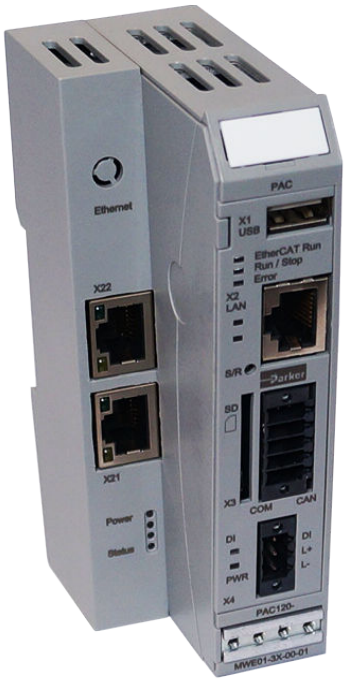

Parker Automation Controller

Intelligent Multi-Axis Motion Controller

Parker

In-Position Technologies

ENGINEERING YOUR SUCCESS.

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Parker Automation Controller - PAC

Scan the QR code or click here for more on PAC

Overview

Description

The Parker Automation Controller, PAC, is a PLC based on an ARM processor with integrated CODESYS. This programmable controller combines machine logic, real-time motion control and visualization into a standard based, performance driven,
fan-less and easily mountable din rail solution.
The controller matches the PACIO modules, which can be attached directly to form a mechanically and electrically homogenous unit. In combination with these modules, it can take over complete machine control.
Equipped with a native, real-time EtherCAT bus, a modular interface slot, standard Ethernet and USB ports plus a built-in SD-card slot and the supported fieldbus options Profinet Slave, EtherCAT or EtherNet/IP the controller can be easily integrated and is suitable for a wide range of applications.

General	PAC120
Function	Mini-IPC with integrated CODESYS SPS and EtherCAT master function for I/O modules systems PACHC and PACIO
Housing	Aluminium strap, plastic
Protection class	IP20
Mounting	35 mm DIN rail
Operation temperature	0 °C...+55 °C

Programmed with CODESYS, efficient and powerful control systems can be designed based on IEC61131-3 and PLCopen motion standards. Offering the OPC UA server the controller is the perfect device for industry 4.0 communication.

Our PAC motion controller is available in two different versions: PAC120 and PAC340.

PAC120 is suitable for many motion applications.
For higher demands on performance and memory the PAC340 is available. With its four processor cores, it also supports the CODESYS multicore feature.

Common Features

- Fan-less ARM processor technology
- Ethernet and EtherCAT
- Fieldbus options: EtherCAT, Profinet, EtherNet/IP, Modbus
- OPC UA server
- CODESYS V3.5
- CODESYS WebVisu
- CODESYS SoftMotion
- IEC61131-3 programming
- PLCopen motion control
- Web configuration tool
- SD card slot and USB interface
- Expandable with Parker PACIO modules
- DIN rail mounted

General	PAC340
Function	CODESYS PLC Motion Controller with a wide range of data interfaces
Housing	Aluminium strap
Protection class	IP20
Mounting	35 mm DIN rail
Operation temperature	Ambient operation temperature: (0 to +40) °C

Product Overview

Designed to maximize efficiency while exceeding performance expectations, the Parker Automation Controller (PAC) is programmed with the well-established CODESYS, an Integrated Development Environment (IDE) and complemented by the PAC I/O System. Together these elements provide a powerful, standards-based programmable package designed to tackle the most demanding applications. The PAC system consolidates machine logic, signal handling, advanced motion, and visualization.

I/O Modules

The PAC I/O System includes a variety of modules for digital, analog, temperature signals, high-speed counters, and communication interfaces.

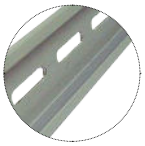
PAC120 overview:

E-Bus connector

- Provides fast EtherCAT connectivity for local PACIO Modules
- Vibration proofed connection

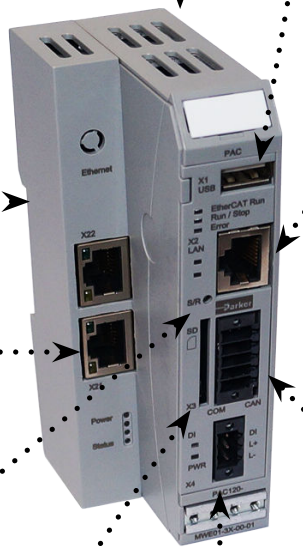
USB port

- Standard USB 2.0.port, type A



DIN rail mount

- Easy installation



Ethernet port

- Standard RJ45 connector for LAN communication
- Status LEDs

Fieldbus option

- PROFINET I/O and IRT
- EtherCAT
- EtherNet/IP

Interface connector

- CANopen / RS232

Push button

- Stop / Reset button

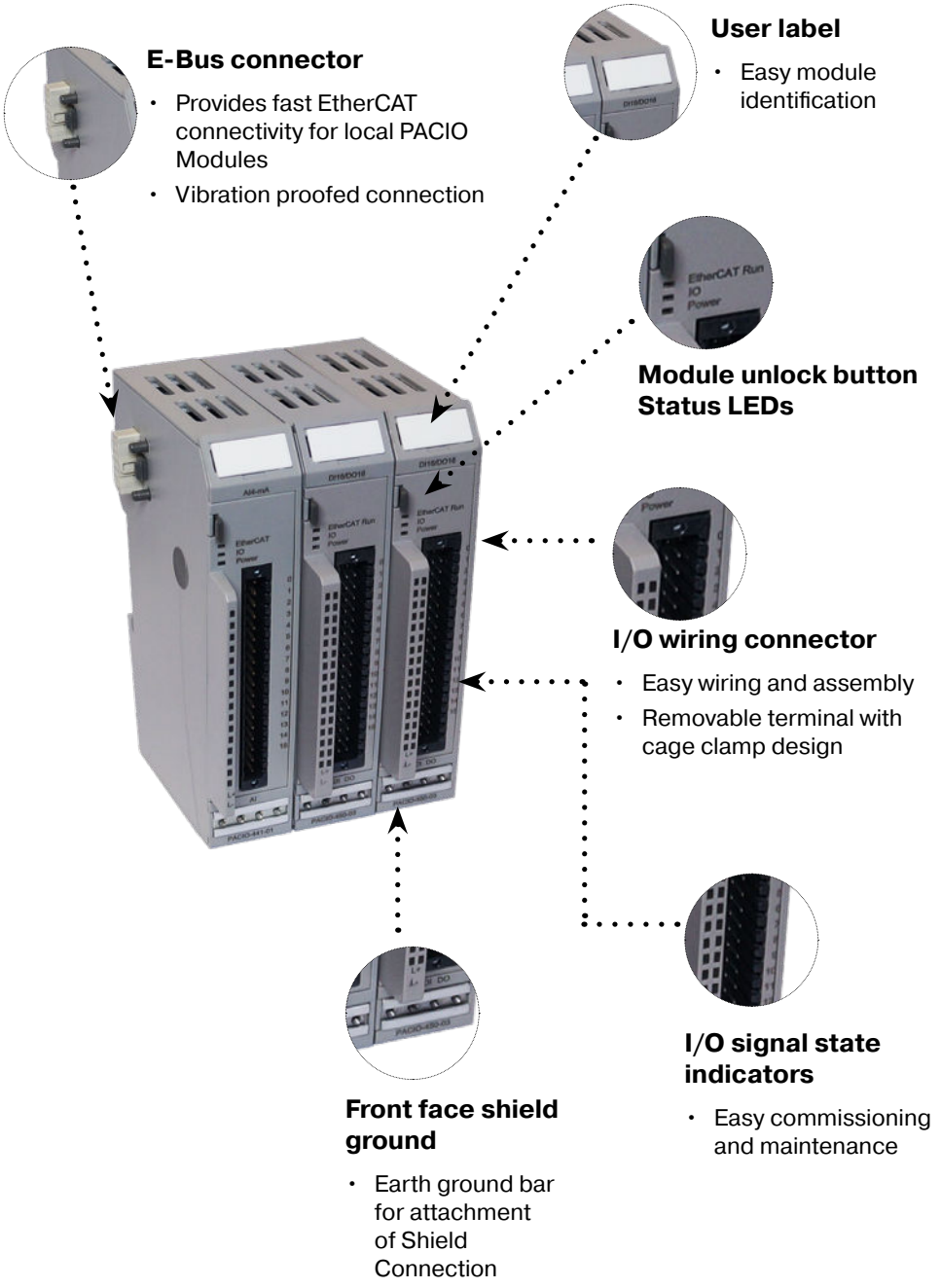
Power connector & ID

- Connector for input power, +24 VDC
- Interrupt input

SD card slot

- Up to 32 GB

I/O Modules overview:



E-Bus connector

- Provides fast EtherCAT connectivity for local PACIO Modules
- Vibration proofed connection

User label

- Easy module identification

Module unlock button
Status LEDs

I/O wiring connector

- Easy wiring and assembly
- Removable terminal with cage clamp design

I/O signal state indicators

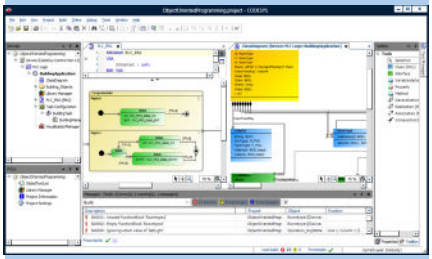
- Easy commissioning and maintenance

Front face shield ground

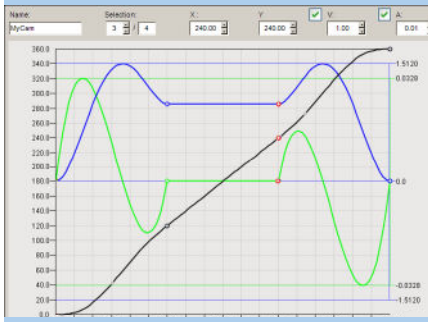
- Earth ground bar for attachment of Shield Connection

Software

CODESYS is the leading manufacturer-independent IEC 61131-3 automation software for engineering control systems. It's a software platform for industrial automation technology. The core of the platform is the IEC-61131-3 programming tool "CODESYS Development System". It offers practice-oriented, integrated solutions for the convenient configuration of automation applications. Everything is integrated in a single user interface

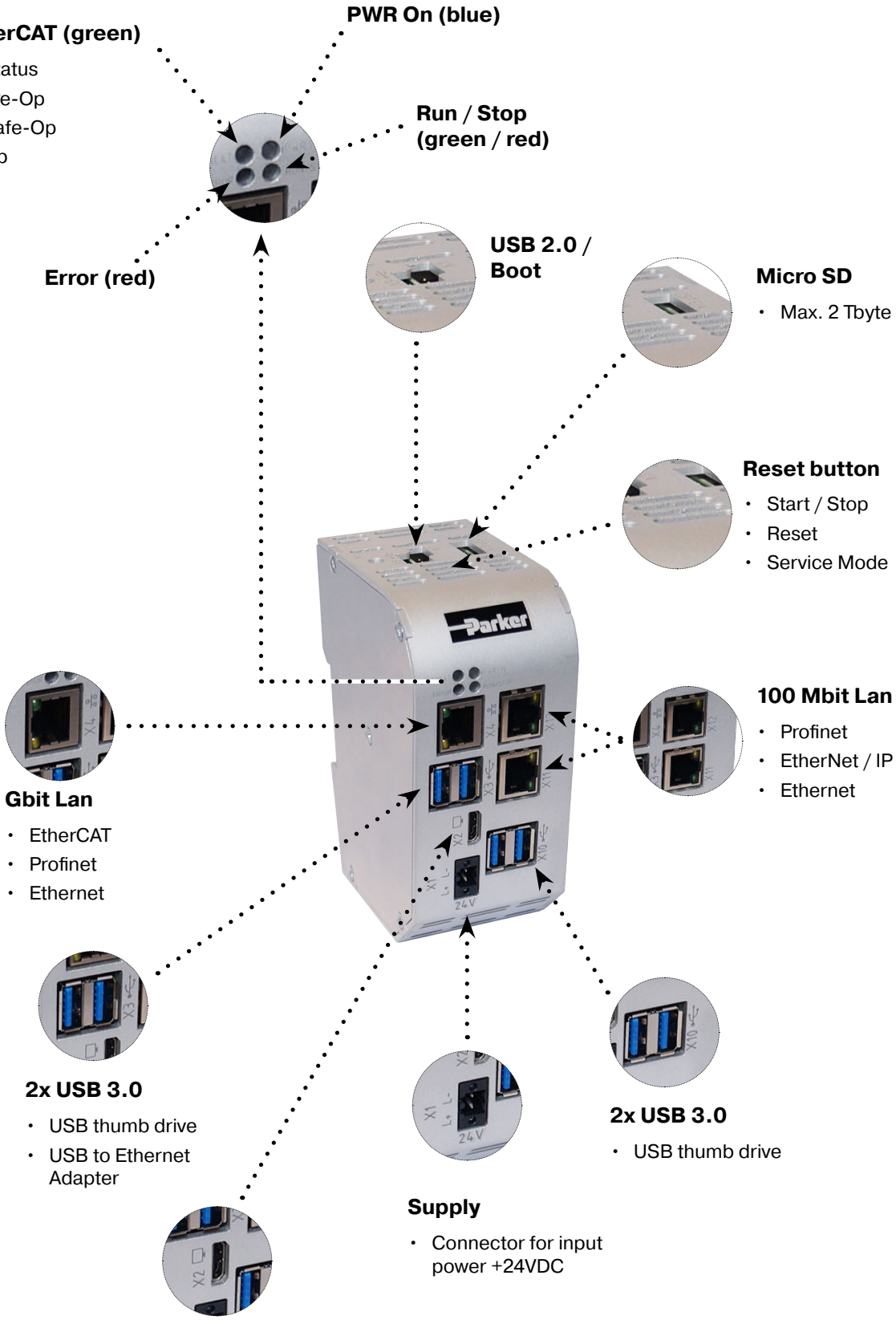


Engineers can work smarter, more efficiently and more effectively by choosing from the five IEC standard programming languages to optimize for an application, by using industry standard PLCopen Motion for motion control programming, deploying to the powerful simulation runtime for faster development and using online variable watch and trending for logic analysis.



- IEC61131-3 programming system
- PLCopen motion control
- Simulation runtime
- Visualization
- CNC / robotics
- Industry 4.0 platform

PAC340 overview:



Technical Characteristics

Electrical	PAC120	PAC340
CPU	i.MX6 SoloX Freescale 1 GHz	BCM2711, 1.5GHz Quad Core
RAM / Flash	256 MB / 256 MB	1 GB / 8GB
Retain Memory	128 MB	200 MB
Operating system	Linux RT	Linux RT
Software	CODESYS V3 runtime softmotion	CODESYS V3 runtime softmotion
Network	1 x Ethernet 10/100 MBit	1 x Ethernet 10/1000 Base, RJ45 1 x Ethernet 10/100 Base 2-Port Switch
interfaces	1 x digital input, 1ms 1 x USB 2.0 1 x SD (HC) card slot	1 x digital display Interface 3x USB 3.0 1 x µSD (SDXC)
Digital and analog interfaces	Parker PACIO extension modules	Parker PACIO extension modules
Field bus interfaces	EtherCAT master via Extender Module CANopen, galvanic isolated ProfiNet IO and IRT (PAC120-*P), EtherNet/IP Adapter (PAC120-*E) OPC UA server	EtherCAT Master via Extender Module Profinet-Device-IEC EtherNet/IP-Scanner, EtherNet/IP-Adapter OPC UA server
Clock	Real-time clock with battery buffering	Real-time clock, 72h buffer
Power supply	24 V DC (19.2... 28.8)	24 V DC (19.2... 28.8)
Potential separation	Modules are potential separated against each other and bus	Modules are potential separated against each other and bus
Industrial requirements	Protection class III according to EN 601131-2	Protection class III according to EN 601131-2
EMC	2004/108/EC	2014/30/EU emitted interference: EN 61000-6-4, industrial zone
Environmental conditions	Relative humidity 5 % ... 95 % w/o dew	Relative humidity max. 85%, non-condensing
CE conformity	2004/108/EC	CE (EN 61131-2)
UL certification	Certified: E-File-No. E506274	In process

Parker Remote I/O System PACIO

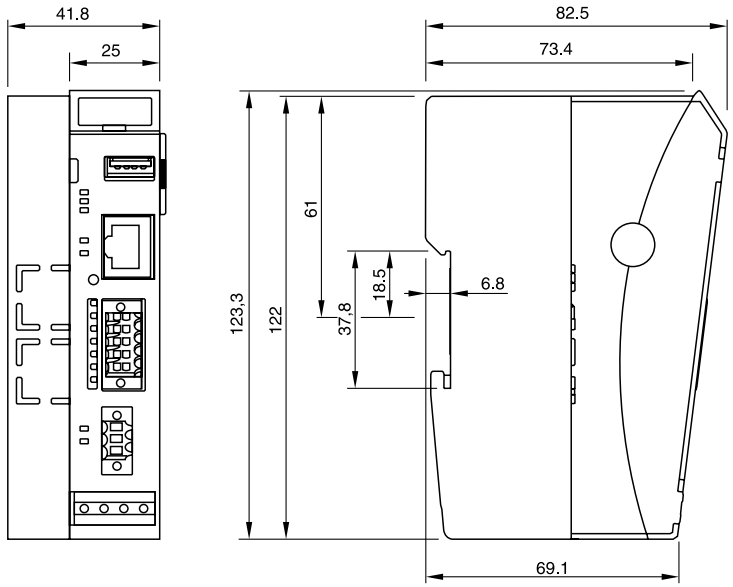
The PACIO System includes a variety of modules for digital, analog and temperature signals as well as communication interfaces. The modules connect directly to the controller via the built-in EtherCAT bus for local architectures and are extended to remote locations via the extender and bus coupler modules, thus supporting both local and distributed I/O architectures. PACIO communicates natively on the EtherCAT bus, therefore it provides the full functionality and throughput of high-speed Ether- CAT to meet the most demanding real-time requirements.

Module Type	Part Number	PACIO Description
Interfaces	PACIO-400-00	PACIO EtherCAT Bus coupler, 3 A
	PACIO-400-02	PACIO Extender 2 Port (EtherCAT I/O extender)
Accessories	PACIO-411-00	Power Distribution Module (distributes 0 VDC or 24 VDC attached at pins L1 or L2)
	PACIO-412-01	PACIO Shield 2x8 mm
	PACIO-412-02	PACIO Shield 14 mm
Analog	PACIO-441-51	PACIO AI4-mA (4 single-ended analog input module), 12 Bit CoE
	PACIO-441-52	PACIO AI4/8-VDC (4 differential/8 single-ended analog input module), 13 Bit CoE
	PACIO-442-52	PACIO AO4-VDC/mA (4 analog output module), 12 Bit resolution CoE
Temperature	PACIO-443-57	PACIO AI4-Pt/Ni/Thermo, 16 Bit CoE
	PACIO-443-58	PACIO AI8-Pt/Ni/Thermo, 16 Bit CoE
Digital I/O Modules	PACIO-450-02	PACIO DI16/DO8 (16 inputs/8 outputs), 1 ms delay, 1 A
	PACIO-450-03	PACIO DI16/DO16 (16 inputs/16 outputs), 1 ms delay, 0.5 A
	PACIO-450-05	PACIO DI8/DO8 (8 inputs/8 outputs), 1 ms delay, 0.5 A
	PACIO-450-13	PACIO DI16/DO16 (16 inputs/16 outputs), 1 ms delay, 0.5 A Low-side
	PACIO-451-02	PACIO DI32 (32 inputs), 1 ms delay
	PACIO-451-03	PACIO DI16 (16 inputs), 1 ms delay
	PACIO-452-01	PACIO DO16 (16 outputs), 0.5 A
	PACIO-452-02	PACIO DO8 (8 outputs)1 A
Counter	PACIO-454-01	PACIO Counter/Enc (encoder counter module)

Dimensions

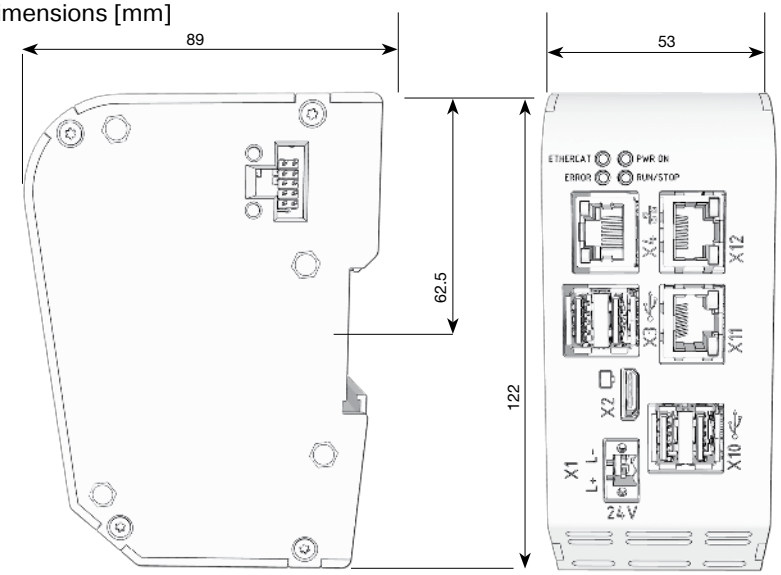
PAC120 Dimensions

Dimensions [mm]



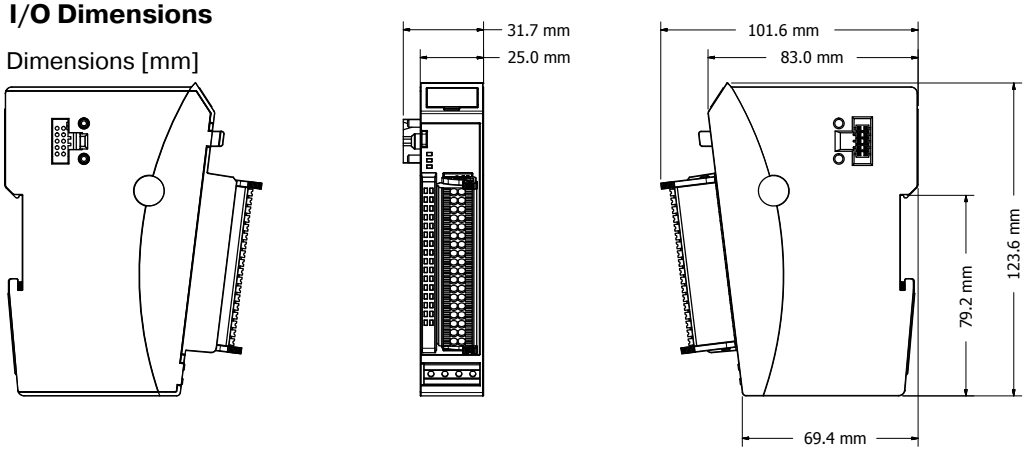
PAC340 Dimensions

Dimensions [mm]



I/O Dimensions

Dimensions [mm]



Order Code

Parker Automation Controller

	1	2		3	4	5	6	7		8	9		10		11
Order example	**PAC**	**340**	**-**	**M**	**W**	**B**	**1**	**1**	**-**	**3**	**X**	**-**	**00**	**-**	**01**

1	**Series**	
	PAC	Parker Automation controller
2	**Type**	
	120	
	340	
3	**Software**	
	P	IEC, PLC only (PAC120 only)
	M	IEC, PLCopen Motion
	C	IEC, PLCopen Motion, CNC (PAC340 only)
4	**Visualization**	
	W	Web Visualization
5	**Communication**	
	E	EtherNet/IP (PAC120 only)
	P	PROFINET IRT slave (PAC120 only)
	B	EtherNet/IP + PROFINET (PAC340 only)
6	**Retentive Memory**	
	0	128 kB (PAC120 only)
	1	200 kB (PAC340 only)
7	**Processor**	
	1	i.MX6 SoloX Freescale 1 GHz (PAC120)
	1	BCM2711, 1.5GHz Quad Core (PAC340)
8	**Certification**	
	3	UL / cUL / CE Certification
9	**Reserved**	
	X	Standard
10	**Extended Software**	
	00	Extended Software
11	**Extended communication**	
	01	Enhanced communication OPC UA

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