screws)
- [Wi-Fi/BT Version - optional] 1 x 2.4GHz/5GHz Wi-Fi/BT Antenna
- [4G Version - optional] 1 x 4G/LTE Antenna