

Life Is On

Schneider
Electric



Magelis HMI & iPC

Solutions for demanding
industrial applications



magelishmi.com



Schneider Electric

Magelis Human Machine Interface and Industrial PC

Schneider Electric can help you meet the challenges of the trends impacting our world. With a long history of innovation in Human Machine Interfaces (HMI) and Industrial PCs (iPC), we offer the right choices for a wide range of applications. Our global footprint gives you local support and worldwide availability.

5 Core Values of Magelis HMI

QUALITY

Based on 40+ years of HMI design and manufacturing experience

STANDARDS

Products certified for Hazardous Location, FDA, and Marine

INDUSTRIAL

Products designed for harsh industrial environments

1

Connectivity

The HMI is able to connect to everything smart in the system. It supports simultaneous multi-protocol connectivity that allows it to communicate with all leading brands of PLC, drives, intelligent sensors, and so on. Our customers may have equipment from a variety of manufacturers, the HMI can be a bridge to share data between devices.

2

Visualization

The HMI is the window into the machine and the operator needs a clear and easy-to-use interface. HMI development tools allow project designers to create structured pages and navigation, dynamic content to show system status and inputs, and views for alarms or alerts and provide the necessary information for effective troubleshooting and maintenance.

3

Data Management

The HMI can access all system data and put it to good use. View trends and run-time data. View historical information and create reports. Use this information to track productivity, waste or downtime. Analyze data to determine root cause for problems. Improve efficiency in scheduling production and staffing hours or when to order supplies and materials.

4

Security & Accountability

The HMI can control access to the system and record user actions. Assign users to groups and manage levels of access based on user function. Use biometric verification to improve authorization. Historical activity logs link users to inputs and modifications to system data with time and date stamp.

5

Remote Access

The HMI should give remote users the ability to view system status and make adjustments while away from the control panel. Mobile users can use a tablet, smartphone or PC to access the equipment from within the plant or from around the world. Remote access helps reduce the need for travel to the system site and to help plan appropriately when a remote site visit is necessary.

Vijeo XD

The next-generation configuration software for Magelis



Best-in-class user experience

- Vector graphics - high-quality images
- Gesture-based operation - intuitive and easy to use
- Remote access via Android™ or iOS™ devices - improved efficiency

Project engineering is more efficient and intuitive

- Automatic navigation menus - reduce project engineering time
- Highly customizable object properties - very flexible
- Screen templates and smart libraries - simplify screen design
- Online editing - reduce testing and troubleshooting time

Vijeo Designer

The classic configuration software for Magelis



This powerful, yet easy-to-use software, can be used for both simple applications and advanced systems.

- Start-up wizard - walks you through the required selections to create a project
- Communication drivers - support for Schneider Electric and third-party devices
- Historical trends and data logging - data can be logged, saves in CSV format and displayed in a variety of graph formats.
- Alarm management and logging - alarms can be viewed, acknowledged and cleared on-screen. An event log can be saved for off-line analysis.

- Recipe management - sophisticated tools for creating, managing, selecting and downloading recipe sets.
- Java scripting - a tool for creating complex animations, making local calculations and other special actions.

Vijeo XL

Powerful line management and lite supervision software for Magelis iPCs



Powerful software for developing HMI, SCADA, and OEE/Dashboard projects dedicated to Line Management & Lite Supervision applications.

The values Vijeo XL software brings to your operations include:

- Time savings: View your process from your desk or web-enabled mobile phone
- Clear Information: Multi-lingual support so operators understand immediately.
- Flexibility: Support for your PLC or controller, more than 230 drivers, OPC and TCP/IP
- Quick Troubleshooting: Understand alarms quickly, visually on-screen, or via email, PDA or web browsers
- Enterprise Integration: Easily tie into ERP and “back-office” systems using built-in relational DB connectivity

Each Vijeo XL project includes the following features:

- A project tags database to manage all run-time data, including both internal variables and I/O data.
- Configurable drivers to communicate in real time with programmable logic controllers (PLCs), remote I/O devices, and other data-acquisition equipment.
- Animated HMI screens and OEE dashboards.
- Optional modules such as alarms, events, trends, recipes, reports, scriptable logic, schedulers, a project security system, and a complete database interface.

Select Vijeo Designer/ XD vs. Vijeo XL

	Vijeo Designer/XD	Vijeo XL
Segments		
OEMs	Semi-con, Automotive, F&B, FP, MMM, Machine Tools	Packaging, F&B, Complex Machines
End-Users	Automotive, Semi-con, F&B, MMM, WWW, O&G	O&G, F&B, MMM, WWW, Automotive, Building Mgt, Wind/Solar Utility Mgt
Applications	• Simple Machines • Standard Machines • Complex Machines	• Complex Machines • Line Management • Supervision
Hardware Platform	HMI's	Windows-based HMI's and IPC's

Magelis HMI

The Magelis family of HMI offers a wide range of solutions for demanding industrial applications ranging from OEM machines to plant floor systems. Products are available for hazardous locations, food and beverage wash down environments, and marine bridges and decks.

Magelis HMI STO Small Terminal Optimum

The Magelis STO is a compact, panel-mounted HMI that bring a cost-effective solution to machine builders. With its 4.3-inch touch-screen display, it is a great fit for small, compact or simple machines.



Magelis HMI STU Small Terminal Universal

The Magelis 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 HMI instigation labor. The STU is a cost-effective solution for machine builders.



Magelis GTO HMI Graphic Terminal Optimum

The Magelis GTO is an optimized HMI that does not compromise on features or performance. The range includes models with stainless steel bezels for use in FDA 21 CFR 177.2006 applications or in other wash down environments.



Magelis HMI GTU Graphic Terminal Universal

The Magelis GTU is a high performance range of modular HMI that allows users to select the best combination of displays and CPU modules for the application requirements. Benefit from increased operator efficiency, simplified installation and flexibility for almost any system.



Magelis Handheld HMI

The Magelis Handheld HMI enables operator mobility around a machine. It is ideal for machine setup and troubleshooting as well as normal operation.



Magelis Keypad HMI

The Magelis Keypad HMI combines a touch screen, keypad and industrial mouse pointer for extra control and data input.



Magelis HMI Selection Guide

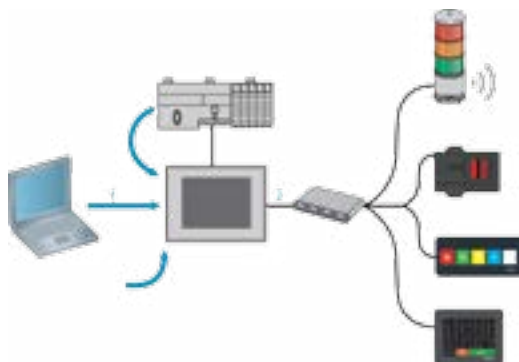
	STO	STU	GTO	GTU
Display	4.3" TFT color*	3.5", 5.7" TFT color*	3.5", 5.7", 7" W, 7.5", 10.4", 12.1" TFT color*	7" W, 10" W, 12" W, 10.4", 12.1", 15" TFT color*
Keypad/ Function keys	No	No	Yes*	No
Performance level	+	++	+++	++++
Ethernet ports	1x port*	1x port	1x port*	2x ports
Wireless LAN	No	No	No	Available on 12.1" model
Serial ports	1x port*	1x port	2x ports	2x ports
USB ports	1x Type A 1x mini-B	1x Type A 1x mini-B	1x Type A 1x mini-B	2-4x Type A* 1-2x mini-B*
Mounting	Standard cutout	22 mm hole	Standard cutout	Standard cutout
Modular design	No	Yes	No	Yes
Operating system	Proprietary	Proprietary	Proprietary	Proprietary or Windows Embedded*
Configuration software	Vijeo XD	Vijeo Designer	Vijeo Designer, Vijeo XD**	Vijeo Designer, Vijeo XD**
Real-time clock	Optional	Access to PLC clock	Built in	Built in
Supply voltage	12...24 VDC	24 VDC	24 VDC	12...24 VDC
Bezel type	PC/PBT	PC/PBT & PAA	PPT or stainless steel*	Aluminum
Conformal coating	No	No	Optional*	Optional*
Operating temperature	0 ... 50 °C	0 ... 50 °C	0 ... 50 °C / 0 ... 55 °C*	0 ... 60 °C
Environmental protection	IP65f	IP65	IP65f or IP66k*	IP66f & IP67f
Hazardous location	Yes	Yes	Yes	Yes
Marine certified	Yes*	Yes	Yes	Yes

* Feature depends on the model

** Vijeo XD v3.0 or higher

HMI USB Accessories Overview

The functionality of the Magelis HMI can be extended with USB connected accessories. These innovative accessories can be easily installed and operated with HMI terminals. Their configuration is part of the overall HMI project and stored in the terminal memory. The Biometric Switch, Illuminated Switch Panel and the Keyboard Panel are mounted via a 22 mm hole, simplifying installation.



Biometric Switch

Control and secure access to systems and machines by checking users' authorization through fingerprint recognition.



Illuminated Switch Panel

Designed for easy visualization and quick acknowledgement of alarm, this switch with tactile feedback can also be used as function keys in HMI applications that involve repetitive operations.



Keyboard Panel

Designed for flexible mounting and easy configuration, the functionality of the HMI can be extended with external function keys, status indicator LEDs and both numeric and text data entry.



Tower Light

Multi-color LEDs that are unique and simple-to-use with the states and patterns directly set through the HMI application. Includes illuminated signaling units with 360° visibility and an audible buzzer.



Magelis HMI Controllers

The Magelis HMI Controllers are an ultra-compact PLC and HMI all-in-one solution. With their fast multitasking processors, the HMI Controllers combine HMI and control functions and share the same screen and communication features. These reduce the amount of equipment required and the associated costs throughout the life cycle of the machine.

Magelis SCU Small HMI Controller

The ultra-compact range of Magelis SCU small HMI controllers are part of Schneider Electric's Flexible Machine Control concept, a key element in MachineStruxure™. Powered by SoMachine software, the Magelis SCU HMI Controllers product offer brings together Human Machine Interface and control functions within a single product. It is mounted using a 22 mm diameter hole, which considerably simplifies installation and reduces cost.



Key features of the Magelis 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 VDC
- Operating temperature: 32–122 °F (0–50 °C)
- Configured by SoMachine
- IP65 NEMA 4X (indoor use)
- Certifications include CE, cULus, Class 1 Div. 2, Marine



SoMachine Software Suite

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.



SoMachine 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.

SoMachine is a professional, efficient, and open software solution, which includes the integrated version of Vijeo™ Designer. The HMI visualization is incorporated in the complete automation project. It also integrates the configuring and commissioning tool for motion control devices. It features all six IEC 61131-3 languages, integrated field bus configurators, expert diagnostics and debugging, as well as outstanding capabilities for maintenance and visualization.

	SCU with Digital I/O	SCU with Mixed I/O
Display	3.5", 5.7" Color TFT	3.5", 5.7" Color TFT
Digital Inputs	• 14 digital • 2 high speed counter	• 6 digital • 2 high speed counter
Digital Outputs	• 8 digital relay • 2 pulse train	• 6 digital relay • 2 pulse train
Analog Inputs	none	• 2 analog • 2 temperature
Analog Outputs	none	• 2 analog
Connectivity	CANopen Master, Ethernet, Serial (RS-232/485), USB host (type A), USB device (type mini-B)	

Magelis Industrial PC

The Magelis family of industrial PCs offers a wide range of selections to meet the requirements of almost any application. They are designed for the most demanding industrial environments.

- Fanless models with SSD and active heat sink
- RAID configurations to protect critical data
- UPS backup for high-availability systems
- Remote monitoring console for system status

Select from one of three performance levels that best suits the needs of the application:

- Optimized – for basic needs
- Universal – for general purpose
- Performance – for high-end requirements

Whether running HMI run-time for PCs, Vijeo XL, or third-party software, the Magelis IPC line has the perfect fit.



Magelis Simple Panel PC

The Magelis S-Panel PCs are an all-in-one industrial PC solution. Options include choice of operating system, storage media, and expansion cards. They feature wide-screen displays (16:9) and projected capacitive multi-touch displays. Also available is a 19" fully enclosed PC with IP65 for VESA mount without the need for a separate enclosure.



- Optimized** – ATOM E3827, 10" W and 15" W
- Performance** – Core i3, 12", 15" W and 19" W
- Enclosed Performance** – Core i3, 19" W

Magelis Simple Box PC

The Magelis S-Box PCs are stand-alone units with the option to connect external display with touch-screen, keyboard or mouse for user interaction. The Box PCs can be wall mounted inside a cabinet and are perfect for OEM machines and simple infrastructure applications.



- Optimized** – ATOM N270, 2 GB RAM
- Performance** – ATOM N2600, 4 GB RAM

Magelis Rack PC

Magelis Rack PC is designed for control room applications and can serve as an engineering and SCADA server or an operator station. They are compatible with Vijeo Designer, Vijeo Citect, and PlantStruxure Process Expert.



- Optimized** – iCore G640, 2U format
- Universal** – Core i3, 2U format
- Performance** – Xeon Quad core, 4U format

Magelis Modular Panel PC

The Magelis Modular Panel PC are a combination of the Magelis PC Display Module and the Magelis Modular Box PC described below. Connect one of four display modules to create a complete panel mount or VESA mount PC all-in-one unit.



- 15" (4:3)** – analog resistive, single-touch USB port on the front panel
- 15" W, 19" W, 22" W (16:9)** – projected capacitive multi-touch

Magelis Modular Box PC

The Magelis Box PCs are stand-alone units with the option to connect a Magelis PC Display Module or external display, keyboard or mouse for user interaction. The Box PC offer the ultimate flexibility with multiple expansion slots and storage drive bays.



- Universal** – Celeron, 4 – 8 GB RAM
- Performance** – Core i7, 8 – 16 GB RAM

Magelis iDisplay

The Magelis iDisplay is a stand-alone touch-screen panel display for connection to external PCs. They are compatible with the Magelis Rack PC and can serve as the user interface for these applications. Connections are made via DVI-D for video and USB for the touch-screen interface. They include a USB port accessible on the front panel.



- 12", 15" (4:3)** – analog resistive multi-touch

Remote Connectivity

There are many benefits to having remote access to production machinery or plant floor systems.

For the operator, remote access provides the ability to start/stop, acknowledge alarms or change settings without making a special trip to the remote site.

For the maintenance person, remote access allows for troubleshooting quickly and saves on travel to the remote site. If travel is necessary, it is easier to prepare with the required tools and materials when more information is known about the problem.

For the production manager, remote access can provide on-the-spot information when trying to make decisions about improving efficiency or reducing downtime.

The Magelis offer provides multiple ways to achieve this.

Vijeo Design'Air and Vijeo Design'Air Plus

These remote access apps for Magelis HMI are available for tablets and smartphones in the Apple App Store® or on Google Play™.

These apps link to an Ethernet connected Magelis HMI at the remote site via the mobile device's wireless connection to the plant floor network.

Vijeo Design'Air

Duplicates the remote HMI screen directly on the Mobile device. It allows full control of the HMI as if standing at the remote machine.



Vijeo Design'Air Plus

Create custom HMI screens specifically designed for the size and screen resolution of the mobile device. Mobile screen operation is independent of the HMI on the plant floor and will not interfere with the local operator.



Remote Access with Vijeo XL

With Vijeo XL running on your Magelis iPC or HMI, you can

- Remotely monitor your application and change process variables from a web browser or a web-enabled mobile phone or tablet
- Set up email notifications, monitor and acknowledge alarms and provide comments on acknowledgments




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