Human/Machine Interfaces

Magelis GTU Universal panels

Catalog

August **2015**

Schneider Electric

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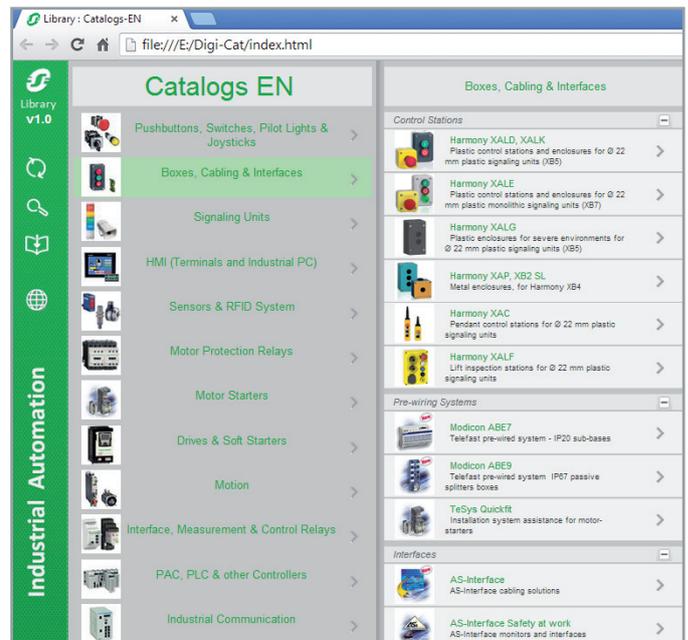
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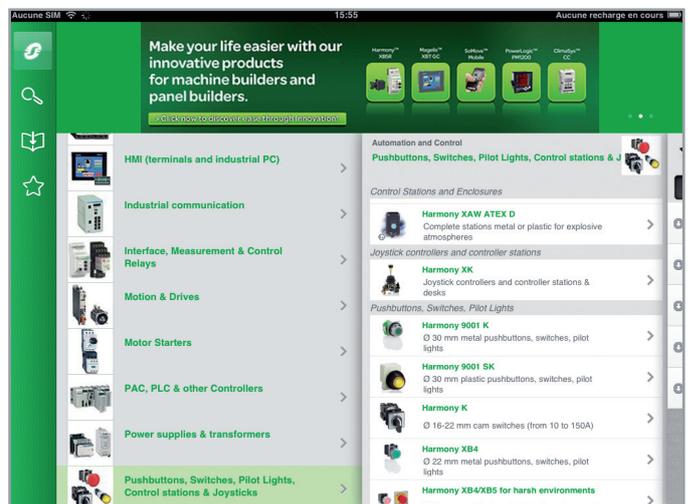
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General contents

Magelis™ GTU Universal panels

Operator dialogue terminals
Magelis™ GTU Universal panels
Unique HMI flexibility

Magelis GTU Universal panels

Magelis GTU is a high-end HMI range designed with the uniqueness of modularity that allows you to select and assemble the best combination of display unit and processing box as per application requirements.

Magelis Universal panels feature operator efficiency, simplified installation, and flexibility that fit all industry architecture. This range comprises display modules (Advanced and Smart) and box modules (Premium and Open).

Advanced display + Premium box   *Smart display + Open box*

Unique HMI flexibility

Certified for use in the most demanding automation systems, including industrial control equipments, hazardous locations, and marine applications.

Modular and scalable

> Choice of screen size, format, image quality, and processing levels enable Magelis GTU to be used in wide range of applications.

> Universal panels are available in various combinations by simple assembly of display and box modules.
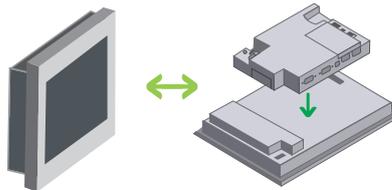
Magelis GTU panel = Display module + Box module

Wide power supply range

Magelis GTU is the first Schneider HMI with 12...24 V ⎓ power supply range. This enables them to be installed in standard cabinet plants and also low-power remote station cabinet plants that are powered by battery.

Simplified installation and maintenance

> Easy mounting with embedded and retractable fasteners and no accessories

Push the box LOCK backward   *Insert protruding points of box into the holes of display*   *Pull the box LOCK forward*

> Robust panel housed in an aluminum material of high temperature resistance (up to 60 ºC)

> Dual removable storage units in Magelis GTU boxes saves time during maintenance of broken terminals

> Easy migration of Magelis GTU panels with Smart display as they have cut-outs similar to XBTGT and Magelis GTW

> Innovative access point embedded in 12" Smart display for wireless debugging and maintenance of industrial architecture

Wireless Magelis 12" Smart display

Magelis GTU ➜ Multiple combinations with easy assembly

Operator dialogue terminals
Magelis GTU Universal panels
High-level performance, Smartphone-like interface

> **Isolation on RJ45 and RS-485 port for reliable communication in complex grounding applications.**

## High-level performance

Monitoring and communication capability
> Dual LAN (Local Area Network) separates IT and PLC communication for better performance and data security.

> Scaler function with automatic adjustment enables Smart display units to manage application files of any display size and resolution.

> Easy integration into industrial architecture via embedded dual interfaces (2 serial ports with different signal types, 2 Gigabit Ethernet ports, 2/4 USB host ports) and an optional interface for fieldbus.

Wireless connectivity with Smart WLAN display [1]
> 12" Smart WLAN display offers transparent communication to all devices connected to the other two Ethernet ports of Open box, irrespective of the type of communication protocol or software used.

> For flexibility, WLAN display supports two operation modes:
- Access point mode: suitable for creating a wireless Ethernet infrastructure to allow connection of wireless Ethernet devices, no secondary router is required
- Station mode: supports the integration into existing wireless LAN infrastructure with WLAN display being the client of an access point

Operator efficiency with good visualization
> Maximum screen comfort with LED backlight for excellent brightness, complete dimming (100 levels), and auto adjustment to environment

> 16/9 wide Advanced display unit for easy sharing of pictures with external multimedia devices

> Multi-screen option available on Open box unit where a second Magelis *i*Display or Monitor display can be connected via a DVI link

> **Box units of Magelis GTU panels have SD or CFast card slots for huge external data storage.**
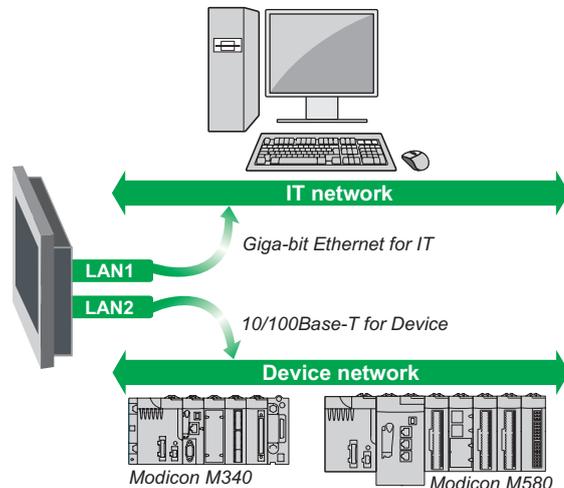
Smartphone-like interface

Optimized design
> Optimized for the latest Schneider Electric HMI configuration software, Vijeo XD

> Easy and comfortable handling with intuitive navigation and multi-connectivity options (including remote access) such as smartphones/tablets

Vijeo XD software

High-resolution multi-touch screen
> Multi-touch screen supports zoom in/out, swipe, and scroll through menus even with protective gloves or protective display screen cover.

> High-resolution screen with 16 M colors gives a crystal-clear view of the key functions and tools (Office Viewer, Adobe Reader, Internet Explorer, Multimedia player, etc.) as in a PC.

> **Open box Magelis GTU panels enable direct use of IDS (Vijeo Designer add-on) for database link and traceability.**

Intelligent Data Service

(1) Depending on the environment, location of the communication device to the GTU screen (distance and angle), and the used application.

+ Magelis GTU → An HMI adapted for Plant Struxure

Operator dialogue terminals
Magelis™ GTU Universal panels

Applications	Display of text messages, graphic objects, and synoptic views Control and configuration of data		
Type of display module	Advanced display		

Screen	Definition	800 x 480 pixels, 262 K colors	1,280 x 800 pixels, 262 K colors	1,280 x 800 pixels, 262 K colors
	Type	7" color TFT	10" color TFT	12" color TFT
Data entry	Touch pad	Single-touch resistive	Single-touch resistive	Single-touch resistive
Functions	Brightness sensor	–	–	–
	Front USB ports	–	–	–
	Wireless Ethernet	–	–	–
Ambient temperature		0…60 °C		
Supply voltage		12…24 V ⎓		
Dimensions	External W×H×D mm/*in.*	204 × 149 × 67/ *8.03 × 5.86 × 2.64*	269 × 199 × 67/ *10.59 × 7.83 × 2.64*	309 × 231 × 67/ *12.17 × 9.09 × 2.64*
	Cut-out W×H mm/*in.*	190 × 135/*7.48 × 5.31*	255 × 185/*10.03 × 7.28*	295 × 217/*11.61 × 8.54*
Conformity to standards		EN61131-2, UL 508, ANSI/ISA12.12.01, CSA C22.2 No. 142 & No. 213, ATEX Zone 2/22		
Compatible box models		Premium and Open box models		
Display module reference		**HMIDT351**	**HMIDT551**	**HMIDT651**
Pages		13		

Type of box module	Premium box

CPU		RISC, 600 MHz
Operating system		Real Time Magelis on 1 GB SD storage
Pre-installed software		Vijeo Designer RT
Memory	RAM/SRAM (backup)	256 MB/512 KB
	Storage units	x2 SD card
Functions	Real-time clock	Yes, built-in
	Graphic	Alphanumeric, bitmap, bargraph, gauge, tank, indicator, curve, polygon, button, lamp
	Data	Alarm with log, trend with log, recipe, script
	Variables max.	8,000
Protocols		Uni-TE, Modbus, Modbus TCP/IP, and PLC brands Siemens, Omron, Mitsubishi, Allen-Bradley (Rockwell Automation), ABB
Communication	Ethernet port	x2 RJ45 10BASE-T/100BASE-TX/1000BASE-T
	Serial line	RJ45 RS-485 (COM1) + SubD9 RS-232/RS-485/RS-422 (COM2)
	Fieldbus	Fipio/Fipway and Modbus Plus via USB Gateway
	USB	2 USB Type-A (2.0) + 1 USB Type-mini B (2.0)
Discrete I/O		Terminal block with 1 speaker + 1 alarm + 1 buzzer output
Multimedia I/O		–
Display units supported		HMIDT351, HMIDT551, HMIDT651, HMIDT542, HMIDT642, HMIDT732
Compatible display models		Advanced and Smart display models
Box module reference		**HMIG3U**
Pages		13

(1) Intelligent Data Service (IDS) of Vijeo Designer is an add-on option.
Note: *Magelis HMIGTU = All combinations of display and box modules are possible except for HMIDT643.*

Applications	Display of text messages, graphic objects, and synoptic views Control and configuration of data		
Type of display module	Smart display		

Screen	Definition	800 x 600 pixels,16 M colors	1,024 x 768 pixels, 16 M colors		1,024 x 768 pixels, 16 M colors
	Type	10.4" color TFT	12.1" color TFT		15" color TFT
Data entry	Touch pad	Multi-touch resistive	Multi-touch resistive		Multi-touch resistive
Functions	Brightness sensor	Yes	Yes		Yes
	Front USB ports	1 host + 1 device	1 host + 1 device		1 host + 1 device
	Wireless Ethernet	–	–	Yes (up to 30 m/*98 ft*)	–
Ambient temperature		0…60 °C			
Supply voltage		12…24 V ⎓			
Dimensions	External W×H×D mm/*in.*	273 × 215 × 67/ *10.74 × 8.46 × 2.64*	315 × 241 × 67/ *12.40 × 9.50 × 2.64*		397 × 296 × 67/ *15.63 × 11.65 × 2.64*
	Cut-out W×H mm/*in.*	259 × 201/*10.20 × 7.91*	302 × 228/*11.90 × 8.98*		384 × 283/*15.11 × 11.14*
Conformity to standards		EN61131-2, UL 508, ISA12.12 ,CSA C22.2 No. 142 & No. 213 , ATEX Zone 2/22			
Compatible box models		Premium and Open box models		Open box model	Premium and Open box models
Display module reference		**HMIDT542**	**HMIDT642**	**HMIDT643** *(2)*	**HMIDT732**
Pages		13			

Type of box module	Open box

CPU		x86, 1.3 GHz
Operating system		Windows 7 Embedded on 16 GB CFast storage
Pre-installed software		Vijeo Designer RT, Office & PDF Readers, CAD Viewer, Internet browser, .Net 4.0, VNC Client/Server, Vijeo Citect web client *(1)*
Memory	RAM/SRAM (backup)	2 GB/512 KB
	Storage units	SD card and x2 CFast
Functions	Real-time clock	Yes, built-in
	Graphic	Alphanumeric, bitmap, bargraph, gauge, tank, indicator, curve, polygon, button, lamp
	Data	Alarm with log, trend with log, recipe, script
	Variables max.	12,000
Protocols		Uni-TE, Modbus, Modbus TCP/IP and PLC brands Siemens, Omron, Mitsubishi, Allen-Bradley (Rockwell Automation), ABB
Communication	Ethernet port	x2 RJ45 10BASE-T/100BASE-TX/1000BASE-T
	Serial line	RJ45 RS-485 (COM1) + SubD9 RS-232/RS-485/RS-422 (COM2)
	Fieldbus	Modbus Plus via USB Gateway
	USB	3 USB Type-A (2.0) + 1 USB Type-mini B (2.0)
Discrete I/O		Terminal block with 1 speaker + 1 alarm + 1 buzzer output
Multimedia I/O		1 Microphone input + 1 DVI output
Display units supported		HMIDT351, HMIDT551, HMIDT651, HMIDT542, HMIDT642, HMIDT643, HMIDT732
Compatible display models		Advanced and Smart display models
Box module reference		**HMIG5U**
Pages		13

(2) HMIDT643 is compatible with only box HMIG5U and requires Vijeo Designer version V6.2 SP3 or later.

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Operator dialogue terminals
Magelis™ GTU Universal panels

Magelis HMIGTU color display modules

+

Magelis HMIGTU box modules

Vijeo XD software

Vijeo Designer configuration software

Presentation

The Magelis GTU series are high-end HMIs built on an innovative concept of modularity. This offers you a choice of options to find the most suitable Universal panels for your application. GTU panels comprise a front panel display and a processing box module.

The display modules are available in two versions:
■ Advanced display: compact wide screens in 3 sizes
□ 7"
□ 10"
□ 12"
■ Smart display: large multi-touch screens in 3 sizes
□ 10.4"
□ 12.2" (with or without wireless Ethernet)
□ 15"

The box modules are available in two versions:
■ Premium box: with Real Time operating system
■ Open box: with Windows 7 Embedded operating system and large storage

Operation

Magelis GTU Universal panels feature powerful information and communication technologies with maximum operator efficiency in visualization, which, depending on the model, include:
■ Clear display with wide-format or multi-touch technology
■ High level of communication with all embedded dual interfaces: 2 serial ports, up to 4 USB host ports, and 2 Ethernet Gigabit ports (Multi-link, Webserver and FTP, E-mail, Remote services)
■ Embedded wireless Ethernet function with Access point or Station mode functionality (HMIDT643)
■ Removable storage units for easy save/restore of operating system, HMI application, and user data (SD memory cards, CFast cards, and USB memory stick management)
■ Management of many peripherals: printers, bar code readers, external monitor display, external keyboard/mouse, and Schneider Electric smart USB accessories (tower light, illuminated switch, keyboard, biometric switch, USB keyboard)

Environment

The Magelis GTU Universal range of high-end panels has been designed in accordance with numerous standards, certifications, and requirements:
■ Standards: IEC/EN 61131-2, IEC 61000-6-2, and IEC 61000-6-4
■ Certifications:
□ RCM (Australia), EAC (Eurasia), KC (Korea)
□ cULus Industrial Control Equipment (UL508 and CSA 22.2 No.142)
□ cULus Hazardous Locations (ANSI/ISA 12.12.01 and CSA 22.2 No. 213)
□ Atex zone 2/22
□ Marine certifications *(1)*
■ Operating temperature: up to 60 °C
■ Degree of protection front face IP 66/67 (according to IEC 60529)
■ Extended power supply voltage 12…24 V ⎓
■ Easy installation with anti-drop and retractable embedded fasteners

Configuration

Like all other Magelis panels, Magelis GTU Universal panels can be configured using Vijeo Designer software in a Windows environment *(2)*. Vijeo Designer software has an advanced user interface with many configurable windows enabling projects to be developed quickly and easily.

Magelis GTU is also configurable with the HMI configuration software Vijeo XD. This software with a new user interface brings greater ease to project development and online updates. Vijeo XD allows you to create an innovative HMI project that can be operated on Magelis GTU like a smartphone *(3)*.

For more information on Vijeo Designer and Vijeo XD, please refer to our website www.schneider-electric.com/HMI Configuration Software.

(1) Marine certifications by 4th quarter, 2015.
(2) Magelis GTU is compatible with Vijeo Designer version V6.2 SP1 or later.
(3) Magelis GTU is compatible with Vijeo XD version 1.0 or later.

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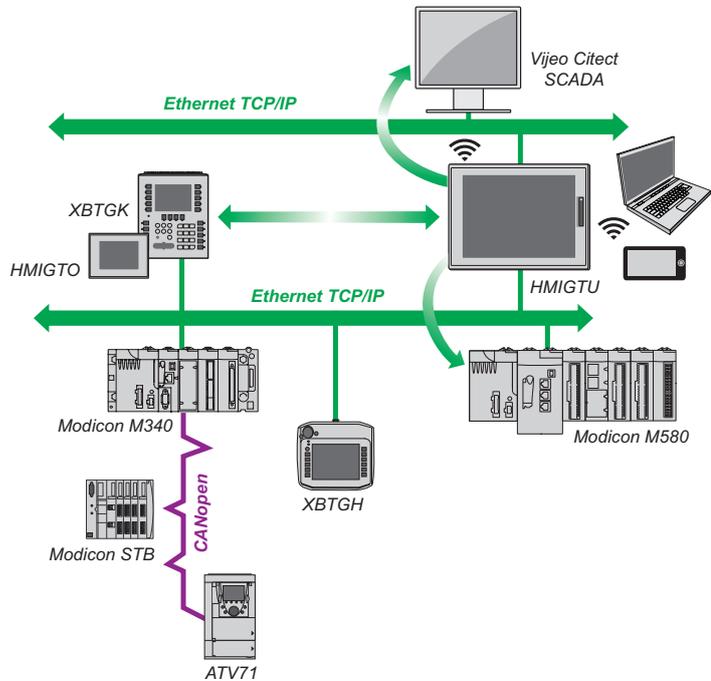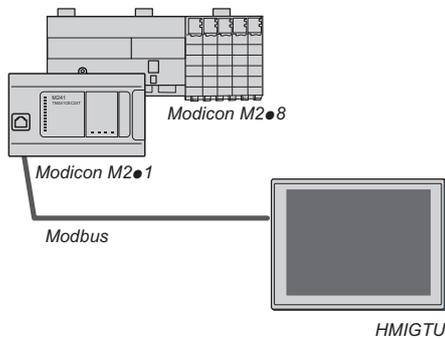
Communication

The following illustrations show the equipment that Universal panels can communicate via Ethernet and Modbus protocols.

Via Ethernet protocol

Vijeo Citect SCADA

Ethernet TCP/IP

XBTGK

HMIGTO

HMIGTU

Ethernet TCP/IP

Modicon M340

Modicon M580

XBTGH

CANopen

Modicon STB

ATV71

Via Modbus protocol

Modicon M2•8

Modicon M2•1

Modbus

HMIGTU

Magelis GTU communicates with PLCs via one or two integrated serial links, using the following communication protocols:
■ Schneider Electric (Uni-TE, Modbus)
■ Third-party: Mitsubishi Electric, Omron, Allen-Bradley, and Siemens

Magelis GTU with two Ethernet ports can share data with other Magelis HMI, browse the PLC's Webserver and SCADA server, and also communicate with PLCs using:
■ Modbus TCP protocol
■ Third-party Ethernet protocol

USB accessories for HMI terminals

The Magelis USB accessories are designed to expand the selection range of user applications by offering value-added/differentiated HMI solutions. These innovative USB accessories can be easily installed and operated with HMI terminals.

The Magelis USB accessories supported by Magelis GTU include:
■ Harmony XVGU USB tower light (only on Premium box)
■ Harmony XB5S biometric USB switch
■ Magelis HMIZ illuminated USB switch
■ Magelis HMIZ USB keyboard (only on Premium box)

For more information on HMI USB accessories, please refer to our website www.schneider-electric.com/USB accessories for Magelis terminals.

Vijeo XD software

SoMachine software platform

Vijeo Designer configuration software

Machine **Struxure**™

Plant **Struxure**™

Functions

Magelis GTU panels offer the following functions:
■ Display of animated synoptic views 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 current date and time
■ Real-time and trending curves with log
■ Alarm display, alarm log, and management of alarm groups
■ Multi-window and recipe management
■ Operator-initiated page calls
■ Multilingual application management (10 languages at the same time)
■ Data processing via Java script
■ Storage of the application and logs on external application memory card in SD format, USB stick, or CFast card
■ Management of serial printers and barcode readers
■ Sound Message management
■ Multi-screen support and cloning function on external monitor with DVI port connected to Open box
■ Web video support with view and record functions on Open box

In addition, the Magelis GTU display units offer multi-touch screen feature with Vijeo XD software. These features, like drag, click, and dual press gestures are similar to those of smartphones.

Architecture and communication

The Magelis GTU integrated *(1)* in MachineStruxure™ *(2)* automation solutions offer will help machine manufacturers (OEMs) to quickly design optimized machines (in terms of cost and energy efficiency).

MachineStruxure™ solutions are based on high-performance control platforms and the single software package SoMachine. SoMachine allows the development, commissioning, and programming of machines. With Vijeo Designer software, SoMachine allows programming of terminals in the Magelis range.

Magelis GTUs have been designed for PlantStruxure™ *(3)* architecture, MachineStruxure™ *(2)* architecture, and for Transparent Ready equipment (combination of Web and Ethernet TCP/IP technologies). Therefore, all panels with an Ethernet port have a built-in FTP server for data file transfer and a Web Gate function for remote access to the application of the panel from a PC with an Internet browser.

Vijeo Designer also allows you to navigate HTML pages and send e-mails on Magelis Universal panels.
The flexibility of Windows 7 Embedded on Magelis GTU Open box allows simultaneous functions like:
■ Running a Vijeo Designer or Vijeo XD software application
■ Use of Internet Explorer, Media Player, Office viewer, and Adobe reader (pdf, doc, xls documents)
■ Processing Vijeo Designer data with "Intelligent Data Service" option locally or remotely

Wireless connectivity with Smart WLAN display *(4)*

The 12" Smart WLAN display when configured with Open box meets the set-up and maintenance requirements in the following modes:
■ Access point mode: The HMI application of WLAN display can be accessed wirelessly with a smartphone and Vijeo Designer Air software or with a PC that has an Internet browser and Web Gate function. All HMI applications connected to one of the Ethernet networks of Magelis GTU box (Bridge function) can also be accessed wirelessly.
■ Station mode: PLCs and other Magelis HMIs can be communicated wirelessly via an existing access point with Smart WLAN display in the Ethernet architecture to be used in flexible production lines for datasharing.

(1) Magelis GTU is integrated into MachineStruxure with Vijeo Designer version V6.2 SP3 or later.
(2) For more information on the "PlantStruxure™" concept, please refer to our website www.schneider-electric.com/Solutions/Process and Machine Systems.
(3) For more information on the "MachineStruxure™" concept, please refer to our website www.schneider-electric.com/Solutions/Machine control solutions.
(4) Depending on the environment, location of the communication device to the GTU screen (distance and angle), and the used application.

Vijeo Design'Air /Air Plus
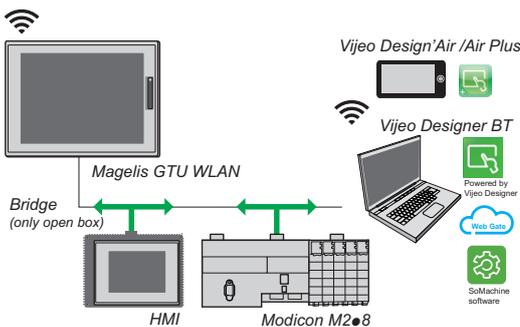
Vijeo Designer BT

Powered by Vijeo Designer

Web Gate

SoMachine software

Magelis GTU WLAN

Bridge (only open box)
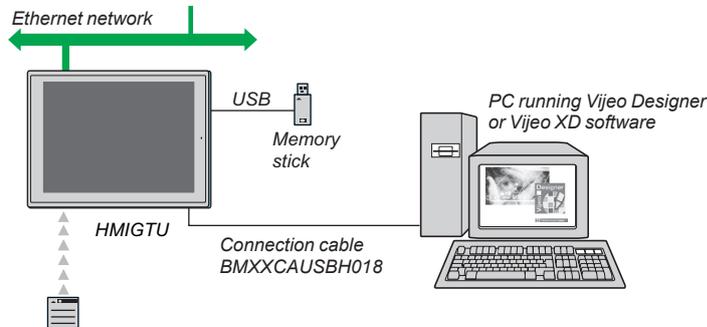
HMI

Modicon M2●8

Smart WLAN display in Access point mode

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Panel operating modes

The following illustrations show the equipment that can be connected to Universal panels according to their two operating modes.

Edit mode

Ethernet network

USB

Memory stick

PC running Vijeo Designer or Vijeo XD software

HMIGTU

Connection cable BMXXCAUSBH018

SD memory card for Premium box and CFast card for Open box

Operating mode

USB port expander

Bar code reader (2)

Memory stick

Modicon M340

Mouse

Ethernet network 1

Ethernet network 2

Bar code reader (2)

XBTZ915

Serial printer

HMIGTU

Keyboard

COM2

XBTZ9008

Modicon M238/M258

Parallel printer (3)

USB SD memory or CFast card

COM1

XBTZ9980

Modicon M340

Webcam (1)

DVI

External display unit (1)

MIC (1)
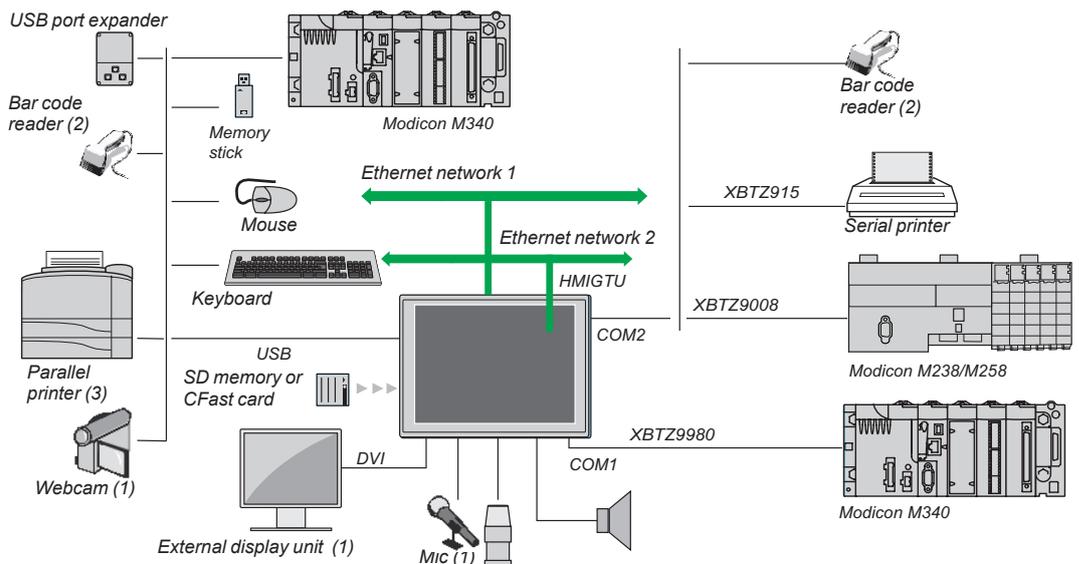
(1) With Open box unit.
(2) Validated with DataLogic Gryphon bar code reader.
(3) Validated with Hewlett Packard printer via USB/PIO converter.

Conformal Coating for improved environmental resistance

The Conformal Coating service offers varnishing of electronic cards to prolong the service life of the terminals and enable them to be used in corrosive environments. The varnishing increases resistance to condensation, dusty atmospheres and chemical corrosion (sulphurous and halogenous atmospheres). This coating service is applicable to all display and box modules of Magelis GTU. For more information on this service offer, please contact our Customer Care Centre

Operator dialogue terminals
Magelis GTU Universal panels
Advanced and Smart display modules
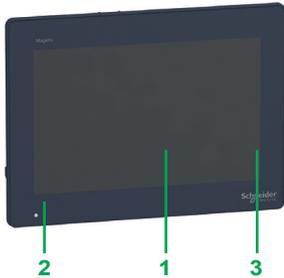
Advanced display front view

Smart display front view

*Advanced and Smart display
rear view*

Description

Magelis HMIDT 351/551/651 Advanced display module
Front view

1 Single-touch resistive screen for displaying synoptic views (262 K colors LCD TFT LED with brightness adjustable to 100 levels) in sizes 7", 10", and 12" wide
2 Multi-color indicator (green, orange, and red) showing the panel's operating mode
3 Aluminum alloy front panel providing IP 66/67 protection when mounted on panel or enclosure door

Magelis HMIDT 542/642/643/732 Smart display module
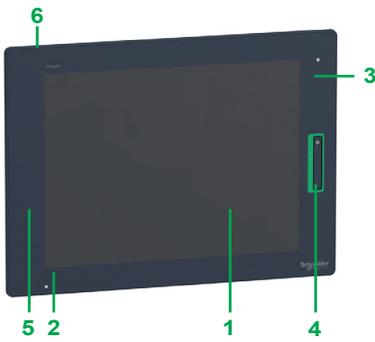**Front view**

1 Multi-touch resistive screen for displaying synoptic views (16 M colors LCD TFT LED with brightness adjustable to 100 levels) in sizes 10.4", 12.1", and 15" standard format
2 Multi-color indicator (green, orange, and red) showing the panel's operating mode
3 Brightness sensor to automatically adjust the level of brightness to the environment
4 Front USB ports 2.0 Host & Device with screw protective cover
5 Aluminum alloy front panel providing IP 66/67 protection when mounted on panel or enclosure door
6 For HMIDT643 GTU display *(1)*, a wireless antenna is embedded in the front bezel with:
  - 2.4 GHz bandwidth
  - Maximum speed: 72.2 Mbps(in IEEE 802.11n mode), 54 Mbps(in IEEE 802.11g mode), 11 Mbps(in IEEE 802.11b mode)
  - Standard IEE802.11 b/g/n
  - Distance 30 m max. according to the environment
  - Access point or station modes
  - Communication mode for infrastructure only
  - Security WEP/WPA/WPA2
  - Radio frequency certifications for Europe, USA, Canada, China, Taiwan, South Korea, Japan

Advanced and Smart display rear view

1 Removable screw terminal block for 12...24 V ⎓ power supply
2 Box interface
3 4x retractable embedded screw fasteners

(1) Depending on the environment, location of the communication device to the GTU screen (distance and angle), and the used application.

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Description *(continued)*

Operator dialogue terminals
Magelis GTU Universal panels
Premium box module
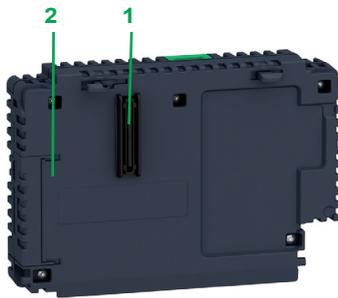
Premium box rear view
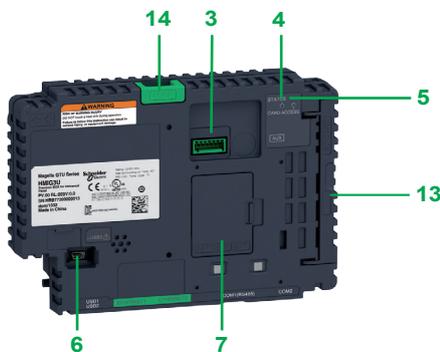
Premium box front view
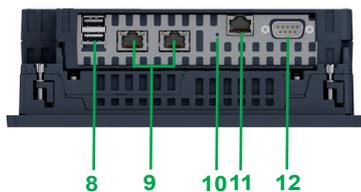
Premium box underside view

Description

Magelis HMIG3U Premium box module

Rear view

1 Display interface
2 Storage unit Cover 1 with an SD card (1 GB) and pre-installed:
- Real time operating system
- Vijeo Designer Run Time

Front and underside views

3 Auxiliary interface for alarm, buzzer, and speaker outputs.
4 Status LED indicating the operating mode of the terminal
5 LED indicating access to the SD memory card
6 Mini-B USB connector for application transfer
7 Expansion unit cover for optional battery or optional FieldBus card *(1)*
8 2 Type A USB host connector for connecting peripherals, transferring applications, and Modicon M340 terminal port communication
9 RJ45 connector for Ethernet TCP/IP link, 10BASE-T/100BASE-TX/1000BASE-T with an activity LED
10 COM1 LED indicating data transmission.
11 RJ45 connector for RS-485 serial link with isolation (COM1)
12 9-way male SUB-D connector for RS-232C or RS-422/RS-485 serial link to PLCs (COM2)
13 Storage unit Cover 2 for SD slot memory card dedicated to user data
14 LOCK button to attach the box module and display module

(1) Expansion unit cover for FieldBus card will be available in Quarter 4, 2015.

Operator dialogue terminals
Magelis GTU Universal panels
Open box module
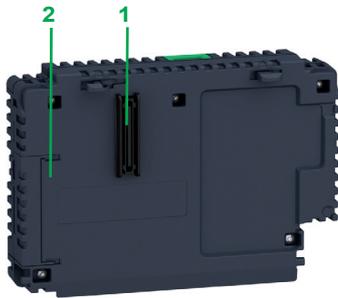
Open box rear view
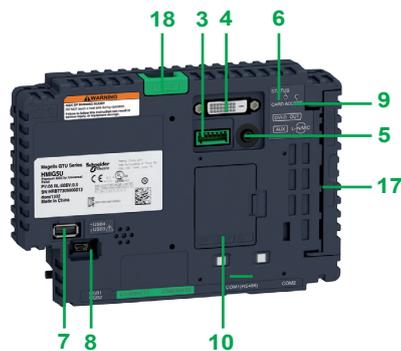
Open box front view
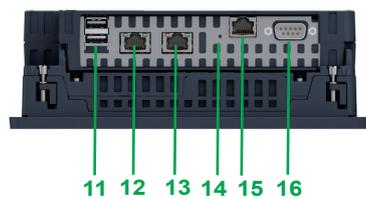
Open box underside view

Description

Magelis HMIG5U Open box

Rear view

1 Display interface

2 Storage unit Cover 1 that has a CFast card (16 GB) with pre-installed Windows® Embedded 7 supplied in 9 languages (English, French, German, Italian, Portuguese, Spanish, Swedish, Chinese, Russian) and also:
- Internet Explorer Version 9.0 as Web browser
- Notepad
- MultiMedia Player 12
- Acrobat Reader, Microsoft Word/Excel Viewer
- Framework.Net 4.0
- CAD Viewer
- VNC Client/Server (Virtual Network Computing) for remote connection
- Vijeo Citect Web Client
- Vijeo Designer Run Time

Front and underside views

3 Auxiliary interface for alarm, buzzer, and speaker outputs

4 DVI-D interface to connect Magelis *i* Display or LCD monitor display

5 Mini-jack connector for microphone input

6 Status LED indicating the operating mode of the terminal

7 Type A USB connector for application transfer

8 Mini-B USB connector for application transfer

9 LED indicating access to SD or CFast cards

10 Expansion unit cover for optional battery or optional FieldBus card *(1)*

11 2 Type A USB host connector for connecting peripherals, transferring applications, and Modicon M340 terminal port communication

12 RJ45 connector for Ethernet TCP/IP link, 10BASE-T/100BASE-TX/1000BASE-T with an activity LED

13 RJ45 connector for Ethernet TCP/IP link, 10BASE-T/100BASE-TX/1000BASE-T with an activity LED

14 COM1 LED indicating data transmission

15 RJ45 connector for RS-485 serial link with isolation (COM1)

16 9-way male SUB-D connector for RS-232C or RS-422/RS-485 serial link to PLCs (COM2)

17 Storage Cover 2 for SD slot and CFast slot card dedicated to user data

18 LOCK button to attach the box module on to the display module

*(1) Expansion unit cover for FieldBus card will be available in Quarter 4, 2015.*

Presentation:
page 6

References:
page 13

Connections:
page 20

Substitution:
page 19

12

Schneider Electric

References

Operator dialogue terminals
Magelis GTU Universal panels
Display and box modules

PF131900

HMIDT351

PF131924

HMIDT651

PF131930

HMIDT642

PF131911

HMIG3U

PF131916

HMIG5U

Universal display modules

Data entry method	Size	Resolution	Colors	Touch type	Options	Reference	Weight kg/*lb*
Advanced display							
Via touch screen	7", format 16/9	800 × 480	262 K	Single resistive	No	**HMIDT351**	1.200/ *2.600*
	10", format 16/9	1280 × 800	262 K	Single resistive	No	**HMIDT551**	2.500/ *5.500*
	12", format 16/9	1280 × 800	262 K	Single resistive	No	**HMIDT651**	3.000/ *6.600*
Smart display							
Via touch screen	10.4", format 4/3 Standard	800 × 600	16 M	Multi resistive	Front USB (A + mini-B) Brightness sensor, Scaler	**HMIDT542**	2.700/ *5.900*
	12.1", format 4/3 Standard	1024 × 768	16 M	Multi resistive	Front USB (A + mini-B) Brightness sensor, Scaler	**HMIDT642**	3.000/ *6.600*
					Front USB (A + mini-B) Brightness sensor, Scaler, Wireless antenna	**HMIDT643** *(1)*	3.000/ *6.600*
	15", format 4/3 Standard	1024 × 768	16 M	Multi resistive	Front USB (A + mini-B) Brightness sensor, Scaler	**HMIDT732**	4.500/ *9.900*

Universal box modules

Operating system	RAM memory	Storage units	USB ports	Communication	Multimedia interface	Reference	Weight kg/*lb*
Premium box							
Real Time	256 MB	2 SD cards	2 Hosts (Type A), 1 Device (mini-B)	2 Serial 2 Ethernet Gigabit	Sound output	**HMIG3U**	0.900/ *1.980*
Open box							
Windows® 7 Embedded	2 GB	2 CFast cards 1 SD card	3 Hosts (Type A), 1 Device (mini-B)	2 Serial 2 Ethernet Gigabit	Sound output, Microphone input, External display output (DVI)	**HMIG5U**	0.900/ *1.980*

Note: All display modules except HMIDT643 are compatible with all box modules.
(1) HMIDT643 is compatible with only box HMIG5U and requires Vijeo Designer version V6.2 SP3 or later.

Separate parts

Description	Characteristics	Compatible with terminals	Reference	Weight kg/*lb*
SD memory card system	1 GB, blank	HMIGTU	**HMIZSD1GS**	–
CFast card system	16 GB, blank	HMIGTU	**HMIZCFA16S**	–
CFast card	32 GB, blank	HMIGTU	**HMIZCFA32**	–
SD card	4 GB, blank	HMIGTU	**HMIZSD4G**	–
Protective sheets against dirt and moisture (5 peel-off sheets)	–	HMIDT351	**HMIZG63**	–
		HMIDT551	**HMIZD65W**	–
		HMIDT651	**HMIZD66W**	–
		HMIDT542	**HMIZG65**	–
		HMIDT642/HMIDT643	**HMIZG66**	–
		HMIDT732	**MPCYK50SPSKIT**	–
Protective sheet against ultra violet light (1 peel-off sheet)	–	HMIDT351	**HMIZUV3W**	–
		HMIDT551	**HMIZUV5W**	–
		HMIDT651	**HMIZUV6W**	–
		HMIDT542	**HMIZUV5**	–
		HMIDT642/HMIDT643	**HMIZUV6**	–
		HMIDT732	**HMIZUV7**	–
Plastic covers for harsh environments (IP 67 protection)	–	HMIDT542	**HMIZDCOV5**	–
		HMIDT642/HMIDT643	**HMIZDCOV6**	–
		HMIDT732	**HMIZDCOV7**	–

XBTZGCO●

Description	Description	Length m/*ft*	Reference	Weight kg/*lb*
Mechanical adapters for substitution of Magelis range terminals	From XBTGT5230 to HMIDT542	–	**XBTZGCO4**	–
	From XBTGT4●●● to HMIDT351	–	**HMIZGCO1**	–
Remote USB port for HMI terminals	Enables the USB Type A port to be located remotely on the rear of the XBT or HMIGTU terminal, on a panel, or an enclosure door (Ø 21 mm fixing device)	1/*3.28*	**XBTZGUSB**	–
Remote USB port for HMI panel	Enables the USB mini-B port to be located remotely on the rear of the HMIGTU panel, on a panel, or an enclosure door (Ø 21 mm fixing device)	1/*3.28*	**HMIZSUSBB**	–
DVI-D cable	For connecting an external Magelis *i*Display to the HMIG5U Open Box	10/*32.81*	**HMIYCABD-VI1011**	–
Battery	HMIGTU	–	**HMIZGBAT**	–
Auxiliary connector **Sold in sets of 5 units**	HMIGTU	–	**HMIZGAUX**	–

XBTZGUSB

Spare parts

Description	For use with terminals	Reference	Weight kg/*lb*
Seals	HMIDT351	**HMIZD53W**	–
	HMIDT551	**HMIZD55W**	–
	HMIDT651	**HMIZD56W**	–
	HMIDT542	**HMIZD55**	–
	HMIDT642/HMIDT643	**HMIZD56**	–
	HMIDT732	**HMIZD57**	–
USB fastenings **Sold in lots of 5**	HMIGTU (USB type A)	**HMIZGCLP1**	–
Power supply connector **Sold in lots of 5**	HMIGTU (direct connection)	**HMIZGPWS**	0.030/ *0.066*
	HMIGTU (right angle connection)	**HMIZGPWS2**	0.030/ *0.066*

Schneider Electric

Operator dialogue terminals
Magelis GTU Universal panels
Replacement parts

Cables for application transfer - Terminal to PC

Type of terminal (terminal end connector)	Connector (PC end)	Type	Length m/ft	Reference (1)	Weight kg/lb
HMIGTU	USB	USB	1.80/ 5.91	BMXXCAUSBH018	–

Printer connection cables

Type of printer (2)	Connector (printer end)	Type	Length m/ft	Reference	Weight kg/lb
HMIGTU panels	SUB-D female 25-way	RS-232C (COM2)	2.5/ 8.20	XBTZ915	0.200/ 0.441
Serial printer for HMIGTU panels	SUB-D female 9-way	USB/RS-232C	1.80/ 5.91	HMIZURS	–

Adapters and isolation boxes for HMIGTU panels

These 3 adapters are used with the connection cables depending on the application concerned.
For example, the XBTZ968 cable is used with the XBTZG909 adapter, to connect a Twido controller (via its terminal port) to an XBTGT2●●0 terminal (via its COM1 port).

Description	Type of connector (automation product end)	Physical link (HMIGTU terminal end)	Length m/ft	Reference	Weight kg/lb
Adapter for HMIGTU	25-way SUB-D connector	RJ45 connector	0.2/ 0.66	XBTZG939	–
Adapters for HMIGTU (COM2 port)	25-way SUB-D connector	9-way SUB-D connector, RS-232C	0.2/ 0.66	XBTZG919	–

Description	For use with	Link to isolate	Reference	Weight kg/lb
Serial link isolation units for HMIGTU	- Isolated link on 9-way SUB-D connector (3) - Box power supply via USB port of terminal. Incorporates a USB port expander.	RS-232C/RS-485 (COM2)	XBTZGI232	–

(1) Cable included (depending on model) with Vijeo Designer software packages (refer to HMI Configuration Software catalog).
(2) Parallel printer (see page 9).
(3) Male connector with XBTZGI232.

XBTZGI485

Schneider Electric

Operator dialogue terminals
Magelis GTU Universal panels
Connection accessories

TSXPCX1031

Cables for connecting Magelis terminals to other Schneider Electric products

Automation product type	Type of connector (automation product end)	Protocol	Type of terminal	Link	On port	Length m/*ft*	Reference	Weight kg/*lb*
Twido, Nano, Modicon TSX Micro, Modicon Premium	Terminal port, 8-way female mini-DIN	Uni-TE (V1/V2), Modbus	HMIGTU	RS-485	COM1	2.5/*8.20*	**XBTZ9780**	0.180/ *0.397*
						10/*32.80*	**XBTZ9782**	–
			HMIGTU	RS-232	COM2	2.5/*8.20*	**TSXPCX1031**	–
Modicon M340 Modicon M238 Modicon M258 Modicon M2●1	RJ45	Modbus	HMIGTU	RS-485	COM1	2.5/*8.20*	**XBTZ9980**	0.230/ *0.507*
						10/*32.80*	**XBTZ9982**	–
					COM2	2.5/*8.20*	**XBTZ9008**	
Modicon M340	USB Mini-B		Terminal port	HMIGTU	USB	USB type A	1.8/*5.91*	**BMXXCAUSBH018**	0.230/ *0.507*
						4.5/ *14.76*	**BMXXCAUSBH045**	–
Modicon Quantum	9-way male SUB-D	Modbus	HMIGTU	RS-232C	COM2	2.5/*8.20*	**XBTZ9710** + *(1)*	0.210/ *0.463*
						3.7/ *12.14*	**990NAA26320**	0.290/ *0.639*
Modicon STB	HE13 (NIM, network interface module)	Modbus	HMIGTU	RS-232C	COM2	2/*6.56*	**STBXCA4002**	0.210/ *0.463*
						2.5/*8.20*	**XBTZ988** + *(1)*	0.220/ *0.485*
Modicon Momentum M1	RJ45 (port 1 on Momentum M1)	Modbus	HMIGTU	RS-232C	COM2	2.5/*8.20*	**XBTZ9711** + *(1)*	0.210/ *0.463*
TeSys U, T starters ATV 312/61/71 variable speed drives ATS 48 starters Lexium 05 Preventa XPSMC	RJ45	Modbus	HMIGTU	RS-485	COM1	3/*9.84*	**VW3A8306R30**	0.060/ *0.132*
						2.5/*8.20*	**XBTZ9980**	–
						10/*32.80*	**XBTZ9982**	–
					COM2	2.5/*8.20*	**XBTZ9008**	

(1) Adapter XBTZG919 to be used with cables with " + (1) " after the reference.

XBTZG9772

XBTZG9731

Cables and adapters for connecting Magelis terminals to third-party PLCs

Mitsubishi, Melsec PLCs

Description Driver used	Type of terminal	Type of connector (fitted to cable, excluding adapter)	Physical link (COM2)	Length m/ft	Reference	Weight kg/lb
Connection cable, Q Link (SIO)	HMIGTU	9-way SUB-D 9-way SUB-D	RS-232C	5/16.40	**XBTZG9772**	–
Connection cable, Q CPU (SIO)	HMIGTU	9-way SUB-D mini-DIN	RS-232C	5/16.40	**XBTZG9774**	–
Connection cable, A Link (SIO)	HMIGTU	9-way SUB-D 25-way SUB-D	RS-232C	5/16.40	**XBTZG9731**	–
Connection cable, FX (CPU)	HMIGTU	9-way SUB-D mini-DIN	RS-232/ RS-422	5/16.40	**XBTZG919 + XBTZ980**	–

Omron, Sysmac PLCs

Description Driver used	Type of terminal	Type of connector (fitted to cable, excluding adapter)	Physical link (COM2)	Length m/ft	Reference	Weight kg/lb
Connection cables, Link (SIO)	HMIGTU	9-way SUB-D 9-way SUB-D	RS-232C	5/16.40	**XBTZG9740**	–
		9-way SUB-D 25-way SUB-D	RS-232C	5/16.40	**XBTZG9731**	–
Connecting cables FINS (SIO)	HMIGTU	9-way SUB-D 9-way SUB-D	RS-232C	5/16.40	**XBTZG9740**	–

Rockwell Automation, Allen-Bradley PLCs

Description Driver used	Type of terminal	Type of connector (fitted to cable, excluding adapter)	Physical link (COM2)	Length m/ft	Reference	Weight kg/lb
Connection cables DF1 Full Duplex	HMIGTU	9-way SUB-D 25-way SUB-D	RS-232C	5/16.40	**XBTZG9731**	–
Connection cables, DH485	HMIGTU	9-way SUB-D	RS-485	5/16.40	**XBTZ9732** + *(1)*	–

Siemens, Simatic PLCs

Description Driver used	Type of terminal	Type of connector (fitted to cable, excluding adapter)	Physical link	Length m/ft	Reference	Weight kg/lb
Connection cable, PPI, S7 200	HMIGTU *(3)*	RJ45/9-way SUB-D	RS-485 (COM1)	2.5/ 8.20	**XBTZG9721**	–
Connection cables, MPI port, S7 300/400	HMIGTU	9-way SUB-D 9-way SUB-D	RS-232C (COM2)	3/ 9.84	**XBTZG9292**	–
	HMIGTU *(3)*	RJ45/flying leads other end	RS-485 *(2)* (COM1)	3/ 9.84	**VW3A8306D30**	0.150/ 0.331
		RJ45/9-way SUB-D	RS-485 *(2)* (COM1)	2.5/ 8.20	**XBTZG9721**	–

(1) Adapter XBTZG939 to be used with cables with " + (1) " after the reference (see page 15).
(2) Non-isolated RS-485 serial link, 12 Mbps.
(3) Available only with Premium box HMIG3U.

XBTZG9731

Operator dialogue terminals
Magelis GTU Universal panels
Connection accessories

TSXSCA62

TSXPACC01

TSXSCA64

VW3A8306TF10

Connection of Magelis terminals via serial links and Ethernet network

Type of bus/network	Tap-off units	Connector (tap-off unit side)	Terminal type	Length m/ft	Reference	Weight kg/lb
Uni-Telway serial link	Subscriber socket **TSXSCA62**	15-way female SUB-D	HMIGTU	3/9.84	**VW3A8306**	0.150/0.331
	Connection box **TSXPACC01**	8-way female mini-DIN	HMIGTU	2.5/8.20	**XBTZ9780**	0.180/0.396
Modbus serial link	Subscriber socket **TSXSCA64**	15-way female SUB-D	HMIGTU	3/9.84	**VW3A8306**	0.150/0.331
	T-junction box	With integrated cable, RJ45 fitted	HMIGTU	1/6.56	**VW3A8306TF10**	–
Ethernet TCP/IP network	Hubs 499 NEH/NOH Switches 499 NES, 499 NMS, 499 NSS and 499 NOS	RJ45	HMIGTU	2/6.56	**490NTW00002**	–
				5/16.40	**490NTW00005**	–
				12/39.37	**490NTW00012**	–
				40/131.23	**490NTW00040**	–
				80/262.47	**490NTW00080**	–

Connection of Magelis terminals to fieldbuses

Type of bus/network	Connection components	Type of terminal	Reference	Weight kg/lb
FIPWAY, FIPIO	USB gateway	HMIGTU (only on Premium box)	**TSXCUSBFIP**	–
Modbus Plus	USB gateway	HMIGTU	**XBTZGUMP**	–

Schneider Electric

Operator dialogue terminals
Magelis GTU Universal panels
Equivalent product table

Equivalent product table between XBTGT terminals and HMIGTU terminals

Old range XBTGT	New range HMIGTU	Comments
XBTGT2120/2220/2330/2430	**HMIDT351 + HMIG3U**	**Cut-out different, no adapter**
XBTGT4230/4330	**HMIDT351 + HMIG3U**	**Cut-out different, adapter HMIZGC01**
XBTGT4340	**HMIDT351 + HMIG3U**	**Cut-out different, adapter HMIZGC01, no video support**
XBTGT5230	**HMIDT542 + HMIG3U**	**Cut-out different, adapter XBTZGCO4**
XBTGT5330/5430	**HMIDT542 + HMIG3U**	**–**
XBTGT5340	**HMIDT542 + HMIG3U**	**No video support**
XBTGT6330	**HMIDT642 + HMIG3U**	**–**
XBTGT6340	**HMIDT642 + HMIG3U**	**No video support**
XBTGT7340	**HMIDT732 + HMIG3U**	**No video support**

Comments: When upgrading from the Magelis XBT range to the Magelis GTU range, the following parameters must be taken into account:
- connection to the Profibus DP and Device Net fieldbuses is possible in the next software release
- serial ports COM1 and COM2 are identical but inverted
- no CF card but SD card provided as optional storage unit
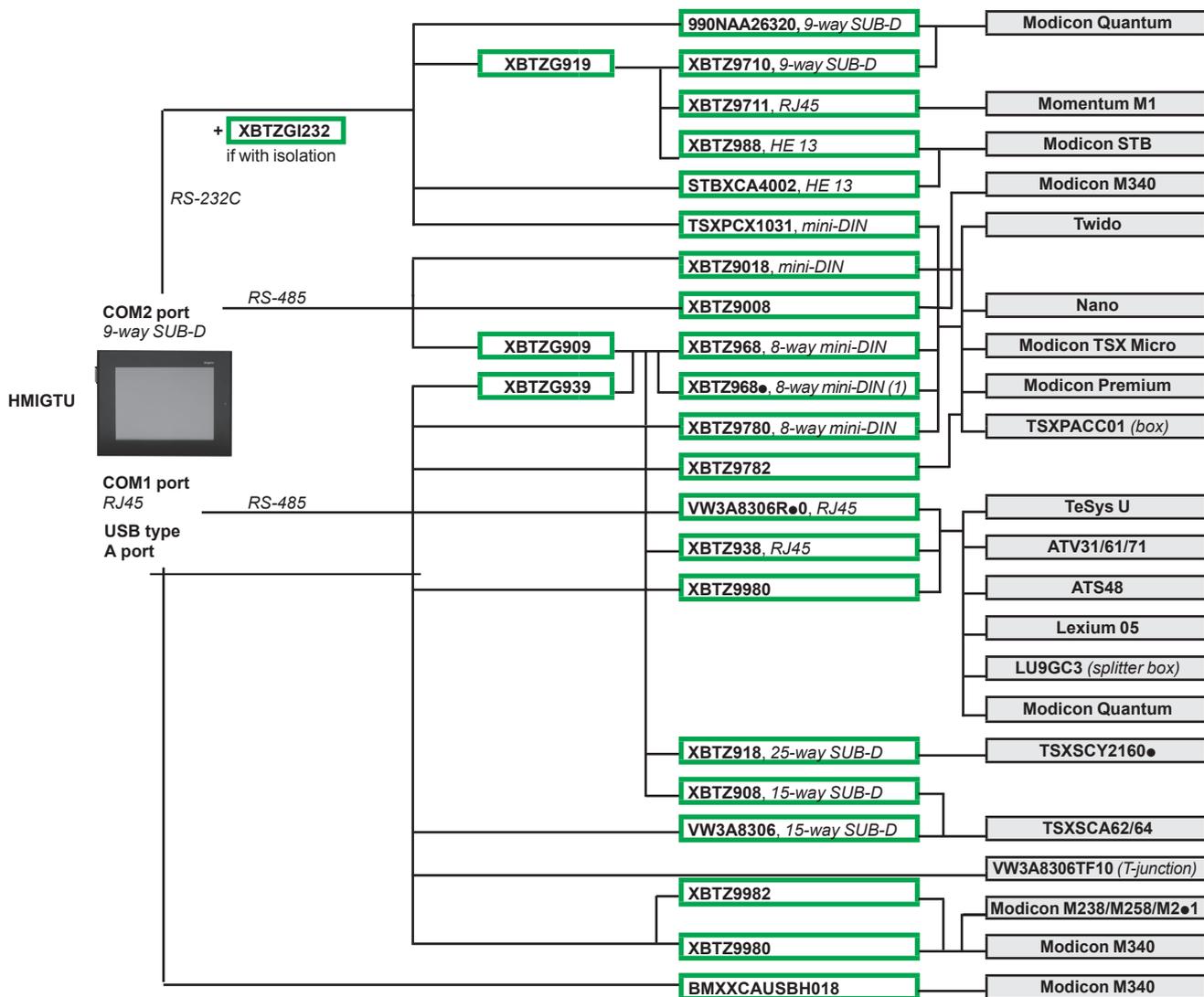*- no CANopen Master connection on Magelis GTU*

Equivalent product table between HMIGTW terminals and HMIGTU terminals

Old range XBTGTW/HMIGTW	New range HMIGTU	Comments
HMIGTW5354	**HMIDT542 + HMIG5U**	**Cut-out different, no adapter**
HMIGTW7354	**HMIDT732 + HMIG5U**	**3 USB hosts, no jack output but auxiliary output for speakers**
XBTGTW652	**HMIDT642 + HMIG5U**	**–**

Comments: When upgrading from the Magelis XBTGTW/HMIGTW range to the Magelis GTU range, the following parameters must be taken into account:
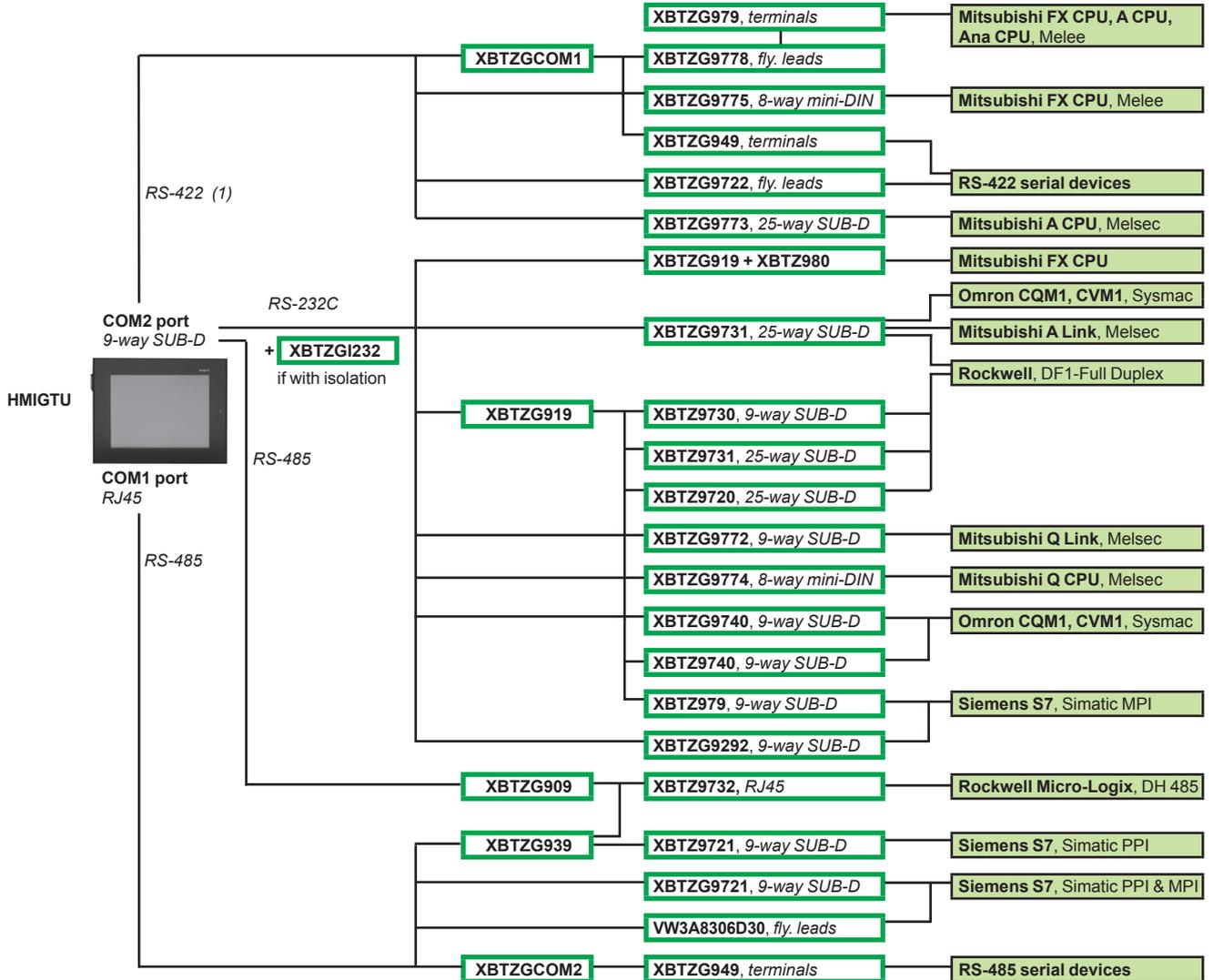*- no CF card but CFast card is provided as optional storage unit*
- no Windows XP Embedded but Windows 7 Embedded is provided for operating system
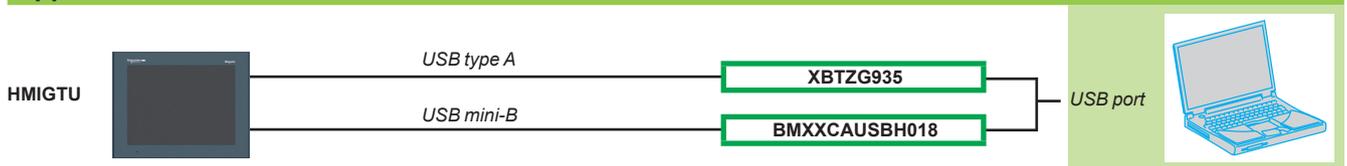
HMIGTU terminals and Schneider Electric products

HMIGTU

COM2 port
9-way SUB-D

COM1 port
RJ45

USB type A port

+ XBTZGI232
if with isolation

RS-232C

RS-485

RS-485

Cable	Connects to
990NAA26320, *9-way SUB-D*	Modicon Quantum
XBTZG919 → XBTZ9710, *9-way SUB-D*	
XBTZ9711, *RJ45*	Momentum M1
XBTZ988, *HE 13*	Modicon STB
STBXCA4002, *HE 13*	Modicon M340
TSXPCX1031, *mini-DIN*	Twido
XBTZ9018, *mini-DIN*	
XBTZ9008	Nano
XBTZG909 → XBTZ968, *8-way mini-DIN*	Modicon TSX Micro
XBTZG939 → XBTZ968●, *8-way mini-DIN (1)*	Modicon Premium
XBTZ9780, *8-way mini-DIN*	TSXPACC01 *(box)*
XBTZ9782	
VW3A8306R●0, *RJ45*	TeSys U
XBTZ938, *RJ45*	ATV31/61/71
XBTZ9980	ATS48
	Lexium 05
	LU9GC3 *(splitter box)*
	Modicon Quantum
XBTZ918, *25-way SUB-D*	TSXSCY2160●
XBTZ908, *15-way SUB-D*	
VW3A8306, *15-way SUB-D*	TSXSCA62/64
	VW3A8306TF10 *(T-junction)*
XBTZ9982	Modicon M238/M258/M2●1
XBTZ9980	Modicon M340
BMXXCAUSBH018	Modicon M340

(1) ● *defines the length:*
- 0 m/0 ft, 2.5 m/8.20 ft(elbowed connector)
- 1 m/3.28 ft, 5 m/16.40 ft
- 6 m/19.68 ft, 16 m/52.49 ft
- 7 m/22.96 ft, 20 m/65.61 ft
- 8 m/26.24 ft, 25 m/82.02 ft

HMIGTU terminals and third-party PLCs

	XBTZG979, *terminals*	**Mitsubishi FX CPU, A CPU, Ana CPU**, Melec
XBTZGCOM1	**XBTZG9778**, *fly. leads*	
	XBTZG9775, *8-way mini-DIN*	**Mitsubishi FX CPU**, Melec
	XBTZG949, *terminals*	
	XBTZG9722, *fly. leads*	**RS-422 serial devices**
	XBTZG9773, *25-way SUB-D*	**Mitsubishi A CPU**, Melsec
	XBTZG919 + XBTZ980	**Mitsubishi FX CPU**
		Omron CQM1, CVM1, Sysmac
	XBTZG9731, *25-way SUB-D*	**Mitsubishi A Link**, Melsec
XBTZGI232		**Rockwell**, DF1-Full Duplex
if with isolation		
XBTZG919	**XBTZ9730**, *9-way SUB-D*	
	XBTZ9731, *25-way SUB-D*	
	XBTZ9720, *25-way SUB-D*	
	XBTZG9772, *9-way SUB-D*	**Mitsubishi Q Link**, Melsec
	XBTZG9774, *8-way mini-DIN*	**Mitsubishi Q CPU**, Melsec
	XBTZG9740, *9-way SUB-D*	**Omron CQM1, CVM1**, Sysmac
	XBTZ9740, *9-way SUB-D*	
	XBTZ979, *9-way SUB-D*	**Siemens S7**, Simatic MPI
	XBTZG9292, *9-way SUB-D*	
XBTZG909	**XBTZ9732**, *RJ45*	**Rockwell Micro-Logix**, DH 485
XBTZG939	**XBTZ9721**, *9-way SUB-D*	**Siemens S7**, Simatic PPI
	XBTZG9721, *9-way SUB-D*	**Siemens S7**, Simatic PPI & MPI
	VW3A8306D30, *fly. leads*	
XBTZGCOM2	**XBTZG949**, *terminals*	**RS-485 serial devices**

HMIGTU
COM2 port *9-way SUB-D*
RS-422 (1)
RS-232C
+
COM1 port *RJ45*
RS-485
RS-485

Application transfer from HMIGTU terminals to PC

HMIGTU	*USB type A*	**XBTZG935**
	USB mini-B	**BMXXCAUSBH018**

USB port

Schneider Electric