

Human/Machine Interface

Magelis™ STO, STU Small panels

Catalog

July 2013

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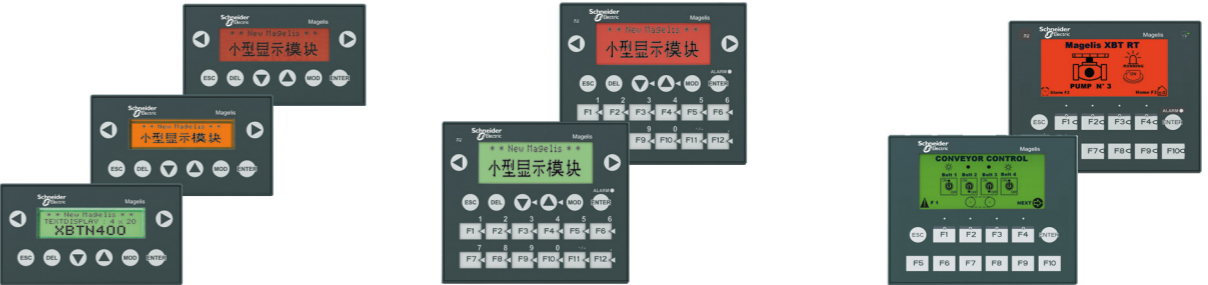


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Applications	Display of graphic pages		
Type of terminal	Small panels with touch screen		
Display			
Type	Monochrome STN LCD (200 x 80 pixels), backlit - Green, orange and red, or - White, pink and red	Color QVGA TFT LCD (320 x 240 pixels)	
Capacity	3.4" (monochrome)	3.5" (color)	5.7" (color)
Data entry	Via touch screen		
Memory capacity	Application Expansion	16 MB Flash -	32 MB Flash
Functions	Maximum number of pages	Limited by internal FLASH EPROM memory capacity	
	Variables per page	Unlimited	
	Representation of variables	Alphanumeric, bitmap, bargraph, gauge, curves, buttons, LEDs	
	Recipes	32 groups of 64 recipes	
	Curves	Yes, with log	
	Alarm logs	Yes	
	Real-time clock	Access to the PLC real-time clock	
	Alarm relay	-	
	Buzzer	Yes	
Communication	Asynchronous serial link	RS 232C/RS 485 (1) RS 232C using Zelio protocol (2)	RS 232C/RS 485
	Downloadable protocols	Uni-TE, Modbus and for PLC brands: Allen-Bradley, Omron, Mitsubishi, Siemens	
	Printer link	USB for serial or parallel printer	
	USB ports	1 host type A and 1 device type mini-B	
	Networks	1 Ethernet TCP/IP port (10BASE-T/100BASE-TX) (3)	1 Ethernet TCP/IP port (10BASE-T/100BASE-TX)
Development software	Vijeo Designer (on Windows XP Professional and Windows 7 Business 32-bit and 64-bit)		
Operating system	Magelis		
References	HMISTO5●●	HMISTU655 HMISTU655W	HMISTU855 HMISTU855W
Page	10 (1) Only HMISTO511/512. (2) Only HMISTO501. (3) Only HMISTO531/532.		

Display of text messages and/or semi-graphic pages	Display of text messages and/or semi-graphic pages Control and configuration of data		
Small panels with keypad	Small panels with keypad	Small panels with touch screen and keypad	
Display			
Type	Green backlit monochrome LCD, height 5.5 mm or Green, orange or red backlit monochrome LCD, height 4.34...17.36 mm	Green, orange or red backlit monochrome LCD, height 4.34...17.36 mm	
Capacity	2 lines of 20 characters or 1 to 4 lines of 5 to 20 characters (monochrome)	1 to 4 lines of 5 to 20 characters (monochrome)	Green, orange or red backlit monochrome matrix LCD (198 x 80 pixels), height 4...16 mm 2 to 10 lines of 5 to 33 characters (monochrome)
Data entry	Via keypad with 8 keys (4 customizable)	Via keypad with ■ 12 function keys or numeric entry (depending on context) ■ 8 service keys	Via keypad with ■ 4 function keys ■ 8 service keys Via touch screen and keypad with ■ 10 function keys ■ 2 service keys
Memory capacity	512 KB Flash -		512 KB Flash EPROM
Functions	128/200 application pages 256 alarm pages 40...50 Alphanumeric - Yes Yes (5) Access to the PLC real-time clock -	128/200 application pages 256 alarm pages 40...50, bargraph, buttons, LEDs Alphanumeric - Yes Access to the PLC real-time clock -	200 application pages 256 alarm pages 50 Alphanumeric, bargraph, buttons, LEDs - Yes (4)
Communication	RS 232C/RS 485	RS 232C/RS 485	RS 232C/RS 485
	Uni-TE, Modbus and for PLC brands: Allen-Bradley, Omron, Mitsubishi, Siemens	Uni-TE, Modbus and for PLC brands: Allen-Bradley, Omron, Mitsubishi, Siemens	Uni-TE, Modbus and for PLC brands: Allen-Bradley, Omron, Mitsubishi, Siemens
	RS 232C serial link (5)	RS 232C serial link (5)	RS 232C serial link (5)
	-	-	-
	-	-	-
Development software	Vijeo Designer Lite (on Windows 2000 Professional, Windows XP Professional and Windows Vista Business 32-bit)		
Operating system	Magelis		
References	XB TN●●●●	XB TR●●●	XB TR T●●●
Page	Please refer to our website www.schneider-electric.com. (4) Only XBTRT511. (5) Depending on model.		

Presentation

Magelis™ operator dialogue terminals communicate with automation system equipment:

- Via serial link
- By means of integration into an Ethernet TCP/IP architecture

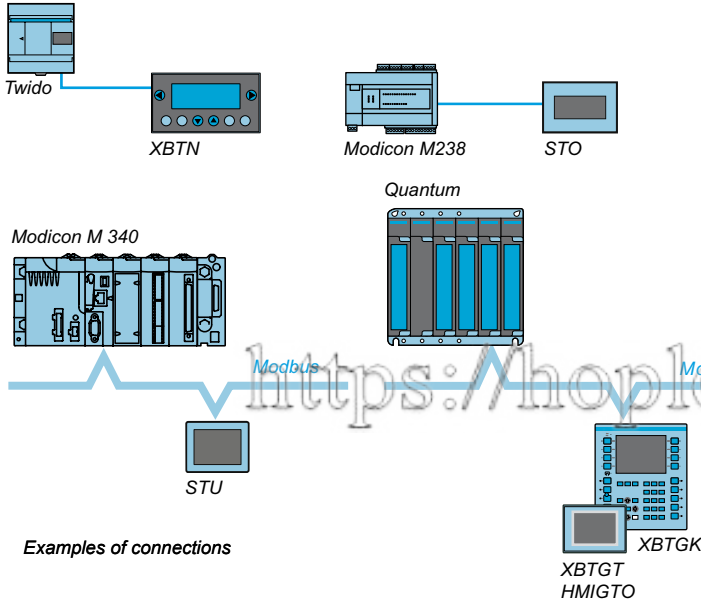
Communication via serial link

All Magelis terminals feature an integrated RS 232 C or RS 422/485 asynchronous serial link.

Use of the Uni-TE or Modbus protocol makes it easy to set up communication with Schneider Electric PLCs.

Third-party protocols enable connection to PLCs offered by major manufacturers on the market:

- DF1, DH485 for Allen-Bradley PLCs
- SysmacWay for Omron PLCs
- MPI/PPI for Siemens Simatic S7 PLCs
- Mitsubishi Melsec FX PLC



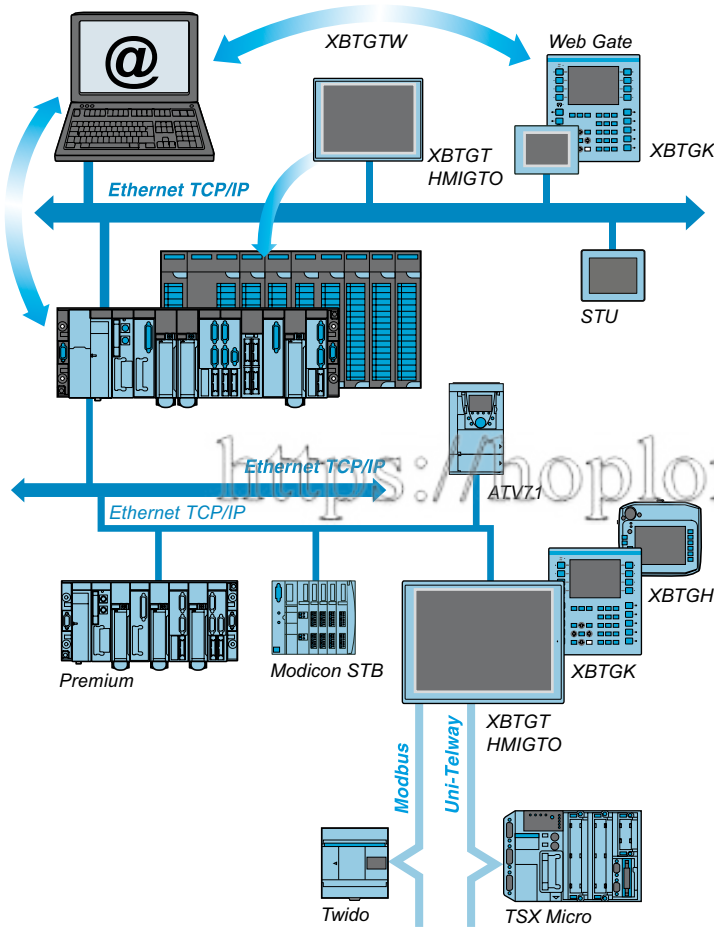
Examples of connections

Operator dialogue terminals

Architectures, connection to automation systems

Presentation (continued)

Integration into an architecture with Ethernet TCP/IP network



Automation platforms provide transparent routing of Uni-TE or Modbus messages from a TCP/IP network to a Uni-TE or Modbus network and vice versa.

The various services offered for the terminals are:

- **Modbus TCP/IP messaging** (for XBTGK, XBTGH, XBTGTW, XBTGT and HMIGTO, access with Ethernet TCP/IP Modbus protocol)
- **Browse function** with XBTGTW or standard PC
- **Web Gate function:** Diagnostics to remotely control the application
- **FTP server:** Transfer of data files with the terminal
- **Data Sharing function:** Data exchange on Ethernet between 8 terminals (maximum)
- **E-mail function**

Operator dialogue terminals

Small panels with touch screen

Magelis™ STO, STU



Magelis STO 3.4" Small Panel



Magelis STU 3.5" Small Panel



Magelis STU 5.7" Small Panel



Exploded view of Magelis STU Small Panel: Simple installation using 22 mm diameter hole

Presentation

The Magelis Small panels offer includes the following touch screen terminals:

- Magelis STO, with 3.4" monochrome screen, available with 2 different types of backlighting:
 - Green, orange, red
 - White, pink, red
- Magelis STU, with 3.5" and 5.7" TFT color screens.

Operation

The features of Magelis STO and STU terminals draw on key technological innovations:

- All Magelis STO and STU models are equipped with:
 - 2 USB V2.0 ports for data transfer
- Magelis STU and STO531/532 models feature:
 - 1 RJ45 port, enabling integration of an Ethernet TCP/IP network and the use of the services associated with this (in particular, the Web Gate function)
- The Magelis STO501 model features:
 - 1 RS 232C serial link port (9-way removable screw terminal block), enabling direct communication with the Zelio Logic SR2/SR3 range of controllers (see page 7)

No panel cut-out required to install Magelis STU models

No panel cut-out is required to install a Magelis STU Small Panel. All you need to do is drill a hole measuring 22 mm in diameter - just as if you were installing a pushbutton.

The front module (comprising the screen) is connected to the rear module (comprising the terminals and connectors). The two modules are fixed together via a hole measuring 22 mm in diameter.

Operator dialogue terminals

Small panels with touch screen

Magelis™ STO, STU



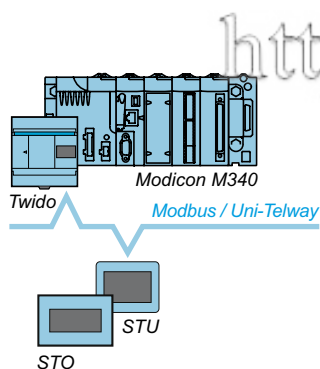
Display of a video sequence

Configuration

Magelis STO/STU terminals can be configured using Vijeo Designer software in a Windows XP Professional or Windows 7 Business (32-bit and 64-bit) environment.

Vijeo Designer software boasts an advanced user interface with many configurable windows, enabling operator dialogue projects to be developed quickly and easily.

See page 14.



Example of serial link architecture

Communication

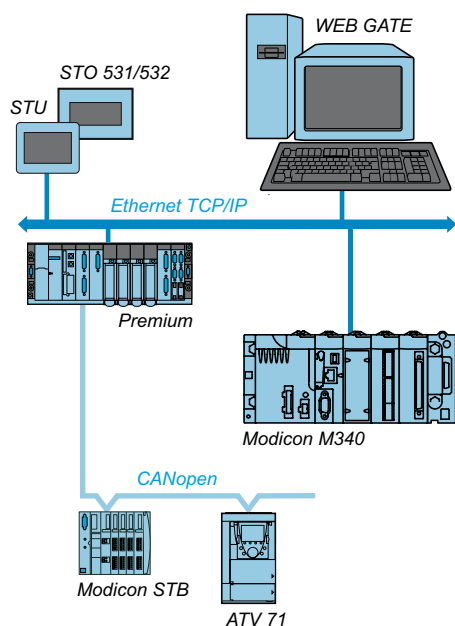
Magelis STO/STU terminals communicate with PLCs via an integrated serial link, using the following communication protocols:

- **Schneider Electric** (Uni-TE, Modbus)
- **Third-party**: Mitsubishi Electric, Omron, Allen-Bradley and Siemens

The Magelis STO501 terminal is dedicated exclusively to communication with Zelio Logic SR2/SR3 range controllers.

It communicates with these controllers via a direct connection cable SR2CBL09 (see page 13), using Zelio protocol, which is included in Vijeo Designer V6.1.

Magelis STU and STO531/532 terminals are connected on Ethernet TCP/IP networks via Modbus TCP or a third-party protocol.



Example of Ethernet TCP/IP network architecture

Operator dialogue terminals

Small panels with touch screen

Magelis™ STO 3.4"

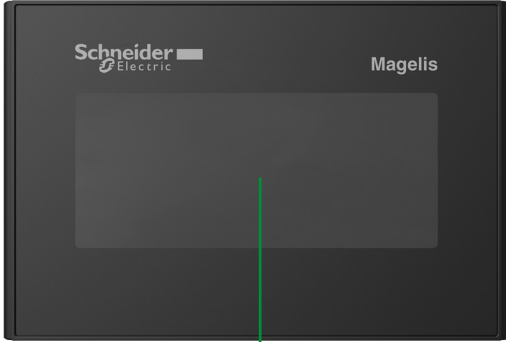
Description

Magelis STO 3.4" Small panels

Front panel

The front panels of Magelis STO Small panels comprise:

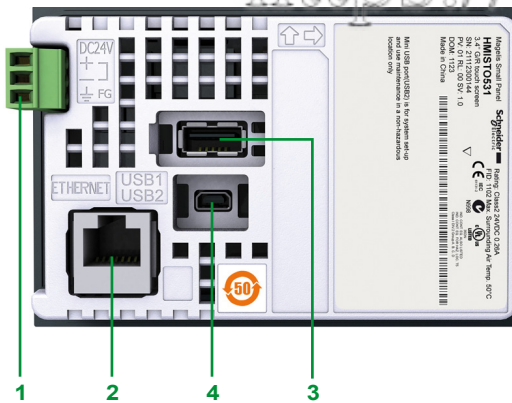
- 1 A touch screen for displaying synoptic views (3.4" backlit monochrome) with:
 - Green, orange or red backlighting for STO511, STO531 and STO501 terminals
 - White orange or red backlighting for STO512 and STO532 terminals



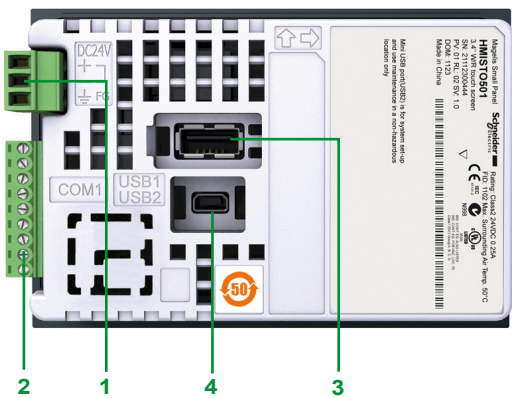
Rear panel

Magelis-STO Small panels have the following on the rear panel:

- 1 A removable screw terminal block for 24 V $\bar{\text{---}}$ power supply
- 2 A connector for connecting to PLCs or controllers, depending on the terminal model:
 - Magelis STO511/512: An RJ45 (COM1) connector for RS 232C or RS 485 serial link
 - Magelis STO531/532: An RJ45 (ETHERNET) connector for Ethernet 10BASE-T/100BASE-TX link
 - Magelis STO501: A 9-way removable screw terminal block (COM1) for RS 232C serial link using Zelio protocol
- 3 A USB type A host connector for:
 - Connection of a peripheral device
 - Connection of a USB memory stick
 - Application transfer
- 4 A USB mini-B device connector for application transfer



Magelis STO511/512/531/532 Small panels



Magelis STO501 Small Panel

Description

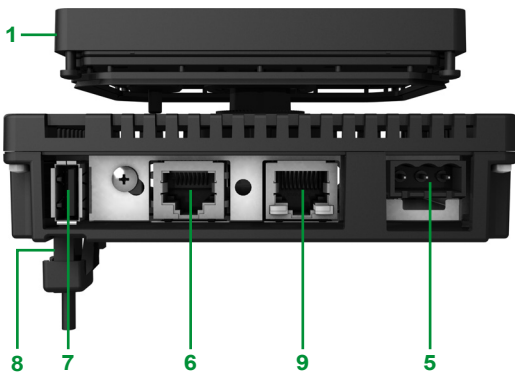
Magelis STU 3.5" and STU 5.7" Small panels



Front module

The front panels of Magelis STU Small panels comprise, depending on the model:

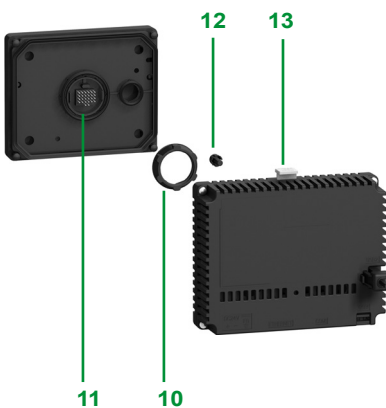
- 1 Magelis STU655: A touch screen for displaying synoptic views (3.5" color TFT)
- 2 Magelis STU855: A touch screen for displaying synoptic views (5.7" color TFT)
- 3 Magelis STU655W: STU655 touch screen without Schneider logo on front face
- 4 Magelis STU855W: STU855 touch screen without Schneider logo on front face



Rear of product

Magelis STU655/655W and Magelis STU 855/855W Small panels have the following on the rear:

- 5 A removable screw terminal block for 24 V \square power supply
- 6 An RJ45 connector for RS 232C or RS 485 serial link connection to PLCs (COM1)
- 7 A USB type A host connector for:
 - Connection of a peripheral device
 - Connection of a USB memory stick
 - Application transfer
- 8 A USB mini-B device connector for application transfer (on the left-hand side)
- 9 An RJ45 connector for the Ethernet TCP/IP 10BASE-T/100BASE-TX link



Fixing system

A Magelis STU Small panel is made up of a front module (comprising the screen) and a rear module (comprising the CPU plus terminals and connectors). The two modules are fixed together via a hole measuring 22 mm in diameter. The fixing system contains the following elements:

- 10 A fixing nut
- 11 A seal
- 12 An anti-rotation tee (can be used as an option)
- 13 A release mechanism: simply press to separate the two modules once they have been fixed together

Operator dialogue terminals

Small panels with touch screen

Magelis™ STO, STU



HMISTO511

Magelis STO monochrome touch screen terminals

3.4" screen						
Type of screen	Number of ports	Application memory capacity	Compact Flash memory	Embedded Ethernet	Reference	Weight kg/lb
STN Green, orange, red	1 COM1 (1) 2 USB	16 MB	No	–	HMISTO511	1.000/ 2.205
	1 ETHERNET (2) 2 USB	16 MB	No	1	HMISTO531	1.000/ 2.205
STN White, pink, red	1 COM1 (1) 2 USB	16 MB	No	–	HMISTO512	1.000/ 2.205
	1 ETHERNET (2) 2 USB	16 MB	No	1	HMISTO532	1.000/ 2.205
STN Green, orange, red	1 COM1 (1) 2 USB	16 MB	No	–	HMISTO501	1.000/ 2.205



HMISTU655

Magelis STU color touch screen terminals

Type of screen	Number of ports	Application memory capacity	Compact Flash memory	Embedded Ethernet	Reference	Weight kg/lb
3.5" screen						
TFT	1 COM1 (1) 1 ETHERNET (2) 2 USB	32 MB	No	1	HMISTU655	1.000/ 2.205
Without logo on front face	1 COM1 (1) 1 ETHERNET (2) 2 USB	32 MB	No	1	HMISTU655W	1.000/ 2.205
5.7" screen						
TFT	1 COM1 (1) 1 ETHERNET (2) 2 USB	32 MB	No	1	HMISTU855	–
Without logo on front face	1 COM1 (1) 1 ETHERNET (2) 2 USB	32 MB	No	1	HMISTU855W	–



HMISTU855

Software

Configuration software			
Description	Operating system	Reference	Weight kg/lb
Vijeo Designer	Windows XP Professional Windows 7 Business (32-bit and 64-bit)	See page 14	–

(1) RS 232C or RS 485 serial link.
 (2) Ethernet 10BASE-T/100BASE-TX link.
 (3) RS 232C serial link using Zelio protocol, for direct connection to Zelio Logic SR2/SR3 controllers.

Operator dialogue terminals

Small panels with touch screen

Magelis™ STO, STU

Separate components ⁽¹⁾				
Description	Description/function	Compatible with	Reference	Weight kg/lb
Accessories kit	Contains: <ul style="list-style-type: none"> ■ An anti-rotation tee ■ A USB A type clip ■ A USB mini-B type clip ■ An adaptor panel for mounting on an enclosure of 1 mm in thickness 	HMISTU655 HMISTU655W HMISTU855 HMISTU855W	HMIZSUKIT	–
Protective sheets	5 peel-off sheets for protecting the screen	HMISTO5●●	HMIZS60	–
		HMISTU655 HMISTU655W	HMIZS61	–
		HMISTU855 HMISTU855W	HMIZS62	–
USB clip	Holds the USB A type connection in place	HMISTO5●●	HMIZSCLP1	–
	Holds the USB mini-B type connection in place	HMISTO5●●	HMIZSCLP3	–
Replacement parts ⁽¹⁾				
Description	Description/function	Compatible with	Reference	Weight kg/lb
Nuts	Set of 10 nuts, 22 mm (front module of the HMI STU is fixed to the enclosure using a 22 mm nut (see page 6))	HMISTU655 HMISTU655W HMISTU855 HMISTU855W	ZB5AZ901	–
Bezel key	Enables the fixing nut to be tightened	HMISTU655 HMISTU655W HMISTU855 HMISTU855W	ZB5AZ905	–
Seal	Dust and damp proofs the connection between the front and rear modules of the HMISTO5●●	HMISTO5●●	HMIZS50	–
Front display	Front display for 3.5" screen	HMISTU655	HMIS65	–
	Front display for 3.5" screen without Schneider logo	HMISTU655W	HMIS65W	–
	Front display for 5.7" screen	HMISTU855	HMIS85	–
	Front display for 5.7" screen without Schneider logo	HMISTU855W	HMIS85W	–
Rear module	Rear module for STU product	HMISTU655 HMISTU655W HMISTU855 HMISTU855W	HMIS5T	–

(1) Non-exhaustive list: other separate components and replacement parts are listed on pages 12 onwards.

Operator dialogue terminals

Small panels

Separate components for Magelis™ STO, STU

Accessories				
Type	Compatibility	Sold in lots of	Unit reference	Weight kg/lb
Spring clips (replacement parts)	HMISTO	12	XBTZ3002	0.200/ 0.441
Power supply connector (replacement parts)	HMISTO	5	HMIZSPWO	–
	HMISTU	5	XBTZGPWS1	–

Connection to PCs and printers					
Used	Compatibility	Length m/ft	Peripheral side connector	Reference	Weight kg/lb
USB cable for PC connection (1)	HMISTO/STU	2.5/ 8.20	USB type A male	XBTZG935	–
	HMISTO/STU	1.8/ 5.91	USB type mini-B male	BMXXCAUSBH018	0.230/ 0.507
Serial printer cables	HMISTO/STU	1.8/ 5.91	9-way male SUB-D	HMIZURS	–
USB host extension cable	HMISTO/STU	2/ 6.56	USB type A male, dust and damp proof	XBTZGUSB	0.220/ 0.485
USB device extension cable	HMISTO/STU	2/ 6.56	USB type mini-B male, dust and damp proof	HMIZSUSBB	–

(1) Adaptor to be used with XBTZ925 cable.

Cables for connecting Magelis terminals

Type of PLC to be connected	Type of connector	Physical link	Protocol	Length m/ft	Reference	Weight kg/lb
Direct connection of HMI STO/STU terminals to Schneider Electric PLCs						
Twido, Modicon Nano, Modicon TSX Micro, Modicon Premium	Mini-DIN	RS 485	Modbus/Uni-TE	2.5/8.20	XBTZ9780	–
				10/32.81	XBTZ9782 (1)	–
Modicon M340	RJ45	RS485	Modbus	2.5/8.20	XBTZ9980	–
				10/32.81	XBTZ9982 (1)	–

Direct connection of the HMISTO501 terminal to Zelio Logic SR2/SR3 controllers

Zelio Logic SR2/SR3 (2)	Programming port (specifically for Zelio Logic)	RS 232C	Zelio	2.5/8.20	SR2CBL09	–
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Direct connection of Magelis STO/STU terminals to Modicon STB I/O (3)

Modicon STB	HE13 (NIM)	RS 232	Modbus	2.5/8.20	XBTZ9715	–
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Direct connection of Magelis STO/STU terminals to Schneider Electric motor starters and drives (1)

TeSys U, T ATV 312/32/61/71 variable speed drives ATS 48 starter Lexium 32, Preventa XPSMC	RJ45	RS 485	Modbus	2.5/8.20	XBTZ9980	–
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Direct connection of Magelis STO/STU terminal to third-party PLCs (3)

Allen-Bradley	SLC5	9-way male SUB-D	RS 232	DF1	2.5/8.20	XBTZ9734	–
	Micro-logix	Micro-logix 1000	RS 232	DF1	2.5/8.20	XBTZ9733	–
Mitsubishi	FX	8-way female mini-DIN	RS 232/ RS 422 converter	Melsec FX	2.5/8.20	XBTZ980 + (4)	–
Omron	CPM1, CPM2, CJ1, CS1	9-way male SUB-D	RS 232	Sysmacway	2.5/8.20	XBTZ9743	–
Siemens	S7 (PG)	9-way male SUB-D	RS 485	PPI	2.5/8.20	XBTZG9721	0.210/ 0.463

Bus and network connections for Magelis STO/STU terminals

Type of bus/network	Tap-off units	Type of connector	Length	Reference	Weight kg/lb
Uni-Telway serial link	Connection box TSXPACC01	8-way female mini-DIN	2.5/8.20	XBTZ9780	0.180/ 0.397
Modbus serial link	8-port Modbus splitter box LU9GC3, Modbus tap-off, TWDXCAISO, TWDXCAT3RJ	RJ45	2.5/8.20	XBTZ9980	–

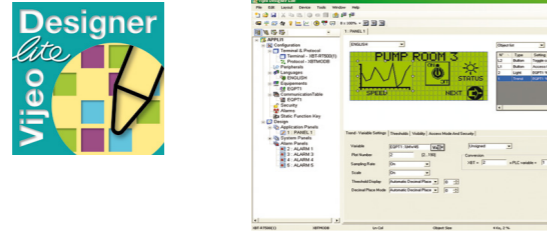
(1) For Magelis XBTN200/N400/R400/RT500, use a cable with adaptor **XBTZRTPW** and a 5 V \pm power supply.

(2) Cable included with 9-way removable screw terminal block.

(3) For **XBTRT500**, use a cable with adaptor **XBTZRTPW** and a 5 V \pm power supply.

(4) Adaptor **XBTZG939** to be used with cables with " + (4) " after the reference.

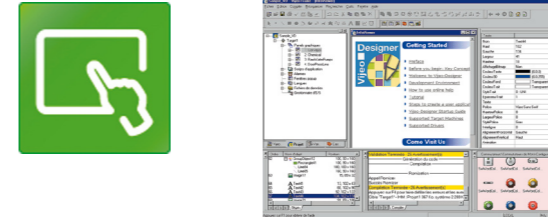
Applications Traditional architecture, HMI executed on PC platform or dedicated terminal
Configuration software for operator dialogue applications



Compatible products	Type	Magelis™ XBTN/R/RT Small panels (1)
	Maximum number of targets	1
	Operating system on terminals	Proprietary Magelis
Functions	Reading/writing of PLC variables	Yes
	Display of variables	Yes
	Data processing	-
	Sharing of variables between HMI applications	-
	Saving of variables to external database	-
Internationalization		-
Development of graphic applications	Native library of graphic objects	Yes
	Curves and alarms	Yes (2)
	Scripts	-
Communication between HMI application and PLCs		Via I/O drivers: Schneider Electric or third party protocols (Mitsubishi, Omron, Rockwell Automation, Siemens) (3)
Uploading of applications		Yes
Simulation of HMI applications		Yes
Recipe management		-
Report and barcode printing		-
Screen capture		-
Access security		Linked to user profiles
Interface languages		Screens, online help and documentation in electronic format available in 6 languages: English, French, German, Italian, Simplified Chinese and Spanish
OS compatibility		Windows XP Professional, Windows Vista Business (32-bit), Windows 2000 Professional
Software type		Vijeo Designer™ Lite
Page		Please refer to our website www.schneider-electric.com .

(1) All Magelis XBT and Magelis GTO terminals behave transparently on restoration of power.
(2) Depending on compatible product.
(3) For protocols supported, please refer to our website www.schneider-electric.com.

Applications Traditional architecture, HMI executed on PC platform or dedicated terminal
Configuration software for operator dialogue applications



Compatible products	Type	Magelis™ STO/STU Small panels Magelis™ XBTGT/GK/GH/GTW and Magelis™ GTO Advanced panels (1) Magelis™ industrial PCs
	Maximum number of targets	32
	Operating system on terminals	Proprietary for Magelis STO/STU, Magelis XBTGT/GK/GH and Magelis GTO Windows XP embedded for Magelis GTW
Functions	Reading/writing of PLC variables	Yes, up to 8000 internal and external variables
	Display of variables	Yes
	Data processing	Yes, using expression editor or Java programming
	Sharing of variables between HMI applications	Up to 300 variables between 8 terminals, without router PLC Proprietary protocol above TCP/IP
	Saving of variables to external database	Yes, with the Intelligent Data Service extension
Internationalization		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
	Curves and alarms	Yes, with log
	Scripts	Java
Communication between HMI application and PLCs		Via I/O drivers: Schneider Electric or third party protocols (Mitsubishi, Omron, Rockwell Automation, Siemens) (3)
Uploading of applications		Yes
Simulation of HMI applications		Yes
Recipe management		Yes, up to 32 groups, 1024 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 9999 active alarms, record or logs Main barcode types supported: UPC-A, UPC-E, JAN/EAN8, JAN/EAN13, ITF, CODE39, CODE93, CODE128, CODABAR (NW-7)
Screen capture		Yes, for Magelis XBTGT (XBTGT1105 and higher), Magelis GTO and Magelis industrial PCs. JPEG format
Access security		Linked to user profiles
Interface languages		Screens, online help and documentation in electronic format available in 7 languages: English, French, German, Italian, Brazilian Portuguese, Simplified Chinese and Spanish
OS compatibility		Windows XP Professional, Windows 7 Business (32-bit and 64-bit)
Software type		Vijeo Designer™
Page		Please refer to our website www.schneider-electric.com .

(1) All Magelis XBT and Magelis GTO terminals behave transparently on restoration of power.
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