

ED-PAC3630

Datasheet

by EDA Technology Co., Ltd

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ED-PAC3630

Real-time CODESYS Programmable Automation Controller

- CODESYS Control Real-time (RTE) & Visualization (Web)
- Optimized for Raspberry Pi OS and processor core system allocation to meet real-time demand
- The soft PLC can achieve a control processing cycle time of up to 250 μ s, and can complete 16-axis motion control within a 1ms processing cycle time
- Support IEC-61131-3 PLCopen languages (FBD, LD, IL, ST, SFC and CFC)
- Upstream connectivity IT/OT communication (MQTT, OPC UA)
- Support EtherCAT Master, and Modbus TCP Master protocols
- Integrated isolated interfaces, 2 x CAN, 8 x DI, 8 x DO, 2 x RS232, 2 x RS485
- Wide voltage power input range of DC 9V~36V with reverse polarity protection, overvoltage protection and overcurrent protection
- Integrated super capacitor (backup power supply), RTC, Watch Dog, EEPROM and crypto authentication
- Wide temperature range of -25 $^{\circ}$ C~60 $^{\circ}$ C for working environment
- Support DIN-rail installation



Specifications

Hardware 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, 8GB LPDDR4-4267 SDRAM
Storage	Options for 16GB, 32GB eMMC storage 1 x Micro SD card slot (user storage expansion) 1 x M.2 B-Key interface (for 2230/2242 SSD storage expansion, optional 128GB/256GB/512GB supported)

CODESYS	
Runtime	Multicore CODESYS Control Runtime System
Programming Method	IEC-61131-3 programming languages (FBD, LD, IL, ST, SFC and CFC)
IDE	CODESYS V3.5
Industrial Fieldbus	CODESYS EtherCAT Master and CODESYS Modbus TCP Master

CODESYS	
Visualization	CODESYS WebVisu
Uplink Communication	OPC UA Server

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	
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	2 x RS232 and 2 x RS485 ports, 12-Pin 3.5mm pitch phoenix terminals with IO isolator, which are equipped with electrostatic and surge protection.
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 <ul style="list-style-type: none"> • CAN Protocol: CAN 2.0B • Isolation Protection: 3 KV • Baud Rate: 10~1000 kbps • Signals: CANH, CANL, GND
DI	8 x DI ports, 10-Pin 3.5mm pitch phoenix terminals <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> • Sensor Type: NPN • Isolation Protection: 5 KV • Output: 5~36 VDC (24 VDC is recommended), maximum current is 1.5A (per channel)

Rear I/O	
SD Card Slot	1 x Micro SD card slot, which is used to install Micro SD card for storing user data.
Micro USB	1 x Micro USB port, which supports to flash to eMMC for the system.

Side I/O	
HDMI	1 x HDMI port, Type-A connector. It is compatible with HDMI 2.0 standard and supports 4K 60Hz.
USB 2.0	2 x USB 2.0 ports, Type-A connector, supporting up to 480Mbps transmission rate.

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.
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	4 x green DO indicators, using to check the output status of DO ports.

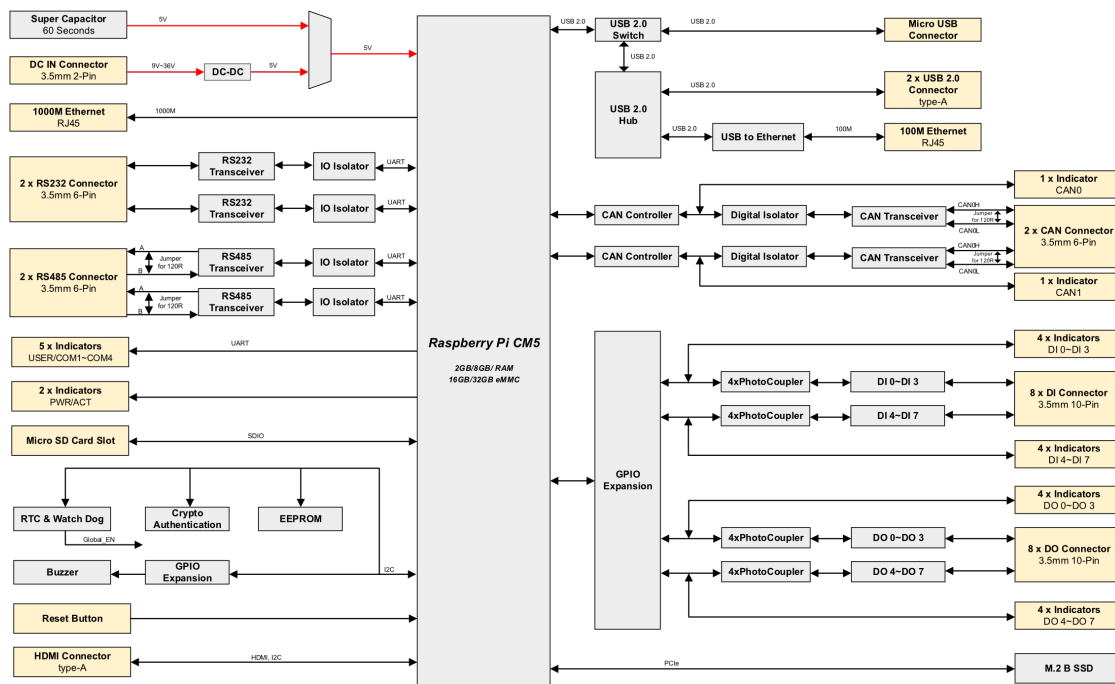
Expansion Functions	
SuperCAP	Integrated 15F supercapacitor backup power supply, to protect the system power supply in 30s~60s from the impact of device power down, improve the reliability of the device.
EEPROM	Supports 4K byte storage and improves the ease of use of device.
Encryption chip	It can be 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.

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

Mechanical Characteristics	
Dimensions	143mm x 100mm x 55mm (WxDxH, DIN-rail is not included.)
Weight	About 800g
Installation	DIN-rail mounting

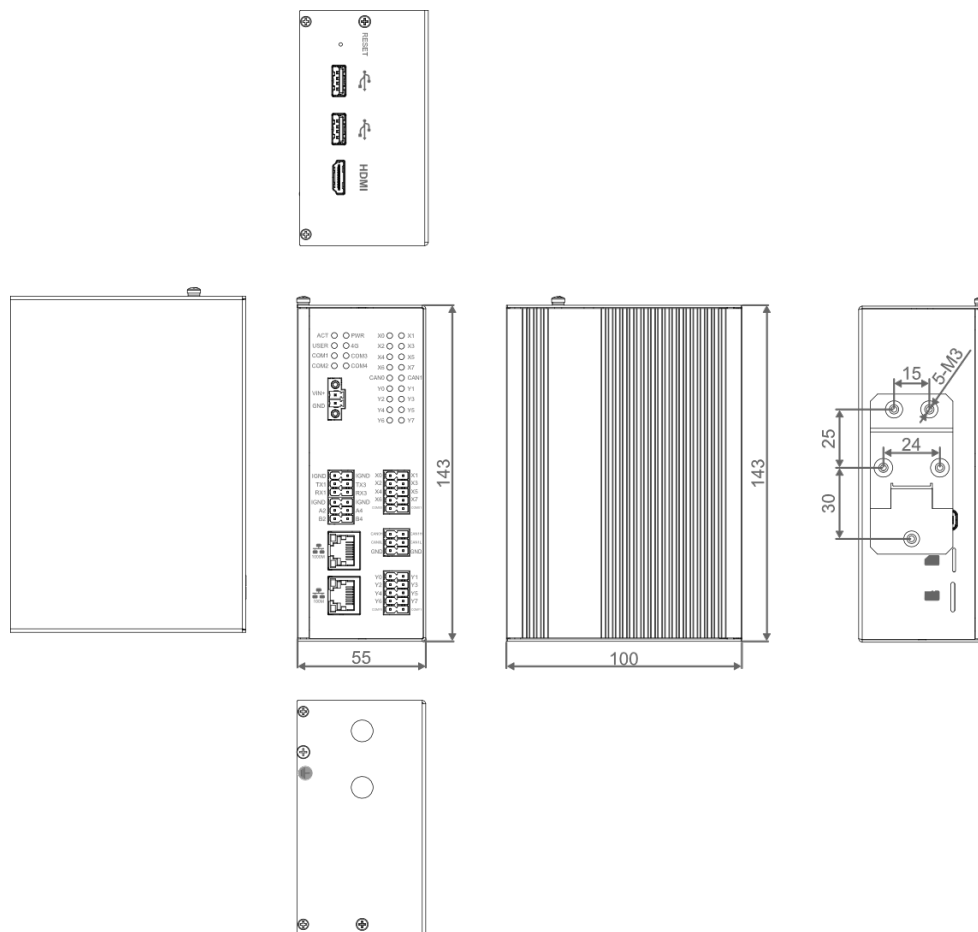
Environmental & Regulatory	
Operating Temperature	-25°C ~ 60°C
Storage Temperature	-25°C ~ 60°C
Ambient humidity	5% ~ 95% (non-condensing)

System Diagram

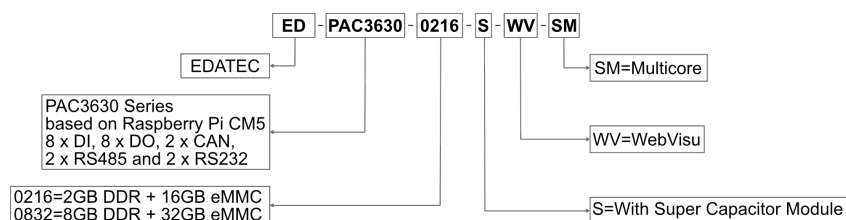


Dimensions

Unit: mm



Ordering Code



Example

P/N: **ED-PAC3630-0216-S-WV-SM**


Configuration: Real-time CODESYS Programmable Automation Controller Based on Raspberry Pi CM5, with 2GB DDR, 16GB eMMC, 8 x DI, 8 x DO, 2 x CAN, 2 x RS485, 2 x RS232, Super Capacitor Module and CODESYS Control License (Multicore, WebVisu).

TIP

- The default CODESYS license includes EtherCAT Master, Modbus TCP Master, Multicore, OPC UA Server and WebVisu. If you need more licenses, you can contact us individually.
- The device supports extended 4G and Wi-Fi, if you need 4G or Wi-Fi function, you can contact us individually.

Optional Accessory

You can choose a power adapter according to actual needs.

Model	Description	Picture
ED-PSU1202-UK-3.5PL	100~240VAC to 12VDC/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-PAC3630 Unit