



# Harmony FT6

Human Machine Interfaces  
Stainless-steel HMI for pharmaceuticals  
and food industries



# Harmony

## Discover **Harmony**

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**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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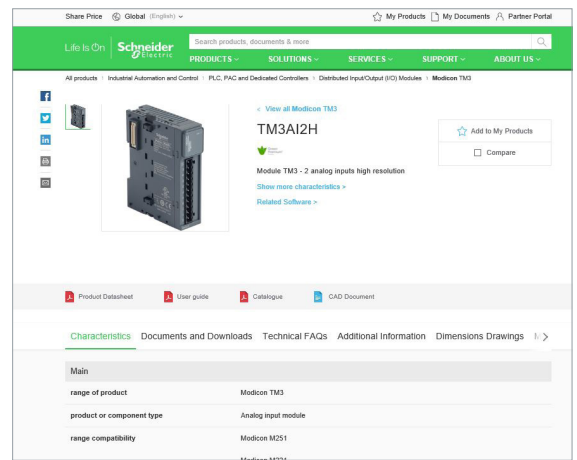
# Quick access to product information

## Get technical information about your product

References

**Modicon TM3**  
I/O expansion modules for Modicon controllers  
Analog I/O modules

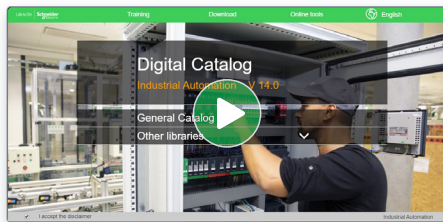
References	Number and type of channels	Input range	Output range	Resolution	Input/terminal block (I/O)	Reference	Weight (kg)
TM3AI2H	2 analog inputs	-10...+10 VDC	-10...+10 mA	10 bits or 10 bits + sign	28-pin	TM3AI2H	0.134
		0...+10 VDC 0...20 mA, 4...20 mA	-	-	28-pin	TM3AI2H	0.134
TM3AI2H	4 analog inputs	-10...+10 VDC	-10...+10 mA	10 bits or 10 bits + sign	28-pin	TM3AI2H	0.134
		0...+10 VDC 0...20 mA, 4...20 mA	-	-	28-pin	TM3AI2H	0.134
TM3AI2H	4 differential temperature inputs (I, I+, I-, I+)	Thermocouples (I, I+, I-, I+)	-	10 bits or 10 bits + sign	28-pin	TM3AI2H	0.134
		RTDs (I, I+, I-, I+)	-	10 bits or 10 bits + sign	28-pin	TM3AI2H	0.134
TM3AI2H	4 differential temperature inputs (I, I+, I-, I+)	Thermocouples (I, I+, I-, I+)	-	10 bits or 10 bits + sign	28-pin	TM3AI2H	0.134
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		RTDs (I, I+, I-, I+)	-	10 bits or 10 bits + sign	28-pin	TM3AI2H	0.134



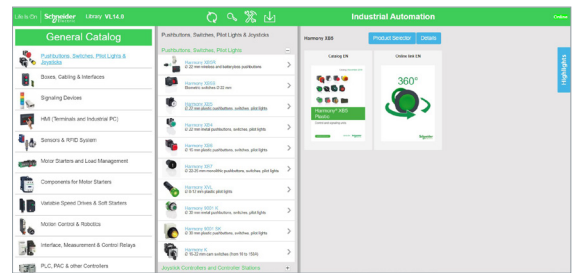
Each commercial reference presented in a catalog contains a hyperlink. Click on it to obtain the technical information of the product:

- 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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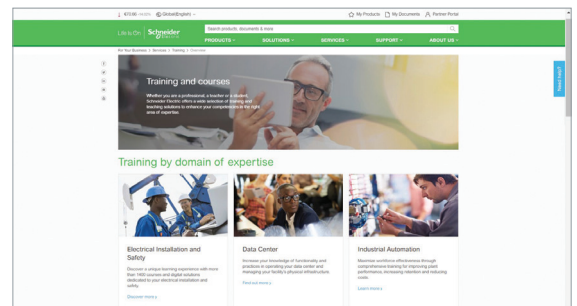


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# Human Machine Interfaces

Harmony FT6  
Stainless-steel HMI for pharmaceuticals and food industries

<b>Applications</b>		Display of text messages, graphic objects, and synoptic views Control and configuration of data			
<b>Type of display module</b>		Stainless HMI panels			
					
<b>Display</b>	Touch screen size	7" W	10.1" W	12.1" W	15.6" W
	Resolution (pixels)	800 x 480 pixels, 16 million colors	1,024 x 600 pixels, 16 million colors	1,280 x 800 pixels, 16 million colors	1,366 x 768 pixels, 16 million colors
	Type	TFT Color LCD, single-touch analog resistive			
<b>Degree of protection</b>		IP66K			
<b>Functions</b>		16 levels (adjusted with touch panel or software)			
	Brightness control	16 levels (adjusted with touch panel or software)			
	Backlight service life	50,000 hours or more (continuous operation at 25 °C/77 °F) before backlight brightness decreases to 25%			
<b>Memory</b>		1,024 MB Main Drive (operating system, project data, and other data)			
	System memory	1,024 MB Main Drive (operating system, project data, and other data)			
	Backup memory	16 GB Secondary Drive; 512 KB NVRAM			
<b>Dimensions</b>		212 x 157 x 45/8.35 x 6.18 x 1.77		277 x 207 x 47/10.91 x 8.15 x 1.85	
	External W × H × D mm/in.	212 x 157 x 45/8.35 x 6.18 x 1.77		277 x 207 x 47/10.91 x 8.15 x 1.85	
	Cut-out W × H mm/in.	190 x 135/7.48 x 5.31		255 x 185/10.04 x 7.28	
<b>Weight</b>		1.0/2.2		1.7/3.75	
	kg/lb	1.0/2.2		1.7/3.75	
<b>Supply voltage</b>		24 VDC (19.2 V...28.8 V ~)			
<b>Environment</b>		Ambient air temperature 0...50 °C/32...122 °F			
<b>Communication</b>		RS-232C (COM1), RS-485/RS-422 (COM2)			
	Asynchronous serial link	RS-232C (COM1), RS-485/RS-422 (COM2)			
	USB ports	1x USB 2.0 (Type A), 1x USB 2.0 Micro-B			
	Buses and networks	2x Ethernet TCP/IP (10BASE-T/100BASE-TX)			
<b>RTC</b>		Yes			
<b>Conformity to standards and certifications</b>		CE, UL/CSA, UL/CSA Class I, Division 2 Hazardous Locations, CCEx/IECEX zones 2/22, China/EU RoHS, REACH, WEEE (2)			
<b>Development software</b>		Vijeo Designer Basic (1)			
<b>Terminal reference</b>		<b>HMIFT6450</b>	<b>HMIFT6550</b>	<b>HMIFT6650</b>	<b>HMIFT6750</b>
<b>Pages</b>		9			

(1) Requires Vijeo Designer Basic V2.0 or later version. Click on this [link](#) to download Vijeo Designer Basic software.

(2) The certifications and standards listed in the selection guide may include those that still need to be acquired for this product. For the latest certifications and standards that this product has acquired, please check the product marking or visit our site [www.se.com](http://www.se.com).



**Stainless-steel HMI for pharmaceuticals and food industries**

Harmony FT6 is a range of stainless-steel touch screen panels. It's available in four screen sizes with wide formats 7" W, 10" W, 12" W, and 15" W. The FT6 panels are designed by following the EN1672-2 hygiene requirements and provide advanced features to allow users developing the applications to be compliant with 21 CFR Part 11 regulation. All models of the FT6 have dual Ethernet ports for isolatable OT/IT connectivity and a built-in 16GB second drive for a big volume of local data storage.



**Hygienic design**

Harmony FT6 panels come with smooth surface, fewer grooves, and angled bevel design, which makes it easy for disinfection cleaning. Its design follows:

- EN1672-2, hygiene requirements of food processing machinery
- FDA 21 CFR 177:2006, indirect food additives: polymers

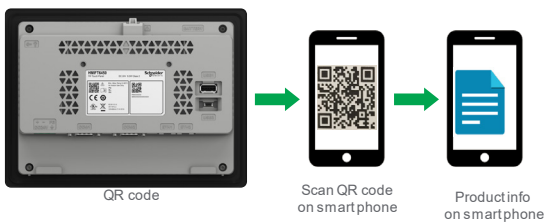
**21 CFR Part 11 compliance**

Allows users to develop the applications to be compliant with 21CFR Part 11 regulations related to:

- Electronic records
- Electronic signature
- Access control with advanced user security features of password strength management

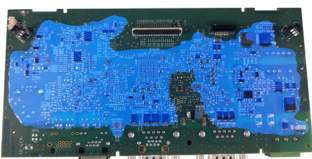
**Easy to use**

- Product information via QR code scanning
- External storage free, thanks to 16GB built-in drive for longtime data storage
- Dual Ethernet ports allow to connect with both OT and IT networks easily
- Easy to set up and use with simplified and intuitive programming software (Vijeo Designer Basic) and an illustrated Online help for self-guided training



**Robustness**

- Designed with isolated power supply and enhanced protection on serial communication port for better EMC performance in harsh industrial environments.
- Designed with protection for reverse power connection against negligent miswiring
- PCBA default coating to be sustainable in harsh environment with high humidity



Default coating

# Human Machine Interfaces

## Harmony FT6

Stainless-steel HMI for pharmaceuticals and food industries



7" Wide and 10" Wide Harmony FT6 touch screen panels



Example of project configuration

### Presentation and applications

The range of Harmony FT6 stainless-steel touch screen panels have been designed mainly for pharmaceuticals and food industries, including:

- Pharmaceuticals
- Biotechnology-based food and medicine
- Medical devices
- Cosmeceuticals
- Food processing

### Operation

The range of Harmony FT6 stainless-steel touch screen panels support interfaces required for communication & configuration in the pharmaceuticals and food industries, like:

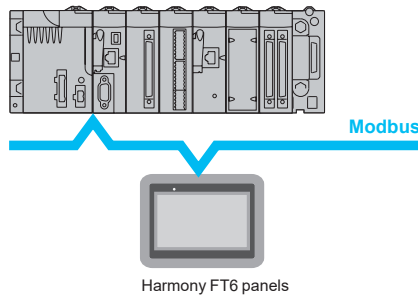
- Essential level of communication (serial multilink, USB downloading port)
- High level of communication (embedded Ethernet multilink) (1)
- External data storage (on a USB memory stick) for storing production data and backing up applications (1)
- Management of peripheral equipment: printers, barcode readers, etc. (1)  
These panels offer an excellent level of technical performance and are designed for use by both OEM and EU customers

### Configuration

Harmony FT6 touch screen panels are configured using Vijeo Designer Basic software (1) in Windows 10 (32-bit and 64-bit) environments. This simplified configuration software boasts an intuitive user interface with many configurable windows, enabling projects to be developed quickly and easily.

### Communication

Automation platform or logic controller



Harmony FT6 touch screen panels can communicate with various PLCs via the integrated serial links or Ethernet links, using the following communication protocols:

- Schneider Electric (Modbus)
- Third-party: Mitsubishi Electric, Omron, and Siemens

(1) Requires Vijeo Designer Basic version 2.0 or later.

# Human Machine Interfaces

## Harmony FT6

Stainless-steel HMI for pharmaceuticals and food industries

### Functions

Harmony FT6 touch screen panels with Vijeo Designer Basic offer the basic functions:

- Display of animated mimics with 8 types of animation (pressing the touch panel, color changes, filling, movement, rotation, size, visibility, and value display)
- Control, modification of numeric and alphanumeric values
- Display of date and time
- Real-time curves and trend curves with log
- Alarm display, alarm log, and management of alarm groups
- Multi-window management
- Page calls initiated by the operator
- Multilingual application management (10 languages simultaneously)
- Recipe management
- Data processing via Java Script
- Application and logs stored on external application memory card in USB stick format
- Management of printer and barcode reader

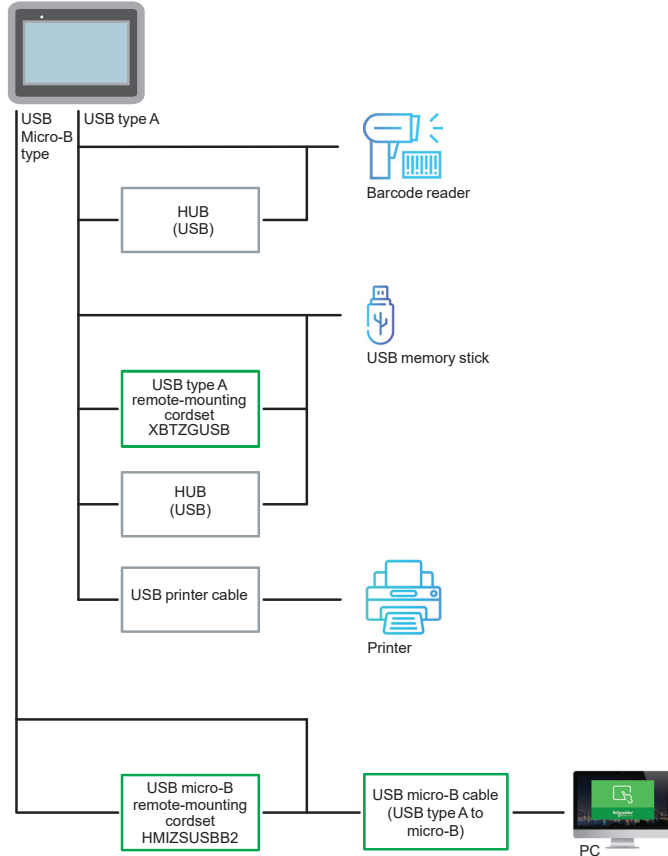
Harmony FT6 panels also offers advance functions to be compliant with GMP/ 21 CFR Part 11 regulations:

- Project revision history management for change tracking
- Password strength management for advance user security
- Electronic records with checksum (support batch-oriented data logging)
- Electronic signature (support second signature for verifying inputs by senior user)
- Records archive and export
- PC LogViewer tool for records viewing, sorting, printing and alteration checking

### Operating modes for Harmony FT6 touch screen panels

#### Edit mode

Harmony FT6 panel

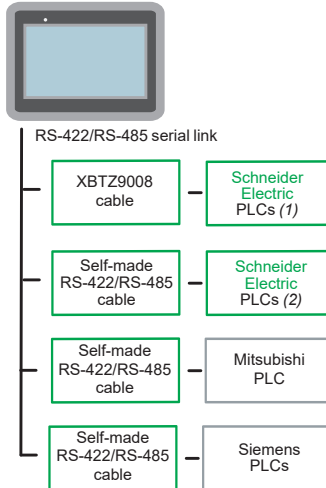




### Operating modes for Harmony FT6 touch screen panels (continued)

#### Communication with RS-422/RS-485 serial link mode

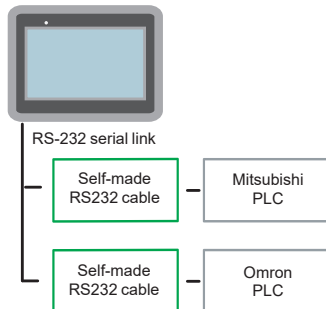
Harmony FT6 panels



Examples of connection to RS-422/RS-485 serial port (3)

#### Communication with RS-232C serial link mode

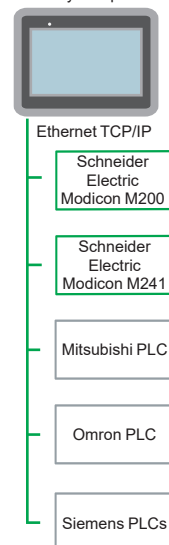
Harmony FT6 panels



Examples of connection to RS-232C (3)

#### Communication with Ethernet mode

Harmony FT6 panels



(1) M218/M221/M241/M251/M258/M262 logic controllers.

(2) M100/M200 logic controllers. For all other products, contact our Customer Care Center.

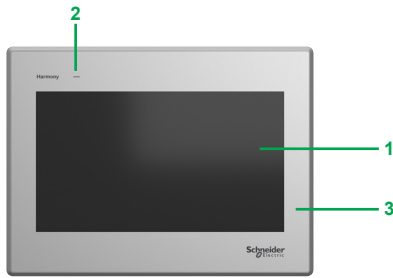
(3) Non-exhaustive examples; contact our Customer Care Center for more information.

# Human Machine Interfaces

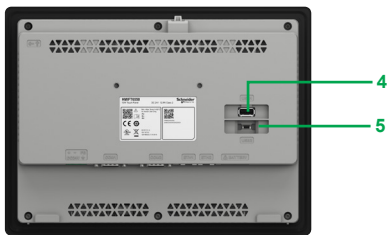
## Harmony FT6

Stainless-steel HMI for pharmaceuticals and food industries

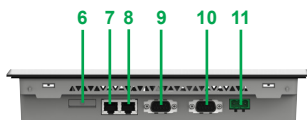
ETH touch screen panels



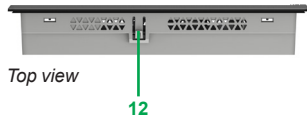
Front view



Rear view



Underside view



Top view

### Harmony FT6 ETH touch screen panels

#### Front view

- 1 Single-touch resistive screen for displaying synoptic views
- 2 Multi-color status indicator (green, orange, and red) showing the panel's operating mode
- 3 Stainless-steel front panel providing IP66K protection when mounted on panel or enclosure door

#### Rear view

- 4 A USB type A port for external storage with USB memory stick
- 5 A USB micro-B port for screen data downloading

#### Underside view

- 6 A sliding slot containing a replaceable battery to support embedded real-time clock (the location of the battery is different for each screen size)
- 7 An Ethernet port (ETH2), 10/100Base-Tx type
- 8 An Ethernet port (ETH1), 10/100Base-Tx type
- 9 A 9-way male SUB-D connector for RS-422/RS-485 serial link (COM2 port)
- 10 A 9-way male SUB-D connector for RS-232C serial link (COM1 port)
- 11 A 24 V DC power supply connector supplied with the terminal

#### Top view

- 12 Hook to hold panel in position during installation

# Human Machine Interfaces

## Harmony FT6

Stainless-steel HMI for pharmaceuticals and food industries

ETH touch screen panels and Vijeo Designer software

HMI\_FT6\_HMIF6750\_Main



HMIFT6750

### Harmony FT6 ETH touch screen panels (1)(2)

Screen size and type	Number of ports	Memory capacity		Reference	Weight kg/lb
		For application	For backup		
7" wide, 800 x 480 pixels, color TFT screen	1x COM1 (RS-232C), 1x COM2 (RS-422/485)	1024 MB Flash	512 KB NVRAM, 16 GB second drive	HMIFT6450	0.61/1.34
10" wide, 1,024 x 600 pixels, color TFT screen	1x USB micro-B, 1x USB Type A, 2x 10/100 Base-Tx			HMIFT6550	0.99/2.18
12" wide, 1,280 x 800 pixels, color TFT screen				HMIFT6650	1.62/3.57
15.6" wide, 1,366 x 768 pixels, color TFT screen				HMIFT6750	2.52/5.56

### Configuration software

Description	Used for	Reference
Vijeo Designer Basic (4)	Harmony FT6 models	(3)

(1) Panels supplied with fixing screws, power supply connector, and QR code flyer. Setup documentation for Harmony FT6 panels is included in electronic format with the Vijeo Designer Basic configuration software.

(2) Comprehensive information relating to Harmony FT6 panels is available on our website [www.se.com/HarmonyFT6](http://www.se.com/HarmonyFT6).

(3) Click on this [link](#) to download Vijeo Designer Basic software.

(4) Requires software version 2.0 or later. The USB download cable for transferring application from PC to Harmony FT6 panels (standard USB micro-B cable), to be ordered separately from consumer market.



Vijeo Designer Basic

# Human Machine Interfaces

## Harmony FT6

Stainless-steel HMI for pharmaceuticals and food industries

Spare parts, connection accessories and cables

STG\_65770\_CPWF518011A



HMIEZHAF1

GTU\_61981\_CPST1702



HMIEZHWG6W1

ETD\_3084681\_CPSPH21002



HMIZSUSBB2

105872



XBTZGUSB

Cable\_RJ45\_SU809



XBTZ9008

109038\_SE



LU9GC3

DA473208



TWDXCAISO

### Spare parts

Description	Used for	Sold in lots of	Reference	Weight kg/lb
Installation fastener	Used to install all the models into a solid panel	2 pieces/set	HMIEZHAF1	–
Replacement battery	Primary battery for time data backup (RTC)	1 piece/set	HMIZSBA1	–
Installation gasket	Installation gasket for 7" wide screen	1 piece/set	HMIEZHWG4W1	–
	Installation gasket for 10" wide screen	1 piece/set	HMIEZHWG5W1	–
	Installation gasket for 12" wide screen	1 piece/set	HMIEZHWG6W1	–
	Installation gasket for 15.6" wide screen	1 piece/set	HMIEZHWG7W1	–

### Connection accessories

Designation	Description	Length m/ft	Reference	Weight kg/lb
USB (micro-B) front cable	Extension cable that attaches USB interface to HMI front panel	1.8/5.91	HMIZSUSBB2	0.230/0.507
USB (Type A) front cable	Extension cable that attaches USB interface to front panel	1/3.28	XBTZGUSB	0.507/1.118

### Cable for connecting Harmony FT6 panels to Schneider Electric PLCs

Type of automation product	Type of connector (automation product end)	Protocol	Type of Harmony FT6 panels	Physical link (panels port)	Length m/ft	Reference	Weight kg/lb
Modicon M580 Modicon M262 Modicon M340 Modicon M218 Modicon M258 Modicon M221 Modicon M241 Modicon M251	RJ45	Modbus	All models	RS-485	2.5/8.20	XBTZ9008	–

### Connecting Harmony FT6 panels via Modbus serial link

Type of bus/network Tap-off units	Connector (tap-off unit end)	Type of Harmony FT6 panels	Length m/ft	Reference	Weight kg/lb
Modbus serial link	8-port Modbus splitter box LU9GC3 2-port tap junction TWDXCAISO TWDXCAT3RJ	All models	2.5/8.20	XBTZ9008	–

H	
HMIZSBA1	10
HMIEZHAF1	10
HMIFT6450	9
HMIFT6550	9
HMIFT6650	9
HMIFT6750	9
HMIZSUSBB2	10
HMIEZHWG4W1	10
HMIEZHWG5W1	10
HMIEZHWG6W1	10
HMIEZHWG7W1	10
X	
XBTZ9008	10
XBZGUSB	10



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