Vijeo Designer

Vijeo Design'Air

Vijeo Designer

Classic HMI Configuration software

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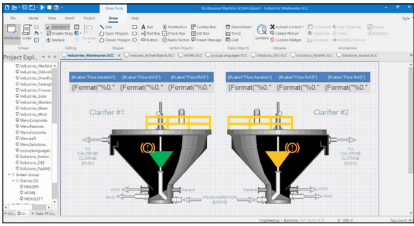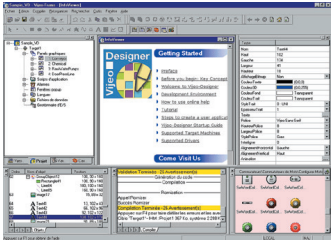
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General contents

Applications		Touchscreen configuration software with UI design and gestures	Configuration software for data-intensive and complex visualization	Classic configuration software for the complete HMI range
Compatible products	Type	Harmony STO Color Harmony ST6/STM6 Harmony GTU, GTUX Harmony *i*PCs Windows compatible computers	Harmony STM6 Edge Box HMI, Harmony *i*PCs Windows compatible computers	Harmony STU and Harmony GTO *(1)* Harmony GK/GTU *(1)*/GTUX and Magelis XBTGH *(1)* Harmony Panel PCs and Box PCs (HMIBMP, HMIBMU, HMIPSP, HMIPSO, and HMIPEP) Harmony P6
	Maximum number of targets	1	1	32
	Operating system on terminals	Proprietary for Harmony STO Color, Harmony ST6/STM6, and Harmony GTU/GTUX Windows operating system for Harmony *i*PCs	Windows 10 IoT Enterprise 2019 LTSC 32-bit Harmony *i*PCs: Windows 8.1, Windows 10	Proprietary for Harmony STU/GTO, Harmony GK/GTU/GTUX, Magelis XBTGH
Functions	Reading/writing of PLC variables	Yes	Embedded Basic: 500 tags Windows Machine control: 1,500 tags Windows Line management: 4,000 tags Windows Line management plus: 32,000 tags Windows Supervision: 64,000 tags	Yes, up to 8,000 internal and external variables
	Display of variables	Yes	Yes, depending on the number of tags	Yes
	Data processing	Yes	Yes, with VBScript or built-in scripting	Yes, using expression editor or Java programming
	Sharing of variables between HMI applications	–	Yes, via TCP/IP, OPC, driver or database	Up to 300 variables between 8 terminals, without router PLC Proprietary protocol above TCP/IP
	Saving of variables to external database	–	Yes, with relational database (any SQL Database, MS Access and Excel CSV file)	–
Internationalization		16 languages supported by 26 font types	Multi-language (depending on the OS)	Up to 15 languages supported by 34 Western alphabets, 4 Asian alphabets, and 2 Middle Eastern alphabets embedded in the application
Development of graphic applications	Native library of graphic objects	Yes	Yes, user customizable	Yes
	Curves and alarms	Yes	Yes	Yes, with log
	Scripts	Block Script, Java Script	VBScript, built-in scripting and QuickScript.NET	Java
Communication between HMI application and PLCs		Via I/O drivers: Schneider Electric or third-party protocols (Mitsubishi, Omron, Rockwell Automation and Siemens)	Via I/O drivers: Schneider Electric or third-party protocols (over 250 drivers: Mitsubishi, Omron, Rockwell Automation, and Siemens)	
Uploading of applications		–	Yes	–
Simulation of HMI applications		Yes	Yes	
Recipe management		Yes, up to 256 recipes, 600,000 ingredients in total	Yes, built-in tools with local file or with database	Yes, up to 32 groups, 1,024 ingredients for 256 recipes per group, proprietary or CSV format, complete multilingual support for labels and ingredients
Report and barcode printing		–	Report is a built-in function that executes the specified Report worksheet and sends the output to hard disk, printer, or PDF.	On the fly alarms, log data. Up to 9,999 active alarms, records, or logs Main USB barcode supported for Harmony with Windows OS and main serial barcode supported for other Harmony.
Screen capture		Yes, for Harmony *i*PCs in PNG format	Yes	Yes, Harmony GTO/GTU, and Harmony Panel PCs and Box PCs (HMIBMP, HMIBMU, and Harmony P6) in JPEG format
Access security		Password protected	Linked to user profiles	
Interface languages		Screens in 9 languages: English, French, German, Italian, Portuguese, Spanish, Traditional Chinese, Simplified Chinese, and Korean and documentation in electronic format available in 4 languages: English, French, German, and Italian	Screens and user interface available in 5 languages: English, German, French, Chinese, and Japanese	Screens, online help, and documentation in electronic format available in 7 languages: English, French, German, Italian, Portuguese, Simplified Chinese, and Spanish
OS compatibility		Windows 7, Windows 8, Windows 8.1, and Windows 10 (64-bit)	Windows 8.1, Windows 10 (64-bit), Windows 11, Windows Server 2012 R2, Windows Server 2016, Windows Server 2019, and Windows Server 2022	Windows 10 Professional and Windows 11
Software type		**EcoStruxure™ Operator Terminal Expert**	**EcoStruxure™ Machine SCADA Expert**	**Vijeo Designer™**
Pages		For more information, please refer to the DIA5ED2140703EN catalog.	For more information, refer to the DIA5ED2171201EN catalog.	

(1) Magelis XBT and Harmony GTO/GTU terminals behave transparently on restoration of power.
(2) Depending on the compatible product.

Vijeo Designer
Classic HMI Configuration software

Vijeo Designer software

Example project

Presentation

The cross-platform Vijeo Designer™ configuration software can be used to create operator dialogue applications for controlling automation systems for the following panels:
■ Harmony STU
■ Harmony GTO
■ Harmony GTU
■ Harmony GTUX
■ Harmony GK
■ Magelis XBTGH portable
■ Harmony Panel PCs and Box PCs (HMIBMP, HMIBMU, HMIPSP, HMIPSO, and HMIPEP)
■ Harmony P6

Vijeo Designer and a suitable panel can be combined to provide a solution for each and every control station requirement, at the cost of a simple software reconfiguration.

Capable of supporting video image streaming, the Harmony Vijeo Designer offer provides access to new types of application. Users can view their process instantly or subject to a delay, on the same screen as the HMI dialogue.

Vijeo Designer uses Harmony Ethernet TCP/IP connectivity and is, therefore, able to support WEB Gate remote access, the sharing of application data between panels, the transfer of recipes and logs for variables, and much more.

Applications can take on an international nature, because Vijeo Designer supports up to 15 languages simultaneously in one project (40 alphabets are available on the Harmony GTU/GTUX/ GTO/GK). The interface and documentation for Vijeo Designer are available in 7 languages: English, French, German, Italian, Brazilian Portuguese, Simplified Chinese, and Spanish.

Vijeo Designer is the HMI component of EcoStruxure™ Machine Expert. Vijeo Designer will run on any PC with Windows 10 Professional or Windows 11. It supports WYSIWYG simulation *(1)* of the developed application (without the target Harmony GTO/GK/GTU/GTUX or Harmony Panel PCs and Box PCs, and Harmony P6), simulation of the PLC variables (I/O, internal bits and words) and ensures that the application runs in total security on the Harmony GTO/ GK/GTU/GTUX or Harmony Panel PCs and Box PCs, and Harmony P6.
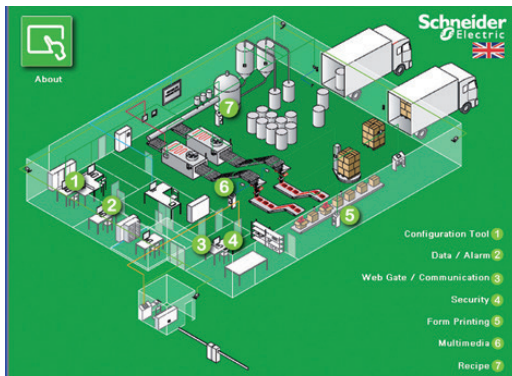
Configuration

Classic HMI Configuration software enables operator dialogue projects to be processed quickly and easily thanks to its advanced ergonomics using up to 5 configurable windows:
**1** Browser window
2 Object List window
3 Recipes window
4 Library of Animated Graphic Objects and Image Objects window
5 Report window

The software also offers a complete set of application management tools for:
■ Project creation, whereby a project comprises one or a number of applications for Harmony GTO/GK/GTU/GTUX, Harmony Panel PCs and Box PCs, and Harmony P6 with sharing of variables between panels (up to 8 panels and 300 variables)
■ Recipe management (32 groups of 256 recipes with up to 1024 ingredients)
■ Cross-referencing of application variables
■ Documentation of views for an application
■ A full simulation mode for testing the application from the design office
■ Bar code reader management via:
□ USB port on Harmony Panel PCs and Box PCs (HMIBMP, HMIBMU, HMIPSP, HMIPSO, and HMIPEP), Harmony GTU (with Box HMIG5U2), and Harmony P6
□ COM1 or COM2 serial port on Harmony GK/GTO/GTU/GTUX
■ USB keyboard and mouse support for all panels incorporating a USB port (only one peripheral can be connected at any one time)
■ Retrieval of symbol files for PLC variables generated by PL7, Concept, ProWORX 32 and EcoStruxure Control Expert software *(2)*
■ Report printing
■ Barcode printing

(1) What You See Is What You Get (on the screen of the target panel).
*(2) DDT structured types and "unlocated" variables are supported.*

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Classic HMI Configuration software
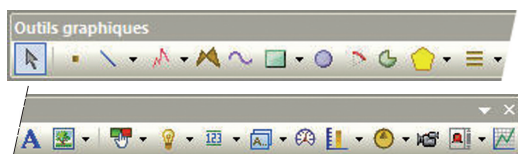
Graphic toolbar

Graphics editor

The graphics editor in Vijeo Designer offers interface consistency for simple objects as well as for more sophisticated ones. It enables application developers to create views easily based on:
■ Simple objects to be configured:
□ points, lines, rectangles, ellipses, arcs
□ bar graphs, meters, tanks, fillers, pie charts, curves
□ polylines, polygons, regular polygons, Bézier curves, scales
□ texts, images or alarm summary, etc.
■ Preconfigured advanced objects: switches, radio buttons, indicators, buttons, tanks, bar graphs, potentiometers, selector switches, text or number fields, enumerated lists, etc.
■ Screen masks and skeletons for type applications
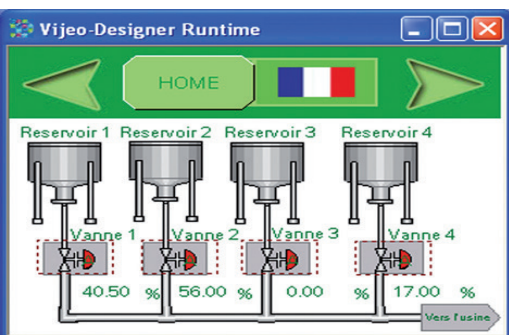
Object animation example

Object animations

8 types of graphic-object animation support the rapid creation of animated mimics on the basis of:
■ Pressing the touch panel
■ Change of color
■ Filling
■ Movement
■ Rotation
■ Size
■ Visibility
■ Display of associated value

Library of animated graphic objects

Library of animated graphic objects

The library of animated graphic objects makes the creation of mimics very efficient thanks to the numerous "ready-made" animation objects. It includes more than 4000 2-D and 3-D "industrial" vector images. Simply "drag and drop" the object using the mouse to position it on the mimic being created.
User-defined objects can be added to this library using the same simple "drag and drop" method.
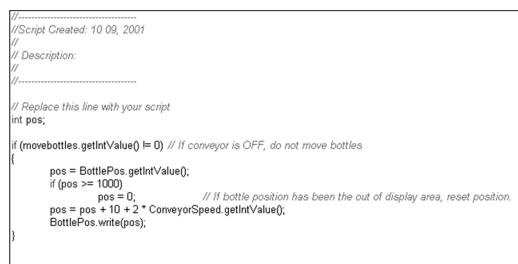
Java script example

Java scripts

Vijeo Designer supports data processing using Java language scripts. This function facilitates the running of complex animations, the automation of tasks within the panel and the management of calculations in order to relieve the load on the PLC programs.
The scripts (50 lines, max.) can be associated with:
■ Variables
■ Operator actions
■ Screens
■ The application itself

User-customizable resources

To enable applications to be customized in accordance with customer requirements, Vijeo Designer features a new resource concept that makes it possible to define styles (colours, images, character fonts, text lists).
To quickly customize a generic application to meet customer requirements, simply assign these styles to the objects concerned.
The resource concept is supported by the following native objects: *Meter, Bar Graph, Slider, Potentiometer, Selector, Text List,* and *Image List*.
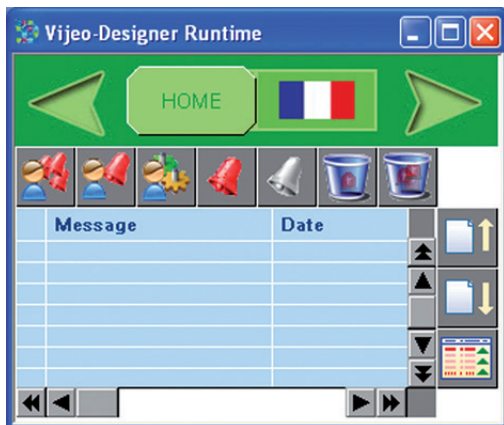
Vijeo Designer
Classic HMI Configuration software
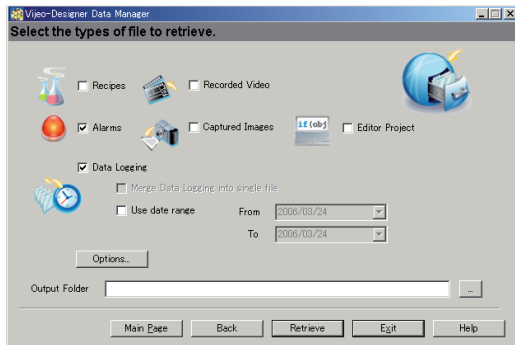
Data Manager: Transfer recipes, videos, images, etc. via Ethernet or USB, by simply clicking the mouse

Alarm management

Advanced functions

Based on new information technologies, Vijeo Designer features a large number of advanced functions for processing a higher volume of data, both faster and more reliably:

■ Multimedia data management in the most popular formats:
□ image display (jpeg, bmp, emf, and png files)
□ text display and processing (txt files)
□ sound message processing (wav files)
■ Alarm or curve logs recorded
■ Zoom in/out function on trending curves for a detailed analysis
■ Alarm management. All variables can be categorized as "Alarms" and can be customized in respect of visualization and acknowledgment. These Boolean and analog threshold type alarms can be printed on the fly.
■ Multimode application transfer: via serial link, USB, Ethernet, and Compact Flash memory card (on multifunction panels)
■ Backup of application source files on the panel or *i*PC to facilitate maintenance
■ User-friendly data exchange between PC and panel using the Data Manager tool
■ Integrated FTP server for downloading/uploading recipes via Ethernet TCP/IP and restoring logs to Harmony GTO/GK/GTU/GTUX and Harmony Panel PCs and Box PCs and Harmony P6
■ Multiport communication for multifunction panels, 2 serial links, and 1 Ethernet network can be active simultaneously
■ Action table for associating a particular behavior with an event
■ Use of a USB memory stick (up to 4 GB) for application downloads/uploads, data retrieval, or recipe exchange
■ E-mail on action and event (the e-mail text can contain up to 1000 characters)

WEB Gate remote connection

Vijeo Designer supports a WEB Gate remote connection with any platform which has an Ethernet connection point.

WEB Gate supports remote visualization of Vijeo Designer applications with Internet Explorer on most of the PC running Windows OS *(1)*. The size of the page displayed is determined by the panel.
WEB Gate supports the display of pages similar to those in the Vijeo Designer application, or of different pages, i.e. startup pages and navigation pages can be differentiated in order to indicate the type of access (panel/WEB Gate).
Several connections are possible at the same time, with the number depending on the size of the application.
The high security mode of WEB Gate excludes any risk of applications jamming as a result of variables being modified via the panel and WEB Gate at the same time.
For increased confidentiality:
■ WEB Gate access can be restricted to only those PCs whose IP address appears in the licensing list.
■ Some Vijeo Designer functions are not supported by WEB Gate:
□ application shutdown, restart
□ panel configuration
□ reading of an acoustic animation (sound file)
□ display a recorded video sequence

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Classic HMI Configuration software
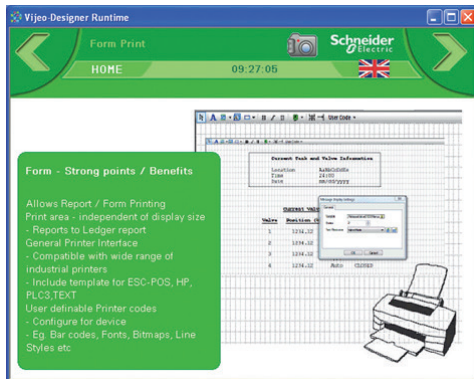
Report printing

WEB Maintenance remote diagnostics

In addition to WEB Gate, Vijeo Designer features the embedded diagnostics service WEB Maintenance - Transparent Ready WEB Server Class B15 *(1)*. This server's navigation bar features an option for accessing the following functions:
■ WEB Gate
■ Animation tables
■ Web interface for retrieving data files (recipes, logs, and multimedia files)

Note: *Panels programmed using Vijeo Designer can be accessed directly via their names. This function is supported by the DHCP and DNS network services.*

Integrated diagnostics

Vijeo Designer can be used to access the "Diag buffer" function of Modicon M340/Premium/Quantum PLCs via the following protocols:

	Modicon M340 EcoStruxure Control Expert	Premium PL7	Premium EcoStruxure Control Expert	Quantum EcoStruxure Control Expert
UNITE-Series				
UNITE-TCP/IP XWAY				
UMAS Modbus TCP				
UMAS Modbus RTU				
UMAS Modbus Plus				
UMAS UNITE-Series				
UMAS UNITE-TCP/IP XWAY				
UMAS Modbus TCP USB PPP				

■ Accessible
■ Not accessible

(1) Please refer to our website www.se.com.

Vijeo Designer
Classic HMI Configuration software

VJDBTPRO1P

References

All licenses for the Classic HMI Configuration software listed below are based now on version V6.3 and available in a single format: Digital license (ID authorization delivered via email to the email address registered while ordering the license).

Vijeo Designer software package is available on our website www.se.com, includes copyright-free stand-alone installation of Data Manager and provides the following components:

- User documentation in electronic format, including:
  - □ Online help for the software
  - □ User Manual for the supported targets
  - □ Setup Manual for the different protocols supported
- A multimedia self-learning tool lasting 1 hour 30 minutes in English/French
- The supported communication protocols

Single-station Build Time licenses (1)

Description	License type	Number of stations	Reference
Vijeo Designer configuration software	Single	1	**VJDBTPRO1P**

Multi-station Build Time licenses

Description	License type	Number of stations	Reference	Weight
Vijeo Designer configuration software	Group	3	**VJDBTPRO3P**	0.125
	Team	10	**VJDBTPRO10P**	0.125
	Entity	100	**VJDBTPRO100P**	0.125

Runtime licenses

Description	License type	Number of Stations	Compatible with	Reference
Vijeo Designer Runtime license, V6.3	Single	1	Harmony *i*PC (except HMIBMI/HMIBMO)	**VJDRTPROH1P**
Vijeo Designer Runtime license, V6.3			Standard PCs	**VJDRTPROS1P**

(1) Upgrade of Vijeo Designer Build Time single license is available only for customers having a previously registered version of Vijeo Designer Build Time (reference: VJDUBTPRO1P).

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Vijeo Designer
Classic HMI Configuration software

Communication protocols between the HMI application and the PLCs

Communication between the operator dialogue application and the connected control equipment is established using a communication protocol (driver), which is selected when creating the application in Vijeo Designer.

Schneider Electric protocols

Vijeo Designer supports the following Schneider Electric protocols:
- Modbus RTU Master
- Modbus TCP/IP Master
- Modbus Plus *(1)*
- Modbus 32-bit extensions
- ELAU PacDrive (ELAU C00x/LMCx00)
- Unitelway
- UniTE TCP/IP
- USB panel port for Modicon M340 CPUs
- FIPIO *(2)*, FIPWAY *(2)*

All Schneider Electric drivers provide IEC access to input bits/words and output bits/words: Modbus (RTU and TCP/IP), Modbus Plus (GMU and USB), Uni-Telway, and Xway.

Direct I/O access authorizes access to the hardware input and output registers.

Register addresses comply with the syntax of IEC standards and the address rules for EcoStruxure Control Expert configuration software (%I, %IW, %Q, %QW).
If requested by the user, the variables associated with a PLC can be read (*"on demand scan"* function). The DDT and unlocated variables of EcoStruxure Control Expert are supported.

Third-party protocols

Vijeo Designer supports the following third-party protocols:

Emerson

ROC Plus (SIO) and ROC Plus TCP/IP protocols.

Mitsubishi

Melsec protocols: A/Q CPU (SIO), A/Q Ethernet (TCP), QnU Ethernet (TCP), A /Q Link (SIO), QnA CPU (SIO),Q Ethernet (UDP), QnU Ethernet (UDP), FX (CPU), QUTE for Q00JCPU.
Except for Melsec-A Link (SIO) protocol, Mitsubishi serial link protocols do not work on the RJ45 port.

Omron

Sysmac protocols: FINS (SIO), LINK (SIO), FINS (Ethernet), and Trajexia.

Rockwell Automation

Allen-Bradley protocols: DF1-Full Duplex, RS DataHighway 485, Ethernet IP *(3)* (PLC5, SLC500, MicroLogix, ControlLogix), Ethernet IP native (ControlLogix), Ethernet IP High Speed access, and Ethernet IP Explicit.

Siemens

Simatic protocols: MPI (S7-300/400), MPI Direct, RK512/3964R (S7-300/400), PPI, Siemens Ethernet (ISO-on-TCP/Profinet), and MPI pass-through function.

Toyoda

Toyopuc Ethernet PC3J (TCP/IP) and Toyopuc Link (SIO) protocols.

(1) Via USB Modbus Plus gateways: **XBTZGUMP** *with proprietary OS,* **TSXCUSBMBP** *for Harmony with Windows OS.*
(2) Via USB FIPIO gateway **TSXCUSBFIP***.*
(3) Certified ODVA compatibility.

Note: *For more information on connection of Harmony panels to field buses, please refer to the following catalogs: Harmony GTO (DIA5ED2130616EN), Harmony GK (DIA5ED2160601EN), Harmony GTU (DIA5ED2140401EN), Harmony GTUX (DIA5ED2181203EN), Magelis XBTGH (DIA5ED2131102EN).*

Vijeo Designer
Classic HMI configuration software
Vijeo Design'Air - Application for tablets and smartphones

Vijeo Design'Air

Presentation

Vijeo Design'Air is an application for Android and iOS tablets and smartphones. They enable you to connect remotely to an HMI panel over a WiFi network and display a graphical view of the same on your tablet and smartphone.

During the design phase, you can set the HMI panel to be detected by Vijeo Design'Air. The HMI's accessibility level can be configured to provide view only mode or full control and also secured by requiring user authentication for login.

Vijeo Design'Air supports the following features:
■ HMI Auto-detect: scans and detects available HMI panels on a nearby network.
■ Remote monitoring: connects tablets and smartphones to HMI panels, and allows remote viewing and controlling of HMI projects at run time.
■ Advanced screen: takes advantage of advanced graphic and multi-touch capabilities of tablets and smartphones and applies it to the automation industry.

Architecture

In this configuration, the HMI panel 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 connection is established, you can use some of the functionalities of tablets and smartphones to remotely interact with the HMI panel. 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.

Harmony GTO

Wireless connection

Modicon M262

Mobile devices

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Vijeo Designer
Classic HMI configuration software
Vijeo Design'Air - Application for tablets and smartphones

Vijeo Design'Air compatible HMI panels

Below is the list of Harmony HMIs that are compatible with Vijeo Design'Air:
■ Harmony STU
■ Harmony GTO
■ Harmony GTU
■ Harmony GTUX
■ Harmony GK
■ Magelis XBTGH portable
■ Harmony SCU
■ Harmony Panel PCs and Box PCs (HMIBMP, HMIBMU, HMIPSP, HMIPSO, HMIPEP)
■ Harmony P6

Note: Download Vijeo Design'Air from Google Play or App Store in iTunes.

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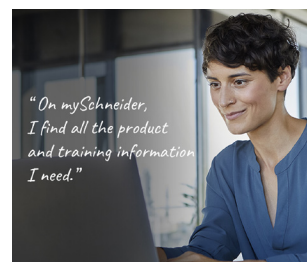
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> Access Trainings Dedicated to My Activity

Create your account

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