EcoStruxure® Operator Terminal Expert

Configuration software for Harmony ranges supporting gestures and UI designs
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- Characteristics, Dimensions and drawings, Mounting and clearance, Connections and schemas, Performance curves
- Product image, Instruction sheet, User guide, Product certifications, End of life manual

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EcoStruxure™ Operator Terminal Expert

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EcoStruxure Operator Terminal Expert
Configuration software for Harmony ranges supporting gestures and UI designs

EcoStruxure™ Operator Terminal Expert

EcoStruxure Operator Terminal Expert allows you to create and edit application screens that control automation systems for Harmony GTU (Premium Box)/STO color/GTO (1)/ST6 terminals, and Harmony industrial PCs (Panel and Box).

EcoStruxure Operator Terminal Expert features a modern and simple-to-use user interface, easy-to-access functions and information, and a multi-platform working environment. It also shortens design time by providing pre-made navigation framework.

Faster design
> Responsive grid design allows easy adaptation of the application irrespective of different screen resolutions

Automatic grid adjustment
> Scripting made easy for everyone using a graphical drag and drop editor

Block scripting

(1) Harmony GTO is no longer supported by V3.1 Service Pack 1 and the future service packs.
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**Intuitive operation**
- Multi-touch zoom in/zoom out, slide, pinch, and stretch options similar to smartphones for enhanced user experience

![Touch screen gestures](image)

- Touch screen gestures
  - Pinch to zoom out
  - Stretch to zoom in
  - Slide to scroll

- Multiple screens displaying various information can be viewed in a single screen

![Multi-Screen](image)

- Multi-Screen

- High quality graphics and quick adaptation of themes

![Themes](image)

- Themes

EcoStruxure Operator Terminal Expert ➔ Standardization with project templates and themes
## Applications

- Touchscreen Configuration software with UI design and gestures

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## Touchscreen Configuration software with UI design and gestures

### Configuration software for data-intensive and complex visualization

- Harmony G5U2, Harmony PCs
- Proprietary for Harmony STO Color, Harmony ST6 and Harmony GT6 (3)/GTU Windows Operating System for Harmony PCs
- Windows Embedded 7 Standard
- Yes, up to 6,000 internal and external variables

### Classic Configuration software for the complete HMI range

- Harmony STU and Harmony GT6 (1)
- Proprietary for Harmony STU/GTO, Magelis XBTGH
- Yes, up to 8,000 internal and external variables

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## Compatible products

<table>
<thead>
<tr>
<th>Type</th>
<th>Harmony STO Color</th>
<th>Harmony ST6</th>
<th>Harmony GT6 (2) and Harmony GT6 Premium Box</th>
<th>Harmony GTO (3) and Harmony GT6 Premium Box</th>
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<tbody>
<tr>
<td>Maximum number of targets</td>
<td>1</td>
<td>Proprietary for Harmony STO Color, Harmony ST6 and Harmony GT6 (3)/GTU Windows</td>
<td>Proprietary for Harmony STO Color, Harmony ST6 and Harmony GT6 (3)/GTU Windows</td>
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<tr>
<td>Operating system on terminals</td>
<td>Windows compatible computers</td>
<td>Windows compatible computers</td>
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## Functions

<table>
<thead>
<tr>
<th>Function</th>
<th>Touchscreen Configuration software with UI design and gestures</th>
<th>Configuration software for data-intensive and complex visualization</th>
<th>Classic Configuration software for the complete HMI range</th>
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<tbody>
<tr>
<td>Reading/writing of PLC variables</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Display of variables</td>
<td>Yes</td>
<td></td>
<td></td>
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<tr>
<td>Data processing</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sharing of variables between HMIs</td>
<td>–</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Saving of variables to external database</td>
<td>–</td>
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</tbody>
</table>

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## Internationalization

- 16 languages supported by 26 type of fonts
- 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

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## Development of graphic applications

<table>
<thead>
<tr>
<th>Application</th>
<th>Touchscreen Configuration software with UI design and gestures</th>
<th>Configuration software for data-intensive and complex visualization</th>
<th>Classic Configuration software for the complete HMI range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curves and alarms</td>
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<td></td>
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<tr>
<td>Script</td>
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<tr>
<td>Block Script</td>
<td>Yes</td>
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</table>

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## Communication between HMI application and PLCs

- Via I/O drivers: Schneider Electric or third-party protocols (Mitsubishi, OMRON, Rockwell Automation, Siemens)
- Via I/O drivers: Schneider Electric or third-party protocols (Over 250 Drivers: Mitsubishi, OMRON, Rockwell Automation, Siemens)

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## Uploading of applications

- Yes
- Yes, built-in tools with local file or with SQL DB

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## Recipe management

- Yes, up to 256 recipes, 600,000 ingredients in total
- Yes, up to 32 groups, 1,024 ingredients for 256 recipes per group, proprietary or CSV format, complete multilingual support for labels and ingredients

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## Report and barcode printing

- Yes, Report is a built-in function that executes the specified Report worksheet and sends the output to hard disk, printer, or PDF.
- Yes, Main USB Barcode supported for Harmony with Windows OS and Main Serial Barcode supported for other Harmony

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## Screen capture

- Yes, for Harmony PCs in PNG format
- Yes, Screens, online help and documentation in electronic format available in 7 languages: English, French, German, Italian, Portuguese, Simplified Chinese, and Spanish

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## Access security

- Password protected
- Password protected

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## Interface languages

- Screens in 9 languages: English, French, German, Italian, Portuguese, Spanish, Traditional Chinese, Simplified Chinese, Korean and documentation in electronic format available in 4 languages: English, French, German, Italian
- Screens in 7 languages: English, French, German, Italian, Portuguese, Simplified Chinese, and Spanish

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## OS compatibility

- Windows 7, Windows 8, Windows 8.1, Windows 10 (32-bit/64-bit)
- Windows 7, Windows 8.1, Windows 10 (64-bit), WEST (64-bit)

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## Software type

- EcoStruxure™ Operator Terminal Expert
- EcoStruxure™ Machine SCADA Expert
- Vijeo Designer™

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## Pages

- For more information, please refer to page 1.
- For more information, please refer to DIA5ED2130614EN catalog.
- For more information, please refer to DIA5ED2171201EN catalog.

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(1) Magelis XBT and Harmony STO/GT6 terminals behave transparently on restoration of power.
(2) Depending on the compatible product.
(3) Harmony GT6 is no longer supported by V3.1 Service Pack 1 and the future service packs.
EcoStruxure Operator Terminal Expert

Configuration software for Harmony ranges supporting gestures and UI designs

Presentation

The cross-platform EcoStruxure™ Operator Terminal Expert can be used to create HMI applications that control automation systems for:

- Harmony GTU (Premium Box)
- Harmony GTO (3)
- Harmony STO (Color)
- Harmony ST6
- Harmony industrial PCs (Panel and Box PCs)
- Windows compatible computers

EcoStruxure Operator Terminal Expert supports English, French, German, Italian, Portuguese, Spanish, Japanese, Traditional Chinese, Simplified Chinese, and Korean languages and provides access to new application types.

EcoStruxure Operator Terminal Expert runs on any PC with Windows 7, Windows 8, Windows 8.1, or Windows 10 operating system. This supports WYSIWYG (1) of the developed application and the PLC variables (I/O, internal bits and words), and also helps ensure that the application runs securely on Harmony GTU/STO color/GTO terminals (3) or Harmony industrial PCs.

EcoStruxure Operator Terminal Expert supports features for creating and organizing HMI applications:

- Intuitive and simple-to-develop user interface
- Gesture experience by multi-touch, zoom in/zoom out, slide, and stretch
- Templates and theme design selection
- Graphic configuration by Universe “System Architecture” view
- Windows 7 (32/64-bit), Windows 8/8.1 (32/64-bit), Windows 10 (32/64-bit) support

Configuration

EcoStruxure Operator Terminal Expert is an intuitive configuration software that is used to process HMI projects quickly and easily using the 8 configurable windows:

1. Tool Chest
2. Project Explorer: HMI Content Design, Data Management, Scripts and Actions, System Architecture
3. Error window or Feedback zone
4. Generic command or Document toolbar
5. Editor or Document view
6. Application tool bar
7. Properties
8. Object List

The software also offers a complete set of application management tools for:

- Up to 256 recipes with 600,000 ingredients in total
- Full simulation mode for testing the application from the design office
- Retrieval of symbol files for PLC variables generated by TwidoSuite, PL7, Concept, ProWORX 32, and Unity Pro software (2)

(2) DDT structured types and “unlocated” variables are not supported in this version.
(3) Harmony GTO is no longer supported by V3.1 Service Pack 1 and the future service packs.
Graphics editor
The graphics editor offers interface consistency for simple and more sophisticated objects. This helps application developers to easily create views based on:
- Parts:
  - switches (toggle, radio, selector), lamps
  - text or number fields
  - alarm, trends, recipe ingredient viewer, web browser (1), etc.
- Shapes to be configured:
  - lines, rectangles, ellipses, arcs
  - polylines, polygons, Bézier curves, scales
  - text and images, etc.

Object animations
9 types of graphic-object animations support the rapid creation of animated mimics on the basis of:
- Pressing the touch panel
- Changing of color
- Filling
- Movement
- Rotation
- Size
- Visibility
- Display of associated value
- Object redesign

Predefined Images library
The graphic objects library contains objects for efficiently organizing around the business segments. Using the simple “drag and drop” method, images can be positioned with the mouse on the mimic being created.

(1) Supported in Harmony GTU / iPCs.
EcoStruxure Operator Terminal Expert
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Key features
Runtime Navigation
- Automatic menu generation
- Efficient usage of space: permanent or hidden menus, scroll within the menu that is independent of the rest of the screen
- Less engineering: all information on one screen, free of hierarchies
- More intuitive operation: Icons instead of text, dynamic update of an icon representing the page in the menu

Layout Objects (DockPanel)
- Embed several pages in one screen and navigate independently in each section
- Screens are automatically resized to fit into the frame
- Frame sizes can be dynamically changed to show different content

Web Server API
- Interface for browsers, both desktop and mobile:
  - Enables delivery of information independent of time and place to any HTML5 browser
  - Enables fast HMI agnostic development of specific customer/use case tailored UI
- WebSockets for subscription based notifications (events) like alarm notifications, system error notifications, etc.
- User Management support (user name/password)

Themes and Color set
- Theme (Studio/Flat themes) and color (10 sets) to preset design
- Quick customization and design consistency between themes
- Product differentiation

Themes

Layout Objects (DockPanel)
Communication protocols between HMI application and PLCs

Communication is established between the HMI application and the connected control equipment using a communication protocol (driver) that is selected when creating the application in EcoStruxure Operator Terminal Expert.

**Schneider Electric protocols**

EcoStruxure Operator Terminal Expert supports the following protocols:

- Schneider Electric SA
  - MODBUS TCP Master
  - MODBUS TCP Master USB Equipment
  - MODBUS SIO Master
  - MODBUS SIO Master CT Equipment
  - Uni-Telway
  - PacDrive Ethernet Cx00 - (Codesys V3.5)
  - PacDrive Ethernet LMC x00C - (Codesys V3.5)
  - MODBUS TCP Slave
  - MODBUS SIO Slave
  - MODBUS SIO ASCII Master
  - Zelio Logic
  - EcoStruxure Augmented Operator Advisor

- Siemens AG
  - SIMATIC S7 MPI Direct
  - SIMATIC S7 MPI Direct - 12M (CoPla)
  - SIMATIC S7 Ethernet (LOGO!8 support)
  - TIA Portal Ethernet

- Rockwell Automation
  - EtherNet/IP (Symbol link)
  - DF1
  - DH-485

- Mitsubishi Electric Corporation
  - Q/QnA Series Ethernet
  - Q Series CPU Direct
  - Q/QnA Series Serial
  - FX Series CPU Direct
  - FX Series Ethernet
  - FX Series Computer Link
  - Q Series QnU CPU Ethernet
  - iQ-R/F Series Ethernet
  - A Series Ethernet

- OMRON Corporation
  - CS/CJ Series HOST Link
  - CS/CJ Series Ethernet
  - CS/CJ/NJ Series EtherNet/IP (Symbol link)
  - NX Series Controller NX1P, NX1 and NX7 via Ethernet/IP

- Emerson Process management v Modbus SIO Master
  - ROC Plus SIO
  - ROC Plus Ethernet

- CAN in Automation
  - CANopen Slave (CoPla)

- PROFIBUS International
  - PROFIBUS DP Slave (CoPla)

- Crouzet Automation
  - Millenium 3

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, Xway.

The direct I/O access authorizes access to hardware input and output registers.
EcoStruxure Secure Connect Advisor concept

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Communication protocols between HMI application and PLCs (continued)

PLC symbols link (1)

EcoStruxure Operator Terminal Expert supports the following protocols:

- Schneider Electric SA
  - SoMachine Basic (SMBP format)
  - SoMachine (XML format)
  - SoMachine Motion (XML format)
  - Unity Pro (XVM/XSY format, unallocated variables supported)
- OMRON Corporation
  - Sysmac Studio (NJ format)
- Rockwell Automation
  - RSLogix 5000 (L5K format)

Companion products (2)

EcoStruxure Secure Connect Advisor provide 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 Machine 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 repair can also be performed remotely upon request.

References

The EcoStruxure Operator Terminal Expert configuration software is compatible with Harmony GTU Premium Box/STO7/GTO (3)/ST6 terminals and Harmony iPCs. The software (4) can be downloaded from our website www.schneider-electric.com or purchased as DVD (5).

EcoStruxure Operator Terminal Expert commercial licenses are available in two formats.

- Printed license: delivered by regular mail with ID authorization
- Digital license: ID authorization delivered via email to the email address registered while ordering the license

All EcoStruxure Operator Terminal Expert licenses listed below comprise:

- User documentation in electronic format, including:
  - Online help for the software
  - User Manual for the supported targets
  - Setup Manual for the different protocols supported
- Supported communication protocols

A dedicated web portal www.schneider-electric.com/licensing is available for easy registration and management of software licenses that allows more control over your license(s).

- Instant license activation and easy account management
- Online view of license status from anywhere

(1) Including import of structured variables such as UDTs and ARRAY (of UDT).
(2) For more information, please refer to “EcoStruxure Secure Connect Advisor catalog” available on our website www.schneider-electric.com.
(3) Harmony GTO is no longer supported by V3.1 Service Pack 1 and the future service packs.
(4) After installation, the trial version of the software is available for 42 days and will have to be activated with the commercial license.
(5) DVD available for V3.1 only.
## EcoStruxure Operator Terminal Expert

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### Printed Buildtime licenses

<table>
<thead>
<tr>
<th>Description</th>
<th>License type/No. of Stations</th>
<th>Application transfer cable PC side port</th>
<th>Terminal side</th>
<th>Reference</th>
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</thead>
<tbody>
<tr>
<td>EcoStruxure Operator Terminal Expert Professional Single license</td>
<td>Single/1</td>
<td>USB/ Ethernet</td>
<td>Harmony GTO Premium Box</td>
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<td>EcoStruxure Operator Terminal Expert Professional Group License</td>
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<td>USB/ Ethernet</td>
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<td>EcoStruxure Operator Terminal Expert Professional Team license</td>
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<td>USB/ Ethernet</td>
<td>Harmony iPCs and other PCs</td>
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<td>EcoStruxure Operator Terminal Expert Basic license</td>
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<td>USB/ Ethernet</td>
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### Printed Runtime license

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### Digital Buildtime licenses (2)

<table>
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<td>EcoStruxure Operator Terminal Expert Professional Single license</td>
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<td>EcoStruxure Operator Terminal Expert Professional Team license</td>
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### Digital Runtime license

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<td>EcoStruxure Operator Terminal Expert Runtime license for Windows</td>
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<td>EcoStruxure Operator Terminal Expert DVD Software 3.1</td>
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</table>

(1) Harmony GTO is no longer supported by V3.1 Service Pack 1 and the future service packs.
(2) Please contact Schneider Electric Customer Care Center to check if the digital licenses are distributed/available in your country.
(3) DVD available for V3.1 only.

**Note:** The EcoStruxure Operator Terminal Expert Runtime installer uninstalls Vijeo Designer Runtime, but Vijeo Designer Runtime can be reinstalled again with EcoStruxure Operator Terminal Expert Runtime.
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<tr>
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<tr>
<td>H</td>
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Design: Schneider Electric
Photos: Schneider Electric

Learn more about our products at www.schneider-electric.com/EcoStruxure Operator Terminal Expert

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