

Presentation



EcoStruxure Machine Expert - HVAC programming software

Software solution

EcoStruxure Machine Expert - HVAC programming software is compliant with IEC 61131-3. It can be used to develop, configure, and commission HVAC solution systems.

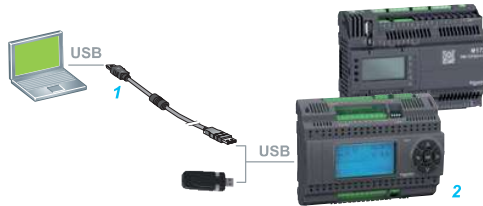
It includes:

- Programming Modicon M171/M172 logic controllers (performance and optimized) and remote display units
- Setting up expansion buses and networks
- Creating the screen of the displays (built-in and displays of the M171/M172 logic controller offer)
- Configuring BMS communication modules on BACnet MS/TP (B-AAC profile), Modbus SL, Modbus TCP, BACnet MS/TP, BACnet IP (B-AAC profile), and LonWorks (FFT-10)
- Dedicated libraries such as:
 - a library of application function blocks
 - a library of Tested, Validated, and Documented Applications (TVDA)
- Full simulation mode

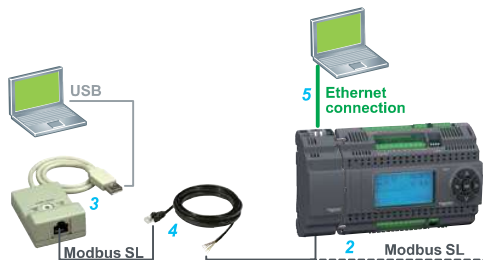
General characteristics

Overview

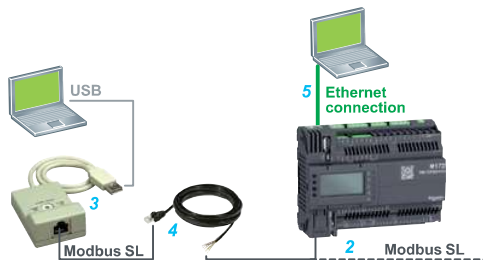
Programming languages	■ ST (Structured Text) ■ FBD (Function Block Diagram) ■ LD (Ladder) ■ IL (Instruction List) ■ SFC (Sequential Function Chart)
Applications	■ Graphical and text-based languages: - Adaptation to each developer background - Library management - Code debugging - Parameter definition - Simulation mode ■ Advanced programming: - Vectors - Pointers
System solutions management	■ Multi-target project ■ Management of Modbus data ■ Data exchange between several Modicon M171/M172 performance logic controllers
Graphical user interface	■ Graphic display: - Multipage - Buttons - Edit box - Static text - Images - Animations - Bars - Lists of data (parameters/variables/alarms) ■ Configurable buttons ■ Multilanguage ■ Automatic documentation
Communication bus configurators	■ Control networks: Modbus TCP, Modbus SL, Profibus ■ Expansion bus fieldbus: CAN expansion bus ■ BMS connectivity: BACnet MS/TP (B-AAC profile), BACnet IP (B-AAC profile), LonWorks (FFT-10)
Advanced simulation options	■ Full simulation - I/O emulation - HMI - IEC code - Live debug - Triggers - Oscilloscope
Advanced debugging and simulation options	■ Remote control/download: - Modbus SL & TCP - CAN - Modem ■ Parameter management ■ Status monitoring ■ Field test: - Oscilloscope - Debug window - Export to Excel



Local programming, download - M171 & M172 performance - through USB port



Remote programming - M171 performance



Remote programming - M172 performance



Local programming, download - M171 optimized - via TTL port



Remote programming - M171 optimized

Product offer

EcoStruxure Machine Expert - HVAC software is supplied on a DVD or can be downloaded from our website www.schneider-electric.com.

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

References

System configuration:

- Processor: Pentium 1.6 GHz or higher
- RAM: 1 GB; 2 GB recommended
- Hard disk: 500 MB minimum
- OS: 32-bit Windows; XP Pro SP3 or Windows 7 (32-bit or 64-bit) or Windows 8
- Drive: DVD drive
- Display: SVGA video card; 800×600, 128 MB; 1024×768, 256 MB recommended
- Peripheral device: A mouse or compatible pointing device
- Peripheral device: USB interface

Programming software

Designation	Application	Reference	Weight kg/lb
EcoStruxure Machine Expert - HVAC programming software	M171 optimized logic controllers,	TM171SW	0.050/
	M171 performance logic controllers,		0.110
	M172 optimized logic controllers,		
	M172 performance logic controllers		

Programming accessories for M171 and M172 performance logic controllers

The USB cable is recommended for local programming.

An Ethernet port is recommended for remote download or remote programming.

Description	Characteristics and use	Length m/ft.	Reference	Weight kg/lb
Programming via USB port				
Programming cables (1)	From the PC USB-A port to the USB mini-B port on M171 (2) and M172 performance logic controllers (2)	3/0.98	TCSXCNAMUM3P (1)	0.065/0.143
		1.8/5.90	BMXXCAUSBH018	0.065/0.143

Programming via Modbus SL and/or Ethernet

USB to RS485 converter (3)	To be used on M171 (2) and M172 performance logic controllers (2). Equipped with 1 RJ45 connector at the controller end and 1 USB-A connector at the PC end	0.4/1.31	TSXCUSB485	0.144/0.320
Connection cable for Modbus serial link (4)	Equipped with 1 RJ45 connector at one end and flying leads at the other end	3/9.84	VW3A8306D30	0.250/0.550

Ethernet connection cable

Ethernet Connexium cable - shielded twisted pair straight cord (5)	For connection to terminal devices (DTE). Equipped with 1 RJ45 connector at each end. CE compatible	2/6.56 (2)	490NTW00002	—
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(1) Unshielded cable without grounding. To be used only for temporary connections. For permanent connections, use the reference **BMXXCAUSBH018**.

(2) Other lengths available: 5 m/16.40 ft, 12 m/39.37 ft, 40 m/131.23 ft, and 80 m/262.47 ft, see on our website www.schneider-electric.com

Programming accessories for M171 optimized logic controllers

Programming via TTL programming port

Description	Characteristics and use	Reference	Weight kg/lb
Programming cable (6)	To be used between a PC and the TTL programming port of M171 optimized logic controllers (8)	TM171ADMI	0.157/0.350
Programming stick (7)	To be used to transfer parameters from one M171 optimized logic controller (8) to another, or to download the program	TM171AMFK	0.010/0.020

Programming via USB port

USB to RS485 converter (3)	See above
Connection cable for Modbus serial link (4)	See above