EcoStruxure Operator Terminal Expert

EcoStruxure™ Operator Terminal Expert

Configuration software for Harmony ranges supporting gestures and intuitive user interface designs
Discover Harmony
Advanced operator interface and industrial relays

Harmony operator interface and industrial relays enhance operational efficiency and equipment availability across industrial and building applications. Harmony includes intelligent connected products and edge terminals that visualize, gather and process data, enabling informed operator decisions.

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- Harmony Push Buttons and Switches
- Harmony HMI Operator Terminals, iPC and EdgeBox
- Harmony Signaling Devices
- Harmony Electrical Relays
- Harmony Safety
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Get technical information about your product

Each commercial reference presented in a catalog contains a hyperlink. Click on it to obtain the technical information of the product:

- 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

EcoStruxure Operator Terminal Expert allows you to create and edit application screens that control automation systems for Harmony GTU/GTUX/STO color/GTO (1)/ST6/STM6 terminals, Harmony industrial PCs (Panel and Box), and other PCs. 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

- Scripting made easy with 2 interactive modes to suit different needs

(1) Harmony GTO is supported only by software versions prior to V3.1 Service Pack 1.
EcoStruxure Operator Terminal Expert

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**Intuitive operation**

- Multi-touch zoom in/zoom out, slide, pinch, and stretch options similar to smartphones for enhanced user experience (1)

  - Pinch to zoom out
  - Stretch to zoom in
  - Slide to scroll

Touch screen gestures

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

**Multi-Screen**

- High quality graphics and quick adaptation of themes

**Themes**

(1) Available on supported Harmony GTU, GTUX, Harmony iPC, and other PCs that support touch gestures.
HMI Software

Applications

Touchscreen configuration software with UI design and gestures

Compatible products

<table>
<thead>
<tr>
<th>Type</th>
<th>Harmonysto Color</th>
<th>Harmonysto STM6</th>
<th>Harmonysto GTU, GTUX</th>
<th>Harmonysto GTU/STM6</th>
<th>Harmony GTU, GTUX</th>
</tr>
</thead>
</table>

Maximum number of targets

1

Operating system on terminals

Proprietary for Harmony STO Color, Harmony ST6/STM6 and Harmony GTU/GTUX. Windows operating system for Harmony iPCs.

Functions

Reading/writing of PLC variables

Yes

Display of variables

Yes

Data processing

Yes

Sharing of variables between HMI applications

–

Saving of variables to external database

–

Internationalization

16 languages supported by 26 font types

Development of graphic applications

Native library of graphic objects

Yes

Curves and alarms

Yes

Script

Yes

Communication between HMI application and PLCs

Via VFD drivers: Schneider Electric or third-party protocols (Mitsubishi, Omron, Rockwell Automation, Siemens)

Uploading of applications

Yes

Simulation of HMI applications

Yes

Recipe management

Yes, up to 256 recipes, 600,000 ingredients in total

Report and barcode printing

–

Screen capture

Yes, for Harmony iPCs in PNG format

Access security

Password protected

Interface languages

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

OS compatibility

Windows 7, Windows 8, Windows 8.1, Windows 10 (64-bit)

Software type

EcoStruxure™ Operator Terminal Expert

Pages

For more information, please refer to page 11.

Configuration software for data-intensive and complex visualization

Classic configuration software for the complete HMI range

Harmony STM6 Edge Box HMI
Harmony iPCs
Windows compatible computers

Harmony GTU/GTUX, Harmony GTU/STM6
Harmony Panel PCs and Box PCs (HMIBMP, HMIBMU, HMIPSO, HMIPSP, HMIPPE) Harmony PN

Maximum number of targets

1 32

Operating system on terminals

Windows 10 64-bit Enterprise 2019 LTSC 32-bit
Proprietary for Harmony ST/GTO, Harmony GTU/GTUX, Magelis XBTGH

Functions

Reading/writing of PLC variables

Yes

Display of variables

Yes

Data processing

Yes

Sharing of variables between HMI applications

–

Saving of variables to external database

–

Internationalization

Multi-language (depending on the OS)

Development of graphic applications

Native library of graphic objects

Yes

Curves and alarms

Yes

Script

Yes

Communication between HMI application and PLCs

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

Uploading of applications

–

Simulation of HMI applications

–

Recipe management

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

On the fly alarms, log data. Up to 9,999 active alarms, records, or logs.

Screen capture

Yes, Harmony GTU/STM6

Acces security

Password protected

Interface languages

Screens and user interface available in 5 languages: English, German, French, Chinese, and Japanese.

OS compatibility


Software type

EcoStruxure™ Machine SCADA Expert

Pages

For more information, please refer to the 43213D2172814EN catalog.

More technical information on www.se.com

(1) Magelis XBT and Harmony GTU/GTU terminals behave transparently on restoration of power.

(2) Depending on the compatible product.
EcoStruxure Operator Terminal Expert

**Presentation**

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

- Harmony GTU, GTUX
- Harmony GTO (2)
- Harmony STO (Color)
- Harmony ST6/STM6
- 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, 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/GTUX/STO color/GTO (2)/ST6/STM6 terminals 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 (64-bit), Windows 8/8.1 (64-bit), Windows 10 (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) Harmony GTO is supported only by software versions prior to V3.1 Service Pack 1.
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.

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

(1) Supported in Harmony GTU / PCs.
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Key features (continued)
Themes and Color set
- Theme (Studio/Flat themes) and color (10 sets) to preset design
- Quick customization and design consistency between themes
- Product differentiation

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 Viewer
- Visualize and operate the HMI screen remotely with mirroring function
- Runs on standard browsers like Chrome, Safari and Edge for devices (PC, Tablet, Smart phone)
- Easy configuration and able to have up to 3 to 5 remote connections depending on hardware type
- With Web Viewer and Harmony STM6 Gateway Box, the HMISTM6 display panel can become a Faceless HMI for applications that doesn’t need a full time operator screen
- Supported by Harmony ST6/STM6/GTU/GTUX, Harmony iPCs and other PCs

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)
- Supported only by Professional Buildtime license and applicable to all hardware with Ethernet port options
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.

EcoStruxure Operator Terminal Expert supports the following protocols:

- Schneider Electric SA
  - Modbus SIO/TCP Master
  - Modbus TCP Master via USB
  - PacDrive
  - Machine Expert Network
  - Uni-Telway
  - Zelio Logic Smart Relays

- Siemens AG
  - SIMATIC S7 Ethernet/MPI Direct
  - TIA Portal Ethernet

- Rockwell Automation Inc.
  - EtherNet/IP
  - DF1
  - DH-485

- Mitsubishi Electric Corporation
  - Various series controllers

- OMRON Corporation
  - Various series controllers

- Emerson
  - Industrial Automation/Control Technique Modbus SIO/TCP Master
  - Process Management ROC Plus Ethernet/SIO

- CAN in Automation
  - CANopen Slave

- PROFIBUS International
  - PROFIBUS DP Slave

- Crouzet Automation
  - Millennium 3 FBD

- Modbus Organization SIO/TCP Master/Slave

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.
Communication protocols between HMI application and PLCs (continued)

PLC symbols link (1)

EcoStruxure Operator Terminal Expert supports the following configuration tools:

- Schneider Electric SA
  - Modbus SIOMaster (SMBP format)
  - PacDrive (XML format)
  - Modbus TCP Master (XVM/XY format)
  - SoMachine Network
- OMRON Corporation
  - CS/CJ/NJ Series EtherNet/IP (TXT format)
- Rockwell Automation
  - EtherNet/IP (L5K/CSV Format)
- Siemens AG
  - TIA Portal Ethernet (AP format)

Companion products (2)

EcoStruxure Secure Connect 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, 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/GTUX/STO7/GTO (3)/ST6/STM6 terminals, Harmony PCs and other PCs. The software (4) can be downloaded from our website www.se.com.

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 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.se.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 catalog".
(3) Harmony GTO is supported only by software versions prior to V3.1 Service Pack 1.
(4) After installation, the trial version of the software is available for 42 days and will have to be activated with the commercial license.
### Digital Buildtime licenses (2)

<table>
<thead>
<tr>
<th>Description</th>
<th>License type/No. of Stations</th>
<th>Application transfer cable</th>
<th>Terminal side</th>
</tr>
</thead>
<tbody>
<tr>
<td>EcoStruxure Operator Terminal Expert Professional Single license</td>
<td>Single/1</td>
<td>USB/Ethernet</td>
<td>Harmony GTU/GTUX</td>
</tr>
<tr>
<td>EcoStruxure Operator Terminal Expert Professional Group license</td>
<td>Group/3</td>
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<td>Harmony GTO (1) Harmony GTO7</td>
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<tr>
<td>EcoStruxure Operator Terminal Expert Professional Team license</td>
<td>Team/10</td>
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<td>Harmony ST6 Harmony STM6 Harmony iPCs and other PCs</td>
</tr>
<tr>
<td>EcoStruxure Operator Terminal Expert Professional Entity license</td>
<td>Entity/100</td>
<td></td>
<td>Harmony STO7 Harmony ST6 Harmony STM6</td>
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<tr>
<td>EcoStruxure Operator Terminal Expert Professional 3 months Single license</td>
<td>Fixed term Single/1</td>
<td></td>
<td>Harmony STO7 Harmony ST6 Harmony STM6</td>
</tr>
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<td>EcoStruxure Operator Terminal Expert Basic Single license</td>
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<td>Harmony STO7 Harmony ST6 Harmony STM6</td>
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</tbody>
</table>

(1) Harmony GTO is supported only by software versions prior to V3.1 Service Pack 1.

(2) Please contact Schneider Electric Customer Care Center to check if the digital licenses are distributed/available in your country.
| HMIIELCZLSPAZZ  | 11 |
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| HMIPELCZLPAZZ   | 11 |
| HMIPELCZLPAZZ   | 11 |
| HMIPELCZLTPAZZ  | 11 |
| HMIPELCZLTPAZZ  | 11 |
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