ED-HMI3630-133C

Datasheet

by EDA Technology Co., Ltd

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ED-HMI3630-133C

13.3-inch Industrial HMI Based on Raspberry Pi CM5

- 1920x1080 resolution, up to 450cd/m^2 Luminance, multi-point capacitive touch screen
- Broadcom BCM2712, quad-core Arm Cortex-A76 (ARM v8) 64-bit SoC @ 2.4GHz
- Up to 16GB LPDDR4 RAM and 64GB eMMC NAND storage
- Support 1 x Micro SD card and 1 x M.2 B-key 2230/2242 SSD storage expansion
- 1 x HDMI, 2 x LAN, 2 x USB 2.0, 4 x isolated RS232/485, 2 x isolated CAN, 8 x isolated DI, 8 x isolated DO
- Wide voltage power input range of DC 12V~24V with TVS transient voltage protection and reverse polarity protection
- Integrated supercapacitor (backup power supply, optional), RTC, EEPROM, and crypto authentication
- Embedded installation, compatible with VESA 75x75 installation
- Optional CODESYS Control for Raspberry Pi MC SL

Specifications

System	
CPU	Broadcom BCM2712, quad core Cortex-A76 (ARM v8) 64-bit SoC @ 2.4GHz
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 1 x Micro SD card Slot (user storage expansion) 1 x M.2 B port (for M.2 B 2230/2242 SSD storage expansion, options for 128GB, 256GB, 512GB)

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

Side I/O	
Power	1 x DC IN, 2-Pin 3.5mm pitch phoenix terminals with screw holes. It supports 12V~24V 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

Side I/O	
	application. The signal of RS485 is defined as IGND/A/B, and the signal of RS232 is defined as IGND/TX/RX. • ED-HMI3632-133C: 2 x RS485 + 2 x RS232 • ED-HMI3633-133C: 3 x RS485 + 1 x RS232 • ED-HMI3634-133C: 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: 5~30 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 Micro 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.
USB 2.0	2 x USB 2.0 ports, Type-A connector, supporting up to 480Mbps.
Antenna	2 x SMA ports (optional), using to connect 4G antenna and Wi-Fi/BT antenna.
Speaker	1 x PA output, built-in a 4Ω 5W 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.

Buttons and Indicators	
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.
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.

LCD	
Type	13.3" TFT
Resolution	1920 x 1080
Color Number	16.7M
Active Area	293.76mm (H) x 165.24mm (V)
Backlight	LED
Luminance	450cd/m^2
Contrast Ratio	1500:1
Response Time	25ms
Viewing Angle (CR≥10)	80° (L) / 80° (R) / 80° (U) / 80° (D)

Touch Screen	
Type	Capacitive Touch Screen
Multi-touch	Up to 5 points
Communication Method	USB
Transmittance	≥85%
Surface Hardness	6H

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.

Expansion Functions	
RTC	RTC with 1F SuperCAP backup, which can ensure that the system clock is not affected byd evice 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.

Electrical Characteristics	
Input Voltage	12V ~ 24V DC
Power Consumption	34W (Max)

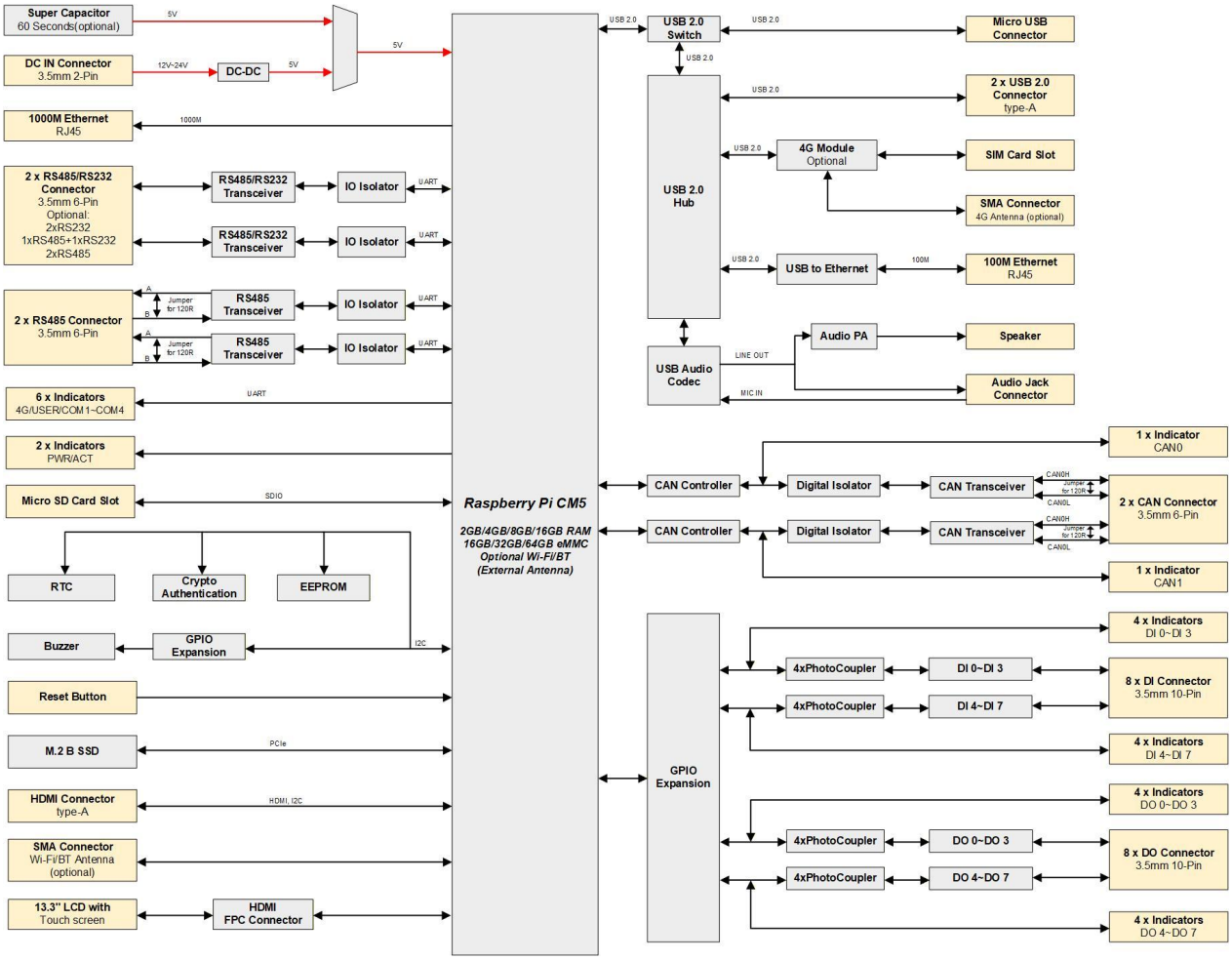
Mechanical Characteristics	
Dimensions	340.2mm x 211.2mm x 67.5mm (WxDxH, antenna is not included.)
Weight	About 2.2Kg
Installation	Embedded front installation and VESA 75x75 bracket mounting

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 • 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/B8GSM/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

Wireless	
	◦ 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

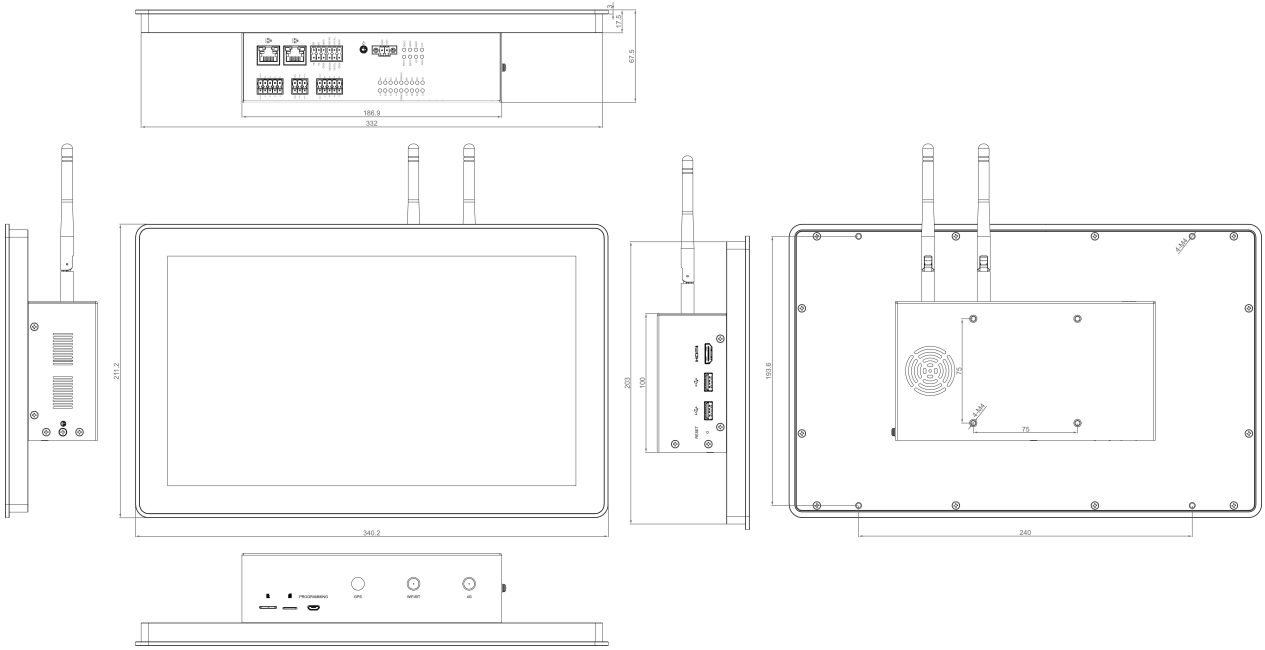
Environmental & Regulatory	
Operating Temperature	-20°C ~ 50°C
Storage Temperature	-20°C ~ 60°C
Ambient humidity	5% ~ 95% (non-condensing)

System Diagram

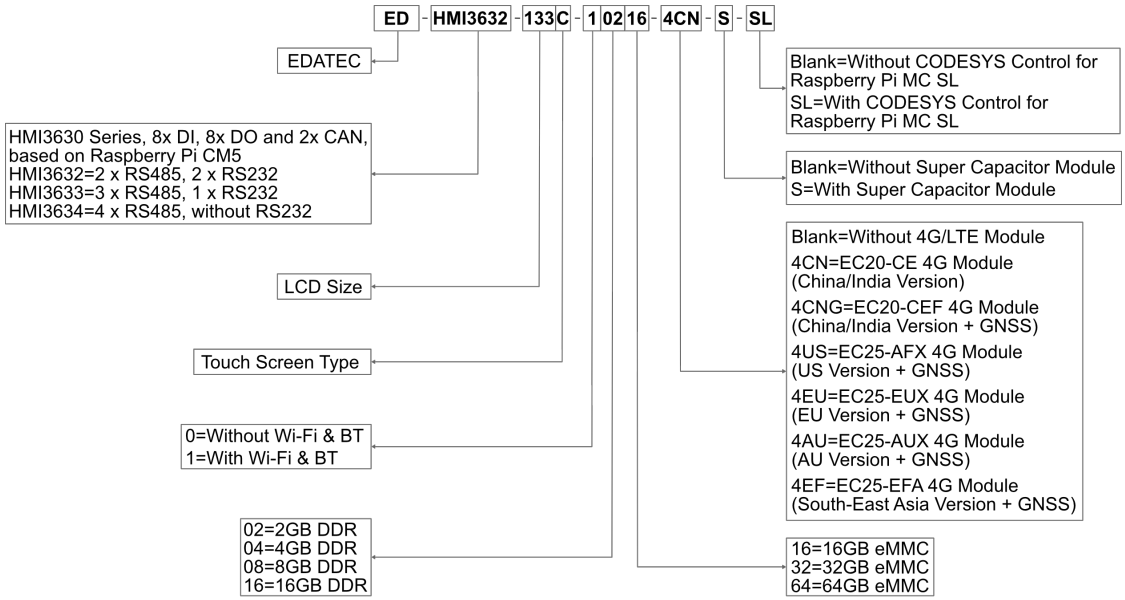


Dimensions

Unit: mm



Ordering Code



Example

P/N: **ED-HMI3632-133C-10216-4CN-S-SL**

Configuration: 13.3-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, 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-PSU1204-UK-3.5PL	100~240VAC to 12VDC/4A Adapter, with UK AC plug, 3.5mm pitch phoenix plug with lock	
ED-PSU1204-US-3.5PL	100~240VAC to 12VDC/4A Adapter, with US AC plug, 3.5mm pitch phoenix plug with lock	
ED-PSU1204-AU-3.5PL	100~240VAC to 12VDC/4A Adapter, with AU AC plug, 3.5mm pitch phoenix plug with lock	
ED-PSU1204-EU-3.5PL	100~240VAC to 12VDC/4A 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.		

VESA mounting brackets are available as optional accessories depending on your specific requirements.

Model	Description	Picture
ED-VESA-A	VESA wall mount bracket for ED-MONITOR and ED-HMI series	
ED-VESA-B	Swivel VESA wall mount bracket for ED-MONITOR and ED-HMI series	
ED-VESA-C	VESA desk mount stand for ED-MONITOR and ED-HMI series	

Package Contents

- 1 x ED-HMI3630-133C 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
- 1 x 2-Pin Phoenix Terminal with lock
- 3 x 6-Pin Phoenix Terminals
- 2 x 10-Pin Phoenix Terminals