ED-HMI2630-101C

Datasheet

by EDA Technology Co., Ltd

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ED-HMI2630-101C

10.1-inch Industrial HMI Based on Raspberry Pi CM4

- 10.1" TFT, resolution 1280x800, 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
- 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
- Optional CODESYS Control for Raspberry Pi MC SL
- 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 BCM2711, quad core 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	Options for 8GB, 16GB, 32GB 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	1 x DC IN, 2-Pin 3.5mm pitch phoenix terminals with screw holes. It supports 9V~36V input, the signal is defined as VIN+/GND.
RS485/232	12-Pin 3.5mm pitch phoenix terminals with IO isolator, which are equipped with electrostatic and surge protection. Different numbers of RS232 and RS485 ports can be selected according to actual application. The signal of RS485 is defined as IGND/A/B, and the signal of RS232 is defined as IGND/TX/RX. • ED-HMI2632-101C: 2 x RS485 + 2 x RS232 • ED-HMI2633-101C: 3 x RS485 + 1 x RS232 • ED-HMI2634-101C: 4 x RS485
Audio	1 x Audio In/Stereo Out, 3.5mm audio jack connector. It can be used as MIC IN and LINE OUT. • When a headphone is connected, the audio output switches to the headphone. • When no headphone is connected, the audio output switches to the speaker.
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	2 x CAN ports, 6-Pin 3.5mm pitch phoenix terminals. • Isolation Protection: 3 KV • CAN Protocol: CAN 2.0B • Baud Rate: 10~1000 kbps • Signals: CANH, CANL, GND
DI	8 x DI ports, 10-Pin 3.5mm pitch phoenix terminals • Sensor Type: Wet Contact (NPN & PNP), Dry Contact • Isolation Protection: 5 KV • Every 4 DI share one common pin (called COM): X0, X2, X4 and X6 share COMX0; X1,X3, X5 and X7 share COMX1 • DI to COM: ON: 5~30 VDC or -30~-5 VDC OFF: 0~2 VDC or -2~0 VDC
DO	8 x DO ports, 10-Pin 3.5mm pitch phoenix terminals • Sensor Type: NPN • Isolation Protection: 5 KV • Output: 5~36 VDC (24 VDC is recommended), maximum current is 1.5A (per channel)
SD Card Slot	1 x Micro SD card slot, which is used to install Micro SD card for storing user data.
SIM Card Slot	1 x Nano SIM card slot, which is used to install Nano 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 2.0 and supports 4K 60Hz.

Side I/O	
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.
CANB0~CANB1	2 x green CAN indicators, using to check the communication status of CAN ports. NOTE: In the old version of the product, the silkscreen for the CAN indicators were labeled as "CAN0" and "CAN1".
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.

Internal I/O	
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 Functions	
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 abnormity can be configurated 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
Resolution	1280 x 800
Color Number	16.7M
Active Area	216.576mm (H) x 135.36mm (V)
Backlight	LED
MTBF	>30000h
Luminance	400cd/m^2
Contrast Ratio	1000:1
Response Time	30ms
Viewing Angle (CR≥10)	80° (L) / 80° (R) / 80° (U) / 80° (D)

Touch Screen	
Type	Capacitive Touch Screen
Multi-touch	Up to 10 points
Communication Method	I2C
Transmittance	≥85%
Surface Hardness	6H

Electrical Characteristics	
Input Voltage	9V ~ 36V DC
Power Consumption	24W (Max)

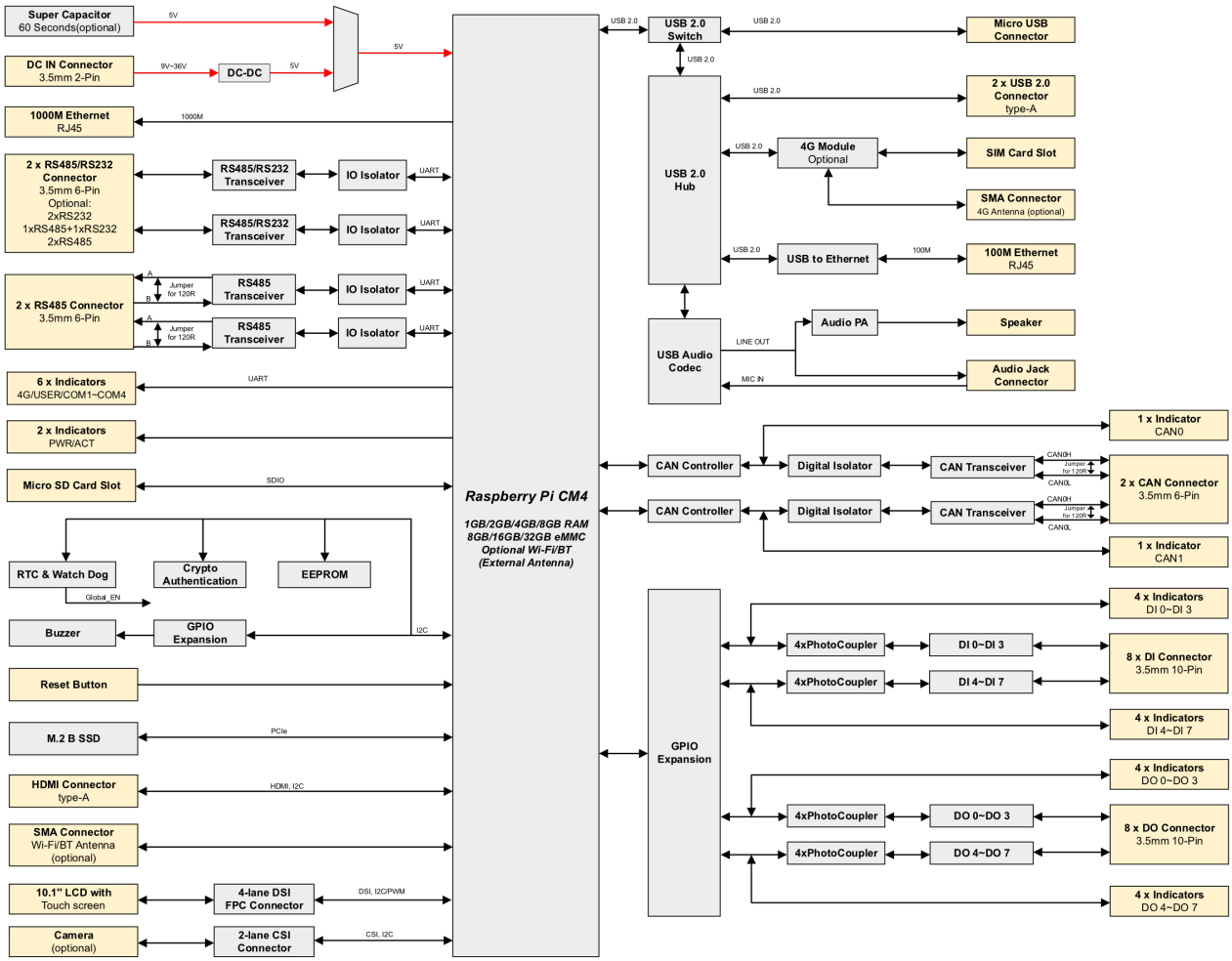
Mechanical Characteristics	
Dimensions	258mm x 172mm x 61.5mm (WxDxH, antenna is not included.)
Weight	1.3Kg
Installation	Embedded front installation

Wireless	
Wi-Fi/Bluetooth (optional)	2.4GHz & 5GHz dual-band Wi-Fi and Bluetooth with antenna. • 2.4GHz Wi-Fi: Compatible with IEEE 802.11 b/g/n • 5GHz Wi-Fi: Compatible with IEEE 802.11 a/n/ac

Wireless	
	• The Bluetooth supports 2402MHz ~ 2480MHz frequency
4G (optional)	Connect with various 4G LTE modules through the Mini PCIe interface, with antenna. • EC20-CE Module (China/India) ◦ LTE FDD: B1/B3 ◦ LTE TDD: B38/B39/B40/B41 ◦ TDSCDMA: B34/B39 ◦ WCDMA: B1 ◦ CDMA 1x/EVDO: BC0 ◦ GSM: 900/1800MH ◦ GPS/GLONASS/BDS/Galileo/QZSS (optional) • EC25-AFX Module (North America) ◦ LTE FDD: B2/B4/B5/B12/B13/B14/B66/B71 ◦ LTE TDD ◦ WCDMA: B2/B4/B5 ◦ GSM/EDGE ◦ GPS/GLONASS/BDS/Galileo/QZSS • EC25-AUX Module (Latin America/Australia/New Zealand) ◦ LTE FDD: B1/B2/B3/B4/B5/B7/B8/B28 ◦ LTE TDD: B40 ◦ WCDMA: B1/B2/B4/B5/B8 ◦ GSM/EDGE: B2/B3/B5/B8 ◦ GPS/GLONASS/BDS/Galileo/QZSS • EC25-EUX Module (Europe/Middle East/Africa/Thailand) ◦ LTE FDD: B1/B3/B7/B8/B20/B28A ◦ LTE TDD: B38/B40/B41 ◦ WCDMA: B1/B8 ◦ GSM/EDGE: B3/B8 ◦ GPS/GLONASS/BDS/Galileo/QZSS • EC25-EFA Module (Europe/Middle East/Africa/South-East Asia) ◦ LTE FDD: B1/B3/B7/B8/B20/B28 ◦ LTE TDD: B38/B40/B41 ◦ WCDMA: B1/B5/B8 ◦ GSM/EDGE: B3/B8 ◦ GPS/GLONASS/BDS/Galileo/QZSS

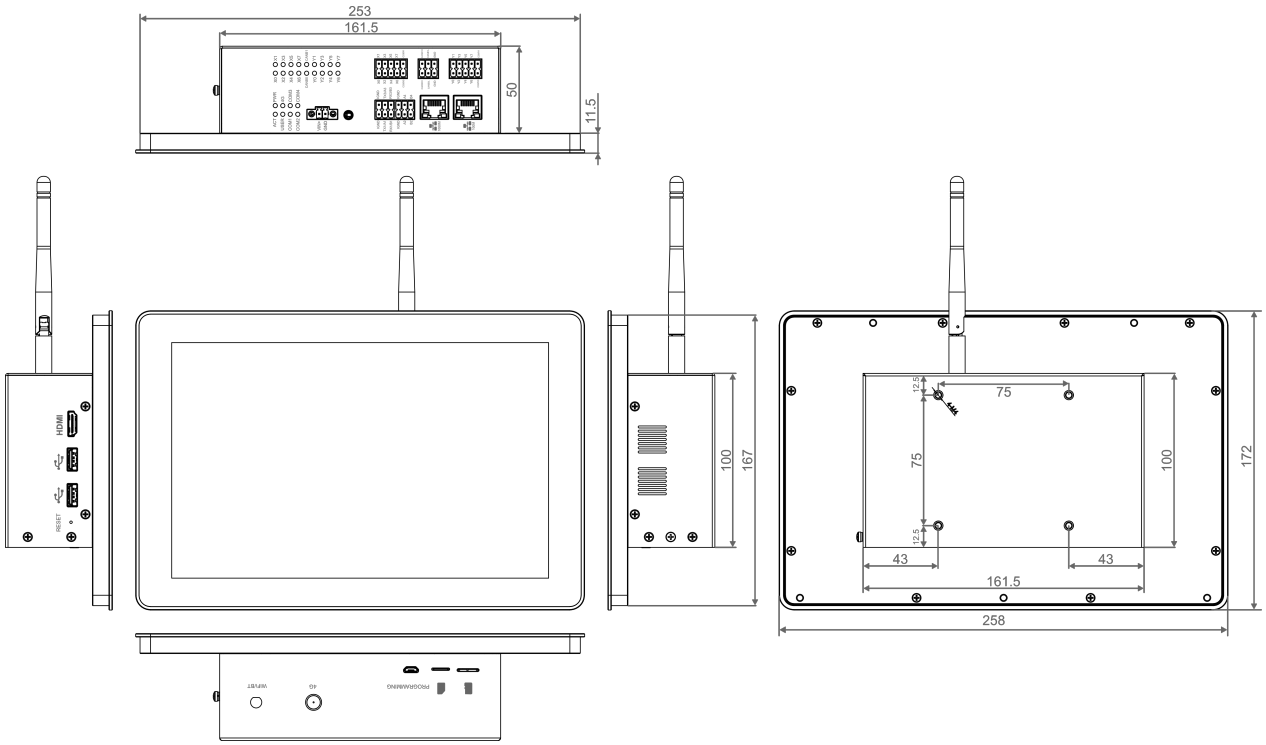
Environmental & Regulatory	
Operating Temperature	-20°C ~ 60°C
Storage Temperature	-25°C ~ 60°C
Ambient humidity	5% ~ 95% (non-condensing)

System Diagram



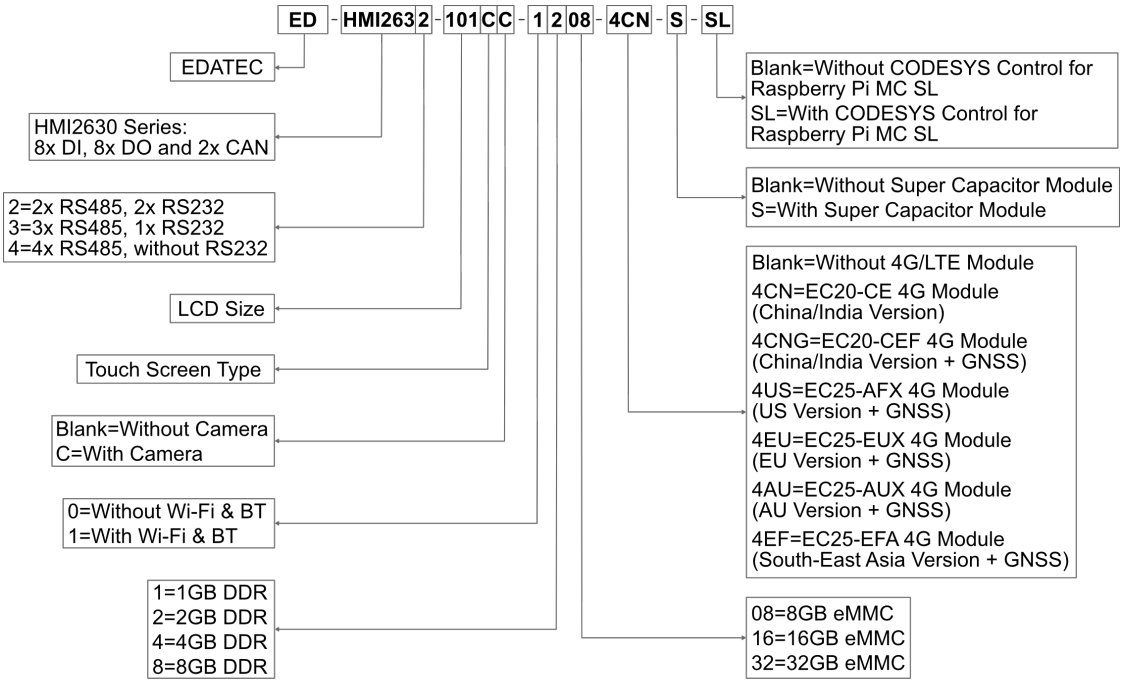
Dimensions

Unit: mm



> TIP
>
> In the older version of the product, the silkscreen for the CAN interfaces were marked as "CAN0H/CAN0L/GND" and "CAN1H/CAN1L/GND", and the silkscreen for the CAN indicators were labeled as "CAN0" and "CAN1".

Ordering Code



Example

P/N: **ED-HMI2632-101CC-1208-4CN-S-SL**

Configuration: 10.1-inch Industrial HMI Based on Raspberry Pi CM4, with Wi-Fi & Bluetooth, 4G (EC20-CE Module), 2GB DDR, 8GB 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-3.5PL	100~240VAC to12VDC/2A Adapter, with UK AC plug, 3.5mm pitch phoenix plug with lock	
ED-PSU1202-US-3.5PL	100~240VAC to 12VDC/2A Adapter, with US AC plug, 3.5mm pitch phoenix plug with lock	
ED-PSU1202-AU-3.5PL	100~240VAC to 12VDC/2A Adapter, with AU AC plug, 3.5mm pitch phoenix plug with lock	
ED-PSU1202-EU-3.5PL	100~240VAC to 12VDC/2A Adapter, with EU AC plug, 3.5mm pitch phoenix plug with lock	

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

Packing List

- 1 x ED-HMI2630-101C 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