Automation & Control

Human/Machine interfaces

Catalogue
March

07

a brand of Schneider Electric

Telemecanique

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- Selection guides from the e-catalog.
- Product discovery sites and their Flash animations.

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To live automation solutions every day!

Flexibility

- Interchangeable modular functions, to better meet the requirements for extensions
- Software and accessories common to multiple product families

Compactness

- High functionality in a minimum of space
- Freedom in implementation

Ingenuity

- Auto-adapts to its environment, "plug & play"
- Application functions, control, communication and diagnostics embedded in the products
- User-friendly operation either directly on the product or remotely

Openness

- Compliance with field bus, connection, and software standards
- Enabling decentralised or remote surveillance via the web with Transparent Ready products

Simplicity

- Cost effective “optimum” offers that make selection easy for most typical applications
- Products that are easy to understand for users, electricians and automation specialists
- User-friendly intuitive programming

Telemecanique,

a full range of catalogues for .....

Detection

Global Detection Electronic and electromechanical sensors
n° 821410
MKTED206101EN

Photo-electric sensors
Proximity sensors
Capacitive proximity sensors
Ultrasonic sensors
Limit switches
Pressure switches
Rotary encoders
Radio frequency identification
Machine cabling accessories

Automation

Modicon Momentum distributed I/O and control
n° 807861
MKTED205061EN

Automation platform Modicon Quantum and Unity - Concept Proworx software
n° 802621
MKTED204071EN

Automation platform Modicon Premium and Unity - PL7 software
n° 802625
MKTED204072EN

Automation platform Modicon TSX Micro and PL7 software
n° 70984
MKTED204012EN

PLCs, PC based control
Distributed I/O
Communication

Automation

Automation and relay functions
n° 70455
MKTED204011EN

Plug-in relays
Electronic timers
Control relays
Counters
Smart relays

Software
PLCs and safety controllers programming software

Operator dialog

Control and signalling components
n° 805911
MKTED205021EN

Control and signalling units
Cam switches
Beacons and indicator banks
Control and pendant stations
Controllers
Front panels
Mounting kits
Emergency stops
Foot switches

Human-Machine interfaces
n° 821230
MKTED206071EN

Operator interface terminals
Industrial PCs
Web servers
HMI and SCADA PC-based software

Software
Operator terminal software

Motion and Drives

Motion control Lexium 05
n° 808610
DIA7ED2050910 EN

Motion control Lexium 15
n° 816811
DIA2ED2060506EN

Servo drives and Servo motors
Motion control modules
Modicon Premium and Modicon Quantum

Soft starters and variable speed drives
n° 960142
MKTED206111EN

Soft starters and variable speed drives

Software
Software for drives and motors
Motor control programming software

Not all products shown in this catalogue are available in every country. Check individual country's web site or Sales Office for product availability.
See on: ***www.schneider-electric.com***

... all Automation and control functions

Motor control

Motor starter solutions Control and protection components
n° 814711
MKTED205103EN

Contactors
Circuit-breakers, fuse carriers
Thermal relays
Combinations, motor controllers
Mounting solutions
Motor starter mounting kits

Machine safety

This catalogue contains Automation and Control function products relating to Safety

Safety solutions using Preventa
n° 816630
MKTED206051EN

Safety PLCs
Safety controllers
Safety monitors
Safety solutions on AS-Interface cabling system
Safety switches
Safety light curtains
Safety mats
Emergency stops
Control stations
Enabling switches
Foot switches
Beacons & indicator banks
Switch disconnectors
Thermal-magnetic motor circuit breakers
Enclosed D.O.L. starters

Software
XPSMFWIN configuration software
XPSMCWIN configuration software

Interfaces and I/O

Interfaces, I/O splitter boxes and power supplies
n° 70263
MKTED203113EN

Discrete interfaces
Pre-wired interfaces
IP 67 Splitter boxes

Terminal blocks
n° 960151
MKTED207011EN

Terminal blocks
Cable ends

IP 20 distributed inputs/outputs Adventys STB
n° 820670
MKTED206061EN

Modules for automation island
Network interfaces
Power distribution
Digital I/O, analogs and application-specific

Software
STB configuration software

Power supplies

Power supplies and transformers Phaseo
n° 822591
DIA3ED2061209EN

Switch mode power supplies
Filtered rectified power supplies
Transformers

Systems & architectures

This catalogue contains Automation and Control function products relating to Communication

Machine & Installations with industrial communication
n° 960153
MKTED207012EN

Preferred implementations
Ethernet TCP/IP, the universal communication standard
CANopen for machines and installations
AS-interface, simple and safe

Products
Human-Machine interface
Controllers and PLCs
Field devices
Infrastructure and wiring
Gateways

Software and tools
Collaborative Automation Partner Program & Partners

Human/Machine interfaces

1

Contents

1 - Operator dialogue terminals

Operator dialogue terminals
Magelis display units and terminals

Applications		**Display of text messages**	**Display of text messages and/or semi-graphics**
Type of unit		**Compact display units**	
			
Display	Type	Back-lit green LCD, height 5.5 mm or Back-lit green, orange or red LCD, height 4.34…17.36 mm	Back-lit monochrome matrix LCD (240 x 64 pixels), height 5.3 or 10.6 mm
	Capacity	2 lines of 20 characters or 1 to 4 lines of 5 to 20 characters	4 to 8 lines of 20 to 40 characters
Data entry		Via keypad with 8 keys (4 with changeable legends)	Display only **or** via keypad with 4 function keys + 1 service key **or** 5 service keys
Memory capacity	Application	512 Kb Flash	384 Kb Flash EPROM
	Extension via type II PCMCIA	–	
Functions	Maximum number of pages	128/200 application pages 256 alarm pages	600 application pages 256 alarm pages 256 print-out form pages *(1)*
	Variables per page	40…50	50
	Representation of variables	Alphanumeric	Alphanumeric, bargraph, gauge
	Recipes	–	
	Curves	–	
	Alarm logs	Depending on model	
	Real-time clock	Access to the PLC real-time clock	
	Alarm relay	–	No
Communication	Serial link	RS 232 C/RS 485	RS 232C or RS 422/485
	Downloadable protocols	Uni-TE, Modbus	Uni-TE, Modbus, AEG and for PLC brands: Allen-Bradley, GE Fanuc, Omron, Siemens
	Printer link	RS 232C serial link *(1)*	
Development software		XBT L1001 and XBT L1003 (under Windows 98, 2000 and XP)	
Operating systems		Magelis	
Type of terminal		**XBT N**	**XBT HM**
Pages		1/13	1/21

(1) Depending on model.

Display of text messages Control and parametering of data	Display of text messages and/or semi-graphics Control and parametering of data
Compacts terminals	
	
Back-lit green, orange and red LCD, height 4.34…17.36 mm	Back-lit monochrome matrix LCD (240 x 64 pixels), height 5.3 or 10.6 mm
1 to 4 lines of 5 to 20 characters	4 to 8 lines of 20 to 40 characters
Via keypad with 12 keys for function or numeric input (according to the context) + 8 service keys	Via keypad with 12 function keys 10 service keys 12 numeric keys 4 soft function keys
512 Kb Flash	512 Kb Flash EPROM
–	
128/200 application pages 256 alarm pages	800 application pages 256 alarm pages 256 print-out form pages *(1)*
40…50	50
Alphanumeric	Alphanumeric, bargraph, gauge
–	
–	
Depending on model	
Access to the PLC real-time clock	
No	
RS 232C/RS 485	RS 232C or RS 422/485
Uni-TE, Modbus	Uni-TE, Modbus, AEG and for PLC brands: Allen-Bradley, GE Fanuc, Omron, Siemens
RS 232C serial link *(1)*	
XBT L1001 and XBT L1003 (under Windows 98, 2000 and XP)	
Magelis	
XBT R	**XBT PM**
1/15	1/21

Operator dialogue terminals
Magelis graphic terminals

Applications		**Display of text messages and graphic objects** **Control and parametering of data**	
Type of unit		**Graphic terminals**	
			
Display	Type	Colour LCD TFT with touch-sensitive screen (320 x 240 pixels) with optimum viewing angle *(1)*	
	Capacity	5,7” (color)	10,4” (color)
Data entry		Via keypad with: - 10 static function keys - 8 soft function keys - 12 service keys - 12 alphanumeric keys	Via touch-sensitive screen	Via keypad with: - 12 static function keys - 10 soft function keys - 12 service keys - 12 alphanumeric keys
Memory capacity	Application	16 Mb Flash EPROM (via PCMCIA type II card)	
	Extension	–	
Functions	Maximum number of pages	50 to 720 application, alarm, help and print-out form pages depending on the memory card used (512 alarms maximum)	30 to 480 application, alarm, help and print-out form pages depending on the memory card used (512 alarms maximum)
	Variables per page	64	
	Representation of variables	Alphanumeric, bitmap, bargraph, gauge, potentiometer, selector	
	Recipes	125 records maximum with 5000 values maximum	
	Curves	16	
	Alarm logs	Yes	
	Real-time clock	Access to the PLC real-time clock	
	Discrete inputs/outputs	1 alarm relay	
	Multimedia inputs/outputs	–	
Communication	Downloadable protocols	Uni-TE, Modbus, KS and for PLC brands: GE Fanuc, Omron, Allen-Bradley and Siemens	Uni-TE, Modbus, KS, Modbus TCP/IP, Uni-TE TCP/IP *(1)* and for PLC brands: GE Fanuc, Omron, Allen-Bradley and Siemens
	Asynchronous serial link	RS 232C or RS 422/485	
	USB Ports	–	
	Bus and networks	Modbus Plus, Fipio/Fipway avec carte additive PCMCIA type III *(1)*,	
		–	Ethernet TCP/IP (10BASE-T/100BASE-TX) *(1)*
	Printer link	RS 232C serial link *(1)*	
Development software		XBT L1003 (under Windows 98, Windows 2000 and Windows XP)	
Operating systems		Magelis	
Type of terminal		**XBT F01**	**XBT F02/F03**
Pages		1/27	1/29

(1) Depending on model.
(2) Uni-TE version V2 for Twido/TSX Micro/Premium PLCs.

Display of text messages and graphic objects
Control and parametering of data

New Technology touch-sensitive graphic terminals

Back-lit monochrome (amber or red mode) LCD STN (320 x 240 pixels)	Back-lit monochrome or colour LCD STN or back-lit colour LCD TFT (320 x 240 pixels)	Back-lit colour LCD STN or color LCD TFT (640 x 480 pixels)	Back-lit colour LCD STN or color LCD TFT (640 x 480 pixels)	Back-lit colour LCD TFT (800 x 600 pixels)	Back-lit colour LCD TFT (1024 x 768 pixels)
3,8" (monochrome)	5,7" (monochrome or colour)	7,5" (colour)	10,4" (colour)	12,1" (colour)	15" (colour)
Via touch-sensitive screen 6 dynamic function keys	Via touch-sensitive screen				
8 Mb Flash EPROM	16 Mb Flash EPROM	32 Mo Flash EPROM			
–	By Compact Flash card 128, 256, 512 Mb or 1 Gb (except XBT GT2110 model)				
Limited by the internal Flash memory capacity	Limited by the internal Flash memory capacity or Compact Flash card memory capacity				
Unrestricted (8000 variables max.)					
Alphanumeric, bitmap, bargraph, gauge, tank, curves, polygons, button, light					
32 groups of 64 recipes of 1024 ingredients max.					
Yes, with log					
Yes					
Built-in					
–		1 input (reset) et 3 outputs (alarm, buzzer, run)			
–		1 audio input (microphone), 1 composite vidéo input (numerical or analog camera), 1 audio input (loudspeaker) *(1)*			
Uni-TE *(2)*, Modbus, Modbus TCP/IP *(1)* and for PLC brands: Mitsubishi, Omron, Allen-Bradley and Siemens					
RS 232C/485 (COM1)	RS 232C/RS 422/485 (COM1) and RS 485 (COM2)				
–	1 (application download)	2 (application download and peripherals)			
–					
Ethernet TCP/IP (10BASE-T) *(1)*	Ethernet TCP/IP (10BASE-T/100BASE-TX) *(1)*				
–	RS 232C serial link (COM1), USB port for parallel printer				
Vijeo Designer VJD ●●D TGS V44M (under Windows 2000 and Windows XP)					
Magelis (CPU 100 MHz RISC)	Magelis (CPU 133 MHz RISC)	Magelis (CPU 266 MHz RISC)			
XBT GT11	**XBT GT21/22/23**	**XBT GT42/43**	**XBT GT52/53**	**XBT GT63**	**XBT GT73**

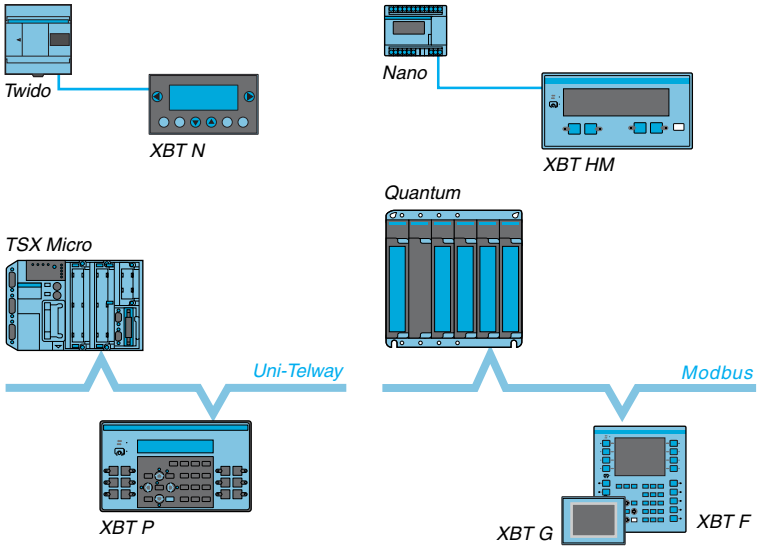
Operator dialogue terminals
Architectures,
connection to automated systems

1

Architectures, connection to automated systems

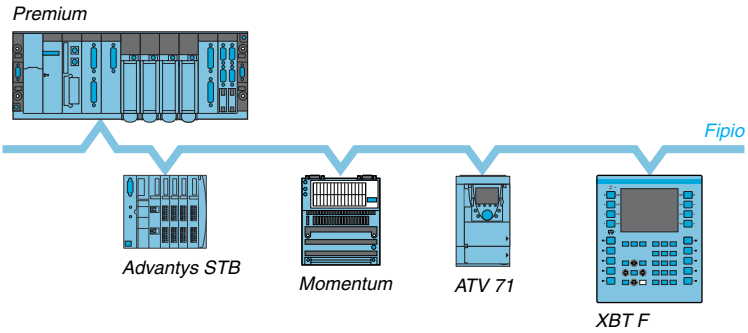
Magelis operator dialogue terminals communicate with automated system equipment:
- Via serial link.
- Via fieldbus.
- In network architectures.
- By integration into an architecture with Ethernet TCP/IP network.

Point-to-point or multidrop connection with the PLC via serial link



All terminals incorporate an RS 232 C, RS 422/485 asynchronous serial link as standard.
The use of a Uni-TE, Modbus or KS protocol means that communication can be set up easily with Schneider Electric PLCs: Telemecanique, Modicon, April or A-Line.
Third party protocols provide connection to PLCs offered by major manufacturers on the market:
- DF1, DH485 for Allen Bradley PLC5/SLC500 PLCs.
- SNPX for General Electric series 90 PLCs.
- Sysway for Omron C200 PLCs.
- AS511/3964R, MPI/PPI for Siemens Simatic S5/S7 PLCs.

Connection to PLCs via fieldbus

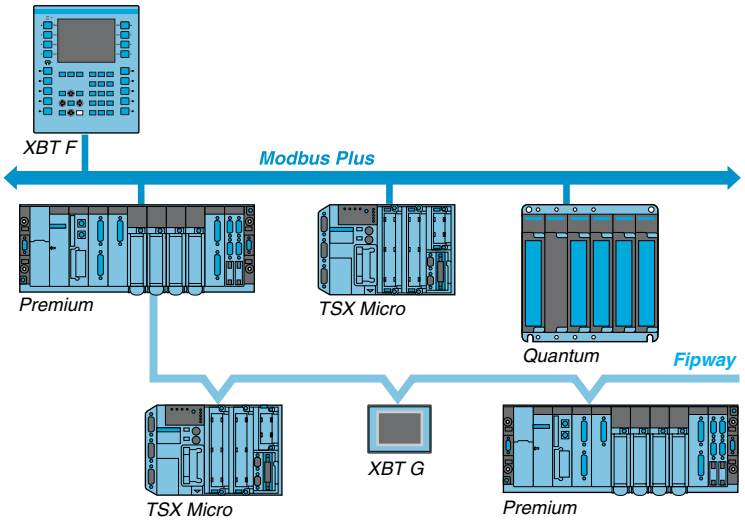


The addition of a type III PCMCIA communication card to graphic terminals enables connection to various industrial buses:
- Fipio Bus (with XBT F).
- Modbus Plus Bus (with XBT F).

XBT F terminals with graphic screen use the bus master PLC to provide operator dialogue and interactive control of various devices connected to the bus.
Several terminals with graphic screen can be connected on the same bus.

Operator dialogue terminals
Architectures, connection to automated systems

Integration in network architectures

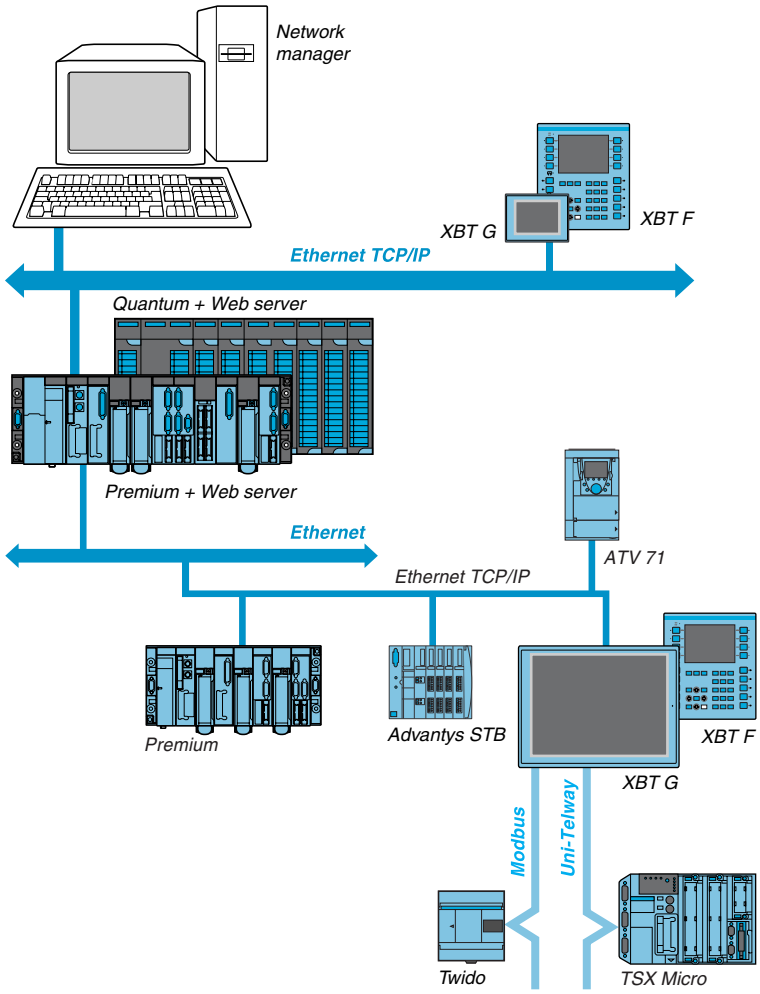


The addition of a type III PCMCIA communication card to graphic terminals means that they can be integrated in single or multi-network architectures:
- Fipway network (with XBT F).
- Modbus Plus network (with XBT).

The following can be connected on the same network:
- One terminal with graphic screen, which has a multistation PLC view.
- Several terminals, which are totally independent.

Each terminal is assigned to controlling specific network stations.

Integration in an architecture with Ethernet TCP/IP network



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

The various services offered are:
- Uni-TE TCP/IP messaging (for XBT F, access via Ethernet TCP/IP X-Way protocol).
- Modbus TCP/IP messaging (for XBT GT and XBT F, access via Ethernet TCP/IP Modbus protocol).

Please refer to our “Ethernet TCP/IP and Web technologies, Transparent Ready” catalogue.

Operator dialogue terminals
Compact display units and terminals
Magelis XBT N and XBT R

Presentation

XBT N200

XBT R411

XBT N401

Magelis XBT N compact display units and Magelis XBT R terminals are used to represent messages and variables.

Various keys can be used to:
- modify variables,
- control the device,
- browse in a dialogue application

The models with the printer link can print alarms messages.

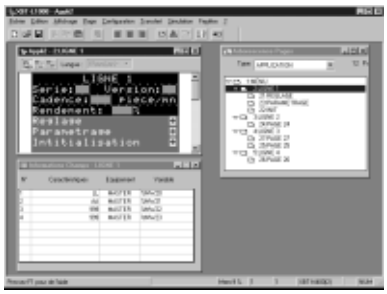
Operation

"Entry" customisation

"Control" customisation

All Magelis compact display units and terminals have the same ergonomic user interface:
- 2 service keys (◀ & ▶), configurable for contextual link or control,
- 2 service keys (ESC, ENTER), non configurable,
- With some additional keys:
  - ◻ XBT N displays: 4 customisable and configurable keys, either as function keys (control mode) or service keys (entry mode).
  - ◻ XBT R terminals: 4 service keys, non configurable and 12 customisable and configurable keys either as function keys or numeric inputs (depending on the context)

Configuration



XBT N400

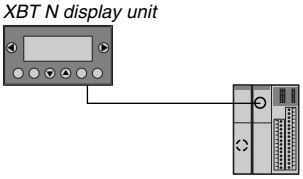
Magelis compact display units and terminals can be configured using the XBT L100● software, in a Windows environment.

The XBT L100● software uses the concept of pages: each page can be viewed in its entirety. A 2 or 4-line window, depending on the model to be configured, enables viewing the screen of this virtual terminal.

The symbol database of Unity Pro, TwidoSoft, PL7 or Concept application can be import in the XBT L1000 operator dialog application

Communication

XBT N display unit



Twido controller

XBT N display units and XBT R terminals communicate with PLCs via an integrated point-to-point or multidrop serial link (depending on the model).

The communication protocols used are those of Schneider Electric PLCs (Uni-TE, Modbus).

Operator dialogue terminals
Compact display units and terminals
Magelis XBT N and XBT R

Functions

XBT N compact display units and XBT R terminals have, on the front panel, function keys and service keys (according to “control” and “entry” customisation).

Function keys F1, F2, F3, F4 for XBT N, F1…F12 for XBT R

Function keys are defined for the whole application.
They can be used for:
- accessing a page,
- latching memory bits,
- toggling memory bits (ON/OFF).
- …

In addition, with XBT R terminal, 12 function keys switch to numeric inputs **1…0**, **+/-** and **.** after action on the **MOD** key.

Service keys

- Service keys ◀, **ESC**, **DEL**, ▼, ▲, **MOD**, **ENTER**, ▶ are used for modifying the parameters of the automated system.

They perform the following actions:

ESC Cancel an entry, suspend or stop a current action, go back up a level in a menu.

DEL Delete the character selected in entry mode.

MOD Select the variable field to enter. Authorise the entry of the next field, on each press, from left to right and top to bottom.

ENTER Confirm a selection or entry, acknowledge an alarm.

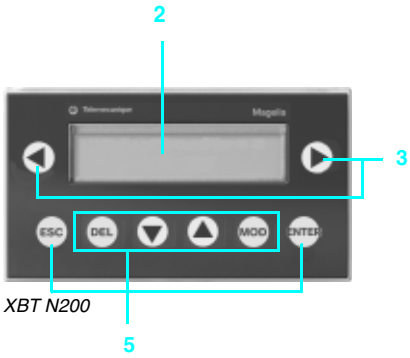
- The “arrow” keys are used to:

◀ ▶
- change page within a menu,
- display the current alarms,
- change a digit in a variable field being entered,
- activate the function associated with a functional link,

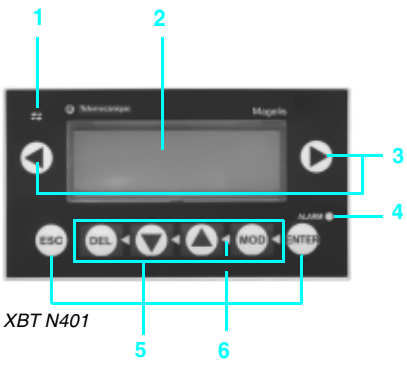
▼ ▲
- move up and down within a page (XBT N4●●/R4●●),
- select the value of a digit,
- select a value from a list of choices,
- increment or decrement the value of a variable field.

Operator dialogue terminals
Compact display units and terminals
Magelis XBT N and XBT R

Description of XBT N compact display units



XBT N200



XBT N401

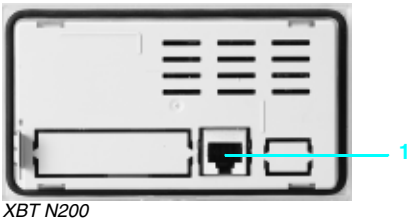
XBT N400 compact display units comprise:

On the front panel

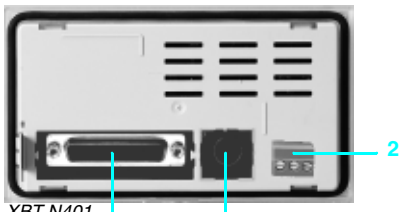
1 A communication monitoring indicator light (XBT N401).
2 A back-lit LCD display.
3 Two control or contextual link keys, non configurable.
4 An “Alarm” indicator light (XBT N401).
5 Six service keys, 4 of which (framed) are configurable as function keys and customisable changeable legends.
6 2 system indicator lights in input mode or 4 indicator lights managed by PLC in control mode (XBT N401).

Supplied separately

■ A sheet of changeable legends:
7 A customisable “entry” legend.
8 A customisable “control” legend F1, F2, F3, F4.
9 A customisable blank legend.
■ 2 spring clips to fix display on panel.



XBT N200



XBT N401

On the rear

XBT N200/N400 display units

1 An RJ45 connector for point to point serial link and ⎓ 5 V power supply (delivered by PLC).

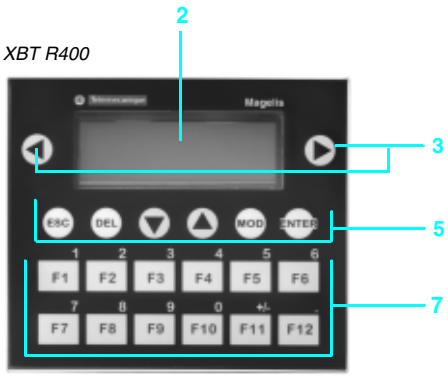
XBT N401/N410/NU400 display units

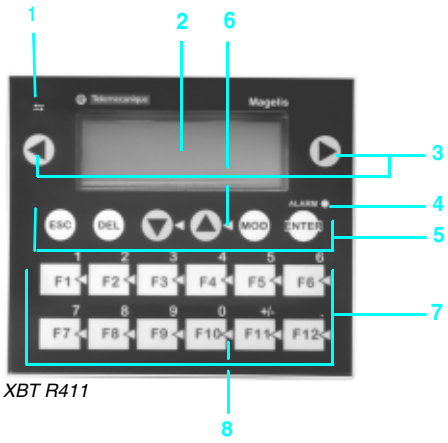
2 A plug-in screw terminal block for ⎓ 24 V external power supply.
3 A 25-way SUB-D type female connector for multipoint serial link.
4 A 8-way mini-DIN female connector for printer link (modèle XBT N401).

Description of XBT R compact terminals

XBT R compact terminals comprise:

XBT R400



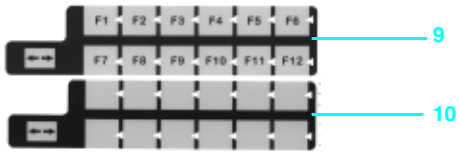


XBT R411

On the front panel

1 A communication monitoring indicator light (XBT R411).
2 A back-lit LCD display : 122 x 32 pixels (matrix screen).
3 Two control or contextual link keys, non configurable.
4 An “Alarm” indicator light (XBT R411).
5 Six service keys.
6 2 system indicator lights (XBT R411).
7 12 function keys or numeric inputs (depending on the context), customisable by changeable legends
8 12 indicator lights (XBT R411), managed by PLC .

Supplied separately



■ A sheet of changeable legends:
9 A customisable “control” legend F1, F2...F12.
10 2 customisable blank legends..
■ 4 spring clips to fix display on panel.

XBT R400

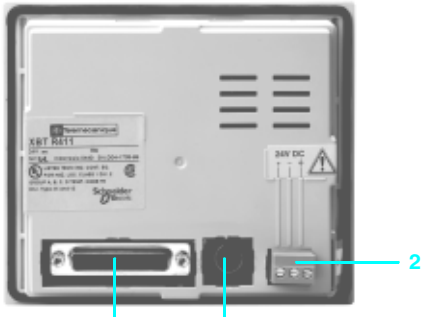
On the rear

XBT R400 terminal

1 An RJ45 connector for point to point serial link and ⎓ 5 V power supply (delivered by PLC).

XBT R410/R411 terminals

2 A plug-in screw terminal block for ⎓ 24 V external power supply.
3 A 25-way SUB-D type female connector for multipoint serial link.
4 A 8-way mini-DIN female connector for printer link (XBT R411).



XBT R411

Operator dialogue terminals
Magelis XBT N compact display units

Type of display unit			XBT N200	XBT N400	XBT N410	XBT N401	XBT NU400
Environment							
Conforming to standards			IEC 61131-2, IEC 60068-2-6, IEC 60068-2-27, UL 508, CSA C22-2 n° 14				
Product certifications			CE, UL, CSA, class 1 Div 2 (UL and CSA), ATEX zone 2/22				
Ambient air temperature	For operation	°C	0…+ 55				
	For storage	°C	- 20…+ 60				
Maximum relative humidity		%	0…85 (without condensation)				
Degree of protection	Front panel		IP 65, conforming to IEC 60529, Nema 4X (“**outdoor use**”)				
	Rear panel		IP 20, conforming to IEC 60529				
Shock resistance			Conforming to IEC 60068-2-27; semi-sinusoidal pulse 11 ms, 15 gn on the 3 axes				
Vibration resistance			Conforming to IEC 60068-2-6 and marine certification; ± 3.5 mm; 2…8.45 Hz; 1 gn 8.75…150 Hz				
E.S.D.			Conforming to IEC 61000-4-2, level 3				
Electromagnetic interference			Conforming to IEC 61000-4-3, 10 V/m				
Electrical interference			Conforming to IEC 61000-4-4, level 3				
Mechanical characteristics							
Mounting and fixing			Flush mounted, fixed by 2 spring clips (included), pressure mounted for 1.5 to 6 mm thick panels				
Material	Screen protection		Polyester				
	Front frame		Polycarbonate/Polybutylene Terephthalate				
	Keypad		Polyester				
Keys			8 keys (6 configurable and 4 with changeable legends)				
Electrical characteristics							
Power supply	Voltage	V	⎓ 5 via PLC terminal port		⎓ 24		
	Voltage limits	V	–		⎓ 18…30		
	Ripple	%	–		5 max.		
Consumption		W	–		5 max.		
Operating characteristics							
Display	Type		Green back-lit LCD	Green back-lit LCD (122 x 32 pixels)		Green, orange or red back-lit LCD (122 x 32 pixels)	Green back-lit LCD (122 x 32 pixels)
	Capacity (height x width)		2 lines of 20 characters (5.55 x 3.2 mm)	From 1 line of 5 characters (17.36 x 11.8 mm) to 4 lines of 20 characters (4.34 x 2.95 mm)			
	Characters fonts		ASCII and Katakana	ASCII, Cyrillic, Greek, Katakana and Chinese (simplified)			
Signalling			–			4 LEDs	–
Dialogue application	Number of pages		128 application pages (2 lines/page max.)	200 application pages (25 lines/page max.) 256 alarm pages (25 lines/page max.)			
Memory			512 Kb Flash				
Transmission	Asynchronous serial link		RS 232C/RS 485				
Downloadable protocols			Uni-TE, Modbus *(1)* and third party protocols (see page 1/30)				Modbus
Real-time clock			Access to the PLC real-time clock				
Connection	Power supply		By the PLC terminal port connecting cable (XBT Z978)		Plug-in terminal block, 3 screw terminals (pitched at 5.08 mm) Maximum clamping capacity: 1.5 mm^2		
	Serial port Connector		Female RJ 45 (RS 232 C/RS 485)		25-way SUB-D type (RS 232C/RS 485)		
	Connection		Point-to-point		Multidrop		
	Printer port		No			8-way female mini-DIN	No

(1) Modbus master for all XBT N. Modbus slave for XBT N410 (input mode) and XBT N401 (input and control modes).

Presentation : pages 1/8 et 1/9

Dimensions: pages 1/54

Operator dialogue terminals
Magelis XBT N compact display units


521355_2

XBT N200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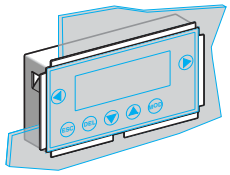
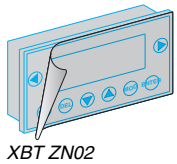
XBT N400/N410/NU400

XBT N401


521377

XBT ZN01


521373

XBT ZN02


521372

XBT Z9780

Magelis compact display units

Downloadable exchange protocol	Compatible PLCs	Supply voltage	Display	Reference	Weight kg
Display unit with 2 lines of 20 characters (with alphanumeric screen)					
Uni-TE, Modbus	Twido, Nano, TSX Micro, Premium	⎓ 5 V via PLC terminal port	Back-lit green LCD	**XBT N200**	0.360
Display units with 4 lignes of 20 characters (with matrix screen)					
Uni-TE, Modbus	Twido, Nano, TSX Micro, Premium	⎓ 5 V via PLC terminal port	Back-lit green LCD (122 x 32 pixels)	**XBT N400**	0.360
	Twido *(1)*, Nano, Micro, Premium, TSX series 7, Momentum, Quantum Other Modus slave equipment	⎓ 24 V external supply	Back-lit green LCD (122 x 32 pixels)	**XBT N410**	0.380
			Back-lit green , orange and red LCD*(2)* (122 x 32 pixels)	**XBT N401**	0.380
Modbus	TeSys model U motor starters *(3)* Altivar drives	⎓ 24 V external supply	Back-lit green LCD (122 x 32 pixels)	**XBT NU400**	0.380

Software

Description	Operating system	Reference	
Configuration software	Windows 98, 2000 and XP	See page 3/7	–

Accessories *(4)*

Description	Description	For use with	Reference	Weight kg
Accessory for flush mounting	Kit for applications requiring a higher degree of protection or customisation of the console, using a flat metal strip (not included)	All XBT N	**XBT ZN01**	–
Protective sheets	10 peel off sheets	All XBT N	**XBT ZN02**	–
Sheets of changeable legends	10 sheets of 6 legends	XBT N200/400	**XBL YN00**	–
		XBT N401 XBT NU400	**XBL YN01**	–
Mechanical adaptator for XBT H substitution	From XBT H0●2●1/H0●1010 to XBT N410	–	**XBT ZNCO**	–
	From XBT H811050 to XBT N400			

Cables and connection accessories *(5)*

Description	Compatibility	Type of connector	Physical link	Protocol	Length m	Reference	Weight kg
Cable for Twido, Nano, TSX Micro and Premium PLCs	XBT N200 XBT N400	RJ45-Mini-DIN	RS 485	Modbus, Uni-TE	2.5	**XBT Z9780**	0.180
Cable for Modicon M340 controller	XBT N200 XBT N400	RJ45-RJ45	RS 485	Modbus, Uni-TE	2.5	**XBT Z9980**	0.180
Adaptator cable	XBT N200 XBT N400 *(6)*	RJ45-RJ45	RS 232C RS 485	Modbus, Uni-TE	0.1	**XBT ZN999**	–
Serial printer cable	XBT N401	Mini-DIN (display unit side)-25way-SUB-D	RS 232C	ASCII	2.5	**XBT Z926**	0.220

(1) Connection via integrated port or optional serial port on the Twido programmable controller.
(2) With also 4 LEDs.
(3) Factory preloaded application for monitoring, diagnostics and adjustment of 1 to 8 TeSys model U motor starters.
(4) For other accessories, see pages 1/30 and 1/31.
(5) For other cables and connection accessories, see page 1/31.
(6) Adaptator cable supplied with **XBT N200/N400** *new version. The* **XBT ZN999** *adaptator is used with the* **XBT N200/N400** *new version and the* **XBT Z978** *cable (replace by* **XBT Z9780***) or with the* **XBT N200/N400** *old version and the new* **XBT Z9780** *cable.*

Telemecanique

Nota : *The new version of XBT N display unit is outside different from the old version by the presence of the* **Telemecanique** *logo on the front panel (on the left above the screen).*

Presentation : pages 1/8 et 1/9
Dimensions: pages 1/54

Operator dialogue terminals
Magelis XBT R compact terminals

Type of terminals			XBT R400	XBT R410	XBT R411
Environment					
Conforming to standards			IEC 61131-2, IEC 60068-2-6, IEC 60068-2-27, UL 508, CSA C22-2 n° 14		
Product certifications			CE, UL, CSA, class 1 Div 2 (UL and CSA), ATEX zone 2/22		
Ambient air temperature	For operation	°C	0…+ 55		
	For storage	°C	- 20…+ 60		
Maximum relative humidity		%	0…85 (without condensation)		
Degree of protection	Front panel		IP 65, conforming to IEC 60529, Nema 4X ("**out door use**")		
	Rear panel		IP 20, conforming to IEC 60529		
Shock resistance			Conforming to IEC 60068-2-27; semi-sinusoïdal pluse 11 ms, 15 gn on the 3 axes		
Vibration resistance			Conforming to IEC 60068-2-6 and marine certification; ± 3.5 mm; 2…8,45 Hz; 1 gn 8,45…150 Hz		
E.S.D.			Conforming to IEC 61000-4-2, level 3		
Electromagnetic interference			Conforming to IEC 61000-4-3, 10 V/m		
Electrical interference			Conforming to IEC 61000-4-4, level 3		
Mechanical characteristics					
Mounting and fixing			Flush mounted, fixed by 4 spring clips (included), pressure mounted for 1.5 to 6 mm thick panels		
Material	Screen protection		Polyester		
	Front frame		Polycarbonate/Polybutylene Terephthalate		
	Keypad		Polyester		
Keys			20 keys of which 12 configurables and changeable legends		
Electrical characteristics					
Power supply	Voltage	V	⎓ 5, via PLC terminal port	⎓ 24	
	Voltage limits	V	–	⎓ 18…30 V	
	Ripple	%	–	5 maximum	
Consumption		W	–	5 maximum	
Operating characteristics					
Display	Type		Green back-lit LCD (122 x 32 pixels)		Green, orange or red back-lit LCD (122 x 32 pixels)
	Capacity (height x width)		From 1 line of 5 characters (17.36 x 11.8 mm) to 4 lines of 20 characters (4.34 x 2.95 mm)		
	Fonts		Latin, Cyrillic, Greek, Katakana et Chinese simplified		
Signalling			–		16 LEDs
Dialogue application	Number of pages		200 application pages (25 lines/page max.) 256 alarm pages (25 lines/page max.)		
Memory			512 Kb Flash		
Transmission	Asynchronous serial link		RS 232 C/RS 485		
Downloadable protocols			Uni-TE, Modbus *(1)* and third party protocols (see page 1/30)		
Real-time clock			Access to the PLC real-time clock		
Connection	Power supply		By the PLC terminal port connecting cable (XBT Z9780)	Plug-in terminal block, 3 screw terminals (pitched at 5.08 mm) Maximum clamping capacity: 1.5 mm^2	
	Serial port — Connector		Female RJ 45 (RS 232C/RS 485)	25-way SUB-D type (RS 232C/RS 485)	
	Serial port — Connection		Point-to-point	Multidrop	
	Printer port		No		8-way female mini-DIN

(1) Modbus master for all XBT R terminals. Modbus slave for the **XBT R411** *terminal.*

Operator dialogue terminals
Magelis XBT R compact terminals

XBT R400/R410

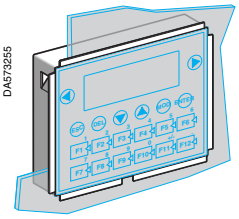
XBT R411

Magelis compacts terminals

Downloadable exchange protocol	Compatible PLCs		Screen type	Reference	Weight kg
Terminals with 4 lines of 20 characters (with matrix screen)					
Uni-TE, Modbus	Twido, Nano, TSX Micro, Premium	⎓ 5 V via PLC terminal port	Green back-lit LCD (122 x 32 pixels)	**XBT R400**	0.550
	Twido *(1)*, Nano, TSX Micro, Premium, TSX série 7, Momentum, Quantum Other Modbus slave devices	⎓ 24 V external supply	Green back-lit LCD (122 x 32 pixels)	**XBT R410**	0.550
			Green, orange or red back-lit LCD (122 x 32 pixels) *(2)*	**XBT R411**	0.550

Software

Description	Operating system	Reference	Weight kg
Configuration software	Windows 98, 2000 or XP	See page 3/7	–



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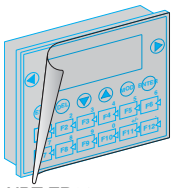
XBT ZR01



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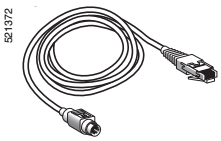
XBT ZR02

Accessories *(3)*

Description	Composition	For use with	Reference	Weight kg
Accessory for flush mounting	Kit for applications requiring a higher degree of protection or customisation of the console, using a flat metal strip (not included)	All XBT R	**XBT ZR01**	–
Protective sheets	10 peel off sheets	All XBT R	**XBT ZR02**	–
Sheets of changeable legends	10 sheets of 6 legends	XBT R400/R410	**XBL YR00**	–
		XBT R411	**XBL YR01**	–
Mechanical adaptator for XBT P substitution	From XBT P01●010/P02●010 to XBT R410	–	**XBT ZRCO**	–
	From XBT P02●110 to XBT R411			



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XBT Z9780

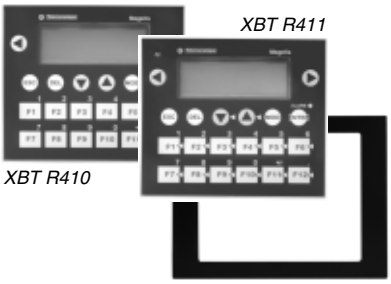
Cables and connection accessories *(4)*

Description	Compatibility	Type of connector	Physical link	Protocol	Length m	Reference	Weight kg
Cable for Twido controller, Nano, TSX Micro and Premium PLCs	XBT R400	RJ45-Mini-DIN	RS 485	Modbus, Uni-TE	2.5	**XBT Z9780**	0.180
Cable for Modicon M340 controller	XBT R400	RJ45-RJ45	RS 485	Modbus, Uni-TE	2.5	**XBT Z9980**	0.180
Cable for serial printer	XBT R411	Mini-DIN (terminal side) - 25-way SUB-D	RS 232C	ASCII	2.5	**XBT Z926**	0.220

(1) Connection via integrated port or optional serial port on the Twido controller.
(2) With 16 LEDs indicator lights.
(3) For other accessories, see pages 1/30 and 1/31.
(4) For other cables and connection accessories, see page 1/31.

Operator dialogue terminals
Compact terminals
Correspondance table of Magelis XBT P/XBT R

Correspondance table of XBT P to XBT R terminals



Old range XBT P	New range XBT R *Requires* *XBT L1000 ≥ V4.42 (1)*	Panel cut-out adaptator *(2)*
XBT P011010	**XBT R410**	**XBT ZRCO**
XBT P012010	**XBT R410**	**XBT ZRCO**
XBT P021010	**XBT R410**	**XBT ZRCO**
XBT P021110	**XBT R411**	**XBT ZRCO**
XBT P022010	**XBT R410**	**XBT ZRCO**
XBT P022110	**XBT R411**	**XBT ZRCO**

(1) Form printing function is not supported.
(2) Panel cut-out adaptator for mounting of XBT R terminal instead to subsitued XBT P.

Correspondance table of cordsets to Telemecanique products

Synthesis

Old range XBT P	New range XBT R	
Type of link	**Type of link**	**Cordset**
Serial port, SUB-D 25 RS 232C/RS 485/RS 422,	Serial port, SUB-D 25 RS 232C/RS 485	*Current cordset, see below*
Printer port, SUB-D 9 (XBT P02●110 model)	Printer port, mini-DIN 8 (XBT R411 model)	**XBT Z926** *(new cordset)*

Correspondance table of cordsets

Old range XBT P				New range XBT R			
Type of terminal	**Type of link**	**Lenght**	**Reference**	**Type of terminal**	**Type of link**	**Lenght**	**Reference**
Twido, Modicon TSX Micro, Modicon Premium, terminal port mini-DIN 8-way female, Uni-TE (V1/V2) and Modbus protocols							
XBT P	Serial port RS 485, SUB-D 25	2.5 m	**XBT Z968**	XBT R	Serial port RS 485, SUB-D 25	2.5 m	**XBT Z968**
		5 m	**XBT Z9681**			5 m	**XBT Z9681**
		2.5 m coudé	**XBT Z9680**			2.5 m coudé	**XBT Z9680**
Modicon Premium with TSX SCY 2160●, 25-way female SUB-D connector, Uni-TE protocol (V1/V2)							
XBT P	Serial port RS 485, SUB-D 25	2.5 m	**XBT Z918**	XBT R	Serial port RS 485, SUB-D 25	2.5 m	**XBT Z918**
Modicon Quantum, 9-way male SUB-D connector, Modbus protocol							
XBT P	Serial port RS 232C, SUB-D 25	2.5 m	**XBT Z9710**	XBT R	Serial port RS 232C, SUB-D 25	2.5 m	**XBT Z9710**
Advantys STB, HE13 connector (NIM network interface module), Modbus protocol							
XBT P	Serial port RS 232C, SUB-D 25	2.5 m	**XBT Z988**	XBT R	Serial port RS 232C, SUB-D 25	2.5 m	**XBT Z988**
Modicon Momentum M1, RJ45 connector (port 1), Modbus protocol							
XBT P	Serial port RS 232C, SUB-D 25	2.5 m	**XBT Z9711**	XBT R	Serial port RS 232C, SUB-D 25	2.5 m	**XBT Z9711**
TeSys U starter-controllers, ATV 31/61/71 speed drives, ATS 48 soft starters, RJ45 connector, Modbus protocol							
XBT P	Serial port RS 485, SUB-D 25	2.5 m	**XBT Z938**	XBT R	Serial port RS 485, SUB-D 25	2.5 m	**XBT Z938**
LT6 P multifunction protection relay , 9-way female SUB-D 9 connector, Modbus protocol							
XBT P	Serial port RS 232C, SUB-D 25	2.5 m	**XBT Z938**	XBT R	Serial port RS 232C, SUB-D 25	2.5 m	**XBT Z938**

Correspondance table of application transfer cordsets to PC and printer cordset

Old range XBT P				New range XBT R			
Type of terminal	**Type of link**	**Lenght**	**Reference**	**Type of terminal**	**Type of link**	**Lenght**	**Reference**
Application transfer cordsets to PC							
XBT P	SUB-D25/SUB-D 9	2.5 m	**XBT Z915**	XBT R	SUB-D25/SUB-D 9	2.5 m	**XBT Z915**
	SUB-D25/USB	2.5 m	**XBT Z915 + adaptator SR2 CBL 06**		SUB-D25/USB	2.5 m	**XBT Z915 + adaptator SR2 CBL 06**
Cordset to serial printer							
XBT P	Printer port, SUB-D 9	2.5 m	**XBT Z936**	XBT R	Printer port, mini-DIN 8	2.5 m	**XBT Z926**

References :
pages 1/15 and 1/31

Operator dialogue terminals
Compact terminals
Correspondance table of Magelis XBT P/XBT R

Correspondance table of downloadable third party protocols

PLC brand	Compatibility		Protocol name
	XBT P	XBT R	
Allen-Bradley	■	■	DF1/DH485
GE Fanuc	■	–	SNPX
Omron	■	■ (en RS 232)	Sysmacway
Siemens	■	■	PPI
	■	–	AS511, 3964R, MPI

Correspondance table of cordsets for connection to third-party PLCs

Omron CQM1 & CVM1 PLCs, Sysmac

Old range XBT P					New range XBT R				
Type of terminal	**Type of connectors**	**Serial port**	**Lenght**	**Reference**	**Type of terminal**	**Type of connectors**	**Serial port**	**Lenght**	**Reference**
Sysmacway protocol									
XBT P	SUB-D 25/SUB-D 9	RS 232	2.5 m	**XBT Z9740**	XBT R	SUB-D 25/SUB-D 9	RS 232C	2.5 m	**XBT Z9740**

Rockwell PLCs, Allen Bradley

Old range XBT P					New range XBT R				
Type of terminal	**Type of connectors**	**Serial port**	**Lenght**	**Reference**	**Type of terminal**	**Type of connectors**	**Serial port**	**Lenght**	**Reference**
DF1 protocol									
XBT P *SLC5 PLCs*	SUB-D 25/SUB-D 9	RS 232C	2.5 m	**XBT Z9730**	XBT R *SLC5 PLCs*	SUB-D 25/SUB-D 9	RS 232C	2.5 m	**XBT Z9730**
XBT P *PLC5 PLCs*	SUB-D 25/SUB-D 25	RS 232C	2.5 m	**XBT Z9720**	XBT R *PLC5 PLCs*	SUB-D 25/SUB-D 25	RS 232C	2.5 m	**XBT Z9720**
XBT P *Micro-logix PLCs*	SUB-D 25/ Micro-logix 1000	RS 232C	2.5 m	**XBT Z9731**	XBT R *Micro-logix PLCs*	SUB-D 25/ Micro-logix 1000	RS 232C	2.5 m	**XBT Z9731**
DH 485 protocol									
XBT P *Micro-logix PLC*	SUB-D 25/ Micro-logix 1000	RS 232C	2.5 m	**XBT Z9732**	XBT R *Micro-logix PLC*	SUB-D 25/ Micro-logix 1000	RS 232C	2.5 m	**XBT Z9732**

Siemens PLCs, Simatic

Old range XBT P					New range XBT R				
Type of terminal	**Type of connectors**	**Serial port**	**Lenght**	**Reference**	**Type of terminal**	**Type of connectors**	**Serial port**	**Lenght**	**Reference**
PPI protocol (S7)									
XBT P	SUB-D 25/SUB-D 9	RS 485	2.5 m	**XBT ZG9721**	XBT R	SUB-D 25/SUB-D 9	RS 485	2.5 m	**XBT ZG9721**

Correspondance table of Uni-Telway serial link connection

Old range XBT P					New range XBT R				
Type of terminal	**Type of connectors**	**Serial port**	**Lenght**	**Reference**	**Type of terminal**	**Type of connectors**	**Serial port**	**Lenght**	**Reference**
On TSX SCA 62 passive 2-channel subscriber socket									
XBT P	SUB-D 25/SUB-D 15	RS 485	1.8 m	**XBT Z908**	XBT R	SUB-D 25/SUB-D 15	RS 485	1.8 m	**XBT Z908**
On TSX P ACC 01 terminal port connection box									
XBT P	SUB-D 25 / mini-DIN 8	RS 485	2.5 m	**XBT Z968**	XBT R	SUB-D 25/mini-DIN 8	RS 485	2.5 m	**XBT Z968**
			5 m	**XBT Z9681**				5 m	**XBT Z9681**

Correspondance table of Modbus serial link connection

Old range XBT P					New range XBT R				
Type of terminal	**Type of connectors**	**Serial port**	**Lenght**	**Reference**	**Type of terminal**	**Type of connectors**	**Serial port**	**Lenght**	**Reference**
On TSX SCA 64 passive 2-channel subscriber socket									
XBT P	SUB-D 25/SUB-D 15	RS 485/ RS422	1.8 m	**XBT Z908**	XBT R	SUB-D 25/SUB-D 15	RS 485/ RS422	1.8 m	**XBT Z908**
On LU9 GC3 8-port splitter box									
XBT P	SUB-D 25/RJ45	RS 485	2.5 m	**XBT Z938**	XBT R	SUB-D 25/RJ45	RS 485	2.5 m	**XBT Z938**

References : pages 1/15 and 1/31

Operator dialogue terminals

Magelis display units and terminals
with alphanumeric screen and with matrix screen

Presentation

XBT HM

XBT PM

XBT HM/PM terminals with alphanumeric screen are used to represent messages and variables. Various keys can be used:
- to modify variables,
- to control the device,
- to browse in a dialogue application.

For models which have a printer output, the display units and terminals can also be used to print alarm messages and print-out form pages.

XBT HM/PM terminals with matrix screen can also be used to display bitmap images and animated bar chart and gauge objects.

Operation

All Magelis display units and terminals with alphanumeric and matrix screen have the same ergonomic user interface:
- function keys,
- service keys,
- numeric or alphanumeric keys.

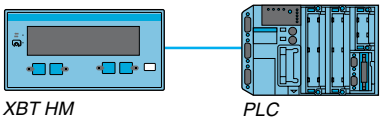
Configuration

Magelis display units and terminals can be configured using the same XBT L1003 software in a Windows environment.

For terminals with alphanumeric screen, XBT L1003 software uses the concept of pages: each page can be viewed in its entirety.
A 2 or 4-line window, depending on the model, simulates what will appear on the product screen.

For XBT HM/PM terminals with matrix screen, XBT L1003 software offers up to 8 lines of 40 characters, and animated bar chart and gauge objects.

Communication



XBT HM *PLC*

XBT HM/PM terminals communicate with PLCs via an integrated point-to-point or multidrop serial link.

The communication protocols used are those of Schneider Electric PLCs, as well as those of the other major manufacturers on the market.

XBT HM/PM terminals also communicate on the AS-Interface cabling system bus using the 22.5 pitched module.

Characteristics : page 1/20
References : page 1/21
Dimensions : page 1/54

Operator dialogue terminals
Magelis display units and terminals with alphanumeric screen and with matrix screen

Functions

XBT HM/PM display units and terminals have (depending on the model) function keys and service keys on the front panel.

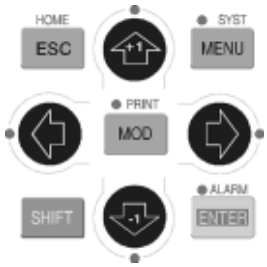
Function keys

Function keys are defined for the whole application. They can be used for:
- accessing a page,
- latching memory bits,
- toggling memory bits (ON/OFF).

Service keys

Services keys are the “arrow keys” and the control keys combined, and are used for modifying the parameters of the automated system.
The control keys are used to perform the following actions:

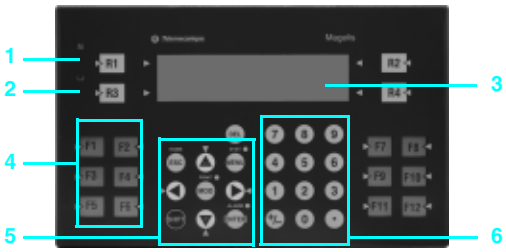
ENTER Confirm a selection or entry, acknowledge an alarm.
MOD Change to the mode for entering pages, passwords, fields or graphic objects.
ESC Cancel an entry, suspend or stop a current action.
SHIFT Access the second of the dual key functions.
MENU Access a menu containing the operating functions.
HOME Return to the entry point of the current menu.
Example: return to the first page of the application.
SYST Access the confidential mode which contains the setup functions.
ALARM View the alarms.
PRINT Print.



The “arrow” keys are used to:
- change page within a menu,
- move within a page,
- select the value of a digit,
- select a value from a list of choices,
- increment or decrement the value of a variable field, when used with the **SHIFT** key.

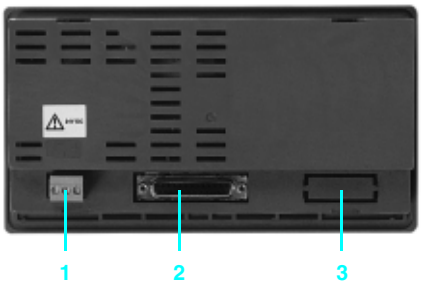
Description

XBT HM/PM display units and terminals comprise:



On the front panel

1 A communication monitoring indicator light.
2 A keypad activity indicator light (depending on model).
3 Fluorescent or back-lit LCD display.
4 Function keys with indicator light and changeable legends.
5 Service keys with indicator light.
6 Twelve numeric keys (for XBT PM027●10)



On the rear

1 A plug-in screw terminal block for ⎓ 24 V power supply and a connection for the alarm relay (depending on model).
2 A 25-way female SUB-D connector for connection to PLCs or compatible PC.
3 A 9-way male SUB-D connector for the printer connection (depending on model).

Characteristics : page 1/20
References : page 1/21
Dimensions : page 1/54

Operator dialogue terminals

Magelis display units and terminals with matrix screen

XBT HM/XBT PM with 8-line

Type of display unit and terminal		XBT HM0●7●10	XBT PM027●10
Environment			
Conforming to standards		IEC 61131-2, IEC 60068-2-6, IEC 60068-2-27, UL 508, CSA C22-2 n° 14	
Product certifications		CE, UL, CSA	CE, UL Class 1, Div 2. Group A, B, C, D-T5, CSA Class 1, Div 2. Group A, B, C, D-T5
Temperature	Operation	0…+ 50 °C	
	Storage	- 20…+ 60 °C	
Degree of protection		IP 65, conforming to IEC 60529, Nema 4	
Vibration		Conforming to IEC 60068-2-6; 2 to 11.2 Hz at 1 mm; 11.2 to 150 Hz, 1 gn for 3 hours per axis	
Mechanical characteristics			
Mounting and fixing		Flush mounted, fixed by 6 spring clips (included), pressure mounted (on 1.6 to 6 mm thick panel)	
Material	Enclosure	Polyphenyl oxide, 10% glass fibre (PPO GFN1 SE1)	
	Keypad	Anti-UV treated toughened polyester (Autoflex EB AG)	
	Screen protection	Glass, 3 mm thick	

	XBT	HM007010	HM027010	HM017●10	PM027●10
Keys	Function keys	–	4	–	12
	Service keys	–	1	5	10
	Numeric keys	–	–	–	12
	Dynamic function keys		–	–	4

Electrical characteristics					
Display	Type	Back-lit LCD (240 x 64 pixels)			
	Capacity	8 lines of 40 characters (height 5.3 mm) single height, 4 lines of 20 characters (height 10.6 mm) double height, double width			
Power supply	Voltage	⎓ 24 V non isolated			
	Voltage limits	18…30 V			
	Ripple	5% maximum			
Consumption		15 W			
Operating characteristics					
	XBT	**HM007010**	**HM027010**	**HM017●10**	**PM027●10**
Signalling		1 LED	6 LEDs	4 LEDs	21 LEDs
Memory		384 Kb Flash EPROM 600 application pages approx. (8 lines per page max.) 256 available alarm pages (8 lines per page max.) 256 print-out form pages (**XBT HM017110** only)			512 Kb Flash EPROM 800 application pages approx. (8 lines per page max.) 256 available alarm pages (8 lines per page max.) 256 print-out form pages (**XBT PM027110** only)
Log function		Possibility of storing alarm pages (**XBT HM017110** and **XBT PM027110**) for print-out			
Transmission (asynchronous serial link)		RS 232 C/RS 485/RS 422			
Downloadable protocol		Multiple (see pages 1/18 and 1/30)			
Real-time clock		Access to the PLC real-time clock			
Printer link (asynchronous serial link)		RS 232 C (**XBT HM017110** and **XBT PM027110**)			
Alarm relay		1 N/O contact (min. 1 mA/⎓ 5 V, max. 0.5 A/⎓ 24 V)			
Connection	Power supply	Plug-in terminal block 3 screw terminals (pitched at 5.08 mm) Maximum clamping capacity: 1.5 mm^2			
	Serial port	25-way female SUB-D connector			
	Printer port	9-way male SUB-D connector			

References: page 1/21

Dimensions, mounting: page 1/54

Operator dialogue terminals

Magelis display units and terminals with matrix screen

XBT HM/XBT PM with 8-line

802942

XBT HM007010

802943

XBT HM027010

802944

XBT HM017●10

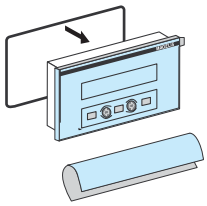
Display units with 8-line matrix screen of 40 characters (back-lit LCD)

Downloadable exchange protocol	Number of keys: Function	Service	Numeric	Supply voltage V ⎓	Language version	Reference	Weight kg
Without printer port, without log							
See page 1/30	–	–	–	⎓ 24 V	Multilingual	**XBT HM007010**	0.600
	4	1	–	⎓ 24 V	Multilingual	**XBT HM027010**	0.600
	–	5	–	⎓ 24 V	Multilingual	**XBT HM017010**	0.600
With printer port, with log							
See page 1/30	–	5	–	⎓ 24 V	Multilingual	**XBT HM017110**	0.600

XBT PM027●10

Terminals with 8-line matrix screen of 40 characters (back-lit LCD)

Downloadable exchange protocol	Number of keys: Function	Service	Numeric	Dynamic	Supply voltage V ⎓	Language version	Reference	Weight kg
Without printer port, without log								
See page 1/30	12	10	12	4	⎓ 24 V	Multilingual	**XBT PM027010**	0.600
With printer port, with log								
See page 1/30	12	10	12	4	⎓ 24 V	Multilingual	**XBT PM027110**	0.600



Separate parts

Description	Usage	Reference	Weight kg
Development software XBT L1000	Under Windows 98, 2000 or XP, for downloading the application and protocols	See page 3/7	–
Connecting cables, accessories	Connection to PLCs, configuration terminals, etc.	See page 1/31	–
Protective sheets (5 peels off sheet and 2 gaskets)	Protective screen and front face XBT HM	**XBT ZHM**	–
	Protective screen and front face XBT PM	**XBT ZPM**	–

Characteristics: page 1/20

Dimensions, mounting: page 1/54

Operator dialogue terminals
Magelis XBT F graphic terminals

Presentation

XBT F03

XBT F01/F02

Magelis operator dialogue terminals with graphic screen are available with 5.7” or 10.4” colour screen, with a keypad or a touch-sensitive screen.
XBT F graphic terminals are specially designed for graphic operator dialogue functions.

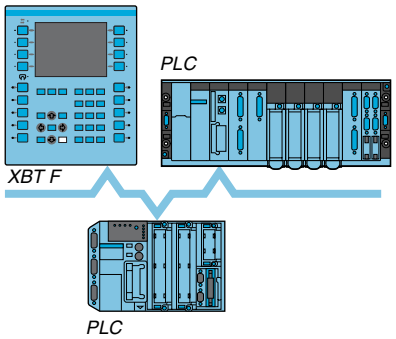
Operation

All Magelis graphic terminals have the same ergonomic user interface:
- static and dynamic function keys,
- service keys,
- alphanumeric keys,
- touch-sensitive keys.

Configuration

Magelis graphic terminals can be configured using the same XBT L1003 software in a Windows environment.
For both graphic terminals and stations, the XBT L1003 software provides a library of animated graphic objects such as bar charts, gauges, selectors, potentiometers and trending curves.
A library of bitmap symbols is also available with XBT L1003 software.
The variable for animating an object can be selected directly from a list of symbols given by the Unity Pro, PL7 and Concept softwares.
The application programme for the graphic terminals and stations is stored on a PCMCIA memory card.

Communication



XBT F graphic terminals communicate with PLCs via an integrated point-to-point or multidrop serial link, or via a fieldbus using a type III PCMCIA card.
The communication protocols used are those of Schneider Electric PLCs, as well as those of the other major manufacturers on the market.
XBT F (10.4”) graphic terminals can also be connected to an Ethernet TCP/IP network.

Functions : pages 1/23 et 1/24
Description : page 1/25
Characteristics : page 1/26 et 1/28
References : page 1/27 et 1/29
Dimensions : page 1/55

Operator dialogue terminals
Magelis XBT F graphic terminals

Functions

XBT F graphic terminals have the following functions:
- display of animated synoptic screens, control, modification of numeric and alphanumeric variables,
- display of a service line (status and alarm bar) with the current time,
- dynamic visualisation of operating data (settings, measurements, recipes, maintenance messages) and process errors,
- control via dynamic or static function keys,
- scaling of analogue variables,
- real-time and trending curves,
- alarm log and management of alarm groups,
- management of help pages, form pages, recipe pages,
- pages can be called up by the user or by the PLC,
- three levels of password,
- printing of form pages, date and time stamped log and alarms,
- communication protocol application support in the type II PCMCIA application memory card.

The role of the function keys is defined using the XBT L1003 software. Modifications cannot be made during operation.
Each function key can be associated with an internal bit of the PLC application.

Static function keys

Static function keys are defined for the whole application.

They can be used for:
- accessing a page,
- setting latching memory bits,
- toggling memory bits (ON/OFF).

Static keys can be marked with changeable legends.

Dynamic function and touch-sensitive keys

Dynamic function and touch-sensitive keys are associated with a page. Their role can therefore differ from one page to another.

They can be used for:
- accessing a page,
- setting latching memory bits,
- toggling memory bits (ON/OFF),
- access to the modification of a value,
- direct writing.

Each dynamic key and touch-sensitive key can be assigned a label or icon illustrating its function.
On touch-sensitive terminals, the touch-sensitive zones function in a similar way to the dynamic keys on keypad terminals.

1

Functions (continued)

Service keys

Service keys are the “arrow” keys and the control keys combined, and are used for modifying the parameters of the automated system.

The control keys are used to perform the following actions:

ENTER Confirm a selection or entry, acknowledge an alarm.

MOD Change to the mode for entering pages, password, fields or graphic objects.

ESC Cancel an entry, suspend or stop a current action. Successively display previous pages. Quit the alarm display.

SHIFT Access the second of the dual key functions.

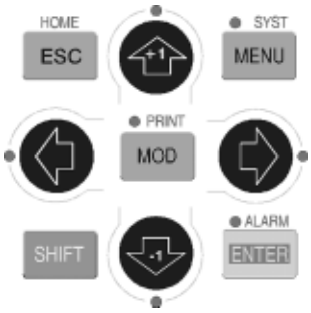
MENU Access to a menu containing the operating functions which do not have direct access keys.

HOME Return to the entry point of the current menu.
Example: return to the first page of the application.

SYST Access the confidential mode which contains the password protected setup functions.

ALARM View the alarms.

PRINT Print.



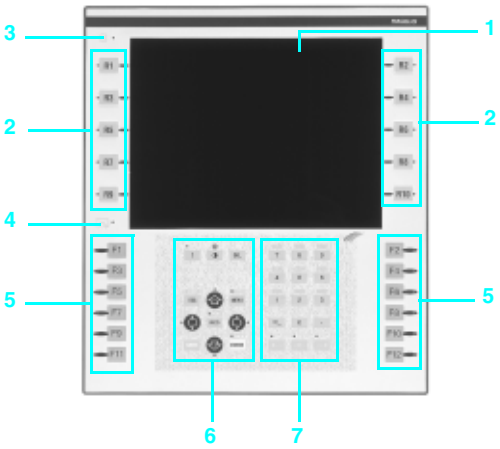
The “arrow” keys are used to:
- change page within a menu,
- change fields on a page,
- select an object on a page,
- move within a page,
- select the value of a digit,
- select a value from a list of choices,
- increment or decrement the value of a variable field,

when used with the **SHIFT** key.

Operator dialogue terminals
Magelis XBT F graphic stations

Front panel of graphic terminals

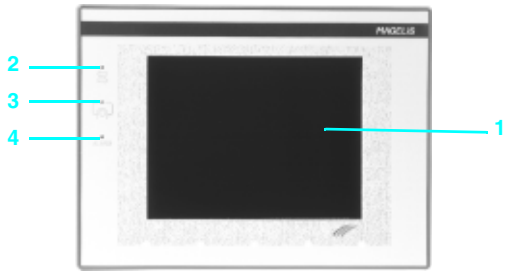
Graphic terminals with keypad, XBT F01/F02



XBT F01/F02 keypad terminals have the following on the front panel:

1 A colour screen 5.7” or 10.4”.
2 2 x 4 or 2 x 5 (depending on model) dynamic function keys with indicator lights.
3 A communication monitoring indicator light.
4 A keypad activity indicator light.
5 2 x 5 or 2 x 6 (depending on model) static function keys with indicator lights and changeable legends.
6 Twelve service keys with indicator lights.
7 Twelve alphanumeric keys (0…9, +/-, .) associated with 3 alphabetical access keys (A…Z).

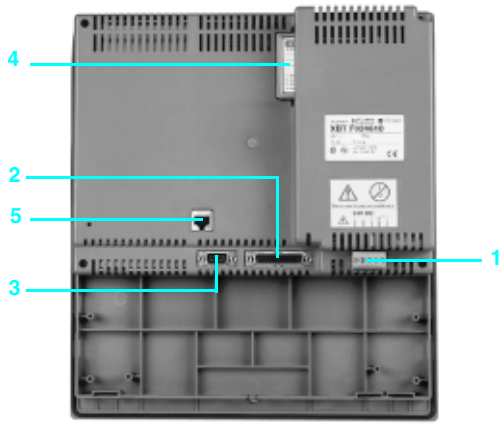
Graphic terminals with touch-sensitive screen, XBT F03



XBT F03 touch-sensitive screen terminals have the following on the front panel:

1 A touch-sensitive colour screen 10.4”.
2 A communication monitoring indicator light.
3 A tactile feedback activity indicator light.
4 An alarm indicator light.
.

Rear panel of graphic terminals XBT F



XBT F graphic terminals have the following on the rear panel:

1 A plug-in screw terminal block for ⎓ 24 V power supply and a connection for the alarm relay.
2 A 25-way female SUB-D connector for connection to PLCs.
3 A 9-way male SUB-D connector for printer connection and for transferring applications from a PC compatibles.
4 Two slots for PCMCIA card:
- one type II for application memory support,
- one type III for connection to the communication architecture (bus or network).
5 An RJ 45 connector for connection to the Ethernet TCP/IP network (depending on model).

Operator dialogue terminals
Graphic terminals with keypad
Magelis XBT F with 5.7” screen

Type of terminal		XBT F011●10
Environment		
Conforming to standards		IEC 61131-2, IEC 61000-4-2 level 3, IEC 61000-4-3 and IEC 61000-4-4 level 3, IEC 60068-2-6, IEC 60068-2-27, UL 508, CSA
Product certifications		CE, UL class 1 Div 2. Group A, B, C, D-T4A, CSA class 1 Div 2. Group A, B, C, D-T4A
Temperature	Operation	0…+ 45 °C
	Storage	- 20…+ 60 °C
Relative humidity		0…85% (without condensation)
Degree of protection	Front panel	IP 65, conforming to IEC 60529, Nema 4
	Rear panel	IP 20, conforming to IEC 60529
Shock resistance		Conforming to IEC 60068-2-27; semi-sinusoidal pulse 11 ms, 15 gn on the 3 axes
Vibration		Conforming to IEC 60068-2-6; 10 to 57 Hz at 0.075 mm; 57 to 150 Hz, 1 gn for 3 hours per axis
E.S.D.		Conforming to IEC 61000-4-2, level 3
Electromagnetic interference		Conforming to IEC 61000-4-3, 10 V/m
Electrical interference		Conforming to IEC 61000-4-4, level 3
Mechanical characteristics		
Mounting and fixing		Flush mounted, fixed by spring clips (included), pressure mounted (on 1.6 to 6 mm thick panel)
		10 spring clips
Material	Screen protection	Glass, 3 mm thick
	Front frame	Polyphenyl oxide, 10% glass fibre (PPO GFN1 SE1)
	Keypad	Anti-UV treated toughened polyester (Autoflex EB AG)
	Enclosure	Polyphenyl oxide, 10% glass fibre (PPO GFN1 SE1)
Keys	Dynamic keys	8 (with LED)
	Static keys	10 (with LED and changeable legends)
	Service keys	12
	Alphanumeric keys	12 + 3 for alphabetical access
Electrical characteristics		
LCD screen	Type	5.7” TFT 256 colors
	Definition	320 x 240 pixels
	Luminescence (cd/m²)	130
Optimum viewing angle (degrees)	Vertical top	20
	Vertical bottom	20
	Vertical right	30
	Vertical left	30
Power supply	Voltage	⎓ 24 V non isolated
	Limits	18…30 V, including 5% maximum ripple, 1 ms maximum microbreaks
	Protection	Against polarity inversion and overloads
Consumption		35 W
Operating characteristics		
Signalling		1 communication monitoring LED and 1 keypad activity (or tactile feedback activity) LED and 11 LEDs associated with service and alphanumeric keys
Operating system/Processor		Magelis/Celeron
Dynamic RAM memory		2.5 Mb
Application memory		On type II PCMCIA card: 16 Mb (included)
Dialogue application	Maximum number of pages	50 to 450 application, alarm, help, form and recipe pages depending on the memory card used (512 alarms max., 256 form max.)
	Curves	16 real-time curves
	Recipes	5000 parameter values max., in a maximum of 125 recipe records
Connections	PLC/configuration PC	19200 baud RS 232 C/RS 422/485 isolated serial link, downloadable communication protocols (see page 1/22 and page 1/30)
	Printer	RS 232 C serial link
	Bus or network	Slot for type III PCMCIA communication card depending on model, communication protocols (see page 1/30)
Real-time clock		Access to the PLC real-time clock
Alarm relay		1 volt-free N/O contact, max. 0.5 A ⎓/∿ 24 V
Connection	Power supply and alarm relay	Plug-in terminal block, 5 screw terminals (pitched at 5.08 mm). Maximum clamping capacity: 1.5 mm²
	PLC	25-way female SUB-D connector
	Printer/configuration PC	9-way male SUB-D connector

References: page 1/27
Dimensions: page 1/55

Operator dialogue terminals
Graphic terminals with keypad
Magelis XBT F with 5.7” screen

XBT F011●10

Graphic terminals with keypad

Downloadable exchange protocol	Screen type and size	Supply voltage V ⎓	Type III slot for PCMCIA communication card	Reference	Weight kg
See page 1/30	Colour 5.7”	24	No	**XBT F011110**	1.800
			Yes	**XBT F011310**	1.800

Separate parts

Description	Usage	Reference	Weight kg
Development software XBT L1000	Under Windows 98, 2000 or XP, for downloading the application and protocols	See page 3/7	–
Connecting cables, accessories	Connection to PLCs, configuration terminals, etc.	See page 1/31	–
Protective sheets (5 peels off sheet and 2 gaskets)	Protective screen XBT F011	**XBT ZF011**	–
	Protective screen XBT F032	**XBT ZF032**	–

Characteristics: page 1/26
Dimensions: page 1/55

Operator dialogue terminals

Graphic terminals with keypad or touch-sensitive screen

Magelis XBT F with 10.4” screen

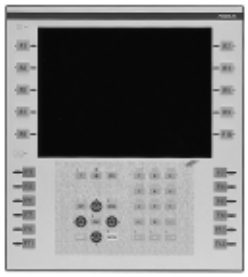
Type of terminal		XBT F024110	XBT F024510/24610	XBT F034110	XBT F034510/34610
Environment					
Conforming to standards		IEC 61131-2, IEC 61000-4-2 level 3, IEC 61000-4-3 and IEC 61000-4-4 level 3, IEC 60068-2-6, IEC 60068-2-27, UL 508, CSA			
Product certifications		CE, UL Class 1, Div 2. Group A, B, C, D-T4A, CSA Class 1, Div 2. Group A, B, C, D-T4A			
Temperature	Operation	0…+ 45 °C			
	Storage	- 20…+ 60 °C			
Relative humidity		0…85% (without condensation)			
Degree of protection	Front panel	IP 65, conforming to IEC 60529, Nema 4			
	Rear panel	IP 20, conforming to IEC 60529			
Shock resistance		Conforming to IEC 60068-2-27; semi-sinusoidal pulse 11 ms, 15 gn on the 3 axes			
Vibration		Conforming to IEC 60068-2-6; 10 to 57 Hz at 0.075 mm; 57 to 150 Hz, 1 gn for 3 hours per axis			
E.S.D.		Conforming to IEC 61000-4-2, level 3			
Electromagnetic interference		Conforming to IEC 61000-4-3, 10 V/m			
Electrical interference		Conforming to IEC 61000-4-4, level 3			
Mechanical characteristics					
Mounting and fixing		Flush mounted, fixed by spring clips (included), pressure mounted (on 1.6 to 6 mm thick panel)			
		12 spring clips		10 spring clips	
Material	Screen protection	Glass, 3 mm thick		Glass, 1.8 mm thick + polyester, 0.2 mm thick	
	Front frame	Polyphenyl oxide, 10% glass fibre (PPO GFN1 SE1)			
	Keypad	Anti-UV treated toughened polyester (Autoflex EB AG)			
	Enclosure	Polyphenyl oxide, 10% glass fibre (PPO GFN1 SE1)			
Keys	Dynamic keys	10 (with LED)		–	
	Static keys	12 (with LED and changeable legends)		–	
	Service keys	12		–	
	Alphanumeric keys	12 + 3 for alphabetical access		–	
Electrical characteristics					
LCD screen	Type	10.4” TFT 256 colours		10.4” TFT 256 colours with resistive matrix tactile feedback (13 x 10 cells)	
	Definition	640 x 480 pixels			
	Luminescence (cd/m²)	200	250	200	250
Optimum viewing angle (degrees)	Vertical top	30	80	30	80
	Vertical bottom	20	80	20	80
	Vertical right	45	80	45	80
	Vertical left	45	80	45	80
Power supply	Voltage	⎓ 24 V non isolated			
	Limits	18…30 V, including 5% maximum ripple, 1 ms maximum microbreaks			
	Protection	Against polarity inversion and overloads			
Consumption		35 W			
Operating characteristics					
Signalling		1 communication monitoring LED and 1 keypad activity (or tactile feedback activity) LED and 11 LEDs associated with service and alphanumeric keys			
Operating system/Processor		Magelis/Celeron			
Dynamic RAM memory		2.5 Mb	32 Mb	2.5 Mb	32 Mb
Application memory		On type II PCMCIA card: 16 Mb (included)			
Dialogue application	Maximum number of pages	30 to 300 application, alarm, help, form and recipe pages depending on the memory card used (512 alarms max., 256 form max.)			
	Curves	16 real-time curves			
	Recipes	5000 parameter values max., in a maximum of 125 recipe records			
Connections	PLC/configuration PC	19200 baud RS 232 C/RS 422/485 isolated serial link	115200 baud RS 232 C/RS 422/485 isolated serial link	19200 baud RS 232 C/RS 422/485 isolated serial link	115200 baud RS 232 C/RS 422/485 isolated serial link
		Downloadable communication protocols (see page 1/22 and page 1/30)			
	Printer	RS 232 C serial link			
	Bus or network	Depending on model: slot for type III PCMCIA communication card, communication protocols (see page 1/30), Ethernet TCP/IP 10BASE-T/100BASE-TX RJ 45 connector			
Real-time clock		Access to the PLC real-time clock	Built-in and backed-up	Access to the PLC real-time clock	Built-in and backed-up
Alarm relay		1 volt-free N/O contact, max. 0.5 A ⎓/∿ 24 V			
Connection	Power supply and alarm relay	Plug-in terminal block, 5 screw terminals (pitched at 5.08 mm). Maximum clamping capacity: 1.5 mm²			
	PLC	25-way female SUB-D connector			
	Printer/configuration PC	9-way male SUB-D connector			

References: page 1/29
Dimensions: page 1/55

Operator dialogue terminals

Graphic terminals with keypad or touch-sensitive screen
Magelis XBT F with 10.4” screen

802963



XBT F024●10

Graphic terminals with keypad

Downloadable exchange protocol	Screen type and size	Supply voltage V ⎓	Type III slot for PCMCIA communication card	Ethernet 10/100 TCP/IP RJ 45 connector	Reference	Weight kg
See page 1/30	Colour 10.4”	24	No	No	**XBT F024110**	2.700
			Yes	No	**XBT F024510**	2.700
			Yes	Yes	**XBT F024610**	2.700

802964

XBT F034●10

Graphic terminals with touch-sensitive screen

Downloadable exchange protocol	Screen type and size	Supply voltage V ⎓	Type III slot for PCMCIA communication card	Ethernet 10/100 TCP/IP RJ 45 connector	Reference	Weight kg
See page 1/30	Colour 10.4”	24	No	No	**XBT F034110**	2.400
			Yes	No	**XBT F034510**	2.400
			Yes	Yes	**XBT F034610**	2.400

Separate parts

Description	Usage	Reference	Weight kg
Development software, XBT L1000	Under Windows 98, 2000 or XP, for downloading the application and protocols	See page 3/7	–
Connecting cables, accessories	Connection to PLCs, configuration terminals, etc.	See page 1/31	–
Protective sheets (5 peels off sheet and 2 gaskets)	Protective screen XBT F024	**XBT ZF024**	–
	Protective screen XBT F034	**XBT ZF034**	–

Characteristics: page 1/28
Dimensions: page 1/55

Operator dialogue terminals
Separate parts for display units and terminals
XBT N/R/HM/PM and XBT F

Downloadable third party protocols

Content details

PLC brand	Compatibility			Protocol name
	XBT N/R *(1)*	XBT HM/PM	XBT F	
Allen-Bradley	■	■	■	DF1/DH485
GE Fanuc	–	■	■	SNPX
Mitsubishi	■	–	–	Melsec
Omron	■	■	■	Sysmacway
Siemens	PPI	■	■	AS511, 3964R, PPI, MPI

Description	Support	Reference	Weight kg
Selection of Third party downloadable protocols for PLCs	CD-ROM	Including in XBT L1003 software	–

Communication on bus and networks

Type of protocol	Compatibility	Support	Reference	Weight kg
Type III PCMCIA card	Modbus Plus network	XBT F	**TSX MBP100**	0.110
	Fipio bus	XBT F	**TSX FPP 10**	0.110
	Fipway network	XBT F	**TSX FPP 20**	0.110

Replacement part

Size	Compatibility	Approximate number of pages		Reference	Weight kg
		XBT F01	XBT F02/F03		
Type II PCMCIA memory card 16 Mb	XBT F *(2)*	720	480	**XBT MEM16**	0.100

802970

XBT MEM16

Accessories

Type	Compatibility	Sold in lots of	Unit reference	Weight kg
Sheets of changeable legends *(3)*	XBT HM	1	**XBL YHM4**	0.100
	XBT F01	1	**XBL YF10**	0.100
	XBT F02	1	**XBL YF12**	0.100
Desk holder	XBT F	2	**XBT Z3001**	0.200
Spring clips (spare parts)	XBT N/R/HM/PM/F	12	**XBT Z3002**	0.200
	XBT H/P/E	10	**XBT Z3003**	0.200
Power supply connector	XBT N/R/HM/PM/F	10	**XBT Z3004**	0.200
Protective sheets (5 peels off sheet and 2 gaskets)	XBT H	1	**XBT ZH**	–
	XBT P	1	**XBT ZP**	–
	XBT E	1	**XBT ZE**	–

Connection to PCs and printers

Use	Compatibility	Lenght	Connection, peripheral side	Reference	Weight kg
RS 232C PC link	XBT N401/N410/NU400 XBT R410/R411 XBT HM/PM/F	2.5 m	9-way male SUB-D	**XBT Z915**	0.200
	XBT N200/N400/R400	2.5 m	9-way male SUB-D and mini-DIN (PS/2)	**XBT Z945**	0.200
Adaptator for PC link, RS 232C serial port *(4)*	XBT F (for configuration and application transfer via printer port)	–	9-way male SUB-D	**XBT Z962**	0.100
Adaptator for PC link, USB port *(5)*	XBT N/R XBT HM/PM/F	–	Male USB type A	**SR2 CBL06**	–
Serial printer	XBT N/R	2.5 m	25-way female SUB-D	**XBT Z926**	0.220
	XBT HM/PM/F	2.5 m	25-way female SUB-D	**XBT Z936**	0.200

(1) Third party protocols.
(2) PCMCIA card included with the XBT F terminal.
(3) Sheets of changeable legends for XBT N/R, see pages 1/13 et 1/15.
(4) Adaptator to be associated with **XBT Z915** *cable.*
(5) Adaptator to be associated with **XBT Z915** *or* **XBT Z945** *cable, depending on model of XBT display unit or terminal to be connect.*

Operator dialogue terminals

Separate parts for display units and terminals
XBT N/R/HM/PM and XBT F

Cables for connecting Magelis terminals

Type of PLC to be connected		Type of connector	Physical link	Protocol	Length	Reference	Weight kg
Direct connection of XBT terminals *(1)* **to Telemecanique PLCs**							
Twido, Modicon Nano, Modicon TSX Micro, Modicon Premium		8-way female mini-DIN terminal port	RS 485	Uni-TE (V1/V2) and Modbus	2.5 m	**XBT Z968**	0.180
					5 m	**XBT Z9681**	0.340
					2.5 m *(2)*	**XBT Z9680**	0.170
Modicon Premium with TSX SCY 2160●		25-way female SUB-D	RS 485	Uni-TE (V1/V2)	2.5 m	**XBT Z918**	0.230
Modicon Quantum		9-way male SUB-D	RS 232	Modbus	2.5 m	**XBT Z9710**	0.210
Advantys STB		HE13 (NIM module)	RS 232	Modbus	2.5 m	**XBT Z988**	0.170
Modicon Momentum M1 (Port 1)		RJ45	RS 232	Modbus	2.5 m	**XBT Z9711**	0.210
Modbus/Ethernet gateway		RJ45	RS 232	Modbus	2.5 m	**XBT Z9713**	0.210
Direct connection of XBT terminals *(1)* **to Telemecanique motor starters and drives**							
TeSys U ATV 31/38/58/71 variable speed drives and ATS 48 soft starter		RJ45	RS 485	Modbus	2.5 m	**XBT Z938**	0.210
LT6 P multifunction protection relay		9-way female SUB-D	RS 232	Modbus	2.5 m	**XBT Z9701**	0.210
Direct connection of XBT *(1)* **terminals to third party PLCs**							
Allen-Bradley	SLC5	9-way male SUB-D	RS 232	DF1	2.5 m	**XBT Z9730**	0.210
	PLC5	25-way female SUB-D	RS 232	DF1	2.5 m	**XBT Z9720**	0.210
	Micro-logix	Micro-logix 1000	RS 232	DF1	2.5 m	**XBT Z9731**	0.210
				DH485	2.5 m	**XBT Z9732**	0,210
GE Fanuc Séries 90		15-way male SUB-D	RS 232/422	SNPX	2.5 m	**XBT Z9750**	0.210
Omron	CQM1, CVM1	9-way male SUB-D	RS 232	Sysmacway	2.5 m	**XBT Z9740**	0.210
	CVM1	9-way male SUB-D	RS 422	Sysmacway	2.5 m	**XBT Z9741**	0.210
Siemens	S7	9-way male SUB-D	RS 232	MPI	3.7 m	**XBT Z979**	0.500
	S7 (PG)	9-way male SUB-D	RS 485	PPI	2.5 m	**XBT Z9721**	0.210
	S5 CP525	25-way female SUB-D	RS 232	3964(R)	2.5 m	**XBT Z9720**	0.210
	S5 (PG) *(3)*	15-way female SUB-D	BC/RS 232 converter	AS511	2.5 m	**XBT Z939 + XBT Z909**	0.215
Mitsubishi	FX Series PLC	Mini-DIN 8-way male	RS 232/ RS 422 converter	MELSEC	2.5 m	**XBT Z980**	0.300

Bus and network connection

Type of bus/network	Tap-off unit	Type of connector	Length	Reference	Weight kg
Uni-Telway serial link	TSX SCA 62 subscriber socket	15-way female SUB-D	1.8 m	**XBT Z908**	0.240
	TSX P ACC 01 cable connector	8-way female mini-DIN	2.5 m	**XBT Z968**	0.180
			5 m	**XBT Z9681**	0.340
Modbus serial link	TSX SCA64 subscriber socket	15-way female SUB-D	1.8 m	**XBT Z908**	0.240
	Modbus LU9 GC3 8-port splitter box	RJ45	2.5 m	**XBT Z938**	0.210
Ethernet TCP/IP network	–	–	–	Consult our catalogue “Ethernet TCP/IP and Web technologies”	
Modbus Plus network	–	–	–		
Fipio bus Fipway network	–	–	–	Consult our catalogue “Premium automation platform”	

(1) All Magelis display units and terminals except **XBT N200/N400** *see page 1/13 et* **XBT R400** *see page 1/15.*
(2) SUB-D elbow connector coudé.
(3) Order 2 cables: **XBT Z939** *(operational voltage 5...20 V) and* **XBT Z909**.

Operator dialogue terminals
New Technology Magelis XBT GT
Touch-sensitive graphic terminals

Presentation

Touch-sensitive graphic terminals with monochrome or colour screen, 6 sizes 3,8" to 15"

The New Technology Magelis graphic terminals XBT GT are touch-sensitive products with a wide choice of screen sizes (3.8", 5.7", 7.5", 10.4",12.1" and 15") as well as different versions (monochrome, colour, STN or TFT).
- A range comprising 3 Optimum terminals 3.8" and 5.7" monochrome sreen for simple applications.
- A range comprising 13 multifunction terminals from 5.7" to 15" screen for applications requiring more functions.

The XBT GT terminals range replaces the XBT G terminals range entirely, see page 1/52.

Operation

All Magelis XBT GT model terminals feature the new information and communication technologies:
- High level of communication (on-board Ethernet, multi-line).
- External support of data (Compact Flash card) for storage of production informations and saving of applications.
- Multimedia data with integrated management of image and sound (video numerical or analog camera).

Peripheral management: printers, bar code reader and loudspeaker.

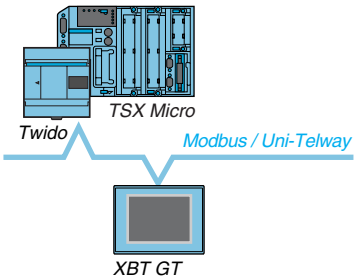
Configuration

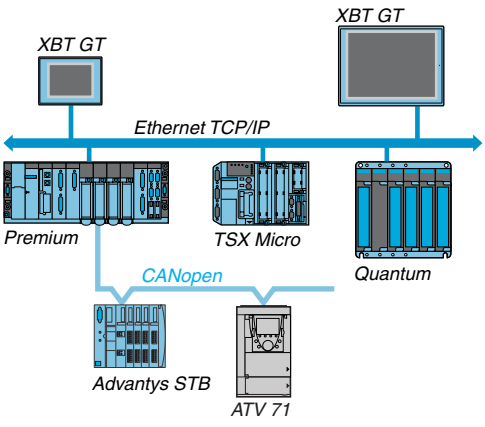
Display of a video sequence

XBT GT terminals can be configured using the Vijeo Designer VJD ●●D TGS V44M software, in a Windows environment.
The evolutive ergonomics of the Vijeo Designer VJD ●●D TGS V44M software, designed around several parameterable windows, enables quick and simple development of a project. This version allows to manage the composite video signal from camera or camescope.

See pages 3/8 and 3/9.

Communication





XBT GT terminals communicate with PLCs via one or two integrated serial links using communication protocols:
- Telemecanique of Schneider Electric (Uni-TE, Modbus).
- Third-party: Mitsubishi Electric, Omron, Allen-Bradley and Siemens.

The Magelis multifunction terminals can be connected on:
- Ethernet TCP/IP with Modbus TCP protocol and third-party protocols.

Description: pages 1/34, 1/36, 1/38, 1/40 and 1/42
Characteristics: pages 1/35, 1/37, 1/39, 1/41 and 1/43
References: pages 1/44 to 1/49

Operator dialogue terminals
New Technology Magelis XBT GT
Touch-sensitive graphic terminals

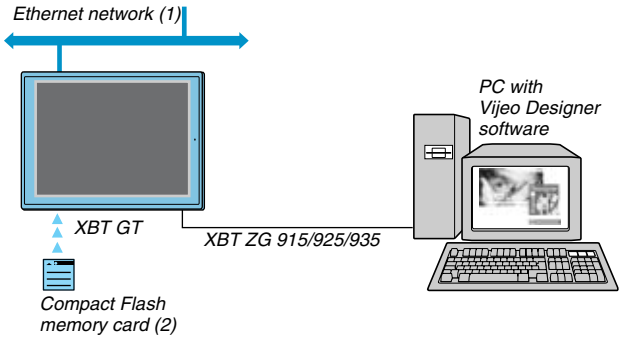
Functions

XBT GT graphic terminals offer the following functions:
- Display of animated synoptic screens with 8 types of animation (pressing touch-sensitive zone, changing of colour, filling, movement, rotation, size, visibility and value display).
- Control, modification of numeric and alphanumeric variables.
- Display of date and time.
- Real-time and trending curves with log.
- Alarm display, alarm log and management of alarm groups.
- Multiwindow management.
- Pages can be called up by the user.
- Multilingual application management (10 languages simultaneous).
- Recipes management.
- Data processing via Java script.
- Application and log support in the Compact Flash format external application memory card.
- Serial and parallel printers and bar code reader management
- Management of sound messages.
- Management of composite video signals from camera or camescope.

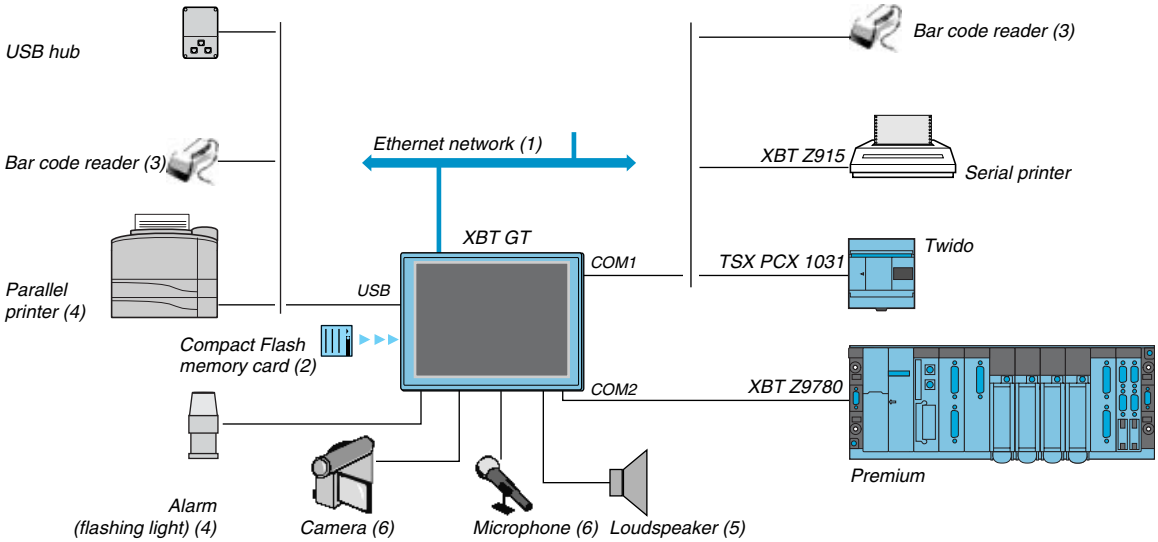
Operating structure of graphic terminals

The following diagrams indicate the equipment that can be connected to XBT GT terminals according to their operating mode.

Editing mode



Operating mode

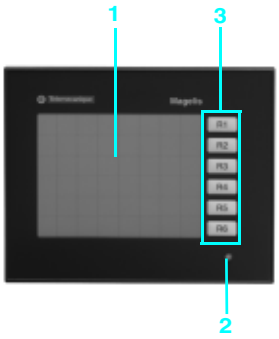


(1) With **XBT GT●●30/XBT GT●●40**.
(2) Memory card 128, 256, 512 Mb or 1 Gb for all multifunction XBT G/GT.
(3) Bar code reader (validated with Gryphon reader of DataLogic).
(4) Validated with the Hewlett Packard parallel printer via USB/PIO cable converter.
(5) With multifunction XBT GT 7,5" to 15".
(6) With multifunction **XBT GT●340** *7,5" to 15".*

Operator dialogue terminals
Magelis touch-sensitive graphic terminals
New Technology, XBT GT with 3,8” screen

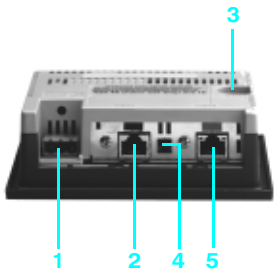
Description

Optimum graphic terminal XBT GT1100 / GT1130



They have the following on the front panel:

1 A touch-sensitive graphical display screen (amber or red mode 3.8” monochrome).
2 A back-lighting control light.
3 Six function keys (R1, R2...R6).



And on the rear panel:

1 A removable screw terminal for ⎓ 24 V power supply.
2 A RJ45 connector for RS 232 C or RS 485 serial link to PLCs (COM1).
3 A 8-way female mini-DIN connector for application transfer cable.
4 A polarization switch for serial link used in RS 485 Modbus.

On **XBT GT1130** only
5 A RJ45 connector for Ethernet TCP/IP (10BASE-T) link .

Operator dialogue terminals

Magelis touch-sensitive graphic terminals

New Technology, XBT GT with 3,8” screen

Type of terminal			XBT GT1100	XBT GT1130
Environment				
Conforming to standards			EN 61131-2, IEC 61000-6-2, FCC (Classe A), UL 508, UL 1604, CSA C22-2 n°14	
Product certifications			CE, cULus, CSA, UL Class 1 Div 2 T4A or T5 (UL and CSA), C-Tick	
Temperature	Operation		0…50 °C	
	Storage		- 20…+ 60 °C	
Relative humidity			0…85% (without condensation)	0…90% (without condensation)
Altitude			< 2000 m	
Degree of protection	Front panel		IP 65 conforming to IEC 60529, Nema 4X (with mounting by 4 screwed installation fastner)	
	Rear panel		IP 20 conforming to IEC 60529	
Shock resistance			Conforming to IEC 60068-2-27; semi-sinusoidal pulse 11 ms, 15 gn on the 3 axes	
Vibration			Conforming to IEC 60068-2-6; 5...9 Hz at 3.5 mm; 9...150 Hz at 1 gn	
E.S.D.			Conforming to IEC 61000-4-2, level 3	
Electromagnetic interference			Conforming to IEC 61000-4-3, 10 V/m	
Electrical interference			Conforming to IEC 61000-4-4, level 3	
Mechanical characteristics				
Mounting and fixing	Mounting on 1.5…10 mm thick panel		Flush mounted, fixed by 4 screwed installation fastner (included) or 2 spring clamps (to be order separately)	
Material	Enclosure		Polycarbonate / polyethylene terephthalate	
Keys			6 functions keys (R1, R2, ..., R6)	
Electrical characteristics				
Power supply	Voltage		⎓ 24 V	
	Limits		⎓ 19.2…28.8 V	
	Voltage cut		⩽ 2 ms	
Inrush current			⩽ 50 A	
Consumption			7 W	
Operating characteristics				
LCD screen	Type		Back-lit monochrome STN	
	Colour		Amber or red with 8 levels of grey	
	Definition		320 x 240 pixels (QVGA)	
	Size (width x height in mm)		3.8” (76.7 x 57,5)	
	Touch-sensitive zone		Resistive film, 8 x 6 cells	
	Back-lighting (service life)		50,000 hours for amber color usage, 10,000 hours for red color usage	
	Settings	Brightness	2 levels via touch pad	
		Contrast	8 levels via touch pad	
	Character fonts		ASCII, Japanese (ANK, Kanji), Chinese (simplified Chinese), Taiwanese (traditional Chinese), Korean	
Dialogue application	Max. number of pages		Limited by the internal Flash memory capacity	
Signalling			1 LED: green for normal operation	
Operating system/Processor			Magelis/CPU 100 MHz RISC	
Memory	Application, on Flash Eprom		8 Mb on Flash EPROM	
	Back-up of data		512 Kb SRAM (lithium batteries)	
Schneider Electric protocols	Telemecanique	Modicon	Modbus, Uni-TE	Modbus, Uni-TE, Modbus TCP/IP
Third-party protocols	Mitsubishi	Melsec	A Link (SIO)	
			–	A/Q Ethernet (TCP), Q Ethernet (UDP)
	Omron	Sysmac	FINS (SIO), LINK (SIO)	
			–	FINS (Ethernet)
	Rockwell Automat.ion	Allen-Bradley	DF1-Full Duplex, DH 485	
			–	Ethernet IP (PLC5, SLC500, MicroLogix, ControlLogix), Ethernet IP (native)
	Siemens	Simatic	MPI (S7-300/400 Series), RK512/3964RS7 (S7-300/400 Series), PPI (S7-200 Serie)	
			–	Ethernet
Real-time clock			Built-in real-time clock	
Connection	Power supply		Removable screw terminal block: 3 terminals (pitched at 5.08 mm), tightening torque 0.5 Nm	
	COM1 serial port (115,2 kbps maxi)		RJ45 connector (RS 232 C/RS 485 serial link), compatible with Siemens MPI (187,5 kbps)	
	Ethernet TCP/IP network (10BASE-T)		–	RJ45 connector
	Application downloading		Via a 8-way female mini-DIN connector	

Presentation: page 1/34 References: page 1/44 to 1/49 Dimensions: page 1/55

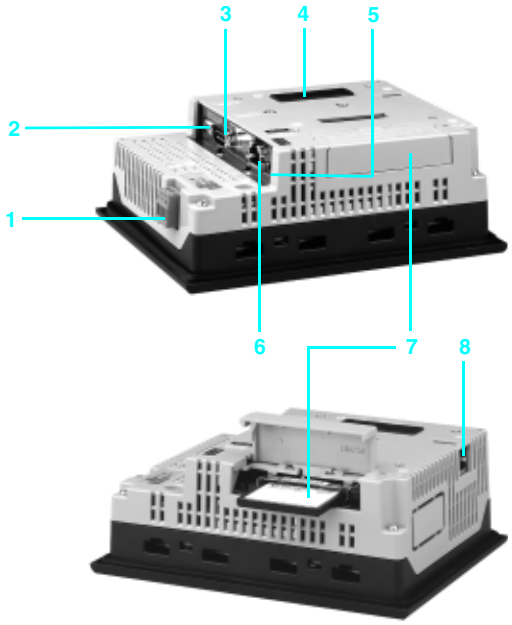
Operator dialogue terminals
Magelis touch-sensitive graphic terminals
New Technology, XBT GT with 5.7” screen

Description

Optimum graphic terminal XBT G2110 and XBT GT2●20 & XBT GT2●30

It has the following on the front panel:

1 A touch-sensitive graphical display screen (blue mode 5.7” monochrome),
2 A back-lighting control light.



And on the rear panel:

1 A screw removable terminal block for ⎓ 24 V power supply.
2 An A type USB host connector for external device and application transfer connexion.
3 A 9-way male SUB-D connector for RS 232C or RS 422/485 serial link to PLCs (COM1).
4 An extension unit interface for futur use.
5 A commutateur for polarization of serial link COM2, used in Modbus.
6 An RJ45 type connector for RS 485 serial link (COM2).
7 A slot for Compact Flash card, with cover (except XBT GT2110 Optimum).

On XBT G2130 and GT2330 only:

8 An RJ45 type connector for Ethernet TCP/IP link, 10BASE-T/100BASE-TX.

Presentation: page 1/32
References: page 1/44
Dimensions: page 1/55

Operator dialogue terminals

Magelis touch-sensitive graphic terminals

New Technology, XBT GT with 5.7” screen

Type of terminal			XBT GT2110	XBT GT2120	XBT GT2130	XBT GT2220	XBT GT2330
Environment							
Conforming to standards			EN 61131-2, IEC 61000-6-2, FCC (Classe A), UL 508, UL 1604, CSA C22-2 n°14				
Product certifications			CE, cULus, CSA, UL Class 1 Div 2 T4A or T5 (UL and CSA), C-Tick				
Temperature	Operation		0…50 °C				
	Storage		- 20…+ 60 °C				
Relative humidity			0…85% (without condensation)	0…90% (without condensation)			
Altitude			< 2000 m				
Degree of protection	Front panel		IP 65 conforming to IEC 60529, Nema 4X				
	Rear panel		IP 20 conforming to IEC 60529				
Shock resistance			Conforming to IEC 60068-2-27; semi-sinusoidal pulse 11 ms, 15 gn on the 3 axes				
Vibration			Conforming to IEC 60068-2-6; 5…9 Hz at 3.5 mm, 9…150 Hz at 1 g				
E.S.D.			Conforming to IEC 61000-4-2, level 3				
Electromagnetic interference			Conforming to IEC 61000-4-3, 10 V/m				
Electrical interference			Conforming to IEC 61000-4-4, level 3				
Mechanical characteristics							
Mounting and fixing	Mounting on 1.5…10 mm thick panel		Flush mounted, fixed by 4 screwed installation fastner (included) or 2 spring clamps (to be order separately)				
Material	Enclosure		Polycarbonate / polyethylene terephthalate	Aluminium (front face) Polycarbonate / polyethylene terephthalate (back face)			
Electrical characteristics							
Power supply	Voltage		⎓ 24 V				
	Limits		⎓ 19.2…28.8 V				
	Voltage cut		⩽ 10 ms	⩽ 5 ms			
Inrush current			⩽ 30 A				
Consumption			18 W	26 W			
Operating characteristics							
LCD screen	Type		Back-lit monochrome STN			Colour STN	Colour TFT
	Colour		Blue and white, 16 levels of grey	Black and white, 16 levels of grey		4 096 colours	65,536 colours, 16,384 if flashing
	Definition		320 x 240 pixels (QVGA)				
	Size (width x height in mm)		5.7” (115.2 x 86.4)				
	Touch-sensitive zone		Analog, resolution 1024 x 1024				
	Back-lighting (service life), at 25 °C for continual usage		58,000 hours			75,000 hours	50,000 hours
	Settings	Brightness	8 levels via tactile feedback				
		Contrast	8 levels via tactile feedback				–
	Character fonts		ASCII (including European characters), Japanese (ANK, Kanji), Chinese (simplified Chinese), Taiwanese (traditional Chinese), Korean				
Dialogue application	Max. number of pages		–	Limited by the internal Flash memory capacity or “Compact Flash” card memory capacity			
Signalling			1 LED: green for normal operation, orange if back-lighting faulty				
Operating system/Processor			Magelis/CPU 133 MHz RISC				
Memory	Application		16 Mb Flash Eprom				
	Back-up of data		128 Kb SRAM (lithium batteries)	512 Kb SRAM (lithium batteries)			
Schneider Electric protocols	Telemecanique	Modicon	Modbus, Uni-TE		Modbus, Uni-TE, Modbus TCP/IP	Modbus, Uni-TE	Modbus, Uni-TE, Modbus TCP/IP
Third-party protocols	Mitsubishi	Melsec	A/Q CPU (SIO), A/Q Ethernet (TCP) *(1)*, A Link (SIO), QnA CPU (SIO), Q Ethernet (UDP) *(1)*, FX (CPU)				
	Omron	Sysmac	FINS (Ethernet) *(1)*, FINS (SIO), LINK (SIO)f				
	Rockwell Automation	Allen-Bradley	DF1-Full Duplex, DH 485, Ethernet IP (PLC5, SLC500, MicroLogix, ControlLogix) *(1)*, Ethernet IP (native) *(1)*,				
	Siemens	Simatic	MPI (S7-300/400 Series), RK512/3964R (S7-300/400 Series), PPI (S7-200 Serie) , Ethernet *(1)*				
Real-time clock			Built-in real-time clock				
Extensions	Compact Flash card		–	1 slot for Compact Flash card 128, 256, 512 Mb or 1 Gb			
	Extension unit		For futur use				
Connection	Power supply		Screw removable terminal block: 3 terminals (pitched at 5.06 mm), tightening (torque 0.5 Nm)				
	COM1 serial port (115,2 kbps maxi)		9-way male SUB-D connector (RS 232 C/RS 422/485 serial link)				
	COM2 serial port (115,2 kbps maxi)		RJ45 connector (RS 485 serial link), compatible with Siemens MPI (187,5 kbps)				
	Application downloading and external device		A type host USB connector				
	Ethernet TCP/IP network (10BASE-T/100BASE-TX)		–		RJ45 connector	–	RJ45 connector
	Input/output terminal block		–				

(1) For **XBT GT2130** *and* **XBT GT2330** *models.*

Presentation: page 1/32 References: page 1/44 Dimensions: page 1/55

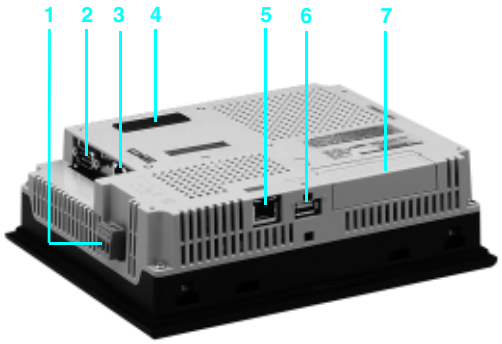
Operator dialogue terminals
Magelis touch-sensitive graphic terminals
New Technology, XBT GT with 7.5” screen

Description

Multifunction graphic terminals XBT GT4230 & 43●0

They have the following on the front panel:

1 A touch-sensitive graphical display screen (colour STN 7.5” or colour TFT 7.5”, depending on model).
1 A muliticolour light (green, orange and red) indicating the status of terminal.



And on the rear panel:

1 A screw removable terminal block for ⎓ 24 V power supply.
2 A 9-way male SUB-D connector for RS 232C or RS 422/485 serial link to PLCs (COM1).
3 An RJ45 type connector for RS 485 serial link (COM2) with a switch selector for polarization of serial link COM2, used in Modbus.
4 An extension unit interface for futur use.
5 An RJ45 type connector for Ethernet TCP/IP link (10BASE-T/100BASE-TX) with an activity LED.
6 An A type USB host connector for external device and application transfer connection.
7 A slot for Compact Flash card, with cover.
8 An input/output terminal block for loudspeaker connection, one input (reset), 3 outputs (alarm, buzzer, run).

On XBT GT4340 only:

9 A mini-jack connector for microphone connection.
10 A RCA connector for numerical or analog video camera NTSC/PAL.

Presentation:
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References:
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Dimensions:
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Operator dialogue terminals

Magelis touch-sensitive graphic terminals

New Technology, XBT GT with 7.5” screen

Type of terminal			XBT GT4230	XBT GT4330	XBT GT4340
Environment					
Conforming to standards			EN 61131-2, IEC 61000-6-2, FCC (Classe A), UL 508, UL 1604, CSA C22-2 n°14		
Product certifications			CE, cULus, CSA, UL Class 1 Div 2 T4A or T5 (UL and CSA), C-Tick		
Temperature	Operation		0…50 °C		
	Storage		- 20…+ 60 °C		
Relative humidity			10…90 % (without condensation)		
Altitude			< 2000 m		
Degree of protection	Front panel		IP 65 conforming IEC 60529, Nema 4X indoor use with 4 screwed installation fastner)		
	Rear panel		IP 20 conforming IEC 60529		
Shock resistance			Conforming IEC 60068-2-27 ; semi-sinusoidal pulse 11 ms, 15 gn on the 3 axes		
Vibration			Conforming IEC 60068-2-6 ; 5…9 Hz at 3.5 mm ; 9…150 Hz at 1 gn		
E.S.D.			Conforming IEC 61000-4-2, level 3 (contact 6 kV, air 8 kV)		
Electromagnetic interference			Conforming IEC 61000-4-3, 10 V/m		
Electrical interference			Conforming IEC 61000-4-4, level 3 (power supply and I/O 2 kV, other ports 1 kV)		
Mechanical characteristics					
Mounting and fixing	Mounting on 1.5…10 mm thick panel		Flush mounted, fixed by 4 screwed installation fastner (included) or 2 spring clamps (to be order separately)		
Material	Enclosure		Aluminium (front face) Polycarbonate / polyethylene terephthalate (back face)		
Electrical characteristics					
Power supply	Voltage		⎓ 24 V		
	Limits		⎓ 19.2…28.8 V		
	Voltage cut		≤ 10 ms		
Inrush current			≤ 30 A		
Consumption			28 W		
Operating characteristics					
LCD screen	Type		Colour STN	Colour TFT	
	Colour		4096 colours	65,536 colours, 16,384 if blinking	
	Definition		640 x 480 pixels (VGA)		
	Size (width x height in mm)		7,5” (153.7 x 115.8)		
	Touch-sensitive zone		Analog, resolution 1024 x 1024		
	Back-lighting (service life), at 25 °C for continual usage		54,000 hours		
	Settings	Brightness	8 levels via tactile feedback		
		Contrast	8 levels via tactile feedback		
	Character fonts		ASCII (including European characters), Japanese (ANK, Kanji), Chinese (simplified Chinese), Taiwanese (traditional Chinese), Korean		
Dialogue application	Max. number of pages		Limited by the internal Flash memory capacity or “Compact Flash” card memory capacity		
Signalling			1 LED: green for normal operation, orange if back-lighting faulty		
Operating system/Processor			Magelis / CPU 266 MHz RISC		
Memory	Application		32 Mb Flash EPROM		
	Back-up of data		512 Kb SRAM (lithium battery)		
Schneider Electric protocols	Telemecanique	Modicon	Modbus, Uni-TE, Modbus TCP/IP		
Third-party protocols	Mitsubishi	Melsec	A/Q CPU (SIO), A/Q Ethernet (TCP), A Link (SIO), QnA CPU (SIO), Q Ethernet (UDP), FX (CPU)		
	Omron	Sysmac	FINS (Ethernet) , FINS (SIO), LINK (SIO)		
	Rockwell Automation	Allen-Bradley	DF1-Full Duplex, DH 485, Ethernet IP (PLC5, SLC500, MicroLogix, ControlLogix), Ethernet IP (native),		
	Siemens	Simatic	MPI (S7-300/400 Series), RK512/3964R (S7-300/400 Series), PPI (S7-200 Serie) , Ethernet		
Real-time clock			Built-in real-time clock		
Extensions	Compact Flash card		1 slot for Compact Flash card 128, 256, 512 Mb or 1 Gb		
	Extension unit		For futur use		
Connections	Power supply		Screw removable terminal block: 3 terminals (pitched at 5.06 mm), tightening (torque 0.5 Nm)		
	COM1 serial port (115,2 kbps maxi)		9-way male SUB-D connector (RS 232 C/RS 422/485 serial link)		
	COM2 serial port (115,2 kbps maxi)		RJ45 connector (RS 485 serial link), compatible with Siemens MPI (187,5 kbps)		
	USB port (V1.1)		USB host type A for application download and peripheral		
	Ethernet TCP/IP network (10BASE-T/100BASE-TX)		RJ45 connector		
	Audio input (microphone)		–		Mini-jack connector
	Vidéo input NTSC/PAL (59,9/50 Hz)		–		RCA connector (75 Ω)
	Inputs/outputs		Screw terminal block for 1 audio output (8 Ω, 70 mW, frequency 1 kHz), 1 digital input and 3 digital outputs		

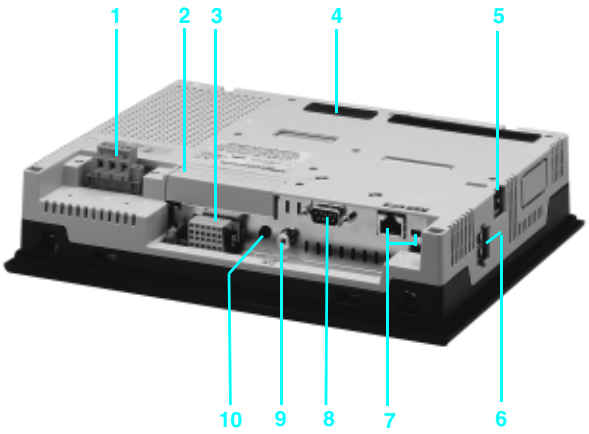
Presentation: page 1/32 References: page 1/44 Dimensions: page 1/55

Operator dialogue terminals
Magelis touch-sensitive graphic terminals
New Technology, XBT GT with 10.4” screen

Description
Multifunction graphic terminals XBT GT5230 & XBT GT53●0

They have the following on the front panel:

1 A touch-sensitive graphical display screen (colour STN 10.4” or colour TFT 10.4”, depending on model).
2 A muliticolour light (green, orange and red) indicating the status of terminal.



And on the rear panel:

1 A screw removable terminal block for ⎓ 24 V power supply.
2 A slot for Compact Flash card, with cover.
3 An input/output terminal block *(1)* for loudspeaker connection, one input (reset), 3 outputs (alarm, buzzer, run).
4 An extension unit interface for futur use.
5 An RJ45 type connector for Ethernet TCP/IP link (10BASE-T/100BASE-TX) with an activity LED.
6 Two A type USB host connectors for external devices and application transfer connection.
7 An RJ45 type connector for RS 485 serial link (COM2) with a switch selector for polarization of serial link COM2, used in Modbus.
8 A 9-way male SUB-D connector for RS 232C or RS 422/485 serial link to PLCs (COM1).

On XBT GT5340 only:

9 A mini-jack connector for microphone connection.
10 A RCA connector for numerical or analog video camera NTSC/PAL.

(1) On **XBT GT5230** *model, this connector is located on the rear panel of terminal.*

Presentation: page 1/32
References: page 1/44
Dimensions: page 1/55

Operator dialogue terminals
Magelis touch-sensitive graphic terminals
New Technology, XBT GT with 10.4” screen

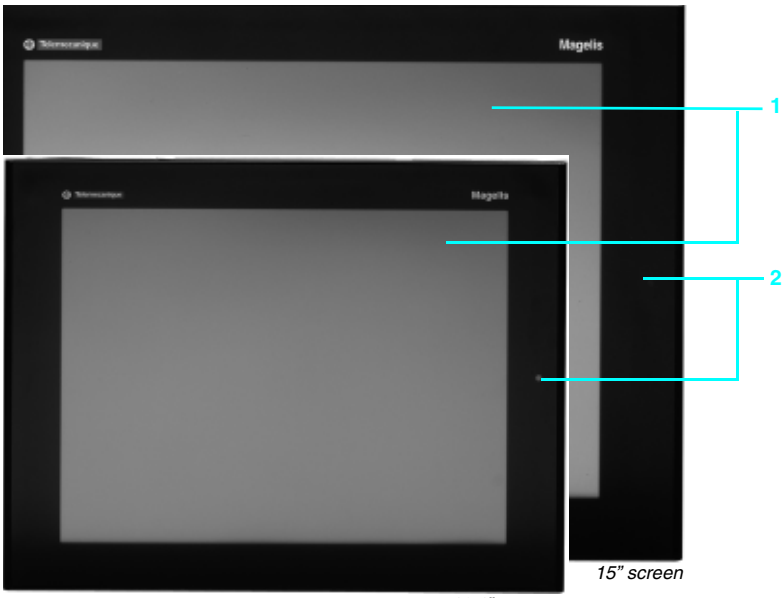
Type of terminal			XBT GT5230	XBT GT5330	XBT GT5340
Environment					
Conforming to standards			EN 61131-2, IEC 61000-6-2, FCC (Classe A), UL 508, UL 1604, CSA C22-2 n°14		
Product certifications			CE, cULus, CSA, UL Class 1 Div 2 T4A or T5 (UL and CSA), C-Tick		
Temperature	Operation		0…50 °C		
	Storage		- 20…+ 60 °C		
Relative humidity			10…90 % (without condensation)		
Altitude			< 2000 m		
Degree of protection	Front panel		IP 65 conforming IEC 60529, Nema 4X indoor use with 4 screwed installation fastner)		
	Rear panel		IP 20 conforming IEC 60529		
Shock resistance			Conforming IEC 60068-2-27 ; semi-sinusoidal pulse 11 ms, 15 gn on the 3 axes		
Vibration			Conforming IEC 60068-2-6 ; 5…9 Hz at 3.5 mm ; 9…150 Hz at 1 gn		
E.S.D.			Conforming IEC 61000-4-2, level 3 (contact 6 kV, air 8 kV)		
Electromagnetic interference			Conforming IEC 61000-4-3, 10 V/m		
Electrical interference			Conforming IEC 61000-4-4, level 3 (power supply and I/O 2 kV, other ports 1 kV)		
Mechanical characteristics					
Mounting and fixing	Mounting on 1.5…10 mm thick panel		Flush mounted, fixed by 4 screwed installation fastner (included) or 2 spring clamps (to be order separately)		
Material	Enclosure		Aluminium (front face) Polycarbonate / polyethylene terephthalate (back face)		
Electrical characteristics					
Power supply	Voltage		⎓ 24 V		
	Limits		⎓ 19.2…28.8 V		
	Voltage cut		≤ 10 ms		
Inrush current			≤ 30 A		
Consumption			26 W	30 W	
Operating characteristics					
LCD screen	Type		Colour STN	Colour TFT	
	Colour		4096 colours	65 536 colours, 16 384 if flashing	
	Definition		640 x 480 pixels (VGA)		
	Size (width x height in mm)		10,4” (215.2 x 162,3)	10,4” (211.2 x 158.4)	
	Touch-sensitive zone		Analog, resolution 1024 x 1024		
	Back-lighting (service life), at 25 °C for continual usage		54,000 hours	50,000 hours	
	Settings	Brightness	8 levels via tactile feedback		
		Contrast	8 levels via tactile feedback		
	Character fonts		ASCII (including European characters), Japanese (ANK, Kanji), Chinese (simplified Chinese), Taiwanese (traditional Chinese), Korean		
Dialogue application	Max. number of pages		Limited by the internal Flash memory capacity or “Compact Flash” card memory capacity		
Signalling			1 LED: green for normal operation, orange if back-lighting faulty		
Operating system/Processor			Magelis / CPU 266 MHz RISC		
Memory	Application		32 Mb Flash EPROM		
	Back-up of data		512 Kb SRAM (lithium battery)		
Schneider Electric protocols	Telemecanique	Modicon	Modbus, Uni-TE, Modbus TCP/IP		
Third-party protocols	Mitsubishi	Melsec	A/Q CPU (SIO), A/Q Ethernet (TCP), A Link (SIO), QnA CPU (SIO), Q Ethernet (UDP), FX (CPU)		
	Omron	Sysmac	FINS (Ethernet) , FINS (SIO), LINK (SIO)		
	Rockwell Automation	Allen-Bradley	DF1-Full Duplex, DH 485, Ethernet IP (PLC5, SLC500, MicroLogix, ControlLogix), Ethernet IP (native),		
	Siemens	Simatic	MPI (S7-300/400 Series), RK512/3964R (S7-300/400 Series), PPI (S7-200 Serie) , Ethernet		
Real-time clock			Built-in real-time clock		
Extensions	Compact Flash card		1 slot for Compact Flash card 128, 256, 512 Mb or 1 Gb		
	Extension unit		For futur use		
Connections	Power supply		Screw removable terminal block: 3 terminals (pitched at 5.06 mm), tightening (torque 0.5 Nm)		
	COM1 serial port (115,2 kbps maxi)		9-way male SUB-D connector (RS 232 C/RS 422/485 serial link)		
	COM2 serial port (115,2 kbps maxi)		RJ45 connector (RS 485 serial link), compatible with Siemens MPI (187,5 kbps)		
	USB port (V1.1)		2 USB host type A for application download and peripheral		
	Ethernet TCP/IP network (10BASE-T/100BASE-TX)		RJ45 connector		
	Audio input (microphone)		–		Mini-jack connector
	Vidéo input NTSC/PAL (59,9/50 Hz)		–		RCA connector (75 Ω)
	Inputs/outputs		Screw terminal block for 1 audio output (8 Ω, 70 mW, frequency 1 kHz), 1 digital input and 3 digital outputs		

Presentation: page 1/32 References: page 1/44 Dimensions: page 1/55

Operator dialogue terminals
Magelis touch-sensitive graphic terminals
New Technology, XBT GT with 12.1” and 15” screen

1

Description
Multifunction graphic terminals XBT GT63●0 & XBT GT7340

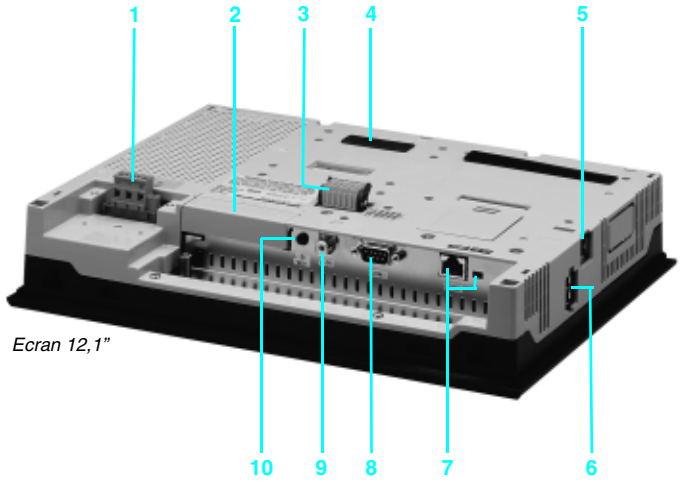


15” screen

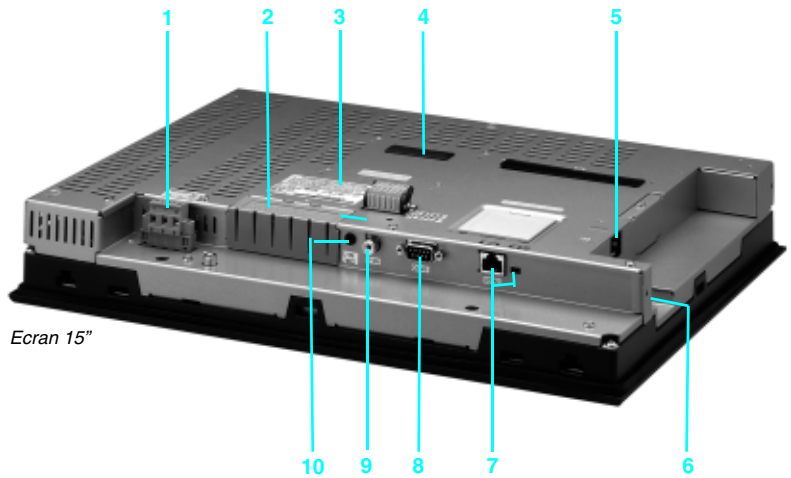
12,1” screen

They have the following on the front panel:

1 A touch-sensitive graphical display screen (colour TFT 12.1” or 15”, depending on model).
2 A muliticolour light (green, orange and red) indicating the status of terminal.



Ecran 12,1”



Ecran 15”

And on the rear panel:

1 A screw removable terminal block for ⎓ 24 V power supply.
2 A slot for Compact Flash card, with cover.
3 An input/output terminal block for loudspeaker connection, one input (reset), 3 outputs (alarm, buzzer, run).
4 An extension unit interface for futur use.
5 An RJ45 type connector for Ethernet TCP/IP link (10BASE-T/100BASE-TX) with an activity LED.
6 Two A type USB host connectors for external devices and application transfer connection.
7 An RJ45 type connector for RS 485 serial link (COM2) with a switch selector for polarization of serial link COM2, used in Modbus.
8 A 9-way male SUB-D connector for RS 232C or RS 422/485 serial link to PLCs (COM1).

On XBT GT6340 et XBT GT7340 only:

9 A mini-jack connector for microphone connection.
10 A RCA connector for numerical or analog video camera NTSC/PAL.

Presentation: page 1/32
References: page 1/44
Dimensions: page 1/55

Operator dialogue terminals

Magelis touch-sensitive graphic terminals

New Technology, XBT GT with 12.1” and 15” screen

Type of terminal			XBT GT6330	XBT GT6340	XBT GT7340
Environment					
Conforming to standards			EN 61131-2, IEC 61000-6-2, FCC (Classe A), UL 508, UL 1604, CSA C22-2 n°14		
Product certifications			CE, cULus, CSA, UL Class 1 Div 2 T4A or T5 (UL and CSA), C-Tick		
Temperature	Operation		0…50 °C		
	Storage		- 20…+ 60 °C		
Relative humidity			10…90 % (without condensation)		
Altitude			< 2000 m		
Degree of protection	Front panel		IP 65 conforming IEC 60529, Nema 4X indoor use with 4 screwed installation fastner)		
	Rear panel		IP 20 conforming IEC 60529		
Shock resistance			Conforming IEC 60068-2-27 ; semi-sinusoidal pulse 11 ms, 15 gn on the 3 axes		
Vibration			Conforming IEC 60068-2-6 ; 5…9 Hz at 3.5 mm ; 9…150 Hz at 1 gn		
E.S.D.			Conforming IEC 61000-4-2, level 3 (contact 6 kV, air 8 kV)		
Electromagnetic interference			Conforming IEC 61000-4-3, 10 V/m		
Electrical interference			Conforming IEC 61000-4-4, level 3 (power supply and I/O 2 kV, other ports 1 kV)		
Mechanical characteristics					
Mounting and fixing	Mounting on 1.5…10 mm thick panel		Flush mounted, fixed by 4 screwed installation fastner (included) or 4 spring clamps (to be order separately)		Flush mounted, fixed by 8 screwed installation fastner (included) or 4 spring clamps (to be order separately)
Material	Enclosure		Aluminium (front face) Polycarbonate / polyethylene terephthalate (back face)		Aluminium (front face and back face)
Electrical characteristics					
Power supply	Voltage		⎓ 24 V		
	Limits		⎓ 19.2…28.8 V		
	Voltage cut		⩽ 10 ms		
Inrush current			⩽ 30 A		
Consumption			30 W		42 W
Operating characteristics					
LCD screen	Type		Colour TFT		
	Colour		65,536 colours, 16,384 if flashing		
	Definition		800 x 600 pixels (SVGA)		1024 x 768 pixels (XGA)
	Size (width x height in mm)		12,1” (248 x 186.5)		15” (306 x 230.1)
	Touch-sensitive zone		Analog, resolution 1024 x 1024		
	Back-lighting (service life), at 25 °C for continual usage		50,000 hours		
	Settings	Brightness	8 levels via tactile feedback		
		Contrast	–		
	Character fonts		ASCII (including European characters), Japanese (ANK, Kanji), Chinese (simplified Chinese), Taiwanese (traditional Chinese), Korean		
Dialogue application	Max. number of pages		Limited by the internal Flash memory capacity or “Compact Flash” card memory capacity		
Signalling			1 LED: green for normal operation, orange if back-lighting faulty		
Operating system/Processor			Magelis / CPU 266 MHz RISC		
Memory	Application		32 Mb Flash EPROM		
	Back-up of data		512 Kb SRAM (lithium battery)		
Schneider Electric protocols	Telemecanique	Modicon	Modbus, Uni-TE, Modbus TCP/IP		
Third-party protocols	Mitsubishi	Melsec	A/Q CPU (SIO), A/Q Ethernet (TCP), A Link (SIO), QnA CPU (SIO), Q Ethernet (UDP), FX (CPU)		
	Omron	Sysmac	FINS (Ethernet) , FINS (SIO), LINK (SIO)		
	Rockwell Automation	Allen-Bradley	DF1-Full Duplex, DH 485, Ethernet IP (PLC5, SLC500, MicroLogix, ControlLogix), Ethernet IP (native),		
	Siemens	Simatic	MPI (S7-300/400 Series), RK512/3964R (S7-300/400 Series), PPI (S7-200 Serie) , Ethernet		
Real-time clock			Built-in real-time clock		
Extensions	Compact Flash card		1 slot for Compact Flash card 128, 256, 512 Mb or 1 Gb		
	Extension unit		For futur use		
Connections	Power supply		Screw removable terminal block: 3 terminals (pitched at 5.06 mm), tightening (torque 0.5 Nm)		
	COM1 serial port (115,2 kbps maxi)		9-way male SUB-D connector (RS 232 C/RS 422/485 serial link)		
	COM2 serial port (115,2 kbps maxi)		RJ45 connector (RS 485 serial link), compatible with Siemens MPI (187,5 kbps)		
	USB port (V1.1)		2 USB host type A for application download and peripheral		
	Ethernet TCP/IP network (10BASE-T/100BASE-TX)		RJ45 connector		
	Audio input (microphone)		–	Mini-jack connector	
	Vidéo input NTSC/PAL (59,9/50 Hz)		–	RCA connector (75 Ω)	
	Inputs/outputs		Screw terminal block for 1 audio output (8 Ω, 70 mW, frequency 1 kHz), 1 digital input and 3 digital outputs		

Presentation: page 1/32 References: page 1/44 Dimensions: page 1/55

Operator dialogue terminals
New Technology Magelis XBT GT touch-sensitive graphic terminals


XBT GT1100 / 1130


XBT GT21●0/2220/2330


XBT GT4230/43●0


XBT GT53●0


XBT GT63●0


XBT GT7340

XBT GT monochrome graphic terminals *(1)*

Type of screen	Number of port	Application memory capacity	Compact Flash card slot	Video input	On-board Ethernet	Reference	Weight kg
Optimum 3.8”							
STN Amber or red	1 COM1 1 mini-DIN	8 Mb	No	No	No	**XBT GT1100**	0.400
					Yes	**XBT GT1130**	0.400
Optimum 5.7”							
STN Blue and white	1 COM 1 1 COM 2 1 USB	16 Mb	No	No	No	**XBT GT2110**	1.000
Multifunction 5.7”							
STN Black and white	1 COM 1 1 COM 2 1 USB	16 Mb	Yes	No	No	**XBT GT2120**	1.000
					Yes	**XBT GT2130**	1.000

XBT GT colour graphic terminals *(1)*

Type of screen	Number of port	Application meMbry capacity	Compact Flash card slot	Video input	On-board Ethernet	Reference	Weight kg
Multifunction 5.7”							
STN 4096 colours	1 COM 1 1 COM 2 1 USB	16 Mb	Yes	No	No	**XBT GT2220**	1.000
TFT 65,536 colours	1 COM 1 1 COM 2 1 USB	16 Mb	Yes	No	Yes	**XBT GT2330**	1.000
Multifunction 7.5”							
STN 4096 colours	1 COM 1 1 COM 2 1 USB	32 Mb	Yes	No	Yes	**XBT GT4230**	1.800
TFT 65,536 colours	1 COM 1 1 COM 2 1 USB	32 Mb	Yes	No	Yes	**XBT GT4330**	1.800
				Yes	Yes	**XBT GT4340**	1.800
Multifunctions 10.4”							
STN 4096 colours	1 COM 1 1 COM 2 2 USB	32 Mb	Yes	No	Yes	**XBT GT5230**	3.000
TFT 65,536 colours	1 COM 1 1 COM 2 2 USB	32 Mb	Yes	No	Yes	**XBT GT5330**	2.500
				Yes	Yes	**XBT GT5340**	2.500
Multifunctions 12.1”							
TFT 65,536 colours	1 COM 1 1 COM 2 2 USB	32 Mb	Yes	No	Yes	**XBT GT6330**	3.000
				Yes	Yes	**XBT GT6340**	3.000
Multifunctions 15”							
TFT 65,536 colours	1 COM 1 1 COM 2 2 USB	32 Mb	Yes	Yes	Yes	**XBT GT7340**	5.600

(1) Terminal supplied with fixing kit (clamps and screws), USB holders (except **XBT GT 11●0**) *and data sheet . The XBT GT user's manual is supplied with Vijeo Designer configuration software in electronic format, see page 3/9.*

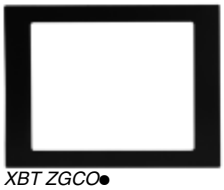
Description: pages 1/34, 1/36, 1/38, 1/40 and 1/42
Characteristics: pages 1/35, 1/37, 1/39, 1/41 and 1/43
Dimensions: page 1/55

Operator dialogue terminals
New Technology Magelis XBT GT touch-sensitive graphic terminals


XBT ZGM●●●

Separate parts

Description	Compatibility	Size	Reference	Weight kg
Compact Flash memory cards	All XBT GT terminals except XBT GT11●0 / GT2110	128 Mb	**XBT ZGM128**	0.050
		256 Mb	**XBT ZGM256**	0.050
		512 Mb	**MPC YN0 0CFE 00N**	0.050
		1 Gb	**MPC YN0 0CF1 00N**	–
Protective sheets (5 peel off sheets)	XBT GT1100 / GT1130	–	**XBT ZG61**	0.200
	XBT GT21●0 / GT2220 / GT2330	–	**XBT ZG62**	0.200
	XBT GT4230 / GT43●0	–	**XBT ZG64**	0.200
	XBT GT53●0	–	**XBT ZG65**	0.200
	XBT GT5230 / GT63●0	–	**XBT ZG66**	0.200
	XBT GT7340	–	**MPC YK5 OSPS KIT**	0.200
Spring clips for mounting	All XBT GT terminals (Number of spring clips depending on model)	Sold in lot of 12	**XBT Z3002**	–


XBT ZGCO●

Description	Compatibility	Lenght	Reference	Weight kg
Panel cut-out adaptators for substitution Magelis legacy terminals	From XBT F032●10 to XBT GT2●●0	–	**XBT ZGCO1**	–
	From XBT G2110 to XBT GT2●●0	–	**XBT ZGCO2**	–
	From XBT F034●●● to XBT GT53●0	–	**XBT ZGCO3**	–
	From XBT G5330 to XBT GT5330	–	**XBT ZGCO4**	–
Remote USB port for XBT GT2●●0...GT7340 terminal	USB extension cable for remote connection on front cabinet door (Ø 21 mm fixing)	1 m	**XBT ZGUSB**	–
Adaptator for Compact Flash memory cards	PC with PCMCIA card read	–	**XBT ZGADT**	0.050


XBT ZGUSB

Spare parts

Description	For use with	Reference	Weight kg
Gaskets	XBT GT1100 / GT1130	**XBT ZG51**	0.030
	XBT GT21●0 / GT2220 / GT2330	**XBT ZG52**	0.030
	XBT GT4230 / GT43●0	**XBT ZG54**	0.030
	XBT GT53●0	**XBT ZG55**	0.030
	XBT GT5230 / GT63●0	**XBT ZG56**	0.030
	XBT GT7340	**XBT ZG57**	0.030
Back-lighting lamps	XBT GT5230	**XBT ZG43**	0.200
	XBT GT53●0	**XBT ZG45**	0.100
	XBT GT63●0	**XBT ZG46**	0.200
	XBT GT7340	**XBT ZG47**	0.200
Fixing kits	4 clamps and screws (max. tightening torque: 0.5 Nm) Included with all XBT GT terminals	**XBT ZG FIX**	0.100
Extension connector protection	All XBT GT terminals except XBT GT11●0	**XBT ZGCNC**	0.030


XBT ZG925

Application transfer cordsets to PC

Type of terminal	Connector (PC side)	Type	Lenght	Reference	Weight kg
XBT GT11●0 (mini-DIN)	USB type *(1)*	TTL	2 m	**XBT ZG925**	0.290
	9-way SUB-D type	TTL	2 m	**XBT ZG915**	0.250
XBT GT2●●0...GT7340 (USB type)	USB type *(1)*	TTL		**XBT ZG935**	0.290

Cordsets to printer

Printer type	Connector (printer side)	Type	Lenght	Référence	Weight kg
Serial printer *(2)* **for XBT GT / G terminal** (except XBT GT11●0)	25-way female SUB-D type	RS 232C - XBT GT: COM1 - XBT G: COM2	2.5 m	**XBT Z915**	0.200

(1) Cordset included in Vijeo Designer configuration software, single licence, see page 3/9.
(2) Parallel printer, see page 1/33.

Description: pages 1/34, 1/36, 1/38, 1/40 and 1/42
Characteristics: pages 1/35, 1/37, 1/39, 1/41 and 1/43
Dimensions: page 1/55

Operator dialogue terminals
New Technology Magelis XBT GT touch-sensitive graphic terminals

Adaptators and isolation unit for cordsets to XBT GT terminals

These 3 adaptators are combined, depending of case, with the cordsets. For example, the association of XBT Z968 cordset with "+ *(2)*", in this case XBT ZG909 adaptator, allows connection between the Twido controller (on terminal port) and XBT GT2●●0 terminal (on COM1 port).

Description	Connector type (automation product side)	Physical link (XBT GT terminal side)	Reference	Weight kg
Adaptator for XBT GT11●0 (port COM1) **XBT GT2●●0...7340**	25-way SUB-D connector	RJ45 connector	**XBT ZG939** *(1)*	–
Adaptators for XBT GT2●●0...7340 (port COM1)	25-way SUB-D connector	9-way SUB-D connector, RS 485	**XBT ZG909** *(2)*	–
		9-way SUB-D connector, RS 232C	**XBT ZG919** *(3)*	–

XBT ZGI485

Description	For use	Link to isolate	Reference	Weight kg
Isolation unit for XBT GT2●●0...7340 serial link	- Connection to serial port of XBT GT2 terminal - Isolated link on 9-way SUB-D connector *(4)* - Power supply via USB port of terminal. Integrate a duplicator of port USB	RS 232C/RS 485 (COM1)	**XBT ZGI232**	–
		RS 485 (COM2)	**XBT ZGI485**	–

Cordsets for direct connection XBT GT terminals to Telemecanique products

Automation product type	Connector type (product side)	Protocol	XBT type terminal, physical link	On XBT port	Lenght	Reference	Weight kg
Twido, Modicon TSX Micro, Modicon Premium	Terminal port 8-way female mini-DIN	Uni-TE (V1/V2), Modbus	XBT GT11●0, RS 485	COM1	2.5 m	**XBT Z9780**	0.180
			XBT GT2●●0...GT7340, RS 485	COM2			
			XBT GT2●●0...GT7340, RS 485	COM1	2.5 m	**XBT Z968** + *(2)*	0.180
					5 m	**XBT Z9681** + *(2)*	0.340
			XBT GT2●●0...GT7340, RS 232C	COM1	2.5 m	**TSX PCX 1031**	0.170
Modicon Premium with TSX SCY 2160●	25-way female SUB-D	Uni-TE (V1/V2)	XBT GT11●0, RS 485	COM1	2.5 m	**XBT Z918** + *(1)*	0.230
			XBT GT2●●0...GT7340, RS 485	COM1	2.5 m	**XBT Z918** + *(2)*	0.230
Modicon Quantum	9-way male SUB-D	Modbus	XBT GT11●0, RS 232C	COM1	2.5 m	**XBT Z9710** + *(1)*	0.210
			XBT GT2●●0...GT7340, RS 232C	COM1	2.5 m	**XBT Z9710** + *(3)*	0.210
					3,7 m	**990 NAA 263 20**	0.290
Advantys STB	HE13 (NIM, network interface module)	Modbus	XBT GT11●0, RS 232C	COM1	2.5 m	**XBT Z988** + *(1)*	0.220
			XBT GT2●●0...GT7340, RS 232C	COM1	2 m	**STB XCA 4002**	0.210
					2,5 m	**XBT Z988**+ *(3)*	0.220
Modicon Momentum M1	RJ45 (port 1 of Momentum M1)	Modbus	XBT GT11●0, RS 232C	COM1	2.5 m	**XBT Z9711** + *(1)*	0.210
			XBT GT2●●0...GT7340, RS 232C	COM1	2.5 m	**XBT Z9711** + *(3)*	0.210
TeSys U starter-controllers, ATV 31/61/71 variable speed drives, ATS 48 soft starters	RJ45	Modbus	XBT GT11●0, RS 485	COM1	3 m	**VW3 A8 306 R30**	0.060
			XBT GT2●●0...GT7340, RS 485	COM2			

TSX PCX 1031

(1) **XBT ZG939** adaptator to use *with cordsets whose reference is followed by* " + *(1)* ".
(2) **XBT ZG909** adaptator to use *with cordsets whose reference is followed by* " + *(2)* ".
(3) **XBT ZG919** adaptator to use *with cordsets whose reference is followed by* " + *(3)* ".
(4) Male connector with **XBT ZGI232**, *female connector with* **XBT ZGI 485**.

Description: pages 1/34, 1/36, 1/38, 1/40 and 1/42 Characteristics: pages 1/35, 1/37, 1/39, 1/41 and 1/43 Dimensions: page 1/55

Operator dialogue terminals
New Technology Magelis XBT GT touch-sensitive graphic terminals

XBT ZG9772

XBT ZG9731

Cordsets and adaptators for connection XBT GT terminals to third-party PLCs

Mitsubishi PLCs, Melsec

Description *Driver used*	XBT GT type terminal	Connector types (equipped the cordset, except adaptator)	Physical link (COM1)	Lenght	Reference	Weight kg
Cordset ***A CPU (SIO)***	2●●0...7340	9-way SUB-D / 25-way SUB-D	RS 422	5 m	**XBT ZG9773**	–
Cordset ***Q Link (SIO)***	2●●0...7340	9-way SUB-D / 9-way SUB-D	RS 232C	5 m	**XBT ZG9772**	–
Cordset ***Q CPU (SIO)***	2●●0...7340	9-way SUB-D / mini-DIN	RS 232C	5 m	**XBT ZG9774**	–
Cordsets ***A Link (SIO)***	2●●0...7340	9-way SUB-D / 25-way SUB-D	RS 232C	5 m	**XBT ZG9731**	–
Cordsets ***FX (CPU)***	2●●0...7340	9-way SUB-D / mini-DIN	RS 422	5 m	**XBT ZG9775**	–
Cordsets for adaptator 2 ports, ***FX (CPU),*** ***A CPU (SIO)*** ***QnA CPU (SIO)***	2●●0...7340	9-way SUB-D / end free	RS 422	5 m	**XBT ZG9778** *+ (4)*	–
Adaptator unit ***FX (CPU),*** ***A CPU (SIO)*** ***QnA CPU (SIO)***	2●●0...7340	2 ports unit Screw terminal / 2 x 9-way SUB-D	RS 422	–	**XBT ZG979**	–

Omron PLCs, Sysmac

Description *Driver used*	XBT GT type terminal	Connector types (equipped the cordset, except adaptator)	Physical link (COM1)	Lenght	Reference	Weight kg
Cordsets ***Link (SIO)***	11●0	25-way SUB-D / 9-way SUB-D	RS 232C	2,5 m	**XBT Z9740** *+ (1)*	0.210
	2●●0...7340	9-way SUB-D / 9-way SUB-D	RS 232C	5 m	**XBT ZG9740**	–
		9-way SUB-D / 25-way SUB-D	RS 232C	5 m	**XBT ZG 9731**	–
Cordsets ***FINS (SIO)***	11●0	25-way SUB-D / 9-way SUB-D	RS 232C	2.5 m	**XBT Z9740** *+ (1)*	0.210
	2●●0...7340	9-way SUB-D / 9-way SUB-D	RS 232C	5 m	**XBT ZG9740**	–

(1) **XBT ZG939** adaptator to use *with cordsets whose reference is followed by " + (1)", see page 1/46.*

(4) **XBT ZG9778** *cordset to associate with* **XBT ZGCOM1** *9-way female/female SUB-D adaptator.*

Description: pages 1/34, 1/36, 1/38, 1/40 and 1/42 Characteristics: pages 1/35, 1/37, 1/39, 1/41 and 1/43 Dimensions: page 1/55

Operator dialogue terminals
New Technology Magelis XBT GT
touch-sensitive graphic terminals


XBT ZG9731

Cordsets and adaptators for connection XBT G / GT terminals to third-party PLCs
(continued)

Rockwell, Allen-Bradley PLCs

Description *Driver used*	XBT GT type terminal	Connector types (equipped the cordset, except adaptator)	Physical link (COM1)	Lenght	Reference	Weight kg
Cordsets ***DF1 Full Duplex***	11●0	25-way SUB-D / 9-way SUB-D	RS 232C	2.5 m	**XBT Z9730** + *(1)*	0.210
		25-way SUB-D / 8-way mini-DIN	RS 232C	2.5 m	**XBT Z9731** + *(1)*	0.210
	2●●0...7340	9-way SUB-D / 25-way SUB-D	RS 232C	5 m	**XBT ZG 9731**	–
Cordsets ***DH485***	11●0	25-way SUB-D / 8-way mini-DIN	RS 485	5 m	**XBT Z9732** + *(1)*	–
	2●●0...7340	25-way SUB-D / 8-way mini-DIN	RS 485	5 m	**XBT Z9732** + *(2)*	–

Siemens PLCs, Simatic

Description *Driver used*	XBT GT type terminal	Connector types (equipped the cordset, except adaptator)	Physical link	Lenght	Reference	Weight kg
Cordset ***PPI, S7 200***	11●0	RJ45 / 9-way SUB-D	RS 485 (COM1)	2.5 m	**XBT ZG9721**	–
	2●●0...7340	RJ45 / 9-way SUB-D	RS 485 (COM2)			
Cordsets ***Port MPI, S7 300/400***	11●0	RJ45 / end free	RS 485 *(4)* (COM1)	3 m	**VW3 A8 306 D30**	0.150
		RJ45 / 9-way SUB-D	RS 485 *(4)* (COM1)	2.5 m	**XBT ZG9721**	–
	2●●0...7340	9-way SUB-D / 9-way SUB-D	RS 232C (COM1)	3 m	**XBT ZG9292**	–
		RJ45 / end free	RS 485 *(4)* (COM2)	3 m	**VW3 A8 306 D30**	0.150
		RJ45 / 9-way SUB-D	RS 485 *(4)* (COM2)	2.5 m	**XBT ZG9721**	–
Adaptator unit ***RK512/3964F, S7 300/400***	XBT G	1 port unit Screw terminal / 1 x 25-way SUB-D	RS 422 (COM1)	–	**XBT ZG989**	–

Customizable cordsets

Description *Driver used*	XBT GT type terminal	Connector types (equipped the cordset, except adaptator)	Physical link	Lenght	Reference	Weight kg
Universal adaptator, RS 422	2●●0...7340	9-way SUB-D / end free	RS 422 (COM1)	2.5 m	**XBT ZG9722**	0.210
Universal adaptators, RS 422/485	2●●0...7340	9-way SUB-D / screw terminal	RS 422 (COM1)	–	**XBT ZG949** + *(5)*	–
		9-way SUB-D / screw terminal	RS 485 (COM2)	–	**XBT ZG949** + *(6)*	–

(1) **XBT ZG939** adaptator to use *with cordsets whose reference is followed by " + (1) ".*
(2) **XBT ZG909** adaptator to use *with cordsets whose reference is followed by " + (2) ".*
(4) No isolated RS 485 serial link 12 Mbps (187,5 Kps with **XBT GT11●0/2110**).
(5) Cordset to create by user and to associate with **XBT ZGCOM1** *9-way female/female SUB-D adaptator .*
(6) Cordset to create by user and to associate with **XBT ZGI485** *isolation unit and* **XBT ZGCOM2** *9-way male/female SUB-D adaptator .*

Description: pages 1/34, 1/36, 1/38, 1/40 and 1/42
Characteristics: pages 1/35, 1/37, 1/39, 1/41 and 1/43
Dimensions: page 1/55

Operator dialogue terminals
New Technology Magelis XBT GT touch-sensitive graphic terminals


TSX SCA 62


TSX P ACC 01


TSX SCA 64


LU9 GC3


VW3 A8 306 TF10

XBT GT terminals connections to serial links and networks

Type of bus/network	Tap-off unit	Type of connector (unit side)	XBT GT type terminal	Lenght	Reference	Weight kg
Uni-Telway serial link	TSX SCA 62 passive 2-channel subscriber socket	15-way female SUB-D	11●0 (COM1)	3 m	**VW3 A8 306**	0.150
			2●●0...7340 (COM2)			
			2●●0...7340 (COM1)	1.8 m	**XBT Z908** + *(2)*	0.240
	TSX P ACC 01 terminal port connection box	8 way female mini-DIN	11●0 (COM1)	2.5 m	**XBT Z9780**	0.180
			2●●0...7340 (COM2)			
			2●●0...7340 (COM1)	2.5 m	**XBT Z968** + *(2)*	0.180
				5 m	**XBT Z9681** + *(2)*	0.340
Modbus serial link	TSX SCA 64 passive 2-channel subscriber socket	15-way female SUB-D	11●0 (COM1)	3 m	**VW3 A8 306**	0.150
			2●●0...7340 (COM2)			
			2●●0...7340 (COM1)	1.8 m	**XBT Z908** + *(2)*	0.240
	LU9 GC3 Modbus splitter box	RJ45	11●0 (COM1)	3 m	**VW3 A8 306R30**	0.060
			2●●0...7340 (COM2)			
			2●●0...7340 (COM1)	2.5 m	**XBT Z938** + *(2)*	0.210
	T-junction box	With integrated cable, RJ45 equipped	11●0 (COM1)	1 m	**VW3 A8 306 TF10**	–
			2●●0...7340 (COM2)			
Ethernet TCP/IP network	499 NEH/NOH hubs 499 NES/NMS, 499 NSS/NOS switches	RJ45	●●30 / ●●40	2 m	**490 NTW 000 02**	–
				5 m	**490 NTW 000 05**	–
				12 m	**490 NTW 000 12**	–
				40 m	**490 NTW 000 40**	–
				80 m	**490 NTW 000 80**	–


ABL 7RM240●

Modular regulated switch mode power supplies ABL 7RM *(3)*

Mains input / output voltage	XBT GT association	Nominal powe	Nominal currentl	Référence	Weight kg
100...240 / 24 V Single-phase wide range 47...63 Hz	XBT GT 1100...6340	30 W	1,3 A	**ABL 7RM2401**	0,182
	XBT GT7340	60 W	2,5 A	**ABL 7RM24025**	0,255

(2) **XBT ZG909** *adaptator to use with cordsets whose reference is followed by " + (2) ", see page 1/46.*

(3) Dimensions : H x L x P : 90 x 72 x 59 mm. For further information, please consult our "Interfaces, I/O splitter boxes and power supplies" catalogue.

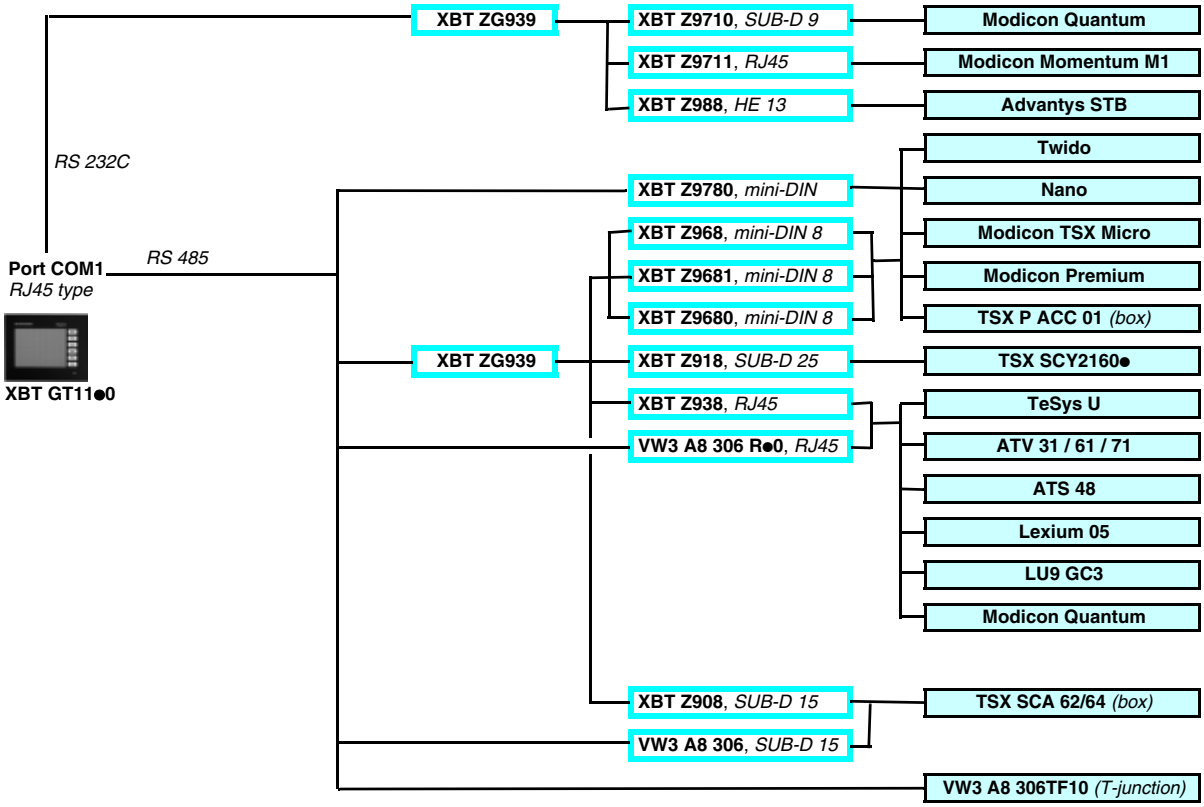
Description: pages 1/34, 1/36, 1/38, 1/40 and 1/42 Characteristics: pages 1/35, 1/37, 1/39, 1/41 and 1/43 Dimensions: page 1/55

Operator dialogue terminals

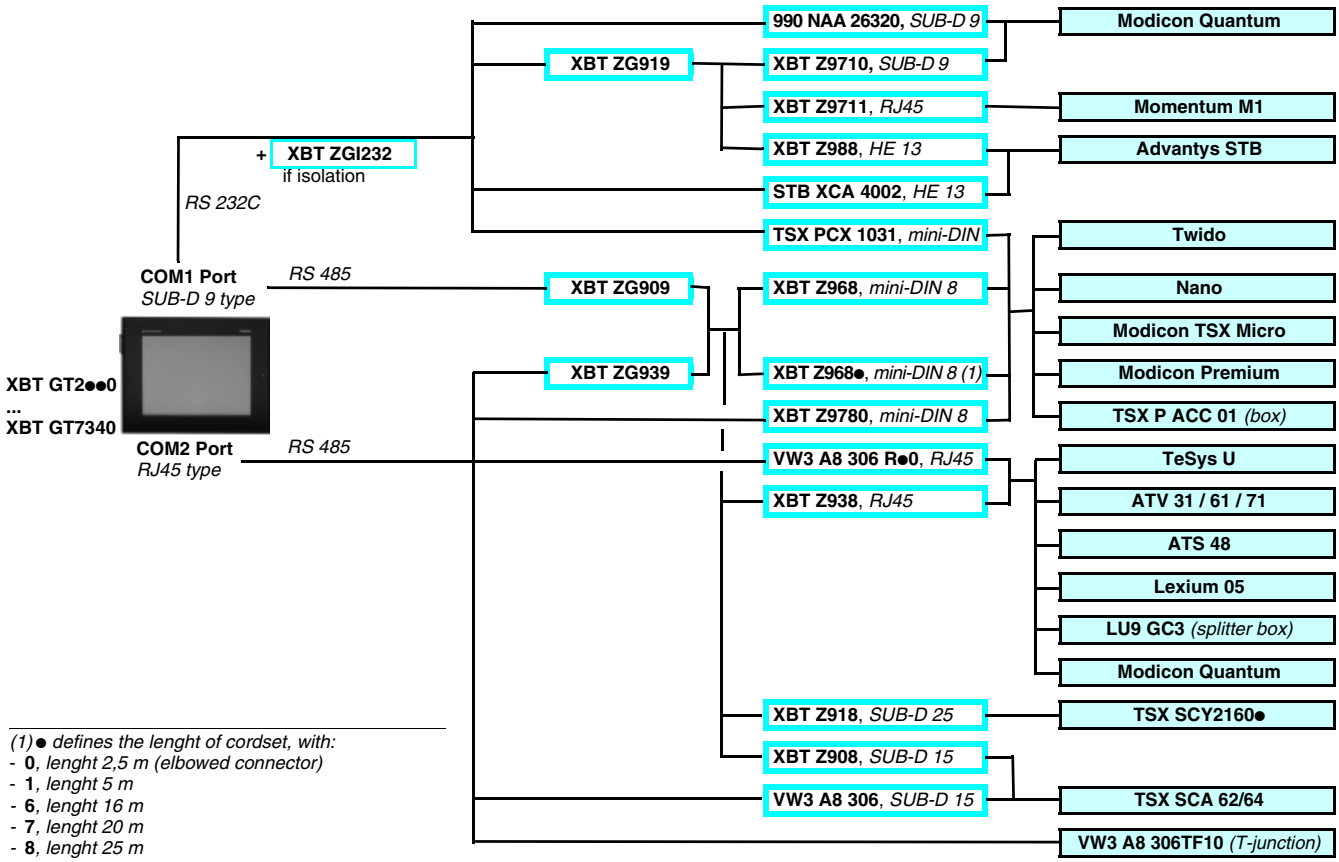
Magelis XBT GT graphic terminals

Wiring system

XBT GT11●0 terminals and Telemecanique products



XBT GT2●●0 / GT7340 terminals and Telemecanique products



(1)● defines the lenght of cordset, with:
- **0**, *lenght 2,5 m (elbowed connector)*
- **1**, *lenght 5 m*
- **6**, *lenght 16 m*
- **7**, *lenght 20 m*
- **8**, *lenght 25 m*

Operator dialogue terminals

Magelis XBT GT graphic terminals

Wiring system

XBT GT11●0 terminals and third-party PLCs

XBT GT11●0

RS 232C

RS 485

Port COM1 *type RJ45*

XBT ZG939	**XBT Z9720,** *SUB-D 25*	**Siemens S5 CP525**, 3964R
	XBT Z9740, *SUB-D 9*	**Omron,** Sysmac Link (SIO)
		Omron, Sysmac FINS (SIO)
	Câble utilisateur	**Mitsubishi,** Melsec
	XBT Z9731, *mini-DIN 8*	**Rockwell Micro-Logix**, DF1-Full Duplex
	XBT Z9730, *SUB-D 9*	**Rockwell SLC5**, DF1 & DH 485
XBT ZG939	**XBT Z9732,** *RJ45*	**Rockwell Micro-Logix**, DH 485
	VW3 A8 306 D30, *end free*	**Siemens S7 300/400**, PPI
	XBT ZG9721, *SUB-D 9*	**Siemens S7**, MPI & PPI

XBT GT2●●0 / GT7340 terminals and third-party PLCs

XBT GT2●●0
...
XBT GT7340

COM2 Port
RJ45 type

COM1 Port
SUB-D 9 type

\+ **XBT ZGI232**
if isolation

RS 232C

RS 485

RS 422

RS 485

	XBT ZG9979, *terminal*	**Mitsubishi FX CPU, A CPU, QnA CPU**, Melsec
XBT ZGCOM1	**XBT ZG9778**, *end free*	
	XBT ZG9775, *mini-DIN 8*	**Mitsubishi FX CPU**, Melsec
	XBT ZG949, *terminal*	
	XBT ZG9722, *end frees*	**Serial equipment RS 422**
	XBT ZG9773, *SUB-D 25*	**Mitsubishi A CPU**, Melsec
	XBT ZG9731, *SUB-D 25*	**Mitsubishi A Link**, Melsec
		Rockwell, DF1-Full Duplex
XBT ZG919	**XBT Z9730**, *SUB-D 9*	
	XBT Z9731, *SUB-D 25*	
	XBT Z9720, *SUB-D 25*	**Siemens S5 CP525**, 3964R
	XBT ZG9772, *SUB-D 9*	**Mitsubishi Q Link**, Melsec
	XBT ZG9774, *mini-DIN 8*	**Mitsubishi Q CPU**, Melsec
	XBT ZG9740, *SUB-D 9*	**Omron CQM1, CVM1**, Sysmac
	XBT Z9740, *SUB-D 9*	
	XBT Z979, *SUB-D 9*	**Siemens S7**, Simatic MPI
	XBT ZG9292, *SUB-D 9*	
XBT ZG909	**XBT Z9732**, *RJ45*	**Rockwell Micro-Logix**, DH 485
XBT ZG939	**XBT Z9721**, *SUB-D 9*	**Siemens S7**, Simatic PPI
	XBT ZG9721, *SUB-D 9*	**Siemens S7**, Simatic PPI & MPI
	VW3 A8 306 D30, *end free*	
XBT ZGCOM2	**XBT ZG949**, *terminal*	**Serial equipment RS 485**

Application transfer from XBT GT terminals to PC

XBT GT11●0

Mini-DIN 8

XBT GT2●●0...XBT GT7340

A type USB

XBT ZG915, SUB-D 9	*Serial port*
XBT ZG925, type A	*USB port*
XBT ZG935, type A	

Operator dialogue terminals
Touch-sensitive graphic terminals
Correspondance table of Magelis XBT G / XBT GT

XBT GT5330

XBT ZGCO4

Correspondance table of XBT G to XBT GT terminals

Old range XBT G	New range XBT GT *Requires* *Vijeo Designer ≥ V4.3*	Panel cut-out adaptator *(1)*
XBT G2110	**XBT GT2110**	**XBT ZGCO2**
XBT G2120	**XBT GT2120**	**–**
XBT G2130	**XBT GT2130**	**–**
XBT G2220	**XBT GT2220**	**–**
XBT G2330	**XBT GT2330**	**–**
XBT G4320	**XBT GT4330**	**–**
XBT G4330	**XBT GT4330**	**–**
XBT G5230	**XBT GT5230**	**–**
XBT G5330	**XBT GT5330**	**XBT ZGCO4**
XBT G6330	**XBT GT6330**	**–**
XBT ZG MBP	**TSX C USB MBP**	Modbus Plus network connection

Correspondance table of cordsets to Telemecanique products

Synthesis

Old range XBT G	New range XBT GT2●●0...GT6330	
Type of link	**Type of link**	**Cordset + adaptator reference**
COM1, RS 232C, SUB-D 25	COM1, RS232C, SUB-D 9	**Current cordset + XBT ZG919**
	COM2, RS485, RJ45	**Current cordset + converter RS 485/RS 232C + XBT ZG939**
COM1, RS 485, SUB-D 25	COM1, RS485, SUB-D 9	**Current cordset + XBT ZG909**
	COM2, RS485, RJ45	**Current cordset + XBT ZG939**
COM2, RS 232C, SUB-D 9	COM1, RS232C, SUB-D 9	**Current cordset**
	COM2, RS485, RJ45	**Current cordset + converter RS 485/RS 232C + XBT ZG939**

Correspondance table of cordsets

Old range XBT G2●●0...G6330				New range XBT GT2●●0...GT6330			
Type of terminal	**Type of link**	**Lenght**	**Reference**	**Type of terminal**	**Type of link**	**Lenght**	**New reference Cordset + adaptator**
Twido, Modicon TSX Micro, Modicon Premium, terminal port mini-DIN 8-way female, Uni-TE (V1/V2) and Modbus protocols							
XBT G	COM1, RS 485 SUB-D 25	2.5 m	**XBT Z968**	XBT GT	COM1, RS 485 SUB-D 9	2.5 m	**XBT Z968 + XBT ZG909**
		5 m	**XBT Z9681**			5 m	**XBT Z9681 + XBT ZG909**
XBT G	COM2, RS 232C SUB-D 9	2.5 m	**TSX PCX 1031**	XBT GT	COM1, RS 232C SUB-D 9	2.5 m	**TSX PCX 1031**
				XBT GT	COM2, RS 485 RJ45	2.5 m	**XBT Z9780**
Modicon Premium avec TSX SCY 2160●, 25-way female SUB-D connector, Uni-TE protocol (V1/V2)							
XBT G	COM1, RS 485 SUB-D 25	2.5 m	**XBT Z918**	XBT GT	COM1, RS 485 SUB-D 9	2.5 m	**XBT Z918 + XBT ZG909**
Modicon Quantum, 9-way male SUB-D connector, Modbus protocol							
XBT G	COM1, RS 232C SUB-D 25	2.5 m	**XBT Z9710**	XBT GT	COM1, RS 232C SUB-D 9	2.5 m	**XBT Z9710 + XBT ZG919**
						3.7 m	**990 NAA 26320**
Advantys STB, HE13 connector (NIM network interface module), Modbus protocol							
XBT G	COM2, RS 232C SUB-D 9	2 m	**STB XCA 4002**	XBT GT	COM1, RS 232C SUB-D 9	2 m	**STB XCA 4002**
Modicon Momentum M1, RJ45 connector (port 1), Modbus protocol							
XBT G	COM1, RS 232C SUB-D 25	2.5 m	**XBT Z9711**	XBT GT	COM1, RS 232C SUB-D 9	2.5 m	**XBT Z9711 + XBT ZG919**
TeSys U starter-controllers, ATV 31/61/71 speed drives, ATS 48 soft starters, RJ45 connector, Modbus protocol							
XBT G	COM1, RS 485 SUB-D 25	2.5 m	**XBT Z938**	XBT GT	COM1, RS 485 SUB-D 9	2.5 m	**XBT Z938 + XBT Z909**
				XBT GT	COM2, RS 485 RJ45	3 m	**VW3 A8 306 R30**

Correspondance table of application transfer cordsets to PC and printer cordsets

Old range XBT G2●●0...G6330				New range XBT GT2●●0...GT6330			
Type of terminal	**Type of link**	**Lenght**	**Reference**	**Type of terminal**	**Type of link**	**Lenght**	**New reference**
Application transfer cordsets to PC							
XBT G	Mini-DIN / SUB-D 9	2 m	**XBT ZG915**	XBT GT	USB / USB	2m	**XBT ZG935**
	Mini-DIN / USB	2 m	**XBT ZG925**				
Cordset to serial printer							
XBT G	COM2, RS 232C	2.5 m	**XBT Z915**	XBT GT	COM1, RS232C	2.5 m	**XBT Z915**
Cordset to parallel printer							
XBT G	Centronics type, Epson ESC/P		**XBT ZG946**	XBT GT	USB, Hewlett Packard model type		Connection via USB/PIO converter *(not provided by Schneider Electric)*

(1) Panel cut-out adaptator for mounting the XBT GT terminal in place of the substitued XBT G.

Operator dialogue terminals
Touch-sensitive graphic terminals
Correspondance table of Magelis XBT G / XBT GT

Correspondance table of cordsets for connection to third-party PLCs

Mitsubishi PLCs, Melsec

Old range XBT G2●●0...G6330					New range XBT GT2●●0...GT6330				
Type of terminal	**Type of connectors**	**Physical link**	**Lenght**	**Substitued reference**	**Type of terminal**	**Type of connectors**	**Physical link**	**Lenght**	**New reference + adaptator**
Q Link (SIO) protocol									
XBT G	SUB-D 25 / SUB-D 9	COM1, RS 232C	3 m	**XBT ZG9771**	XBT GT	SUB-D 9 / SUB-D 9	COM1, RS 232C	5 m	**XBT ZG9772**
A Link (SIO) protocol									
XBT G	SUB-D 25 / SUB-D 25	COM1, RS 232C	5 m	**XBT ZG973**	XBT GT	SUB-D 9 / SUB-D 25	COM,1 RS 232C	5 m	**XBT ZG9731**
	SUB-D 25 / SUB-D 9	COM1, RS 232C	3 m	**XBT ZG9771**					
Q FX (CPU) protocol									
XBT G	SUB-D 25 / SUB-D 25	COM1, RS 422	5 m	**XBT ZG9770**	XBT GT	SUB-D 9 / mini-DIN	COM1, RS 422	5 m	**XBT ZG9775**
Adaptator 2 ports, FX (CPU), A CPU (SIO) and QnA CPU (SIO) protocols									
XBT G	SUB-D 25 / end free	COM1, RS 422	5 m	**XBT ZG9777**	XBT GT	SUB-D 9 / end free	COM1, RS 422	5 m	**XBT ZG9778 + XBT ZGCOM1**
Adaptator unit, FX (CPU), A CPU (SIO) and QnA CPU (SIO) protocols									
XBT G	2 ports unit Screw terminal / 2 x SUB-D 9	COM1, RS 422	–	**XBT ZG979**	XBT GT	2 ports unit Screw terminal / 2 x SUB-D 9	COM1, RS 422	–	**XBT ZG979**
Adaptator unit, A Link (SIO) and Q Link (SIO) protocols									
XBT G	1 port unit Screw terminal / 1 x SUB-D 25	COM1, RS 422	–	**XBT ZG989**	XBT GT	–	–	–	**–**

Omron PLCs, Sysmac

Old range XBT G2●●0...G6330					New range XBT GT2●●0...GT6330				
Type of terminal	**Type of connectors**	**Physical link**	**Lenght**	**Substitued reference**	**Type of terminal**	**Type of connectors**	**Physical link**	**Lenght**	**New reference**
Link (SIO) protocol									
XBT G	SUB-D 9 / SUB-D 9	COM2, RS 232C	5 m	**XBT ZG9740**	XBT GT	SUB-D 9 / SUB-D 9	COM1, RS 232C	5 m	**XBT ZG9740**
	SUB-D 25 / SUB-D 25	COM1, RS 232C	5 m	**XBT ZG973**		SUB-D 9 / SUB-D 25	COM1, RS 232C	5 m	**XBT ZG 9731**
FINS (SIO) protocol									
XBT G	SUB-D 25 / SUB-D 9	COM1, RS 232C	2.5 m	**XBT Z9740**	XBT GT	SUB-D 9 / SUB-D 9	COM1, RS 232C	5 m	**XBT ZG9740**

Rockwell PLCs, Allen Bradley

Old range XBT G2●●0...G6330					New range XBT GT2●●0...GT6330				
Type of terminal	**Type of connectors**	**Physical link**	**Lenght**	**Substitued reference**	**Type of terminal**	**Type of connectors**	**Physical link**	**Lenght**	**New reference**
DF1 Full Duplex protocol									
XBT G	SUB-D 25 / SUB-D 25	COM1, RS 232C	5 m	**XBT ZG973**	XBT GT	SUB-D 9 / SUB-D 25	COM1, RS 232C	5 m	**XBT ZG 9731**

Siemens PLCs, Simatic

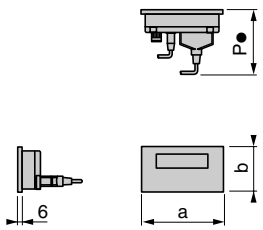
Old range XBT G2●●0...G6330					New range XBT GT2●●0...GT6330				
Type of terminal	**Type of connectors**	**Physical link**	**Lenght**	**Substitued reference**	**Type of terminal**	**Type of connectors**	**Physical link**	**Lenght**	**New reference**
MPI protocol (S7-300/400)									
XBT G	SUB-D 25 / SUB-D 9	COM1, RS 232C	3 m	**XBT ZG929**	XBT GT	SUB-D 9 / SUB-D 9	COM1, RS 232C	3 m	**XBT ZG9292**
						RJ45 / SUB-D 9	COM2, RS485	2.5 m	**XBT ZG9721**
Adaptator unit, RK512/3964F protocol (S7-300/400)									
XBT G	1 port unit Screw terminal / 1 SUB-D 25	COM1, RS 422	–	**XBT ZG989**	XBT GT	–	–	–	–

References:
pages 1/44 to 1/48

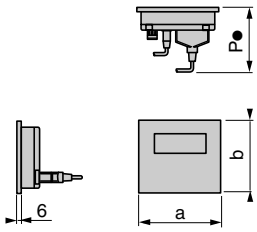
Operator dialogue terminals
Display units and terminals XBT N/R/HM/PM

Dimensions

XBT N



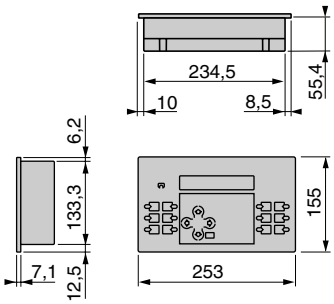
XBT R



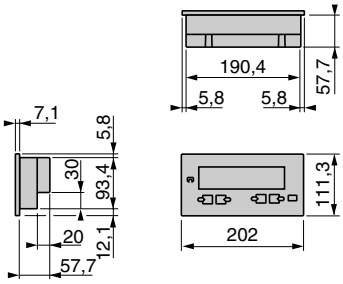
	a	a1 *(1)*	b	b1 *(1)*	P1 *(2)*	P2 *(3)*	P3 *(4)*	P4 *(5)*
XBT N200/N400	132	–	74	104	78	–	–	–
XBT N401/N410	132	–	74	104	–	–	58	104
XBT NU400	132	–	74	104	–	104	–	–
XBT R400	137	160	118	146	78	–	–	–
XBT R410/R411	137	160	118	146	–	–	58	104

(1) With 2 fixing clips (included with product).
(2) P1 : depth with RJ45 cable, **XBT Z9780** *(for Twido, TSX Micro and Premium).*
(3) P2 : depth with 25-way SUB-D cable, **XBT Z938** *(for TeSys model U and ATV 61/71 variable speed drives).*
(4) P3 : depth with 25-way SUB-D elbow cable, **XBT Z9680** *(for Twido, TSX Micro and Premium) or* **XBT Z998** *(for Advantys STB).*
(5) P4 : depth with 25-way SUB-D cable, **XBT Z68/Z9681** *(for Twido, TSX Micro and Premium).*

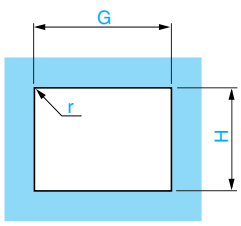
XBT PM



XBT HM



Mounting



panel thickness: 1.5…6 mm

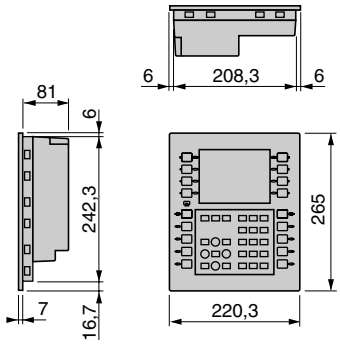
Display units and terminals	Cut-out for flush mounting H (± 0.4 mm)	G (± 0.5 mm)	r
XBT N	63	119.4	1.5 maxi
XBT R	105.2	119.6	1.5 maxi
XBT PM	134	235	2<r<3.5
XBT HM	99.2	190.9	2<r<3.5

XBT N/R references: pages 1/13 and 1/15
XBT PM/HM references: page 1/21

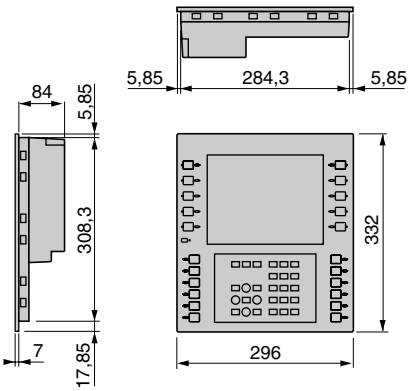
Operator dialogue terminals
Graphic terminals XBT F and XBT GT

Dimensions

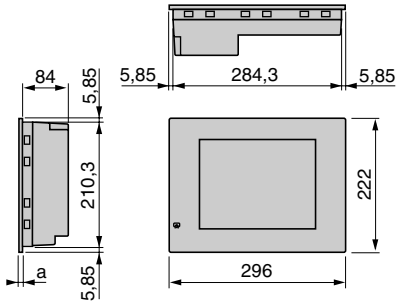
XBT F011●10



XBT F023/024

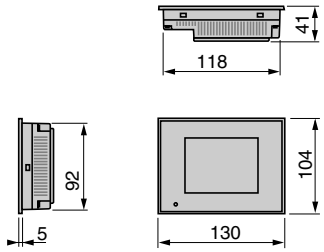


XBT F034/FC0●4

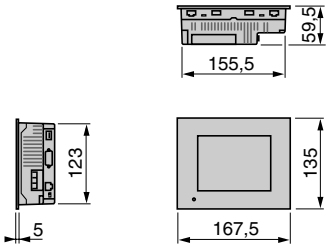


	a
XBT F034	7
XBT FC0●4	11

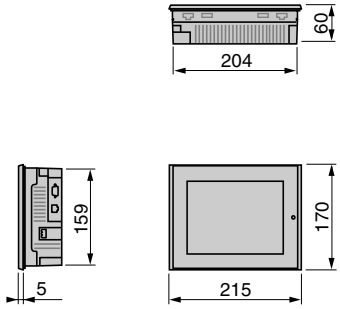
XBT GT1100/GT1130



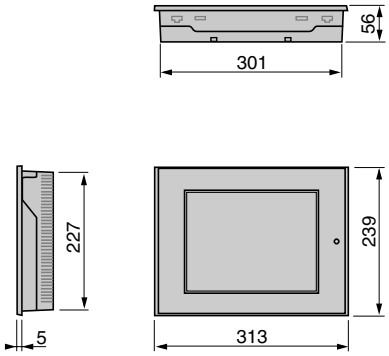
XBT GT2110
XBT GT2120/GT2130/GT2220/GT2330



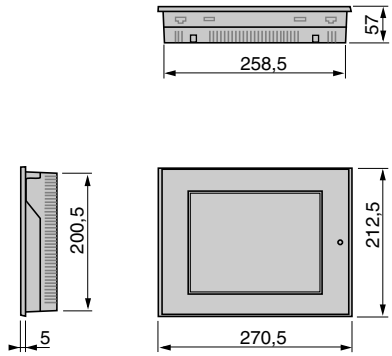
XBT GT4230/GT4330/GT4340



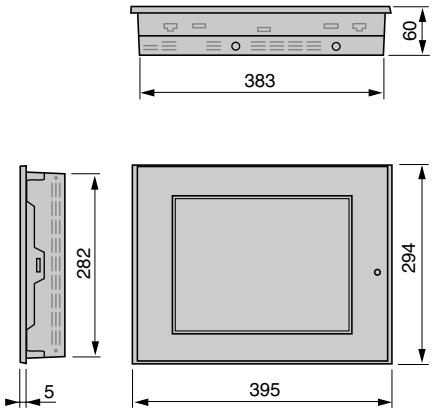
XBT GT5230 and XBT GT6330/G6340



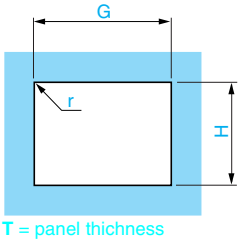
XBT GT5330/GT5340



XBT GT7340



Mounting



T = panel thichness

Graphic terminals	Cut-out for flush mounting			
	H	G	r	T
XBT F011●10	243 (± 0.4)	209 (± 0.4)	2 < r < 3.5	1.6...6
XBT F024	309 (± 0.4)	285 (± 0.4)	2 < r < 3.5	1.6...6
XBT F034/FC0●4	210.9 (± 0.4)	284.9 ± 0.4	2 < r < 3.5	1.6...6
XBT GT1100/GT1130	92.5 (+ 1/- 0)	118 (+ 1/- 0)	3 maxi	1.6...5
XBT GT2110/GT2120/GT2130/GT2220/GT2330	123.5(+ 1/- 0)	156 (+ 1/- 0)	3 maxi	1.6...5
XBT GT4230/GT4330/GT4340	159.5(+ 1/- 0)	204.5 (+ 1/- 0)	3 maxi	1.6...10
XBT GT5230/GT6330/GT6340	227,5 (+ 1/- 0)	301,5 (+ 1/- 0)	3 maxi	1.6...10
XBT GT5330/GT5340	201 (+ 1/- 0)	259 (+ 1/- 0)	3 maxi	1.6...10
XBT GT7340	282.5 (+ 1/- 0)	383.5 (+ 1/- 0)	3 maxi	1.6...10

XBT F01 references: page 1/27
XBT F024/F034 references: pages 1/29
XBT GT references: page 1/44

Contents

2 - Magelis *i*PC industrial PCs

Human Machine Interface
Magelis *i*PC industrial PCs

Applications		"All in One" compact products	
			
Model			
15" screen XGA (1024 x 768)	Data entry via keyboard		
	Data entry via keyboard and touch screen		
	Data entry via touch screen		●
12" screen XGA (1024 x 768)	Data entry via touch screen		
12" screen SVGA (800 x 600)		●	
Pages		2/9	

Model		Smart *i*PC	
Control box	Processor	Intel Celeron M 600 MHz	VIA 667 MHz
	Storage	1 GB Compact Flash	
	RAM	256 MB expandable up to 1024 MB	256 MB expandable up to 512 MB
	CD-ROM drive	–	
	Floppy disk drive	–	
	Slots available for expansion	1 x PCMCIA slot 1 x type III/type I	1 x PCMCIA slot 1 x type III or 2 x type I
	Ethernet TCP/IP Network	2 x 10BASE-T/100BASE-TX (RJ45)	1 x 10BASE-T/100BASE-TX (RJ45)
	I/O ports	4 x USB + 1 x USB on front panel, 1 x RS232	2 x USB, 1 x COM1, 1 x COM2, 1 x parallel 1 x PS2 keyboard, 1 x PS2 pointing device
	Operating system	Windows Embedded XPe SP2	
	Pre-installed application or software package	Web edition or HMI edition - Vijeo Designer Run-Time	
	Power supply	∿ 100...240 V	⎓ 24 V
	Type of PC or Control box	**MPC ST2 1NAJ 10●**	**MPC ST5 2NDJ 10●**
Pages		2/9	

"All in One" compact products

Modular products

(Control box to be connected to a front panel or used as a stand-alone device) (1)

		Front panel		
		MPC NA5 0NNN 20N		
			MPC NB5 0NNN 20N	
	●			**MPC NT5 0NNN 20N**
●				
2/14		2/21		

Compact *i*PC		**Control box 102**	**Control box 402**
Intel Celeron M 1.3 GHz	VIA 667 MHz or Pentium 4 M 1.7 GHz	Intel Celeron M 1.3 GHz or Intel Pentium M 1.6 GHz	
Hard disk ≥ 40 GB	Hard disk ≥ 20 GB	Hard disk ≥ 40 GB, removable	
512 MB expandable up to 1024 MB	256 or 512 MB depend. on model	512 MB expandable up to 2 GB	
–	Yes	Yes, removable. Combined DVD-R/CD-RW drive available as an option.	
–	Yes	Yes	
1 x PCI bus slot 1 x PCMCIA slot 1 x type III/type I	1 x PCI bus slot 1 x PCMCIA slot 1 x type III or 2 x type II	1 x PCI bus slot and 2 x type 1/2 (or 1 x type III) PCMCIA slots	4 x PCI bus slots and 2 x type 1/2 (or 1 x type III) PCMCIA slots
2 x 10BASE-T/100 BASE-TX (RJ45)	1 x 10BASE-T/100 BASE-TX (RJ45)	1 x 10BASE-T/100BASE-TX (RJ45)	
4 x USB + 1 x USB on front panel 1 x RS232	2 x USB, 1 COM1, 1 x COM2, 1 x parallel 2 x PS2	2 x USB, 1 x COM1, 1 x COM4 and 1 x parallel, 1 x VGA external video port, 1 x PS/2 port *(2)*	
Windows 2000 or Windows XP Pro		Windows XP Pro or Windows 2000 operating system pre-installed	
Vijeo Designer Run-Time		Package A: Vijeo Look Run-Time	Package A: Vijeo Look Run-Time or Package B: Vijeo Look Build-Time
∿ 100...240 V		∿ 115…230 V or ⎓ 24 V depending on the model	
MPC KT2 2NA● 00●	**MPC KT5 ●NA● 00●**	**MPC EN0 ●N●● 00N**	**MPC DN0 ●N●● 00N**
2/14 and 2/15		2/22 and 2/23	

(1) To use a Control box without a front panel screen, you will require the mounting panel **MPC NP0 0NNN 00NN**.
(2) Port not operational when the Control box is fitted with the front panel screen.

Magelis *i*PC industrial PCs
Smart *i*PC range

Presentation

Magelis Smart *i*PC combines all the benefits of an industrial PC with those of an operator terminal for client applications developed under Windows.
Simple and user-friendly, it offers the flexibility of Windows XP embedded for standard client applications such as Internet Explorer, Outlook Express, Office readers, etc. As an operator terminal, Magelis Smart *i*PC is, of course, open to HMI Vijeo Designer applications as well as to SCADA client applications.

Complementing the Magelis Compact *i*PC and Modular *i*PC ranges, this updated range of “all in one” products has been designed with the needs of machine manufacturers, systems integrators and users in mind: the products are compact, easy to install and set up, and open to Web technologies.

With identical dimensions to and a screen the same size as Magelis XBT GT terminals, and also compatible with the Vijeo Designer software, Magelis Smart *i*PC (and Compact *i*PC) industrial PCs are the logical extension of the former. They optimize flexibility for all operator-dialog applications, from the simplest to the most advanced.

Magelis Smart *i*PC

Magelis Smart *i*PC industrial PCs are built around an IP 65 front panel with a 12” or 15” color TFT LCD screen and a high-definition analog touch panel.
With one or two built-in Ethernet TCP/IP 10/100 Mbps ports, they are the ideal terminal for Transparent Ready architectures and equipment (combination of Web and Ethernet TCP/IP technologies).

Magelis Smart *i*PC is available in two pre-installed software configurations - supplied on a 1 GB Compact Flash memory card -

■ **Magelis Smart *i*PC Web edition** can be used to visualize Web pages locally or remotely with the same level of ease. A ready-to-use Thin Client station, the Magelis Smart *i*PC integrates the following software components:
- Internet Explorer browser and Outlook Express message client
- JVM (Java Virtual Machine)
- Windows Terminal Services Client for client/server architectures
- Office reader for access to device documentation (.pdf, .doc, .xls, and .ppt documents)

These components can be used for the system diagnostics, visualization and control of Schneider Electric Transparent Ready products, as well as for access to FactoryCast services (see “Transparent Ready, embedded Web servers” on pages 3/38 to 3/47).

■ **Magelis Smart *i*PC HMI edition - Vijeo Designer Run-Time:** As well as offering the same functions as the Web edition and same readiness for use from initial startup, the Magelis Smart *i*PC HMI edition - Vijeo Designer Run-Time, also features the Vijeo Designer Run-Time control software (1024 inputs/outputs).

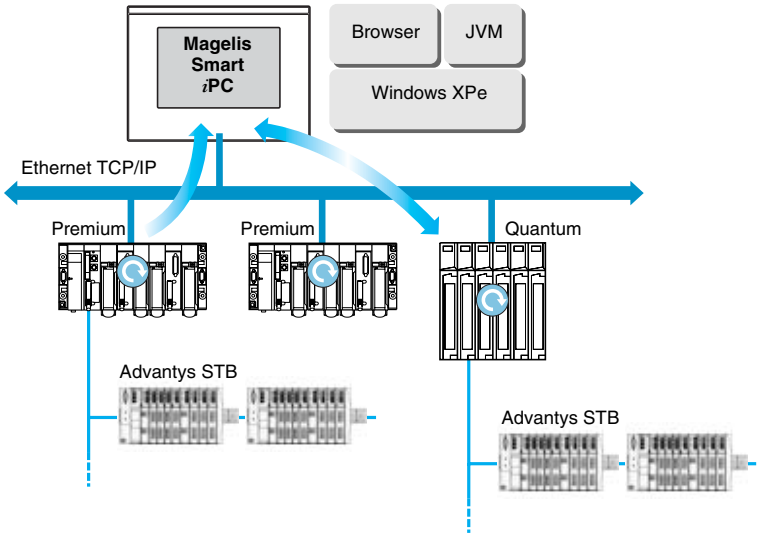
The Magelis Smart *i*PC, which is built around the Intel Celeron M 600 MHz (12”) or VIA 667 MHz (15”) processors and has an expandable 256 MB RAM, is based on standard Windows XPe SP2 technologies.
As well as built-in Ethernet TCP/IP ports, the Magelis Smart *i*PC also has a PCMCIA card slot that can be used for network access (Modbus, Modus Plus, Fipway, etc.).
The Magelis Smart *i*PC has particularly generous USB connectivity capabilities, featuring 2 or 5 *(1)* USB ports, depending on the model.
Ultra-slim (with depths of 60 and 65 mm), the Magelis Smart *i*PC benefits from increased durability thanks to the omission of vulnerable components (hard disk, CD-ROM drive, etc.). Windows XPe and its component software tools are pre-loaded onto a ready-to-use Compact Flash memory.

(1) 4 + 1 on front panel

Magelis *i*PC industrial PCs
Smart *i*PC range

Typical architectures

Connections to Transparent Ready architectures



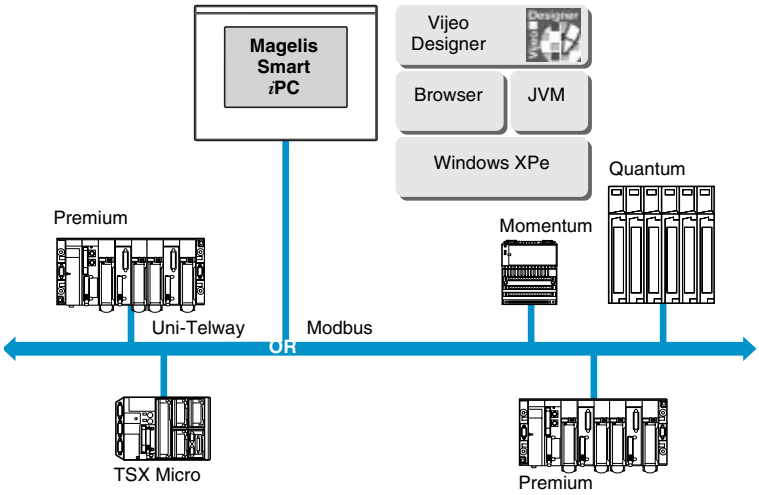
With 1 or 2 built-in Ethernet 10/100 Mbps ports, the Magelis Smart *i*PC can be integrated into "full Ethernet" architectures, such as Transparent Ready. Transparent Ready devices with this type of architecture pave the way for transparent communication on the Ethernet TCP/IP network. Communication services and Web services enable data to be shared and distributed between levels 1, 2 and 3 of the Transparent Ready architecture.

Used as a Web Client station, the Magelis Smart *i*PC makes it easier to implement Web Client solutions in relation to:
- Base servers embedded in field devices (Advantys STB/Momentum distributed I/O, ATV 71/38/58 starters, Ositrack identification systems, etc.)
- FactoryCast Web servers embedded in Modicon PLCs (TSX Micro, Premium and Quantum) or the FactoryCast gateway.

The following services are available as standard (without the need for additional programming): alarm management, view management and Web welcome pages created by users.
- FactoryCast HMI Web servers embedded in Modicon Premium and Quantum PLCs also provide database management services, automatic e-mail transmission triggered by specific process events, and arithmetic and logic calculations for data preprocessing.

The ready-to-use Magelis Smart *i*PCs with references **MPC ST2 1NAJ 10T** and **MPC ST5 2NAJ 10T** (see page 2/9) can be operated as Web client stations without the addition of separate parts.

HMI applications in traditional architectures (Fipway, Modbus Plus)



The bundled offer comprising the Smart *i*PC industrial PC and pre-installed Vijeo Designer control software allows them to be used in mono-network architectures such as Uni-Telway/Modbus or Fipway/Modbus Plus.
For Uni-Telway, an RS 485 TSX SCP 114 card *(1)* should be inserted into one of the PCMCIA slots. For a Modbus link, one of the built-in RS 232C COM ports is used.
Fipway or Modbus Plus links require a network card:
- Fipway network with a PCMCIA TSX FPP 20 card *(1)*
- Modbus Plus network with a PCMCIA TSX MBP 100 card or a PCI 416 NHM 300 30 bus card

The built-in Ethernet TCP/IP port allows Modicon PLC stations to be connected to levels 2 and 3 of communication architectures, if required.

(1) Requires the "X-Way drivers" CD-ROM, TLX CD DRV20M.

Magelis *i*PC industrial PCs
Smart *i*PC range

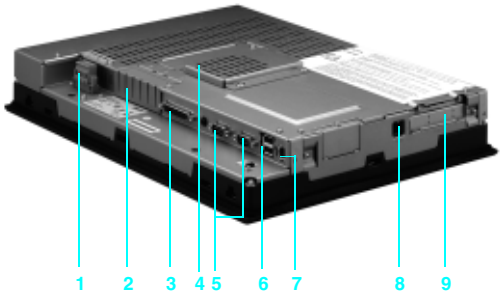
Description of the Smart *i*PC

15” front panel with touch screen MPC ST5 2NDJ 10●

The front panel with touch screen on the **MPC ST5 2NDJ 10●** industrial PC comprises:

1 A 15” XGA active-matrix color TFT LCD screen (maximum display area 1024 x 768 points) with high-definition analog touch panel
2 An aluminum alloy front panel with IP 65 membrane (mounted on a hardened steel frame)
3 Two LEDs labeled:
- ON (green), PC switched on
- DISK (green), accessing IDE bus (accessing Compact Flash memory, etc.)

Lower and left-hand sides, 15”



All expansion slots and connection elements are accessible from the rear of the PC, with the following elements located on the lower and left-hand sides:

1 Removable screw terminals for connecting the ⎓ 24 V power supply
2 Access to the Compact Flash memory card containing the operating system and installed software
3 One 25-pin female SUB-D connector marked PRINTER for bi-directional parallel link
4 One vent equipped with an anti-dust filter and a fan
5 Two 9-pin male SUB-D connectors marked COM1 and COM2 for the RS232 serial link
6 2 USB ports 1.1.
7 A mini-DIN PS/2 connector for connecting the external keyboard
8 An RJ45 connector for the Ethernet 10/100 Mbps link
9 A slot for 2 additional PCMCIA cards

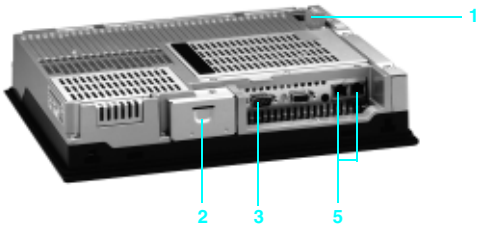
12” front panel with touch screen MPC ST2 1NAJ 10●

The front panel with touch screen on the **MPC ST2 1NAJ 10●** industrial PC comprises:

1 A 12” SVGA active-matrix color TFT LCD screen (maximum display area 800 x 600 points) with high-definition analog touch panel
2 An aluminum alloy front panel with IP 65 membrane (mounted on a hardened steel frame)
3 Two LEDs labeled:
- ON (green), PC switched on
- DISK (green), accessing IDE bus (accessing Compact Flash memory, etc.)

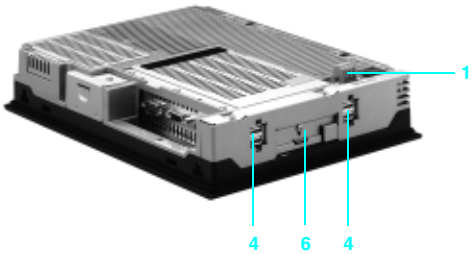
4 A dust and damp proof USB port

Lower and left-hand sides, 12”



All expansion slots and connection elements are accessible from the rear of the PC, with the following elements located on the lower and left-hand sides:

1 A removable screw terminal for the connection of the AC power supply
2 Access to the Compact Flash memory card containing the operating system and installed software
3 One 9-pin male SUB-D connector marked COM1 for the RS 232 serial link
4 4 USB ports 2.0.
5 2 RJ45 connectors for the Ethernet 10/100 Mbps link
6 A slot for 1 additional PCMCIA card



Magelis *i*PC industrial PCs
Smart *i*PC range

Characteristics

Front panel characteristics

Type			Smart *i*PC MPC ST2 1NAJ 10●	MPC ST5 2NDJ 10●
Touch screen	Type		12" SVGA active-matrix color TFT LCD	15" XGA active-matrix color TFT LCD
	Definition		800 x 600	1024 x 768
	Number of colors		262144	
	Brightness		⩾ 250 cd/m² adjustable	
	Optimum viewing angle		Horizontal 160°, vertical 160°	
Touch panel			Analog resistive, 1 million cycles	
Front panel	Signaling		ON LED: PC switched on DISK LED: accessing Compact Flash system card	
	I/O ports		1 USB port, protected by IP 65 cover	–
	Material		Aluminum alloy with IP 65 membrane on hardened steel frame	
	Screen protection		Polyethylene sheet	
Degree of protection			IP 65 (when front USB port not in use)	IP 65, Nema 4

Control box characteristics

Type			Smart *i*PC MPC ST2 1NAJ 10●	MPC ST5 2NDJ 10●
Processor			Intel Celeron M 600 MHz	VIA 667 MHz
Internal hard disk			–	
RAM (1 memory slot)		**MB**	SDRAM 256, expandable up to 1024	SDRAM 256, expandable up to 512
CD-ROM drive			–	–
Floppy disk drive			–	–
Expansion slots	PCMCIA cards		1 slot (taking a maximum of 1 x type III card or 1 x type I card)	1 slot (taking a maximum of 1 x type III card or 2 x type I cards)
	PCI port		–	–
	Compact Flash card		1 slot reserved for 1-GB card containing OS and software	
Built-in I/O ports	Ethernet TCP/IP port		2 RJ45 ports, 10BASE-T/100BASE-TX link (RJ45)	1 RJ45 port, 10BASE-T/100BASE-TX link (RJ45)
	USB ports		4 USB ports 2.0	2 USB ports 1.1
	Serial port COM 1		1 RS 232C link (9-pin male SUB-D connector)	
	Serial port COM 2		–	1 RS 232C link (9-pin male SUB-D connector)
	Printer port LPT1		–	1 bi-directional parallel link (25-pin female SUB-D connector)
	PS/2 keyboard port		–	1 mini-DIN connector
	PS/2 pointing device port		–	1 mini-DIN connector
Operating system			Windows XPe SP2 installed *(1)*	
Pre-installed software			Internet Explorer *(1)*	
			Acrobat Reader, Word/Excel/PowerPoint reader*(1)*	
			Vijeo Designer Run Time *(1) (2)*	
Power supply	Voltage		∿ 100 to 240 V (threshold values 85 to 265 V), EN 61131-2-compliant	⎓ 24 V (threshold values 19.2 to 28.8 V)
	Frequencies	**Hz**	50/60 (threshold values 47/63), EN 61131-2-compliant	–
	Micro-breaks	**ms**	10	1
Consumption		**VA**	Up to 120	Up to 80
Material			Hardened steel	
Mounting			On panel or cabinet door (8 fixing bolts supplied)	
Environment	Approvals		UL 508, CSA, IEC 61131-2	UL 508, UL 1604 (hazardous locations), CSA, IEC 61131-2
	Interference immunity		High-frequency interference, compliant with IEC 61131-2, EN 61000-6-2, FCC (class A)	
			Electromagnetic emissions, EN 55011 (group 1, class A), EN 61000-3-2, EN 61000-3-3	
	Temperature in operation	**°C**	0…+ 50	
	in storage	**°C**	- 10…+ 60	
	Relative humidity	**%**	10…85	
	Usage altitude	**m**	0 to 3000 max.	
	Storage altitude	**m**	0 to 12,000 max.	
	Vibration resistance	**m/s²**	9.8 to 10 to 25 Hz/3 axes for 30 minutes	

(1) Installed in Compact Flash memory.
(2) HMI edition - Vijeo Designer Run Time, replace ● with R in the references below.

Presentation: page 2/4 | Architecture: page 2/5 | Description: pages 2/6 and 2/7 | References: page 2/9 | Dimensions: page 2/9

Magelis *i*PC industrial PCs
Smart *i*PC range

References
Smart *i*PC industrial PCs

Magelis Smart *i*PC industrial PCs are “hardened” PCs, which do not feature vulnerable components: hard disk, CD-ROM drive, etc. They are equipped with a 12” or 15” active-matrix backlit color TFT LCD touch screen.
■ 12” models (**MPC ST2 1NAJ 10●**) have a 115…230 V power supply and feature in particular two Ethernet 10BASE-T/100BASE-TX ports (RJ45 connectors) and a total of 5 USB ports, one of which is located on the front panel.
■ 15” models (**MPC ST5 2NDJ 10●**) have a ⎓ 24 V power supply, 1 Ethernet port and 2 USB ports.

Magelis Smart *i*PC industrial PCs feature a Windows XPe SP2 operating system and are supplied ready-to-use in two configurations:
■ **Web edition**: **MPC ST● ●N●J 10T**, with application software pre-installed on a 1-GB Flash memory card:
□ Internet Explorer for browsing the Web (Internet/Intranet)
□ Windows Terminal Services client for client/server architectures
□ Software (readers) for reading Word (.doc), Excel (.xls), PowerPoint (.ppt), and Acrobat (.pdf) files
■ **HMI edition - Vijeo Designer RT**: **MPC ST● ●N●J 10R**, with the software components listed above pre-installed on a Flash card, plus:
□ Vijeo Designer Run Time software


MPC ST2 1NAJ 10T

⚠ The use of Vijeo Designer on Magelis Smart *i*PC requires HMI edition-Vijeo Designer RT **MPC ST● 1NAJ 10R**.
Transforming a Magelis Smart *i*PC Web edition into a Magelis Smart *i*PC HMI edition is possible with the addition of:
□ a Compact Flash **MPC YN2 1CF1 00R** memory card (12” models) or **MPC YN0 0CF1 52R** (15” models),
□ a blank Compact Flash memory card for data storage, see page 2/9,
□ a PCMCIA adapter for Compact Flash card: **XBT ZGADT**.


MPC ST5 2NDA 10T

Smart *i*PC - 12” screen

Power supply	RAM processor	Slots available for expansion	Edition	Reference	Weight kg
∿ **115 to 230 V**	Celeron M 600 MHz 256 MB expandable to 1024 MB	1 PCMCIA	Web	**MPC ST2 1NAJ 10T**	–
			HMI - Vijeo Designer RT	**MPC ST2 1NAJ 10R**	–

Smart *i*PC - 15” screen

Power supply	RAM processor	Slots available for expansion	Edition	Reference	Weight kg
⎓ **24 V**	VIA 667 MHz 256 MB expandable to 512 MB	1 PCMCIA	Web	**MPC ST5 2NDJ 10T**	6.000
			HMI - Vijeo Designer RT	**MPC ST5 2NDJ 10R**	6.000

Presentation: page 2/4 | Architecture: page 2/5 | Description: pages 2/6 and 2/7 | Characteristics: page 2/8

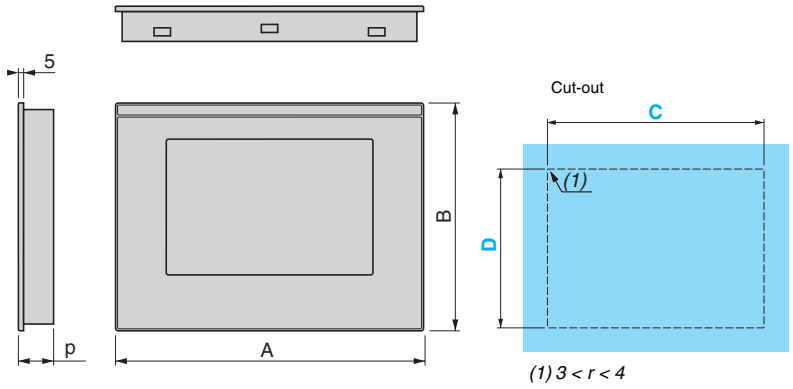
Magelis *i*PC industrial PCs
Smart *i*PC range

Separate parts for Smart *i*PC

Designation	Characteristics	Compatible with	Reference	Weight kg
RAM expansion kit	512 MB	12” models MPC ST2 1NAJ 10●	**MPC YK0 5RAM 512**	–
		15” models MPC ST5 2NDJ 10●	**MPC YK0 2RAM 512**	–
	1024 MB	12” models MPC ST2 1NAJ 10●	**MPC YK2 2RA1 024**	–
Compact Flash memory	128 MB, blank	All Smart *i*PC models	**XBT ZGM128**	0,050
	256 MB, blank		**XBT ZGM256**	0,050
	512 MB, blank		**MPC YN0 0CFE 00N**	0,050
	1 GB, blank		**MPC YN0 0CF1 00N**	–
	1 GB, Web edition software pre-installed	12” models MPC ST2 1NAJ 10●	**MPC YN2 1CF1 00T**	–
		15” models MPC ST5 2NDJ 10●	**MPC YN0 0CF1 52T**	–
	1 GB, HMI edition Vijeo Designer RT software pre-installed	12” models MPC ST2 1NAJ 10●	**MPC YN2 1CF1 00R**	–
		15” models MPC ST5 2NDJ 10●	**MPC YN0 0CF1 52R**	–
PCMCIA adapter for Compact Flash card	Enables a Smart *i*PC to receive the 2nd Compact Flash card required by Vijeo Designer in PCMCIA slot.	All Smart *i*PC models All Compact Flash memory cards.	**XBT ZGADT**	0,050
External keyboard	101-key QWERTY (PS/2-compatible), supplied with 5 m cable	15” models MPC ST5 2NDJ 10●	**MPC YN0 0KBD 00N**	–
Maintenance kits	Include panel-mounting brackets and seals	12” models MPC ST2 1NAJ 10●	**MPC YK2 0MNT KIT**	–
		15” models MPC ST5 2NDJ 10●	**MPC YK5 0MNT KIT**	–
15” screen protection	Protective film for Smart *i*PC	12” models MPC ST2 1NAJ 10●	**MPC YK2 0SPS KIT**	–
		15” models MPC ST5 2NDJ 10●	**MPC YK5 0SPS KIT**	–

Dimensions

MPC ST2 1NAJ 00●/MPC ST5 2NDJ 00●



	A	B	C	D	p
MPC ST2 1NAJ 00●	313	239	$301.5\ ^{+1}_{0}$	$227.5\ ^{+1}_{0}$	60.0
MPC ST5 2NDJ 00●	395	294	$383.5\ ^{+1}_{0}$	$282.5\ ^{+1}_{0}$	60.0

Magelis iPC industrial PCs
Compact iPC range

Presentation

Magelis Compact iPC provides an easy means of optimizing machine solutions, from the simplest to the most advanced.

With identical dimensions to Magelis XBT GT *(1)* terminals, Magelis Compact iPC industrial PCs are the logical extension (just like Magelis Smart iPC industrial PCs).

Compatible with the Vijeo Designer software, Magelis XBT GT, Smart iPC and Compact iPC terminals ensure optimum flexibility in respect of the selection of materials and I/O. They also feature a unique software tool, which can be used to control all operator-dialog applications, from the simplest to the most advanced.

Complementing the Magelis Modular iPC range, the Magelis Compact iPC range of industrial PCs offers compact “all in one” products designed with the needs of machine manufacturers, systems integrators and users in mind: reduced dimensions, incredible ease of installation and setup, and openness to Web technologies.

Magelis Compact iPC

Like Magelis Smart iPC industrial PCs, Magelis Compact iPC industrial PCs are built around an IP 65 front panel with a 12” or 15” color TFT LCD screen and a high-definition analog touch panel.

Although compact in size, the Magelis Compact iPC is an open PC designed for open-ended solutions. It supports:
- A choice of 3 processor speeds, 667 MHz (VIA), 1.3 GHz (Intel Celeron) or 1.7 GHz (Intel Pentium 4 Mobile)
- Expansion via PCMCIA card (1 slot) and PCI bus (1 slot)

The Magelis Compact iPC features:
- A ≥ 20 GB hard disk and from 256 MB to 1024 MB RAM, depending on the model and on the operating system, see page 2/13.
- 5 USB ports, one of which is located on the front panel (12” models) or 2 USB ports (15” models)
- A ∿ 110…240 V 50/60 Hz power supply
- Various standard serial/parallel ports

The Magelis Compact iPC is supplied with the Windows 2000 or Windows XP Pro operating system.

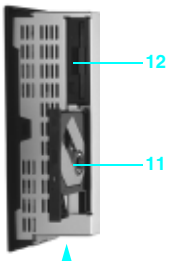
Bundled software package

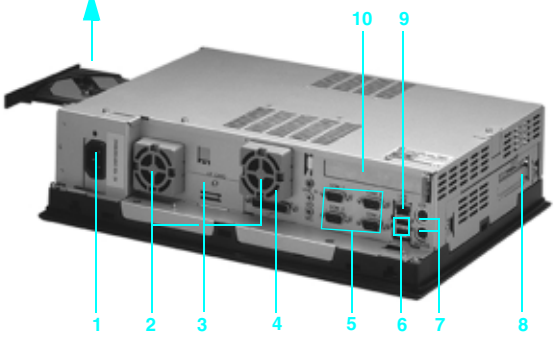
With this offers, the hardware is supplied together with Vijeo Designer Run-Time control software

This type of offer provides an industrial system, adapted to application needs, at a preferential cost.

(1) Identical screen size

Magelis *i*PC industrial PCs
Compact *i*PC range





Description of the Compact *i*PC

15"front panel with touch screen MPC KT5 ●NA● 00●

The 15" front panel with touch screen **MPC KT5 ●NA● 00●** on industrial PCs comprises:

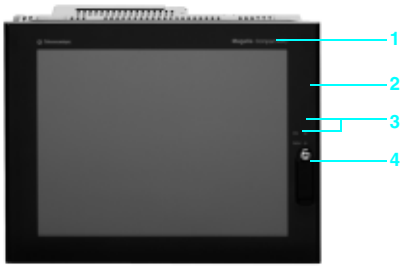
1 A 15" XGA active-matrix color TFT LCD screen (maximum display area 1024 x 768 points) with high-definition analog touch panel
2 An aluminum alloy front panel with IP 65 membrane (mounted on a hardened steel frame)
3 Two LEDs labeled:
- ON (green), PC switched on
- DISK (green), accessing IDE bus (accessing hard disk memory, etc.)

4 A cover plate, which provides IP 65 protection when in position and when removed gives access to:
- a USB port
- a "pencil point" RESET button for restarting the processor

Lower and left-hand sides

All expansion slots and connection elements are accessible from the rear of the PC, with the following elements located on the lower and left- and right-hand sides:

1 Connector for plugging in the ∿ 100 to 240 V power cable
2 2 vents, each with an anti-dust filter and fan
3 A slot for an additional Compact Flash memory card
4 One 25-pin female SUB-D connector marked PRINTER for bi-directional parallel link
5 4 x 9-pin male SUB-D connectors labeled COM1, COM2 and COM3 for serial links (see details on page 2/8)
6 2 USB ports
7 2 mini-DIN PS/2 connectors for external keyboard and pointing device
8 A slot for 2 additional PCMCIA cards
9 An RJ45 connector for the Ethernet 10/100 Mbps link
10 A slot for a PCI bus expansion card
11 A CD-ROM drive
12 A 3.5" floppy disk drive

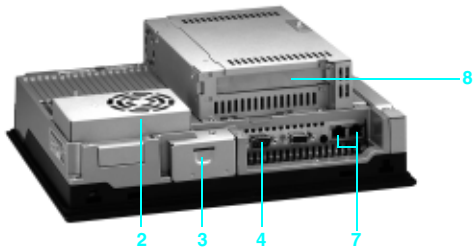


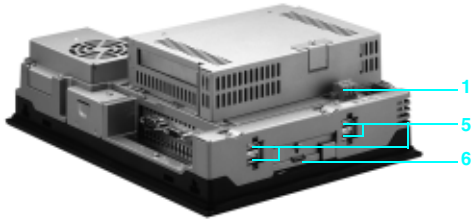
12" front panel with touch screen MPC KT2 2NA● 00●

The 12" front panel with touch screen **MPC KT2 ●NA● 00●** on industrial PCs comprises:

1 A 12" XGA active-matrix color TFT LCD screen (maximum display area 1024 x 768 points) with high-definition analog touch panel
2 An aluminum alloy front panel with IP 65 membrane (mounted on a hardened steel frame)
3 Two LEDs labeled:
- ON (green), PC switched on
- DISK (green), accessing IDE bus (accessing hard disk memory, etc.)

4 A cover plate, which provides IP 65 protection when in position and when removed gives access to:
- a USB port
- a "pencil point" RESET button for restarting the processor





Lower and left-hand sides

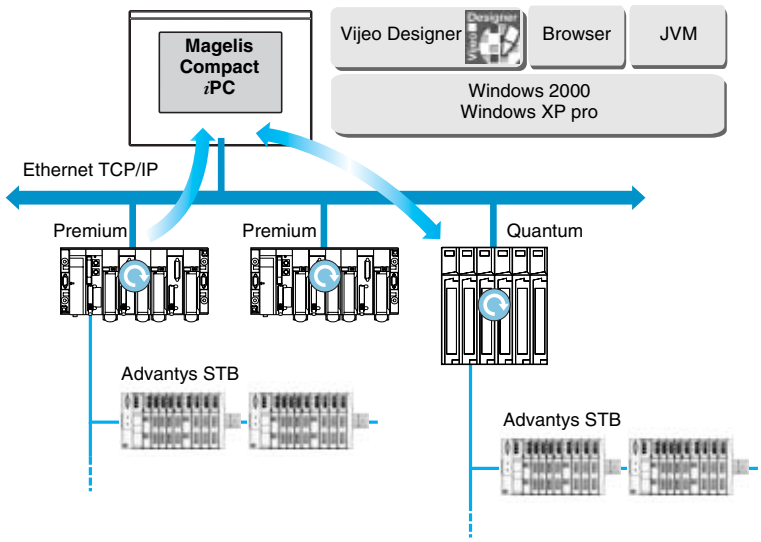
All expansion slots and connection elements are accessible from the rear of the PC, with the following elements located on the lower and left- and right-hand sides:

1 Connector for plugging in the ∿ 100 to 240 V power cable
2 One vent equipped with an anti-dust filter and a fan
3 A slot for an additional Compact Flash memory card
4 One 9-pin male SUB-D connector labeled COM1, for serial links (see details on page 2/8)
5 4 USB ports 2.0.
6 A slot for 1 additional PCMCIA card
7 2 RJ45 connectors for the Ethernet 10/100 Mbps link
8 A slot for a PCI bus expansion card

Magelis *i*PC industrial PCs
Compact *i*PC range

Typical architectures

Connections to Transparent Ready architectures

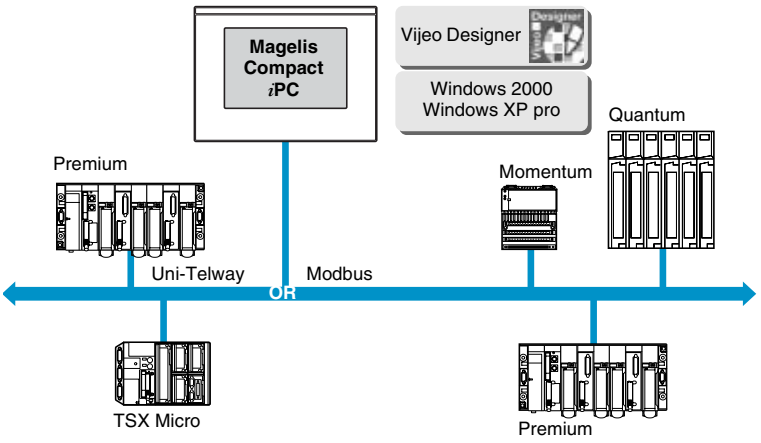


The built-in Ethernet 10/100 Mbps ports on the Magelis Compact *i*PC allow it to be integrated into "full Ethernet" architectures, such as Transparent Ready. Transparent Ready devices with this type of architecture open the way for transparent communication on the Ethernet TCP/IP network. Communication services and Web services enable data to be shared and distributed between levels 1, 2 and 3 of the Transparent Ready architecture.

Used as a Web client station, the Magelis Compact *i*PC makes it easier to implement Web client solutions in relation to:
- Basic servers embedded in field devices (Advantys STB/Momentum distributed I/O, ATV 71/38/58 starters, Ositrack identification systems, etc.)
- FactoryCast Web servers embedded in Modicon PLCs (TSX Micro, Premium and Quantum) or the FactoryCast gateway.

The following services are available as standard (without the need for additional programming): alarm management, view management and Web welcome pages created by users.
- FactoryCast HMI Web servers embedded in Modicon Premium and Quantum PLCs also provide basic data management services, automatic e-mail transmission triggered by specific process events, and arithmetic and logic calculations for data preprocessing.

HMI applications in traditional architectures (Fipway, Modbus Plus)



The bundled offer comprising the Compact *i*PC industrial PC and pre-installed Vijeo Designer control software allows them to be used in mono-network architectures such as Uni-Telway/Modbus or Fipway/Modbus Plus. For Uni-Telway, an RS 485 TSX SCP 114 card *(1)* should be inserted into one of the PCMCIA slots. For a Modbus link, one of the built-in RS 232C COM ports is used.
Fipway or Modbus Plus links require a network card:
- Fipway network with a PCMCIA TSX FPP 20 card *(1)*
- Modbus Plus network with a PCMCIA TSX MBP 100 card or a PCI 416 NHM 300 30 bus card

The built-in Ethernet TCP/IP port allows Modicon PLC stations to be connected to levels 2 and 3 of communication architectures, if required.

(1) Requires the "X-Way drivers" CD-ROM, TLX CD DRV20M.

Magelis *i*PC industrial PCs
Compact *i*PC range

Characteristics

Front panel characteristics

Type			Compact *i*PC		
			MPC KT2 2NA● 00●	MPC KT5 2NA● 00●	MPC KT5 5NA● 00●
Touch screen	Size		12”	15”	
	Type		XGA active-matrix color TFT LCD		
	Definition		1024 x 768		
	Number of colors		262144		
	Brightness		⩾ 250 cd/m² adjustable		
	Optimum viewing angle		Horizontal 160°, vertical 160°		
Touch panel			Analog resistive, 1 million cycles		
Front panel	Signaling		ON LED: PC switched on DISK LED: accessing Compact Flash system card	ON LED: switched on DISK LED: accessing hard disk	
	I/O ports		1 USB link (12 Mbps), protected by IP 65 cover	–	
	Material		Aluminum alloy with IP 65 membrane on hardened steel frame		
	Screen protection		Polyethylene sheet		
Degree of protection			IP 65		

Control box characteristics

Type			Compact *i*PC		
			MPC KT2 2NA● 00●	MPC KT5 2NA● 00●	MPC KT5 5NA● 00●
Processor			Intel Celeron M 1.3 GHz	VIA 667 MHz	Pentium 4 Mobile 1.7 GHz
Internal hard disk			⩾ 40 GB IDE, 2.5”	⩾ 20 GB IDE, 2.5”	
RAM (1 memory slot)	Under Windows XP Pro	**MB**	SDRAM 512, expandable up to 1024	SDRAM 256, expandable up to 512	SDRAM 512
	Under Windows 2000				SDRAM 256, expandable up to 512
CD-ROM drive			–	Yes, 24x	
Floppy disk drive			–	3.5”, 1.44 MB	
Expansion slots	PCMCIA cards		1 slot (taking a maximum of 1 x type III card or 1 x type I card)	1 slot (taking a maximum of 1 x type III card or 2 x type I cards)	
	PCI port		1 PCI bus slot		
Built-in I/O ports	Ethernet TCP/IP port		2 RJ45 connectors, 10BASE-T/100BASE-TX link	1 RJ45 connector, 10BASE-T/100BASE-TX link	
	USB ports		4 USB ports 2.0	2 USB ports 1.1	
	Serial port COM 1		1 RS 232C link (9-pin male SUB-D connector)		
	Serial port COM 2		–	1 RS 232C link (9-pin male SUB-D connector)	
	Printer port LPT1		–	1 bi-directional parallel link (25-pin female SUB-D connector)	
	PS/2 keyboard port		–	1 mini-DIN connector	
	PS/2 pointing device port		–	1 mini-DIN connector	
Operating system			Windows 2000 or Windows XP Pro		
Power supply	Voltage		∿ 100 to 240 V (threshold values 85 to 265 V), EN 61131-2-compliant		
	Frequencies	**Hz**	50/60 (threshold values 47/63), EN 61131-2-compliant		
	Micro-breaks	**ms**	10		
Consumption		**VA**	Up to 120		
Material			Hardened steel		
Mounting			On panel or cabinet door (8 fixing bolts supplied)		
Environment	Approvals		UL 508, CSA, IEC 61131-2	UL 508, UL 1604 (hazardous locations), CSA, IEC 61131-2	
	Interference immunity		High-frequency interference, compliant with IEC 61131-2, EN 61000-6-2, FCC (class A)		
			Electromagnetic emissions, EN 55011 (group 1, class A), EN 61000-3-2, EN 61000-3-3		
	Temperature in operation	**°C**	+ 5…+ 50		
	in storage	**°C**	- 10…+ 60		
	Relative humidity	**%**	10…85		
	Usage altitude	**m**	0 to 3000, max.		
	Storage altitude	**m**	0 to 12,000, max.		
	Vibration resistance	**m/s²**	9.8 to 10 to 25 Hz/3 axes for 30 minutes		

Presentation: page 2/4 | Architecture: page 2/5 | Description: pages 2/6 and 2/7 | References: page 2/9 | Dimensions: page 2/9

Magelis *i*PC industrial PCs
Compact *i*PC range

References
Compact *i*PC industrial PCs

Magelis Compact *i*PC industrial PCs are “hardened” PCs adapted to the restrictions of industrial environments, and combining compact dimensions with advanced performance and openness to applications under Windows 2000 or Windows XPpro. Powered by a ∿ 115…230 V supply, they are equipped with a 12” or 15” active-matrix backlit color TFT LCD touch screen, a USB port on the front panel (in addition to the standard USB ports), a ⩾ 20 GB hard disk, a slot for a PCI card, and a slot for a PCMCIA card.

Compact *i*PC - Hardware

■ 12” models **MPC KT2 2NA● 00N** (Intel Celeron M 1.3 GHz processor) feature in particular two Ethernet 10BASE-T/100BASE-TX ports (RJ45 connectors) and a total of 5 USB ports, one of which is located on the front panel.
■ 15” models **MPC KT5 2NA● 00N** (VIA 667 MHz processor) and **MPC KT5 5NA● 00N** (Intel Pentium 4M 1.7 GHz processor) feature 1 Ethernet port and 2 USB ports.

Compact *i*PC - Software packages

Magelis Compact *i*PC hardware is also available in the form of “packages”, which are supplied together with the application software listed below and are compatible with the relevant processor power:
Vijeo Designer RT:References **MPC KT● ●NA● 00R**

⚠ The use of Vijeo Designer on Magelis Compact *i*PC industrial PC requires a version: HMI edition-Vijeo Designer RT **MPC KT● ●NAX 00R**.


MPC ST2 1NAJ 10T

Compact *i*PC with 12” screen

Processor Supply voltage	RAM	Slots available for expansion	Software package	Reference	Weight kg
Celeron M 600 MHz ∿ 115 …230 V	512 MB expandable to 1024 MB	1 PCI 1 PCMCIA	–	**MPC KT2 2NA● 00N**	8.000
			Vijeo Designer RT	**MPC KT2 2NAX 00R**	8.000


MPC ST5 2NDA 10T

Compact *i*PC with 15” screen

Processor Supply voltage	RAM	Slots available for expansion	Software package	Reference	Weight kg
VIA 667 MHz ∿ 115 …230 V	512 MB	1 PCI 1 PCMCIA	–	**MPC KT5 2NA● 00N**	8.000
			Vijeo Designer RT	**MPC KT5 2NAX 00R**	8.000
Pentium 4M 1.7 GHz ∿ 115 to 230 V	512 MB	1 PCI 1 PCMCIA	–	**MPC KT5 5NA● 00N**	8.000
			Vijeo Designer RT	**MPC KT5 5NAX 00R**	8.000

In the references below, replace ● with:
A for the Windows 2000 version
X for the Windows XP Pro version

Presentation: page 2/4 | Architecture: page 2/5 | Description: pages 2/6 and 2/7 | Characteristics: page 2/8

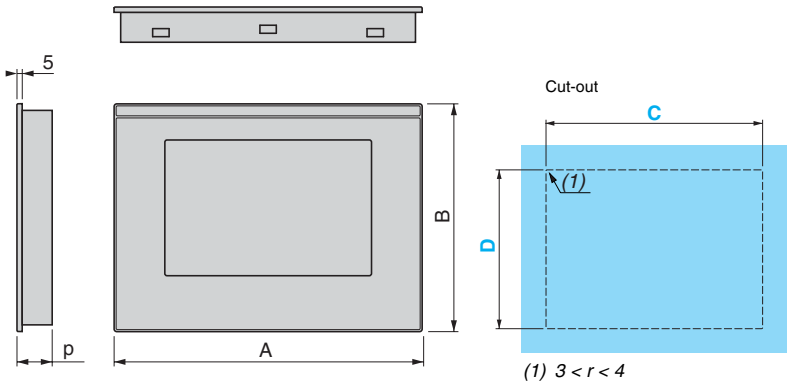
Separate parts for Compact *i*PC

Designation	Characteristics	Compatible with *(1)*	Reference	Weight kg
RAM expansion kit	512 MB	12” models, Celeron M MPC KT2 2NA● 00N	**MPC YK0 5RAM 512**	–
		15” models, VIA MPC KT5 2NA● 00N	**MPC YK0 2RAM 512**	–
		15” models, Pentium 4M MPC KT5 5NA● 00N	**MPC YK0 5RAM 512**	–
	1024 MB	12” models, Celeron M MPC KT2 2NA● 00N	**MPC YK2 2RA1 024**	–
External keyboard	101-key QWERTY (PS/2-compatible), supplied with 5 m cable	15” models MPC KT5 ●NA● 00N	**MPC YN0 0KBD 00N**	–
Maintenance kits	Include panel-mounting brackets and seals	12” models MPC KT2 2NA● 00N	**MPC YK2 0MNT KIT**	–
		15” models MPC KT5 ●NA● 00N	**MPC YK5 0MNT KIT**	–
15” screen protection	Protective film for Compact *i*PC	12” models MPC KT2 2NA● 00N	**MPC YK2 0SPS KIT**	–
		15” models MPC KT5 ●NA● 00N	**MPC YK5 0SPS KIT**	–

(1) and software packages where these are available

Dimensions

MPC KT2 2NA● 00N/MPC KT5 ●NA● 00N



(1) 3 < r < 4

	A	B	C	D	p
MPC KT2 2NA● 00N	313	239	301.5^{+1}_{0}	227.5^{+1}_{0}	103.0
MPC KT5 ●NA● 00N	395	294	383.5^{+1}_{0}	282.5	103.0

Magelis *i*PC industrial PCs
Modular *i*PC range

Presentation

The main features of the Magelis Modular *i*PC range of industrial PCs are:
- Modularity in respect of power ratings and expansion options for Control box 102 and Control box 402
- Integration of diagnostic tools designed to facilitate operation and maintenance

The Magelis Modular *i*PC offer comprises:
- Three front panels with 15” color TFT LCD screen
- Control box 102 and Control box 402

Magelis iPC industrial PCs
Modular iPC range

Presentation (continued)

Modular design

With two processor power ratings and two degrees of openness for additional expansion cards, the Magelis Modular iPC range of industrial PCs supports a wide range of solutions: It is possible to define the ideal configuration to meet the specific requirements of any application. This configuration can then be easily expanded at a later date.
The Magelis Modular iPC range also features:
- **Three IP 65 front panels** with 15" color TFT LCD screen, with or without touch-screen capability, with or without QWERTY keyboard. Any model of front panel screen can be used with either of the two types of Control box.

Alternatively, a Control box can be converted into a Box PC (without screen) using a mounting panel.
- Control box 102 and Control box 402, comprising 3 sub-assemblies:
  - the Intel Celeron M or Intel Pentium M processor sub-assembly, 512 MB of RAM expandable to 2 GB, and hard disk ≥ 40 GB. It incorporates a 10/100 Mbps Ethernet port, two USB ports, the various standard serial/parallel ports, and two type 1/2 (or 1 x type 3) PCMCIA slots as standard.
  - extension for cards meeting the PCI bus standard: 1 slot for Control box 102, 4 slots for Control box 402
  - power supply with AC or DC current output

The modular design of the Magelis Modular iPC also facilitates maintenance. Some more sensitive parts can be replaced instantaneously:
- Hard disk
- CD-ROM drive or combined DVD-R/CD-RW drive
- Power supply (Control box 402 only)

The Magelis Modular iPC is supplied pre-installed with a Windows operating system and can run Schneider Electric software tools such as:
- PLC programming tools: Unity Pro, PL7, etc.
- SCADA *(Supervision Control And Data Acquisition)* Vijeo Look, Monitor Pro, etc.

Integrated diagnostics

The Control box 102 and 402 units in the Magelis Modular iPC range feature integrated diagnostic functions, which have been designed specifically to facilitate maintenance:
- Monitoring of the internal temperature of the Control box units, with information sent to the user if set values are exceeded. This information is sent in the form of:
  - the display of an on-screen message
  - the closing of a specific relay contact
  - the starting up of a system task, e.g., the sending of an e-mail
  - log: recording in the Windows Event Manager
- Checking of the integrity of the hard disk on every startup

Combined offers

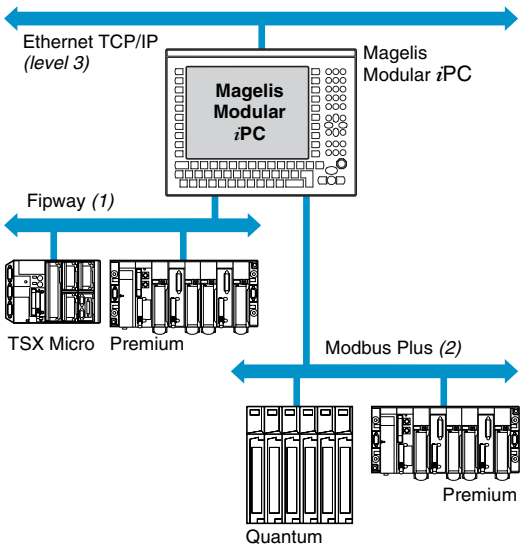
Combined offers comprise Control box 102 and 402 units together with Vijeo Look run-time or build-time software, as appropriate for the model.

This type of offer enables users to acquire, at a preferential cost, a pre-installed and tested industrial-grade system, which is correctly dimensioned to software application requirements and is supported across the entire Schneider Electric sales network.

Accessories

The following accessories are available:
- RAM expansion kits (up to 2 GB)
- iDisplay 12", 15" and 19" external flat screens, see page 2/26
- An external QWERTY keyboard

Magelis iPC industrial PCs
Modular iPC range



Architectures

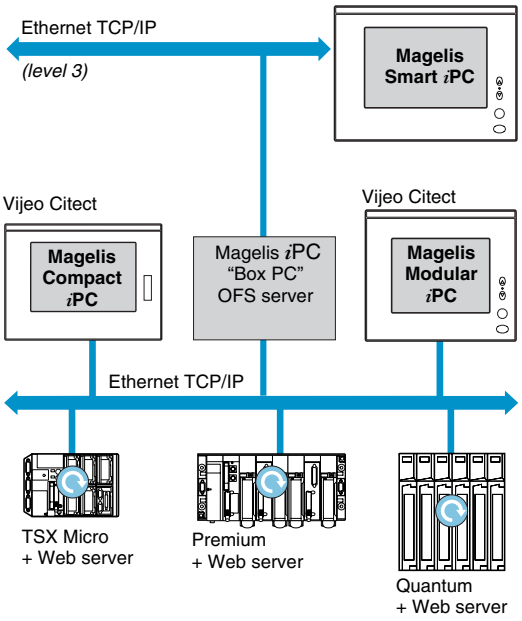
Serial link connection

Modular iPC industrial PCs include two RS 232-compliant serial links (point-to-point link) as standard. The use of Uni-Telway or Modbus protocols ensures the straightforward implementation of communication with Telemecanique PLCs.

Connection to mixed network architectures (Fipway, Modbus Plus) and Ethernet TCP/IP network

The inclusion of network cards on the PCI bus in Modular iPC industrial PCs enables the latter to be integrated into mono or multinetwork architectures such as Fipway and/or Modbus Plus.
The built-in Ethernet 10/100 Mbps port allows PLC stations to be connected to levels 2 and 3 of communication architectures.

(1) Fipway network with PCMCIA TSXFPP20 card.
(2) Modbus Plus network with PCI bus card 416 NHM 300 30 or PCMCIA TSXMBP100 card.



Connection to Ethernet Transparent Ready architectures

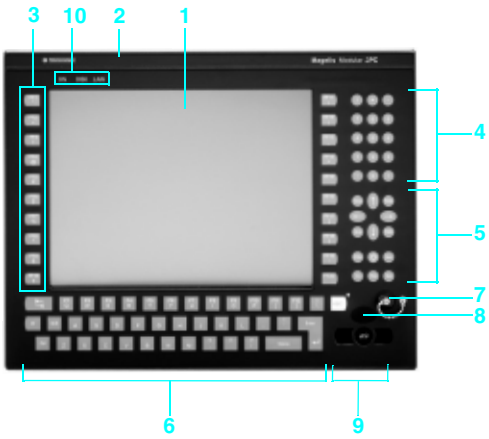
The built-in Ethernet 10/100 Mbps port on Modular iPC industrial PCs allows the latter to be integrated into "full Ethernet" architectures, such as Transparent Ready, and thus provides links between levels 1, 2 and 3 of TCP/IP architectures.
The inclusion of the Ethernet TCC ETH 01 card on the PCI bus or the use of standard PCMCIA cards enables this double attachment.
Open to Web standards, Modular iPCs facilitate the implementation of client/server solutions of the following types:

- OPC Factory Server
- Web Client, in conjunction with FactoryCast Web servers embedded in the PLCs

This type of "full Ethernet" architecture allows the transparent circulation of data generated at level 0 *(by a sensor, for example)* to MES *(Manufacturing Execution System)* applications at level 3. The Modicon TSX Micro, Premium and Quantum PLCs are connected to the Ethernet network via Ethernet Transparent Ready modules with integrated FactoryCast Web servers.

In this case, the Modular iPC terminal, comprising a Control box 102 or 402 with no expansion slots, represents the Web client station.

Magelis *i*PC industrial PCs
Modular *i*PC range



MPC NA5/NB5 0NNN 20N

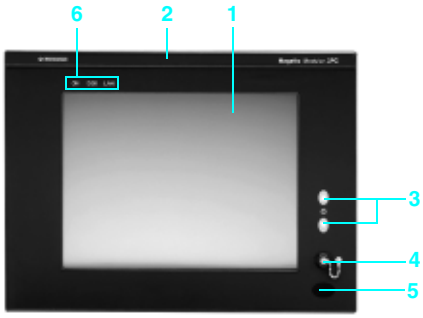
Description

Front panel screens with keyboard MPC NA5/NB5 0NNN 20N

Front panel screens with keyboard MPC NA5/NB5 0NNN 20N comprise:

1 A 15" TFT XGA active matrix color LCD screen for a maximum display definition of 1024 x 768, with or without a high-definition analog touch panel
2 An aluminum alloy front panel with IP 65 membrane (mounted on a nickel steel frame)
3 Two rows of 10 user-configurable keys, PF1 to PF10 and PF11 to PF20 (that also give access to special characters such as ~, #, @, *, (,), {,}, etc.)
4 Fifteen numeric keypad keys
5 Fourteen cursor and function keys (Del, Esc, Ins, PgDn, PgUp, PrtSc, etc.)
6 Forty-one QWERTY alphabetic and function keys (Alt, Ctrl, Enter, Space, etc.)
7 An access plug fitted to the mini-DIN PS/2 connector for a keyboard or external pointing device
8 An infrared IrDA-compatible port for downloading software and data
9 A built-in pointing device
10 Three LEDs with, from left to right:
- ON LED: PC switched on
- DISK LED: accessing hard disk
- LAN LED: sending or receiving data via the built-in Ethernet link

On the rear panel:
- A connector for connection to the Control box 102/402
- Twelve holes for securing the Control box 102/402



MPC NT5 0NNN 20N

MPC NT5 0NNN 20N front panels with touch screen

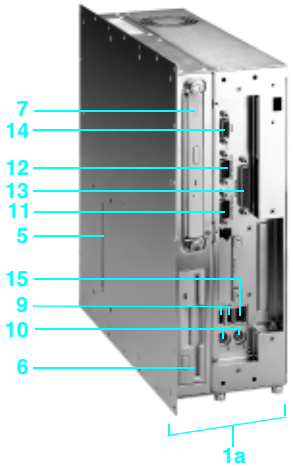
MPC NT5 0NNN 20N front panels with touch screen comprise:

1 A 15" TFT XGA active matrix color LCD screen for a maximum display definition of 1024 x 768, with a high-definition analog touch panel
2 An aluminum alloy front panel with IP 65 membrane (mounted on a nickel steel frame)
3 Two brightness adjustment keys
4 An access plug fitted to the mini-DIN PS/2 connector for a keyboard or external pointing device
5 An infrared IrDA-compatible port for downloading software and data
6 Three LEDs with, from left to right:
- ON LED: PC switched on
- DISK LED: accessing hard disk
- LAN LED: sending or receiving data via the built-in Ethernet link

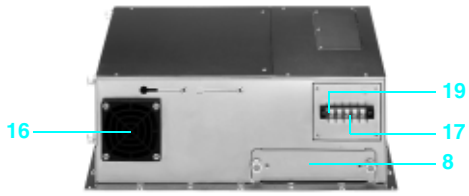
On the rear panel:
- A connector for connection to the Control box 102/402
- Twelve holes for securing the Control box 102/402

Presentation: pages 2/16 and 2/17
Architecture: page 2/18
Characteristics: page 2/21
References: pages 2/22 to 2/24
Dimensions: pages 2/24 and 2/25

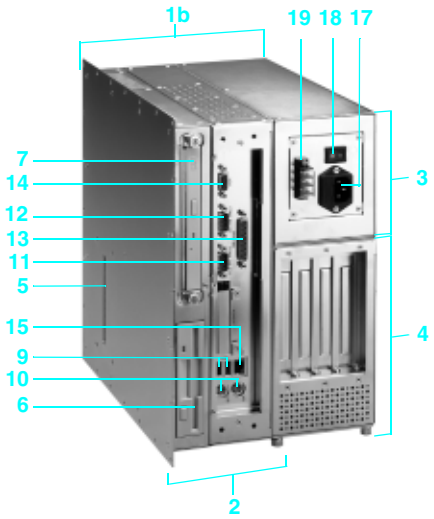
2



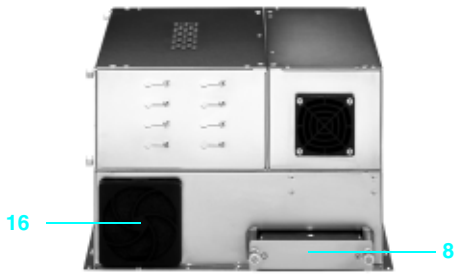
Control box 102: MPC EN0 ●N●● 00N



Control box 102: MPC EN0 ●N●● 00N (here DC model)



Control box 402: MPC DN0 ●N●● 00N (here AC model)



Control box 402: MPC DN0 ●N●● 00N

Control box 102 and Control box 402

The Modular *i*PC range comprises two Control boxes with two levels of processing power and two expansion levels:
■ Control box 102: MPC EN0 ●N●● 00N (1a), model with 1 PCI bus expansion slot, comprising a monobloc assembly including the Control box and its power supply
■ Control box 402: MPC DN0 ●N●● 00N (1b), model with 4 PCI bus expansion slots

■ Control box 402 models comprise:
2 Processor sub-assembly
3 Power supply sub-assembly
4 PCI bus expansion sub-assembly

■ The Control box 102 (**1a**) and the processor sub-assembly (**2**) for Control box 402 models comprise the following elements:
5 Connector for MPC NA/NB/NT front panel screen
6 3.5” floppy disk drive
7 Removable drawer for CD-ROM drive or combined DVD-R/CD-RW drive (available as an option)
8 Removable hard disk
9 Two USB connectors
10 Two mini-DIN PS/2 connectors for keyboard and external pointing device *(1)*
11 One 9-pin male SUB-D connector marked COM4 for RS 232 serial link
12 One 9-pin male SUB-D connector marked COM1 for RS 232 serial link
13 One 25-pin female SUB-D connector marked PRINTER for bi-directional parallel link
14 One 15-pin female SUB-D connector marked VGA for external video monitor
15 RJ45 connector for Ethernet 10/100 Mbps link
16 Vent fitted with anti-dust filters

■ The power supply sub-assemblies **3** *(Control box 402 models)* comprise the following elements:
17 Power supply connector
18 PC On/Off switch (~ 115 to 230 V models)
19 Temperature-alarm-relay output terminal

(1) Port not operational when the Control box 102/402 is fitted with the front panel screen MPC NA/NB/NT5.

Magelis *i*PC industrial PCs
Modular *i*PC range

Front panel specifications

Type	MPC ●●● 0NNN 20N	NA5	NB5	NT5
Screen	Type	15" TFT XGA active matrix color LCD		
	Definition	1024 x 768		
	Number of colors	262 144		
	Brightness	⩾ 200 cd/m² adjustable		
	Optimum viewing angle	Horizontal 160, vertical 160		
Data entry	Via	Keyboard	Keyboard and touch screen	Touch screen
Keyboard	Alphanumeric keys	70 standard IBM keys		–
	User function keys	2 x 10 keys		–
Touch panel		Analog resistive, 35 million cycles		
Front panel	Pointing device	Built-in		
	I/O ports	1 connection for PS/2 keyboard or PS/2 pointing device		
		1 IrDA-compliant infrared link		
	Material	Aluminum alloy with IP 65 membrane on nickel-steel frame		
	Screen protection	Polycarbonate sheet	Polyester film	
	Mounting	On any Control box MPC EN0/DN0		
	Power supply	Via Control box		

Characteristics of Control box 102 and 402

Type MPC		Control box 102 EN0 ●N●● 00●	Control box 402 DN0 ●N●● 00●
Processor		Intel Celeron M 1.3 GHz or Intel Pentium M 1.6 GHz	
Internal hard disk		⩾ 40 GB IDE, 2.5"	
RAM		SDRAM 512 MB, expandable to 2 GB (maximum of 2 memory slots)	
CD-ROM drive		24 x or combined DVD-R/CD-RW drive (available as an option)	
Floppy disk drive		3.5", 1.44 MB	
Video controller	Built-in	64-bit controller, 2 MB RAM	
Expansion slots	Number	1 x PCI bus slot and 2 x type 1/2 (or 1 x type III) PCMCIA slots	4 x PCI bus slots and 2 x type 1/2 (or 1 x type III) PCMCIA slots
Built-in I/O ports		1 x Ethernet TCP/IP 10BASE-T/100BASE-TX link (RJ45 connector) 2 x USB ports (12 Mbps) 1 COM4 RS 232 serial link (9-pin male SUB-D connector) 1 x COM1 serial link, RS 232 (9-pin male SUB-D connector) 1 x bi-directional parallel link (25-pin female SUB-D connector) 1 x connection for VGA external video screen (15-pin female SUB-D connector) 1 x connection for PS/2 keyboard (mini-DIN connector) *(1)* 1 x connection for PS/2 pointing device (mini-DIN connector) *(1)*	
Operating system		Windows 2000 or XP Pro pre-installed	
Power supply	Alternating current		
	Voltage ratings	∿ 115 to 230 V (threshold values 98 to 264 V), EN 61131-2-compliant	
	Frequencies	50/60 Hz (threshold values 47/63 Hz), EN 61131-2-compliant	
	Micro-breaks	10 ms	
	Direct current		
	Voltage ratings	⎓ 24 V (threshold values 19.8 to 32 V)	
	Micro-breaks	1 ms	
Consumption	Alternating current	130 VA	160 VA
	Direct current	140 W	170 W
Material		Nickel steel	
Mounting		■ With front panel screen: on panel or cabinet door (fixing bolts supplied with each unit). On 19" rack with 15" front panel screen, requires mounting accessory MPC YNO 0RMK 00N. ■ Without front panel screen: on panel or cabinet door, requires mounting panel MPC NP0 0NNN 00N.	
Environment	Approvals	UL 508, CSA22.2, EN 55022, IEC 1131-2, classification in hazardous areas: UL 1604 class 1 - division 2	
	Interference immunity	High-frequency interference, compliant with EN 61131-2, IEC 1000-4-3/6 level 3 Electromagnetic emissions, class A/EN 55022/55011 Safety of property and persons, EN 61131-2, UL/CSA and IEC 529/IEC 950	
	Temperature		
	in operation	0 to + 50°C, compliant with EN 61131-2, UL	
	in storage	- 25 to + 60°C, compliant with IEC 68-2-2 tests Bb and Ab, IEC 68-2-14 test Na, and EN 61131-2	
	Relative humidity	10…90 %	
	Resistance to vibration in operation	1 g amplitude of 8 to 150 Hz, compliant with IEC 68-2-6 test Fc and EN 61131-2	
	Resistance to shock in operation	15 gn for 11 ms, compliant with IEC 68-2-27 test Ea and EN 61131-2	
	Usage altitude	0 to 3000 m, max.	
	Storage altitude	0 to 12,000 m, max.	

(1) Port not operational when the Control box 102/402 is fitted with the front panel screen.

Magelis *i*PC industrial PCs
Modular *i*PC range

MPC NA5/NB5 0NNN 00N

MPC NT5 0NNN 00N

MPC EN0 ●N●● 00N

MPC DN0 ●N●● 00N

Front panel screens

Magelis *i*PC front panel screens for mounting on a Control box 102/402 comprise:
- A 15” TFT active matrix backlit color LCD screen, with or without touch-screen capability, depending on the model
- An infrared IrDA-compatible port
- A connector for the PS/2 keyboard or mouse port, protected by a plug

With the keyboard model:
- A standard IBM 70-key keyboard
- 2 x 10 user-configurable keys
- A pointing device with tactile feedback

Screen size	Type of screen	Data entry via	Reference	Weight kg
15”	XGA (1024 x 768)	Keyboard	**MPC NA5 0NNN 20N**	7.200
		Touch screen	**MPC NT5 0NNN 20N**	7.100
		Keyboard and touch screen	**MPC NB5 0NNN 20N**	7.200

Control box 102 and Control box 402

Modular *i*PC Control boxes will feature one of the 15” MPC N●5 front panels and are equipped with:
- An Intel Celeron M 1.3 GHz or Intel Pentium M 1.6 GHz processor
- A 40 MB hard disk, minimum
- 512 MB of RAM as standard, expandable to 4 GB
- A floppy disk drive
- A removable CD-ROM drive *(1)*
- A TCP/IP, 10BASE-T/100BASE-TX, 10/100 Mbps Ethernet port *(RJ45 connector)*
- Two 12 Mbps USB ports
- Two serial COM ports *(RS 232)*
- One parallel port
- Windows 2000 or Windows XP Pro operating system pre-installed

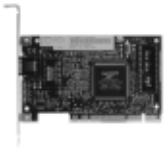
Type	Processor	Expansion card slots	Power supply	Reference *(2)*	Weight kg
Control box 102	Celeron M 1.3 GHz	1 slot	∿ 115 to 230 V	**MPC EN0 2NA● 00N**	7.500
			⎓ 24 V	**MPC EN0 2ND● 00N**	7.500
	Pentium M 1.6 GHz	1 slot	∿ 115 to 230 V	**MPC EN0 5NA● 00N**	7.500
			⎓ 24 V	**MPC EN0 5ND● 00N**	7.500
Control box 402	Celeron M 1.3 GHz	4 slots	∿ 115 to 230 V	**MPC DN0 2NA● 00N**	11.300
			⎓ 24 V	**MPC DN0 2ND● 00N**	11.300
	Pentium M 1.6 GHz	4 slots	∿ 115 to 230 V	**MPC DN0 5NA● 00N**	11.300
			⎓ 24 V	**MPC DN0 5ND● 00N**	11.300

(1) A combined DVD-R/CD-RW drive is available as an option, see page 2/23.
(2) Operating system: Replace ● with X to order the model with Windows XP Pro pre-installed or with A to order the model with Windows 2000 pre-installed.

Magelis *i*PC industrial PCs
Modular *i*PC range

MPC EN0 2NAX 00A

MPC DN0 2NA● 00●



TCC ETH 01

Control box packs

Modular *i*PC Control boxes (with ⏦ 115 to 230 V, 50 to 60 Hz power supply) can be supplied with pre-installed Telemecanique software packages.

Type	Processor	Expansion card slots	Software pack type *(1)*	Reference	Weight kg
Control box 102	Celeron M 1.3 GHz	1 x PCI slot 2 x PCMCIA slots	Pack A	**MPC EN0 2NAX 00A**	7.500
Control box 402	Pentium M 1.6 GHz	4 x PCI slots 2 x PCMCIA slots	Pack A	**MPC DN0 5NAX 00A**	11.300
			Pack B	**MPC DN0 5NAX 00B**	11.300

(1) Description of Control box packs

Pack A "RT monitoring"	Vijeo Look 1024 I/O Run Time monitoring
Pack B "BT/RT monitoring"	Vijeo Look 1024 I/O Build Time/Run Time monitoring

Separate parts

Designation	Characteristics	Reference	Weight kg
RAM expansion kit *(2)*	512 MB	**MPC YDE RAM0 512**	0.200
	1 GB	**MPC YDE RAM1 024**	0.200
Combined DVD-R/ CD-RW drive	Removable, for Control box 102 and 402	**MPC YN0 0CDW ROM**	1.000
Ethernet 10BASE-T/100BASE-TX card	PCI bus	**TCC ETH 01**	1.000
Control box mounting panel	Replaces the front panel when mounting the Control box 102 or 402 on a panel or cabinet door ("Box PC" configuration)	**MPC NP0 0NNN 00N**	1.350
19" rack mounting kit	Allows 15" front panel screens to be fastened to a 19" rack	**MPC YN0 0RMK 00N**	0.600
"Hazardous location" kit	Control box 102 and 402	**MPC YN0 0HLK 20N**	0.200
External keyboard, with 5 m cable	101-key QWERTY (PS/2 compatible)	**MPC YN0 0KBD 00N**	1.000

(2) Control box 102 and 402 units have 2 slots for RAM cards (one of which has a 512 MB RAM card installed as standard).

Presentation: pages 2/16 and 2/17 | Architecture: page 2/18 | Descriptions: pages 2/19 and 2/20 | Characteristics: page 2/21 | Dimensions: pages 2/24 and 2/25

2

Replacement parts

MPC YN0 0PWS ●CM

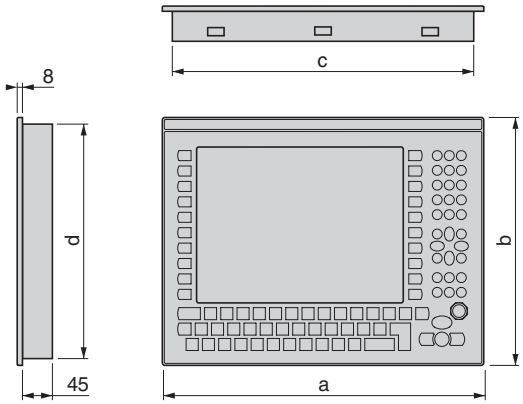
MPC YN0 0SLT 003

Designation	Use	Characteristics	Reference	Weight kg
Removable > 40 GB hard disk	Control box 102 and 402	For use with the restore utility supplied with each Control box	**MPC YN0 0SFW 20N**	1.000
Power supply sub-assemblies	Control box 402	∿ 115..230 V	**MPC YN0 0PWS AC4**	2.000
		⎓ 24 V	**MPC YN0 0PWS DC4**	2.000
Maintenance kits Comprising: fuses, anti-dust filters, seal, screws, CD-ROM access door	15" front panel with touch screen		**MPC YN5 TMNT KT2**	0.600
	15" front panel with keyboard		**MPC YN5 KMNT KT2**	0.600

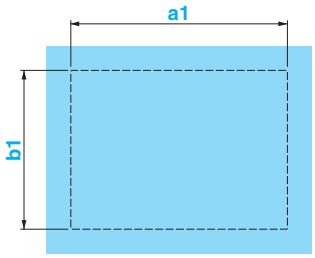
Dimensions

Front panel screens with keyboard MPC NA5/NB5

	a	b	c	d	a1	b1
MPC NA5	480	370	450	350	452	352
MPC NB5	480	370	450	350	452	352

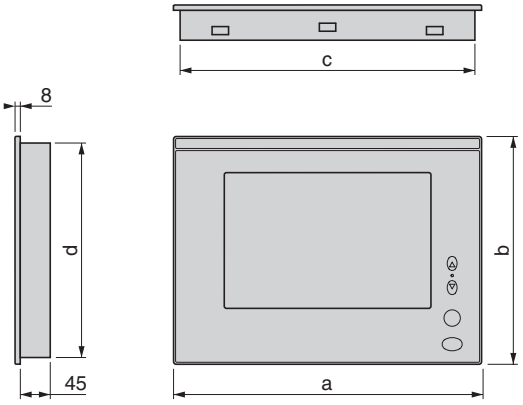


Mounting

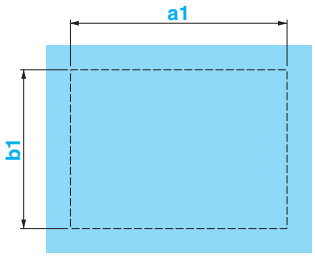


Front panel touch screens MPC NT5

	a	b	c	d	a1	b1
MPC NT5	460	340	440	320	442	322



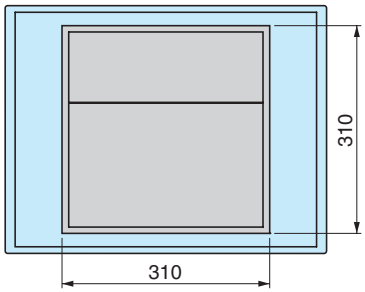
Mounting

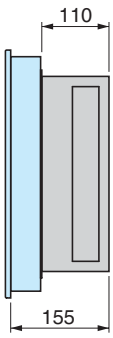


Dimensions (continued)

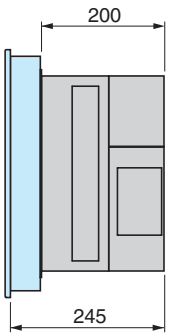
Control box MPC EN0/DN0

Control box 102: MPC EN0





Control box 402: MPC DN0



Mounting

MPC N●5 front panel screen assemblies with Control box MPC ●N0 can be mounted on a panel or cabinet door with the fixing parts supplied with each screen (3 sets each containing 4 parts).

Magelis *i*PC industrial PCs
*i*Display flat screens

MPC YT5 0NAN 00N

Presentation

Magelis *i*Display screens are monitors with industrial flat screens designed for use in conjunction with PCs.
As the screens are available in two sizes (15" and 19") you are sure to be able to find one to meet your requirements. Featuring the latest TFT LCD technology, they offer top-class visualization and extended service life. Their touch screen interface makes for easy setup of user-friendly and high-performance HMI interfaces.

Certified in accordance with PLC product standards, designed for use in harsh industrial environments and offering an excellent screen size/dimensions ratio, they can be installed easily on any machine and in any device, and are suitable for use in any type of environment.

With identical dimensions to and a screen the same size as Magelis Smart *i*PC and Compact *i*PC industrial PCs, Magelis *i*Display screens can be used to visualize the development of installations with optimum ease and simplicity.

Characteristics of Magelis *i*Display flat screens MPC YT● 0NAN 00N ▲

Type	MPC ●●● 0NAN 00N	YT5	YT9
Environment			
Product certification		UL 508, CSA, IEC 61131-2	
Temperature	in operation	0 to + 50°C, compliant with EN 61131-2, UL	
	in storage	-10 to + 60°C, compliant with IEC 68-2-2 tests Bb and Ab, IEC 68-2-14 test Na, and EN 61131-2	
Electrical characteristics			
Power supply	Voltage ratings	∿ 100 to 240 V (threshold values 98 to 264 V), EN 61131-2-compliant	
	Frequencies	50/60 Hz (threshold values 47/63 Hz), EN 61131-2-compliant	
	Micro-breaks	⩽ 20 ms	
Power consumption		120 VA	
Functional characteristics			
Screen	Type	Active-matrix color TFT LCD	
	Size	15"	19"
	Resolution	XGA 1024 x 768	SXGA 1200 x 1024
	Number of colors	16 777 216	
	Brightness	⩾ 200 cd/m^2 adjustable	
	Backlighting (service life)	50,000 hours	
Touch panel		Analog resistive, 35 million cycles	
Inputs	Image	VGA or DVI-D port	
Outputs	Touch panel	USB or RS 232C port	

Architecture: page 2/18 | Description: pages 2/19 and 2/20 | Characteristics: page 2/21 | References: pages 2/22 to 2/24 | Dimensions: pages 2/24 and 2/25

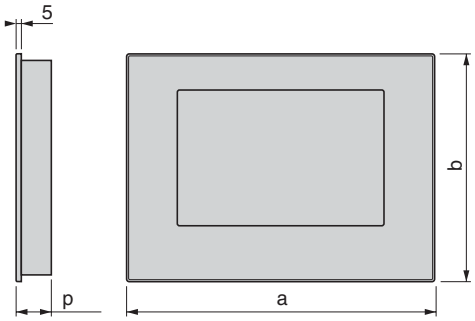
Magelis *i*PC industrial PCs
*i*Display flat screens

References

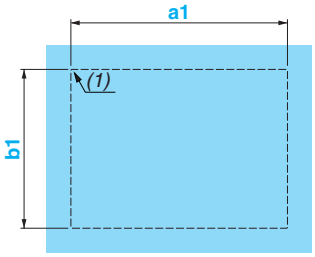
Designation	Characteristics	Power supply	Reference	Weight kg
Flat screen for flush mounting, IP 65 front panel supplied with 3 m cable	15", XGA (1024 x 768)	~ 115/230 V	**MPC YT5 0NAN 00N**	–
	19", SXGA (1280 x 1024)	~ 115/230 V	**MPC YT9 0NAN 00N ▲**	–

Dimensions

*i*Display flat screens MPC YT2/YT5/YT9 0NAN 00N ▲



Cut-out



(1) 3 < r < 4

	a	b	p	a1	b1
MPC YT5	395	294	60	**383.5**	**282.5**
MPC YT9	-	-	-	**-**	**-**

Mounting

Magelis *i*Display flat screens MPC YT5 can be mounted on a panel or cabinet door using the fixing parts (3 x 4 spring clips) supplied with each screen:

▲ Availability of MPC YT9 Magelis *i*Display flat screens : Q3 2007.

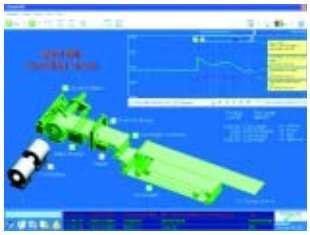
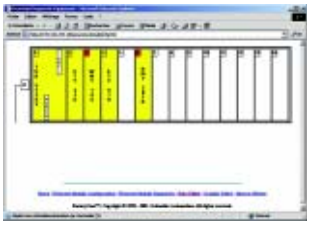
Contents

3 - HMI softwares and Web servers

HMI softwares and Web servers

Applications		**Traditional architecture, HMI executed on dedicated terminal or PC platform**	
		Configuration software for user interface applications	
			
Target products	Type	Magelis XBT N/R Magelis XBT H/P/E/HM/PM Magelis XBT F/FC *(1)*	Magelis XBT G *(1)* Magelis XBT GT
	Operating system on terminals	Proprietary Magelis operating system	
Functions	Reading/writing of PLC variables	Yes	
	Display of variables	Yes	
	Data processing	–	Yes, with Java programming
	Sharing of variables between HMI applications	–	
	Saving of variables to external database	–	
Development of graphics applications	Native library of graphic objects	Yes	
	Container – Active X	–	
	Container – Java Beans	–	Yes
	Curves and alarms	Yes, with XBT F/FC terminal + alarms via diagnostic buffer *(2)*	Yes, with log
	Scripts	–	Java
Online modification of applications		–	
Communication between PLCs and HMI application		Via I/O drivers	
Uploading of applications		Yes	–
Simulation of HMI applications		Yes	
Redundancy		–	
Recipe management		Yes	–
Report printing		Form, historical data and alarm pages	On the fly alarms, historical data
Access security		Linked to user profiles	
Software compatible with OS		Windows 98, 2000 or Windows XP	Windows 2000 or Windows XP
Type of software		**XBT L1000**	**Vijeo Designer**
			
Pages		3/7	3/9

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

	Web architecture, embedded HMI in PLC	
SCADA supervisory software	**Ethernet TCP/IP modules with embedded Web server**	
		
Magelis Compact iPC industrial PCs Magelis Modular iPC industrial PCs PC micro-computers Servers	TSX Micro TSX ETZ Premium TSX ETY Quantum 140 NOE 771 FactoryCast Gateway TSX ETG 10●0	Premium TSX WMY 100 Quantum 140 NWM 100 00
Microsoft Windows		
Yes	–	Yes
Yes Client/server architecture	–	
Yes	–	Yes + E-mail transmission triggered by event
Yes	–	
–	Yes	
	Alarms via diagnostic buffer *(2)*	
C compiler integrated	–	
Yes	–	Yes
Via OFS data server	Via internal bus on Premium/Quantum platforms	
Yes		
	–	Yes
Yes	–	
Yes	–	
All information in the real-time database	–	
Windows XP, Servers	Windows 98/2000/NT, Windows XP	Windows 2000 or Windows XP
Vijeo Citect	**FactoryCast**	**FactoryCast HMI**
		
3/22	3/43	3/47

(2) Specific memory area with Modicon Premium (with PL7 or Unity Pro software) and Quantum (with Unity Pro software) PLC platforms.

HMI softwares and Web servers
XBT L1000 development software

XBT L1000 development software is used to create operator dialogue applications designed for controlling automated systems and is used with:
- Display units XBT N/H/HM, with XBT L1001/1003 software
- Terminals XBT R/P/E/PM, with XBT L1001/1003 software
- Graphic terminals XBT F01/F02/F03/FC with XBT L1003 software.

For the New Technology touch-sensitive graphic terminals XBT G, see Vijeo Designer configuration software page 3/9.

XBT L1000 softwares runs on PC compatibles equipped with Windows 98, 2000 or XP operating system.
Applications created using XBT L1000 softwares are independent of the protocol used; it is possible to use the same operator dialogue application with all the different PLCs offered by the major manufacturers on the market.

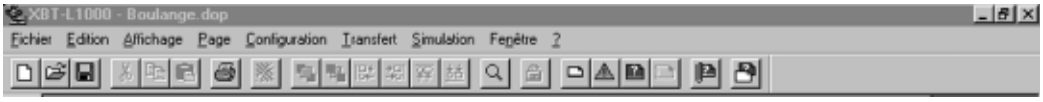
Configuration

The XBT L1000 software runs on Windows 98, 2000 and XP.

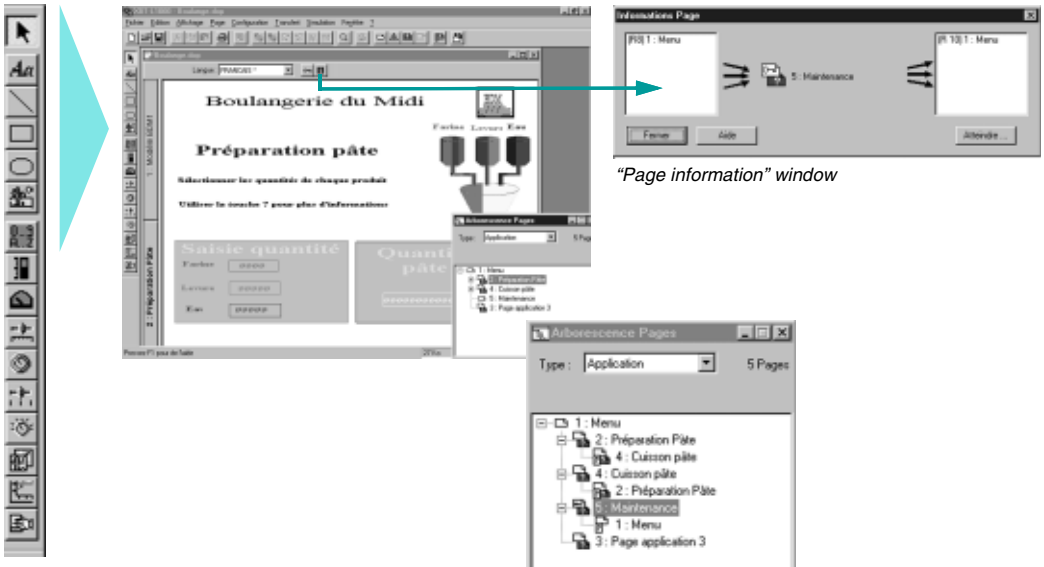
It is used to easily create various types of pages:
- Application pages (can be interlinked),
- Alarm pages
- Help pages
- Recipe pages
- Etc.

They can contain all sorts of variables and graphic objects, which are either predefined in the XBT L1000 software or created using other applications and then imported (bitmap format, etc.). Various properties can be assigned to them: min.-max. limits, colour, movement, weighting, etc.

XBT L1000 software can be used to configure the function keys to activate commands on the machine or call-up application pages. It can also be used on the graphic terminals to import the PL7 or Concept PLC symbols database under TwidoSoft, Unity Pro, Concept or PL7 software.



Main toolbar



Graphic toolbar

"Page information" window

"Page Tree Structure" window

References:
page 3/7

HMI softwares and Web servers
XBT L1000 development software

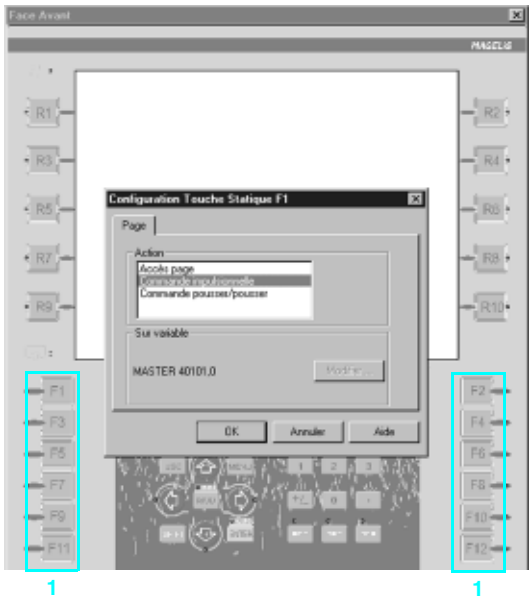
Simulation on PC compatible

XBT L1000 software offers the option of simulating all your operator dialogue applications from the design office without the use of graphic terminals and PLCs.

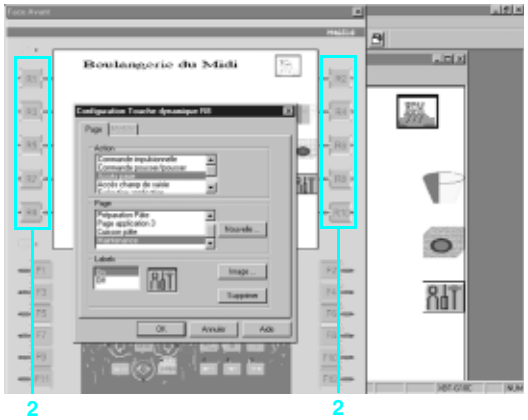
The following can be tested using the simulation programme and the keyboard on a PC compatible:
- Navigation between pages
- Entry of variables
- Display of variables
- Simulation of an alarm.

Using the function keys

The operator terminals and graphic stations have two types of function key: static keys 1 and dynamic keys 2.



Static keys 1
These are defined for the whole application.
They can have the following functions:
- Page access
- Latching memory bits
- Toggling memory bits (ON/OFF).



Dynamic and touch-sensitive keys 2
These are associated with one page. Their role can be reassigned or changed from one page to another.

They can have the following functions:
- Page access
- Latching memory bits
- Toggling memory bits (ON/OFF)
- Positioning on a data entry field
- Direct writing.

A label (bitmap image) is assigned to each key and can vary from page to page.

Sur les terminaux tactiles, les zones tactiles et touches tactiles donnent accès aux mêmes fonctions que les touches dynamiques des terminaux à clavier.

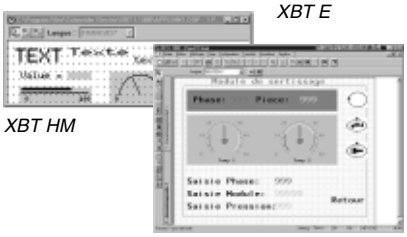
References :
page 3/7

HMI softwares and Web servers
XBT L1000 development software

XBT N

XBT H/P

XBT E



XBT HM

XBT F

Screen windows

XBT L1000 software is used to design page contents in WYSIWYG *(What You See Is What You Get)* format: anything created using the software is displayed in exactly the same way on the operator dialogue screen.
To assist the designer, the software offers a display unit or a virtual screen, depending on the type of terminal.

Model pages

Model pages *(1)*

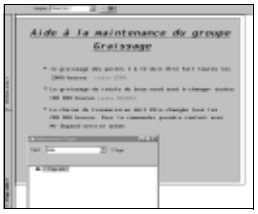
Model pages, created by the designer, are pages whose graphic format (text, images or static objects) applies to all other pages in the same family.

There are three types of model pages:
- Application
- Alarm
- Help.

Alarm pages

Alarm pages

Alarm pages indicate any faults in the process.
The advantage of alarm pages lies in their event-triggered display:
During operation
□ When a fault occurs, it is often the consequence of other faults. The priority levels enable the terminal to display the most important fault, the one presenting the highest risk to the process
□ The occurrence of any fault is time and date stamped.
During maintenance operations
□ The terminal memorises the faults in sequence (log) making it easy to find the cause of the fault.



Help pages

Help pages and help windows *(1)*

Available with XBT F graphic terminals, the help pages and windows can be associated with application or alarm pages. Help windows can be associated with any variable field.

(1) Available with XBT F graphic terminals.

References :
page 3/7

HMI softwares and Web servers
XBT L1000 development software

Software for Magelis terminals

Multilingual software packages designed for PC compatibles (with a minimum of a Pentium II, 350 MHz processor, 30 Mb available space on the hard disk and 64 Mb RAM memory with Windows 98 or 128 Mb RAM memory with Windows 2000 or XP operating system).

They are supplied with electronic documentation for alphanumeric and graphic terminals and Schneider Electric communication protocols: Uni-TE, Fipio, Fipway, Modbus, Modbus Plus, Ethernet TCP/IP (Modbus TCP or Uni-TE TCP) and KS.

This software gives access to the following functions:
- Dynamic link between the XBT L1000 and Unity Pro, PL7 databases or Concept
- Remote downloading of XBT F application on Uni-TE, Fipway, Ethernet TCP/IP, Modbus Plus
- Diag Viewer function on XBT F with Premium (under Unity Pro or PL7) and Quantum (under Unity Pro) (consult our Premium or Quantum automation platform catalogue).

The **XBT Z915** and **XBT Z945** cables and **XBT Z962** 25-way/9-way connection interface are only supplied with the **XBT L1003M** software package.

Description	Compatibility	Operating system	Support	Documentation	Reference	Weight kg
XBT L software pack (with Schneider Electric protocols)						
Alphanumeric and graphic configuration	XBT N/R/H/P/E XBT HM/PM XBT F	Windows 98, 2000 and XP	CD-ROM	Multilingual: English, French, German, Spanish and Italian PDF format	**XBT L1003M**	1.500
Schneider Electric software update (with third party and Schneider Electric protocols)						
Alphanumeric and graphic configuration	XBT N/R/H/P/E XBT HM/PM XBT F	Windows 98, 2000 and XP	CD-ROM	Multilingual: English, French, German, Spanish and Italian PDF format	**XBT LUP1004**	0.100
Demonstration software						
Alphanumeric and graphic configuration	XBT N/R/H/P/E XBT HM/PM XBT F	Windows 98, 2000 and XP	CD-ROM	Multilingual: English, French, German, Spanish and Italian PDF format	**XBT L1003DEMO**	0.100

Software for alphanumeric display units and terminals

Multilingual software package designed for PC compatibles (with a minimum of a Pentium II, 350 MHz processor, 30 Mb available space on the hard disk and 64 Mb RAM memory with Windows 98 or 128 Mb RAM memory with Windows 2000 or XP operating system). It is supplied with electronic documentation for alphanumeric display units and terminals, **XBT Z915** and **XBT Z945** cables and Schneider Electric communication protocols: Uni-TE, Modbus, KS.

Light software pack with Schneider Electric protocols

Description	Compatibility	Operating system	Support	Documentation	Reference	Weight kg
Alphanumeric configuration	XBT N/R/H/P/E XBT HM/PM	Windows 98, 2000 and XP	CD-ROM	Multilingual: English, French, German, Spanish and Italian	**XBT L1001M**	0.650

Documentation

Description	Format		Reference *(1)*	Weight kg
Magelis user's manual	A5 bound	To order separately to the XBT L100●M CD-ROM	**XBT X000●●**	0.700

Schneider Electric downloadable protocols information

PLC brand	Compatibility			Protocol name
	XBT N/R	XBT H/P/E/HM/PM	XBT F	
Telemecanique	■	■	■	**Uni-TE V1.0/2.0**
	■	■	■	**Modbus** *(2)*
	–	–	■	**Fipio**
	–	–	■	**Fipway**
	–	–	■	**Modbus Plus**
	–	–	■	**Modbus TCP/IP**
	–	–	■	**Uni-TE TCP/IP**
	–	■	■	**KS**

(1) Add the following suffix to the reference: **EN** *for English,* **FR** *for French,* **DE** *for German,* **ES** *for Spanish,* **1T** *for Italian.*
(2) Modbus master for all XBT. Modbus slave for all XBT N410 (input mode) et XBT N401/R411 (input and control modes).

HMI software and Web servers
Vijeo Designer configuration software

Presentation

The cross-platform Vijeo Designer configuration software can be used to create operator-dialog applications for controlling automation systems for:
- New Technology Magelis XBT G and XBT GT terminals
- Magelis Smart *i*PC HMI edition and Magelis Compact *i*PC HMI edition

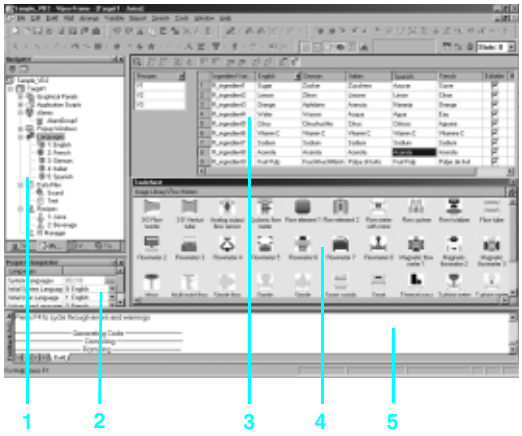
Vijeo Designer and a suitable terminal can be combined to provide a solution for each and every control station requirement, at the cost of a simple software reconfiguration.

Because it supports video-image streaming, the Magelis Vijeo Designer offer provides access to new types of application. Users can visualize their processes immediately or subject to a delay, on the same screen as the HMI dialog.
Vijeo Designer uses Magelis Ethernet TCP/IP connectivity and is, therefore, able to support WEB Gate remote access, the sharing of application data between terminals, the transfer of recipes and logs for variables, and much more - all with total security.

Applications can take on an international nature, thanks to the ability of Vijeo Designer to support up to 10 languages simultaneously in one project (38 alphabets are available on the XBT GT terminal).
The interface and documentation for Vijeo Designer are available in 6 languages: English, French, German, Italian, Simplified Chinese, and Spanish.

Vijeo Designer will run on any PC with Windows 2000 or Windows XP Professional. It supports WYSIWYG *(1)* simulation of the expanded application (without XBT G/GT terminal or target Magelis *i*PC), the simulation of PLC variables (I/O, internal bits and words), and ensures that the application runs in total security on the XBT G/GT terminal or Magelis Smart/Compact *i*PC HMI edition.

Note: *For other Magelis XBT displays and terminals, see the XBT L1003 development software on pages 3/4 to 3/7.*



Configuration

Vijeo Designer configuration software enables operator-dialog projects to be processed quickly and easily thanks to its advanced ergonomics using up to five configurable windows:
1 Browser window
2 Object List window
3 Recipes window
4 Library of Animated Graphic Objects and Image Objects window
5 Report window

The software also offers a complete set of application-management tools for:
- Project creation, whereby a project comprises one or a number of applications for XBT G/XBT GT/Smart *i*PC/Compact *i*PC with sharing of variables between terminals (up to 8 terminals and 300 variables)
- Recipe management (32 groups of 256 recipes with up to 1024 ingredients)
- Cross-referencing of application variables
- Documentation of views for an application
- A simulation mode enabling easy testing of the application from the design office
- Bar code reader management via:
  - USB port on multifunction XBT GT terminals and Magelis Smart *i*PC and Compact *i*PC HMI edtion industrial PCs
  - COM1 serial port on XBT G, or COM2 on XBT G and XBT GT *(2)*
- Recovery of symbols files for PLC variables generated by TwidoSuite, PL7, Concept, ProWORX 32, and Unity Pro software *(3)*

(1) WYSIWYG: What you see is what you get on the screen of the target terminal.
(2) Except XBT GT11 terminals.
(3) With the exception of "unlocated" or structured "Derived Data Type" Unity Pro variable symbols.

HMI software and Web servers
Vijeo Designer configuration software

Graphics editor

The graphics editor in Vijeo Designer offers interface consistency for simple objects as well as for more sophisticated ones. It enables application developers to create views easily based on:

- ■ Simple objects to be configured:
  - □ Points, lines, rectangles, ellipses, arcs
  - □ Bar graphs, meters, tanks, fillers, pie charts, curves
  - □ Polylines, polygons, regular polygons, Bézier curves, scales
  - □ Texts, images or alarm summary, etc.
- ■ Preconfigured advanced objects: Switches, radio buttons, indicators, buttons, tanks, bar graphs, potentiometers, selector switches, text or number fields, enumerated lists, etc.

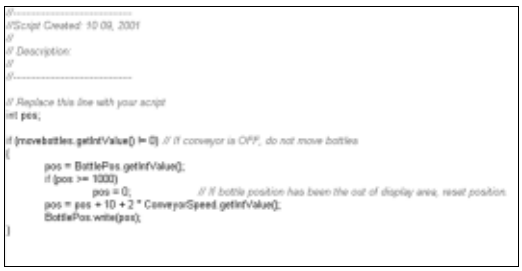
Object animations

8 types of graphic-object animation support the rapid creation of animated views on the basis of:

- □ Pressing the touch panel
- □ Change of color
- □ Filling
- □ Movement
- □ Rotation
- □ Size
- □ Visibility
- □ Display of associated value

Library of animated graphic objects

The library of animated graphic objects makes the creation of views very efficient thanks to the numerous "ready-made" animation objects. It includes more than 4,000 vector images of an "industrial" nature in 2 or 3 dimensions. Simply "drag and drop" the object using the mouse to position it on the view being created.
User-defined objects can be added to this library using the same simple "drag and drop" method.



```
//-----------------------------
//Script Created: 10 09, 2001
//
// Description:
//
//-----------------------------

// Replace this line with your script
int pos;

if (movebottles.getIntValue() != 0) // If conveyor is OFF, do not move bottles
{
        pos = BottlePos.getIntValue();
        if (pos >= 1000)
                pos = 0;                    // If bottle position has been the out of display area, reset position.
        pos = pos + 10 + 2 * ConveyorSpeed.getIntValue();
        BottlePos.write(pos);
}
```

Java scripts

Vijeo Designer supports the processing of information using Java language scripts. This function facilitates the running of complex animations, the automation of tasks within the terminal and the management of calculations in order to relieve the load on the PLC programs.
The scripts (50 lines, max.) can be associated with:

- ■ Variables
- ■ Operator actions
- ■ Screens
- ■ The application itself

User-customizable resources

To enable applications to be customized in accordance with customer requirements, Vijeo Designer V4.5 features a new resource concept, i.e., the possibility of defining styles (colors, images, character fonts, text lists).
To customize a generic application in accordance with customer requirements quickly, simply assign these styles to the objects concerned.
The resource concept is supported by the following native objects: *Meter, Bar Graph, Slider, Potentiometer, Selector, Text List* and *Image List*.

HMI software and Web servers
Vijeo Designer configuration software

Data Manager: Transfer recipes, videos, images, etc. simply by clicking with the mouse.

Advanced functions

Based on new information technologies, Vijeo Designer features a large number of advanced functions for processing a higher volume of data, both faster and more reliably:

- Multimedia data management in the most popular formats:
  - Image display (jpeg, bmp, emf, and png files)
  - Text display and processing (txt files)
  - Sound-message processing (wav files)
- Alarm or curve logs recorded for data storage and transfer
- Alarm management. All variables can be categorized as "Alarms" and can be customized in respect of visualization and acknowledgment. These Boolean and analog-threshold type alarms can be printed in real time.
- Multimode application transfer: via serial link, Ethernet and Compact Flash memory card (on multifunction terminals)
- Backup of application source files on the terminal or *i*PC to facilitate maintenance
- User-friendly data exchange between PC and terminal using the Data Manager tool
- Integrated FTP server for downloading/uploading recipes via Ethernet TCP/IP and restoring logs to XBT G/GT terminals
- Multiport communication for multifunction terminals - 2 serial links and 1 Ethernet network can be active simultaneously.
- Action table for associating a particular behavior with an event.

WEB browser: Providing remote and totally secure access to the Vijeo Designer application.

WEB Gate remote connection

Vijeo Designer can provide a WEB Gate remote connection for any platform equipped with an Ethernet port and Compact Flash or hard disk memory, i.e., XBT G, XGT GT (XBT GT2 and higher), Magelis Smart and Compact *i*PC HMI edition.

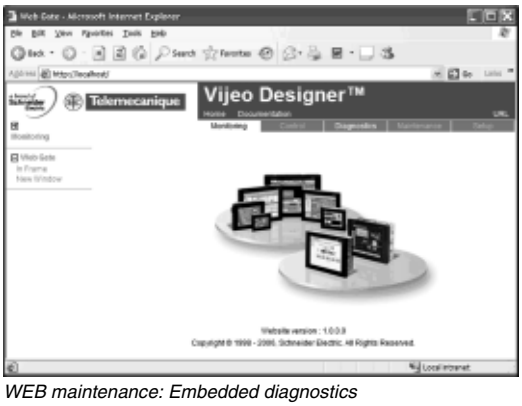
WEB Gate supports remote visualization of Vijeo Designer applications with Internet Explorer on any PC running Windows 2000 or Windows XP. The size of the page displayed is determined by the terminal.
WEB Gate supports the display of pages similar to those in the Vijeo Designer application, or of different pages, i.e., startup pages and navigation pages can be differentiated in order to indicate the type of access (terminal/WEB Gate).

WEB Gate's high-security mode excludes any risk of applications jamming as a result of variables being modified via the terminal and WEB Gate at the same time.
For increased confidentiality:

- WEB Gate access can be restricted to only those PCs whose IP address appears in the licensing list.
- Some Vijeo Designer functions are not supported by WEB Gate:
  - Application shutdown, restart
  - Terminal configuration
  - Alarms: Suppress, clear
  - Recipes: Load, send, save, compare
  - Read an acoustic animation (sound file)
  - Display a recorded video sequence

WEB Maintenance remote diagnostics

In addition to WEB Gate, Vijeo Designer V4.5 features the embedded diagnostics service WEB Maintenance - Transparent Ready WEB Server Class B15 *(1)*.
This server's navigation bar features an option for accessing the WEB Gate function.



WEB maintenance: Embedded diagnostics

(1) Please consult our "Control and automation, Ethernet TCP/IP and the Web" catalog.

Characteristics of Vijeo Designer applications

General characteristics

Number of targets	32 (XBT GT terminals or Magelis Smart *i*PC HMI edition *(1)* and Compact *i*PC HMI edition industrial PCs)					
Number of internal and external variables	8,000					
Number of lines per Java script	50 *(2)*					
Sharing data between terminals	Up to 300 variables between 8 terminals, without router PLC Proprietary protocol above TCP/IP					
Internationalization	Up to 10 languages supported by 34 western alphabets and 4 Asian alphabets:					
Western alphabets	Afrikaans Swedish Russian Norwegian Italian Greek	Belarusian Albanian Czech Serbian Polish Latvian	Spanish Bulgarian German Turkish Slovak Portuguese	Dutch Estonian Catalan English Ukrainian Slovenian	Lithuanian Hungarian Finnish Croatian Basque	Romanian Macedonian Indonesian French Danish
Asian alphabets	Simplified Chinese	Korean	Japanese	Taiwanese		
Functions	Languages can be programmed or selected dynamically via the menu. The character fonts are embedded in the application. The process is based on the export/import of texts in CSV format, which can be edited by the translator (each text is stamped with a unique ID).					
Keyboards that can be used to enter data	Three types of keyboard are available: - Standard AZERTY or QWERTY - Alphabetical - Compact, suitable for small screens and for pages with priority display zones					
Storage of source code	- The application source code can be stored either on the terminal or on the *i*PC. - A password ensures confidentiality. - On request, the application can be verified each time the terminal starts up by means of a CRC calculation (*High Security* function) .					

Characteristics of pages

Internal or external variables	800
Objects	800
Switches	30
Pop-up windows	3
Number of lines per Java script	50 *(2)*

Library of graphic objects

Number of objects available	> 4,000
Type	2D and 3D "industrial" type vector images
Can be expanded?	Yes

Recipes

Number of groups	32
Composition of a group	Up to 1,024 ingredients for 256 recipes
Multilingual support	Complete for labels and ingredients

Action tables

Number of actions	100
Composition	Maximum of 16 commands per action
Action type	- Periodic - Planned - Conditioned - Event-triggered

(1) Requires the use of two Compact Flash cards - one for the Run-Time and operating systems, the other with PCMCIA adaptor for the application data.
(2) Indicative data for a script executed cyclically

Characteristics of Vijeo Designer applications (continued)

Alarms

No. of alarms activated, record or logs	9,999
Type	Any variable (internal or external, Boolean or analog-threshold) can act as an alarm.
Customization	Any alarm-type variable can be customized in respect of visualization and acknowledgment.
Associated reflex functions	Any alarm-type variable can be associated with reflex functions linked to the appearance of the alarm concerned: - Action on appearance - Action on selection - Message for the alarm bar, etc.

Integrated diagnostics

The PLC "Diag buffer" function can be accessed via the following protocols:

	Modicon M340 Unity Pro	Premium PL7	Premium Unity Pro	Quantum Unity Pro
UNITE series		■	■	
UNITE-TCP/IP XWAY		■	■	
UMAS Modbus TCP	■		■	■
UMAS Modbus RTU	■			■
UMAS Modbus Plus			■	■
UMAS UNITE series			■	
UMAS UNITE-TCP/IP XWAY			■	
UMAS Modbus TCP USB PPP	■			

■ Accessible
Not accessible

Video functions

Platform	XBT GT terminals	Magelis Smart iPC HMI edition Magelis Compact iPC HMI edition
Video source	NTSC, PAL video channel	Webcam
Input format	Composite video (chrominance+luminance) via RCA plug	Webcam via USB port
Display resolution	NTSC: 640 x 480 pixels PAL: 768 x 576 pixels	Depending on webcam characteristics (usually 640 x 480 pixels)
Duration of dynamic memorization	10 mins. max., can be configured, in circular memory (MPEG-4 format)	–
Recording of sequences		
Media	Compact Flash card	Compact Flash card Hard disk
Number of sequences	Up to 200	
Recording format	Simple MPEG profile	
Recording resolution	320 x 240 pixels	
Typical recording rate	3.2 MB/minute	Determined by the CODEC used on the PC
Typical capacity	Up to 28 sequences lasting up to 10 minutes can be stored on a 1 GB Compact Flash card	Determined by the space available on the hard disk

Characteristics of Vijeo Designer applications (continued)

Screen capture	
Format	JPEG
Resolution	Display resolution
Ranges supported	XBT GT terminals (XBT GT2 and higher), Magelis Smart *i*PC HMI edition and Magelis Compact *i*PC HMI edition industrial PCs
Video window included	Yes
Storage	
Format	JPEG
XBT GT terminals (XBT GT2 and higher)	On Compact Flash card
Magelis Compact *i*PC industrial PCs	On Compact Flash card On hard disk
Transfer	Via Data Manager, on terminal or *i*PC equipped with an Ethernet link
Printing	
From XBT GT terminal (XBT GT2 and higher)	Via USB port *(1)* or Ethernet port, with a compatible printer *(2)*: □ PCL5 - HP Officejet Pro - HP LaserJet □ PCL3 - HP Deskjet series - HP Business InkJet - HP Officejet Pro - HP LaserJet - HP Photosmart series □ ASCII
From Magelis Smart *i*PC and Compact *i*PC HMI edition industrial PCs	With any printer equipped with a suitable driver for Windows
Internet Explorer browser object	
Management	Pages created in Vijeo Designer 4.5 for Magelis Smart and Compact *i*PCs (HMI edition) can feature a Microsoft Internet Explorer browser object.
Possible functions	Display, in all or part of the Vijeo Designer 4.5 screen page, of: - HTML format pages: e.g., websites, pages from Microsoft Office Word, Excel and Powerpoint documents saved in HTML format - Documents in Adobe pdf format - Macromedia Flash presentations - Video sequence *(streaming)* originating from a video server on IP - Any other Active X featuring a USB port
Schneider Electric applications	
Management	Pages created with Vijeo Designer 4.5 for Magelis Compact *i*PC can run Schneider Electric software in a window that is independent of the Windows system.
Possible functions	It is also possible to run frequently-used application software as and when required, e.g.,: - Unity Pro - Twido Suite - Advantys STB configuration software - PL7 - PowerSuite, etc.

(1) A printer can be connected to the USB port of XBT GT terminals (XBT GT2 and higher) as long as the printer connection is serial or parallel. A serial-to-USB or parallel-to-USB conversion cable is also required.

(2) For a complete list of Hewlett Packard and other manufacturer printers supported, please consult your Regional Sales Office.

Characteristics of Vijeo Designer applications (continued)

Traceability, logs

	Vijeo Designer V4.5 offers increased flexibility for implementing data traceability by means of sampling and management of log files. Every variable can be written in a recording group. A recording group defines the following elements:
Recording type	- Periodic - Event-based
Storage media	- Compact Flash memory card - SRAM terminal memory (for alarms) - Hard disk (Magelis Compact *i*PCs only)
Maximum size	- Maximum number of recordings - Maximum file size
Capacity	The designer of the application concerned is entirely free to select the number of variables sampled and the sampling frequency (these will be determined by the media present on the target). The following are typical example values:

Target terminal	XBT G	XBT GT	Magelis Smart *i*PC HMI edition	Magelis Compact *i*PC HMI edition
Number of variables sampled	80	100	250	
Target storage medium	Compact Flash card		Compact Flash card	Hard disk
Maximum number or size of samples per variable	Up to 5 years of recordings Up to 8 MB of samples per variable			

Data Manager

	The user-friendly Data Manager tool is used to transfer data from and to a terminal. This copyright-free program does not require Vijeo Designer to be installed and can be installed independently for the following types of transfer:
Logs	- Recovery of log data for variables - Conversion into a single CSV format file
Recipes	- Transfer from and to terminal - Modification using an integrated editor
Project	- Download to PC of the project stored on the Compact Flash memory card
Video sequences, screen captures	- Download to PC

Data sharing

	Vijeo Designer V4.5 offers the possibility of sharing data between terminals (this option simply needs to be configured). The system works without a router PLC. Up to 300 variables can be shared between a maximum of 8 terminals. The exchange protocol is a TCP/IP proprietary upper layer. The high-security mode excludes any risk of applications jamming, which can occur when attempts are made to modify a variable via more than one terminal at the same time.
Restrictions	Vijeo Designer V4.5 imposes the following restrictions on data sharing:
Sharing of external variables	These variables cannot be used in the following objects: - *Alarm summary displays* - *Trend graphs* - *Historical trend graphs* - *Data graphs* These variables cannot be saved via the terminal.
System and recipe variables	The direct sharing of these variables by means of configuration settings is not supported. However, sharing can be programmed using the *ReadFromVar* and *WriteToVar* functions.

Characteristics of Vijeo Designer applications (continued)

Terminal access security

	Access to all or some of the objects in Vijeo Designer V4.5 can be made subject to users entering a user name and password to prove that they are in possession of sufficient rights.
Type of right	- Application: pages, buttons with confirmation, etc. - Data Manager: access via FTP service - Web Gate: intranet/extranet access (IP address filtering)
Number of users per group of rights	Up to 100
Number of groups of rights	Up to 20
Automatic locking	If active: automatic blocking of access via keyboard if no entries are made for a set period of time

Target security

	Vijeo Designer V4.5 can increase the confidentiality of applications on Magelis Smart iPC HMI edition and Compact iPC HMI edition industrial PCs by putting protection mechanisms in place at two levels:
BIOS	- Disabling of startup via peripheral connected to USB port - Disabling of USB ports - Password protection for BIOS access
Run-Time Vijeo Designer	- Hiding of Windows taskbar - Disabling of toggling between tasks (ALT+TAB) - Disabling of Windows Security Manager (CTRL+ALT+DEL), including the Task Manager - Disabling of Windows shortcuts - Disabling of the "Windows logo" key on the keyboard - Disabling of shortcut to exit run time (CTRL+Z)

Telemecanique protocols

	Vijeo Designer V4.5 supports the following Telemecanique protocols: - Modbus RTU Master - Modbus TCP/IP Master - Modbus Plus *(1)* - Unitelway - UniTE TCP/IP - USB terminal port for Modicon M340 CPUs

Third-party protocols

	Vijeo Designer V4.5 also supports the following protocols and PLCs:
Mitsubishi	Melsec protocols: A/Q CPU (SIO), A/Q Ethernet (TCP), A Link (SIO), QnA CPU (SIO), Q Ethernet (UDP), and FX (CPU). Except for Melsec-A Link (SIO), Mitsubishi serial link protocols do not work on the RJ45 port *(1)*.
Omron	Sysmac protocols: FINS (SIO), LINK (SIO) and FINS (Ethernet). OMRON serial link protocols do not work on the RJ45 port. *(2)*
Rockwell Automation	Allen-Bradley protocols: DF1-Full Duplex, RS DataHighway 485, Ethernet IP *(3)* (PLC5, SLC500, MicroLogix, ControlLogix), Ethernet IP native *(2)* (ControlLogix)
Siemens	Simatic protocols: MPI (S7-300/400), MPI Direct, RK512/3964R (S7-300/400), PPI, Siemens Ethernet. The S7-300/400 MPI Adapter and RK512/3964R - RS485 connection serial link protocols do not work on the RJ45 port. *(2)* Profibus DP protocol: via XBT ZG PDP *(4)*

(1) Via USB cable: XBT ZG UMP for XBT GT 2●●● terminals and higher, TSX C USB MBP for Smart iPC and Compact iPC.
(2) They are supported on XBT G and XBT GT (SUB-D connector, XBT GT2 and higher).
(3) Certified ODVA compatibility
(4) Certified by Profibus Foundation

Characteristics of the Vijeo Designer software (continued)

Operating system compatibility	Windows 2000 Windows XP Professional
Graphic library	Library of vector graphic objects shared with Vijeo Citect
Number of objects available	> 4,000
Type	2D and 3D "industrial" type vector images
Can be expanded?	Yes
Application validation	Calculation of the maximum memory space occupied by the application Verification of the capacity of the target (XBT GT terminal or Magelis Smart/Compact iPC HMI edition) configured to run the application in total security: - limits of the physical memory - available functions If applicable: - disabling of application upload/download - direction towards sections of the online help, which will provide tips for optimizing the application
Interface languages	Vijeo Designer software screens and online help available in English, French, German, Italian, Simplified Chinese, and Spanish
Documentation	Available in electronic format in English, French, German, Italian, Simplified Chinese, and Spanish. Not available in hard copy
Self-learning	Multimedia tool (1 hour 30 minutes) in English/French included
User licenses	Four types of license are available: - *Single*: One station - *Group*: 3 stations - *Team*: 10 stations - *Facility*: Unlimited number of stations on one site Supplied with or without transfer cable(s) for USB port, see Table of references for each Magelis terminal on page 3/15.
Registration	Recommended (via fax, e-mail or website www.schneider-electric.com/swregistration), provides access to additional resources such as application examples, etc.

Services

Switch2VijeoDesigner: Migration of XBTL 1000 applications	The Switch2VijeoDesigner service offer makes it even easier to migrate XBTL 1000 applications created on XBT F terminals to VijeoDesigner applications for use on XBT GT terminals. The service provides: □ Analysis of the complexity of migration in terms of hardware, software, communication with PLCs, etc. □ Analysis of the new functional requirements □ Proposal for migration methodology The possible deliverables include: □ Simple conversion □ Full migration of complex machines □ Migration to SCADA system □ Standardization process for multiple machines For more information on this service offer, please consult your Regional Sales Office.

HMI software and Web servers
Vijeo Designer configuration software

VJD SUD TGS V45M

References

All licenses for the Vijeo Designer configuration software listed below consist of a CD-ROM containing:
- Vijeo Designer software V4.5, including:
  - Copyright-free *stand-alone* installation of Data Manager
- User documentation in electronic format, including:
  - Online help
  - User's Manual for the supported targets
  - Setup Manual for the different protocols supported
- A multimedia self-learning tool lasting 1 hour 30 minutes in English/French
- The communication protocols described on page 3/14

Single-station licenses

Designation	Type of license	Application transfer cable included		Reference	Weight kg
		PC-side port	Terminal side Magelis XBT/ Magelis *i*PC		
Vijeo Designer configuration software	*Single* (1 station)	–	*– (1)*	**VJD SND TGS V45M**	0.280
		USB	XBT G/GT11	**VJD SUD TGS V45M**	0.420
			XBT GT2●...GT73 Magelis Smart *i*PC HMI edition Magelis Compact *i*PC HMI edition	**VJD SUD TGA V45M**	0.410

Multistation licenses

Designation	Type of license	Number of stations *(1)*	Reference	Weight
Vijeo Designer configuration software	*Group*	3	**VJD GND TGS V45M**	0.280
	Team	10	**VJD TND TGS V45M**	0.280
	Facility	Unlimited number of stations on one site	**VJD FND TGS V45M**	0.280

(1) Separate parts: For application transfer cables (PC to Magelis XBT terminal), see page 1/45.

HMI softwares and Web servers
Vijeo Citect supervisory software

Presentation

The Vijeo Citect offer is characterized by its flexibility, allowing customers to build the supervision solution that corresponds to their needs.

Vijeo Citect features and power makes it suitable for any application in any market, in most demanding fields:
- ■ Energy and Infrastructure:
- □ Airports,
- □ Roads & tunnels,
- □ Water,
- □ Oil & Gas.
- ■ Industry:
- □ Food and beverage,
- □ Mining,
- □ Metal,
- □ Minerals.

The very flexible architecture in Vijeo Citect software and applications make the investment are always scalable, and durable.
From small stand-alone system, to large distributed redundant multiple network systems, only one single development tool needs to be used: this dramatically reduces training and knowledge management costs, optimizing the investments.

Vijeo Citect is perfectly aligned with Schneider Electric's control/HMI/SCADA offer development strategy, and relies on technologies that are massively adopted by the market. As a result, designers and users take full benefit from single accountability with Schneider Electric for system integration and performance.

Server licenses

Vijeo Citect exists:
- □ in a **Client-Server** architecture, ranging from 75 Points to an unlimited number of Points
- □ in a **stand-alone** version called **Vijeo Citect Lite** that can manage 300, 600 or 1200 Points, see page 3/23.

Vijeo Citect automatically installs OFS, the OPC server of Schneider Electric. This does not require suscribing. The use of this server is reserved for Vijeo Citect software.
OFS offers optimized communication capabilities between SCADA software and Schneider Electric equipments. This is one of major benefits that come from Schneider Electric integration.
OFS also allows communication with third-party devices supporting Modbus and Modbus TCP protocols.

Server licenses VJC 1011 ●● are purchased by number of Points that are required to be displayed, not I/O *(1)*. An upgrade offer VJC 1●●● 1● ●● is available for expanding Client and Server licenses to the next Points Count. *(2)*

(1) Vijeo Citect counts all the variables exchanged with external devices like PLCs.
(2) If the Server or Client is upgraded, the keys must be reprogrammed.

Client licenses

Client licenses are generally purchased using the same Points Count as the Server to which they are connected. Four types of Clients are available:

□ **Display Clients**, VJC 1020 ●●: used by operators accessing the Vijeo Citect Server thru a local connection.
□ **Manager Clients**, VJC 1030 ●●: for user who need to get a view of the Vijeo Citect application thru a local connection, but no control need.
□ **Web Display Clients**, VJC 1022 ●●: similar as Display Clients, thru a Web connection.
□ **Web Manager Clients**, VJC 1032 ●●: similar as Manager Clients, thru the Web.

Static, Floating and Redondancy Client licenses

Depending on the needs, the license may be for a Static, a Floating, or a Redondancy Client.

□ **Static Client licenses**: Operators must have access to the control system at any time, whatever the number of Clients currently connected to the Server is.
Static Client licenses ensure access to the control systems as they reside in their own physical key plugged into the operators's Client PC.
□ **Floating Client licenses**: Users who need to use the Client occasionally may purchase Floating licenses. The software can be loaded on many different PCs, connections will only be allowed up until the number of licences purchased has been reached. Floating Client licenses are stored on the Server key.
□ **Redundancy Client licenses**: Redundancy Client licenses VJC 10●● 88 are only useful for the Standby Server in a Redundant configuration. They are used to ensure the user always has the number of Clients available that he has purchased.

Development workshop

Development workshop VJC 1099 ●2 is required for delivery of the physical components that make up an order such as the CD, hardware key, installation guide and packaging box.

Operating rules are:
□ Each Server requires a hardware key (USB or parallel) in order to operate.
□ The Server key is also used to store Floating Client licenses.
□ The key controls the number of Points that can be viewed.
□ The key is programmed to operate on up to a particular version.

Promotional and Evaluation License

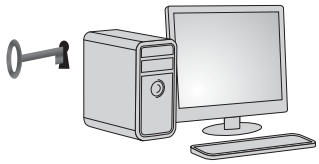
A Promotional License VJC 1095 ●● is available with the Development workshop. It is dedicated for education and demo/trial purpose.

An Evaluation License allows the user to develop his application, and test it for 10 minutes in online mode. This system runs in standalone only.

One year Service Package

Purchase of Server and Client licenses presented before includes access to technical support, software patches and updates for a period of one year.
A one year Service Package offer VJC 1091 01 called Vijeo Citect Support is accessible from the second year of use of the software. It includes technical support, patches and updates.

HMI softwares and Web servers
Vijeo Citect supervisory software



Single-station architecture

Architectures
Single station, stand-alone 5000 Points SCADA

Development workshop
1 x VJC 1099 22, physical delivery of the CD with USB key.

Server license
1 x VJC 1011 14, Server license with 5000 Points, Server Client included.

Client license
Not needed as included in the Server license.

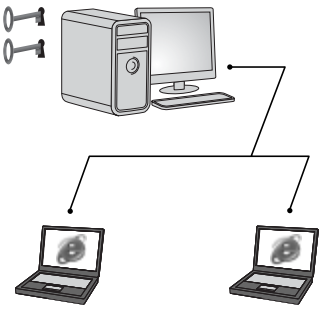
Single-server architecture with Web Manager access

Remote Server System with remote Web Manager access

Development workshop
1 x VJC 1099 22, physical delivery of the CD with USB key.

Server license
1 x VJC 1011 15, Server license with 15000 Points, Server Client included.

Client license
1 x VJC 1032 15, Web Manager Client license with 15000 Points.



Single-server architecture with 1 Web Display Client and 1 Web Manager Client

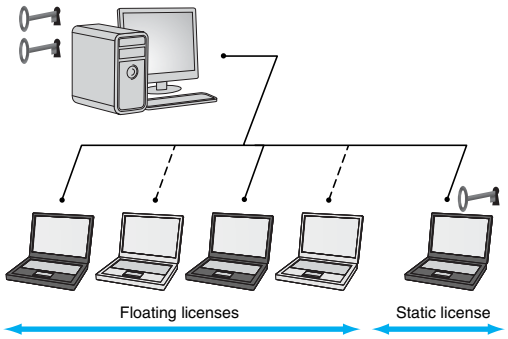
Networked Server System with remote Web Clients

Example : Networked Server System, 500 Points, with 2 remote Clients via the Web: one Web Display and one Web Manager.

Development workshop
1 x VJC 1099 22, physical delivery of the CD with USB key.

Server license
1 x VJC 1011 12, Server license with 500 Points, Server Client included.

Client licenses
1 x VJC 1022 12, Web Display Client license with 500 Points.
1 x VJC 1032 12, Web Manager Client license with 500 Points.



Single-server architecture with 2 Floating Display Client licenses and 1 Static license

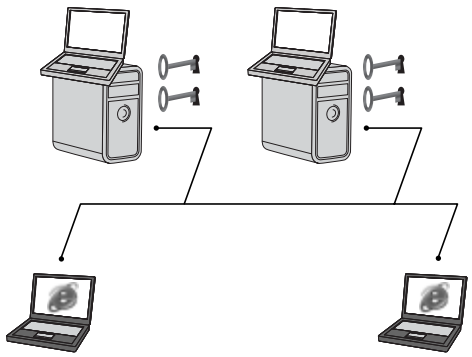
Networked Server System with Floating and Static accesses

Example : Networked Server System, 5000 Points, with 5 Client PC and 3 Client licenses, 2 Floating licenses and 1 Static license.

Development workshop
1 x VJC 1099 22, physical delivery of the CD with USB key.
1 x VJC 1099 21, additional USB key for Static Client.

Server license
1 x VJC 1011 14, Server license with 5000 Points, Server Client included (Client local on the Server PC).

Client licenses
3 x VJC 1020 14, Display Client licenses with 5000 Points.



Redundant architecture with 2 Display Clients on Servers and 2 Web Manager Clients

Redundant Server with Server Display Clients and Web Manager Clients

Example : Redundant Server, 1500 Points, with 2 Server (Display) Clients and 2 Web Manager Clients

Development workshop
1 x VJC 1099 22, physical delivery of the CD with USB key: Primary Server key.
1 x VJC 1099 21, additional USB key for Standby Server key (Rule: 1 key per Server).

Server license
2 x VJC 1011 13, Server licenses with 1500 Points, Server Client included.
- The first Server acts as the Primary Server.
- The second Server acts as the Standby Server.
- One license will be placed on each key, Primary and Standby.

Client licenses
2 x VJC 1032 13, Web Manager Client licenses with 1500 Points.
- These two licenses will be placed on Primary Server key.

Redundant Client license
2 x VJC 1032 88, Redundant Web Manager Client license
- Redundant Floating licenses for Web Manager Client licenses.
- These two licenses will be placed on the Standby Server key.

HMI softwares and Web servers
Vijeo Citect supervisory software

VJC 1099 ●2

Development workshop. Vijeo Citect Boxes and keys

Vijeo Citect Box VJC 1099 ●2 includes
- □ 1 CD with Vijeo Citect including OFS and Fastlinx
- □ Schneider Electric drivers pack V2.3
- □ An installation guide
- □ An hardware key

Additional keys are shipped in the Vijeo Citect Box

Development workshop. Vijeo Citect Boxes

Designation	Type key included	Reference	Weight kg
Vijeo Citect Box USB key	USB	**VJC 1099 22**	0.410
Vijeo Citect Box Parallel key	Parallel	**VJC 1099 12**	0.420

VJC 1099 21, VJC 1099 11

Additional Vijeo Citect keys

Designation	Target licenses	Reference	Weight kg
Additional Vijeo Citect USB key Shipped in the Vijeo Citect Box.	Redundant Server and Static (non-floating) licenses.	**VJC 1099 21**	–
Additional Vijeo Citect Parallel key Shipped in the Vijeo Citect Box	Redundant Server, Static (non-floating) and demonstration licenses.	**VJC 1099 11**	–

Vijeo Citect Lite, stand-alone

Vijeo Citect Lite stand-alone licenses, for 300, 600 or 1200 Points, include:
- 1 CD with Vijeo Citect including OFS and Fastlinx
- Schneider Electric drivers pack
- An installation guide
- An hardware key

Simple solution for stand-alone applications, Vijeo Citect Lite licenses cannot connect to any third party software or Client stations. Further they cannot be made redundant.
Vijeo Citect Lite licenses can be upgraded to full Vijeo Citect licenses *(1)*.

Vijeo Citect Lite License

Designation	Number of Points	Reference	Weight kg
Vijeo Citect Lite Stand-alone: no connectivity, no networking Key must be ordered separately.	300	**VJC 3111 27**	–
	600	**VJC 3111 59**	–
	1200	**VJC 3111 50**	–

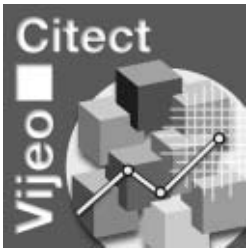
The references below are used to upgrade Vijeo Citect Lite Points count:
- in term of number of Points in Lite version
- from Vijeo Citect Lite to full Vijeo Citer Server version.

Vijeo Citect Lite Upgrades

Designation	Number of Points	Reference	Weight kg
Upgrade of Vijeo Citect Lite Points counts	300 to 600	**VJC L27 L59**	–
	600 *(2)* to 1200	**VJC L59 L50**	–
Upgrade from Vijeo Citect Lite to Vijeo Citect Server	300 Lite to 600 Server	**VJC L27 F12**	–
	600 Lite *(2)* to 1500 Server	**VJC L59 F13**	–
	1200 Lite to 1500 Server	**VJC L50 F13**	–

(1) Requires reprogramming of the key with VJC 1094 00
(2) Also for existing 500 Points Vijeo Citect Lite

HMI softwares and Web servers
Vijeo Citect supervisory software



Vijeo Citect Server

Vijeo Citect Servers licenses, segmented by number of Points, include:
- 1 CD with Vijeo Citect including OFS and Fastlinx
- Schneider Electric drivers pack
- An installation guide
- A hardware key

Redundant systems

For Redundant systems simply purchase a quantity of 2. No other option is required.
The programmed key (USB or parallel) needs to be ordered separately

Vijeo Citect Server License

Designation	Number of Points	Reference	Weight kg
Vijeo Citect Server Full version. Key must be ordered separately.	75	**VJC 1011 10**	
	150	**VJC 1011 11**	–
	500	**VJC 1011 12**	–
	1500	**VJC 1011 13**	–
	5000	**VJC 1011 14**	–
	15000	**VJC 1011 15**	–
	Unlimited	**VJC 1011 99**	–

Vijeo Citect Server upgrade

These part numbers must be used to expand the number of Points on the Server.

Vijeo Citect Server upgrade *(1)*

Designation	Number of Points	Reference	Weight kg
Vijeo Citect Server Upgrade	75 to 150	**VJC 1011 10 11**	–
	150 to 500	**VJC 1011 11 12**	–
	500 to 1500	**VJC 1011 12 13**	–
	1500 to 5000	**VJC 1011 13 14**	–
	5000 to 15000	**VJC 1011 14 15**	–
	5000 to unlimited	**VJC 1011 15 99**	–

Vijeo Citect Display Client

Vijeo Citect Display Clients are recommended for operators. These Clients are licensed by the number of Points that are displayed and can use either:
- a Floating license, residing on the Server key,
- a Static license: separate key on the Client PC.

Redundant system
- The number of Floating Clients ordered will be added to the Primary Server key.
- For the Standby Server order, the same number of Display Client Redundant Licenses, VJC 1020 88, must be ordered.

Vijeo Citect Display Client License

Designation	Number of Points	Reference	Weight kg
Vijeo Citect Display Client	75	**VJC 1020 10**	–
	150	**VJC 1020 11**	–
	500	**VJC 1020 12**	–
	1500	**VJC 1020 13**	–
	5000	**VJC 1020 14**	–
	15000	**VJC 1020 15**	–
	Unlimited	**VJC 1020 99**	–

Designation	Description	Reference	Weight kg
Vijeo Citect Display Client Redundant License	Floating license only	**VJC 1020 88**	–

Vijeo Citect Manager Client

Vijeo Citect Manager Clients are available for users who need to obtain a view of the application and are therefore usually used by Managers. These Clients are licensed by the number of Points that are displayed and can use either a floating licenses (i.e. the licenses reside on the Server key) or a static license (separate key on the Client)

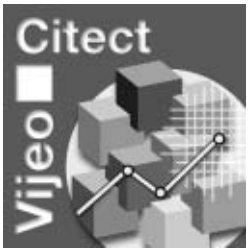
Redundant system
- The number of Floating Clients ordered will be added to the Primary Server key.
- For the Standby Server order, the same number of Manager Client Redundant Licenses VJC 1030 88 must be ordered.

Vijeo Citect Manager Client License

Designation	Number of Points	Reference	Weight kg
Vijeo Citect Manager Client	75	**VJC 1030 10**	–
	150	**VJC 1030 11**	–
	500	**VJC 1030 12**	–
	1500	**VJC 1030 13**	–
	5000	**VJC 1030 14**	–
	15000	**VJC 1030 15**	–
	Unlimited	**VJC 1030 99**	–

Designation	Description	Reference	Weight kg
Vijeo Citect Manager Client Redundant License	Floating license only	**VJC 1030 88**	–

HMI softwares and Web servers
Vijeo Citect supervisory software



Vijeo Citect Web Display Client

Vijeo Citect Web Display Clients are available for users who need full control but prefer the flexibility of access through Internet Explorer. These Clients are licensed by the number of Points that are displayed and must use Floating Licenses (residing on the Server key).

Redundant system
- The number of Floating Clients ordered will be added to the Primary Server key.
- For the Standby Server order, the same number of Web Display Client Redundant Licenses VJC 1022 88 must be ordered.

Vijeo Citect Web Display Client License

Designation	Number of Points	Reference	Weight kg
Vijeo Citect Web Display Client	75	**VJC 1022 10**	–
	150	**VJC 1022 11**	–
	500	**VJC 1022 12**	–
	1500	**VJC 1022 13**	–
	5000	**VJC 1022 14**	–
	15000	**VJC 1022 15**	–
	Unlimited	**VJC 1022 99**	–

Designation	Description	Reference	Weight kg
Vijeo Citect Web Display Client Redundant License	Floating license only	**VJC 1022 88**	–

Vijeo Citect Web Manager Client

Vijeo Citect Web Manager Clients are available for users who need to get a view of the application and are therefore usually used by Managers. These Clients are licensed by the number of Points that are displayed and must use floating licenses (i.e. the licenses reside on the Server key)

Redundant system
- The number of Floating Clients ordered will be added to the Primary Server key.
- For the Standby Server order, the same number of Manager Client Redundant License VJC 1032 88 must be ordered.

Vijeo Citect Web Manager Client License

Designation	Number of Points	Reference	Weight kg
Vijeo Citect Web Manager Client	75	**VJC 1032 10**	–
	150	**VJC 1032 11**	–
	500	**VJC 1032 12**	–
	1500	**VJC 1032 13**	–
	5000	**VJC 1032 14**	–
	15000	**VJC 1032 15**	–
	Unlimited	**VJC 1032 99**	–

Designation	Description	Reference	Weight kg
Vijeo Citect Web Manager Client Redundant License	Floating license only	**VJC 1032 88**	–

Display Client upgrade

These part numbers must be used to expand the number of Points on the
- Server that contains the hardware key, for floating licenses.
- Client that contains a hardware key, for static licenses..

Vijeo Citect Display Client upgrade *(1)*

Designation	Number of Points	Reference	Weight kg
Vijeo Citect Display Client Upgrade	75 to 150	**VJC 1020 10 11**	–
	150 to 500	**VJC 1020 11 12**	–
	500 to 1500	**VJC 1020 12 13**	–
	1500 to 5000	**VJC 1020 13 14**	–
	5000 to 15000	**VJC 1020 14 15**	–
	5000 to unlimited	**VJC 1020 15 99**	–

Manager Client upgrade

These part numbers must be used to expand the number of Points on the
- Server that contains the hardware key, for floating licenses.
- Client that contains a hardware key, for static licenses..

Vijeo Citect Manager Client upgrade *(1)*

Designation	Number of Points	Reference	Weight kg
Vijeo Citect Manager Client Upgrade	75 to 150	**VJC 1030 10 11**	–
	150 to 500	**VJC 1030 11 12**	–
	500 to 1500	**VJC 1030 12 13**	–
	1500 to 5000	**VJC 1030 13 14**	–
	5000 to 15000	**VJC 1030 14 15**	–
	5000 to unlimited	**VJC 1030 15 99**	–

Web Display Client upgrade

These part numbers must be used to expand the number of Points on the Server that contains the hardware key..

Vijeo Citect Web Display Client upgrade *(1)*

Designation	Number of Points	Reference	Weight kg
Vijeo Citect Web Display Client Upgrade	75 to 150	**VJC 1022 10 11**	–
	150 to 500	**VJC 1022 11 12**	–
	500 to 1500	**VJC 1022 12 13**	–
	1500 to 5000	**VJC 1022 13 14**	–
	5000 to 15000	**VJC 1022 14 15**	–
	5000 to unlimited	**VJC 1022 15 99**	–

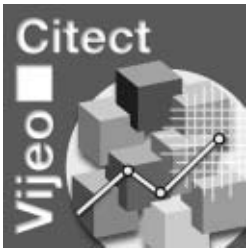
Web Manager Client upgrade

These part numbers must be used to expand the number of Points on the Server that contains the hardware key..

Vijeo Citect Web Manager Client upgrade *(1)*

Designation	Number of Points	Reference	Weight kg
Vijeo Citect Web Manager Client Upgrade	75 to 150	**VJC 1032 10 11**	–
	150 to 500	**VJC 1032 11 12**	–
	500 to 1500	**VJC 1032 12 13**	–
	1500 to 5000	**VJC 1032 13 14**	–
	5000 to 15000	**VJC 1032 14 15**	–
	5000 to unlimited	**VJC 1032 15 99**	–

(1) A re-programming fee VJC 1094 00 is applicable for every key upgrade



Vijeo Citect Specialty Drivers

The Vijeo Citect offer includes a very large number of drivers as standard. For intellectual property reasons, some drivers have a special reference and must be ordered separately.
Purchase of Specialty Driver includes access to technical support for a period of one year.

Vijeo Citect Specialty Drivers

Designation	Protocol	Reference	Weight kg
Vijeo Citect Specialty Driver	IEC 60870-5-101	**VJC 1072 21**	–
	PSDirect ETH	**VJC 3051 40**	–
	PSDirect MPI	**VJC 3051 42**	–
	DNPr	**VJC 3051 43**	–
	Bailey	**VJC 3051 44**	–
	SEMAPI	**VJC 3051 48**	–
	MOSCAD	**VJC 3051 49**	–

Note: *Please contact our local Schneider Electric representative prior to ordering Vijeo Citect Specialty Driver.*

Vijeo Citect Upgrades - Key reprogramming

Every time a key is reprogrammed a reprogramming fee is charged.
Examples of when this fee is applied include:
- Point Count expansions
- adding Clients
- upgrading from Vijeo Citect Lite to a full Vijeo Citect license
- swapping a Parallel key to a USB one.

Note: *If a new key is required then you need to purchase an Additional Vijeo Citect key, see page 3/19.*

Vijeo Citect Key reprogramming

Designation	Reference	Weight kg
Vijeo Citect Key reprogramming	**VJC 1094 00**	–

Vijeo Citect Support

From the second year of ownership of one or more Vijeo Citect licenses, Vijeo Citect Support enables the user to benefit from full support for the installed base. Among others this service offer includes all updates to the latest versions.

Vijeo Citect Support

Designation	Description	Reference	Weight kg
Support	For Vijeo Citect	**VJC 1091 01**	–
	For Specialty Drivers	**VJC 1091 01D3**	–

Vijeo Citect Loan and Educational key

Designation	Description	Reference	Weight kg
Vijeo Citect Loan key USB key only *(1)*	Provides temporary access to a key *(2)*. Allows 8 days of continuous use. The harware key is due for return at the end of the loan period.	**VJC 1095 03**	–
Vijeo Citect Educational USB key administration fee *(3)*	Available to educational institutions for the purpose of teaching students about Process Control. Allows 8 hours of continuous use. Includes 12 months support.	**VJC 1095 01**	–

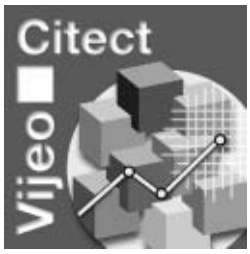
(1) Need also to order an "Additional USB key" VJC 1099 21.
(2) The quantity to be ordered is the number of months for the loan duration.
(3) Need also to order a "Vijeo Citect Box with USB key" VJC 1099 22

Vijeo Citect-Magelis Compact *i*PC Bundle ▲

The Vijeo Citect-Magelis Compact *i*PC bundle MPC KT55 NAX 00V is a complete ready-to-start solution that associates the power of a 500 Points Vijeo Citect SCADA with a rugged industry-proven Magelis Compact *i*PC.

The bundle comprises :
- ■ Vijeo Citect 500 Points Run Time (VJC 1099 22 plus VJC 1011 12)
- ■ Magelis Compact iPC with: *(1)*
- □ 15" XGA touch-screen display,
- □ Pentium 4M 1.7 GHz,
- □ 512 MB RAM,
- □ 40 GB HDD,
- □ Ethernet 10/100 Base-T,
- □ 1 x PCI expansion slot,
- □ AC supply,
- □ Windows XP Pro.

3



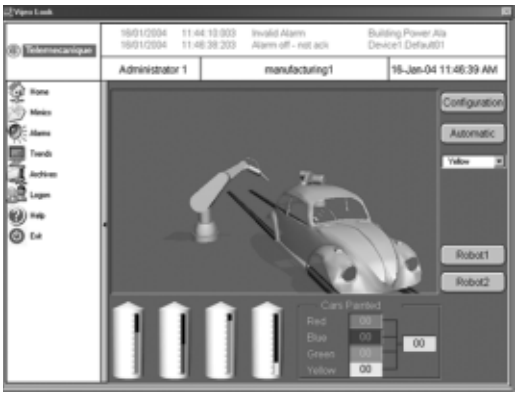
500 Points Vijeo Citect Compact *i*PC Bundle ▲

Designation	Description	Reference	Weight kg
Vijeo Citect-Compact *i*PC Bundle	Vijeo Citect-500 Points (VJC 1099 22 plus VJC 1011 12) and 15" Magelis Compact *i*PC *(1)*	**MPC KT55 NAX 00V**	–

(1) Complete description and characteristics, see our catalog "Automation and Control, Human/Machine Interfaces" page 2/10.

▲ Please contact our Schneider Electric local representative for product availability.

HMI software and Web servers
Vijeo Look control software



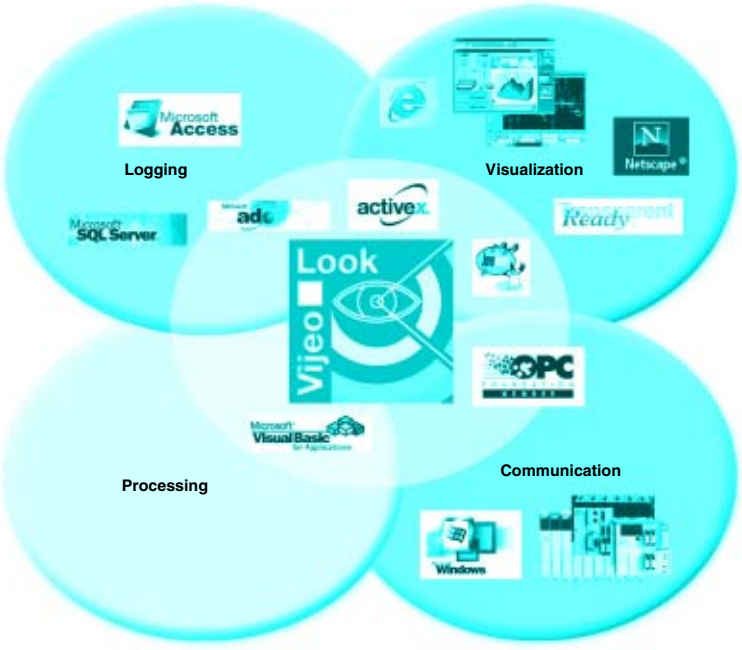
Presentation

Vijeo Look version 2.5 is a SCADA (Supervisory Control And Data Acquisition) software package designed for standalone stations. It is based on open, standardized technologies, similar to Transparent Ready products. For example, it provides the ability to display pages in Modicon PLC embedded Web servers.

It is easy to implement and offers all the standard functions of a graphic supervision tool. Vijeo Look is supplied with a pre-configured OFS *(OPC Factory Server,* see page 3/37*)* data server. It is compatible with PCs running Windows 2000 Professional or Windows XP Professional, and is used for creating applications based on Telemecanique Twido, Modicon TSX Micro, Modicon Premium/Atrium/Momentum/Quantum PLCs.

The functions of Vijeo Look supervisory software can be used for:
- Acquisition of PLC tags
- Visualization of these tags
- Process supervision and control
- Recording the values of PLC tags or internal process tags in a database
- Embedded software processing

PLC tags are acquired exclusively by connecting to the PLCs via the OPC server, supplied with the OFS data server software included with Vijeo Look.
In the case of discrete and analog I/O tags from TSX Micro/Premium/Quantum PLCs (and Advantys STB/Momentum/TBX remote I/O), the acquisition process in the Vijeo Look database takes place in an implicit, transparent manner.
As an OPC server, Vijeo Look enables you to create and enhance tags, as well as make them available.



Structure of the offer

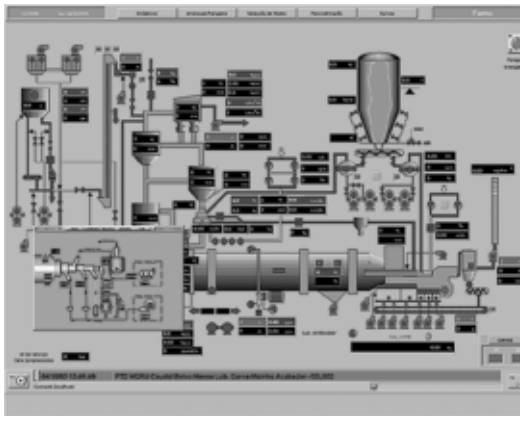
The Vijeo Look offer includes 2 types of software license:
- Build Time/Run Time license *(BT/RT)* allowing the application to be built and run
- Run Time license *(RT)* allowing the application built with the RT/BT license to run

There are four I/O sizes offered for each license type: Small (128 I/O), Medium (512 I/O), Large (1024 I/O) and Extra Large (2048 I/O).

References

Vijeo Look software					
Compatibility		Twido, Modicon TSX Micro/Momentum/Premium/Atrium/Quantum PLCs			
Operating system		Windows 2000 Professional or Windows XP Professional			
Type of license		Small, 128 I/O	Medium, 512 I/O	Large, 1024 I/O	Extra Large, 2048 I/O
References	Build Time/Run Time (BT/RT)	**VJL SMD BTS V26M**	**VJL SMD BTM V26M**	**VJL SMD BTL V26M**	**VJL SMD BTX V26M**
	Run Time (RT)	**VJL SMD RTS V26M**	**VJL SMD RTM V26M**	**VJL SMD RTL V26M**	**VJL SMD RTX V26M**

HMI software and Web servers
Monitor Pro SCADA software



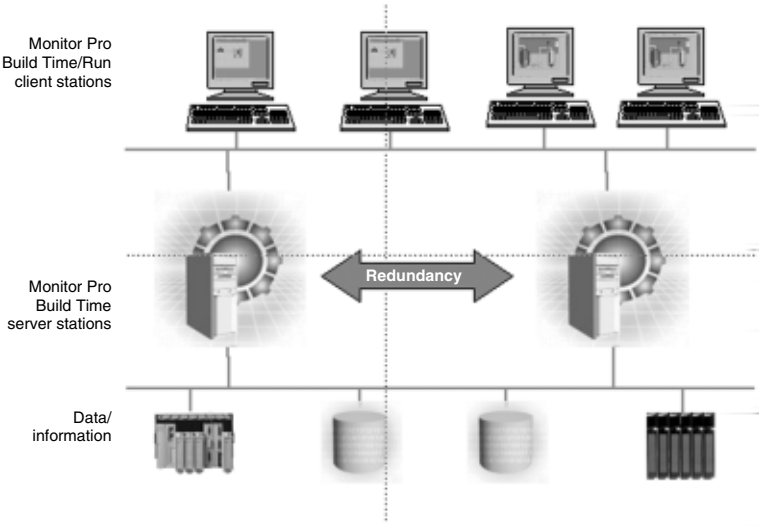
Description

Monitor Pro V7.6 is a SCADA (Supervisory Control and Data Acquisition) software solution. Its high-performance real-time server offers excellent processing capability, mainly due to the application objects. In addition, its client-server architecture on Ethernet TCP/IP enables it to be easily integrated in architectures based on Transparent Ready products: multi-server for sharing processing, multi-user for wide distribution of information, or in redundancy mode for your “high availability” applications.

- **The graphic interface** offers a library of graphic objects. Based on Windows technology, the interface is easy to customize.
- **Configuration Explorer**: an intuitive environment for configuring the real-time data server and for object-oriented configuration.
- **The relational database access interface,** supplied with SQL Server 2000. Monitor Pro V7.6 makes it easy to record production data or access stored information. Monitor Pro V7.6 also operates with Oracle, Sybase, Dbase IV and all other databases that support the ODBC standard.
- **Improved availability**: Monitor Pro incorporates redundancy services ensuring a high level of architecture availability.
- **Integrated traceability functions,** for real-time monitoring of the quality of your production as well as logging all the actions of the operators.

Monitor Pro V7.6 is the supervisory software package that adapts to your needs. It offers you real-time production monitoring and enables you to optimize the use of your equipment.

Multi-level architecture



Characteristics

Format	Control software
Compatibility	All Telemecanique PLCs and all automation systems on the market via communication drivers or using the OPC standard
Operating system	Windows 2000 service Pack 3, Windows XP or Windows Server 2003
Input/Output size	11 sizes, from 300 I/O to an unlimited number of I/O (from 4800 tags to an unlimited number)
Version	Build Time/Run Time (BT/RT) or Run Time (RT)
PC CD-ROM references	**Please contact your Regional Sales Office**

HMI softwares and Web servers
OPC data server software
OPC Factory Server

Presentation

Based on the OLE for Process Control (OPC) standard, Telemecanique's OPC Factory Server (OFS) software allows “client” software applications, such as supervisors/SCADA and customized interfaces, to access the data of Schneider Electric control system and electrical distribution devices connected to networks or fieldbuses in real time.
It also allows communication with third-party devices supporting Modbus and Modbus TCP protocols.

At the heart of the Transparent Ready offer, OFS enables simpler, more open and transparent communication between your software applications and your devices. These are just some of the advantages that ensure a complete interoperability solution that is central to your process.

In version V3.3, the OFS data server integrates the most recent specifications of the OPC Foundation:
- **OPC-DA** (OPC Data Access)
- **.NET API interface**
- **OPC XML-DA V1.0** (OPC XML Data Access)

The OFS V3.3 offer is available in two levels:
- **OFS Small:** data server for 1000 items *(1)* that does not support the OPC XML-DA protocol
- **OFS Large:** complete data server

Devices and protocols supported

OFS software is a multi-device data server: it allows simultaneous use of several communication protocols, and it provides client applications with a set of services for accessing control system items that may be local or remote, via physical address or via symbol.

Devices supported:
- Modicon Quantum, Premium, Micro, Compact and Momentum PLCs
- TSX Series 7 and April Series 1000 Telemecanique PLCs
- Serial Modbus devices connected via Telemecanique and Merlin Gerin gateways: TSX ETG 10●●, EGX ●●● ranges etc.
- Serial Uni-Telway devices connected via Telemecanique gateways (TSX ETG 1010)

Networks and protocols supported:
- Modbus: Serial Modbus, Modbus Plus, Modbus TCP/IP.
- XWAY/UNI-TE: Uni-Telway, FIPWAY, ETHWAY, ISAWAY, PCIWAY.

Openness

The development of specialized interfaces is simpler with OFS V3.3 software which is aimed at two types of user in particular:

- **End users** who want either to interface their supervision or human/machine interface applications with Schneider Electric equipment, or to develop applications on a PC (supervisory control screens, Excel tables etc.) requiring access to control system data.

- **Suppliers of control system or industrial data processing software** (supervision, human/machine interfaces, etc.) seeking to develop, within their standard products, an OPC Client interface capable of accessing data in Schneider Electric equipment via the OFS server.

(1) item: variable, structure, table etc. in the Unity Pro application.

Setup: page 3/35
Functions: page 3/36
References: page 3/37

HMI softwares and Web servers
OPC data server software
OPC Factory Server

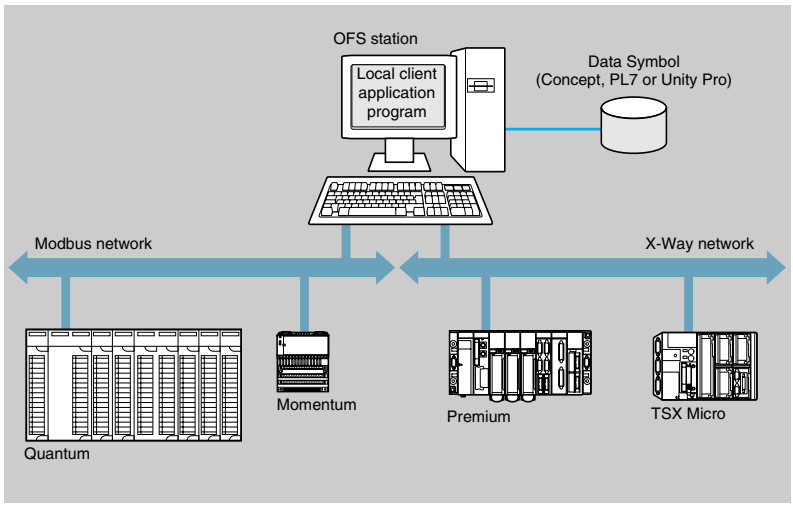
OPC Factory Server: home page

Architectures supported

The OFS server allows four access modes:
- A purely local mode
- Remote access from an OPC-DA client
- Remote access from an OPC .NET client
- Remote access from an OPC XML-DA client

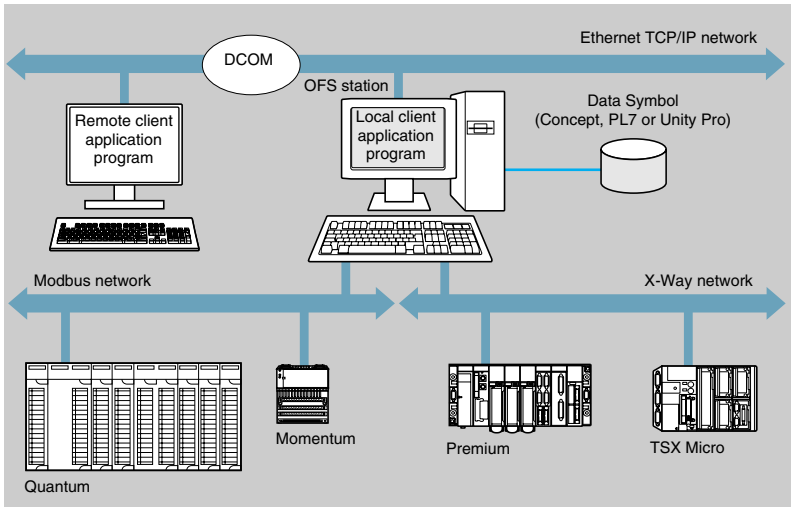
Local access

The client application and the OFS server are on the same PC.



Remote access from an OPC-DA client

The client application and the OFS data server are on remote stations. Communication between the client station and the OFS server is conducted through the DCOM layer (Microsoft) via the OPC-DA protocol.



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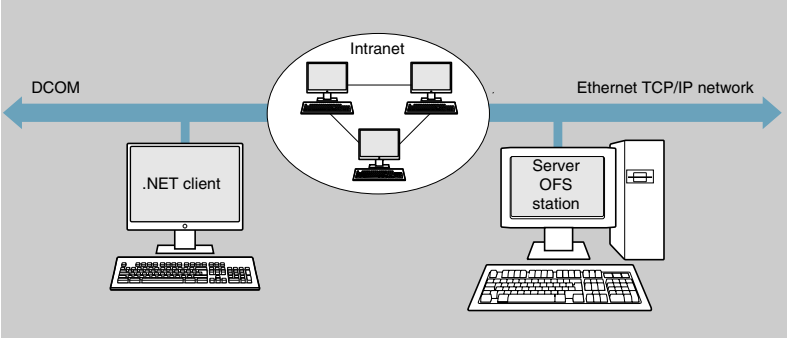
Architectures supported (continued)

Remote access from an OPC .NET client

The .NET client application program and the OFS data server are on remote stations. Communication between the client station and the OFS server is conducted through the DCOM layer (Microsoft) via the OPC-DA protocol.

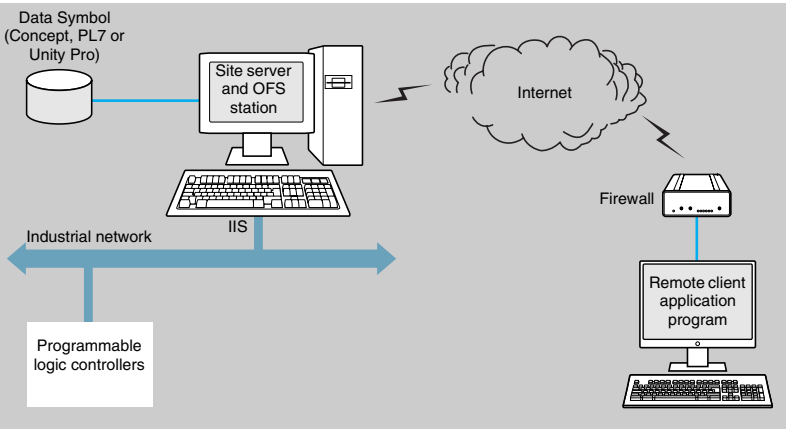


The .NET Microsoft compatibility of the OFS server has been developed to allow an OPC .NET client to access OFS server items on an Intranet network via the OPC .NET API interface.

This interface ensures interoperability between existing OPC applications and applications developed in the standard .NET environment.

Remote access from an OPC XML-DA client via HTTP

The client application program and the OFS server are on remote stations, using the SOAP protocol to communicate via the Internet in conformity with the OPC XML-DA V1.01 specification of the OPC Foundation.
The OFS data server is based on an HTTP server installed on the same station.



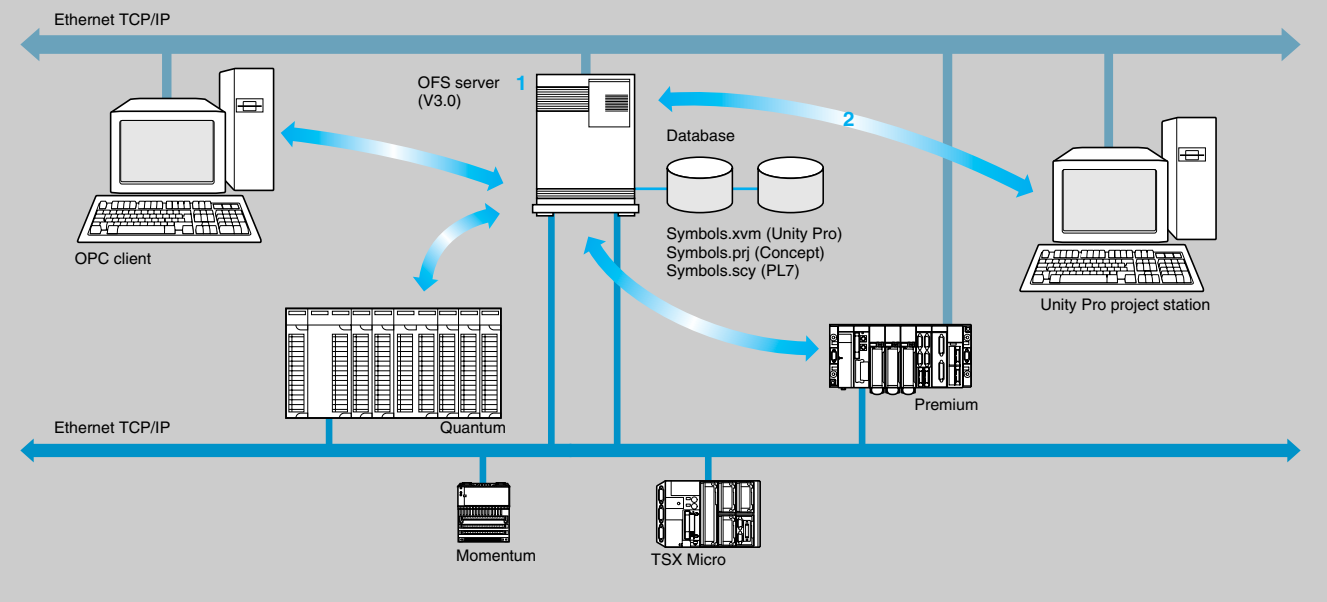
The OPC XML-DA V1.0 specifications are designed to overcome the limitations of COM/DCOM by providing:
- An OPC interface for Windows and non-Windows client applications
- Beyond the Intranet perimeter, remote access via the Internet through firewalls

The OPC XML-DA specification is based on “Web Services” standards such as SOAP, XML, WSDL *(1)*. A SOAP client can access data on the OFS server via Intranet or Internet using the SOAP protocol in conformity with the OPC XML-DA V1.01 specification of the OPC Foundation.

(1) SOAP: Simple Object Access Protocol
XML: Extended Markup Language
WSDL: Web Services Description Language

HMI softwares and Web servers
OPC data server software
OPC Factory Server

Setup



The OFS server 1 is at the center of the data exchanges.
The direct and dynamic link 2 between the OFS server and the Unity Pro project station results in productivity gains for designers and users of the devices.
OFS has direct access to the items in the Unity Pro project. In addition, it performs a consistency check between these items and those of the Premium and Quantum PLCs.

Note: *Depending on the software used for Modicon PLCs:*

- PL7 software generates PLC variable symbol export files. These export files (symbols.scy) should be integrated in the OPC server.
- Concept: the variables can be accessed directly in the project (file.prj) of the Concept application. This direct link requires Concept (version > 2.0) to be installed on the OFS station 1
- If the Unity Pro project development station is not accessible via the OFS station, the PLC variable symbol export files (symbols.xvm) generated by Unity Pro should be integrated into the OPC server.

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Functions:
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References:
page 3/37

HMI softwares and Web servers
OPC data server software
OPC Factory Server

Functions

Development of client applications

OFS software has 4 types of interface:

■ **OLE Automation interface (OPC-DA).**
Particularly suitable for end users, it enables the development of OPC client applications in Visual Basic, in Visual Basic for Excel, and in C++.

■ **OLE Custom interface (OPC-DA).**
Used primarily by suppliers of automated control system or industrial IT products. It enables the development of applications in C++ in order to access the OFS software OPC server. This interface is aimed at software development experts in particular, so that they can integrate the client application into their standard products. This is the interface with the highest performance, in terms of access time, to data stored in the OPC server. It requires extensive knowledge of C++ programming to set up.

■ **OPC .NET API wrapper interface**
The .NET Microsoft compatibility of the OFS data server gives an OPC .NET client standard access to items of the OFS server via an Intranet network, thus ensuring greater interoperability with standard .NET environments.

Note: *In this case, communication between the OPC .NET client and the OFS server is conducted through the DCOM layer (or COM layer in a local configuration) via the OPC-DA protocol.*

■ **OPC XML-DA interface** *(1)*
The OPC XML-DA V1.0 specifications are designed to overcome the limitations of the OPC-DA specification and COM/DCOM by providing:
- An interface for Windows and non-Windows client applications
- Remote access via the Internet through firewalls (beyond the Intranet perimeter)

The OPC XML-DA specification is based on Web Services standards such as SOAP, XML, WSDL. A SOAP client can access data on the OFS server via Intranet or Internet using the SOAP protocol in conformity with the OPC XML-DA V1.01 specification of the OPC Foundation.

(1) Available only with the Large version of OPC Factory Server V3.3

Presentation: page 3/32 Setup: page 3/35 References: page 3/37

HMI softwares and Web servers
OPC data server software
OPC Factory Server

References

OFS V3.3 software for PC compatible stations (minimum configuration: Pentium 566 MHz processor, 128 Mb of RAM) running Windows 2000 Professional *(1)* or Windows XP Professional.

The OFS V3.3 offer comprises:
- OPC server software
- OPC server simulator (for debugging the application when no PLCs are present)
- OFS server configuration software
- An example of OPC client for setting up applications
- The setup documentation on CD-ROM

Supplied on CD-ROM, the software operates independently on a PC. It interfaces with the variable export files generated by PL7, ProWORX, Concept, and Unity Pro software.
It also provides a direct and dynamic link to the Unity Pro and Concept applications *(2)*.

OFS V3.3 software is available in two versions:
- **Small Version TLX CD S●OFS 33**
  - Maximum of 1000 items
  - All protocols supported with the exception of OPC XML-DA
  - Single station and 10-station site licenses
- **Large Version TLX CD L●OFS 33**
  - Complete version
  - Single station and 10-station and 200-station site licenses.

OPC Factory Server V3.3 Small

Description	Type of license	Reference	Weight kg
OPC Factory Server V3.3 Small software	Single station	**TLX CD SUOFS 33**	–
	10 stations	**TLX CD STOFS 33**	–

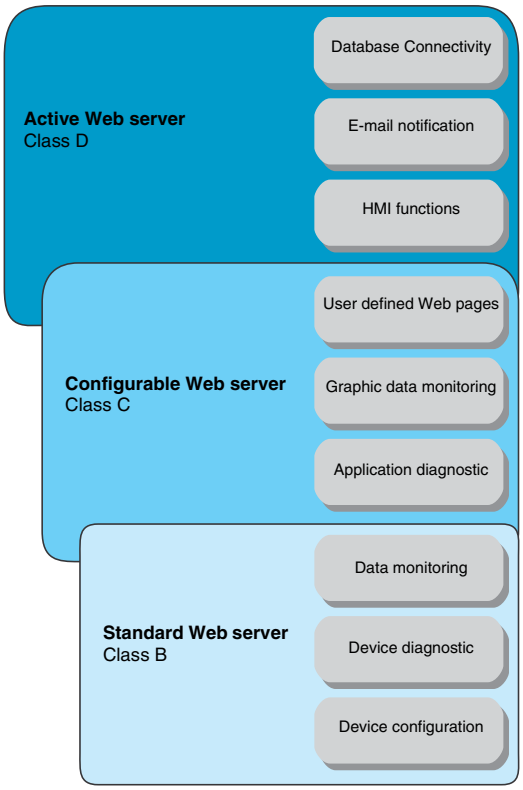
OPC Factory Server V3.3 Large

Description	Type of license	Reference	Weight kg
OPC Factory Server V3.3 Large software Complete version.	Single station	**TLX CD LUOFS 33**	–
	10 stations	**TLX CD LTOFS 33**	–
	200 stations	**TLX CD LFOFS 33**	–

(1) Must be updated with Service Pack 1 or higher.
(2) Requires Concept version > 2.0 software to be installed on the same station.

Presentation: page 3/32
Setup: page 3/35
Functions: page 3/36

HMI softwares and Web servers
Transparent Ready, system approach
Standard and FactoryCast Web services



Web services overview

Schneider Electric offers a wide range of Transparent Ready products integrating Web services: controllers and PLCs, safety PLCs, industrial PCs, HMI devices *(2)*, variable speed drives, distributed I/O modules, gateways, switches, inductive identification systems, etc.

These products provide different levels of Web services and communication services on Ethernet TCP/IP, according to user requirements.

Among these Transparent Ready products, FactoryCast defines a range of modules and gateways with configurable Web server combining:
- Real-time communication functions based on Ethernet TCP/IP
- Predefined Web pages for advanced installation diagnostics
- And the capacity to host dynamic user-defined Web pages or any document (.doc, pdf, etc) designed to assist maintenance.

Web services embedded in Ethernet modules and gateways

In the Transparent Ready approach, Ethernet modules and gateways integrate Ethernet TCP/IP services (Modbus TCP/IP messaging, SNMP network management functions, etc).
They also offer, depending on the product, the following Web functions:
- Standard Web services (predefined)
- FactoryCast configurable Web services
- FactoryCast HMI active Web services.

There are two ranges of configurable Web server:
- **FactoryCast modules** with TSX Micro, Premium, Quantum, Momentum automation platforms. These modules provide transparent access to system and application diagnostic information in real-time using Web technologies
- **FactoryCast Gateway** that integrate all the network interfaces, a router RAS function and a customizable Web server in a stand alone unit.

The FactoryCast Gateway is a cost-effective response to the need to integrate serial installations (Modbus or Uni-Telway) in an existing Ethernet TCP/IP infrastructure, as well as requirements for customized remote access services including remote diagnostics, maintenance, monitoring and control using a simple Web browser.

Web services presentation

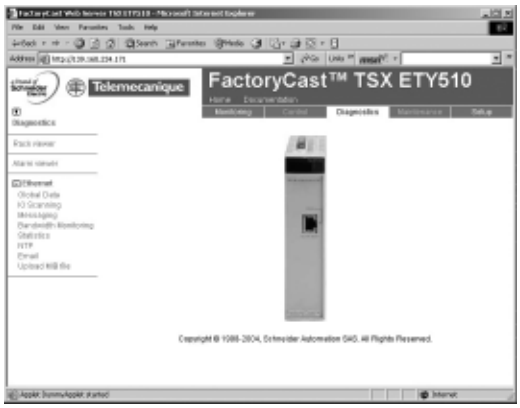
Standard Web services

Standard Web services are integrated in the following Schneider Electric Ethernet products: PLC processors and Ethernet modules, distributed I/O modules, variable speed drives, Ethernet gateways. See selection guide page 3/39.
Using a simple Web browser, the standard Web services provide the following “ready-to-use”:
- Device configuration setup
- Remote device diagnostic and maintenance
- Device data monitoring (read/write variables and status).

The embedded Web server is a real-time data server. All the data are presented in the form of standard Web pages in HTML format and can therefore be accessed using any Web browser supports the embedded JAVA code. The standard functions provided by the Web server are supplied “ready to use” and therefore do not require any programming of either the PLC or device or the client PC supporting the Web browser.

(1) In order to simplify choice and ensure their interoperability within a system, each Transparent Ready product is identified by the class of services it provides. Letter A, B, C or D (level of service for the Web server) followed by 10, 20 or 30 (level of service for Ethernet communication).
(2) HMI = Human Machine Interface.

HMI softwares and Web servers
Transparent Ready, system approach
Standard and FactoryCast Web services



Presentation of the Web services (continued)

FactoryCast configurable Web services

FactoryCast configurable Web services are integrated in the following Schneider Electric Ethernet products: TSX Micro, Premium and Quantum FactoryCast PLCs modules and FactoryCast Gateway modules.

In addition to the predefined Web services, the configurable Web server offers the following utilities:
- Graphic application diagnostics (customized graphic views created by the user)
- Graphic monitoring via animated Web pages created by the user and stored in the Web server module.

And depending on the products:
- Management of controllers system and application alarms, with partial or total acknowledgement ("ready-to-use" "Alarm Viewer" pages)
- SOAP/XML server interface *(1)*.

FactoryCast Web services can also be used to customize supervision, diagnostics and maintenance interfaces via user-defined Web pages or any other document (doc, pdf, etc) transferred to the module.

FactoryCast HMI active Web services

FactoryCast active Web services are integrated in the Premium and Quantum FactoryCast HMI PLC modules.

The FactoryCast HMI services provide in addition HMI functions, which are executed in the module itself:
- Data acquisition with real-time HMI database management, independent of the PLC processor
- Data processing (arithmetic and logical calculations)
- Direct connectivity with relational databases (traceability, data login)
- Recipe management (read/write)
- Alarm and report notification by E-mail
- Active page server, dynamic generation of animated HTML pages
- SOAP/XML client/server interface*(1)*.

FactoryCast HMI is defined as an active Web server used to execute HMI functions without any effect on the PLC application program and therefore on its scan time.

(1) Standard protocol providing interoperability with computer management applications.

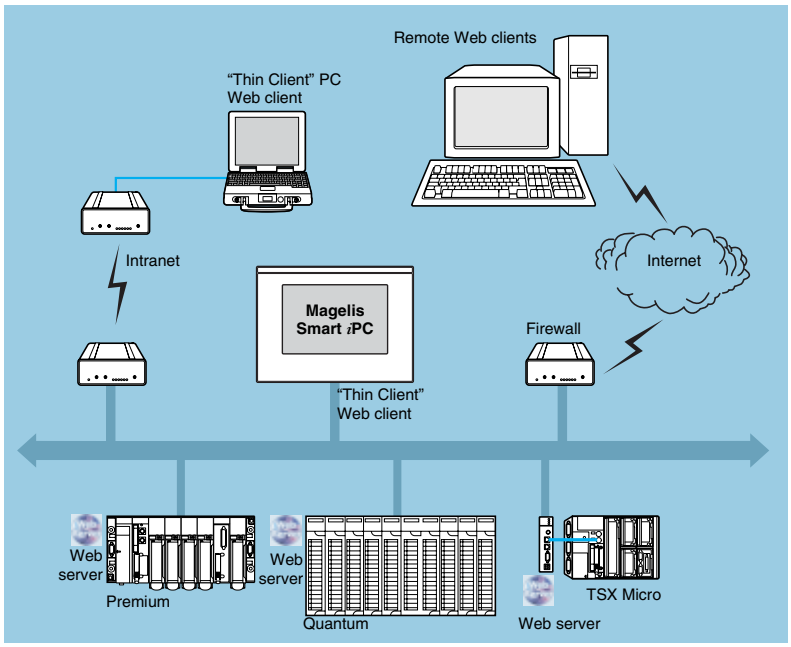
Selection of Telemecanique brand Transparent Ready products

Product		Reference	Embedded Web server		
			Standard, class B10/B20	Configurable, class C20/C30	Active, class D10
Modicon Quantum platform	Processors	140 CPU 651 50/60		–	
	Modules	140 NOE 771 01		–	
		140 NOE 771 11		FactoryCast	–
		140 NWM 100 00			FactoryCast HMI
Modicon Premium platform	Processors	TSX P57 2●23 M		–	
		TSX P57 3623 M		–	
		TSX P57 4823 M		–	
		TSX P57 ●634 M		–	
	Modules	TSX ETY 4103		–	
		TSX ETY 110WS		FactoryCast	–
		TSX ETY 5103		FactoryCast	–
		TSX WMY 100			FactoryCast HMI
Modicon TSX Micro platform	Modules	TSX ETZ 410		–	
		TSX ETZ 510		FactoryCast	–
Modicon Momentum platform	M1E processors	171 CCC 960 20/30		–	
		171 CCC 980 20/30		–	
	Modules	171 ENT 110 01/02		–	
Advantys STB distributed I/O	Network interface	STB NIP 2212		–	
Altivar ATV 71/61 variable speed drives	Communication card	VW3 A3 310			–
Inductel identification station		XGK S1715503		–	
FactoryCast Web Gateway		TSX ETG 1000/1010		FactoryCast	–
Remote terminal units	W@de	TSX ETW 315/320●1		–	
		TSX ETW 330●1			

HMI softwares and Web servers

Transparent Ready, system approach
PLC standard Web services

PLC standard Web services



The predefined diagnostic, "PLC rack viewer", and monitoring, "Data Editor", functions are supported by the following Modicon PLC plateforms *(1)*:

- TSX Micro platform
- Premium platform
- Quantum platform.

See module references on page 3/39.

These functions can be accessed using a standard Internet browser. They are "ready to use" and secured (password-protected).

They can be used locally or remotely via:

- Intranet
- A modem and RAS server
- Internet.

(1) For standard Web services integrated in the variable speed drives, please consult our catalogue "Soft starters and variable speed drives".

HMI softwares and Web servers

Transparent Ready, system approach
PLC standard Web services

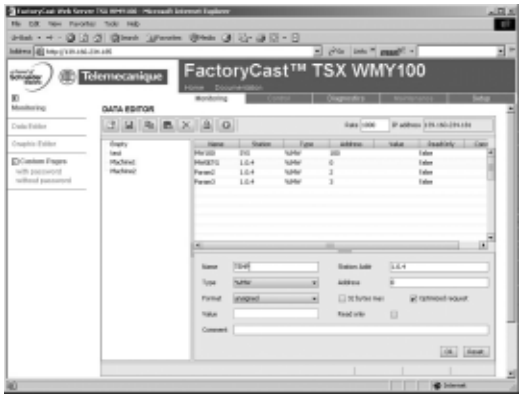
Quantum hardware configuration

PLC standard Web services (continued)

PLC diagnostics function "Rack Viewer"

The "Rack Viewer" function (PLC rack display) can be used for PLC system and I/O diagnostics. It displays the following in real-time:

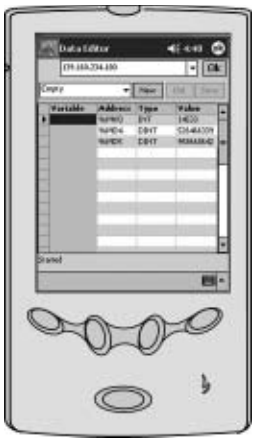
- LED status on the front panel of the PLC
- The PLC version
- The hardware configuration of the PLC including the status of the system bits and words
- Detailed diagnostics of all I/O module channels or application-specific channels in the configuration.



Data monitoring function "Data Editor"

The "Data Editor" can be used to create animated tables for real-time read/write access to lists of PLC variables.

Various animation tables can be created by the user and saved in the Web server module.

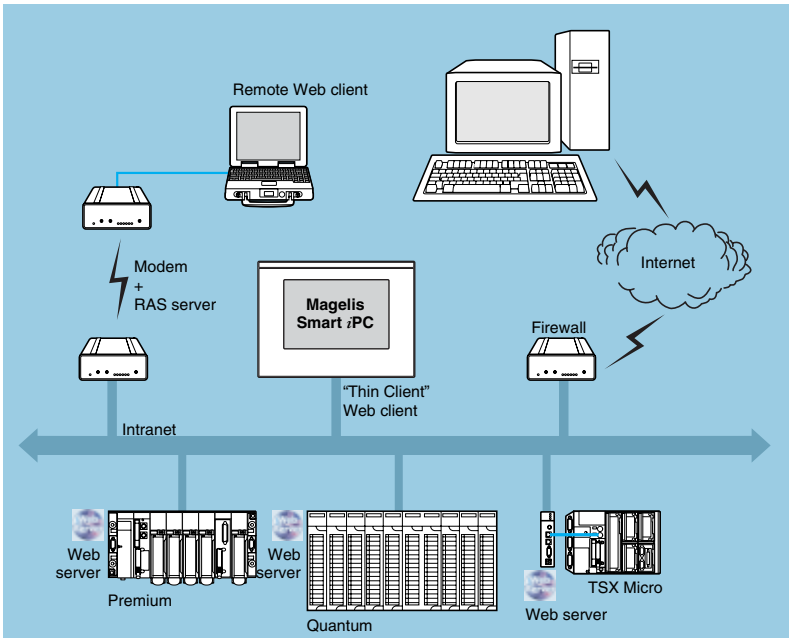


In addition when using FactoryCast Web servers:

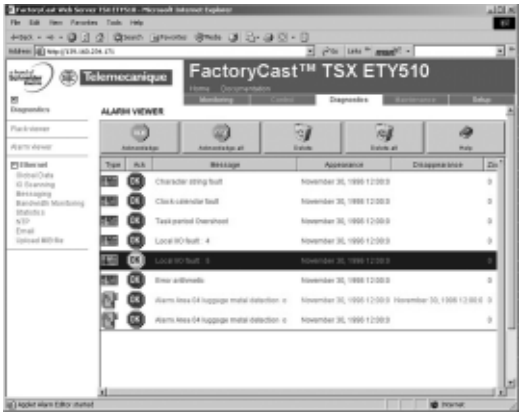
- The variables can be entered and displayed by their symbol (S_Pump 234)
- The write access option can be enable/desable for each variable using the Factorycast software. The write access is protected by a dedicated password
- Dedicated data monitoring tool can be use on pocket PC or PDA terminal.

HMI softwares and Web servers
Transparent Ready, system approach
FactoryCast configurable PLC Web services

FactoryCast configurable PLC Web services



In addition to standard Web services, FactoryCast modules (see selection table on page 3/39) support the following functions:
- Alarm Viewer
- Creation and display of graphical views via an online graphic editor (Graphic Data Editor integrated)
- Hosting and display of user defined Web pages created by the user
- SOAP/XML server interface.



Alarm Viewer function

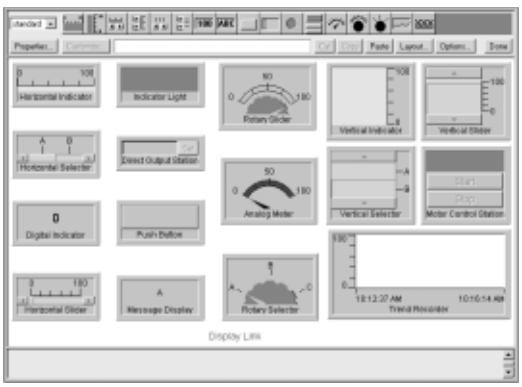
"Alarm Viewer" is a ready-to-use, password-protected function. This function is used to manage the alarms (display, acknowledgment and deletion) generated at PLC level by the system or using diagnostic function blocks known as DFBs (system-specific diagnostic function blocks and application-specific diagnostic function blocks created by the user).

These alarms are store in the PLC diagnostic buffer (specific memory area used to store all diagnostic events), this function is available with the Premium/Atrium platforms (with PL7 or Unity Pro software) and the Quantum platform (with Unity Pro software).

The diagnostics viewer consists in a Web page displaying a list of messages, with the following informations:
- Time stamping of the appearence/disappearence of the faul.
- Alarm message
- Alarm status
- Type of associated diagnostic function block (DFB).

Graphic Data Editor function

This function is used to create graphical views animated by PLC variables. This graphic editor is available online "ready-to-use" and also offline using FactoryCast configurator software.



These views are created by simple copy/paste operations, using a library of predefined graphic objects. The object parameters are set according to user requirements (colors, PLC variables, labels, etc.).

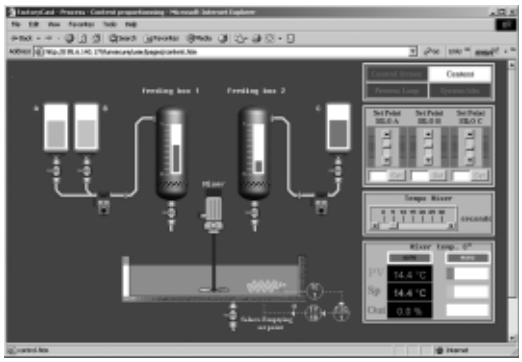
List of graphic objects provided:
- Analog and digital indicators
- Horizontal and vertical bar charts
- Dialog boxes for displaying messages and controling/displaying values
- Pushbuttons
- Trending charts
- Tanks, valves, motors, etc.

Many views created can be saved in the Web server modules.

These customized graphic objects can be reused in user defined Web pages that have been created using standard software for editing HTML pages.

HMI softwares and Web servers

Transparent Ready, system approach
FactoryCast configurable PLC Web services



FactoryCast configurable PLC Web server (continued)

User Web page hosting and display function

FactoryCast Web modules also have an 8 Mbyte memory *(1)*, which is accessed in the same way as a hard drive and can be used to host Web pages and all user-defined documents in Word or Acrobat Reader (for example, maintenance manuals, diagrams, etc).
These Web pages can be created using any standard tool, for example Microsoft FrontPage, that enables creation and editing in HTML format. These pages can be enhanced by inserting animated graphic objects linked to PLC variables. These animated objects are created using the Graphic Data Editor supplied with FactoryCast.

The Web pages created can be used, for example, to:
- Display and modify all PLC variables in real time
- Create hyperlinks to other external Web servers (documentation, suppliers, etc).

This function is particularly suitable for creating graphic screens used for the following purposes:
- Display, monitoring, diagnostics
- Generation of realtime production reports
- Maintenance help
- Operator guides.

SOAP/XML server interface

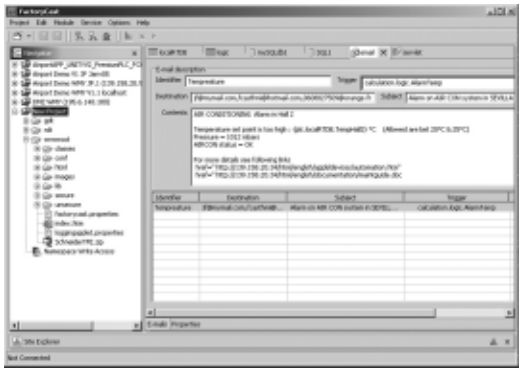
FactoryCast modules incorporate a standard SOAP/XML data server that provides direct interoperability between automation devices and computer management applications (MES, ERP, SAP, .Net application, etc).

FactoryCast Web server configuration software

The FactoryCast Web server configuration software is supplied on CD-ROM with every FactoryCast module (TSX ETZ 510 for TSX Micro, TSX ETY 110WS/5103 for Premium, 140 NOE 771 11 for Quantum and TSX ETG 1000/1010 gateways).
This software is used for configuration and administration of the Web server embedded in these modules. It is compatible with Windows 2000 and Windows XP operating systems. It provides the following functions:
- Setting the parameters of the FactoryCast functions
  - Definition of access security, passwords
  - Importing of PLC symbol databases
  - Definition of access to write-enabled variables
- Management of the Web site:
  - Management of default Web site pages
  - Management of user Web site pages *(2)*
  - Graphic object editor for animating Web pages
  - Downloading of Web pages between the PC and the module
  - Debugging of Web pages in online mode or in simulation mode (including animations and Java beans)
- Simulation mode

The application and the Web site (including the Java animations) can be set up in online mode or in simulation mode. Simulation mode is used to test the operation of the Web application without a FactoryCast module (with no physical connection to a PLC) thereby simplifying debugging.
A graphics editor integrated in the configuration software can be used for easy customization of graphic objects (bar charts, gauges, LEDs, curves, cursors, operator input fields, alphanumeric display fields, buttons, etc).
- Creation of user Web pages *(2)*

User Web pages are created graphically using an external HTML editor (FrontPage or similar, not supplied).
User Web pages created in the FactoryCast environment are actual animated supervision screens and can be used to monitor your process. Based on Web technologies (HTML and Java) they provide realtime access to PLC variables using the FactoryCast graphic object library (Java beans).



(1) Memory not affected by power outages or reinitialization of the PLC.
(2) FactoryCast includes a plug-in for FrontPage 2000. This plug-in makes it easier to set up animations for realtime access to the PLC variables in HTML pages created by the user. They are created in the HTML editor by simply inserting customized graphic objects.

HMI softwares and Web servers
Transparent Ready, system approach
Embedded Web services,
FactoryCast HMI active Web services

FactoryCast HMI active Web services

The FactoryCast HMI Web services are integrated in PLC Web servers modules on Premium and Quantum PLC platforms.

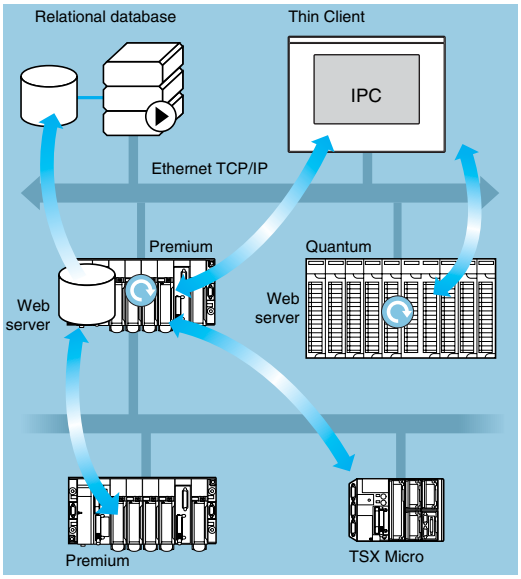
These modules have the following Ethernet and Web services:
- Ethernet TCP/IP communication functions:
  - TCP/IP messaging service with Modbus TCP/IP and Uni-TE TCP/IP protocols
  - SNMP agent for standardized network management, which supports standard MIB II and private Transparent Ready MIB.
- FactoryCast configurable Web services:
  - “Rack Viewer” PLC diagnostics functions, see page 3/41
  - “Data Editor” for PLC data monitoring, see page 3/41
  - “Alarm Viewer” for PLC alarm display, see page 3/42
  - “Graphic Data Editor” for online graphical PLC data monitoring, see page 3/42
  - Hosting and displaying user defined Web pages, see page 3/43.

FactoryCast HMI modules also provide the following specialized HMI Web services:
- Dedicated Real-time Database managed in the module, combining PLC data acquisition and management of local internal variables
- Data processing.function with arithmetic and logical calculations
- Database logging function with direct connection to the SQL Server, MySQL and Oracle relational databases for data archiving or tracking
- E-mail notification for alarms and reports
- SOAP/XML client/server interface
- Recipe management
- Web based HMI interface with actives Web pages support.

By simply setting parameters, the FactoryCast HMI application development software can be used to set up these functions in an intuitive and user-friendly way. A simulation mode, which is integrated in the software, can be used to test the operation of the FactoryCast HMI application without the need for a physical connection to a module and a PLC, thereby simplifying application debugging.

Architectures

FactoryCast HMI Web servers can be integrated in various architectures:
- Installations that require a flexible and distributed HMI solution
- Combined architectures supplementing conventional SCADA systems
- Architectures where a direct link is required between automation systems and information management levels (IT link).



Flexible and distributed Web based HMI solution

The use of Web-based technologies means that FactoryCast HMI can replace conventional HMI or SCADA solutions in applications where architectures require a flexible multistation HMI, thus providing a temporary “nomadic” remote control function.

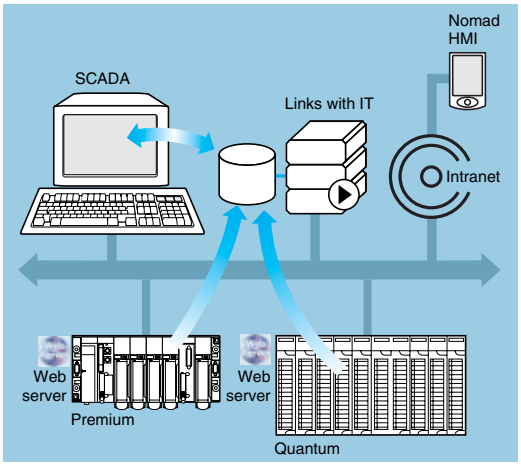
These architectures consist of:
- Several PLCs networked on Ethernet, eqyuipped with FactoryCast HMI Web server modules ....
- One or more PC terminals simply equipped with a Web browser thus providing a “Thin Client” interface (license free)
- If necessary, a relational database in which FactoryCast HMI can archive data directly from the automation system.

FactoryCast HMI modules read PLC data and execute HMI services (E-mail, interpreted calculations, connection to relational databases, updating Web pages) at source in the PLC, without affecting the PLC program or the scan time.

This solution provides:
- A reliable HMI application, which is executed at source in a robust PLC device.
- An integrated multistation interface and remote access that is easy and cost-effective to set up (“Thin Client” terminal)
- An HMI application that is easy to maintain (the application is housed in a single location on the server side)
- Preventive maintenance via E-mail
- Greater availability of the data archiving done directly from PLC source.

Functions:
Pages 3/45 to 3/47

HMI softwares and Web servers
Transparent Ready, system approach
Embedded Web services, FactoryCast HMI active Web services

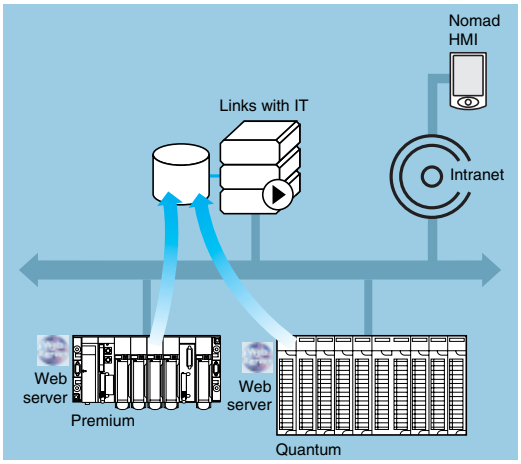


Architectures (continued)

Combined architectures

In this type of architecture, FactoryCast HMI supplements conventional SCADA systems such as Vijeo Look or Monitor Pro. SCADA meets the requirement for centralizing information for global supervision from a central site.

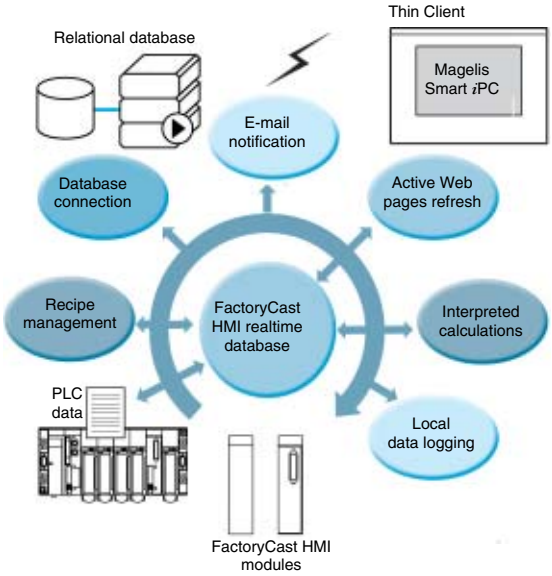
Combining a FactoryCast HMI solution and a conventional SCADA solution enables:
- Simplification of the SCADA application by locating some of the SCADA processing function at source, at PLC level
- Increased availability of the traceability function due to the direct connection between FactoryCast HMI modules and relational databases
- Powerful “ready to use” remote diagnostics capacities
- “Nomadic” client stations to be connected to the Intranet or Internet via “Thin Client” PC or PDA devices.



Direct links with the information management levels

In this type of architecture FactoryCast HMI eliminates the need for intermediate devices (software or hardware gateways), which are expensive to install and maintain, by establishing a direct links between the automation levels and the global information management levels (MES, ERP, etc).
The PLC manages the following links which allow a “collaborative” automation system to be set up, making it: easier to share data in real time:
- Directly archives information from the automation system in relational databases, which allows a “collaborative” automation system to be set up, making it easier to share data in real-time
- Directly interacts with IT applications through SOAP/XML client/server interface.

This solution results in:
- Simplified architectures
- Lower installation, development and maintenance costs
- Increased reliability of information (the data is collected at source)
- Increased interoperability with IT applcations
- Greater availability of data archiving.



Specialized HMI services

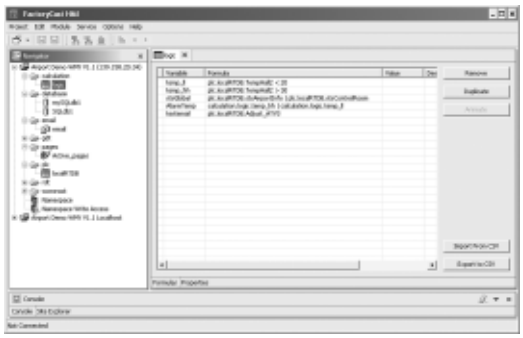
PLC data acquisition and real_time database

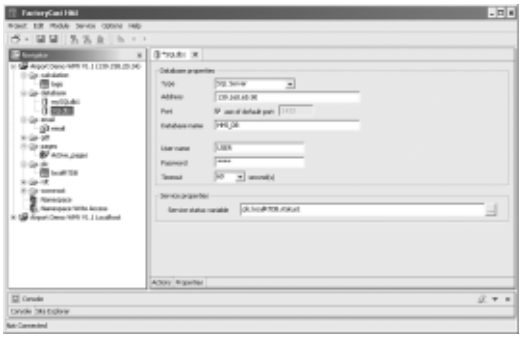
With an internal architecture similar to that of an HMI/SCADA system, FactoryCast HMI modules manage its own variable database in real-time, independently of the PLC program. It is this variable database that is used to execute various functions, including internal processing, archiving, alarm, E-mail, etc.
Variables in this real-time database are updated using the automation system PLC data acquisition service.
This service becomes operational once the following parameters have been set in the FactoryCast HMI software:
- Direct import of PLC variable/symbol databases (no double entry).
- Definition of the frequency of acquisition (period at which the variables are updated).

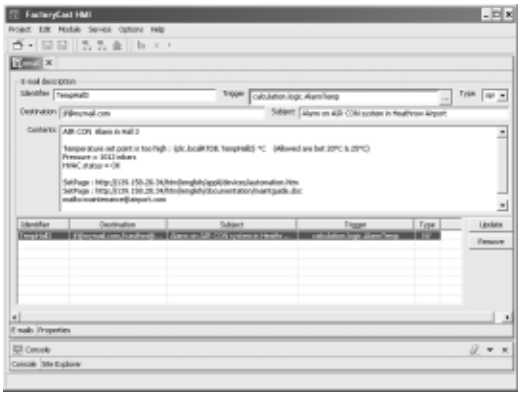
Note: *A FactoryCast HMI application running in a Premium configured FactoryCast HMI module can access also the remote PLC variables in the architecture transparently on the network (X-Way/Uni-TE transparent protocols).*

Characteristics:
- Maximum number of I/O variables per application: 1000 variables from PLCs
- Maximum number of internal variables per application: 100
- Acquisition frequency: 500 ms, minimum.

HMI softwares and Web servers
Transparent Ready, system approach
Embedded Web services,
FactoryCast HMI active Web services







Specialized HMI services (continued)

Calculation functions

The FactoryCast HMI server can carry out various arithmetic and logical operations on a combination of variables from the HMI database. These calculations include, for example, scaling, formatting, logic processing for event triggering, etc.

This calculation function can be used for local data processing independently of the PLC CPU processor and is provided in the form of spreadsheets where the formulae are defined in cells. The spreadsheets are interpreted and processed by the server. The result of each formula is associated with a new internal variable. The processing of each spreadsheet is initiated by a trigger.

Connection to relational databases

The FactoryCast HMI module can be connected directly and completely autonomously to the following remote relational databases:
- SQL Server
- MySQL
- Oracle

This connection enables all internal or process data to be archived directly form the FactoryCast HMI module without any intermediary system (hardware of software).

The data can be archived (written) periodically and/or on a specific event. These variables can either be from PLCs (I/O bits, internal bits, internal words and registers) or local to the module. The FactoryCast HMI “Roll Over” function checks the size of tables by managing the maximum number of records. This circular data archiving function automatically deletes the oldest data and can be accessed by simply setting parameters in the FactoryCast HMI software.

Characteristics:
- Number of databases that can be connected: 3
- Number of tables that can be written per database: 10, maximum
- Number of columns per table: 50, maximum
- Type of database supported: Oracle, SQL Server and MySQL
- Automatic table creation: The FactoryCast HMI server automatically creates a table in the database if one does not already exist

E-mail notification

The FactoryCast HMI module can, on a specific event, send E-mail completely autonomously to a predefined list of E-mail addresses. This function is executed independently of the PLC program.

The event that triggers the E-mail may be associated with the following:
- A PLC variable (I/O, internal variable)
- An alarm, a threshold overshoot
- A machine or process state
- An operator action, etc.

When an E-mail is sent, it is relayed through an SMTP *(Simple Mail Transfer Protocol)* server to a destination E-mail address. The E-mail service is compatible with all SMTP servers. A return address can be defined should delivery to the destination address fail.

This E-mail notification is very efficient for advanced remote diagnostic, maintenance, data alarming and reporting. The text of the E-mail can contains information such as real-time process values integrated in the message of the mail useful for reporting additional live information to the end user and also hyperlinks to other Web pages or documents (maintenance guide, schematics, etc) in the module or to other Web sites to serve as a guide to the end user.

Characteristics:
- Configuration of the SMTP server: Compatible with all SMTP servers
- Maximum number of E-mail: 100
- Contents of E-mail messages: Free text with embedded dynamic values and hyperlinks (unlimited).

HMI softwares and Web servers
Transparent Ready, system approach
Embedded Web services,
FactoryCast HMI active Web services

Specialized HMI services (continued)

Local data logging

FactoryCast HMI modules can process data into a file internally in its flash memory. This file can be either:
- exported via FTP
- attached to an E-Mail.

This feature is particularly useful for stand alone installations or substations which are not connected to an intranet or for data storage backup.

SOAP/XML client/server interface

For total interoperability purpose, FactoryCast HMI implements SOAP/XML Web service as a:
- Server function so that it can answer to SOAP requests generated by any client application (MES, ERP, SAP, SCADA or third party application running on ●NET or Java environment)
- Client function so that it can take the initiative to send SOAP requests to a SOAP server application (another FactoryCast module or an ERP, MES, IT program to exchange data.

Recipe management

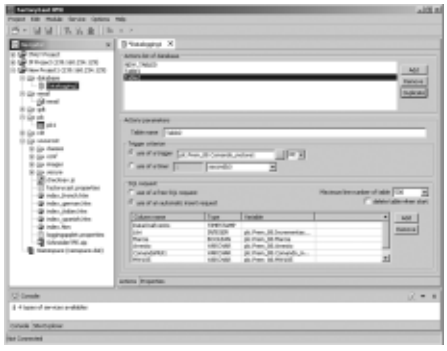
The recipe function allows FactoryCast HMI application to read “Recipe” files automatically on process event or operator command and apply the recipe values by writing them in a sigle shot to the PLC memory.

This function brings great flexibility in operations providing capability to simply execute production changes by modifying manufacturing or process set points and parameters.

Characteristics:
- “Recipe” files are described in XML format (SOAP/XML format)
- “Recipe” files can be stored locally in the module or on a remote system
- “Recipe” files contain a consistent set of values conforming a recipe template, values which are written in the PLC memory.

Web based HMI interface

The memory of FactoryCast HMI Web server is open to hosting user defined Web pages in order to provide a graphical HMI interface.
Its Active Web server provides a dynamic refresh of the Web pages generated by the server itself.
FactoryCast HMI supports two types of Web pages:
- HTML pages animated in real-time with graphical Java objects which are useful for creating graphical human machine interface (FactoryCast HMI comes with a complete graphic objects Java library).
- Active Web pages dynamically generated by the server itself with integration of PLC variables values inside the HTML code (PLC “tags”) which can be used for reporting purpose. These active pages consisting in pure HTML code are fully compatible either with “thin client” terminal devices such as Pocket PC, PDA, or with any standard PC.



FactoryCast HMI application development software

FactoryCast HMI application development software, referenced TLX CD FCHMI V1M, provides multiproject management and complete control of FactoryCast HMI applications, during both the development and the debugging phases, thanks to the online mode and simulation mode (operational when the system is offline).

This software enables the intuitive and user-friendly setup of HMI functions by simply setting parameters using a tree structure of the application and can be used for complete management of the Web site:
- Setting parameters for HMI functions.
- Management of the Web site.
- Simulation mode.

4

Contents

4 - Services

Technical information

Index

In some countries, certification of certain electrical components is enforced by law. A standard conformity certificate is then issued by the official organization. Each certified product must carry approval symbols when enforced. Use on board merchant navy vessels generally requires prior approval (= certification) of an electrical device by certain marine classification authorities.

Key	Certification body	Country
CSA	Canadian Standards Association	Canada
C-Tick	Australian Communication Authority	Australia
GOST	Gost Standard Scientific Research Institute	C.I.S., Russia
UL	Underwriters Laboratories	USA

Key	Classification authority	Country
IACS	International Association of Classification Societies	International
ABS	American Bureau of Shipping	USA
BV	Bureau Veritas	France
DNV	Det Norske Veritas	Norway
GL	Germanischer Lloyd	Germany
LR	Lloyd's Register	United Kingdom
RINA	Registro Italiano Navale	Italy
RMRS	Russian Maritime Register of Shipping	C.I.S.

The table below shows the situation as at 01.10.2006 for certifications obtained or pending from organizations for base PLCs. An overview of certificates for Telemecanique products is available on our Internet website:
www.telemecanique.com

4

Product certifications

Certified
Pending certification

	Approvals					
	UL	**CSA**	**ACA** (C-Tick)	**GOST**	**Hazardous locations** Class I, Div 2 *(1)*	**ATEX**
	USA	Canada	Australia	CIS, Russia	USA, Canada	Europe
Advantys STB					FM	
Advantys Telefast ABE 7						
ConneXium					*(2)*	
Magelis *i*PC	*(3)*				UL	
Magelis XBT GT						Cat 3 G-D
Magelis XBT F/FC/HM/PM						
Magelis XBT N/R					CSA/UL	Cat 3 G-D
Modicon M340					CSA	
Modicon Momentum						
Modicon Premium				*(2)*	CSA	
Modicon Quantum				*(2)*	FM *(2)*	
Modicon TSX Micro						
Twido	*(3)*	*(2)*			UL *(2)*	

(1) ***Hazardous locations****: UL 1604, CSA 22.2 no. 213 or FM 3611, certified products are acceptable for use in hazardous locations of Class I, division 2, groups A, B, C and D or unclassified only.*
(2) Depending on product, consult our website: **www.telemecanique.com**
(3) **cULus** *North American certification (Canada and USA).*

Local certifications		
BG	Germany	TSX DPZ 10D2A safety module (TSX Micro). TSX PAY 262/282 safety modules (Premium).
SIMTARS	Australia	Modicon TSX Micro automation platform Modicon Premium automation platform (PL7)
AS-Interface	Europe	TWD NOI 10M3 master module (Twido). TSX SAZ 10 master module (TSX Micro). TSX SAY 1000 master modules (Premium).

Marine classification

	Marine classification authorities						
	ABS	**BV**	**DNV**	**GL**	**LR**	**RINA**	**RMRS**
	USA	France	Norway	Germany	UK	Italy	C.I.S.
Advantys STB	*(1)*						
Advantys Telefast ABE 7							
ConneXium				*(2)*			
Magelis iPC							
Magelis XBT GT							
Magelis XBT F/FC/HM/PM							
Magelis XBT N/R							
Modicon M340	*(3)*						
Modicon Momentum							
Modicon Premium *(4)*	*(2)*	*(2)*	*(2)*	*(2)*	*(2)*	*(2)*	*(2)*
Modicon Quantum				*(2)*		*(2)*	
Modicon TSX Micro							
Twido			*(2)*	*(2)*	*(2)*		

Certified
Pending certification

(1) Also meets US Navy requirements, **ABS-NRV** *part 4.*
(2) Depending on product, consult our website: **www.telemecanique.com**.
(3) Request for Marine certifications forecast 1st quarter of 2007.
(4) Modicon Premium, also **KRS** *(Korean register of Shipping) certified.*

Community regulations

European directives

The opening of European markets implies a harmonization of regulations in the various European Union member states.
European Directives are documents used to remove obstacles to the free movement of goods and their application is compulsory in all states of the European Union.
Member states are obliged to transcribe each Directive into their national legislation and, at the same time, to withdraw any conflicting regulations.
The Directives, particularly those of a technical nature with which we are concerned, only set objectives, called “general requirements”.
The manufacturer must take all necessary measures to ensure that his products conform to the requirements of each Directive relating to his equipment.
As a general rule, the manufacturer affirms that his product conforms to the necessary requirements of the Directive(s) by applying the CE label to his product.
The CE marking is applied to Telemecanique products where relevant.

The significance of CE marking

- The CE marking on a product means that the manufacturer certifies that his product conforms to the relevant European Directives; it is necessary in order that a product which is subject to a Directive(s) can be marketed and freely moved within the European Union.
- The CE marking is intended solely for the national authorities responsible for market regulation.

For electrical equipment, conformity of the product to standards indicates that it is suitable for use. Only the guarantee of a recognized manufacturer provides an assurance of high quality.
One or more Directives, as appropriate, may apply to our products, in particular:
- The Low Voltage Directive 72/23/EEC amended by Directive 93/68/EEC: The CE marking under the terms of this Directive is compulsory as of January 1, 1997.
- The Electromagnetic Compatibility Directive 89/336/EEC, amended by Directives 92/31/EEC and 93/68/EEC: The CE marking on the products covered by this Directive has been compulsory since January 1, 1996.
- Directive CE ATEX 94/9/EC.

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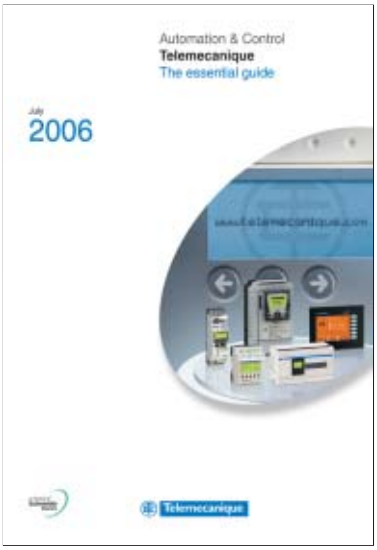

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This simplified selection guide enables you to quickly select the products you need for all your applications.

It provides the basic product characteristics and references, divided into sections covering key Automation functions:

- Detection
- Operator Dialog
- Automation
- Motion Control
- Motor Control
- Power Supplies
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