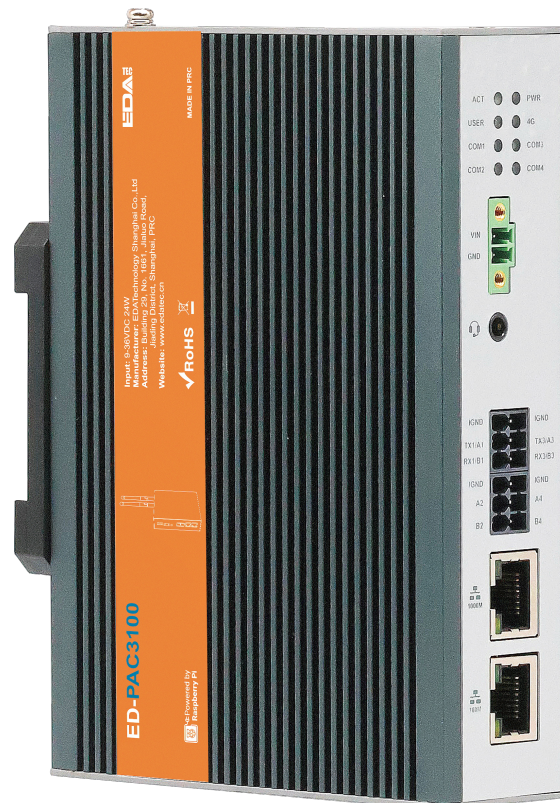




ED-PAC3100

Datasheet

by EDA Technology Co., Ltd

built: 2026-08-18

ED-PAC3100

Real-time CODESYS Programmable Automation Controller

- CODESYS Control Real-time (RTE) & Visualization (Web & Target)
- 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 250μs, 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, Modbus TCP Master, CANopen Manager, Modbus Serial Master and PROFINET Controller protocols
- Integrated isolated interfaces, 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, EEPROM and crypto authentication
- Wide temperature range of -25°C~60°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 Mode	IEC 61131-3 programming languages, including ST, LD, FBD, SFC and CFC
IDE	CODESYS V3.5
Fieldbus	

CODESYS	
	EtherCAT Master, Modbus TCP Master, CANopen Manager, Modbus Serial Master and PROFINET Controller
Motion Control	Optional CODESYS SoftMotion and CNC+Robotics
Visualization	Optional CODESYS TargetVisu and CODESYS WebVisu
OPC UA	Support OPC UA Server

Software	
Operating System	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.

Rear I/O	
SD Card Slot	1 x Micro SD card slot, using to install Micro SD card for storing user data.
Micro USB	1 x Micro USB port, supporting 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.

Buttons and Indicators	
RESET	1 x RESET button, which can reset the device.
PWR	1 x red power indicator, using to check the status of device power-on and power-off.
ACT	1 x green system indicator, using 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 port.

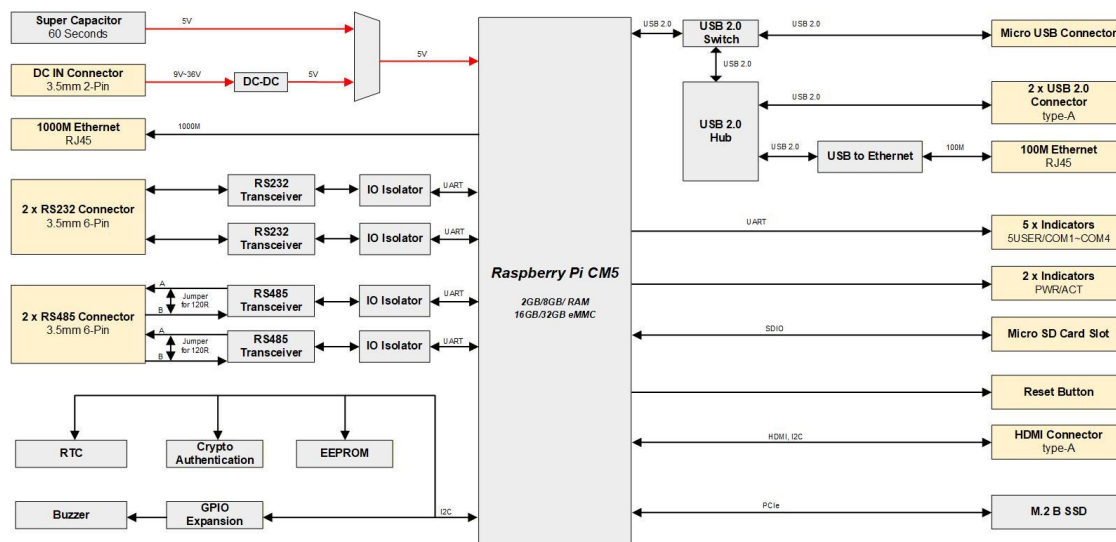
Expansion Functions	
SuperCAP	Integrated 15F supercapacitor backup power supply to protect the system power supply in 30s~60s from the impact of device power down, improve the reliability of the device.
EEPROM	Supports 4K byte storage and improves the ease of use of device.
Crypto Authentication	It can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

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

Mechanical Characteristics	
Dimensions	143mm x 100mm x 35mm (WxDxH, DIN-rail bracket is not included.)
Weight	750g
Installation	DIN-rail installation

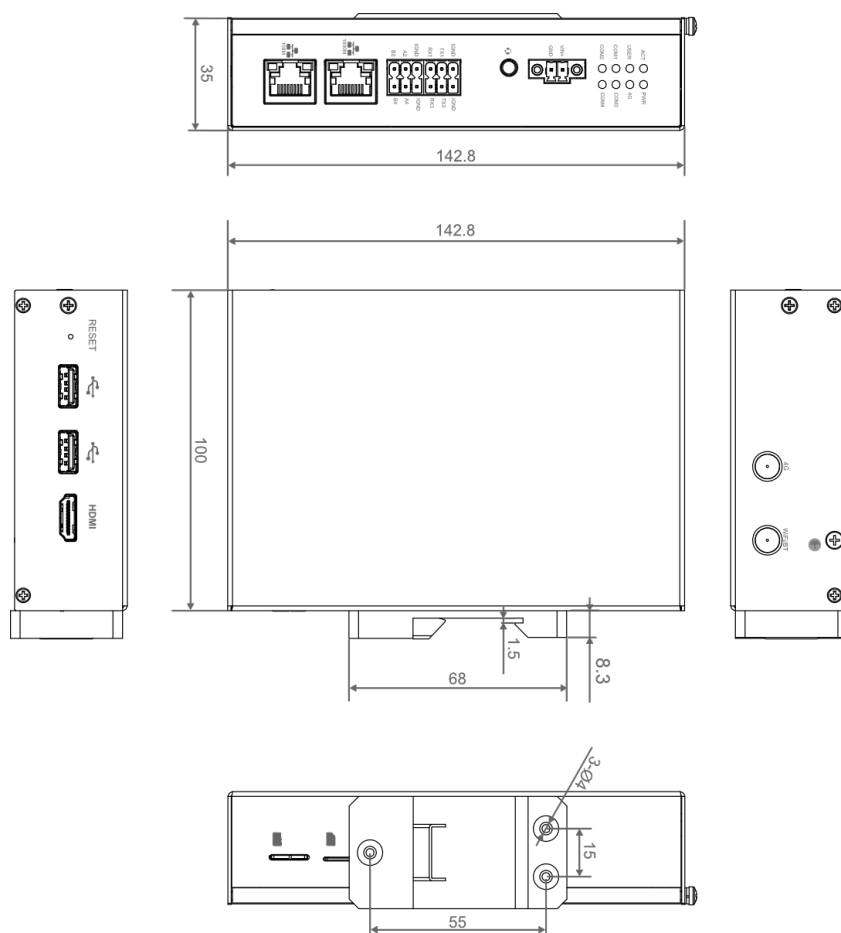
Environmental & Regulatory	
Operating Temperature	-25°C ~ 60°C
Storage Temperature	-25°C ~ 60°C
Ambient humidity	5% ~ 95% (non-condensing)
Certifications	• FCC ◦ FCC 47 CFR Part 15 Subpart B • CE ◦ EN IEC 62368-1:2024 + A11:2024 ◦ EN IEC 62311:2020 ◦ ETSI EN 301 489-1 V2.2.3 (2019-11)/ETSI EN 301 489-3 V2.3.2 (2023-01) - ETSI EN 301 489-17 V3.3.1 (2024-09)/ETSI EN 301 489-52 V1.2.1 (2021-11) - EN 55032:2015 + A1:2020 + A11:2020/EN 55035:2017 + A11:2020 - EN IEC 61000-3-2:2019 + A1:2021 + A2:2024/EN 61000-3-3:2013 + A1:2019 + A2:2021 ◦ ETSI EN 300 328 V2.2.2 (2019-07)/ETSI EN 301 893 V2.2.1 (2024-11) - ETSI EN 300 440 V2.2.1 (2018-07)/ETSI EN 301 908-1 V15.2.1 (2023-01) - ETSI EN 301 908-13 V13.2.1 (2022-02)

System Diagram

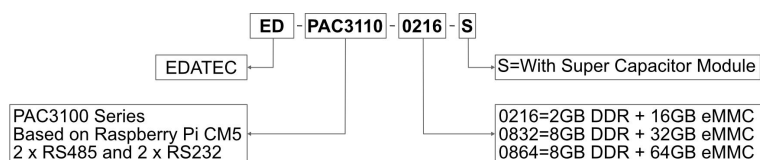


Dimensions

Unit: mm



Ordering Code



Example

P/N: **ED-PAC3110-0216-S**

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

TIP

- The pre-installed CODESYS license includes Multicore, EtherCAT Master, Modbus TCP Master, CANopen Manager, Modbus Serial Master, PROFINET Controller and OPC UA Server. If you require additional licenses, please purchase them separately from [Optional CODESYS Ordering Code](#).
- The device supports extended 4G and Wi-Fi, if you need 4G or Wi-Fi function, you can contact us individually.

Optional CODESYS Ordering Code

CODESYS licensing includes TargetVisu, WebVisu, Softmotion, CNC+Robotics, EtherCAT Master, Modbus TCP Master, CANopen Manager, Modbus Serial Master, PROFINET Controller, OPC UA Server, and Multicore functional modules. You can choose different models according to actual needs.

Model ^{*1}	EtherCAT Master Modbus TCP Master CANopen Manager Modbus Serial Master OPC UA Server PROFINET Controller	TargetVisu	WebVisu	Softmotion	CNC+Robotics	Multicore
ED-CODESYS-TV-MC	√	√				√
ED-CODESYS-WV-MC	√		√			√
ED-CODESYS-TV-WV-MC	√	√	√			√
ED-CODESYS-TV-WV-SM-CNC-MC	√	√	√	√	√	√

^{*1}: The license cannot be purchased separately, you can only purchase it together with the hardware device.

Optional EtherCAT I/O Modules

EtherCAT Coupler

Model	Description
ED-EIOBRG-EC	EtherCAT Coupler

I/O Modules

Model	Description
ED-EIO8XP	8-channel digital input module (PNP)
ED-EIO8XN	8-channel digital input module (NPN)
ED-EIO16XP	16-channel digital input module (PNP)
ED-EIO16XN	16-channel digital input module (NPN)
ED-EIO8YP	8-channel digital output module (PNP)
ED-EIO8YN	8-channel digital output module (NPN)
ED-EIO16YP	16-channel digital output module (PNP)
ED-EIO16YN	16-channel digital output module (NPN)
ED-EIO4YR	4-channel digital output module (Relay)
ED-EIO4ADV	4-channel analog input module (voltage), -5~5V/0~10V/-10~10V, configurable
ED-EIO4ADA	4-channel analog input module (current), 4-20mA/0-20mA, configurable
ED-EIO8ADA	8-channel analog input module (current), 4-20mA/0-20mA, configurable
ED-EIO4AD	4-channel analog input module (voltage/current mixed), -5~5V/0~10V/-10~10V/4-20mA/0-20mA, configurable
ED-EIO4DAV	4-channel analog output module (voltage), -5 ~ 5V/0 ~ 10V/-10 ~ 10V, configurable
ED-EIO4DAA	4-channel analog output module (current), 4-20mA/0-20mA, configurable
ED-EIO4RTD	4-channel RTD Module
ED-EIO4TC	4-channel TC Module
ED-EIO2HCD	2-channel High Speed Counter Module
ED-EIOPWR	Power Expansion Supply Module
ED-EIOTERM	Bus End Cover

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-PAC3100 Unit
- 1 x 2-Pin Phoenix Terminal with lock
- 2 x 6-Pin Phoenix Terminals