

Class 9001



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Schneider Electric Brands



SQUARE D
Schneider Electric

MAGELiS® Operator Terminals

Product Description

General

The MAGELiS operator terminals come with the following features:

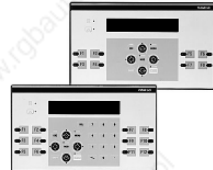
- Alphanumeric LCD or fluorescent displays
- 5- or 10-inch size
- Graphical matrix display
- Monochrome or color screen
- Touch sensitive types
- Configuration software based on the Microsoft® Windows programming environment
- All terminals are programmable using the same software package and the same configuration procedure
- Graphics terminals use a symbols library that allows the programmer to develop customized, animated screens
- Many different protocols are supported that allow communication with a wide variety of programmable controllers

NOTE: A bullet (•) in the catalog number denotes a character that can vary.



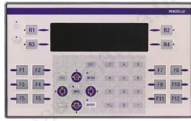
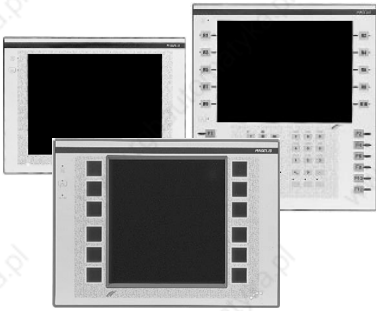
MAGELiS® Operator Terminals

Product Description

Terminals	Display Units with Alphanumeric Screen	Terminals with Alphanumeric Screen		Display Units with Matrix Screen
				
Display Type	Fluorescent green matrix (5 x 7 pixels), height 0.2 in. (5 mm) or Back-lit LCD (5 x 7 pixels), height 0.35 in. (9 mm)		Fluorescent green matrix (5 x 7 pixels), height 0.2 in. (5 mm) or Back-lit LCD (5 x 7 pixels), height 0.2 in. (5 mm)	Back-lit monochrome matrix LCD (240 x 64 pixels) height 0.21 or 0.42 in. (5.3 or 10.6 mm)
Capacity	2 lines of 20 characters		2 or 4 lines of 40 characters	4 to 8 lines of 20 to 40 characters
Data Entry	Display only or Via keypad with — 4 function keys — 1 or 5 service keys	Via keypad with — 8 function keys — 9 service keys or — 12 function keys — 10 service keys — 12 numeric keys	Via keypad with — 24 function keys — 10 service keys — 12 alphanumeric keys	Display only or Via keypad with — 4 function keys — 1 or 5 service keys
Memory Capacity Application	128 KB/256 KB Flash EEPROM	256 KB Flash EEPROM	384 KB Flash EEPROM	
Extension via PCMCIA Type II	—			
Functions				
Maximum Number of Pages	100/200 application pages 128/256 alarm pages	400 application pages 256 alarm pages	800 applications pages 256 alarm pages	600 application pages 256 alarm pages
Variables per Page	50			
Representation of the Variables	Alphanumeric			Alphanumeric, bargraph, gauge
Recipes	—			
Curves	—			
Alarm Logs	Dependent on the model			
Real-Time Clock	Access to the PLC real-time clock		Built-in	Access to the PLC real-time clock
Alarm Relay	No		Yes	No
Communication Asynchronous Serial Port	RS 232 C / RS 485 / RS 422			
Downloadable Protocols	UNI-TELWAY, MODBUS®, AEG and for Allen Bradley, GE Fanuc, Omron, Siemens brand PLCs			
Buses and Networks	AS-i with module at 22.5 intervals		—	AS-i with module at 22.5 intervals
Printer Port	RS 232 C asynchronous serial link (dependent on the model)			
Development Software	XBTL1000/L1003/L1004 (under Windows 3.1 or Windows 95)			XBTL1003/L1004 (under Windows 95 and Windows NT 4.0)
Operating Systems	MAGELiS			
Type of Terminal	XBTH	XBTP	XBTE	XBTHM
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MAGELiS® Operator Terminals Product Description

Terminals	Display Units with matrix screen	Terminals with graphic screen			
					
Display Type	Back-lit monochrome matrix LCD (240 x 64 pixels) height 0.21 or 0.42 in. (5.3 or 10.6 mm)	Back-lit monochrome LCD (320 x 240 pixels) or Color LCD STN with touch-sensitive screen (320 x 240 pixels)		Back-lit monochrome LCD (640 x 480 pixels) or Back-lit color TFT LCD (640 x 480 pixels)	
Capacity	4 to 8 lines of 20 to 40 characters	5.7 in. (145 mm)		9.5 in. (241 mm) monochrome (XBTF02 only) 10.4 in. (264 mm) color	
Data Entry	Via keypad with — 12 function keys — 10 service keys — 12 numeric keys — 4 dynamic function keys	Via touch-sensitive screen with 4 touch-sensitive keys (XBTF02) Touch 'n Click	Via keypad with — 10 static function keys — 8 dynamic function keys — 12 service keys — 12 alphanumeric keys	Via touch-sensitive screen with 8, 12, or 16 touch-sensitive keys ⁽¹⁾ (XBTF02) Touch 'n Click	Via keypad with — 12 static function keys — 10 dynamic function keys — 12 service keys — 12 alphanumeric keys
Memory Capacity Application	5120 KB Flash EEPROM	8 MB Flash EEPROM (using Type II PCMCIA card)			
Extension via PCMCIA Type II	—	8 MB or 16 MB			
Functions Maximum Number of Pages	800 application pages 256 alarm pages 256 printout form pages ⁽¹⁾	50 to 720 application, alarm, help, and printout form pages, depending on the memory card used (512 alarms max)		30 to 480 application, alarm, help, and printout form pages, depending on the memory card used (512 alarms max)	
Variables per Page	50	64			
Representation of the Variables	Alphanumeric, bargraph, gauge	Alphanumeric, bitmap, bargraph, gauge, potentiometer, selector			
Recipes	—	Maximum 125 records with maximum 5000 values			
Curves	—	16			
Alarm Logs	Dependent on the model	Yes			
Real-time Clock	Access to the PLC real-time clock				
Alarm Relay	No	Yes			
Communication Asynchronous Serial Port	RS 232 C / RS 485 / RS 422				
Downloadable Protocols	UNI-TELWAY, MODBUS, AEG and for Allen Bradley, GE Fanuc, Omron, and Siemens brand PLCs				
Buses and Networks	AS-i with module	MODBUS Plus, FIPIO®/FIPWAY® with optional Type III PCMCIA card			
Printer Port	RS 232 C asynchronous serial link (dependent on the model)				
Development Software	XBTL1000/L1003/L1004	XBTL1003/L1004 (under Windows 95 and NT 4.x)			
Operating Systems	MAGELIS				
Type of Terminal	XBTPM	XBTF01/F03/FC		XBTF02/F03/FC	
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(1) Dependent on the model.

⁽¹⁾ Dependent on the model.



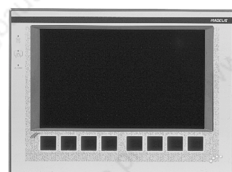
MAGELiS® Operator Terminals

XBTFC Pentium Processor-Based Touch 'n Click terminals

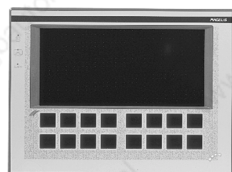
MAGELiS Touch 'n Click terminals with a pentium processor

Selection

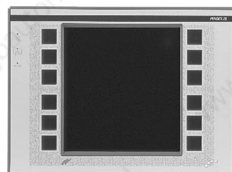
Terminals with touch-sensitive screens and pentium processor



XBTFC044*10



XBTFC084*10



XBTFC064*10

Downloadable Exchange Protocol	Type and Size of Screen	Supply voltage (VDC)	Number of touch-sensitive keys	RJ 45 Ethernet 10/100 TCP/IP Connector	Catalog Number	Weight lb (kg)
See page 34	Color 10.4 in. (264 mm)	24	8	No	XBTFC044510	5.3 (2.4)
				Yes	XBTFC044610	5.3 (2.4)
			16	No	XBTFC084510	5.3 (2.4)
				Yes	XBTFC084610	5.3 (2.4)
			12	No	XBTFC064510	5.3 (2.4)
				Yes	XBTFC064610	5.3 (2.4)

Specifications

Type of terminal		XBTFC044	XBTFC084	XBTFC064
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 68-2-6, IEC 68-2-27, UL 508, CSA		
Approvals		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	+32 to +113 °F (0 to +45 °C)		
	Storage	−4 to +140 °F (−20 to +60 °C)		
Relative humidity		0–85% (without condensation)		
Degree of Protection	Front panel	IP 65, conforming to IEC 60529, NEMA Type 4		
	Back panel	IP 20, conforming to IEC 60529		
Shock Resistance		Conforming to IEC 68-2-27; semi-sinusoidal pulse 11 ms, 15 g in the 3 axes		
Vibrations		Conforming to IEC 68-2-6; 10–57 Hz at 0.075 mm (0.003 in.); 57–150 Hz 1 g for 3 hours per axis		
Electrostatic Discharge		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 with spring clips (supplied), pressure-mounted on a panel of thickness 0.06–0.24 in. (1.6–6 mm)		
		10 spring clips		
Material	Screen protection	1.8 mm (0.07 in.) thick glass + 0.2 mm (0.008 in.) thick polyester		
	Front frame	Polyphenyl oxide, 10% glass fibre (PPO GFN1 SE 1)		
	Keypad	Anti-UV treated toughened polyester (Autoflex EB AG)		
	Enclosure	Polyphenyl oxide, 10% glass fibre (PPO GFN1 SE 1)		
Touch-Sensitive Keys		8 in one row	16 in two rows	12 in two columns
Electrical Characteristics				
LCD Screen	Type	10.4 in. (264 mm) TFT 256 colors with resistive matrix tactile feedback XBTFC044 has 13 x 8 cells, XBTFC 084 has 13 x 6 cells, XBTFC064 has 9 x 10 cells,		
	Definition	640 x 480 pixels		
Optimum View Angle (degrees)	Luminescence	250 cd/m ²	250 cd/m ²	250 cd/m ²
	Vertical top	80	80	80
	Vertical bottom	80	80	80
	Vertical right	80	80	80
	Vertical left	80	80	80
Power Supply	Voltage	24 Vdc not isolated		
	Limits	18–30 V, including 5% maximum ripple, microbreaks 1 ms maximum		
	Protection	Against polarity inversion and overloads		



MAGELiS® Operator Terminals

XBTFC Pentium Processor-Based Touch 'n Click terminals

Specifications

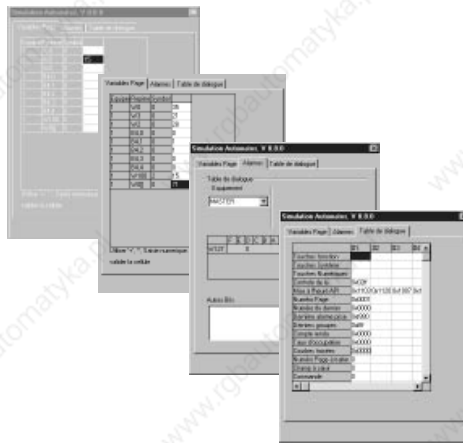
Type of terminal		XBTFC044	XBTFC084	XBTFC064
Consumption		35 W		
Operating characteristics				
Signaling		1 communication monitoring LED, 1 tactile feedback keypad activity LED and 1 alarm LED		
Operating System		MAGELiS / Pentium		
Dynamic RAM Memory		32 MB		
Application Memory		On 8 MB PCMCIA Type II card (supplied), 8, 16 MB		
Dialogue Application	Maximum no. of pages	30–300 application, alarm, help, form, and recipe pages depending on the memory card used (512 alarm and 256 form max.)		
	Curves	16 real-time curves		
	Recipes	Maximum 5000 parameter values in a maximum of 125 recipe records		
Communication	PLC/ Configuration PC	115200 baud RS 232 C / RS 422 / RS 485 isolated serial link, downloadable communication protocols (see pages 6 and 7)		
	Printer	RS 232 C serial link		
	Bus or network	Slot for Type III PCMCIA communication card, communication protocols (see page 7) RJ 45 Ethernet 10/100 TCP/IP connector, depending on model		
Real-Time Clock		Built-in and backed-up		
Alarm Relay		1 volt-free N.O. contact, max 0.5 A, 24 Vdc/Vac		
Connection	Power supply and alarm relay	Plug-in terminal block, 5 screw terminals at intervals of 13/64 in. (5.08 mm) Max clamping capacity: #16 AWG (1.5 mm²)		
	PLC	25-pin female SUB-D connector		
	Printer/ Configuration PC	9-pin male SUB-D connector		



MAGELiS® Operator Terminals Development Software

XBTL1003/L1004 Software Functions

Simulation on PC compatible

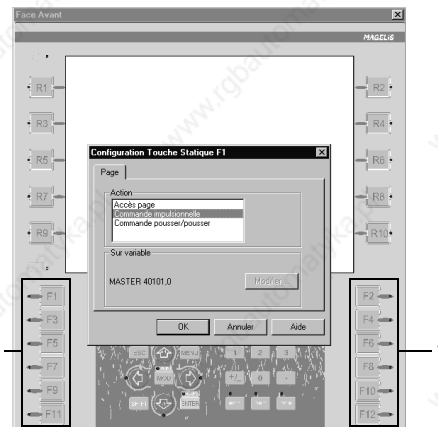


XBTL1003/L1004 software offers the option of simulating all the operator dialogue applications from the design office without the use of graphic terminals and PLCs.

The following can be tested using the simulation program and the keyboard on a PC compatible:

- Navigating between pages
- Entering variables
- Displaying variables
- Simulating an alarm

Using the function keys



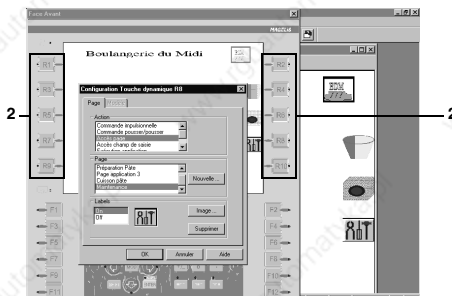
The operator terminals and graphic stations have two types of function keys: static and dynamic.

1. Static keys

These are defined for the whole application.

They may have the following functions:

- Access a page
- Pulse a PLC memory bit
- Latch a PLC memory bit



2. Dynamic keys

These are associated with one page. Their role can be reassigned or changed from one page to another.

They may have the following functions:

- Access a page
- Pulse a PLC memory bit
- Latch a PLC memory bit
- Position on a data entry field

A label (bitmap image) is assigned to each key, which may vary from page to page.



XBTL1003/1004 Software

XBTL1003/L1004 development software is used with the whole range of MAGELiS terminals to create operator dialogue applications designed for controlling automated systems.

XBTL1003/L1004▲ software runs on PC compatibles equipped with Windows 95 or NT 4.0 operating software. Applications created using XBTL1003/L1004 software are independent of the protocol used; it is possible to use the same operator dialogue application with all the different PLCs offered by the main market suppliers.

Configuration

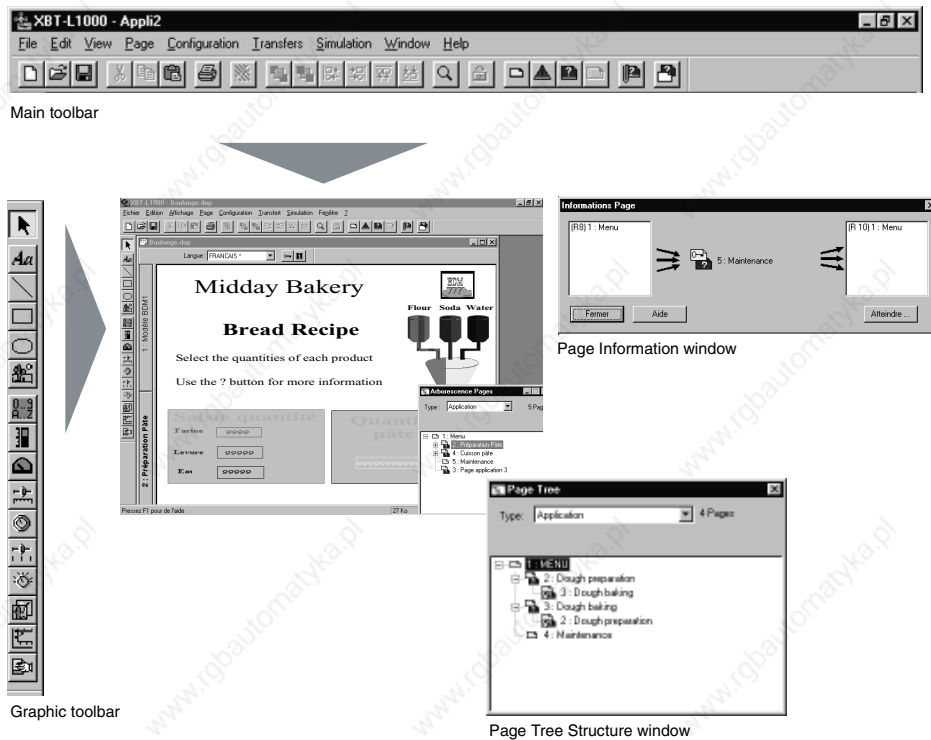
XBTL1003/L1004 software is the only configuration software package for the MAGELiS range. It runs under Windows 95 or NT 4.0.

It is used to create various types of pages easily:

- Application pages (can be interlinked)
- Alarm pages
- Help pages
- Recipe pages
- Form pages

The pages can contain all sorts of variables and graphic objects, which are either predefined in the XBTL1003/L1004 software or created using other applications and then imported (bitmap format, etc.). Various properties can be assigned to them: min-max limits, color, movement, weighting, etc.

XBTL1003/L1004 software can be used to configure the function keys to activate commands on the machine or call application pages. It can also be used on the graphic terminals to import the PL7 or CONCEPT PLC symbols database.



▲ The XBTL1000 software package is designed for DOS 5.0 (minimum) with the Windows 3.1 operating system. Hardware requirements are a minimum of a 386 processor operating at 25 MHz, with 8 MB RAM and 20 MB free hard disk space.

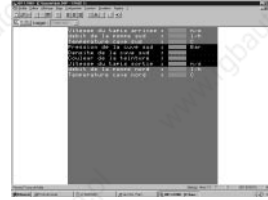
MAGELiS® Operator Terminals Development Software

Screen windows

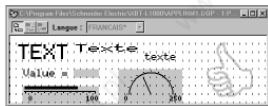
XBTL1003/L1004 software is used to design page contents in WYSIWYG (what you see is what you get): anything created using the software is displayed in exactly the same way on the operator dialogue terminal screen. To assist the designer, the software offers a display unit or a virtual screen depending on the type of terminal.



XBTHP



XBTE

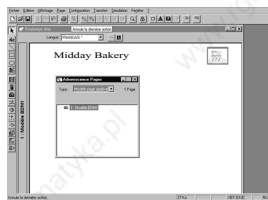


XBTHM



XBTF

Model pages



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

Model pages are available with XBTF graphic terminals.

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 memorizes the faults in sequence (log) making it easy to find the cause of the fault.

Help pages and help windows



Help pages and windows can be associated with application or alarm pages.

Help windows can be associated with any variable field.



MAGELiS® Operator Terminals Development Software

Software for MAGELiS Terminals

Multilingual software packages are designed for FTX 517 terminals or PC compatibles (minimum requirements: 486 processor, 66 MHz, 30 MB free space on the hard disk and either 8 MB RAM memory with a Windows 95 operating system or 16 MB RAM memory with an NT 4.0 operating system). They include the following communication protocols: UNI-TELWAY, FIPIO, FIPWAY, MODBUS, Jbus, MODBUS Plus, KS.



XBTL1003•



XBTL1004•

Schneider Pack Software (with Schneider Electric Protocols)

Description	Compatibility	Operating System	Support	Documentation for alphanumeric and graphic terminals	Catalog Number	Weight lbs (kg)
Alphanumeric and graphic configuration	XBTH/P/E/HM/PM XBTF	Windows 95, 98, 2000, or NT 4.0	CD-ROM	French	XBTL1003F	3.3 (1.5)
				English	XBTL1003E	3.3 (1.5)
				German	XBTL1003G	3.3 (1.5)
				Spanish	XBTL1003S	3.3 (1.5)
				Italian	XBTL1003IT	3.3 (1.5)

Note: Packages contain the XBTZ915 cable and 25-pin/9-pin connection interface XBTZ962.

Open Pack Software (with Schneider Electric and Third Party Protocols)

Description	Compatibility	Operating System	Support	Documentation	Catalog Number	Weight lbs (kg)
Alphanumeric and graphic configuration	XBTH/P/E/HM/PM XBTF	Windows 95, 98, 2000, or NT 4.0	CD-ROM	French	XBTL1004F	4.4 (2.0)
				English	XBTL1004E	4.4 (2.0)
				German	XBTL1004G	4.4 (2.0)
				Spanish	XBTL1004S	4.4 (2.0)
				Italian	XBTL1004IT	4.4 (2.0)

Note: Packages contain the XBTZ915 cable and 25-pin/9-pin connection interface XBTZ962.

Schneider Update Pack with Schneider Electric Protocols

Description	Compatibility	Operating System	Support	Documentation	Catalog Number	Weight lbs (kg)
Alphanumeric and graphic configuration	XBTH/P/E/HM/PM XBTF/XBTFC	Windows 95, 98, 2000, or NT 4.0	CD-ROM	Five-language PDF format	XBTLUP1003	1.1 (0.5)

Schneider Pack Software with Schneider Electric Protocols (Light Pack)

Description	Compatibility	Operating System	Support	Documentation	Catalog Number	Weight lbs (kg)
Alphanumeric configuration	XBTH/P/E	Windows 3.1 or Windows 95	Diskette	Ordered separately	XBTL1000	1.1 (0.5)

Diagnostic Viewer/Remote Network Transfer Option

Description	Compatibility	Operating System	Support	Documentation	Catalog Number	Weight lbs (kg)
Alphanumeric and graphic configuration	XBTH/P/E/HM/PM XBTF/XBTFC	Windows 95, 98, 2000, or NT 4.0	CD-ROM	None	TXBTLDIAGCD M	1.1 (0.5)

- Diagnostics with PL7PRO on TSX57 Premium.
- Remote transfer over MODBUS Plus or FIPWAY.
- Dynamic database link from PL7PRO or CONCEPT to XBTL1000

For a list of Schneider Electric and third party protocols, refer to page 34.



MAGELiS® Operator Terminals

Separate Parts

Downloadable protocols (onto diskettes)

PLC Brands	Compatibility	Name of Protocol	Catalog Number	Weight lb (kg)
Schneider Electric	XBTH/P/E (only for XBTL1000 software)	UNI-TELWAY V1.0 UNI-TELWAY V2.0	XBTL1UTW01	1.43 (0.65)
		MODBUS Jbus	XBTL1MOD01	1.43 (0.65)
		KS	XBTL1AEG01	1.43 (0.65)
Allen Bradley	XBTH/P/E/HM XBTF	DF1 DH485	XBTL1AB01	1.43 (0.65)
GE Fanuc	XBTH/P/E	SNPX	XBTL1GE01	1.43 (0.65)
Omron	XBTH/P/E/HM XBTF	Sysmacway	XBTL1OMR01	1.43 (0.65)
Siemens	XBTH/P/E/HM XBTF	AS511 3964R	XBTL1SIE03	1.43 (0.65)
		PPI, MPI		1.43 (0.65)
		All 3rd party protocols	XBTLPROT^[1]	1.1 (0.5)

[1] The software is on a CD.

Communication on buses and networks

Type of Protocol	Compatibility	Support	Catalog Number	Weight lb (kg)
AS-i	XBTH/P/HM	Module at 22.5 intervals	XBZA994	0.66 (0.30)
MODBUS Plus	XBTF	Type III PCMCIA	TSXMBP100	2.43 (0.11)
FIPIO	XBTF	Type III PCMCIA	TSXFPP10	2.43 (0.11)
FIPWAY	FIPWAY on XBTF	Type III PCMCIA	TSXFPP20	2.43 (0.11)



XBTFMEM08

Type II PCMCIA memory cards

Size	Compatibility	Approximate Number of Pages		Catalog Number	Weight lb (kg)
		XBTF01/F032/FC02	XBTF02/F034/FC04		
8 MB	XBTF	350	230	XBTFMEM08	0.22 (0.10)
16 MB	XBTF	720	480	XBTFMEM16	0.22 (0.10)

Note: The XBTF terminal comes with an 8 MB PCMCIA card.

Accessories

Type	Sold in Lots of	Compatibility	Catalog Number	Weight lb (kg)
Sheets of re-usable labels	1	XBTH02•010 XBTP01•010 XBTP02••10 XBTE XBTHM XBTF01 XBTF02	XBLYH4 XBLYP8 XBLYP12 XBLYE24 XBLYHM4 XBLYF10 XBLYF12	0.22 (0.10)
Desk holder	2	XBTF	XBZT3001	0.44 (0.20)
Spring clips	12	XBTHM/F	XBZT3002	0.44 (0.20)
	10	XBTH/P/E	XBZT3003	0.44 (0.20)
Power supply connector	10	XBT	XBZT3004	0.44 (0.20)

Connection to PCs and printers

Use	Connection	Compatibility	Catalog Number	Weight lb (kg)
RS232C PC link (2.5 m)	9-pin (male)	Any XBT	XBZT915	0.44 (0.20)
Between XBZT915 cable and XBTF terminal	9-pin/25-pin	XBTF	XBZT962	0.22 (0.10)
Serial printer with printer port	9-pin/25-pin	Any XBT	XBZT936	0.44 (0.20)



MAGELiS® Operator Terminals Separate Parts

Cables for connecting MAGELiS terminals to PLCs

Direct connection of XBTH/P/E/HM/PM/F/FC terminals to Schneider Electric PLCs



XBTZ928

Type of PLC to be Connected	Type of Connector	Physical Link	Protocol	Length ft (m)	Catalog Number	Weight lb (kg)
Nano, Micro, Premium	8-pin female mini-DIN terminal port	RS 485	UNI-TELWAY (V1.0/V2.0)	8.2 (2.5)	XBTZ968	0.40 (0.18)
				16.4 (5.0)	XBTZ9681	0.75 (0.34)
				52.5 (16.0)	XBTZ9686	1.98 (0.90)
Premium with TSXSCY2160•	25-pin female SUB-D	RS 485	UNI-TELWAY (V1.0/V2.0)	8.2 (2.5)	XBTZ918	0.51 (0.23)
Quantum	9-pin male SUB-D	RS 232	MODBUS	8.2 (2.5)	XBTZ9710	0.46 (0.21)
TSX17	15-pin female SUB-D terminal port	RS 485	UNI-TELWAY (V1.0)	16.4 (5.0)	XBTZ958	0.53 (0.24)
TSX17 with TSXSCG1161	15-pin female SUB-D	RS 485	UNI-TELWAY (V1.0)	16.4 (5.0)	XBTZ928	0.53 (0.24)
TSX Series 7 model 40 on processor	TSXLES64/74 cable connector	RS 485	UNI-TELWAY (V1.0)	16.4 (5.0)	XBTZ948	0.51 (0.23)
TSX Series 7 model 40 with TSXSCM21•6	25-pin female SUB-D	RS 485	UNI-TELWAY (V1.0)	16.4 (5.0)	XBTZ918	0.51 (0.23)
MODICON 984	9-pin male SUB-D	RS 232	MODBUS	8.2 (2.5)	XBTZ9710	0.46 (0.21)
MODICON Micro	RJ 45 male jack	RS 232	MODBUS	8.2 (2.5)	XBTZ9711	0.46 (0.21)
174CEV30010	RS 45 male jack	RS 232	MODBUS	8.2 (2.5)	XBTZ9713	0.41 (0.21)
AEG ALU	9-pin male SUB-D	RS 232	KS	8.2 (2.5)	XBTZ9712	0.46 (0.21)
AEG Micro	RJ 45 male jack	RS 232	KS	8.2 (2.5)	XBTZ9711	0.46 (0.21)
LT6	25-pin female SUB-D	RS 232	MODBUS	8.2 (2.5)	XBT9701	0.46 (0.21)

Direct connection of XBTH/P/E/HM/PM/F/FC terminals to third-party PLCs

Type of PLC Being Connected	Type of Connector	Physical Link	Protocol	Length ft (m)	Catalog Number	Weight lb (kg)
Allen Bradley SLC5	9-pin male SUB-D	RS 232	DF1	8.2 (2.5)	XBTZ9730	0.46 (0.21)
Allen Bradley PLC5	25-pin female SUB-D	RS 232	DF1	8.2 (2.5)	XBTZ9720	0.46 (0.21)
Allen Bradley Micro-logix	Micro-logix 1000	RS 232	DF1 DH485	8.2 (2.5)	XBTZ9731 XBTZ9732	0.46 (0.21)
GE Fanuc Series 90	15-pin male SUB-D	RS 232/422	SNPX	8.2 (2.5)	XBTZ9750	0.46 (0.21)
Omron CQM1, CVM1	9-pin male SUB-D	RS 232	Sysmacway	8.2 (2.5)	XBTZ9740	0.46 (0.21)
Omron CVM1	9-pin male SUB-D	RS 422	Sysmacway	8.2 (2.5)	XBTZ9741	0.46 (0.21)
Siemens S7 PG	9-pin male SUB-D	RS 232	PPI	8.2 (2.5)	XBTZ9721	0.46 (0.21)
Siemens S5 CP525	25-pin female SUB-D	RS 232	3964(R)	8.2 (2.5)	XBTZ9720	0.46 (0.21)
Siemens S5 PG	15-pin female SUB-D	CL/RS 232 converter	AS511	8.2 (2.5)	XBTZ939 + XBTZ909 ⁽¹⁾⁽²⁾	0.48 (0.22)

⁽¹⁾ Order both XBTZ939 and XBTZ909 cables. ⁽²⁾ CL/RS232 converter XBTZ939 is only for use with Siemens PLCs.

Bus and network connection

Type of Bus/Network	Tap-off Unit	Type of Connector	Length ft (m)	Catalog Number	Weight lb (kg)
AS-i	XBTZA994	—	8.2 (2.5)	XBTZ9702	0.44 (0.20)
UNI-TELWAY	TSXS6A62 subscriber socket	15-pin female SUB-D	5.9 (1.8)	XBTZ908	0.53 (0.24)
	TSXPACC01 cable connector	8-pin female mini-DIN	8.2 (2.5)	XBTZ968	0.40 (0.18)
			16.4 (5.0)	XBTZ9681	0.75 (0.34)
FIPIO/FIPWAY/MODBUS Plus	—	—	—	See page 36	—

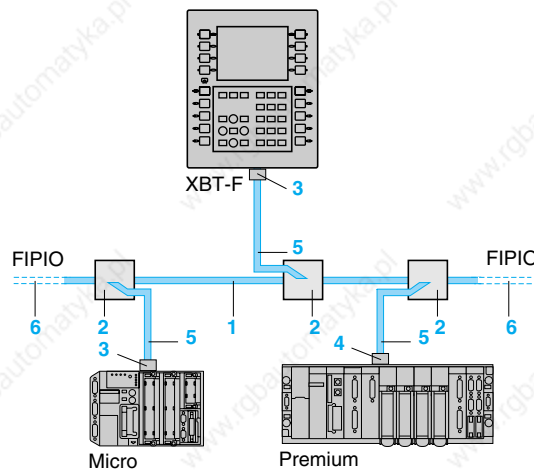


MAGELiS® Operator Terminals

XBT-F Bus and Network Connections

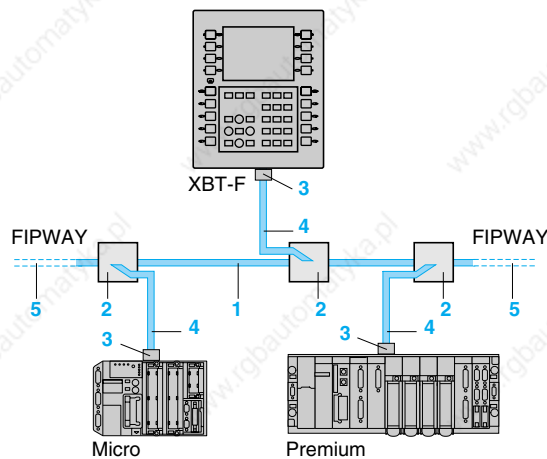
Connections to FIPIO bus, FIPWAY and MODBUS Plus networks

Connection to FIPIO bus



1. TSXFPCA•00: shielded twisted pair trunk cable, 150 Ω , 0.3 in. (8 mm) dia. for normal environment or indoors
or
TSXFPCR•00: shielded twisted pair trunk cable, 150 Ω , 0.3 in. (8 mm) dia. for harsh environment or outdoors
2. TSXFPACC4: IP 65 T-junction box
3. TSXFPP10: PCMCIA card, FIPIO agent function
4. TSXFPP20: PCMCIA card, FIPIO/FIPWAY
5. TSXFPCG0•0: tap-off connecting cable for PCMCIA TSXFPP10/20 module card
6. TSXFPACC7: line terminator to be placed at each segment end

Connection to FIPWAY network

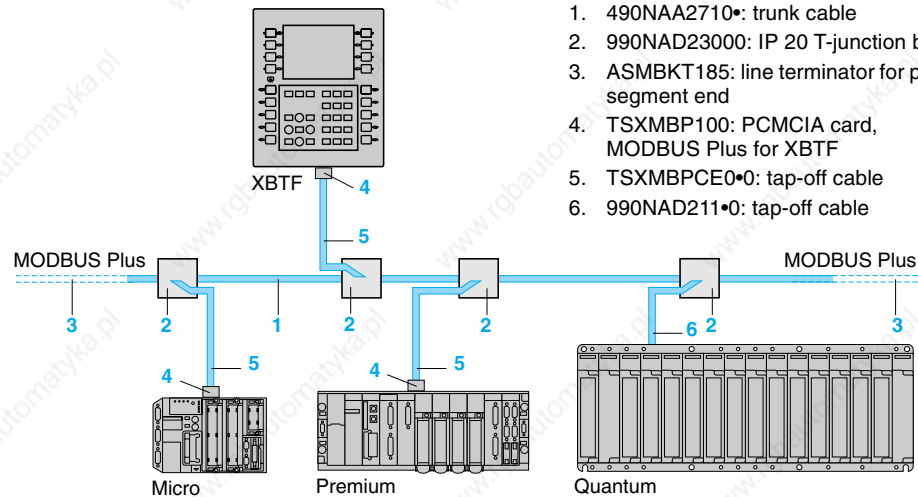


1. TSXFPCA•00: shielded twisted pair trunk cable, 150 Ω , 0.3 in. (8 mm) dia. for a normal environment or indoors
or
TSXFPCR•00: shielded twisted pair trunk cable, 150 Ω , 0.3 in. (8 mm) dia. for a harsh environment or outdoors
2. TSXFPACC4: IP 65 T-junction box
3. TSXFPP20: PCMCIA card, FIPIO/FIPWAY
4. TSXFPCG0•0: tap-off connecting cable for PCMCIA TSXFPP10/20 module card
5. TSXFPACC7: line terminator to be placed at each segment end

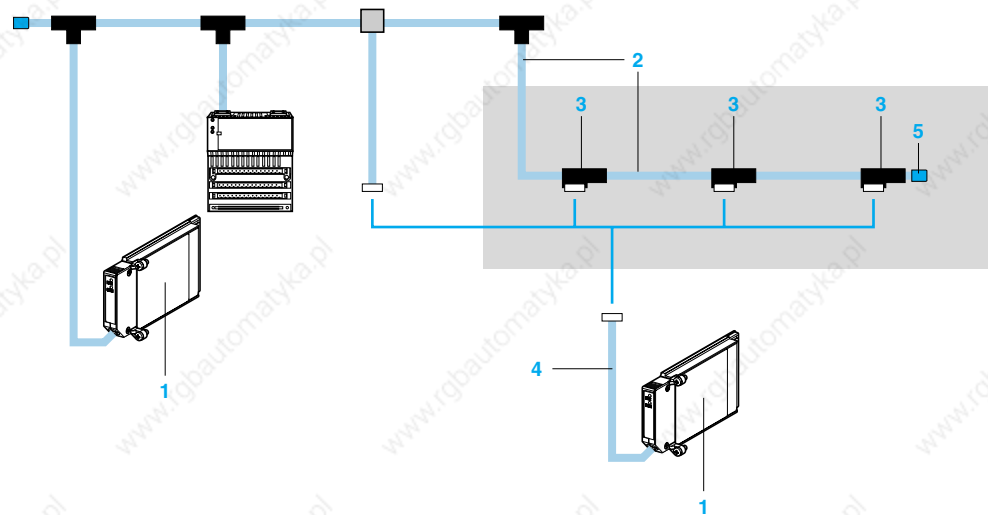


MAGELiS® Operator Terminals XBTF Bus and Network Connections

Connection to MODBUS Plus network



Or



1. TSXMBP100: MODBUS Plus PCMCIA card for type III slot on Micro or Premium PLCs.
2. 170MCI020/021: tap-off cable fitted with an RJ 45 type connector at each end (basic T interface). Lengths : 0.25, 0.75, 3, or 10 m.
3. 170XTS02000: IP 20 T-junction, provides tap-off for the MODBUS Plus cable (cable equipped with RJ 45 type connector at each end). Has a 9-pin SUB-D connector for connection of the equipment.
4. TSXMBPCE002: tap-off cable for MODBUS Plus PCMCIA card, equipped with a miniature 20-pin connector on the PCMCIA side and a 9-pin SUB-D type connector on the network side. Can be used as an extension for cable 990NAD2110/30. Length: 0.2 m.
5. 170XTS02100: set of 2 line terminators (impedance matching) for T-junction 170XTS02000, to be placed at each segment end



MAGELiS® Operator Terminals

XBTF Bus and Network Connections



TSX FPP 00



TSX FP ACC 4



TSX FP ACC 7



TSX FP CG 00



TSX MBP 100



TSX MBP CE 000

FIPWAY network/FIPIO bus connection cables and accessories ⁽¹⁾

Description	Type	Condition of use	Length ft (m)	Catalog Number	Weight lb (kg)
FIPIO PCMCIA card	Agent function	FIPIO on XBTF	—	TSXFPP10	0.24 (0.11)
FIPWAY PCMCIA card	—	FIPWAY on XBTF	—	TSXFPP20	0.24 (0.11)
Trunk cables	8 mm, 1 shielded twisted pair 150 Ω	In normal environment ⁽²⁾ and indoors	328 (100)	TSXFPCA100	12.52 (5.68)
			656 (200)	TSXFPCA200	24.07 (10.92)
			1640 (500)	TSXFPCA500	66.14 (30.00)
	8 mm, 1 shielded twisted pair 150 Ω	In harsh environment ⁽³⁾ outdoors or in a daisy-chain ⁽⁴⁾	328 (100)	TSXFPCR100	16.93 (7.68)
			656 (200)	TSXFPCR200	32.89 (14.92)
			1640 (500)	TSXFPCR500	88.18 (40.00)
Dust and damp-proof junction box	Zamac, IP 65	Trunk cable tap link	—	TSXFPACC4	1.46 (0.66)
Line terminators (sold in lots of 2)	—	—	—	TSXFPACC7	0.04 (0.02)

Tap-off connection cables

Description	From	Use To	Length ft (m)	Catalog Number	Weight lb (kg)
Cables for PCMCIA card	TSXFPP10/20 card	TSXFPACC4 junction box	3 ⁽¹⁾	TSXFPCG010	0.46 (0.21)
			10 ⁽³⁾	TSXFPCG030	0.90 (0.41)

⁽¹⁾ The specifications and performance of the FIPIO bus or FIPWAY network depend on the use of these TSXFP accessories.

⁽²⁾ Normal environment:

- no special environmental constraints
- operating temperature between +5 °C and +60 °C
- fixed installations

⁽³⁾ Harsh environment:

- resistance to hydrocarbons, industrial oils, detergents and solder chips
- relative humidity up to 100%
- saline environment
- extreme variations in temperatures
- operating temperature between –10 °C and +70 °C
- mobile installations

⁽⁴⁾ Use in a daisy-chain: radius of curvature = 10 x cable diameter, either 3.1 or 3.7 in. (80 or 95 mm). For other special restrictions, please consult your regional sales office.

MODBUS Plus network connection cables and accessories

Description	Use	Catalog Number	Weight lb (kg)
MODBUS Plus PCMCIA card	XBTF	TSXMBP100	0.24 (0.11)
MODBUS Plus junction box	IP 20 T-junction box	990NAD23000	0.51 (0.23)
Line terminators (sold in lots of 2)	—	ASMBKT185	—

Connection cables

Description	From	Use To	Length ft (m)	Catalog Number	Weight lb (kg)
MODBUS Plus trunk cables	Junction box	Junction box	98 (30)	490NAA27101	—
			492 (150)	490NAA27102	—
			984 (300)	490NAA27103	—
			1476 (450)	490NAA27104	—
			4921 (1500)	490NAA27106	—
Tap-off cables	TSXMBP100 PCMCIA card	990NAD23000 junction box	10 (3)	TSXMBPCE030	0.75 (0.34)
			20 (6)	TSXMBPCE060	1.17 (0.53)
		ASMBKT185	0.2 (0.06)	TSXMBPCE002	—
	Quantum PLC	990NAD23000 junction box	7.9 (2.4)	990NAD21110	1.17 (0.53)
			20 (6)	990NAD21130	1.17 (0.53)



MAGELiS® Operator Terminals
Wiring Diagrams

The following information provides specific details for one electrical connection and two serial communication ports of the XBT terminals. Figure 1 shows the location of the electrical connection and the serial communications ports.

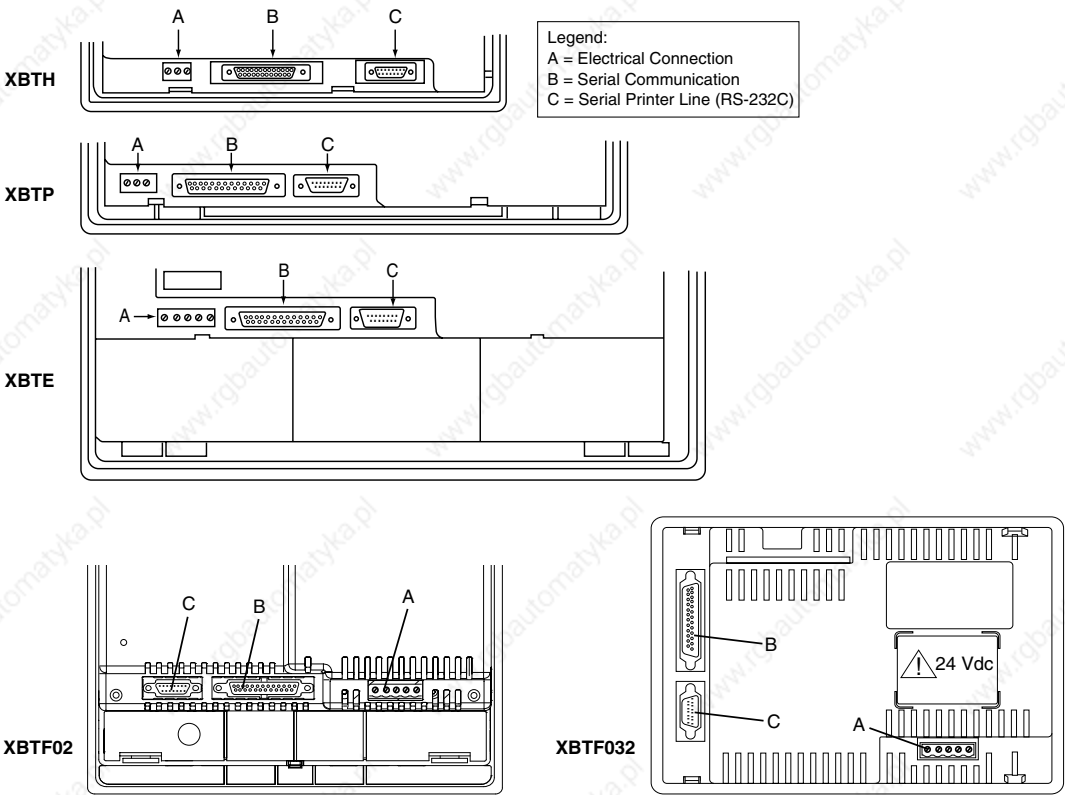
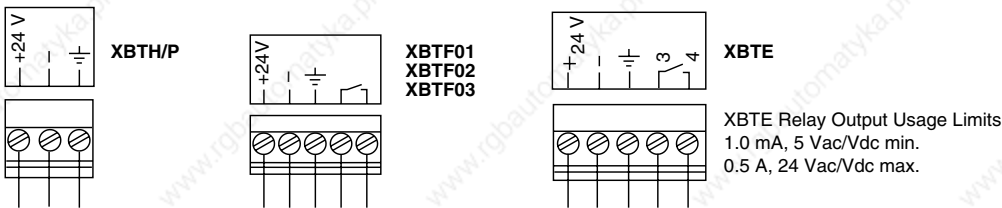


Figure 1: Electrical Connections and Serial Communications

Electrical Connections

The power supply connections and the XBTE relay connections should be made following the connection schemes shown in Figure 2.



	XBTH/P	XBTHM/PM	XBTF	XBTE	
				FLUO	LCD
Maximum Consumption	10 W	15 W	35 W	20 W	10 W
Nominal Voltage	24 Vdc				
Voltage Limits (including ripple)	18–30 V				

Figure 2: Electrical Connections



MAGELiS® Operator Terminals

Wiring Diagrams

Serial communication

Figures 3 and 4 show the pin arrangements of the the serial communication link and the serial printer link.

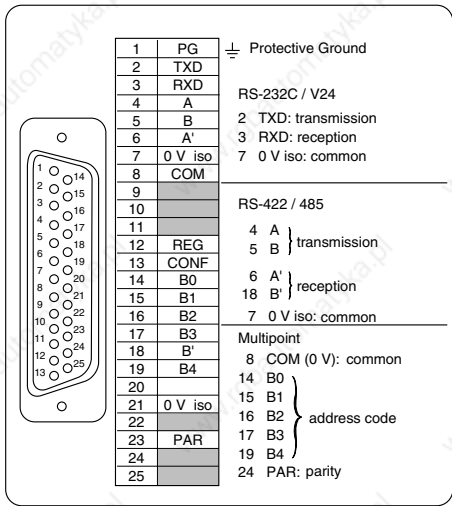


Figure 3: Serial Communication Link

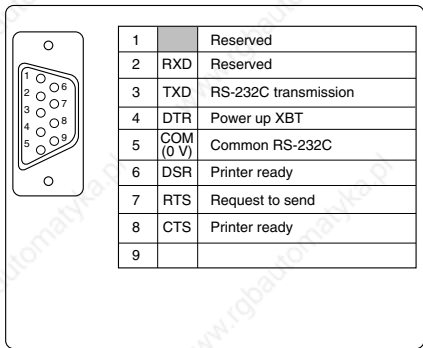


Figure 4: Serial Printer Link



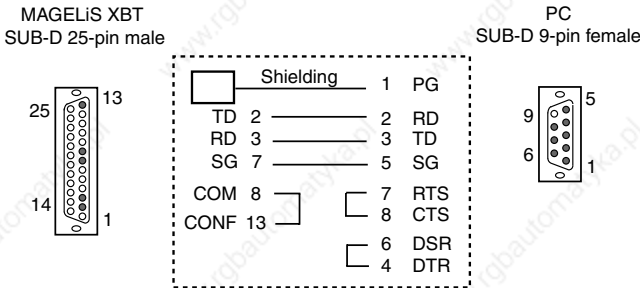
MAGELiS® Operator Terminals
Wiring Diagrams

Cable Pinouts

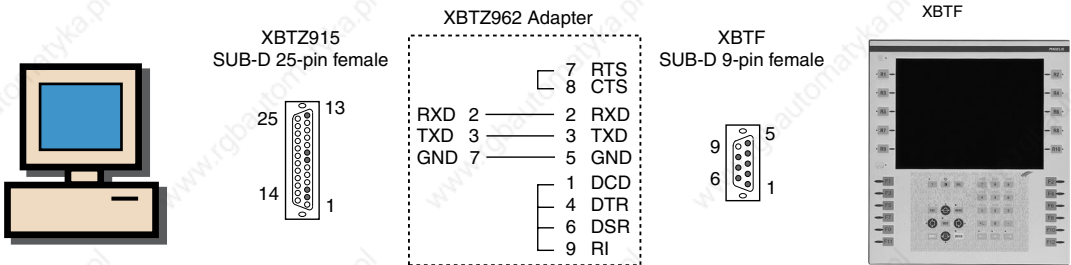
The following pages show cable pinout diagrams for XBT MAGELiS terminal cables.

MAGELiS to PC (XBTZ915) Cable

XBTZ915 Cable, Version 2.2
8.2 ft (2.5 meters)

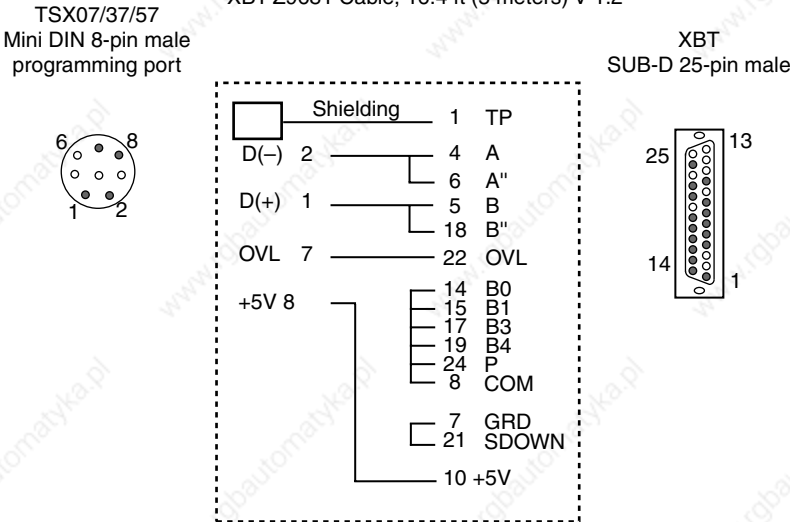


MAGELiS XBTZ962 Adapter/Application Transfer XBTF



TSX Nano/TSX Micro/TSX Premium to MAGELiS (XBTZ968•) Cable

XBT-Z968 Cable, 8.2 ft (2.5 meters) V 1.2
XBT-Z9681 Cable, 16.4 ft (5 meters) V 1.2



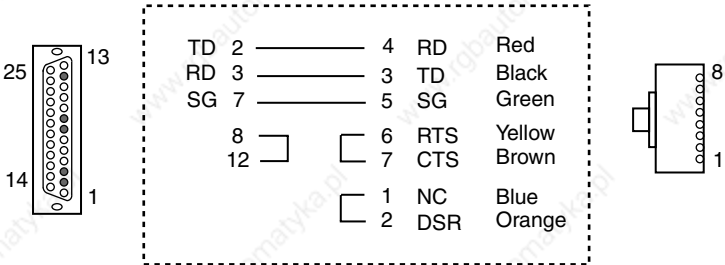
MAGELiS® Operator Terminals
Wiring Diagrams

MODICON Micro/TSX Compact/MOMENTUM to MAGELiS Cable

Modicon Micro/TSX Compact (MODBUS Port) to XBT cable
(XBTZ9711)

MAGELiS XBT
SUB-D 25-pin male

Modular Jack
RJ45

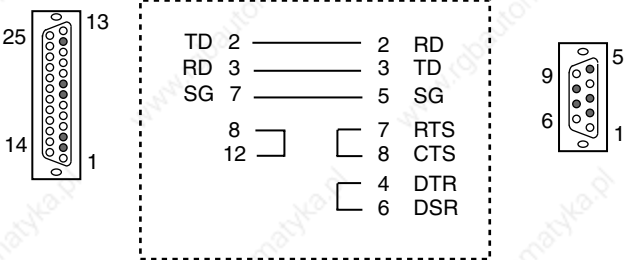


Compact 984 (984-120/130-131/141-145/241-245) MODBUS Port to MAGELiS Cable

Compact 984 to XBT Cable
(XBTZ9710)

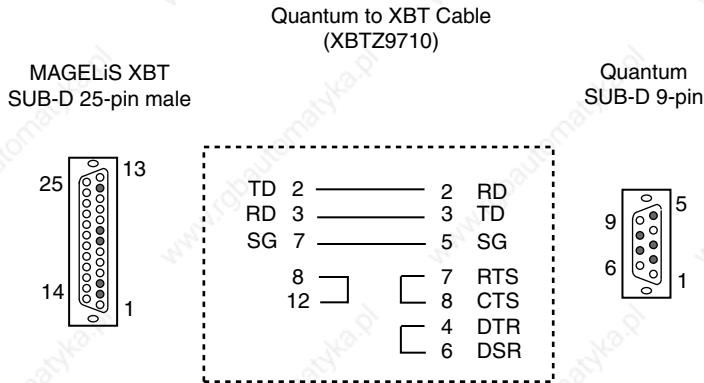
MAGELiS XBT
SUB-D 25-pin male

Compact 984
SUB-D 9-pin male

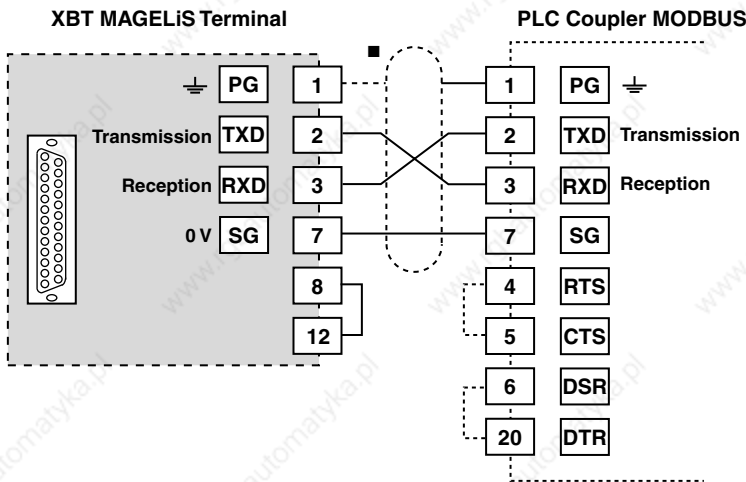


MAGELiS® Operator Terminals
Wiring Diagrams

Quantum (MODBUS Port) to MAGELiS Cable



MAGELiS to MODICON Cable (RS-232 C, with MODBUS Protocol)



■ Connection of shielding to both cable ends depends on the electrical operating conditions.

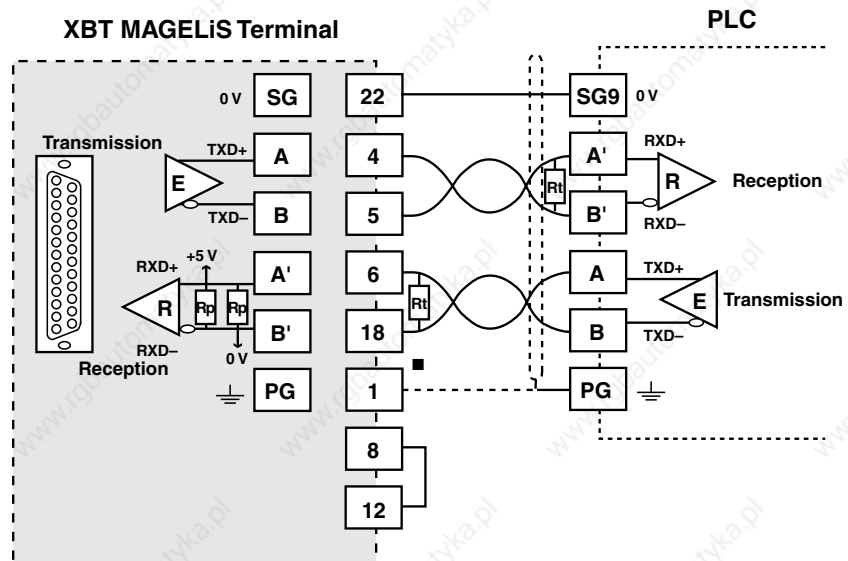
In some configurations, it is not necessary to reverse pins 2 and 3. Consult the appropriate PLC documentation.

MAGELiS® Operator Terminals

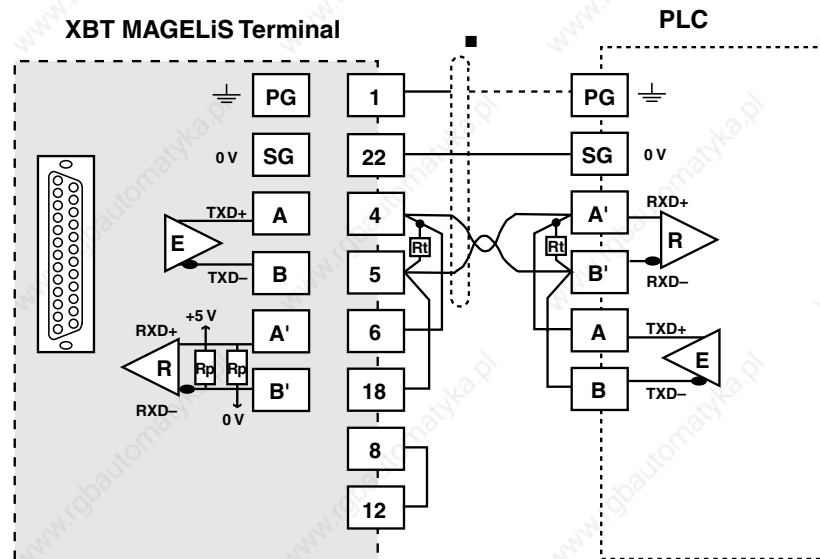
Wiring Diagrams

MAGELiS to MODICON Cable (RS-422/485, with MODBUS Protocol)

RS 422 LINK



RS 485 LINK



■ Connection of shielding to both cable ends depends on the electrical operating conditions.

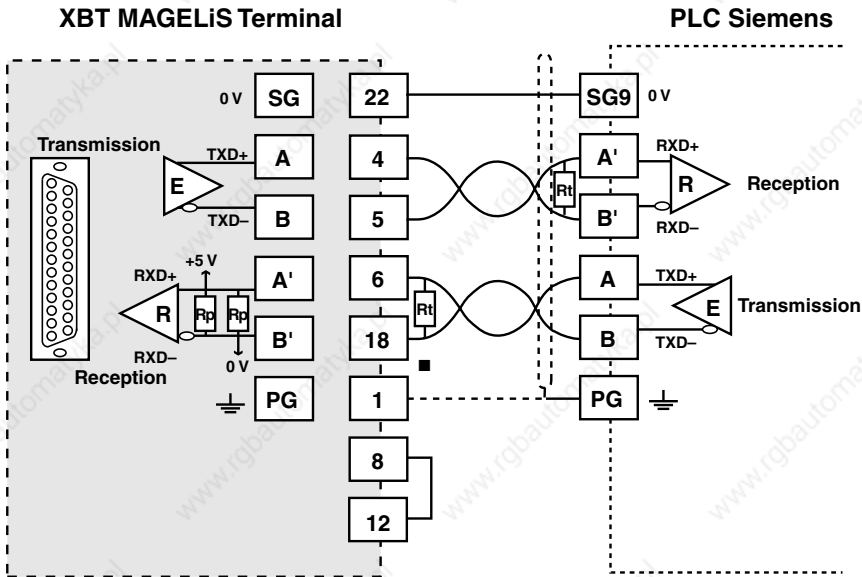
Rt: Link termination resistor (normally 110 Ω).

NOTE: The Rp resistors (4.7 kΩ) are integrated in the XBT.



MAGELiS® Operator Terminals
Wiring Diagrams

MAGELiS to Siemens Cable (RS-422, with 3964/3964R Protocol)



■ Connection of shielding to both cable ends depends on the electrical operating conditions.

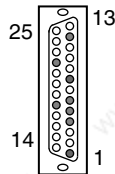
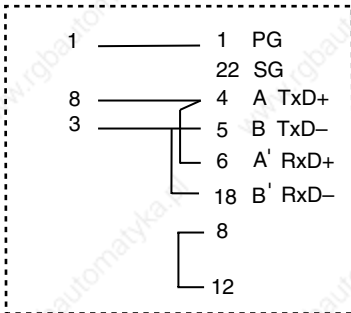
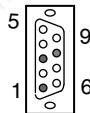
Rt: Link termination resistor (normally 110 Ω).

NOTE: The Rp resistors (4.7 kΩ) are integrated in the XBT.

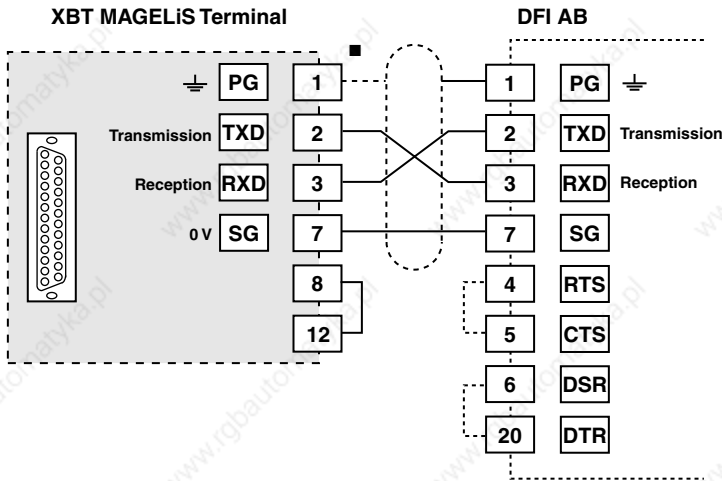
MAGELiS (XBTZ9721) to Siemens Cable (PP1 RS-485)

Siemens
SUB-D 9-pin male

MAGELiS XBT
SUB-D 25-pin male



MAGELiS (XBTZ9720) to Allen Bradley Cable (RS-232 C)

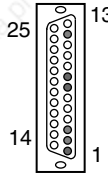
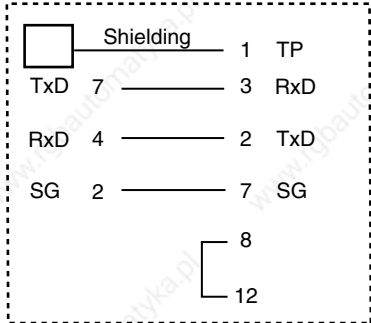
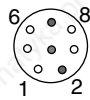


■ Connection of shielding to both cable ends depends on the electrical constraints of the installation.
In some configurations, it is not necessary to reverse pins 2 and 3. Consult the appropriate PLC documentation.

MAGELiS (XBTZ9731) to Allen Bradley Cable (Micro-logix)

AB DF1
Mini DIN 8-pin

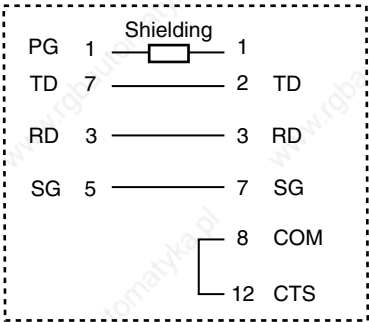
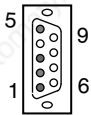
MAGELiS XBT
SUB-D 25-pin male



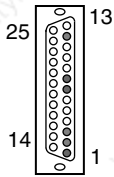
MAGELiS® Operator Terminals
Wiring Diagrams

MAGELiS (XBTZ9730) to Allen Bradley Cable (SLC5)

AB DF1
SUB-D 9-pin

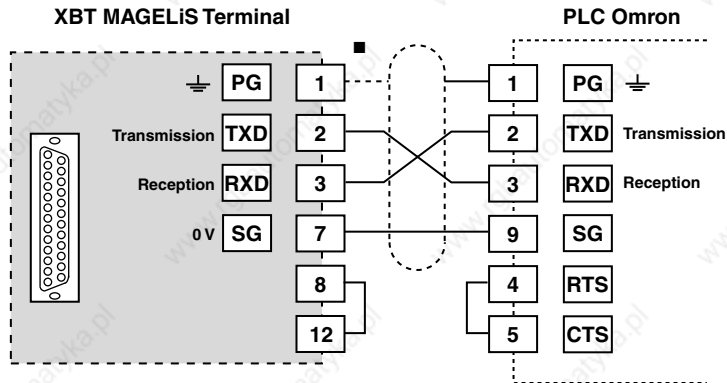


MAGELiS XBT
SUB-D 25-pin male



MAGELiS® Operator Terminals Wiring Diagrams

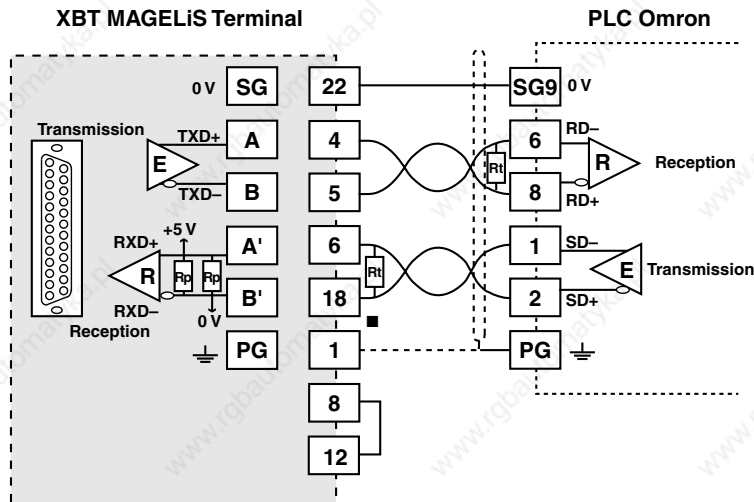
MAGELiS (XBTZ9740) to Omron Cable (RS-232 C)



■ Connection of shielding to both cable ends depends on the electrical operating conditions.

The Omron connector is a DB9 type.

MAGELiS (XBTZ9741) to Omron Cable (RS-422)



■ Connection of shielding to both cable ends depends on the electrical operating conditions.

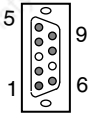
Rt: Link termination resistor (normally 110 Ω).

NOTE: The Rp resistors (4.7 kΩ) are integrated in the XBT.

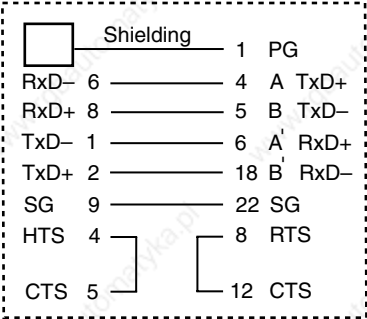
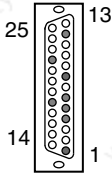
MAGELiS® Operator Terminals
Wiring Diagrams

MAGELiS (XBTZ9750) to GE Fanuc Cable

GE-FANUC
SUB-D 9-pin male



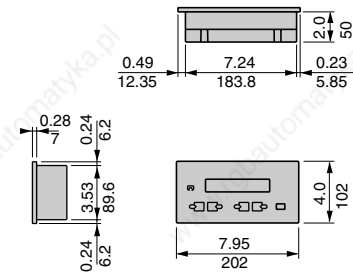
MAGELiS XBT
SUB-D 25-pin male



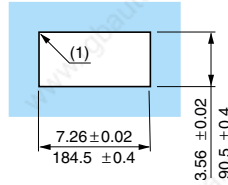
MAGELiS® Operator Terminals Dimensions

Displays and Terminals

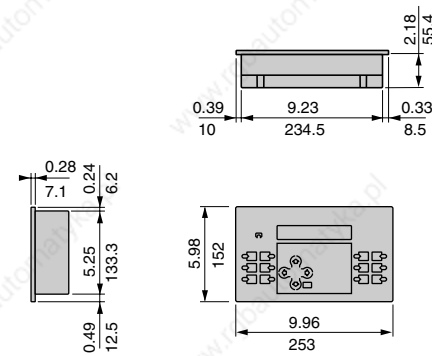
XBTH



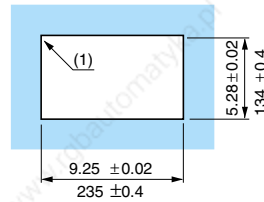
Mounting Panel Cutout



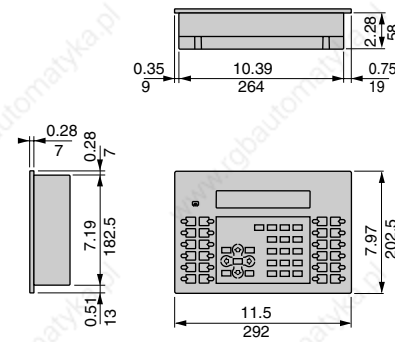
XBTP



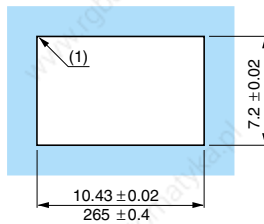
Mounting Panel Cutout



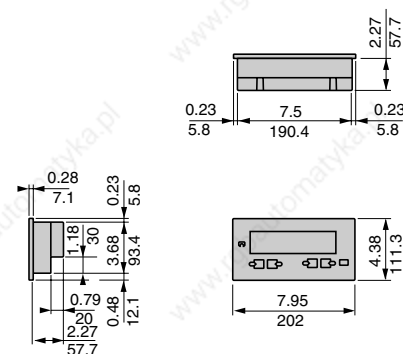
XBTE



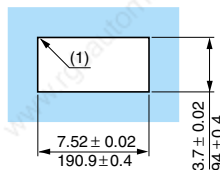
Mounting Panel Cutout



XBTHM



Mounting Panel Cutout



Dual Dimensions $\frac{\text{inches}}{\text{mm}}$

(1) $r = 0.08-0.14$ in. (2-3.5 mm)

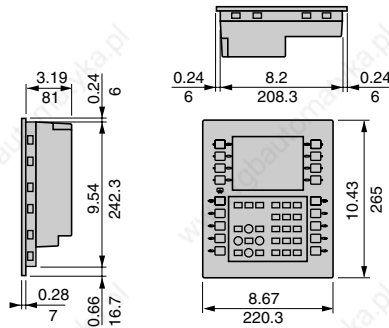


MAGELiS® Operator Terminals

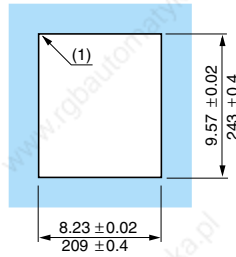
Dimensions

Terminals with Graphic Screens

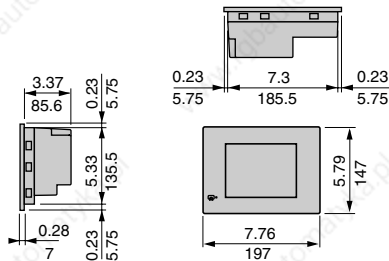
XBTF011•10



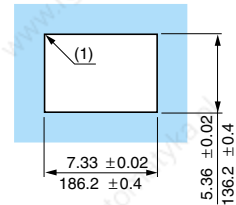
Mounting Panel Cutout



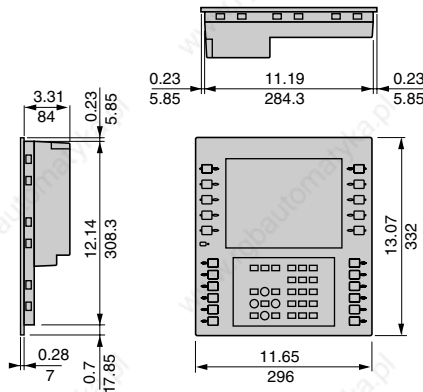
XBTF032•10



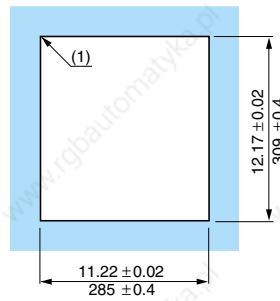
Mounting Panel Cutout



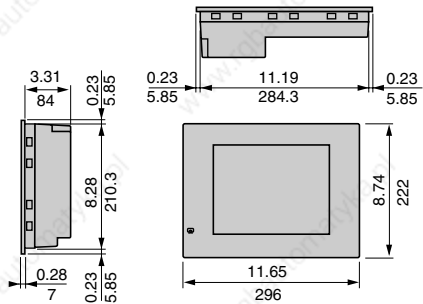
XBTF023/F024



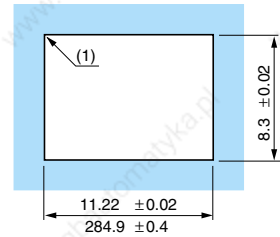
Mounting Panel Cutout



XBTF034



Mounting Panel Cutout



(1) $r = 0.08\text{--}0.14$ in. (2–3.5 mm)

Dual Dimensions $\frac{\text{inches}}{\text{mm}}$

