

# EcoStruxure Machine Expert - HVAC Release Notes

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All pertinent state, regional, and local safety regulations must be observed when installing and using this product. For reasons of safety and to help ensure compliance with documented system data, only the manufacturer should perform repairs to components.

When devices are used for applications with technical safety requirements, the relevant instructions must be followed.

Failure to use Schneider Electric software or approved software with our hardware products may result in injury, harm, or improper operating results.

Failure to observe this information can result in injury or equipment damage.

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# Safety Information

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## Important Information

### NOTICE

Read these instructions carefully, and look at the equipment to become familiar with the device before trying to install, operate, service, or maintain it. The following special messages may appear throughout this documentation or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.



The addition of this symbol to a “Danger” or “Warning” safety label indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

## **DANGER**

**DANGER** indicates a hazardous situation which, if not avoided, **will result in** death or serious injury.

## **WARNING**

**WARNING** indicates a hazardous situation which, if not avoided, **could result in** death or serious injury.

## **CAUTION**

**CAUTION** indicates a hazardous situation which, if not avoided, **could result in** minor or moderate injury.

## **NOTICE**

**NOTICE** is used to address practices not related to physical injury.

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**PLEASE NOTE**

Electrical equipment should be installed, operated, serviced, and maintained only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

A qualified person is one who has skills and knowledge related to the construction and operation of electrical equipment and its installation, and has received safety training to recognize and avoid the hazards involved.

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# About the Book



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## At a Glance

### Document Scope

This document contains important information about the hardware/firmware/software delivery of product EcoStruxure Machine Expert - HVAC. Read the complete document before you use the product or products described herein.

### Validity Note

The information in this Release Notes document is applicable only for EcoStruxure Machine Expert – HVAC compatible products. This document has been updated for the release of EcoStruxure Machine Expert – HVAC V1.2.1.

The technical characteristics of the devices described in this document also appear online. To access this information online go to the Schneider Electric home page

<https://www.se.com/ww/en/download/>.

The characteristics that are presented in the present document should be the same as those characteristics that appear online. In line with our policy of constant improvement, we may revise content over time to improve clarity and accuracy. If you see a difference between the document and online information, use the online information as your reference.

# Chapter 1

## Product Information

### Overview

Maintenance release of EcoStruxure Machine Expert – HVAC, with implementation of new features and bug fixing.

### Product Identification

Reference	Description	Version	Note
TM171PDM27●	Modicon M171 Performance Logic Controllers 27 I/OS	Firmware msk: 423.27	NOT updated
TM171PBM27R	Modicon M171 Performance Logic Controllers 27 I/OS	Firmware msk: 477.27	NOT updated
TM171PFE03	Modicon M171 Flush mounting Performance Controllers	Firmware msk: 489.20	NOT updated
TM171DGRP	Remote Display HMI	Firmware msk: 476.20	NOT updated
TM172P●●28●●/ TM172P●●42●● TM172O●●28●/ TM172O●●42●/	Modicon M172 Optimized and Performance Logic Controllers 28 and 42 I/OS	Firmware msk: 596.10	updated
TM172P●●07●/ TM172P●●18● TM17O●●18●	Modicon M172 Optimized and Performance Logic Controllers 7 and 18 I/Os	Firmware msk: 668.10	updated
TM172DCLW●●●●/ TM172DCLF●	Modicon M172 Display Color TouchScreen, Temperature (Humidity) built-in sensor(s) Modicon M172 Display Color TouchScreen Flush Mounting	Firmware msk: 659.07	updated
TM171O●●●●	Modicon M171 Optimized Logic Controllers	Firmware msk: 542.09	NOT updated
TM172E●●R	Modicon M172 Opt. & Perf. Expansion 12 and 28 I/Os	Firmware msk: 640.03	NOT updated
TM171VEV●●	Modicon M171 EEV Driver	Firmware msk: 497.13 (obsolete) 589.20	updated



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## Release History

Version	Release Date	Description
1.2.1	May 2020	EcoStruxure Machine Expert – HVAC 1.2.1
1.2	March 2020	EcoStruxure Machine Expert – HVAC 1.2
1.1	June 2019	EcoStruxure Machine Expert – HVAC 1.1
1.0	October 2018	EcoStruxure Machine Expert – HVAC 1.0

## System Requirements

Schneider Electric EcoStruxure Machine Expert - HVAC can be installed on a personal computer having the following characteristics:

### Operative System

- Windows 8 / 8.1 64 Bit
- Windows 10 64 Bit

### Hardware requirements

- Processor Intel Pentium 1.6 GHz processor or greater
- RAM 1 GB; 2 GB preferred
- Hard Disk 500 MB hard disk space for a default installation; allow a further 1 GB hard disk space for installing libraries and dedicated applications
- Peripherals Mouse or compatible pointing device
- Peripherals USB interface
- Web access Web registration requires Internet access

EcoStruxure Machine Expert - HVAC requires Administrator rights to be installed.

For further information, contact your Schneider Electric support center.

## Compatibility

All Modicon M171-M172 Optimized and Performance Logic Controllers

## Installation Instructions

EcoStruxure Machine Expert - HVAC software can be downloaded from our website [www.schneider-electric.com](http://www.schneider-electric.com).

The product version concerned offers the EcoStruxure Machine Expert - HVAC functions associated with logic controllers.

Follow setup wizard and refer to EcoStruxure Machine Expert – HVAC Operating Guide

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# Chapter 2

## Hardware/Firmware Information

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### New Features

NEW FEATURES IN TM172P●●●●●●/TM172O●●●●●● (FIRMWARE MSK 596.10 AND MSK 668.10)

- For reasons of Internet security:
  - Modbus TCP / BACnet IP / FTP are disabled by default. Therefore Modbus TCP / BACnet IP / FTP have to be manually enabled.
  - The following Target functions has new added return codes:
    - sysHTTP\_AuthentGuest()
    - sysHTTP\_Authentication()
    - sysFTP\_AuthentGuest()
    - sysFTP\_Authentication()
- Increased number of Modbus TCP Client from 3 to 8
- Increased number of register from 16 to 20 for the following Modbus on event functions [PEP0543596R]:
  - sysMbMRTU\_FC03()
  - sysMbMRTU\_FC01()
  - sysMbMRTU\_FC02()
  - sysMbMRTU\_FC04()
  - sysMbMRTU\_FC15()
  - sysMbMRTU\_FC16()
- Introduced the following Target variables to count the number of Modbus message received on the relate serial port [PEP0551966R]:
  - sysMODBUS\_msg\_received\_USB AT %MD5000.0 :  
UDINT; { DE:"Counter for modbus message received on USB-device" }
  - sysMODBUS\_msg\_received\_RS485-1 AT %MD5000.1 :  
UDINT; { DE:"Counter for modbus message received on RS485-1" }
  - sysMODBUS\_msg\_received\_RS485-2 AT %MD5000.2 :  
UDINT; { DE:"Counter for modbus message received on RS485-2" }
  - sysMODBUS\_msg\_received\_RS485-Plugin AT %MD5000.3 :  
UDINT; { DE:"Counter for modbus message received on RS485/232 Plugin" }
- Modified in Read Only the MAC address [PEP0471181R]
- Introduced Target function sysLocalADCs\_Fast() to read scaled Analog to Digital Converters values to be able to handle a faster read of Analog Inputs configured as Digital Inputs [PEP0556153R]
- Introduced Target function sysUART\_Reinit() to modify run-time UARTs settings using sysUART\_getbuf() and sysUART\_putbuf() Target functions [PEP0564799R]
- Introduced Baud Rate at 2400b/s for sysUART Target functions [PEP0571727R]

NEW FEATURES IN TM171VEV●● (FIRMWARE MSK 589.20)

- Implemented Unipolar Valves driving for Parker-Sporlan CEV models

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## Mitigated Anomalies

TM172P●●●●●●●/TM172O●●●●●● (FIRMWARE MSK 596.10 AND MSK 668.10)

Solved the following issue:

- Additional 0xCC character received in sysUART\_getbuff() Target function [PEP0558035R]
- After several copy of a file from microSD to USB-host controller reset

TM172DCL●●● (FIRMWARE MSK 659.07)

Solved the following issues:

- sysMbMRTU\_FC03() Target function not include all error cases [PEP0567500R]
- When a page change it is visible a display flickering [PEP0538357R]

TM171VEV●● (FIRMWARE MSK 589.20)

Solved the following issues:

- when change MOP setpoint (SP3) Driver must be reset to have new setting active. [PEP0543517R]

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# Chapter 4

## Software Information

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### New Features

- Integrated new SESU 2.3.0.
- Ask to select language during installation
- EULA in Japanese.
- Modbus variables can be exported to an Ecostruxure Operator Machine Expert compatible format
- Target RTC alignment during Download All
- Graphical minor changes on logos and icons
- Live debug function for ST language
- Direct bit mapping with physical location
- Support for direct bit access
- Optimization of watch windows
- Support for dynamic array bound using a symbolic constant
- POU can be saved into separate file to facilitate the integration with version control systems
- Improved RS485 configuration form
- Zoom function in Programming Editor
- Bios Parameters → Add full list in Menu
- Change Filter Icon in Commissioning/Installer
- Cybersecurity best practices adoption (force user to change password at first access and insecure protocols disabled by default)

### Mitigated Anomalies

- Solved the following issues:
  - Loss of program link when "Multiple files project" is selected [PEP0586700R]
  - Loss of the translation of the enumeratives defined within Display which have additional languages with respect to the BaseLanguage [PEP0588770R]
  - Target TM172E●●R do not exit from preoperational status [PEP0497183R]
  - Stop download with TM171ADMI vs Target TM171O●●●● [PEP0440210R]
- Integrated new Registration Software mechanism to fix artf214353 vulnerability
- Solved the following issues in AFB Application library (1.2.2):
  - PEP0504904R: Correction of calculation of dewpoint when its value is below 0°C in Psychrometric AFB (1.1.0)
  - PEP0538355R: Correction of Bug in saving EEPROM for ThermalPowerCalculation AFB (1.0.1)
  - PEP0556517R, PEP0565135R: Change description for xCntrlMode in properties of CompMgmt AFB (1.1.0) Correction of bug if all compressor go in allarm state and then go out from alarm state, the enable signal needs to do a transition False-True to have a restart of the compressor manager.
  - PEP0559861R: correction in CompCntrl\_VS AFB (1.1.0) because it was possible to write outside array of FreqLimits.
- Anomalies on EcoStruxure Machine Expert HVAC by code

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- PEP0444179R Bug in debug mode: A breakpoint in Debug mode on FB TON gives a WDT reset of controller [LL-1933]
  - PEP0338188R Buttons in raised state are wrongly drawn, exceeding HMI area [PL-397]
  - PEP0354427R Init String on M172P [LL-1626]
  - PEP0457482R ST editor: multilines IEC comments that contains a ) is not marked as comment [LL-1975]
  - PEP0546766R FC - Improvement security vulnerabilities in HTML5 online help
  - PEP0549744R MCI- ESME - Help for application object launch an exception [EL-825]
  - PEP0556136R MCI -ESME - Wrong postioning of table row with TVDA .sitetempl file
  - PEP0546035R MCI - ESME- Column value of parameter not valorized for TM1710
  - PEP0567501R Error loading LON Custom profile [EL-846].
  - [LL-2277] Missing typedef variables after importing from library (typedef not imported)
  - [EL-829] Batch download without /REBUILDPLC does not work anymore
  - [LL-2197] When dragging a new block, it cannot be placed at the right place because the code scrolls too fast
  - PEP0567498R Auto creation EDS file [EL-843]

## Known Operational Anomalies

NONE

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# Chapter 5

## Additional Information

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### Other Important External Information

None

### Release Notes History

#### Release Notes EcoStruxure Machine Expert – HVAC v1.2.1

Third Release

#### Release Notes EcoStruxure Machine Expert – HVAC v1.2

Second Release

#### Release Notes EcoStruxure Machine Expert – HVAC v1.1

First Release

### New Features Hardware/Firmware v1.1

NEW FEATURES IN TM172P●●●●●●●●/TM172O●●●●●●●● (FIRMWARE MSK 596.09 AND MSK 668.09)

- Introduced target functions sysHTTP\_AuthentOnOff() and sysFTP\_AuthentOnOff() to disable/enable authentication (enabled by default)
- Introduced two new SNVTs for LONWOKS protocol:
  - SNVT\_setting
  - SNVT\_state
- Introduced target function sysLcd\_RotateAt180( mode ) to rotate display visualization. Keys work accordingly to mode value: TRUE=rotation at 180°, FALSE=default visualization

### Mitigated Anomalies Hardware/Firmware v1.1

TM172P●●●●●●●●/TM172O●●●●●●●● (FIRMWARE MSK 596.09 AND MSK 668.09)

Solved the following issues:

- microSD mount at startup that lock the controller. Fixed max timeout of 30 seconds to mount a volume
- TM172O●●●28●/ TM172O●●●42● models continuously reset at power-on if powered only via USB-device.
- Not able to manage multiple object subscribes Bacnet MSTP

TM172DCL●●●● (FIRMWARE MSK 659.06)

Solved the following issues:

- Not possible to enter edit mode with enums
- Bad navigation between different enumeratives
- Editing of INT with format XXX.Y doesn't work if you try to enter values between 0.1 and

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0.9

- Not possible to send broadcast messages
- String writing by commissioning using USB port is not correct.

## New Features Software v1.1

Localization on dialog forms is now possible

## Mitigated Anomalies Software v1.1

- Solved the following issues:
  - Function Block QRCodeDisplay launch compiler critical error if used with TM172DCL●●.
  - Value for RS-485 set in configuration aren't written like default
  - Issue with "Modified" state after a "Refresh current target" command
  - "Build all" disabled while the HMI project is loading
  - File PARAM.BIN is wrong, string termination is missing
  - Switching perspective issue
  - Add the possibility to download single PLC, HMI and HMI Remote from ESME Installer as with SoMachine
  - EWC.exe: error in the compilation of the project with Chinese characters in the name
  - File list (.ini) encoding issue
  - Modbus Custom editor: all protocol are not added if driver is modified.
  - In Modbus custom editor is not possible to insert modbus register of different type (input, Holding...) with same modbus address
  - Code generation error: SFC control variables not found.
  - Import of TM171P Blind Project with HMI Remote doesn't function.
  - Black tabs in Auto Hide Mode. It's difficult read the name of the window
  - A program error for a particular configuration of the group policy
  - In simulation mode a breakpoint is reached after the CASE OF and after the ELSE.
  - Error in print on Ladder project
  - Breakpoints used inside inner loop

## Known Operational Anomalies v1.1

Minor vulnerability fixed on dll hijacking (internal reference artf270287)