PAC Machine Edition 10
Integrated Software for PACSystems™ Devices

Introduction

PAC Machine Edition (PME) provides users with an integrated development environment to configure and maintain control applications. This environment provides the tools to program and configure a wide range of devices such as PACSystems QuickPanel+™ operator interface, programmable automation controllers (PACs), variable frequency drives, servos, and edge devices. Once configuration is done, the same environment provides tools to monitor, troubleshoot, and maintain control applications throughout their lifecycle.

Integrated Environment

In addition to sharing common development tools, all PAC Machine Edition components — View, Logic Developer, and Motion Developer — share a common database and common objects across applications. This means logic, scripts, and HMI panels all share a common data model that doesn't require duplicating configuration in multiple spots.
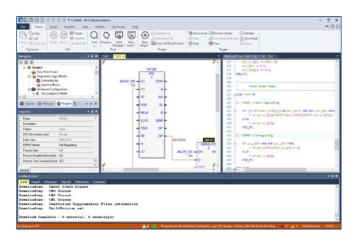
Troubleshoot Across Multiple PLCs

PAC Machine Edition allows the user to open multiple PME sessions on one PC and then connect each session to a separate controller simultaneously. This allows the user to view multiple application programs at the same time from a single PC.

Boost Productivity Through Reusable Modules

Combining the best of traditional programming and graphics applications, PME features object oriented reusability to save time during configuration. Users can build applications rapidly with user defined function blocks, user defined types, and control modules. These reusable type definitions allow the development of controls logic to be done in an object-oriented fashion.

Built-in Change Management Client

Seamless integration with PAC Change Management allows end users to safely configure and manage small to large applications. Check projects out, make the appropriate changes and then document your changes when checking the project back into the PAC Change Management server. If circumstances make it necessary to roll back to a previous version, then that version can be selected from the PAC Change Management server and made the current version. The roll back is done!

Flexible Project Structure

PME can support one to multiple targets in a single project, allowing you to scale appropriately based on the application. Therefore, you can have one project for each controller or one project for multiple controllers depending on the needs of the engineering and operations personnel that configure and maintain the control system.

Versatility

Due to its support of extensive communication protocols and instructions, PME excels in a variety of industrial markets, including water and wastewater, oil and gas, power renewables, mining and marine. Whether an industry sector requires high-speed loops or advanced regulatory control for loops where the primary process variable changes slowly (like many temperature loops), PME has the tools for effective control and operation.
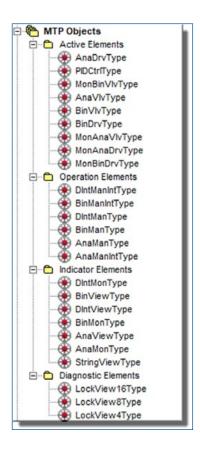
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The Right Programming Languages

PME supports IEC-61131-3 editors including ladder logic, structured text, and function block diagrams. In addition, C blocks can be created and merged easily into PME. This gives you the freedom to use the best language for your application. The sequence function blocks bring the benefits of sequential function charts into the function block diagram editor allowing equipment control and its associated sequencing to be merged into one editor.

Module Type Packages

Modularization is important to facilitate flexible manufacturing and to accelerate the construction and planning of plants. PME enables modular automation by providing a library of data objects with interfaces that semantically define the data to be exchanged between equipment controlled by a PACSystems controller and a Process Orchestration Layer (POL) per the VDI/VDE/NAMUR 2658 specification. The library is realized as a set of function blocks each with an OPC UA interface that forms the data object to be exchanged with the POL. The POL coordinates the plant level control by issuing commands and receiving state information by means of the data objects. PME can export the definition of data objects used by a single controller target as a Module Type Package (MTP) that can be imported into a POL such as Emerson's DeltaV.

Feature	Benefit
Single Toolchain	The entire automation portfolio is programmed, configured, and maintained by a single toolchain
Fully Integrated Development System	Allows building HMI panels and controls logic in one integrated development environment
Hardware Configuration	Configure controller and I/O
Control Logic	IEC-61131 compliant
	Structured text, relay ladder diagrams, function block diagrams, native C blocks support
Object Oriented Reusability	Build applications rapidly with preconfigured objects from the Tool Chest, a storage system for objects including their associated logic or HMI elements and data structures
Built-in Diagnostics	Allows users to display controller status, timestamp data and faults
Common Data Base	Improved productivity with share tags across multiple targets
Multiple Sessions	Increased system uptime by reducing commissioning time and debugging
PROFINET Integration	Fast and simple configuration and diagnostic of distributed I/O networks
Supported Communication	EGD, SRTP, Modbus, DNP3, and OPC UA (Non-Transparent Server Redundancy), among others

System Requirements

Supported Operating Systems

Only 64-bit versions of the following operating systems are supported. 32-bit operating systems are not supported.

- MS Windows Server 2016

- MS Windows Server 2019

- Windows 10

- Windows 10 IoT Enterprise

- Windows 11

Computer Hardware Recommendations

The minimum processor and memory should be comparable to:

- Intel Core i5 with 8 GB RAM.

- AMD FX or Phenom II X6 with 8 GB RAM

The recommended processor and memory should be comparable to:

- Intel Core i7 with 16 GB RAM.

- AMD Higher FX or Phenom II X6 with 16 GB RAM

Licensing Options

When ordering PAC Machine Edition 10, the Key Type must be selected to be either Leased Key (PAC License Server), Computer Locked (Software Key), or Hardware (M7).

Leased (PAC License Server)

The Leased Key enables users to lease a license from a centralized server. The centralized server is called the PAC License Server. The client that runs PAC Machine Edition can be a virtual machine managed by either a type 1 or type 2 hypervisor or a physical machine. PAC License server can be hosted on a physical or virtual machine (type 1 or type 2).

Computer Locked (Software Key)

The license is locked to a specific physical computer. The license can be used by PAC Machine Edition that is running on that computer or on a guest virtual machine managed by a type 2 hypervisor hosted on that computer.

Hardware (M7)

PAC Machine Edition 9.8 and 10.x support M7 hardware keys. M7 keys support licensing PME running on a physical or hosted virtual machines (type 2).

Product Selection Guide

PAC Machine Edition has four separate product configurations that can be selected when ordering. The following table lists the products and the features that are included and, where applicable, options for the number of points and the inclusion of the View OPC Driver.

Products	Features													Part Number
	PACSystems RX3i & RX7i	PACSystems RSTi-EP	Series 9030 & Series 9070	QuickPanel & QuickPanel+	VersaMax	RIO VersaMax & 90-30	View Runtime	View Development	PC Control Runtime	PC Control Development	View OPC Driver	Module Type Packages	View and PC Control Points	
ProPlus Development Suite	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	O	✓	700 (standard) 1500 (O), 8000 (O), 35000 (O)	ME100MBPP001
Professional Development Suite	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	O		700 (standard) 1500 (O), 8000 (O), 35000 (O)	ME100MBP001
Lite Development Suite		✓		✓	✓	✓		✓		✓			None	ME100MBL001
QuickPanel CE Development Suite				✓		✓		✓		✓			None	ME100CSCEMK

✓ - Included in product. O – Optional feature (selection made in configurator). If the View OPC Driver is added as an option then "-O' is appended to the part number.

*Professional and ProPlus Development Suites come with 700 points. There is an option to increase the points to either 1500 or 8000 or 35000. The 35000 option is applicable to view applications that run on a PC, not a QuickPanel+. The View OPC Driver can be ordered as an option for the Professional Development Suite and ProPlus Development Suite.

Ordering Information

Part Number	Description	Key Type
ME100CSCEMK	PAC Machine Edition QuickPanel (CE) Development Suite	Leased, Computer-locked, or M7 Hardware key
ME100MBL001	PAC Machine Edition Lite Development Suite	Leased, Computer-locked, or M7 Hardware key
ME100MBP001	PAC Machine Edition Professional Development Suite	Leased, Computer-locked, or M7 Hardware key
ME100MBPP001	PAC Machine Edition ProPlus Development Suite	Leased, Computer-locked, or M7 Hardware key

Americas Support – Technical and Commercial
Phone: 1-888-565-4155 or 1-434-214-8532 (if toll free 800 option is unavailable)
Email for Technical Support: **support.mas@Emerson.com**
Email for Commercial Support: **customercare.mas@Emerson.com**
Primary language of support: English

Europe, Middle East, & Africa Support – Technical and Commercial
Phone: +800-4-444-8001 or +420-225-379-328
(if toll free 800 option is unavailable or dialing from a mobile telephone)
Email for Technical Support: **support.mas.emea@Emerson.com**
Email for Commercial Support: **customercare.emea.mas@Emerson.com**
Primary languages of support: English, German, Italian, Spanish

Asia Support – Technical and Commercial
Phone: +86-400-842-8599 for Greater China
+65-6955-9413 (All Other Countries)
Email for Technical Support: **support.mas.apac@Emerson.com**
Email for Commercial Support Asia: **customercare.cn.mas@Emerson.com**
Primary languages of support: Chinese, English

Support Website: www.Emerson.com/IAC-Support

Home Website: www.Emerson.com/PACSystems

Contact Us
www.Emerson.com/contactus

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