Section 27

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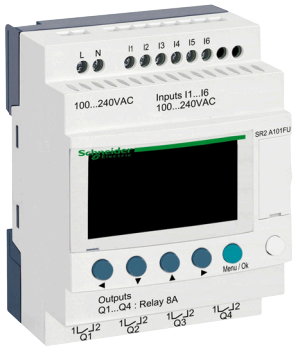

Zelio Logic Smart Relays

For applications that require more flexibility than a simple relay, timer or counter, but are too simple for the smallest Nano PLC, Zelio Logic smart relays are available. Designed to accept and control outputs just like a relay, Zelio Logic features logic programming with Function Block Diagram (FBD) or Ladder Logic Programming using either the front panel or by utilizing ZelioSoft software. For more information, refer to www.se.com/us/en Zelio Logic or catalog DIA3ED2111202EN.

Catalog Number	Description	Inputs	Outputs	Supply Volts
SR2A101FU	SR2 with Display	6 Digital	4 Relay	120 Vac
SR2B121BD	SR2 with Display	8 Digital, 4 Analog	4 Relay	24 Vdc
SR2B121FU	SR2 with Display	8 Digital	4 Relay	120 Vac
SR2D101FU	SR2 without Display	6 Digital	4 Relay	120 Vac
SR3B101BD	SR3 with Display	6 Digital, 4 Analog	4 Relay	24 Vdc
SR3B101FU	SR3 with Display	6 Digital	4 Relay	120 Vac
SR3B261BD	SR3 with Display	16 Digital, 6 Analog	10 Relay	24 Vdc
SR3B261FU	SR3 with Display	16 Digital	10 Relay	120 Vac
SR3XT101FU	SR3 Expansion	6 Digital	4 Relay	—
SR3XT61FU	SR3 Expansion	4 Digital	2 Relay	—

Catalog Number	Description
SR2MEM02	Memory Cartridge
SR2USB01	USB Programming Cable

TM221ME16T

TM221CE16R

Modicon™ M221 PLC

Providing “Best in Class” performance for compact machine automation, the Modicon M221 PLC features intuitive machine programming using **EcoStruxure™ Machine Expert Basic Software** (formerly SoMachine), ready-to-use applications and standard function blocks. Its flexible and scalable machine control allows you to easily upgrade to higher performance platforms when necessary. With Ethernet, USB and serial ports, the Modicon M221 PLC provides optimum connectivity for simplified machine integration and maintenance. See catalog DIA3ED2140110EN.

Catalog Number	Description	Inputs	Outputs	Supply Volts
TM221C16R	Compact PLC 16 I/O Relay	9 Digital, 2 Analog	7 Relay	120 AC
TM221C24R	Compact PLC 24 I/O Relay	14 Digital, 2 Analog	10 Relay	120 AC
TM221C40R	Compact PLC 40 I/O Relay	24 Digital, 2 Analog	16 Relay	120 AC
TM221CE16R	Ethernet Compact PLC 16 I/O Relay	9 Digital, 2 Analog	7 Relay	120 AC
TM221CE16T	Ethernet Compact PLC 16 I/O PNP Transistor	9 Digital, 2 Analog	7 PNP	24 DC
TM221CE24R	Ethernet Compact PLC 24 I/O Relay	14 Digital, 2 Analog	10 Relay	120 AC
TM221CE24T	Ethernet Compact PLC 24 I/O PNP Transistor	14 Digital, 2 Analog	10 PNP	24 DC
TM221CE40R	Ethernet Compact PLC 40 I/O Relay	24 Digital, 2 Analog	16 Relay	120 AC
TM221CE40T	Ethernet Compact PLC 40 I/O PNP Transistor	24 Digital, 2 Analog	16 PNP	24 DC
TM221ME16R	Ethernet Modular PLC 16 I/O Relay	8 Digital, 2 Analog	8 Relay	24 DC
TM221ME16T	Ethernet Modular PLC 16 I/O PNP Transistor	8 Digital, 2 Analog	8 PNP	24 DC

TM241CE40T

Modicon™ M241 PLC

Designed for high-performance compact machines, incorporating speed and position control functions–the Modicon M241 PLC features a dual core processor–that provides tremendous processing power and memory size for complex applications. Machine programming is highly intuitive using EcoStruxure Machine Expert Software (formerly SoMachine), function blocks and ready-to-use applications. And, the M241 PLC’s simplified motor control integration and wiring allow for quick start-up and commissioning.

Catalog Number	Communication	Inputs	Outputs	Supply Volts
TM241CE24R	Modbus TCP, EthernetIP, Modbus Serial, Ascii *[1]*	14 Digital	4 PNP, 6 Relay	24 dc
TM241CE24T		14 Digital	10 PNP	
TM241CE40R		24 Digital	4 PNP, 12 Relay	
TM241CE40T		24 Digital	16 PNP	
TM241CEC24R	Modbus TCP, EthernetIP, Modbus Serial, Ascii, CanOpen, CAN J1939 *[1]*	14 Digital	4 PNP, 6 Relay	
TM241CEC24T		14 Digital	10 PNP	
TM241CEC24U		14 Digital	10 NPN	
Additional versions available, please see Modicon M241 Micro PLC or catalog DIA3ED2140107EN for additional information.				

[1] NOTE: Profibus DB is available via TM4 expansion module.

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Modicon™ M251 PLC

TM251MESE

TM251MESC

The Modicon M251 PLC provides innovative, high-performance solutions for modular machines and distributed architectures with line control. Its intuitive EcoStruxure Machine Expert, page software (formerly SoMachine), ready-to-use applications and function blocks allow you to optimize your programming time. And, its flexible and scalable machine control allows you to change the PLC hardware type to fit the application, using the same programming across the range. The M251 PLC allows you to stay connected everywhere via Ethernet, wireless access, web servers and remote visualization, simplifying machine integration and maintenance. Its integrated Ethernet switch—on a separate channel from the machine control network—allows data exchange with other machines and system networks, while keeping the machine control on a dedicated high-performance local network.

Catalog Number	Description	Com 1	Com 2	Supply Volts
The M251 can be further enhanced using the TM3 (I/O & Safety). TM4 (communication), and TMC (I/O) expansion modules.				
TM251MESE	Dual Channel Ethernet PLC	Dual Port Ethernet	Ethernet as Master	24 dc
TM251MESC	Ethernet and CANopen PLC	Dual Port Ethernet	CANopen as Master	24 dc
Additional versions available, please see Modicon M251 and catalog DIA3ED2140108EN for additional information.				

Catalog Number	Description
TM3 I/O Expansion Modules for M221, M241, M251 PLCs. Up to 7 modules per PLC. Add TM3XTRA1 + TM3XREC1 to add 8-14 TM3 modules. Additional TM3 modules are available.	
TM3AI4	I/O Module 4 Analog Inputs
TM3AI8	I/O Module 8 Analog Inputs
TM3AM6	I/O Module 4 Analog Inputs and 2 Analog Outputs
TM3AQ2	I/O Module 2 Analog Outputs
TMA3Q4	I/O Module 4 Analog Outputs
TMA3DI16	I/O Module 16 Inputs
TM3DI8	I/O Module 8 Inputs
TM3DI8A	I/O Module 8 Inputs 120 Vac
TM3DM8R	I/O Module 8 IO Relays
TM3DQ16R	I/O Module 16 Outputs Relays
TM3DQ16T	I/O Module Outputs Transistor PNP
TM3DQ8R	I/O Module 8 Outputs Relays
TM3DQ8T	I/O Module Outputs Transistor PNP
TM3TI4	I/O Module 4 Inputs Temperature
TM3TI8T	I/O Module 8 Inputs Temperature
TM3XTRA1	I/O Expansion Transmitter for 8–14 TM3 Modules
TM3XREC1	I/O Expansion Receiver for 8–14 TM3 Modules

Modicon™ M258 PLC

The Modicon M258 logic controller is a compact, high-performance and fully expandable PLC. It forms a part of Flexible Machine Control approach, a key component of Machine Struxure, which brings you maximum flexibility and ensures the most optimized control solution. This PLC is designed for machine manufacturers (OEMs) focusing on applications such as packaging, conveying and storage, textiles and woodworking, etc. It offers high-performance solutions for speed control, counting, axis control, and communication functions. The Modicon M258 logic controller's dual-core processor provides extremely high performance. Core 1 is dedicated exclusively to managing program tasks and offers the maximum resources for real-time execution of the application code. Core 2 is dedicated to executing communication tasks, which have no impact on the application performance. More information is available at Modicon M258 PLC and in catalog DIA6ED2100402EN.

New!

Modicon™ M262 Logic/Motion Controller

TM262M15MESS8T

As the latest controller for Logic and Motion with cloud protocols (MQTT, HTTP, JSON, OPC UA) and encryption (TLS), the Modicon M262 is made for you. Modicon controllers are a key part of our EcoStruxure™ Machine that provides complete architecture from Connected Products and Edge Control to Apps, Analytics, and services. Modicon M262 controllers embed Industrial Internet of Things (IIoT) protocols and encryption to provide direct cloud connectivity and digital services. The Modicon M262 Logic/Motion controller offer is made for performance-demanding machines. M262 controllers are IIoT-ready (MQTT, HTTP, OPC UA, TLS) and combine logic, motion, and safety control applications. **TM262L** is for logic control of multiple input/output arrangements. **TM262M** is for motion control of up to 16 synchronized axes, embedding a safety control application capable of attaining Safety Integrity Level (SIL) 3. More information is available at Modicon M262 and in catalog DIA3ED2180503EN.

Catalog Number	I/O	Execution Speed ns/Instruction	Maximum No. of Sync Axes	Embedded Communication Networks		
				Ethernet	Sercos	Serial
Logic Controllers						
TM262L10MESE8T	4 fast digital inputs / 4 fast digital outputs	5	—	2	—	1
TM262L20MESE8T		3	—	2	—	1
Motion Controllers						
TM262M15MESS8T	4 fast digital inputs / 4 fast digital outputs + 1 encoder input (Incremental/ SSI, 5/24 Vdc)	5	4 Axes	2	1	1
TM262M25MESS8T		3	8 Axes	2	1	1
TM262M35MESS8T		3	16 Axes	2	1	1

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Modicon™ TSX Micro™ PLC

Compact and cost-efficient, this mid-range PLC boasts the power and flexibility OEMs find most desirable. Optional integrated safety relays, half-size I/O and web-enabled modules provide seamless connection to supervisory maintenance systems plus minimize real estate. PCMCIA memory cards preserve your investment when expanding. Communication options include Ethernet and ASi for global access using Open standards. More details are available at More information is available at Modicon TSX Micro PLC and catalog MKTED204012EN.

Modicon™ Unity™ Momentum™ PLC

The small footprint and open architecture of the Momentum PLC product line make it extremely versatile for a variety of automation applications. The Unity Momentum PLC is ideal for PC-based control, distributed control, distributed I/O, and traditional, standalone PLC control. The Momentum PLC product line includes I/O bases and communication adapters that are interchangeable and snap together to deliver optimal flexibility throughout the control system life cycle. Using Ethernet as its communications backbone, the Modicon Unity Momentum CPU delivers all the performance benefits of real-time control. The open architecture of the Unity Momentum CPU makes it a universal controller for distributed I/O, compatible with many of the major fieldbus and control network environments. An integral Ethernet port in the Unity Momentum CPU allows users to perform a wide range of functions over Ethernet, including data acquisition, peer-to-peer communications, and I/O scanning. Embedded web pages enable the use of a standard web browser to read status and diagnostic information from the processor. The Unity Momentum CPU not only seamlessly connects I/O and other control devices via open standards; it delivers the performance of a full function, real-time controller for stand-alone and distributed system configurations in one money saving unit. Additional information can be found at Modicon Momentum.

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EcoStruxure™ Machine Expert Software (formerly SoMachine)

EcoStruxure Machine Expert (formerly known as SoMachine) is the OEM solution software for developing, configuring, and commissioning the entire machine in a single software environment, including logic, motion control, HMI, and related network automation functions. EcoStruxure Machine Expert allows you to program and commission all the elements in Schneider Electric's Flexible and Scalable Control platform, the comprehensive solution-oriented offer for OEMs, which helps you achieve the most optimized control solution for each machine's requirements. Flexible and Scalable Control platforms include:

Match your controller to the available software package:

MachineStruxure Product Range	Schneider Electric Software	Software Distribution
Zelio Logic: Smart Relays 10 to 40 I/O	Zelio Soft: Zelio Logic configuration software	Free to Download
Modicon M171 / M172: HVAC Logic Controller	EcoStruxure Machine Expert HVAC	Available to order
Modicon M221 Nano PLC	EcoStruxure Machine Expert Basic	Free to Download
Modicon Motion: M221, M241, M251, M258, M262LMC058	EcoStruxure Machine Expert NOTE: Vijeo™ Designer and Basic are included	Available to order
Harmony™ HMI: SCU and XBT GC		
PacDrive Motion Controller	EcoStruxure Machine Expert	Available to order

More information is available at EcoStruxure™ Machine Expert and in catalog DIA3ED2140110EN.

EcoStruxure™ Control Expert Software (formerly Unity Pro)

EcoStruxure Control Expert software is the common programming, debugging, and operating software for Modicon M340, M580, M580S, Premium, Momentum, and Quantum ranges.

More details are available at EcoStruxure Control Expert Software and catalog MKTED2140504EN.

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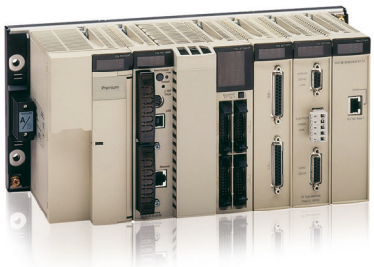
Modicon™ M340 PAC

Our latest midrange PAC is the most integrated ever! Highly requested by industrial OEMs and end users, the all-power-inside concept boasts high-performance processing and small size to create a system that provides flexibility beyond any before. With up to three built-in CPU communication ports, large memory options, sixty-four channel high-density modules, and embedded web servers, the Modicon M340 is a powerful solution for industrial OEMs and end users demanding more productivity in their PACs. The Modicon M340 PAC supports advanced communications such as enhanced Ethernet/IP which support Ethernet/IP, Modbus TCP/IP, and daisy chain loop communications on the same four-port, rack mounted switch module. It will also support DNP3.0 in serial or Ethernet in a rack-mounted RTU module. The Modicon M340 PAC is programmed with Unity Pro software, which allows users to dramatically reduce setup time and effort with features like drag 'n drop CANopen bus setup and standard IEC 61131–3 language selection. Designers gain fast, easy and efficient startups. More details are found on our website or in the latest Modicon M340 catalogs and brochures. More information is available at Modicon M340 PAC.

Modicon™ M580 ePAC

The Modicon M580 ePAC (Ethernet Programmable Automation Controllers) features openness, flexibility, robustness and sustainability. The M580 ePAC is designed with an Ethernet backbone to optimize connectivity and communications. The microprocessor has three native Ethernet ports on the chip. Schneider Electric collaborated with the supplier to design the microprocessor, and in 2013 the supplier agreed to provide the microprocessor for 20 years, helping to protect customers' long-term investments. The powerful processors offer high levels of computation for complex networked communication, display and control applications. The M580 ePAC is designed for cybersecurity. It has an Achilles Level 2 certification. Achilles Level 2 certification by Wurldtech is considered to be the best cybersecurity certification available for PACs. The M580 has other advanced embedded cyber security features that are defined by IEC 62443. This includes, but is not limited to the ability to disable unused services, control of remote access to the PAC and integrity checks of Unity Pro executable files. The M580 ePAC supports X80 common I/O modules which can be easily integrated into its architecture. More details are available at Modicon M580 PAC Controller.



Modicon™ Premium™ PAC

Ideally suited for discrete manufacturing, complex OEM applications as well as municipality and infrastructure applications, this cost-effective PAC line features integrated functions such as weighing, interpolated motion control, and process loops. Using the built-in Ethernet port, user-customized web page capabilities, and a range of popular open-standard fieldbus connections, the Modicon Premium enables seamless communication with enterprise systems providing low-cost remote maintenance diagnostics. More details are available at Modicon Premium PAC.

Modicon™ Quantum™ PAC

The Modicon Quantum PAC is our high-end, full function PLC designed for high I/O count industrial applications that require high performance such as Pharmaceutical, Petrochemical, Food and Beverage, Automotive, and others. Quantum also offers true bumpless hot standby. Quantum processors can be programmed with Unity Pro software, and can also support legacy 984 ladder logic programs in the LL984 Unity Pro editor by simply importing the legacy application program. Concept™ application software and ProWORX™ 32 application software are also supported on the Quantum platform. The Unity Quantum's onboard memory can exceed 3 Mbytes, and can have more than 7 Mbytes of extended memory on a PCMCIA card for data and application storage combined. It can also provide over 8 Mbytes of data storage alone. The Quantum PLC also offers Safety PAC versions certified for use in up to SIL3 applications. This includes both standard and hot standby capability as well as redundant I/O. It programs with Unity Pro XLS. The SIL3 offer stresses both high reliability as well as high availability. More details are available at Modicon Quantum PAC and catalog DIA6ED2110705EN-US.

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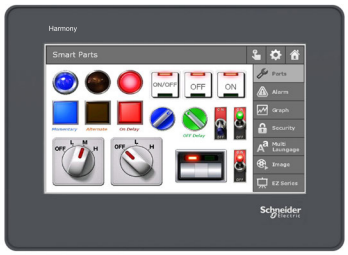
Harmony™ Small Panels HMI Products

The Harmony STO, STU, XBTN, XBTR, and XBTRT, Small Panels have been specifically designed to satisfy the requirement for panels that are compact and easy to use. These terminals are easy to configure, and they work seamlessly with other Schneider Electric equipment to provide a complete automation solution, dedicated to simple or compact machines.

Harmony™ STO



Best-in-class display. With screen quality based on ppi similar to Harmony GTU, the Harmony STO7•• 4.3 inch color screens support crisp, clear visualization and a high quality display. This enables you to create more attractive and distinguished applications for industry.

Key features of the Harmony STO:

- TFT color screen with 480 x 272 pixels
- Removable logo stickers
- Larger screen with full-size ratio in the 4.3 inch class
- Three versions for various communication types
- 26 MB application memory
- Operating temperature: 32—122 °F (0—50 °C)
- Programs with EcoStruxure™ Operator Terminal Expert
- IP65, NEMA 4X (indoor use)
- Certifications include CE, cULus, Class 1 Div 2

Catalog Number	Colors	Com Port	Ethernet
HMISTO705	64k	1 x RS232	—
HMISTO715	64k	1 x RS422/485	—
HMISTO735	64k	—	1 x 10/100BaseT

Harmony™ STU

The Harmony STU is a compact HMI that is mounted using a 22 mm diameter hole - similar to a push button. This helps reduce overall cost by minimizing the labor for installing the HMI. The STU is a cost-effective solution for machine builders.

Key features of the Harmony STU:

- 3.5 or 5.7 inch TFT color display, QVGA (320 x 240)
- Resistive touch screen
- One USB v2.0 host-type A port + one USB v2.0 mini-B port
- Serial and Ethernet communication ports
- Powered by 24 Vdc
- Operating temperature: 32–122°F (0–50°C)
- Configured by Vijeo Designer
- IP65, NEMA 4X (indoor use)
- Certifications include CE, cULus, Class 1 Div. 2, Marine

Catalog Number	Screen Size	Com Port	Ethernet
HMISTU655	3.5 in. TFT Color (320x240)	RS232C/RS485 (RJ45)	Ethernet (RJ45)
HMISTU855	5.7 in. TFT Color (320x240)	RS232C/RS485 (RJ45)	Ethernet (RJ45)

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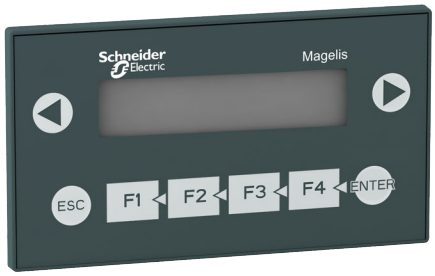
Harmony™ SCU Small HMI Controllers

The ultra-compact range of Harmony SCU small HMI controllers is part of Schneider Electric's Flexible Machine Control concept, a key element in MachineStruxure™. The Harmony SCU HMI Controllers product offer brings together HMI and control functions within a single product. This reduces the amount of equipment required and the associated costs throughout the life cycle of the machine. Mounting through a 22 mm hole considerably simplifies installation. **Key features of the Harmony SCU:**

- 3.5 or 5.7 inch TFT color display, QVGA (320 x 240)
- Resistive touch screen
- One USB v2.0 host type A port + one USB v2.0 mini-B port
- Serial, Ethernet and CANopen communication ports
- Removable terminal blocks for I/O connections
- Powered by 24 V dc
- Operating temperature: 32–122°F (0–50°C)
- Configured by SoMachine
- IP65 NEMA 4X (indoor use)
- Certifications include CE, cULus, Class 1 Div. 2

Catalog Number	Screen Size	Digital Inputs	High Speed Counter Inputs	Digital Relay Outputs	Pulse Train Outputs	Analog Inputs	Temperature Inputs	Analog Outputs
HMISCU6A5	3.5 in.	14	2	8	2	—	—	—
HMISCU6B5	3.5 in.	6	2	6	2	2	2	2
HMISCU8A5	5.7 in.	14	2	8	2	—	—	—
HMISCU8B5	5.7 in.	6	2	6	2	2	2	2

See catalog DIA5ED2130505EN for more information.



XBTN200

Harmony™ XBT N/R/RT

The Harmony XBTN/R/RT small HMI are an ideal solution for simple machines. The XBTN and XBTR models can accommodate up to four lines of twenty characters and are available with a tri-color backlight (green/orange/red). The XBTRT models have a semi-graphical display with resistive touch screen. All models have customizable function keys.

Key features of the Harmony XBTN/R/RT:

- Monochrome alphanumeric display
- Tri-color backlight available on some models (green/orange/red)
- Semi-graphical display and touch screen on the XBTRT models
- Serial communication port for PLC connection
- Powered by 5 Vdc from PLC terminal port or 24 Vdc externally
- Operating temperature: 32—151 °F (0—55 °C)
- Configured by Vijeo Designer Lite
- IP65, NEMA 4X (outdoor use), XBTN/R only
- Certifications include CE, cULus, Class 1 Div 2

Catalog Number	Screen Type	Keys	Touch Screen	Supply Voltage	Com Port
XBTN200	2x20 Alphanumeric LCD with Green Backlight	4 fixed + 4 customizable	—	5 Vdc (PLC Port)	RS232C/RS485 (RJ45)
XBTN400	4x20 Alphanumeric Matrix LCD (122x32) with Green Backlight	4 fixed + 4 customizable	—	5 Vdc (PLC Port)	RS232C/RS485 (RJ45)
XBTN401	4x20 Alphanumeric Matrix LCD (122x32) with Green/Orange/Red Backlight	4 fixed + 4 customizable	—	24 Vdc (external)	RS232C/RS485 (SUB-D 25)
XBTN410 *[1]*	4x20 Alphanumeric Matrix LCD (122x32) with Green Backlight	4 fixed + 4 customizable	—	24 Vdc (external)	RS232C/RS485 (SUB-D 25)
XBTNU400	4x20 Alphanumeric Matrix LCD (122x32) with Green Backlight	4 fixed + 4 customizable	—	24 Vdc (external)	RS232C/RS485 (SUB-D 25)
XBTR400	4x20 Alphanumeric Matrix LCD (122x32) with Green Backlight	8 fixed + 12 customizable	—	5 Vdc (PLC Port)	RS232C/RS485 (SUB-D 25)
XBTR410	4x20 Alphanumeric Matrix LCD (122x32) with Green Backlight	8 fixed + 12 customizable	—	24 Vdc (external)	RS232C/RS485 (SUB-D 25)
XBTR411	4x20 Alphanumeric Matrix LCD (122x32) with Green/Orange/Red Backlight	8 fixed + 12 customizable	—	24 Vdc (external)	RS232C/RS485 (SUB-D 25)
XBTRT500	Semi-graphical Matrix LCD (198x80) with Green Backlight	2 fixed + 10 customizable	Yes	5 Vdc (PLC Port)	RS232C/RS485 (RJ45)
XBTRT511	Semi-graphical Matrix LCD (198x80) with Green/Orange/Red Backlight	2 fixed + 10 customizable	Yes	24 Vdc (external)	RS232C/RS485 (RJ45)

[1] Preloaded with application for connection to Tesys model U motor starter.

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Harmony™ Advanced Panels HMI Products

The Harmony Advanced Panels are touch screen HMIs that are designed for the most demanding industrial applications. Choose between several platforms and screen sizes for the best cost and performance to suit your needs.

Harmony™ GTO Optimized Panels

The Harmony GTO Optimized Panels are ideal for OEMs that need a cost-effective solution with enough functionality for demanding applications. The GTO's build-in connectivity includes serial ports, Ethernet, and USB. Via Ethernet, they support a Web server, FTP, e-mail, and remote access from a PC, smart phone, or tablet applications. The panels are designed for industrial environments. A stainless steel version is available that is resistant to high-pressure cleaning (conforming to DIN 40050–9).
Key features of the Harmony GTO:

- TFT color LCD display with 50,000 hour backlight
- Resistive analog touch screen
- One USB v2.0 host type A port + one USB v2.0 mini-B port
- Powered by 244 V dc
- Configured by Vijeo Designer
- IP65, NEMA 4X (indoor use), IP66K for Stainless Steel models
- Certifications include CE, cULus, Class 1 Div. 2, Marine

See Catalog DIA5ED2130616EN for more information.

HMIGTO1300

HMIGTO2300

HMIGTO3510

Table 27.1: GTO Optimized Panels

Catalog No.	Screen Size	Stainless Steel	Function Keys	Com Ports	Ethernet	SD Card Socket	Operating Temp
HMIGTO1300	3.5 in. QVGA (320x240)	—	Yes	2 Ports	—	—	32—131 °F (0—55 °C)
HMIGTO1310	3.5 in. QVGA (320x240)	—	Yes	1 Port	1 Port	Yes	32—131 °F (0—55 °C)
HMIGTO2300	5.7 in. QVGA (320x240)	—	—	2 Ports	—	—	32—131 °F (0—55 °C)
HMIGTO2310	5.7 in. QVGA (320x240)	—	—	2 Ports	1 Port	Yes	32—131 °F (0—55 °C)
HMIGTO2315	5.7 in. QVGA (320x240)	Yes	—	2 Ports	1 Port	Yes	32—131 °F (0—55 °C)
HMIGTO3510	7.0 in. WVGA (800x480)	—	Yes	2 Ports	1 Port	Yes	32—131 °F (0—55 °C)
HMIGTO4310	7.5 in. VGA (640x480)	—	—	2 Ports	1 Port	Yes	32—131 °F (0—55 °C)
HMIGTO5310	10.4 in. VGA (640x480)	—	—	2 Ports	1 Port	Yes	32—131 °F (0—55 °C)
HMIGTO5315	10.4 in. VGA (640x480)	Yes	—	2 Ports	1 Port	Yes	32—131 °F (0—55 °C)
HMIGTO6310	12.1 in. SVGA (800x600)	—	—	2 Ports	1 Port	Yes	32—131 °F (0—55 °C)
HMIGTO6315	12.1 in. SVGA (800x600)	Yes	—	2 Ports	1 Port	Yes	32—131 °F (0—55 °C)

Harmony™ XBTGH Handheld HMI

The Harmony XBTGH is a handheld HMI that enables operator mobility around a machine. It is ideal for machine setup and troubleshooting as well as normal operation.
Key Features of the Harmony XBTGH:

- 5.7 in. color TFT LCD display, VGA (640 x 480), 50,000 hour backlight
- Resistive analog touch screen
- Eleven programmable function keys with customizable labels + one enable button
- Emergency stop button with two NC safety contacts and one NO auxiliary contact
- Key switch for turning the HMI on/off
- Three-position grip switch to signal that the operator is ready
- Designed to be held by one hand
- Integrated stylus for touch screen operation
- Connectivity includes one serial port, one Ethernet port, and one USB Type A port

Catalog Number	Description
XBTGTH2460	Handheld HMI with E-stop button
XBTGTH2460B	Handheld HMI without E-stop button
XBTZGJBOX	Junction box for handheld HMI
XBTZGHL3	3 meter cable for handheld HMI
XBTZGHL10	10 meter cable for handheld HMI
XBTZGHL20	20 meter cable for handheld HMI

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Harmony™ GTU Universal Panels

The Harmony GTU Universal Panels are a high performance HMI product range designed with the uniqueness of modularity that allows you to select and assemble the best combination of display unit and CPU module for the application requirements. Harmony GTU features operator efficiency, simplified installation and flexibility that fits almost any system. This product range includes: display modules (Advanced and Smart) and CPU box modules (Premium and Open).

Key features of the Harmony GTU:

Premium Box CPU Module:
- Harmony proprietary OS
- SD Card for OS and application
- Second SD Card socket for user data
- 2x USB 2.0 (Type A) and 1x USB 2.0 (mini-B)

Open Box CPU Module:
- Window Embedded 7 OS
- CFast Card for OS and application
- SD and CFast Card sockets for user data
- 3x USB 2.0 (Type A) and 1x USB 2.0 (mini-B)
- DVI-D output for external monitor

CPU Box Type	Catalog Number	Operating System	Video Out	Com Ports	Ethernet	USB 2.0 Ports	Memory Card Socket
Standard Box	HMIG2U	Proprietary OS	—	1x RS232 1x RS485	2x 100 Mb	2x (Type A) 1x (mini-B)	On board Flash (1 GB) 64 MB user data
Premium Box	HMIG3U	Proprietary OS	—	2 Ports	2 Ports	3x (Type A) 1x (mini-B)	1x CD for system (included) 1x SD socket for user data
Open Box	HMIG5U2	WES7 OS	DVI-D	2 Ports	2 Ports	3x (Type A) 1x (mini-B)	1x CFast for system (included) 1x CFast socket for user data 1x SD socket for user data

HMIDT732FC

Common Features:

- Modular design, any combination of display module and CPU box
- Two serial and two Ethernet ports for communications
- Powered by 12–24 Vdc
- Operating temperature: 32–140°F (0–60°C)
- Configured by Vijeo Designer
- IP66/67, NEMA 4X (indoor use)
- Certifications include: CE, cULus, Class 1 Div. 2, Marine

Smart Display Module:

- 16M color TFT LCD display (4:3 format)
- Resistive analog touch screen, multi-touch capable
- Front panel USB 2.0 ports, 1x (Type A) and 1x (mini-B)
- Sensor for automatic backlight brightness control

Advanced Display Module:

- 262k color TFT LCD display (16:9 format)
- Resistive analog touch screen, single touch

Display Type	Catalog No.	Screen Size	Front USB Ports	Brightness Sensor	Built-in Wireless LAN	Multi-touch Capable *[2]*
Smart Display (4:3 or 16:9) 16 M Colors	HMIDT542	10.4 in. SVGA (800x600)	Yes	Yes	—	Yes
	HMIDT642	12. 1 in. XGA (1024x768)	Yes	Yes	—	Yes
	HMIDT643	12.1 in. XGA (1024x768)	Yes	Yes	Yes	Yes
	HMIDT732	15.0 in. XGA (1024x768)	Yes	Yes	—	Yes
	HMIDT752	15.0 in. W FWXGA (1366x768)	Yes	Yes	—	Yes
	HMIDT952	19.0 in. W FWXGA (1366x768)	Yes	Yes	—	Yes
Advanced Display (16:9) 262k Colors	HMIDT351	7.0 in. WVGA (800x480)	—	—	—	—
	HMIDT551	10.1 in. WVGA (1280x800)	—	—	—	—
	HMIDT651	12.1 in. WVGA (1280x800)	—	—	—	—

More information is available at Harmony GTU HMI and catalog DIA5ED2140401EN

[2] Projects created in Vijeo Designer do not support multi-touch.

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HMIDT35X

HMIG3X

New!

Harmony GTUX™ Universal Panels

Harmony GTUX is a modularly designed robust terminal suitable for harsh outdoor environments. Features like high brightness and UV protection against direct sunlight, protection against water and dust, and supporting a wide range of temperatures make it an ideal choice for direct outdoor operation in O&G, WWW, and MMM segments.

- A wide temperature range from −30 °C to +70 °C
- Sunlight readable: High brightness LCD (1000 cd/m²), anti-glare surface
- Robustness: UV protection, conformal coated (fully coated)
- Dust and water proof: IP66F, IP67F, and NEMA4X (outdoor use)
- Environmental standard: Class 1, Div 2, ATEX/IECEx Zone 2/22
- Variety of interfaces, including dual Ethernet ports
- Modular design with stainless front face

CPU Box Type	Catalog Number	Operating System	Conformal Coated	Com Ports	Ethernet	USB 2.0 Ports	Memory Card Socket
eXtreme Box	HMIG3X	Proprietary OS	Partially coated	1x RS232/422/485 1x RS485	2x 10/100/1000BaseT	2x (Type A) 1x (mini-B)	2x SD card
eXtreme Box Fully Coated	HMIG3XFH	Proprietary OS	Fully coated 3C3	1x RS232/422/485 1x RS485	2x 10/100/1000BaseT	2x (Type A) 1x (mini-B)	2x SD card

CPU Box Type	Catalog Number	Screen Size	Conformal Coated	Operating Temperature	Supply Voltage	Touch Screen	Memory Card Socket
eXtreme Displays	HMIDT35X	7 in. W WVGA (800x480)	Partially coated	−30 to +65 °C	12–24 Vdc	Single Touch Analog Resistive	1000 cd/m²
	HMIDT35XFH	7 in. W WVGA (800x480)	Fully coated 3C3	−30 to +65 °C	12–24 Vdc	Single Touch Analog Resistive	1000 cd/m²
	HMIDT65X	12.1 in. W WXGA (1280x800)	Partially coated	−30 to +70 °C	12–24 Vdc	Single Touch Analog Resistive	1000 cd/m²
	HMIDT65XFH	12.1 in. W WXGA (1280x800)	Fully coated 3C3	−30 to +70 °C	12–24 Vdc	Single Touch Analog Resistive	1000 cd/m²
	HMIDT75X	15.6 in. W FWXGA (1366x768)	Partially coated	−20 to +60 °C	12–24 Vdc	Single Touch Analog Resistive	1000 cd/m²
	HMIDT75XFH	15.6 in. W FWXGA (1366x768)	Fully coated 3C3	−20 to +60 °C	12–24 Vdc	Single Touch Analog Resistive	1000 cd/m²

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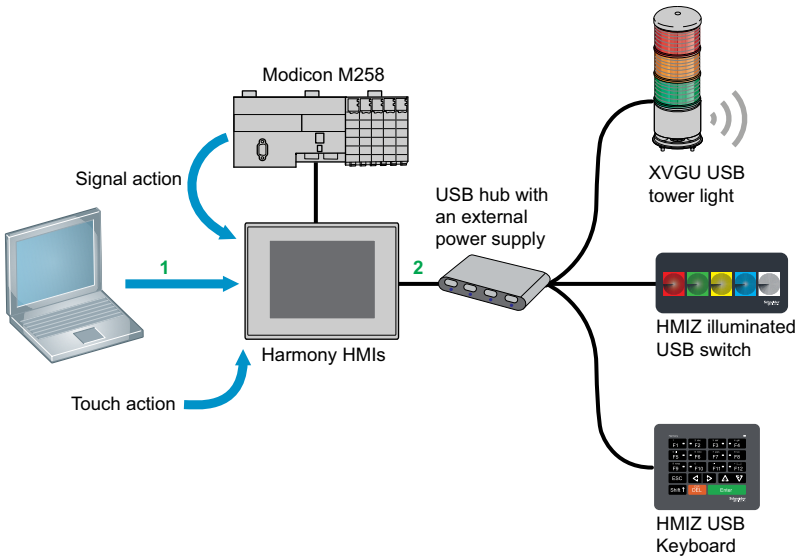
USB Accessories for Harmony™ HMI Terminals

Harmony HMI functionality can be extended with USB connected accessories. These innovative accessories are easy to install and can be operated with HMI terminals. Their configuration is part of the overall HMI project and is stored in the terminal memory. The illuminated switch panel and the keyboard panel are mounted with a 22 mm hole, simplifying installation.



Harmony™ XVGU Tower Light

The monolithic USB tower lights of the Harmony XVGU product range have multi-color LEDs that are unique and simple-to-use. The states and patterns are directly set and modified in the HMI application. The XVGU tower lights provide long distance indication of the operating status or sequences of a machine or installation, both visually by illuminated signaling units with 360° visibility, and audibly by a buzzer.

Key features of the Harmony XVGU USB Tower Light:

- Unique one-piece LED tower design, 60 mm
- Three transparent signaling layers
- Two-tone buzzer with three level volume control and four colors
- Variety of signal patterns (flashing/non-flashing lights)
- Power and signaling managed by the HMI
- Installation options (on direct base or tube plate)
  Catalog Number: XVGU3SHAV (100 mm length pole with mounting base

  Catalog Number: XVGU3SWV (direct base mounting)

  See Catalog DIA5ED2130901EN for more information.

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HMIZRA1
Illuminated Switch Panel

Harmony™ HMIZRA1 Illuminated Switch Panel

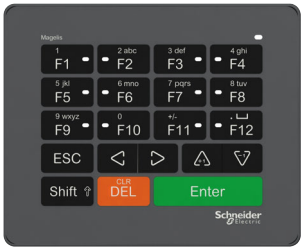
The illuminated USB switch is uniquely designed for easy visualization and quick acknowledgement of alarm (wide view angle and brightness). This switch with tactile feedback can also be used as function keys in HMI applications that involve repetitive operations in dirty environments. This keeps the touch panel clean and protected by avoiding continuous finger contact.

Key features of the Illuminated USB Switch:

- Five programmable switches with tactile feedback
- Dynamic light changes and flashing to display machine status
- Easy mounting with one-cable connection and a 22.5 mm hole
- Programmable six-color LED illumination per switch
- Connect to the Harmony HMI via USB
- Mount to the panel through a 22 mm hole
- Powered by the HMI via the USB cable
- Configured in Vijeo Designer
- IP65, NEMA 4X (indoor use)
- Certifications include CE, cULus, Class 1 Div. 2

Catalog Number: HMIZRA1

More details are available at Harmony Accessories and in catalog DIA5ED2130901EN



HMIZKB1 USB Keyboard

Harmony™ HMIZKB1 Keyboard Panel

The USB Keyboard is designed for flexible mounting and easy configuration. The tactile keys are suited for HMI applications with repetitive operations or dirty environments (oil, dust). Functionality of the HMI can be extended with external function keys, status indicator LEDs and both numeric and text data entry.

Key features of the USB Keyboard:

- Twenty-key membrane keyboard with tactile feedback
- Includes twelve programmable keys with integrated LEDs
- Support for alphanumerical and numerical input
- Connect to the Harmony HMI via USB
- Easy mounting with one-cable connection and a 22.5 mm hole
- Powered by the HMI via the USB cable
- Configured in Vijeo Designer
- IP65, NEMA 4X (indoor use)
- Certifications include CE, cULus, Class 1 Div. 2

Catalog Number: HMIZKB1

More details are available at Harmony Accessories and in Catalog DIA5ED2130901EN.

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Harmony™ Panel PC

The Harmony Panel PC is a family of panel-mounted all-in-one industrial PCs, certified for automation applications.
Features of the Harmony Panel PCs:

- TFT color LCD display, available in 10.4, 12.1, 15.0, and 19.0 in. screen sizes
- Resistive analog touch screen
- Stainless steel models available
- Variety of CPUs and performance levels
- Options for mass storage (HDD, SDD, memory card, DVD-RW, RAID)
- Variety of Windows operating systems options
- Options for add-in card slots
- Communication options including COM ports, Ethernet, and USB
- Fanless models available
- Supply power, 100...240 V ac or 24 V dc with option for battery back-up
- Vijeo Designer Run-time trial mode pre-installed
- IP65, NEMA 4X (indoor use)
- Certifications inlcude CE, cULus, Class 1 Div. 2

New!

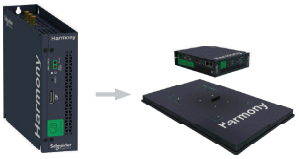
Harmony™ Edge Box

Harmony Edge Box offers edge control for EcoStruxure™ Machine and EcoStruxure Plant.

HMIBSC

HMIBSC *[3]*

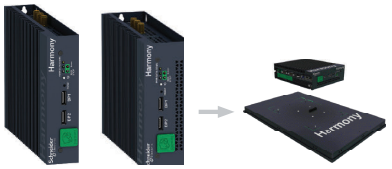
- Qualcomm ARM Cortex-A53 Quad-core up to 1.2 GHz
- 1 or 2 GB RAM, 2x Ethernet, 1x COM RS-232/432/485, 2x USB, 1x HDMI (for configuration only)
- 8 or 64 GB eMMC (soldered), 1x SD card slot, 1x mini PCIe slot and 1x M.2 slot for expansions *[4]*, antenna connectors
- Runs Node-RED to wired devices on the Industrial Internet of Things



HMIBMI

HMIBMI

- Intel Atom “Apollo lake” E3930 Dual-core 1.8 GHz fanless
- 4 GB RAM, 2x Ethernet, 1x COM, 2x USB, 1x DP (working with modular display HMIDM mounted)
- 64 or 128 GB eMMC (soldered), 1x mini PCIe slot *[4]*, antenna connectors
- Runs Node-RED to wired devices on the Industrial Internet of Things



HMIBMO

HMIBMO

- Intel Atom “Apollo lake” E3930 Dual-core 1.8 GHz fanless
- 4 or 8 GB RAM, 2x Ethernet (supporting real time), 2x COM, 4x USB, 2x DP (both working with modular display HMIDM mounted)
- 64 or 250 GB M.2 SSD, 1x mini PCIe slot (without optional interface) *[4]*, antenna connectors
- Expandable model with HDD/SSD 2.5" slot and optional interface for Mini PCIe *[4]*
- Runs Node-RED to wired devices on the Industrial Internet of Things

Table 27.2: Harmony™ Edge Box

Family	Catalog Number	Operating System	CPU	Storage	RAM	TPM	Configured to order
HMIBMO Optimized	HMIBMIEA5DD1E01	Win10 IOT Enterprise	Intel Atom E3930 Dual Core	64 GB M.2 SSD	4 GB	Yes	Yes
	HMIBMIEA5DD1101	Win10 IOT Enterprise	Intel Atom E3930 Dual Core	64 GB M.2 SSD	4 GB	No	No
	HMIBMIEA5DD110L	Win10 IOT Enterprise	Intel Atom E3930 Dual Core	250 GB M.2 SSD	8 GB	No	No
	HMIBMIEA5DD1001	No OS	Intel Atom E3930 Dual Core	64 GB M.2 SSD	4 GB	No	No
	HMIBMIEA5DD100A	No OS	Intel Atom E3930 Dual Core	250 GB M.2 SSD	8 GB	No	Yes
HMIBMI IIoT	HMIBMIEA5DD1E01	Win10 IOT Enterprise	Intel Atom E3930 Dual Core	64 GB eMMC	4 GB	Yes	Yes
	HMIBMIEA5DD1101	Win10 IOT Enterprise	Intel Atom E3930 Dual Core	64 GB eMMC	4 GB	No	No
	HMIBMIEA5DD110L	Win10 IOT Enterprise	Intel Atom E3930 Dual Core	128 GB eMMC	4 GB	No	No
	HMIBMIEA5DD1001	No OS	Intel Atom E3930 Dual Core	64 GB eMMC	4 GB	No	No
	HMIBMIEA5DD100A	No OS	Intel Atom E3930 Dual Core	64 GB eMMC	4 GB	No	No
HMIBSC Performance	HMIBSCEA53D1L0T	Linux Yocto	ARM Cortex A53 Quad Core	8 GB eMMC	1 GB	yes	Yes
	HMIBSCEA53D1L01	Linux Yocto	Cortex A53 Quad Core	8 GB eMMC	1 GB	No	No
	HMIBSCEA53D1L0A	Linux Yocto	Cortex A53 Quad Core	8 GB eMMC	2GB	No	No

[3] EcoStruxure Operator Terminal Expert and EcoStruxure Machine SCADA Expert are not supported by Harmony HMIBSC.
[4] Mini PCIe cards not requiring optional interface (no external connector): Cellular WiFi, Saved RAM, etc. Mini PCIe cards requiring optional interface: COM, USB, Audio, Video, Fieldbus, I/O, etc.

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New!

Harmony™ Rack PC For Control Room

HMIRSO 2U Optimized

- Intel Core G540 2.5 GHz, 2 GB RAM
- 2x PCI Express (x8) + 1x PCI
- 2x Gigabit Ethernet, 2x RS-232 (+ 4 optional), 6x USB, 1x VGA, 1x DVI
- 1x internal SATA3 slot and 2x external SATA2 trays,1x DVD-RW driveHot swap drive trays

HMIRSP 4U Performance

- Intel Xeon E3-1225 3.1 GHz, 4 to 16 GB RAM
- 4x PCI Express (x16) + 3x PCI
- 2x Gigabit Ethernet, 2x RS-232 (+ 4 optional), 6x USB, 1x VGA, 1x DVI
- Dedicated models for running PES Engineering and Server operating systems

Table 27.3: Rack PC

Family	Catalog Number	Operating System	CPU	Storage	RAM	Slots	Size
Rack PC Performance	HMIRSPSXR6S01	Windows Server 2012 R2	Intel Xeon E3-1225 Quad Core	2xHDD 500 GB	8GB ECC	Up to 7 slots: 4xPCIe (x16) + 3x PCI	4U
	HMIRSPSXR6S01	Windows Server 2012 R2	Intel Xeon E3-1225 Quad Core	2xHDD 500 GB	8GB ECC	Up to 7 slots: 4xPCIe (x16) + 3x PCI	4U
Rack PC Optimized	HMIRXOHCA3001	No OS	Intel iCore G540 Dual Core	no storage	2 GB DDR3 (expandable)	1xPCI 2xPCIe(x8)	2U

Harmony™ iDisplay Industrial Multi-Touch Monitor

The next generation of Harmony iDisplays features multi-touch monitors enabling the operator to use common gestures such as swiping and pinching in industrial applications. They also provide updated connectivity to seamlessly connect to a Harmony Box PC, Rack PC (or third party PC) via DVD-D (for video) and USB (for touch screen.

Key features of the Harmony iDisplay:

- TFT LCD display, 16M colors, XGA (1024 x 768), 4:3 format
- 50,000 hour backlight
- Resistive analog touch screen, multi-touch supported
- Panel mount or VESA mount
- DVI-D video input from host PC
- USB connection to host PC for touch screen interface
- Front panel USB v2.0 host type A port for keyboard, mouse, or memory stick, etc.
- Powered by 12–24 V dc
- Operating temperature: 32–140°F (0–60°C)
- IP66/67, NEMA 4X (indoor use)
- Certifications include CE, cULus, Class 1 Div. 2, Marine
  See Catalog DIA5ED2140501EN for more information.

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EcoStruxure™ Machine SCADA Expert

Lite SCADA for line management

EcoStruxure Machine SCADA Expert (formerly known as Vijeo XL) is a powerful software for developing HMI, SCADA, OEE and Dashboard projects dedicated to Line Management & Lite Supervision applications to run in Magelis Industrial PC and GTU Open Box. The bundle offer "Magelis Industrial PC and GTU Open Box saves you time and resources on validation of hardware, software and OS.

For More information, refer to EcoStruxure Machine SCADA Expert and Catalog DIA5ED2171201EN

EcoStruxure™ Operator Terminal Expert

Touchscreen Configuration Software

A new-generation of software providing a superior user experience with the latest UI design and gestures:

Operate intuitively

- Go beyond the limitations of the physical screen size to improve productivity

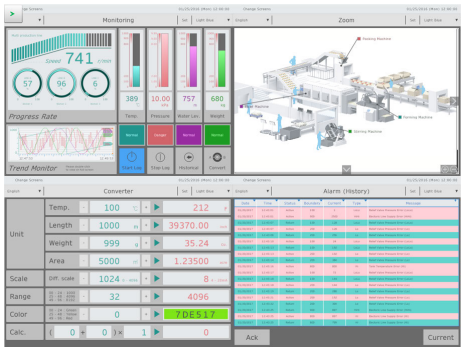
Reduce time to market

- Efficient and intuitive engineering for faster customization and modification

Improve efficiency

- High usability and image quality for the operator (experience design)

Catalog Number	Description
HMIEELCZLSPAZZ	EcoStruxure Operator Terminal Expert, Basic Buildtime License (Digital)
HMIPELCZLSPAZZ	EcoStruxure Operator Terminal Expert, Professional Buildtime License (Digital)
HMIPELCZLGPAZZ	EcoStruxure Operator Terminal Expert, Professional Buildtime Group License (Digital)
HMIPELCZLTPAZZ	EcoStruxure Operator Terminal Expert, Professional Buildtime Team License (Digital)
HMIRTWCZLSPAZZ	EcoStruxure Operator Terminal Expert, Runtime License (Digital)



EcoStruxure™ Secure Connect Advisor

- Provides a secure connection between remote display units on the work site (via SiteManager Embedded) and computers or smart devices in the office (via LinkManager) over a secure central server (GateManager).
- With EcoStruxure Secure Connect Advisor, maintenance personnel can access Schneider Electric software and update it remotely and securely via the HMI, PLC, and other connected devices as if they were on site.
- Troubleshooting and repairs can be performed remotely upon request.

Table 27.4: EcoStruxure Secure Connect Advisor for Harmony iPCs/GTO/GTU/ST6

Catalog Number	Description
VJOCNTPACKESS	Secure Connect Essential Pack
VJOCNTPACKENT	Secure Connect Enterprise Pack
VJOCNTFREE30	Secure Connect 30 days Free Trial
VJOCNTLML	Secure Connect LinkManager License
VJOCNTSMBASIC	Secure Connect SiteManager Basic License
VJOCNTSMEXT5	Secure Connect SiteManager Ext 5 Lic
VJOCNTSMEXT10	Secure Connect SiteManager Ext 10 Lic
VJOCNTGMPREM	Secure Connect GateManager Prem Access
VJOCNTSTAT	Secure Connect User statistics

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Vijeo™ Designer HMI Software

Vijeo Designer is the configuration software for creating operator interface applications for Harmony HMI's and Industrial PCs. It is the ideal design tool for the simplest control application right up to the most complex HMI installations. It offers advanced script functions, recipe management, alarm management, data management, remote access, e-mail and multi-protocol connectivity.
Vijeo Designer features a screen graphics editor, including simple objects, a library of animated objects (bar graphs, meters, charts and tanks), and preconfigured advanced objects (buttons, lamps, numeric and message displays and enumerated lists).
Vijeo Designer has advanced communication support for Schneider Electric products. It also includes drivers for several third-party PLCs and devices.

Table 27.5: Vijeo Designer Buildtime Licenses

Catalog Number	Format	Description
VJDBTPRO1P	Digital	Single license, 1 station
VJDUBTPRO1P	Digital	Single upgrade license
VJDBTPRO3P	Digital	Group license, 3 stations
VJDBTPRO10P	Digital	Team license, 10 stations
VJDBTPRO100P	Digital	Entity license, 100 stations

Table 27.6: Vijeo Designer Runtime Licenses

Catalog Number	Format	Description
VJDRTPROH1P	Digital	Vijeo Designer Harmony P6 Single license, 1 station
VJDHPCCZLSPAZZ	Digital	Vijeo Designer, Harmony PC (HMIBMP, HMIBMU, HMIPSO, HMIPSP, HMIPEP) / Harmony P6 Single license, 1 station
VJDRPCCZLSPAZZ	Digital	Vijeo Designer, Standard PC & Harmony PC (except HMIBMP, HMIBMU, HMIPSO, HMIPSP, HMIPEP) Single license, 1 station

For more information, refer to Vijeo Designer HMI Software and catalog DIA5ED2130614EN.

Vijeo™ Design'Air HMI Application

Vijeo Design'Air is an HMI application for Android and iOS tablets and smartphones. This feature enables you to remotely connect to a Harmony HMI terminal over a WiFi network and have a graphical view of the HMI terminal on your tablet and smartphone.

During the design phase, you have the ability to set the HMI terminal to be detectable by Vijeo Design'Air. You can secure access to the HMI by requiring user authentication during login. You can also configure the HMI's accessibility level to view only or full control. In this configuration, the HMI terminal acts as the server, while the tablet or smartphone acts as the client. The server and client communicate over a WiFi wireless, 3G, 4G, or LTE network.

After a connection is established, you can use some of the functionalities of tablets and smartphones to remotely interact with the HMI terminal. For example, you can perform touch or swipe actions to start or stop a process or to navigate between screens. You can also use pinch action to zoom in and out of a screen for better viewing.

Download Vijeo Design'Air from Google Play® or the App Store® in iTunes®.

For more information, refer to Vijeo Designer HMI Software and catalog DIA5ED2130614EN.

Vijeo™ Design'Air Plus

Vijeo Design'Air Plus is a feature in Vijeo Designer and application for Android and iOS tablets and smartphones. Vijeo Design'Air Plus enables you to create a tablet/smartphone project specifically for the tablet or smartphone display size. At runtime, an operator can access the user application to display data and control automation processes on the tablet or smartphone.

You can use Vijeo Designer's drawing tools to create and edit a visual representation of the automation process. You can draw shapes and parts (such as rectangles, arcs, and pies), Toolchest parts (such as numeric displays, switches, and bar graphs), use the gradient feature to enhance the color of the drawn objects, and set up an Alarm Panel for remote alarm monitoring.

Vijeo Design'Air Plus provides operators with the capability to select a user application, and on successful login, download and launch the tablet/smartphone application. The operator can view and monitor an automation process, and for example, change values in numeric displays and string displays. In the Alarm Panel, the operator can monitor and acknowledge alarms.

Download Vijeo Design'Air Plus from Google Play® or the App Store® in iTunes®.

For more information, refer to Vijeo Designer HMI Software and catalog DIA5ED2130614EN.

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New!

TM3BCEIP TM3BCCO TM3BCSL

Modicon™ TM3 Bus Coupler Modules

The Modicon TM3 Bus Coupler enables the creation of separate groups of industrial TM3 I/Os, each positioned as near to the machine as possible, that are managed by a master controller via a fieldbus.

The TM3 Bus Coupler is offered with the following options:

- TM3BCEIP: EtherNet/IP and Modbus/TCP support
- TM3BCCO: CANopen support
- TM3BCSL: Modbus Serial Line support

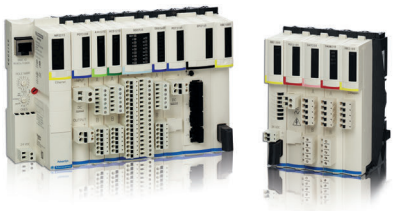
Main features:

- Full and simple integration with Modicon M221, M241, M251, and M262 controllers
- Digitization: WebServer embedded, cybersecurity, and discovery service
- Connectivity: Two isolated RJ45 ports, USB port, EtherNet/IP and Modbus/TCP support, CANopen and Modbus serial line support
- Used in third party controller architectures

Table 27.7: Modicon TM3 Bus Couplers

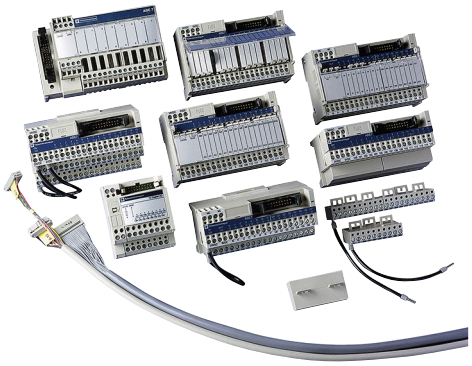
Catalog Number	Description
TM3BCEIP	Ethernet interface, Modicon TM3 bus coupler module
TM3BCCO	CANopen interface, Modicon TM3 bus coupler module
TM3BCSL	Serial Line interface, Modicon TM3 bus coupler module

More information is available in catalog DIA3ED2140109EN.



Modicon™ STB Distributed I/O Platform

The Modicon STB is a highly modular distributed I/O platform, integrated wiring solution, and power management system that delivers effective and targeted control. Compatible with most major fieldbus networks: Modbus, Ethernet, CANopen, Devicenet, PROFIBUS, and Interbus. More information is available at Modicon STB Modular Distributed I/O.



Modicon™ Telefast™ ABE7 Sub-bases, IP20

The Modicon Telefast ABE7 pre-wired system enables connection and adaptation of control signals of industrial PLC cards that are fitted with HE10 connectors. It rationalizes cabling by replacing PLC terminals and traditional terminal blocks—thus improving simplicity and economy. For more information, refer to Advantsys Telefast ABE7 and catalog DIA3ED2160602EN.

Modicon™ Telefast™ ABE9 Passive Splitter Boxes, IP67

Modicon Telefast ABE9 splitter boxes eliminate long and difficult cable runs by avoiding the use of intermediate junction boxes. Due to their modularity and size, they are perfect for the requirements of your varying applications.For more information, refer to Modicon ABE9 and catalog DIA3ED2160602EN.

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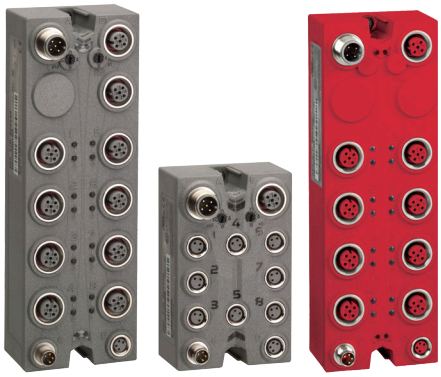


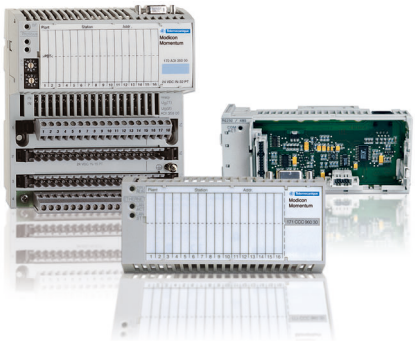
Modicon™ TM7 I/O Blocks, IP67

Compact and flexible, the TM7 IP67 I/O Blocks allow connection of sensors and actuators at the heart of processes or machines in severe environments. The wide range of modules provides solutions to match your exact needs. It includes connectivity to CANopen.

For more information, refer to Modicon TM7 Remote I/O for Harsh Environments and catalog DIA3ED2140405EN

Modicon™ Momentum™ Distributed I/O and PLC

The small footprint and open architecture of the Momentum PLC product line make it extremely versatile for a variety of automation applications. The Momentum PLC is ideal for PC-based control, distributed control, distributed I/O, and traditional, standalone PLC control. Momentum PLC options and accessories include: I/O bases, processor adapters, option adapters and communication adapters that are interchangeable and snap together to deliver optimal flexibility throughout the control system lifecycle. Using Ethernet as its communications backbone, the Modicon Momentum M1E Processor delivers all the performance benefits of real-time control. The open architecture of the M1E processor makes it a universal controller for distributed I/O, compatible with many of the major fieldbus and control network environments. An integral Ethernet port in the M1E allows users to perform a wide range of functions over Ethernet, including data acquisition, peer-to-peer communications, and I/O scanning.



Five embedded web pages enable the use of a standard web browser to read status and diagnostic information from the processor. The most recent addition to the Momentum product offer is the Momentum M1E ConneXium switch. This model combines the power and functionality of the M1E processor with the communication versatility of four Modbus Ethernet TCP/IP ports. The award winning M1E not only seamlessly connects I/O and other control devices via open standards; it delivers the performance of a full function, real-time controller for stand-alone and distributed system configurations in one money-saving unit.

For more information, refer to Modicon Momentum and catalog MKTED205061EN-US

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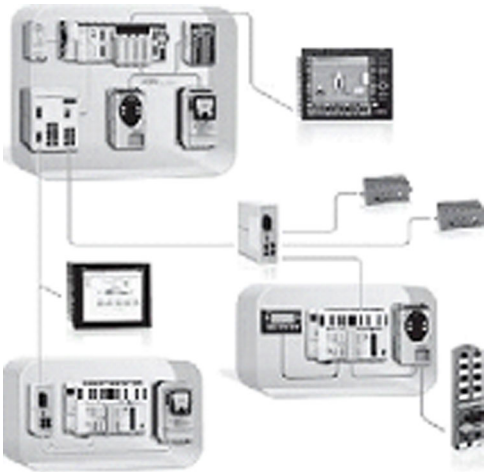


Ethernet TCP/IP Products

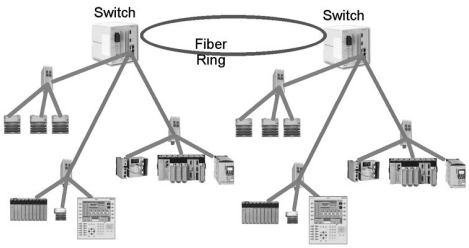
The recognition of Ethernet TCP/IP, both in organizations and on the internet, has made it the communication standard of today. Its wide use is leading to a reduction in connection costs, increased performance and the addition of new functions, which all combine to ensure its durability.
Ethernet TCP/IP meets the connection requirements of every application:

- Twisted pair copper cables for simplicity and low cost
- Optical fiber for immunity to interference and for long distances
- Communication redundancy, inherent in the IP (internet protocol)
- Remote point-to-point access via the telephone network or the Internet for the cost of a local call

Ethernet TCP/IP, a truly open technology, supports all types of communication:

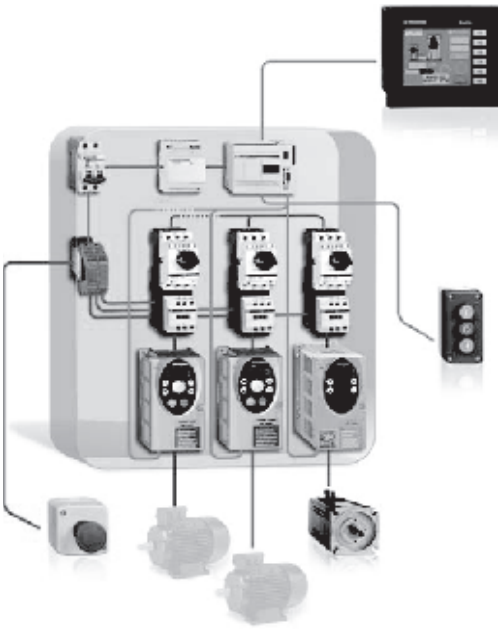
- Web pages
- File transfer
- Industrial messaging

With its high speed, the network no longer limits the performance of the application. The architecture can evolve without any difficulty. The products or devices remain compatible, ensuring the long-term durability of the system.
More information on Ethernet and Ethernet Products is available in catalog MKTED208054EN-US.



ConneXium™ Ethernet Products

The ConneXium line of networking products offers a complete range of Ethernet switches (managed and unmanaged), hubs, transceivers, gateways, cabling, and diagnostic monitoring software for demanding industrial environments. With fiber and redundant capabilities, along with advanced filtering and security features, ConneXium products improve the performance and security of the network. More details can be found at www.se.com/us/en.



CANopen Network Products

CANopen is an open network that is supported by over 400 companies world wide and promoted by CAN in Automation. CANopen is standardized in the EN50325-4 and in ISO15745-2 for its device description.

The main reason for using a network is the performance and the flexibility to adapt the network exactly to the requirements of the application. CANopen provides a unique feature for the adaptation of the data transmission. Based on the producer/consumer model, CANopen allows for a data transmission broadcast, peer-to-peer, change-of-state and cyclic communication. This means it transmits data only when required or on a specified time base. Process data objects can be individually configured. Parameters can be changed at runtime.

CANopen combines ease of installation with inexpensive devices. CANopen provides an integrated equipotential bounding in the cable. Therefore, an additional cable or stranded copper ribbon to achieve the same potential on all network devices is not necessary. Installation costs are heavily reduced.

More information on CANopen and CANopen Products is available in catalog MKTED208054EN-US.

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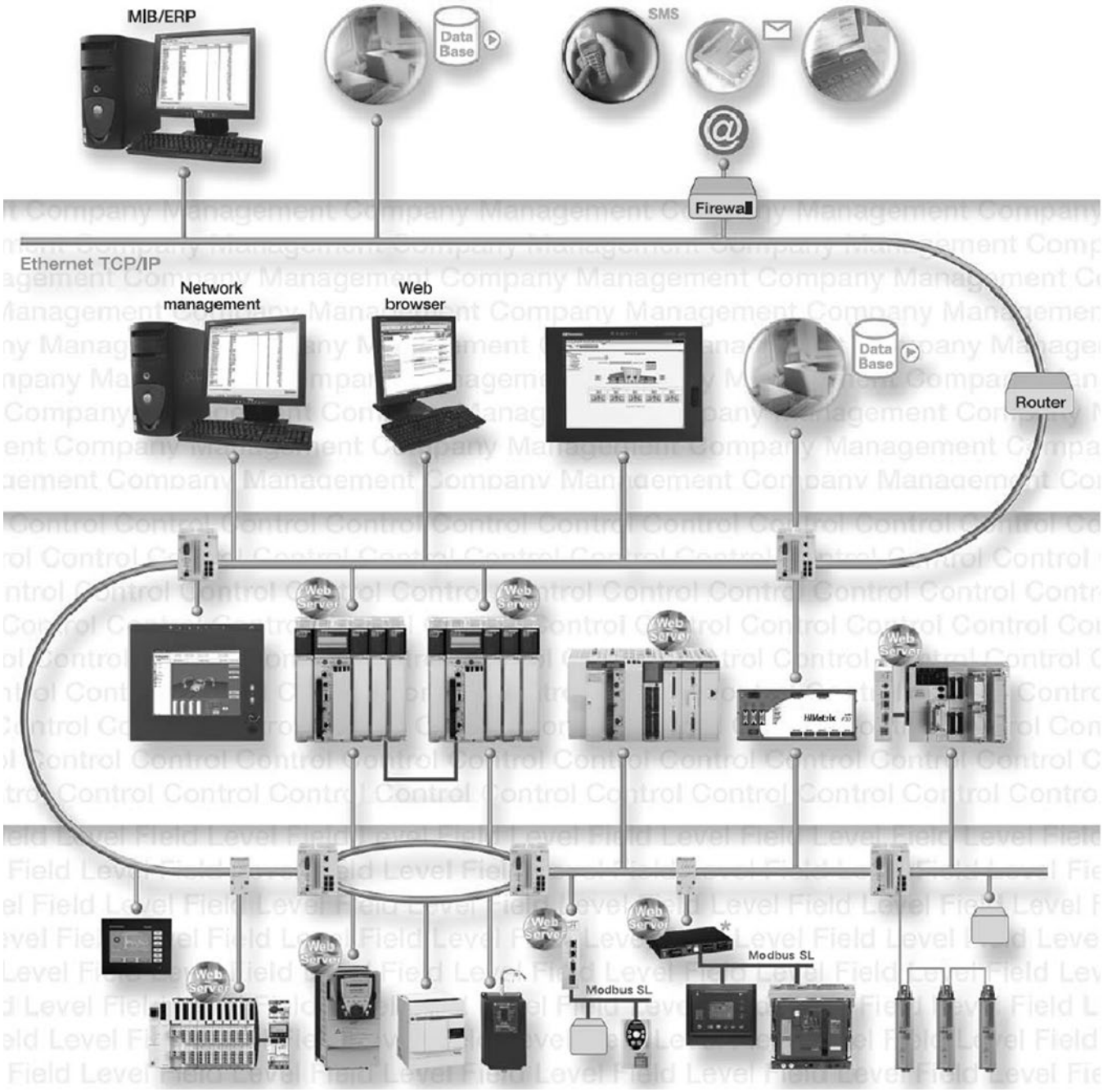
Transparent Ready™ Solutions

Transparent Ready products cover solutions in Industrial automation to electrical Distribution, and are based on universal Ethernet TCP/IP and Web technologies. They provide seamless communication between plant floor devices, like PLCs, drives, and MCCs, with corporate business systems. Use of the open Modbus TCP/IP and EtherNet/IP protocols that are the leading industrial Ethernet protocols, broadens the scope of dedicated machine diagnostics to remote management. Choosing Transparent Ready means opting for flexible, open automation architectures. More details can be found at www.se.com/us/en.



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Lexium ILA Combination Stepper Motor

Lexium ILE Combination DC Brushless Motor

Lexium ILS Combination Stepper Motor

Lexium™ ILA, ILE, ILS Integrated Drives

The Lexium ILA, ILE, and ILS drive series is an integrated, or combination, drive and motor series. This series comes in 3 different motor versions (DC brushless, stepper, and servo). Safe Torque Off (STO), highly customizable cable entry and communication options combined with detailed user guides, function blocks, and sample code, make this product ideal for use with both our Modicon and 3rd party controllers.

Table 27.8: Lexium ILx Characteristics

Input Voltage	12–48 Vdc
Motor Size	150–305 W
Control Options	CANopen, Modbus TCP/IP, Ethernet/IP, EtherCAT, Ethernet Powerlink, Modbus RS485, DeviceNet, Profibus DP, Pulse & Direction, & Motion Table

Links to Websites and Downloads:

Lexium ILA, ILE, and ILS Integrated Drives

Lexium CT Commissioning (Free) Software

Lexium 28 Servo Drive

BCH2 Servo Motor

Lexium™ 28 Series

Optimized for easy integration and commissioning through Pulse & Direction, Analog, CanOpen, or CanMotion technology. Thanks to its compact form factor, and Safe Torque Off (STO) capability; the Lexium 28 range of AC-servo drives and motors from Schneider Electric delivers industry-leading performance and value.

Table 27.9: Lexium 28 Characteristics

Input Voltage	200/240 Vac
Motor Size	50 W–4. 5 kW
Control Options	CANopen, CANmotion, EtherCat, Pulse & Direction, Analog, & Motion Table

Links to Websites and Downloads:

Lexium 28 Servo Drives and Motors

SoMove Commissioning (Free) Software

Motion Sizer (Free) Software

Lexium 32 Servo Drive

BMH Servo Motor

BSH Servo Motor

Lexium™ 32 Series

The Lexium 32 servo drive offer is designed to simplify the life cycle of machines. SoMove setup software, a backup memory card, side-by-side mounting, and easily accessible color-coded plug-in connectors all help to make installation, setup, and maintenance easier. The compact size of the servo drives and servo motors provides maximum power in the minimum space, which helps to reduce overall machine size and costs. The ability to use 3rd party motors, multiple communication cards, as well as standard encoders, enable adaptation to numerous types of control system architecture for industry. An integrated safety function and access to additional safety functions reduce design times and make it easier to comply with safety standards.

Table 27.10: Lexium 32 Characteristics

Input Voltage	Single phase: 115–240 Vdc 3–phase: 208–480 Vac
Motor Size	150 W–7 kW (up to 11 kW with 3rd party motors)
Control Options	CANopen, CANmotion, Modbus TCP, Modbus Serial, EtherCat, Sercos III, Profibus DP, DeviceNet, EtherNet/IP, Pulse & Direction, Analog, & Motion Table

Links to Websites and Downloads:

Lexium 32 Servo Drives and Motors on SE.com

SoMove Commissioning (Free) Software

Motion Sizer (Free) Software

Lexium 32i Integrated Servo

Lexium™ 32i Series

With servo motor and drive integrated in one housing, the Lexium 32i is designed for application areas requiring high precision and advanced motor control. Unlike traditional servo drives that are installed in a cabinet, the Lexium 32i servo drive is installed directly on the machine to help you improve cost, energy, and can reduce cabinet space by up to 60%. Thanks to standard safety functions (STO), communication options, backup memory card, and its modular design the Lexium 32i sets itself apart in the market place to meet the needs of today's machine builders.

Table 27.11: Lexium 32i Characteristics

Input Voltage	Single phase: 115–240 Vdc 3–phase: 208–480 Vac
Motor Size	400 W–2.1 kW
Control Options	CANopen, CANmotion, EtherCAT, ProfiNet

Links to Websites and Downloads:

Lexium 32i Integrated Servo Drives

SoMove Commissioning (Free) Software

Motion Sizer (Free) Software

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PacDrive Family

PacDrive 3

PacDrive 3 is based upon proven logic motion technology, which unifies PLC, motion, and robotics control functionality on a single hardware platform. With its centralized system architecture, PacDrive 3 is the ideal solution for controlling a broad range of servo-driven production and packaging machines, as well as material handling equipment and robotics, using fully integrated, IEC 61131-3-compliant program structures. More than 80.000 machines worldwide are controlled by PacDrive to this day.

PacDrive 3 Robotics
Lexium T and Lexium P Delta Robots

Lexium STS SCARA Robots

Links to Websites and Downloads:

PacDrive 3

Motion Sizer (Free) Software

EcoStruxure™ Machine Expert Programming Software

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TM171OF22R

TM171PFE03

HVAC/R Controllers

Schneider Electric Modicon™ M171 Programmable Solution

Modicon M171 logic controller: best-in-class for scalability and energy efficiency, dedicated for HVAC/R and pumping applications. Designed to meet customer's needs by reducing time-to-market, reducing costs, improving machine efficiency, and simplifying integration. Reduce overall time-to-market with our application experts, pre-developed proven architectures, and existing applications (libraries, application function blocks, and baseline examples). Reduce costs through our optimized platforms, embedded webserver, and scalable platforms. Improve overall machine efficiency with integration of variable speed drives, Coefficient of Performance monitoring, and remote interface capabilities. Simplify equipment integration and maintenance through a wide choice of connectivity options scalable to small and large applications, along with an embedded webserver interface.

The M171 programmable platform consists of the **EcoStruxure Machine Expert – HVAC** Programming Software for Modicon M171-M172 Logic Controllers, **M171O**, and **M171P**, a complete range from simple and compact through complex and BMS connected applications.

Key accessories include the plug-in communication modules to facilitate integration with Building Management Systems in residential, commercial, and industrial end-user applications, along with I/O expansion modules, and a variety of remote user interface devices.

EcoStruxure Machine Expert – HVAC Programming Software for Modicon M171 and M172 Logic Controllers

Modicon M171 integrated software development suite allows for intuitive management of every step in the process: developing the application, programming and servicing controllers, configuring communication networks, design of user interface and web pages, and full de-bug and simulation capabilities. Software languages are compliant with IEC 61131-3 programming standards, including Structured Text, Function Block Diagram, Ladder, Instruction List, and Sequential Flow Chart.

M171O

The **Modicon M171** optimized logic controller for simple and compact machines is the smallest programmable controller on the market, offering tremendous versatility. Packaging comes standard in either a 4-DIN or 32x74 mm panel mount option, with or without the user interface. Power input can be specified with either 12–24 V or 100–240 Vac, depending on the model. The controller features up to twenty-two I/O, including three analog outputs and five analog inputs. One I/O expansion module and two remote user interface devices can be added to expand capabilities.

M171P

The **Modicon M171** performance logic controller for complex and BMS connectable machines provides more processing power, I/Os, connectivity, and an embedded webserver. Packaging comes standard 8 DIN rail-mounted configuration with or without the display and in an alternative Panel mount version, ideally for distributed control systems or as a centralized gateway device. Designed with integrated RS-485 and CAN ports, a connectivity module can be added to expand capabilities with Modbus RTU and TCP, BACnet MSTP and IP, HTTP, CAN, and Modbus ACSII. Power input can be specified to operate with 24 Vac/Vdc or 48 Vdc. The controller features up to twenty-seven I/O, including five analog outputs and six analog inputs. Up to twelve I/O expansion modules and two remote user interface terminals can be added to meet almost any application need.

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