Magelis Smart 12 "

User Manual

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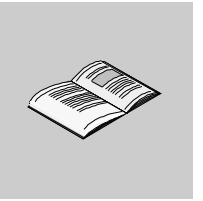
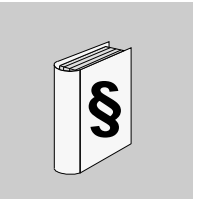


Safety Information



Important Information

NOTICE

Read these instructions carefully, and look at the equipment to become familiar with the device before trying to install, operate, or maintain it. The following special messages may appear throughout this documentation or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.

The addition of this symbol to a Danger or Warning safety label indicates that an electrical hazard exists, which will result in personal injury if the instructions are not followed.

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

⚠ DANGER

DANGER indicates an imminently hazardous situation, which, if not avoided, **will result** in death or serious injury.

⚠ WARNING

WARNING indicates a potentially hazardous situation, which, if not avoided, **can result** in death, serious injury, or equipment damage.

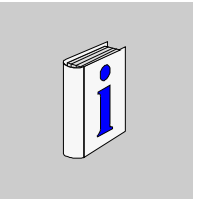
⚠ CAUTION

CAUTION indicates a potentially hazardous situation, which, if not avoided, **can result** in injury or equipment damage.

PLEASE NOTE

Electrical equipment should be installed, operated, serviced, and maintained only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

About the Book



At a Glance

Document Scope

This manual describes the configuration and usage of the Magelis Smart 12 " from the Magelis terminal range.

This computer is designed to operate in an industrial environment and features the very latest technologies.

The Magelis Smart 12 " computer is a panel PC product.

The Smart terminal runs the Microsoft® Windows® XP embedded operating system and is dedicated to web browsing and HMI applications.

The reference of the product is:

- MPC ST21 NAJ 10T
  - 100...240 VAC
  - 12" SVGA Touch screen
  - 600 MHz processor
  - Windows® XP embedded
- MPC ST21 NAJ 10R
  - 100...240 VAC
  - 12" SVGA Touch screen
  - 600 MHz processor
  - Windows® XP embedded + Vijeo Designer Run Time
  - 1GB Compact Flash card + PCMCIA to Compact Flash adaptator

The characteristics of this terminal are detailed in Characteristics of the Smart 12 " *(see page 30)*

Validity Note

Electrical equipment should be installed, operated, serviced and maintained only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material,

General

The present documentation is intended for qualified technical personnel responsible for the implementation, operation and maintenance of the products described. It contains the information necessary for compliance with the proper use of the products. However, those who wish to make a more "advanced" use of our products may find it necessary to consult our nearest distributor in order to obtain additional information

The contents of this documentation are not contractual and in no way constitutes an extension to, or restriction of, the contractual warranty clauses.

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Microsoft® and Windows® are registered trademarks of Microsoft Corporation.

Intel®, Celeron and Pentium® are registered trademarks of Intel Corporation.

IBM® is a registered trademark of International Business Machines Corporation.

Related Documents

Title of Documentation	Reference Number
Magelis iPC Installation Guide	35008589
Vijeo Look Run Time	3500555900
Vijeo Designer Run Time	35007035
NEMA ICS 1.1	–
NEMA ICS 7.1	–
Read Me	35012221

You can download these technical publications and other technical information from our website at www.schneider-electric.com.

Product Related Information

⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

- The mains plug on this equipment must be used to disconnect the mains power.
- Remove all power before removing any covers or elements of the system and installing or removing any hardware and cables.
- Replace and secure all covers or elements of the system before applying power to the unit.
- Always use a properly rated voltage sensing device to confirm power is off.

Failure to follow these instructions will result in death or serious injury.

⚠ WARNING

LOSS OF CONTROL

- The designer of any control scheme must consider the potential failure modes of control paths and, for certain critical control functions, provide a means to achieve a safe state during and after a path failure. Examples of critical control functions are emergency stop and overtravel stop.
- Separate or redundant control paths must be provided for critical control functions.
- System control paths may include communication links. Consideration must be given to the implications of unanticipated transmission delays or failures of the link. *1
- Each implementation of a Magelis 12 " must be individually and thoroughly tested for proper operation before being placed into service.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

*1 For additional information, refer to *NEMA ICS 1.1* (latest edition), *"Safety Guidelines for the Application, Installation, and Maintenance of Solid State Control"* and to *NEMA ICS 7.1* (latest edition), *"Safety Standards for Construction and Guide for Selection, Installation and Operation of Adjustable-Speed Drive Systems".*

User Comments

We welcome your comments about this document. You can reach us by e-mail at techcomm@schneider-electric.com.

General Overview

I

Subject of this Part

This part provides a general overview of the Magelis Smart 12 " product.

What's in this Part?

This part contains the following chapters:

Important Information

1

General

This chapter describes safety aspects which are specific to the operation of the Smart terminal.

What's in this Chapter?

This chapter contains the following topics:

Federal Communications Commission Radio Frequency Interference Statement - For U.S.A.

FCC Radio Interference Information

This equipment has been tested and found to comply with the Federal Communications Commission (FCC) limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause or be subject to interference with radio communications. To minimize the possibility of electromagnetic interference in your application, observe the following two rules:

- Install and operate the Smart 12'' in such a manner that it does not radiate sufficient electromagnetic energy to cause interference in nearby devices.
- Install and test the Smart 12'' to ensure that the electromagnetic energy generated by nearby devices does not interfere with the Smart's operation.

⚠ WARNING

ELECTROMAGNETIC / RADIO INTERFERENCE

Electromagnetic radiation may disrupt the Smart's operations, leading to unintended equipment operation. If electromagnetic interference is detected:

- Increase the distance between the Smart 12'' and the interfering equipment.
- Reorient the Smart 12'' and the interfering equipment.
- Reroute power and communication lines to the Smart 12'' and the interfering equipment.
- Connect the Smart 12'' and the interfering equipment to different power supplies.
- Always use shielded cables when connecting the Smart 12'' to a peripheral device or another computer.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

Qualified Personnel

Safety Aspects

Only qualified personnel are authorized to implement, operate or maintain the products. The interference of non-qualified persons or failure to observe the security instructions contained in this manual, or attached to the devices, can endanger the personnel and/or do irreparable damage to the equipment. The following personnel can be designated as "qualified personnel":

- at the application design level, engineering department personnel who are familiar with automation safety concepts (for example, a design engineer),
- at the equipment implementation level, personnel who are familiar with the installation, connection and commissioning of automation equipment (for example, an installation assembly or cabling engineer, or a commissioning technician),
- at the operation level, personnel who are experienced in the use and control of automation and computing equipment (for example, an operator),
- as far as preventive or corrective maintenance is concerned, personnel trained and qualified in regulating or repairing automatic and computing devices (for example an operating technician, or an after-sales service technician, etc.).

Safety Information for the UK

Earthing and Wiring

⚠ WARNING

UNGROUNDED EQUIPMENT

- This apparatus must be earthed.
- Use a three-pin plug with a standard three-pin power point.
- Use only three-core extension cords.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

⚠ WARNING

IMPROPER WIRING

Wire the equipment as described below:

- Green and Yellow: Earth.
- Blue: Neutral.
- Brown: Live.
- The Green and Yellow wire must be connected to the terminal in the plug marked by the letter E or by the safety earth symbols colored Green, or Green and Yellow.
- The blue wire must be connected to the terminal which is marked by the letter N or colored Black.
- The brown wire must be connected to the terminal which is marked with the letter L or colored Red.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

NOTE: The fact that the equipment operates satisfactorily does not imply that the power point is earthed. If you have any doubt about the effective earthing or wiring of the power point, consult a qualified electrician. Incorrectly wired power cords are a major cause of fatalities.

⚠ WARNING

INCOMPATIBLE POWER SYSTEM

Do not connect this equipment to an isolation transformer power system:

- An isolation transformer system is a system having no reference between live parts and Earth; the exposed conductive parts of the device frame and enclosure are earthed.
- An isolation transformer system is not permitted where the computer is directly connected to public supply systems in the UK.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

Certifications and Standards

Agency Certifications

Schneider Electric submitted this product for independent testing and qualification by third-party listing agencies. These agencies have certified this product as meeting the following standards.

North America:

- Underwriters Laboratories Inc., UL 508, Industrial Control Equipment
- Underwriters Laboratories Inc., UL 1604/cUL, Electrical Equipment for Use in Class I, Division 2 Hazardous (Classified) Locations
- Canadian Standards Association, Specification C22.2, No. 142, Process Control Equipment

Compliance Standards

Schneider Electric tested this product for compliance with the following compulsory standards.

North America:

- Federal Communications Commission, FCC Part 15
- Underwriters Laboratories Inc., UL 60950, Information Technology Equipment

Europe: CE

- Directive 2006/95/EC (Low Voltage)
  Directive 2004/108/EC (EMC)
- Programmable Controllers: IEC/EN 61131-2
- EMI: EN55011 (Group 1, Class A) / IEC/EN 61000-3-2, IEC/EN 61000-6-4
- EMS: EN 61000-6-2
- IEC/EN 60950, Information Technology Equipment

Australia:

- C-Tick N998
- Standard AS/NZS CISPR11

Qualification Standards

Schneider Electric voluntarily tested this product to additional standards. The additional tests performed, and the standards under which the tests were conducted, are specifically identified in *Environmental characteristics, page 32*.

Hazardous Substances

This product is compliant with:

- WEEE, Directive 2002/96/EC
- RoHS, Directive 2002/95/EC
- RoHS China, Standard SJ/T 11363-2006

Compliance of Use

European Directives

The products described in the present documentation comply with the European Directives concerning Electromagnetic Compatibility and Low Voltage (CE marking). However, these can only be used correctly if they are used in applications for which they are specifically intended, as specified in the relevant documentation, and in connection with approved third-party products.

As a general rule, correct usage of the products, with no danger to personnel or hardware, consists of complying with all handling, transport and storage recommendations, and all installation, operation and maintenance instructions.

Physical Overview

2

Subject of this Chapter

This chapter provides physical overviews of the products.

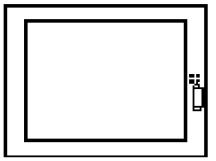
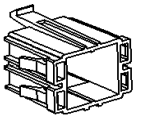
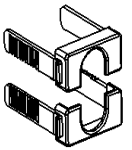
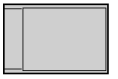
What's in this Chapter?

This chapter contains the following topics:

Package Contents

Items

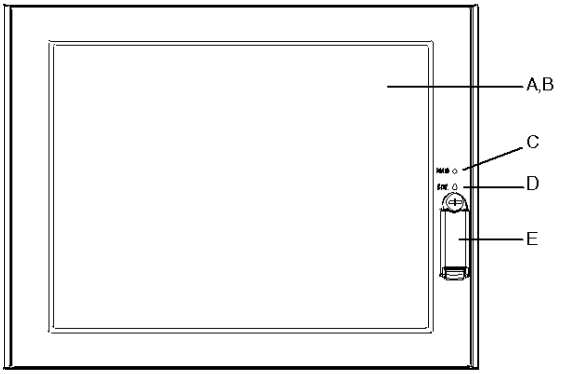
The following items are included in the Smart Magelis package. Before using the unit, please confirm that all items listed here are present. Should you find anything damaged or missing, please contact your local distributor immediately.

Designation	Figure
MPC ST21 ••• ••	
Installation Fasteners (4 per set)	
Installation Guide (French/English)	
USB Cover x 2	
USB Holder x 4	
CF Card	

Designation	Figure
Installation Gasket	
1 x CD-ROM Operating System Restore and Documentation	

Smart Unit Description

Front View

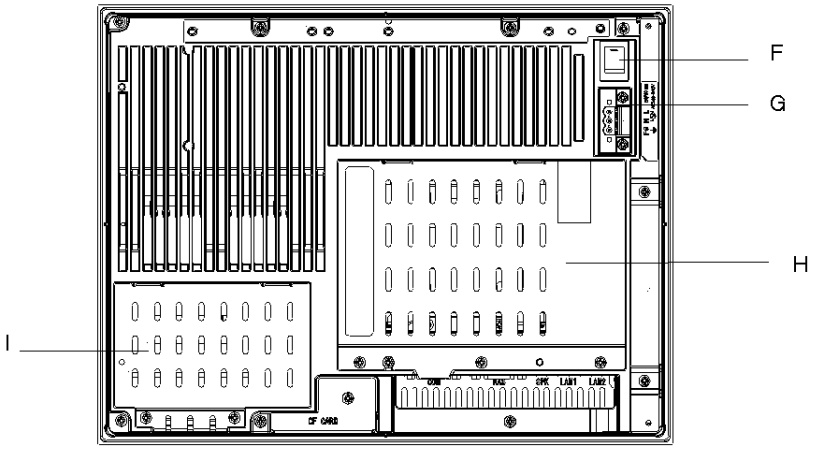


A Display
B Touch Panel
C Power LED/RAS Status Lamp
- Green Lit: Normal
- Green Blinking: System is not running (Soft OFF state)
- Orange Lit: System Monitor Error/Touch Panel Error
- Orange/Red Blinking: Backlight Error
- Not Illuminated: Power is Off

D HDD/IDE Access Lamp
- Green Lit: Access to HDD or IDE
- Not Illuminated: No Access to HDD or IDE

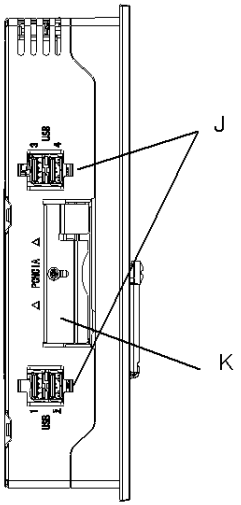
E Front USB Cover

Bottom View



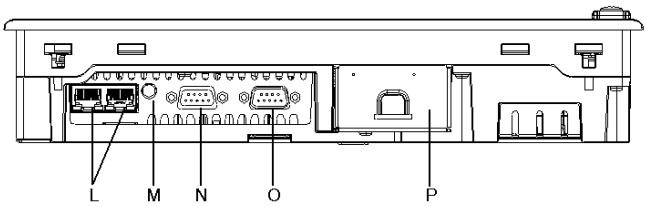
F: Power Switch
G: Power Supply Connector
H: Mask Cover
I: Memory Slot Cover

Side View



J: USB Interface
K: PCMCIA

Rear View

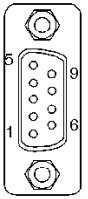


L: Ethernet Interface (LAN) x 2
M: Speaker Output Interface
N: RAS Interface
O: Serial Interface (COM1)
P: CF Card Cover

Interface Specification

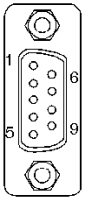
Serial Interfaces

This interface is used to connect an RS-232C (serial) cable. A SUB-D 9 pin plug connector is used.

PIn Arrangement	Pin No.	RS-232C		
		Signal Name	**Direction**	**Meaning**
	1	CD	Input	Carrier Detect
	2	RXD	Input	Receive Data
	3	TXD	Output	Send Data
	4	DTR	Output	Data Terminal Ready
	5	SG	–	Signal Ground
	6	DSR	Input	Data Set Ready
	7	RTS	Output	Request to Send
	8	CTS	Input	Send Possible
	9	RI	Input	Called status display/+ 5V
	Shell	FG	–	Frame Ground (Common with SG)

RAS Interface

The types of sockets for SUB-D 9 pins are listed in the table below:

Pin Arrangement	Pin No.	Signal Name	Meaning
	1	+ 12 V	Output Current: Less than 100 mA Output voltage: 12 V +- 5 %
	2	DOUT 0 (+)	General Output 0 (+)
	3	DOUT 1 (+)	General Output 1 (+)
	4	DIN 0 (+)	General Input 0 (+)
	5	DIN 1 (+)	General Input 1 (+)
	6	GND	12 V Loop GND
	7	DOUT 0 (–)	General Output 0 (–)
	8	DOUT 1 (–)	General Output 1 (–)
	9	DINCOM	DIN GND Common

Recommended connector: XM2A-0901 Manufactured by Omron Co.

Recommended cover: XM2S-0913 Manufactured by Omron Co.

The types of sockets for SUB-D 9 pins are listed in the table below:

Jack Screw: XM2Z-0073 Manufactured by Omron Co.

Input (DIN0, 1)

INPUT VOLTAGE RANGE	**12...24 VDC**
INPUT CURRENT	Below 10 mA
INNER RESISTOR	3.6 KΩ
INSULATION VOLTAGE	Below 500 VAC
INSULATION	Photocoupler

Output (DOUT 0,1)

OUTPUT VOLTAGE RANGE	**24 VDC**
OUTPUT CURRENT	Below 120 mA
INSULATION VOLTAGE	Below 500 VAC
INSULATION	Photocoupler

Characteristics

3

Subject of this Chapter

This chapter gives the product characteristics.

What's in this Chapter?

This chapter contains the following topics:

Characteristics of the 600 MHz Smart 12 "

Introduction

The characteristics of the 600 MHz Smart 12 " model are given below.

Product Characteristics

Element	Characteristics
Processor	Fanless ULV CeleronM 600 MHz, secondary memory cache 512 KB
RAM	DIMM Socket 1: 256 MB expandable to max 1 GB
Ethernet TCP/IP link	2 x 10/100base TX (RJ45 interface)
USB ports	1 x USB 1.1 (front, 1 port) 4 x USB 2.0 (side)
RAS Interface	Reset Input, Alarm Output, General Input 2 ch (DIN 1 can be used for Reset Input), General Output 2 ch. Connector: D-SUB 9 Pin Plug (female)
COM 1 serial port	RS232C
PCMCIA slot	Only 1 port available on side (the closer to the screen)
Audio port	Stereo Speaker out (Mini Jack)
Dimensions (WxHxD)	313 x 239 x 60 mm (12.32 x 9.41 x 2.36 in.)
Weight	3.8 Kg [8.4 lb]

NOTE: If you encounter problem using a USB high speed device (webcam, memory key...), plug it into USB port #2 and let USB port #1 empty.

Display Characteristics

Element	Characteristics
Graphics	SVGA active matrix (800x600)
Nb of colors	260 K colors
Brightness	210 cd/m^2 (typical value)
View angle	Vertical 120°, horizontal 140° maximum
Touch sensitive screen	Analog resistive film, resolution 1024x1024, USB interface
Backlight's life span	>50 000 h at ambient temperature 25 °C (77 °F)

Power Supply

Element	Characteristics
Supply voltage	100...240 VAC
Consumption	95 VA (max.)
Short dips	10.0 ms (20 ms max.)

Operating Systems

The Smart product is delivered with a Compact Flash card. This card contains the pre-installed operating system according to the reference of the product ordered.

The product works with the Microsoft® Windows® XP embedded operating system.

Reference	Characteristics
MPC ST21 NAJ 10T	Smart with 12" SVGA display, Touch Screen, 1 GB Compact Flash with Windows® XP Embedded pre-installed
MPC ST21 NAJ 10R	Smart with 12" SVGA display, Touch Screen, 1 GB Compact Flash with Windows® XP Embedded pre-installed with Vijeo Designer Run Time. An additional 1 GB Compact Flash and a PCMCIA to Compact Flash adaptator

Environmental characteristics

Characteristics

The environmental characteristics of the 12 " Smart are as follows:

Characteristics	Value	Standards
Degree of Protection	• IP 65/NEMA4 for the front panel. • IP 20 for the rest of the product	–
Pollution Degree	For use in Pollution Degree 2 environment	–
Surrounding air temperature during operation	0 ... 50 °C (32 ... 122 °F)	EN 61131-2, UL compliant
Storage temperature	–20 ... 60 °C (–4 .... + 140 °F)	IEC 68-2-2 tests Bb and Ab, IEC 68-2-14 tests Na and EN 61131-2 compliant
Operating altitude	0 ... 2000 m (0 ... 6561.5 ft)	–
Vibration (in operation)	3.5 mm amplitude from 5 ... 9 Hz, 1 g amplitude from 9 ... 150 Hz	IEC 68-2-6 Fc test and EN 61131-2 compliant
Shock Resistance (in operation)	15 g over 11 ms	IEC 68-2-27 Ea test and EN 61131-2 compliant
Humidity	10...85 % RH (Wet bulb temperature: 29 °C (84.2 °F) max. - no condensation)	–
Immunity to interference	High frequency interference	EN 61131, IEC 1000-4-3/6 level 3
	Electromagnetic waves	Class A/EN 55022/55011
	Safety of personnel and property	EN 61131-2, UL/CSA and IEC 529/IEC 950

Certification

The Schneider Electric systems are designed to meet the following standards:

- Underwriters Laboratories Inc., UL 60508, Industrial Control Equipment
- Canadian Standards Association, Specification C22.2 No. 142 Process Control Equipment
- IEC 61131-2, programmable controllers.

Dimensions/Assembly

4

Subject of this Chapter

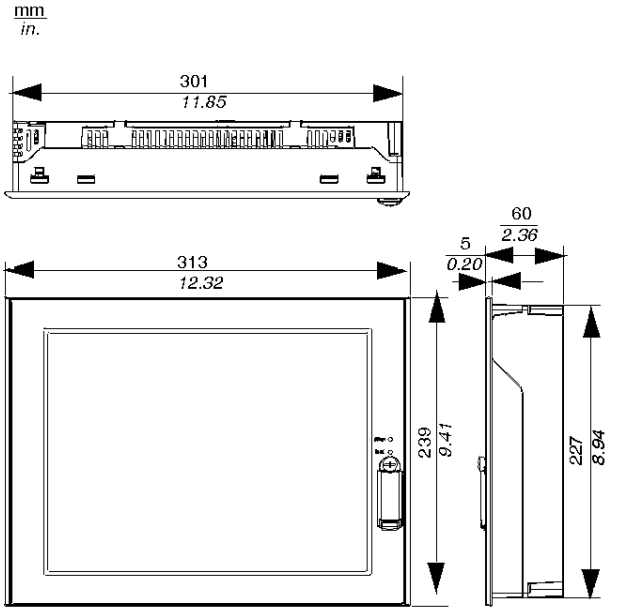
This chapter concerns the dimensions and the panel mounting of products.

What's in this Chapter?

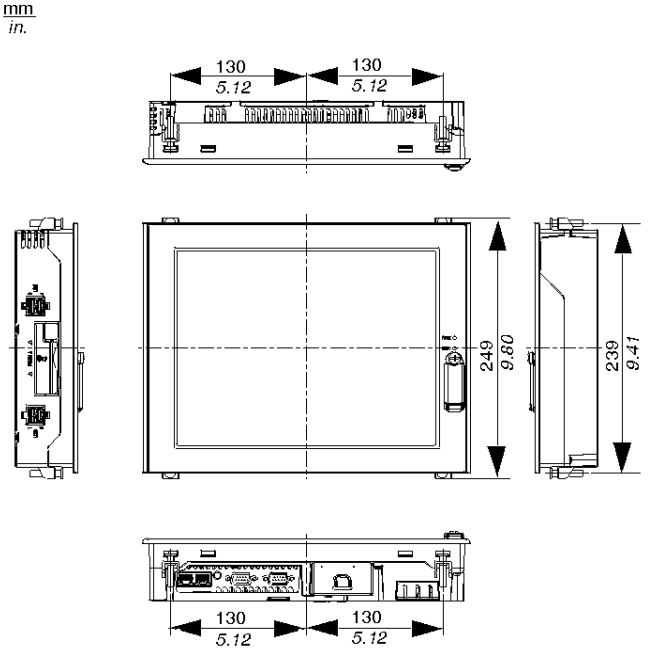
This chapter contains the following topics:

Dimensions

Dimensions of the Smart Unit



Dimensions with Installation Fasteners



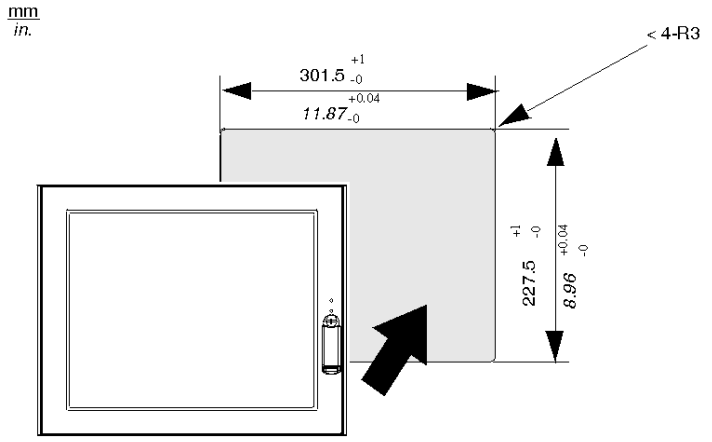
Creating a Panel Cut for Cabinet Installation

Overview

For cabinet installation, it is necessary for the correct sized opening to be cut in the installation panel. The installation gasket and installation fasteners are required when installing the Smart unit.

Panel Cut Dimensions

The dimensions of the opening required to install the terminal are shown below:



Precautions

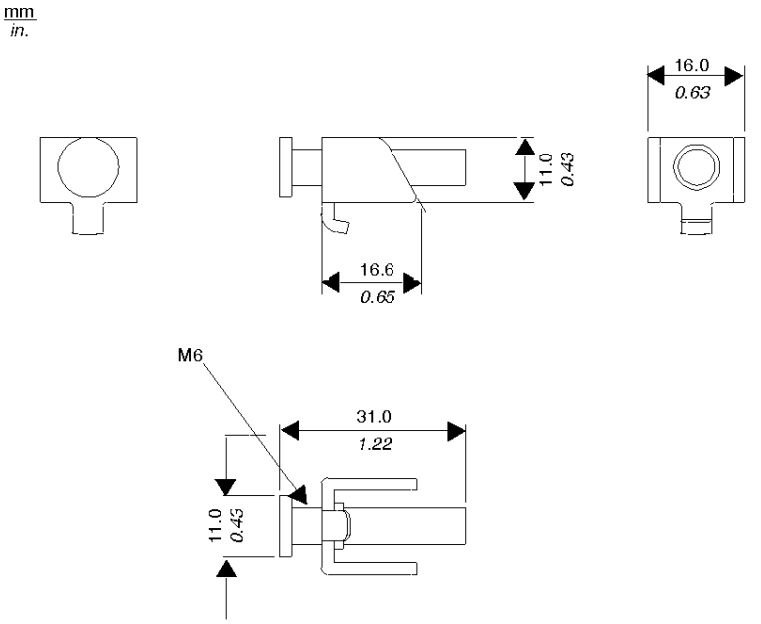
NOTE:

- Ensure the thickness of the installation panel is from 1.6 to 10 mm (0.06 to 0.39 in).
- All panel surfaces used should be strengthened. Due consideration should be given to the product's weight, especially if high levels of vibration are expected and the product's installation surface can move. Metal reinforcing strips can be attached to the inside of the panel near the panel cut, to increase the strength of the panel.
- Ensure all installation tolerances are maintained to prevent the unit from falling out of its installation panel.

Panel Mounting

Installation Fasteners

The product is designed to be mounted in a cabinet with the attachments described below:



Installing the 12 " Smart

Installation Location

⚠ CAUTION

EQUIPMENT MALFUNCTION

- Avoid placing the Smart terminal next to other devices that might cause overheating
- Keep the Smart terminal away from arc-generating devices such as magnetic switches and non-fused breakers.
- Avoid using the Smart terminal in environments where corrosive gases are present
- To ensure the reliability, operability and ventilation of the terminal, be sure to install it in locations that are more than 50 mm (1.97 in.) away from adjacent structures or equipment. Also, consider the need for installing or removing expansion boards, or connectors when designing the placement and installion of your product.

Failure to follow these instructions can result in injury or equipment damage.

Vibration and Shocks

Extra care should be taken with respect to the specification concerning vibration levels when installing the terminal, otherwise it could be damaged. If the Smart terminal is moved, for example, whilst it is installed in a rack equipped with caster wheels, the unit can receive excessive vibration or jolting.

NOTE: The screw installation fasteners are required for NEMA4 protection.

Precaution

⚠ CAUTION

LOSS OF SEAL

The gasket helps maintain the protection ratings (IP65, IP20) of the unit, and provides additional protection from vibration. It is strongly recommended that the installation gasket is used, since it absorbs vibration in addition to repelling water. Install the gaskets delivered with your Magelis terminal product.

Failure to follow these instructions can result in injury or equipment damage.

Installation Gasket

The installation gasket plays an important role in the installation of any Magelis terminal. Pay particular attention to the following:

- Before mounting the Smart terminal into a cabinet or panel, check that the installation gasket is attached to the unit.
- A gasket which has been used for a long period of time may be scratched or dirty, and may have lost much of its water resistance. Change the gasket at least once a year, or when scratches or dirt become visible.
- The corresponding gasket is provided in the maintenance kit ref: MPC YK 20 MNT KIT.
- The gasket is flexible but not elastic, do not stretch it unnecessarily, as doing so could tear the gasket.
- When pushing the gasket into the installation groove and around the corners of the unit, ensure that the gasket's seam is not placed in a corner. Placing the seam here could cause the gasket to tear.

Even if the Smart's Installation Gasket is not needed to prevent water from entering the unit, the gasket also acts as a vibration absorber and should always be attached.

Precaution

⚠ CAUTION

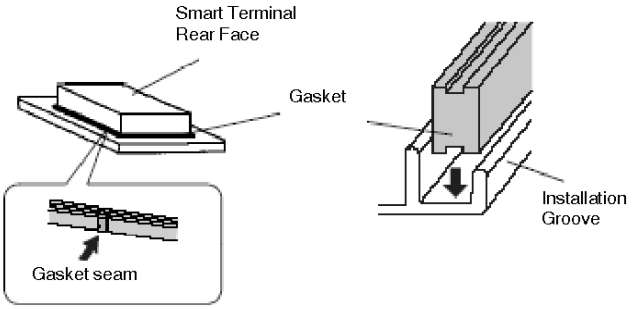
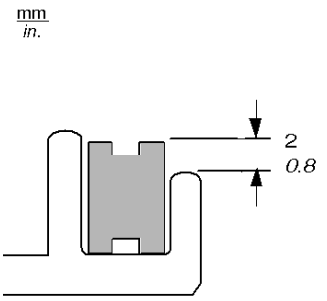
RISK OF EQUIPMENT DAMAGE

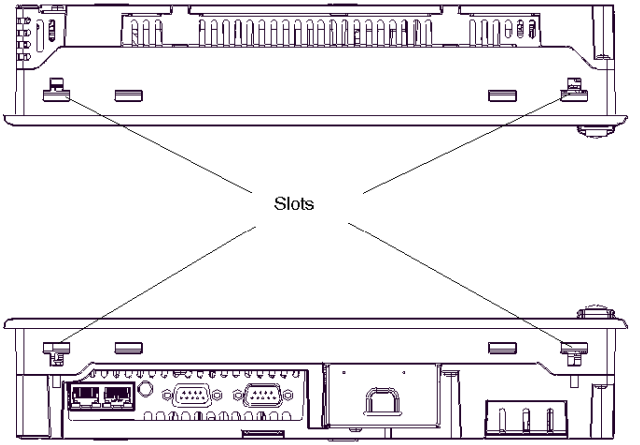
Do not exert more than 0.5 Nm (4.42 in-lb) of torque when tightening the screws. Tightening the screws with excessive force can damage the plastic case.

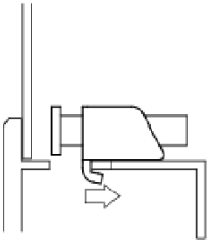
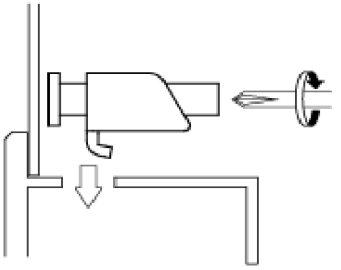
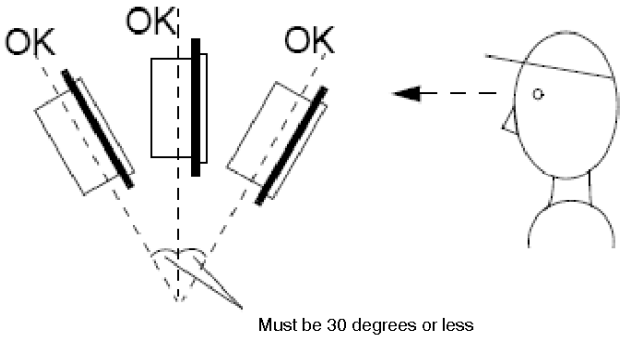
Failure to follow these instructions can result in injury or equipment damage.

Installing the Smart Unit

Follow the steps given below when installing the Smart terminal:

Step	Action
1	Place the unit face down on a soft,dry surface and attach the gasket to the rear side of the display face, in the plastic bezel's groove (see picture below). 
2	Check that the gasket is correctly attached to the unit. The upper surface of the gasket should protrude evenly approximately 2 mm (0.08 in.) out of the groove. Note: The terminal's bezel has a part attached to it. To prevent the installation gasket from contacting this part, be sure to press the installation gasket completly into its groove. 

Step	Action
3	Insert each installation fastener securely into the slot's recess at the top and bottom of the unit. 
4	Attache and Secure the Rear Installation Attachments  Note: ● Excessive torque may damage the Smart unit. ● To ensure a high degree of moisture resistance, the torque should be 0.5 Nm (4.42 in-lb). ● Insert each of the fasteners as shown below. Be sure to pull the fastener back until it is flush with the rear of the attachment hole. ● The corresponding installation attachments can be purchased as spare parts with the maintenance kit ref.: MPC YK 20 MNT KIT.

Step	Action
5	Insert each of the fasteners. Pull the fastener back until it is flush with the rear of the attachment hole. 
6	Use a screw driver to tighten each of the fastener screws and secure the terminal in place. 
7	Ensure that the panel's viewing angle is tilted no more than 30 degrees from parallel to the operator (i.e. operator is directly in front). 

Implementation

II

Subject of this Part

This part describes the implementation of the product.

What's in this Part?

This part contains the following chapters:

Getting Started

5

First Power-up

Seal Removal

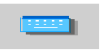
NOTE: Before the first power-up, please read the "LIMITED USE LICENSE AGREEMENT" carefully, then remove the seal.

License Agreement

On first power-up of your MPC••, it is necessary to customize and parameterize your system, see the Installation Guide.

Some Useful Tools

A selection of program icons are displayed on the task bar which can be used to launch some useful programs.

Icon	Usage
	This is the virtual keyboard. Click on it, and a graphical keyboard is displayed. It is useful when you do not want to connect, or cannot connect a keyboard to the unit.
	This is the virtual mouse button selector. It allows the user to associate the next "click" to a "right click". For instance, this tool permits the use of context sensitive menus.
	Configuration Panel / Brightness : This link allows the user to change the brightness of the screen (useful for dark areas).
	EWF Manager: EWF state indicator. It is located on the state bar of the Windows® taskbar. It's role is to indicate the current EWF state of the machine. (Administrator only).

EWF Manager Enhanced Write Filter

Description :

The Magelis Smart operating system, Windows® XP embedded, is installed on a memory cartridge. This cartridge is a rewritable "Compact flash" card and this media offers a relatively restricted number of writings compared to a hard disk drive.

To resolve this limtation, the operating system stores its temporary data in dynamic memory (RAM).

All these operations are managed by the Enhanced Write Filter (EWF). The EWF manager can be temporarily inhibited.

The data affected by this behaviour are configuration files such as: registry, software and users manager.

When the EWF is enabled, all operating system modifications will be lost after the Magelis Smart is restarted.

The following types of modifications can be lost:
- new applications installation
- new peripheral installation
- new user creation
- network configuartion: IP address, operating mode...
- Operating System customization: background picture, screen saver...

Validation/Inhibition of EWF Manager

In the Magelis Smart, a utility program allows the enabling or disabling of the EWF manager.This tool is located in the follow directory : `C:\Program files\Change EWF State\ChangeEWFstate.exe`

Any changes will be restored after restarting of the terminal.

EWF States:

EWF State	Meaning
ENABLED	EWF activated. Normal behavior.
DISABLED	EWF inhibited. Operator customizations will be restored after restarting. These include: ● new application installation ● new peripheral installation ● new user creation ● network configuartion: IP address, operating mode etc. ● Operating System customization: background picture, screen saver etc.

NOTE: To customize your terminal, the EWF must be disabled, but once changes have been made, the EWF manager must be reenabled.

Main Power Connection

6

Subject of this Chapter

This chapter describes the connection of the terminal to the mains power supply.

What's in this Chapter?

This chapter contains the following topics:

Connecting the AC Power Cord

Connecting the AC Power Cord

Connect the power cable to the power plug attached to the terminal unit. The power plug is removable from the terminal unit.

Precautions

⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

To avoid an electric shock prior to connecting the terminal's power cord terminals to the power terminal block, ensure that the unit's power supply is completely switched OFF, via a breaker or similar unit.

- The power plug is removable from the power connector on the terminal. Ensure that only the power plug is removed and not the power connector.
- To avoid the dangers of fire, electric hazards and equipment damage, be sure to use only the specified voltage when operating the Smart 12 ". This unit is designed to use 100...240 VAC input.
- Since the unit has no power ON/OFF switch, be sure to attach a breaker-type switch or similar unit to its power cord.

Failure to follow these instructions will result in death or serious injury.

NOTE: When the FG terminal is connected, be sure the wire is grounded. Not grounding the Magelis Smart 12 " unit will result in excess noise and vibration.

When using the strand wire, if the conductor's end is not twisted correctly, the end wires may either short against each other or against an electrode.

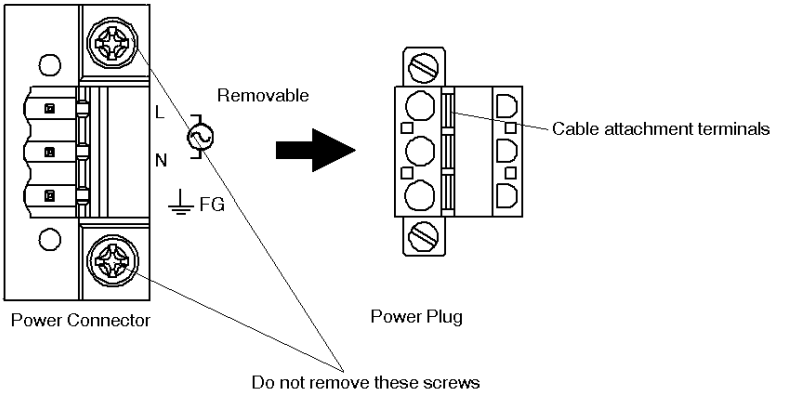
The grounding wire should have a cross sectional area of 2 mm^2 (12 AWG) or greater. Create the connection point as close to the terminal as possible and keep the wire as short as possible.

To reduce noise be sure to twist the wire ends.

Use copper conductors only. The temperature rating of field installed conductors is 75 °C (167 °F) maximum.

Terminal Block Description

The figure below shows how to wire the Terminal Block:



NOTE:

- Do not solder the wire itself.
- If the central wire's end strands are not twisted correctly, the end strands may either short against each other, or against an electrode.
- The torque required to tighten these screws is 0.5 to 0.6 Nm (4.42 to 5.31 in-lb).

Precaution

⚠ DANGER

HAZARDOUS VOLTAGE

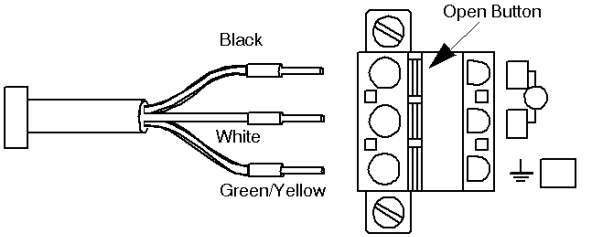
To avoid an electric shock, check that the main power supply is turned OFF, via a breaker or similar unit, before connecting the Smart's power cord to the AC connector.

To avoid the dangers of fire, electric hazards and equipment damage, be sure to use only the specified voltage when operating the unit.

Failure to follow these instructions will result in death or serious injury.

Wiring the Terminal Block

When connecting the wires, be sure to follow the procedures given below.

Step	Action
1	Confirm that the power cable is disconnected from the power supply.
2	Check the color of each cable core before connecting it to the attachment hole.
3	Open the cable attachment holes of the terminal plug by pressing the corresponding button on the plastic terminal.
4	Remove the wire's external covering and insert the crimp-type pin terminal of the cable core completely into the opening.
5	Release the pressure on the plastic terminal and the hole is closed and the cable is fixed. 

Grounding Cautions

Overview

NOTE: When the FG terminal is connected, be sure the wire is grounded. Not grounding the terminal unit will result in excess noise and vibration.

When using the strand wire, if the conductor's end is not twisted correctly, the end wires may either short against each other or against an electrode.

When using a long grounding wire, replace the thin wire with a thicker wire and place it in a duct. Please refer to the table below for maximum line lengths for the thickness of wire.

Wire Thickness	Maximum Line Length
$2mm^2$ ($0.08 in.^2$)	30 m (98.42 ft)
–	60 m (196.9 ft) round trip.
$1.5 mm^2$ ($0.06 in.^2$)	20 m (65.62 ft)
–	40 m (131.23 ft) round trip.

Precaution

⚠ WARNING

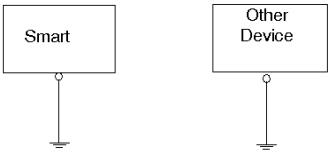
RISK OF EQUIPMENT DAMAGE AND UNINTENDED EQUIPENT OPERATION

Do not use common grounding except the authorized configuration shown below, since it can lead to electrostatic damage and unintended equipment operation.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

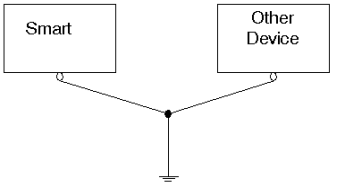
Dedicated Ground

Connect the Frame Ground (FG) to a dedicated ground.



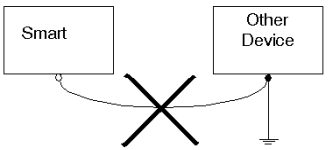
Shared Ground Allowed

If a dedicated ground is not possible, use a shared ground, as shown below.



Shared Ground not Allowed

When connecting an external device to a Smart with the SG terminal, ensure that no short-circuit loop is created when you set up the system.



Procedure

When grounding, follow the procedures given below:

Step	Action
1	Check that the grounding resistance is 100 Ω or less.
2	The SG and FG terminals are connected internally in the terminal.
3	When connecting the SG line to another device, ensure that the design of the system/connection does not produce a grounding loop.
4	The grounding wire should have a cross-sectional area of 2 mm^2 (14 AWG). Create the connection point as close to the iCP as possible and make the wire as short as possible. When using a long grounding wire, replace it with a thicker wire and place it in a duct.
5	If the equipment does not function properly when grounded, disconnect the ground wire from thte FG terminal.

Connecting I/O Signal Lines

Precautions

I/O signal lines must be wired separately from the power circuit cable. If the power circuit cable needs to be wired together with the input/output (I/O) signal lines for any reason, use shielded cables and ground one end of the shield to the Smart's FG (Frame Ground) terminal.

Configuration of the BIOS

7

Accessing the BIOS

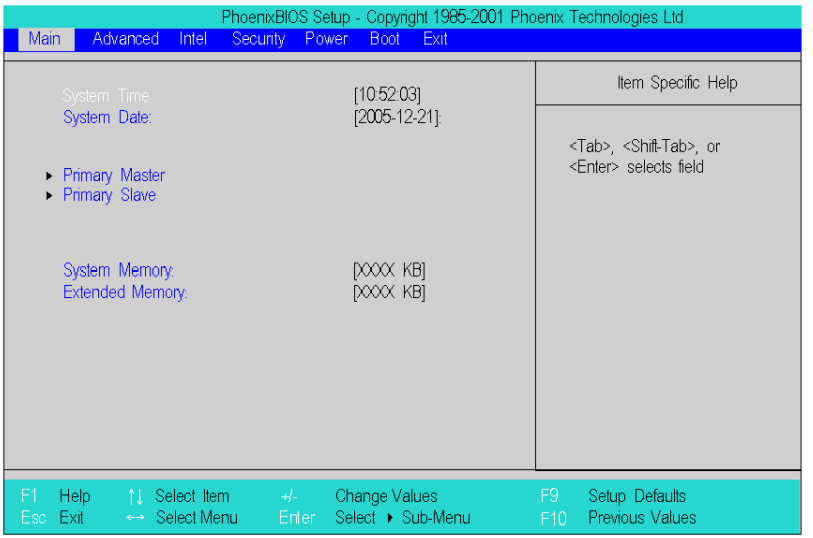
Precaution

Normally, use only the factory (default) settings.

Turn the power on to the terminal and when prompted to do so, press the F2 key to enter the BIOS.

Main Menu

Selecting the `Main` menu item displays the following screen:



System Time

Time (hh:mm:ss)

This field shows the current terminal time from the internal clock.The hh/mm/ss (00:00:00) format is factory set prior to shipping.

Hours: 00 to 23

Minutes: 00 to 59

Seconds: 00 to 59

The correct time can be set by using the + and - keys.

System Date

Date (yy:mm:dd:)

This field shows the Smart unit's internal calendar. The correct date can be set by using the + and - keys.

Year: 1999 to 2099

Month: Jan/Feb/Mar/Apr/May/Jun/Jul/Aug/Sep/Oct/Nov/Dec

Day:1 to 31

When finished entering parameters, press Esc to reach the `Exit` menu. Here you will be prompted either to exit saving the changes, or to exit without saving the changes as described below.

Primary Master

This field displays the names of the devices connected to the primary bus of the terminal. Pressing the Enter key will call up the `Parameter Settings` menu.

Primary Slave

This field displays the names of the devices connected to the secondary bus of the terminal. Pressing the Enter key will call up the `Parameter Settings` menu.

System Memory

This field displays the capacity of the System Memory.

Extended Memory

This field displays the capacity of the Extended Memory.

Exit BIOS saving the Modifications

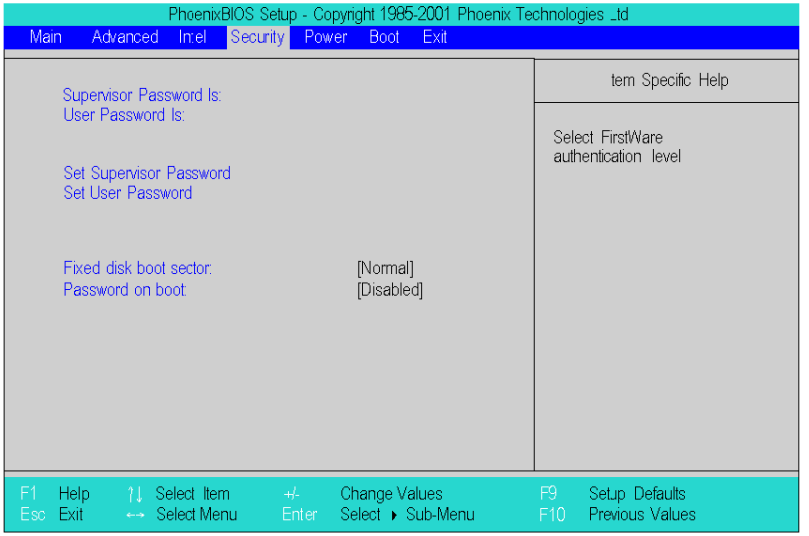
This feature saves the settings entered in the `Setup Utility` and restarts the Smart unit.

Exit BIOS Without Saving Modifications

This feature quits the `Setup Utility` program without saving any settings entered.

Password Security

From the Main menu use the Tab key to reach the `Security` menu. This menu is used for setting Supervisor and User Passwords.



System Password

This password is used to change system information settings. It is designed to prevent unapproved users from changing the system information settings. Entering up to 8 characters here will overwrite the current password.

When you wish to have no password, click on the Enter key. PASSWORD DISABLE is displayed, providing confirmation that the Password is no longer set.

User Password

This password is used to view system information settings. It is designed to prevent unapproved users from viewing the system information settings. Entering up to 8 characters here will overwrite the current password.

When you wish to have no password, press the Enter key. Next, the text "PASSWORD DISABLE" is displayed, providing confirmation that the Password is no longer set.

NOTE:

- When using either `Set Supervisor Password` or `Set User Password`, you can easily view and change system settings.
- When using both the `Set Supervisor Password` and `Set User Password` features, `Set User Password` will allow you to only view system data, not change it.

Hardware Extensions

8

Subject of this Chapter

This chapter concerns the hardware extensions for the Smart terminal.

A wide variety of optional units, Main Memory, CF cards, PCMCIA (PC cards) manufactured by Schneider Electrics and commercial PCMCIA (PC Cards) can be used with the Smart terminal.

What's in this Chapter?

This chapter contains the following topics:

Before installation

Overview

For the detailed installation procedures for the optional units, please refer to the OEM's (Original Equipment Manufacturer] Installation Guide.

⚠ DANGER

HAZARDOUS VOLTAGE

- Disconnect all power from the Smart terminal.
- Always use a properly rated voltage sensing device to confirm power is off before installing any optional units such as main memory or CF cards.

Failure to follow these instructions will result in death or serious injury.

⚠ CAUTION

EQUIPMENT DAMAGE

- Do not exert more than 0.5 to 0.6 Nm (4.42 to 5.31 in-lb) of torque when tightening the enclosure screws. Tightening the screws with excessive force can damage the plastic casing of the Smart terminal.
- When removing or replacing screws, be careful that they do not fall inside the Smart unit's chassis.

Failure to follow these instructions can result in injury or equipment damage.

Installing a Larger RAM Chip

General

⚠ CAUTION

ELECTRO STATIC DISCHARGE

RAM modules contain components which are sensitive to Electro Static Discharge (ESD).

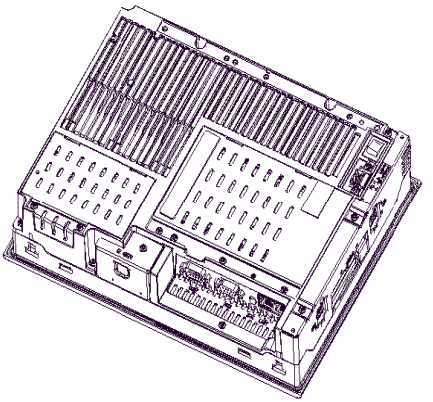
- Use proper ESD protection (grounding wrist strap, protected mat etc.) when handling ESD sensitive components.
- Do not remove ESD sensitive components from their anti-static bags until you are ready to install them.
- Handle the RAM module only by the edges.

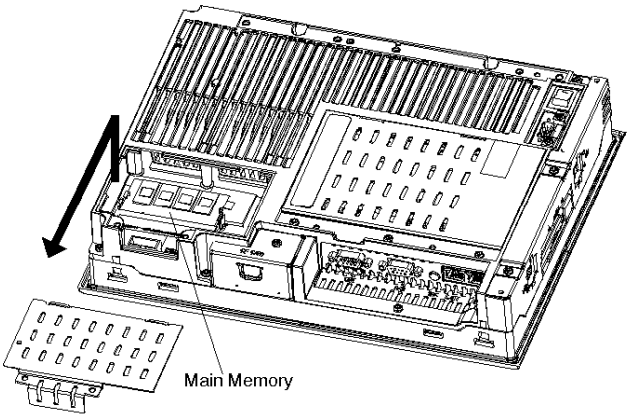
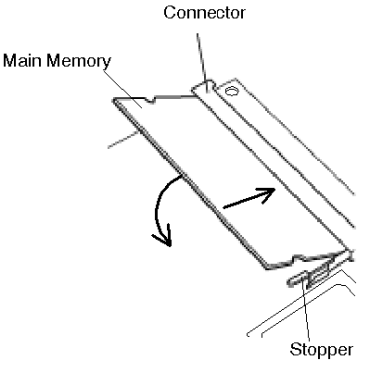
Failure to follow these instructions can result in injury or equipment damage.

NOTE: If you install a 1GB RAM chip, a blue screen will appear for about 4 minutes the first time you start the terminal. After this installation the terminal will start as usual.

Installing a RAM Chip

The table below describes how to install the Main Memory module

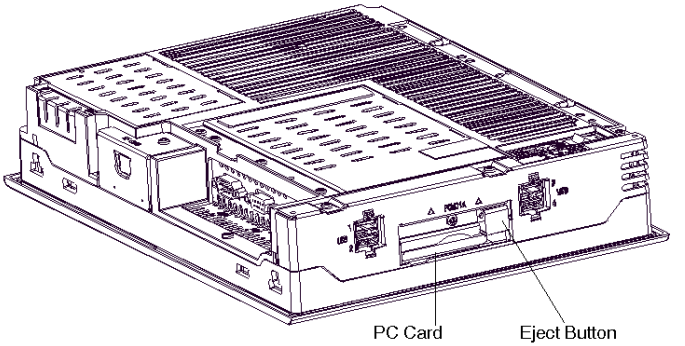
Step	Action
1	Turn the power to the terminal OFF and remove the power cable.
2	Remove the terminal from the mounting brackets and place the unit on a flat, level surface with the display panel facing downwards.
3	Unscrew the two screws on the memory cover slot. 

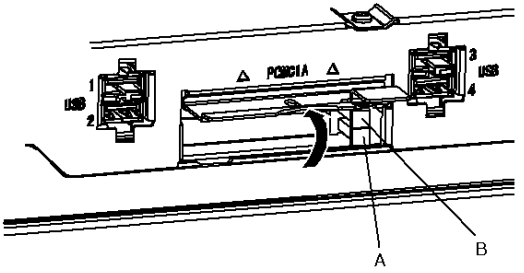
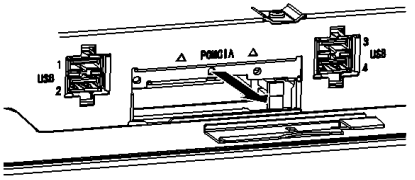
Step	Action
4	Remove the main memory slot cover as shown in the diagram below: 
5	Lift the stopper on the connector such that the old RAM module is accessible.
6	Carefully remove the old RAM module from the holder and store it in its anti static bag.
7	Angle the new memory module down slightly, and push it into the connector until the connector pins mate with the module's pins.
8	Insert the new memory module completely into the connector and press it down until it is locked into the stopper. Ensure all contacts engage at the same time. 
9	Replace the memory slot cover and screw it into place.

PCMCIA Unit Installation

Installing the PCMCIA Unit

The table below describes how to install the PCMCIA Unit:

Step	Action
1	Before installing or removing a PCMCIA card, ensure that the power supply to the unit has been switched OFF. **Note:** Only the lower slot of the PCMCIA is available for use with PC cards. The top slot does not support a PC card. When using a PC card with a cable attached, Schneider recommends using a clamp or other type of device to prevent vibration from dislodging the cable. Be sure to stop the PC card's driver prior to removing the PC card. Failue to stop this driver may result in damage to either the PC card itself, its data, or may cause Windows® to crash.
2	To install a Type I or Type II PCMCIA card, slacken the screw on the side of the PCMCIA slot on the Smart and move the cover away from the slot.
3	Press the eject button twice to remove the PC card from the PCMCIA connector. (Pressing the eject button once causes the tip of the card to be exposed. Pressing the eject button a second time ejects the PC card from the slot.) 
4	Reposition the PCMCIA slot cover and tighten the screw.

Step	Action
5	Inserting a PC Card Type III To install a Type III PC card, unscrew the PCMCIA slot cover and remove the cover as shown below:  
6	Removing a PC Card Type III Press the eject button twice to remove the PC Card from the PCMCIA connector. Pressing the eject button once causes its tip to pop out. Pressing the eject button a second time ejects the PC Card from the PCMCIA slot.

CF Card Installation and Removal

Using the Smart Terminal and a CF Card

⚠ DANGER

HAZARDOUS VOLTAGE

Be sure to disconnect the power cord from the power supply and confirm that power is not supplied to the terminal unit before installing any optional units, RAM modules, CF cards, or expansion boards. Failure to do so can result in an electric shock.

Failure to follow these instructions will result in death or serious injury.

⚠ CAUTION

EQUIPMENT DAMAGE

- Do not exert more than 0.5 to 0.6 Nm (4.42 to 5.31 in-lb) of torque when tightening the enclosure screws. Tightening the screws with excessive force can damage the plastic casing of the Smart terminal.
- When removing or replacing screws, be careful that they do not fall inside the Smart unit's chassis.

Failure to follow these instructions can result in injury or equipment damage.

⚠ CAUTION

EQUIPMENT MALFUNCTION

Be sure to use only CF cards manufactured by Schneider. The performance of the Smart terminal can not be guaranteed when using CF cards from another manufacturer.

Be sure to follow the instructions given below to prevent the CF card's internal data from being destroyed or a CF card malfunction from occurring:

- Do not bend the CF card
- Do not drop or strike the CF card against another object
- Do not touch the CF card connectors
- Do not disassemble or modify the CF card
- Keep the CF card dry .

Failure to follow these instructions can result in injury or equipment damage.

⚠ CAUTION

EQUIPMENT MALFUNCTION

The Smart's operating system views the CF Card as a hard disk.

- Shut down the Operating System in an orderly fashion and switch the power OFF prior to removing or inserting a CF Card. Do not turn OFF or reset the Smart terminal whilst it is accessing the CF Card to prevent damaging file data.
- Do not remove or insert the CF Card when the unit's power is switched ON. Doing so may damage data and crash the Operating System.
- Prior to inserting the CF Card, be sure to confirm that the rear and the front of the CF Card are correctly oriented, and that the CF Card connector position is correct. If the CF Card is inserted incorrectly, the CF Card, its internal data, and the CF card unit may be damaged.

Failure to follow these instructions can result in injury or equipment damage.

Data Writing Limitation

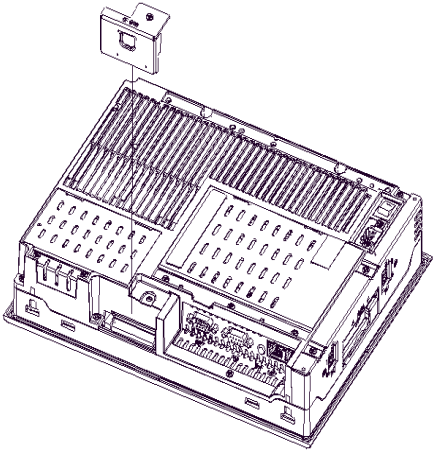
The CF Card has a limitation of approximately 100,000 for the number of data writings . Therefore, be sure to back up all CF Card data regularly to another storage media.

CF Card Insertion and Removal

Familiarize yourself with the differences between the top and bottom surfaces of the CF card. Also, be sure that the card is properly oriented when it is inserted (i.e. whether the top of the card is up or down etc.).

Inserting the CF Card

The table below describes how to insert the CF Card.

Step	Action
1	Switch the power off to the terminal before inserting or removing the CF Card.
2	Slacken the screw on the CF card cover and remove it. CF Card Cover Removal 
3	Insert the CF Card firmly into the CF card slot and check that the eject button pops fully out.
4	Reinstall the CF card cover and fix it in place with the screw. Ensure that the CF card cover is closed when accessing the CF card.

⚠ CAUTION

EQUIPMENT DAMAGE

Do not exert more than 0.6 Nm (5.31 in-lb) torque when tightening the fastener's screws. Tightening the screws with excessive force can damage the terminal's plastic case.

Failure to follow these instructions can result in injury or equipment damage.

Removing the CF Card

The table below describes how to remove the CF Card.

Step	Action
1	Remove the CF card cover as described above.
2	Press the eject button in fully to remove the CF Card from the CF Card slot.
3	After inserting/removing the CF card, be sure to replace the CF Card cover and secure it in place using the attachment screw. **Note:** The necessary torque is 0.5 to 0.6 Nm (4.42 to 5.31 in-lb).

Backup of the CF Card Data

The table below describes how to backup the CF Card data to a personal computer equipped with a PC card slot.

Step	Action
1	Install the CF card into a CF Card adaptor and insert the adapter into a PC card slot on the personal computer.
2	Save the data from the CF card onto your personal computer.

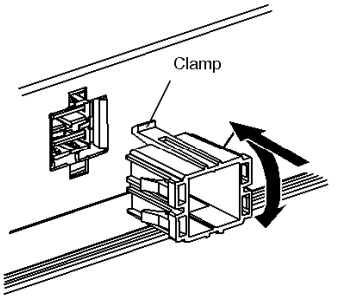
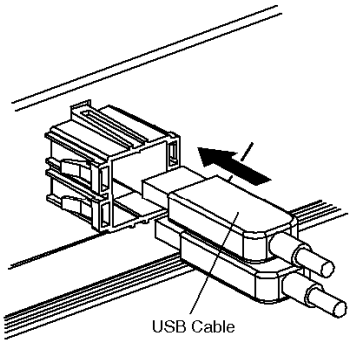
USB Holder Attachment/Removal

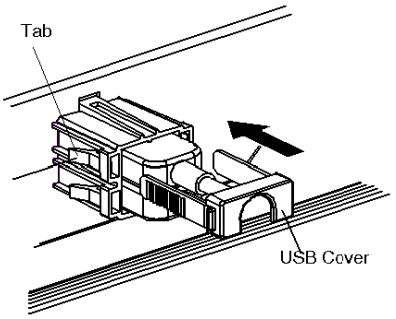
Introduction

When using a USB device, attaching the USB holder to the USB interface located on the side of the Smart terminal prevents the USB cable interface from becoming disconnected.

USB Holder Attachment

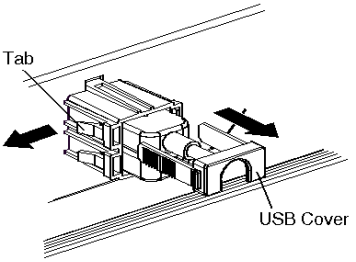
The table below describes how to attach the USB holder.

Step	Action
1	Attach the USB holder to the USB interface on the side of the unit. Hook the upper tab of the USB holder to the attachment hole of the terminal and then insert the lower tab as shown below, to fix the USB holder. 
2	Insert the USB cable into the USB interface. 

Step	Action
3	Insert the USB cover into the tab of the USB holder to fix the USB cable. 

USB Holder Removal

The table below describes how to remove the USB holder.

Step	Action
1	Remove the USB Holder by reversing the previous steps. Lift the tab of the USB holder and then remove the USB cover. 
2	Remove the USB cable. Remove the USB holder by pressing on the tabs from both the top and bottom and then remove the USB holder from the unit.

Installation

III

Subject of this Part

This part describes the product installation.

What's in this Part?

This part contains the following chapters:

Connections to PLCs

9

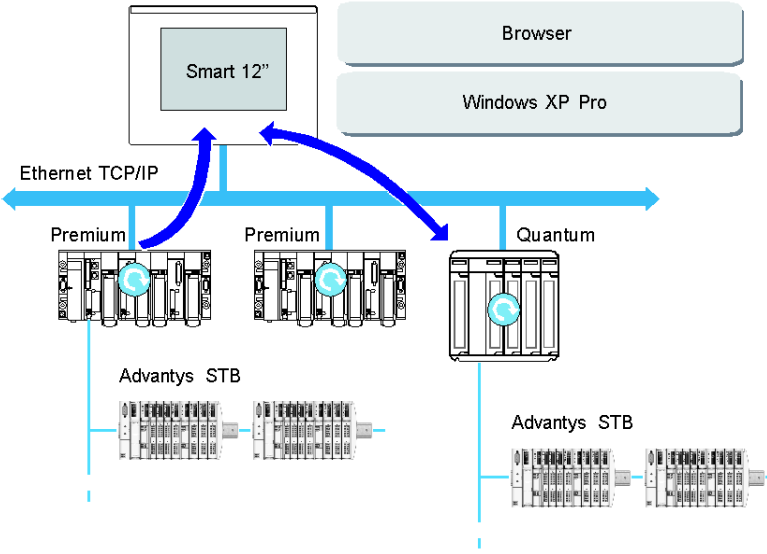
Connection to PLCs

Introduction

Two different kinds of architecture are possible:

- Transparent Ready Architecture
- Traditional Architecture

Connections to Transparent Ready Architectures

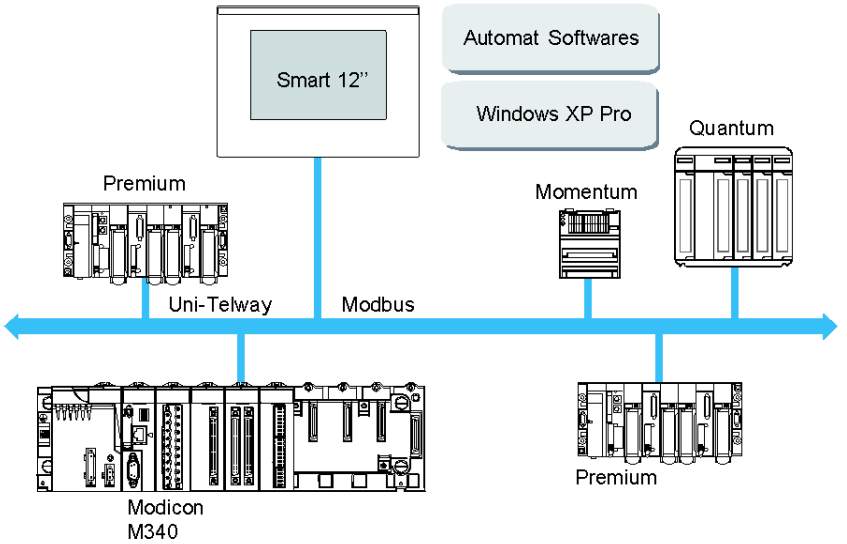


With its built-in Ethernet 10/100 Mbps ports, Smart 12” can be integrated into "full Ethernet" architectures, such as Transparent Ready. Transparent Ready devices with this type of architecture enable transparent communication on the Ethernet TCP/IP network. Communication services and Web services assure the sharing and distribution of data between levels 1, 2 and 3 of the Transparent Ready architecture.

Used as a Client station, Smart 12'' makes it easier to implement Web Client solutions for:

- 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, synoptic view management and Web home pages created by users.
- FactoryCast HMI Web servers embedded in Modicon Premium and Quantum PLCs also provide basic data management services, automatic e-mail sending triggered by specific process events and arithmetic and logic calculations for data preprocessing.

HMI Applications in Traditional Architectures

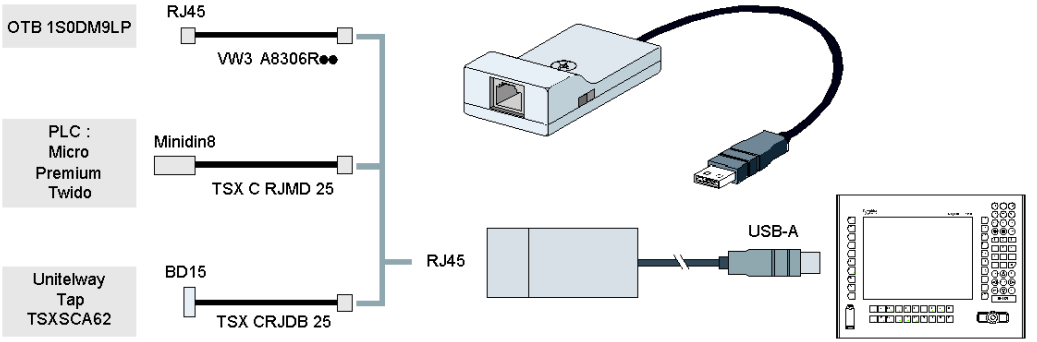


The combined offer comprising the Smart 12'', pre-installed Vijeo Designer control or automat softwares allow them to be used in mono-network architectures such as Uni-Telway/Modbus or Fipway/Modbus Plus.

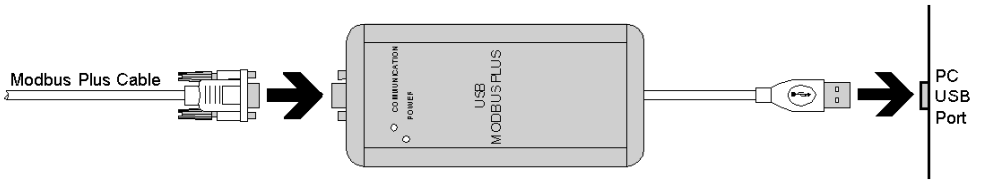
Uni-Telway, Modbus and Fipway networks could be used with Smart 12''. PCMCIA or USB ports are able to receive these links.

Different connection devices are required depending on the type of network being used. These devices are specified below:

- For PCMCIA slot:
  - Fipway network with the PCMCIA card TSX FPP 20 (1).
  - Modbus Plus network with the PCMCIA card TSX MBP 100 or the PCI bus card 416 NHM 300 30.
  - Uni-Telway, with an RS 485 TSX SCP 114 card (1).
  - For a Modbus link, one of the built-in RS 232C COM ports is used.
- For USB slot:
  - Modbus and Uni-Telway with the TSXCUSB485 converter. It allows an iPC to be connected to remote devices using an RS 485 interface.
    This device, fully compatible with Modbus and Uni-Telway, requires the standard Schneider drivers provided with software such as UNITY, PL7-Pro or part of the CD driver TLXCDDRV20M. Example on drawing below:



  - Modbus Plus network with the TSXCUSBMBP converter. This converter is compatible with PCs equipped with CONCEPT, ProWORX or UNITY. Example on drawing below:

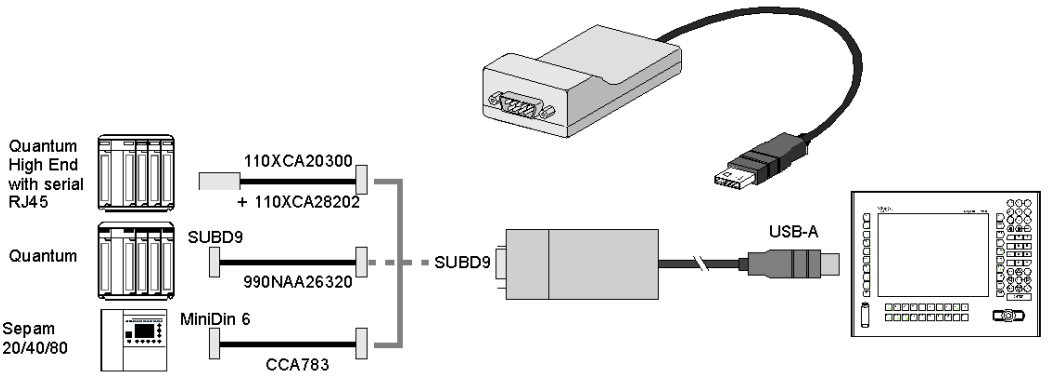


(1) Requires the "X-Way drivers" CD-ROM, TLX CD DRV20M.

Cables and Converters

For using the different types of PLCs, the following cables and converters are required:

- TSX PCX 1031 connection cable for Nano, Micro and Premium.
  This cable is supplied with Unity Pro, PL7 Pro and PL7 Junior software.
- FT20CBCL30 connection cable for the Series 7 family (included TSX 27 PLCs, and TSX/PMX 47/67/87/107 PLCs).
  This cable is supplied with the XTEL Pack software.
- TSX17ACCPC converter for TSX 17 LCs.
- TSXCUSB232 converter for connecting an iPC, via an USB port, to remote devices using an RS 232 interface.
  This device, fully compatible with Modbus and Uni-Telway, requires the standard Schneider drivers provided with software such as UNITY, PL7-Pro or part of the CD driver TLXCDDRV20M. Example on drawing below:



This device can be used as a PCMCIA port.

Maintenance

10

Subject of this Chapter

This chapter covers maintenance of the Smart 12 ".

What's in this Chapter?

This chapter contains the following topics:

Reinstallation Procedure

At a Glance

In certain cases, it may be necessary to reinstall the operating system. The reinstallation procedure is given below.

Before Reinstallation

Before reinstalling the operating system, make sure that the following equipment is at hand:

- The Restore CDs that were provided with the product
- An external CD-ROM drive
- A USB keyboard

NOTE: Save all important data on the Compact Flash card (the reinstallation process erases all data on them). The reinstallation process will return the computer to its factory settings.

Reinstallation

Proceed as follows:

Step	Action
1	Connect the external CD-ROM drive to the Smart terminal.
2	Insert the Restore CD into the CD drive.
3	Follow the on screen instructions.
4	Once installation is complete, remove the CD from the drive, remove the drive and restart the Smart terminal.

Regular Cleaning and Maintenance

Precaution

⚠ CAUTION

EQUIPMENT DAMAGE

Do not clean the unit with paint thinner, organic solvents, or strong acids to clean the unit.

Do not use hard or pointed objects to operate the touch-screen panel, as this can damage the panel surface.

Failure to follow these instructions can result in injury or equipment damage.

Cleaning the Display

When the surface or frame of the display becomes dirty, soak a soft cloth in water with a neutral detergent, wring the cloth tightly and wipe the display and frame gently.

Use the screen protection sheet when the Smart terminal is located in extremely dusty or dirty areas.

Lithium Battery

⚠ WARNING

FIRE OR CHEMICAL HAZARD

The Lithium batteries used in this device may present a risk of fire or chemical burn if not handled properly.

- Do not recharge, disassemble, heat above 100 °C (212 °F), or incinerate.
- Recycle or properly dispose of used batteries.
- Replace with identical type.
- Follow all battery manufacurer's instructions

Failure to follow these instructions can result in death, serious injury, or equipment damage.

The terminal contains a lithium or mecury battery, which is used to save certain system data such as the date and time.

Installing a Replacement Gasket

⚠ CAUTION

LOSS OF SEAL

Ensure that the gasket is in good working order and free from cracks, dirt or scratches. A gasket which has been used for a long period of time may be scratched or dirty, and may have lost much of its water resistance. Change the gasket at least once a year, or when scratches or dirt become visible.

Failure to follow these instructions can result in injury or equipment damage.

The moisture resistant gasket protects the Smart terminal against dust and improves its water resistance.

A gasket which has been used for a long period of time may have scratches or dirt on it, and could have lost much of its water resistance. Be sure to change the gasket periodically (or when scratches or dirt become visible).

Precaution

⚠ DANGER

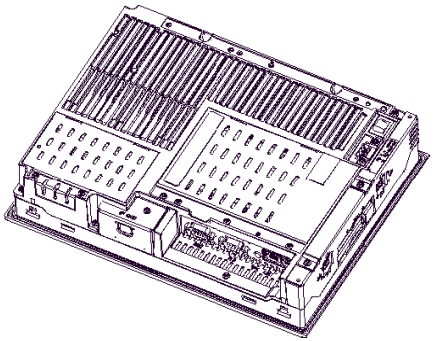
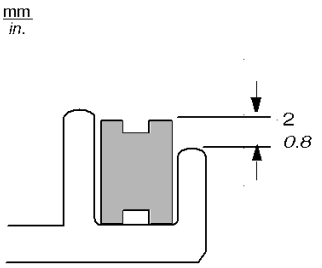
HAZARDOUS VOLTAGE

Disconnect all power before working on the equipment.

Failure to follow these instructions will result in death or serious injury.

Gasket Replacement

The table below describes how to replace the installation gasket.

Step	Action
1	Remove the terminal unit from the mounting brackets.
2	Place the unit on a flat level surface with the display facing downwards.
3	Remove the gasket from the unit.
4	Attach the new gasket ensuring that the gasket's grooved sides are vertical. Be careful that the gasket's seam is not inserted into any of the corners of the unit as this may lead to tearing of the gasket. 
5	Check that the gasket is correctly attached to the unit. The upper surface of the gasket should evenly protrude approximately 2 mm (0.08 in.) out of the groove. 

Periodic Inspection

Be sure to inspect the Smart 12 " periodically to ensure that it is in good working order. For example:

- Are all power cords and cables connected properly? Have any become loose?
- Are all mounting brackets holding the unit securely?
- Is the ambient temperature within the specified range?
- Are there any scratches or traces of dirt on the installation gasket?

Troubleshooting

11

Troubleshooting

Troubleshooting Checklists

This section explains how to find and resolve problems with the Smart unit.

The Smart can be connected to a wide range of devices, including a host (PLC), however, this manual will not discuss every possible device or problem. For problems not directly related to the Smart unit, refer to that device's manual.

The main problems that can occur during usage of the Smart are:

- The Touch Panel display is blank
- The Touch Panel does not respond
- Connected devices cannot be used.

When a problem occurs, be sure to first read each checklist item and follow the instructions given. If this does not solve the problem, please contact your local Smart distributor.

When a hardware or software problem cannot be solved, please contact the distributor where you purchased the Smart unit.

No Display

Step	Check Item or Operation	Check Result	Action Required
1	Switch the power supply to the Smart OFF		
2	Is the power cord connected correctly?		Connect the power cord correctly
3	Is the power supply voltage within specification?		Please refer to *Power Supply, page 31*
4	Turn the power supply on		
5	Does the ON LED illuminate in green?		Power indicator does not light up or is orange/red blinking and you have no screen operation, contact the distributor where the Smart was purchased.
6	Does the Windows® XPe work as normal?		If a white screen is displayed and Windows® does not work at all, check that the CF card is set on the correct position.
–	Was the problem solved by the above?		If not, please contact the distributor where the Smart was purchased.

Touch Panel does not Respond

Step	Check Item or Operation	Check Result	Action Required
1	Has the Touch Panel been calibrated?		Calibrate the Touch Panel. If the Touch Panel cannot be calibrated, please contact the distributor where the Smart was purchased.
–	Was the problem solved by the above?		If not, please contact the distributor where the Smart was purchased.

Connected Devices cannot be Used

Step	Check Item or Operation	Check Result	Action Required
1	Turn the Smart unit's power supply OFF.		
2	Is the power cord connected correctly?		Connect the power cord correctly .
3	Are the peripheral devices connected correctly?		Follow the instructions described in the respective manual.
4	Turn the Smart unit's power supply ON.		
5	Does this device require driver setup?		Refer to the device's manual and setup the driver.
–	Was the problem solved by the above?		If not, please contact the distributor where the Smart was purchased.

Recovery

Please refer to the reinstallation procedure *Reinstallation Procedure, page 78*

Appendices

IV

Accessories

12

Accessories for the 12 " Smart

List

Accessories are available as options. The list of accessories is shown below:

Description	Reference
RAM 1 GB	MPC YK22 RA1 024
1 GB Compact Flash with Windows® XP embedded	MPC YN00 CFE 00T
1 GB Compact Flash with Windows® XP embedded + Vijeo Designer	MPC YN00 CF1 00R
Protection sheet	MPC YK20 SPS KIT
Maintenance kit including installation fasteners, installation screws and gasket	MPC YK20 MNT KIT

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