

# MAGELIS iPC Industrial PCs User manual

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V1.0

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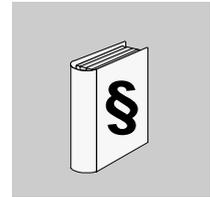
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# Safety Information



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## General safety information for users

### General

The present documentation is aimed at qualified technical personnel responsible for the implementation, operation and maintenance of the products described. It contains the necessary and sufficient information for compliant use of the products. However, for an "advanced" usage of our products, you may wish to contact your nearest outlet for additional information.

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

	<b>WARNING</b>
	<p><b>The different elements of this unit should be completely assembled before power-up.</b></p> <p><b>Failure to observe this precaution can result in severe injury or equipment damage.</b></p>

### Personnel qualifications

Only **qualified personnel** are authorized to implement, operate or maintain the products. Any intervention of a non-qualified person, or any non-compliance with the safety information contained in this document or affixed to the equipment, may irrevocably put the safety of personnel and/or the reliability of the hardware at risk.

The term "**qualified personnel**", refers to the following people:

- at application design level, design office personnel who are familiar with automation safety concepts (for example, a design engineer),
- at 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 operation level, personnel who are aware of the usage and control of automation equipment (for example, an operator),

- at preventive or corrective maintenance level, personnel who are trained and authorized to adjust or repair automation equipment (for example, a commissioning technician, an after-sales technician, etc.).
- 

**Compliance of use**

The products described in the present documentation **comply with the European Directives\*** to which they are subject (EC marking). However, these can only be used correctly 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 in complying with all handling, transport and storage recommendations, and all installation, operation and maintenance instructions.

\* EMCD and LVD directives concerning Electromagnetic Compatibility and Low Voltage.

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**Replacement and recycling of used batteries**

Replace batteries with those of the same type, and dispose of any defective batteries in the same way as toxic waste.

Lithium or mercury batteries must not be thrown into a fire, opened, recharged or welded.

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**Lithium battery**

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

This must only be replaced by a qualified technician.

---

	<b>WARNING</b>
	Non-compliance with this warning may lead to a risk of explosion! <b>Failure to observe this precaution can result in severe injury or equipment damage.</b>

---

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

This equipment has been tested and found to comply with the 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 harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the Support Service Center or an experienced radio/TV technician for help.

	<b>WARNING</b>
	<p>To assure continued compliance, use only shielded interface cables when connecting to a computer or peripheral. Also, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:</p> <ul style="list-style-type: none"><li>● This device may not cause harmful interference received, including interference that may cause undesired operation.</li><li>● This device must accept any interference received, including interference that may cause undesired operation.</li></ul> <p><b>Failure to observe this precaution can result in severe injury or equipment damage.</b></p>

**Safety Warnings**  
**- For U.K.**



**WARNING**

**This apparatus must be earthed for your safety.**

To ensure safe operation the three-pin plug must be inserted only into a standard three-pin power point which is effectively earthed through the normal household wiring.

Extension cords used with the equipment must be three-core and be correctly wired to provide connection to earth. Wrongly wired extension cords are a major cause of fatalities.

The fact that the equipment operates satisfactorily does not imply that the power point is earthed and that the installation is completely safe.

For your safety, if you have any doubt about the effective earthing of the power point, consult a qualified electrician.

**Failure to observe this precaution can result in severe injury or equipment damage.**

**WARNING****THIS APPLIANCE MUST BE EARTHED****Important!**

The wires in this mains lead are coloured in accordance with the following code:

- Green-and-yellow: Earth
- Blue: Neutral
- Brown: Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured GREEN-and-YELLOW must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol s coloured GREEN or GREEN-and-YELLOW.

The wire which is coloured Blue must be connected to the terminal which is marked with the letter N or coloured BLACK.

The wire which is coloured Brown must be connected to the terminal which is marked with the letter L or coloured RED.

The mains plug on this equipment must be used to disconnect the mains power.

Please ensure that a socket outlet is available near the equipment and is easily accessible.

**Failure to observe this precaution can result in severe injury or equipment damage.**

	<b>WARNING</b>
	<ul style="list-style-type: none"><li>● This equipment is not designed for connection to an IT power system: An IT system is a system having no direct connections between live parts and Earth ; the exposed-conductive-parts of the electrical installation are earthed. An IT system is not permitted where the computer is directly connected to public supply systems in the UK.</li><li>● Disconnect the mains plug from the supply socket when the computer is not in use.</li></ul> <p><b>Failure to observe this precaution can result in severe injury or equipment damage.</b></p>

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**Warnung Für  
Deutschland**

**Warnung bezüglich der Lithiumbatterie (Sicherungsbatterie)**

Lithiumbatterie

Dieser Computer enthält eine Lithiumbatterie zur Sicherung von Datum und Uhrzeit der eingebauten Uhr sowie anderer Systemdaten im Speicher bei einer Unterbrechung der Hauptstromversorgung. Diese Sicherungsbatterie darf nur von Kundendienstpersonal ausgewechselt werden.

Warnung! Bei falschem Gebrauch besteht Explosionsgefahr!

Entsorgung gebrauchter Batterien nach Angaben des Herstellers.

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## Hazardous Location Installations - for USA and Canada

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### Generalities

Schneider Automation designed the systems with the intention of meeting the requirements of Class I, Division 2 Hazardous Locations applications. Division 2 locations are those locations that are normally non-hazardous, but potentially hazardous should an accident expose the area to flammable vapors, gases or combustible dusts.

These systems are non-incendiary devices. They are not intrinsically safe and should never be operated within a Division 1 (normally hazardous) location when installed as described here. Nor should any peripheral interface device attached to these systems be located within Division 1 locations unless approved and/or certified diode barriers are placed in series with each individual signal and DC power line. Any such installations are beyond the bounds of Schneider Automation design intent. Schneider Automation accepts no responsibility for installations of this equipment or any devices attached to this equipment in Division 1 locations.

**Note:** It is the customer's responsibility when adding additional cards that they meet operating conditions for Class I, Division 2 hazardous locations.

It is the responsibility of the customer to ensure that the product is properly rated for the location. If the intended location does not presently have a Class, Division, and Group rating, then users should consult the appropriate authorities having jurisdiction in order to determine the correct rating for that Hazardous Location. In accordance with Federal, State/Provincial, and Local regulations, all hazardous location installations should be inspected by the appropriate authority having jurisdiction prior to use. Only technically qualified personnel should install, service, and inspect these systems.

### **Warning**

Suitable for use in Class I, Division 2 Groups A, B, C, and D, and Class II, Division 2, Groups F and G hazardous locations or non-hazardous locations only.

### **Warning- Explosion Hazard**

Substitution of components may impair suitability for Class I, Class II, Division 2.

**Avertissement Risque d' Explosion**

La substitution de composants peut rendre ce materiel inacceptable pour les emplacements de classe I, II, Division 2.

**Warning- Explosion Hazard**

Do not disconnect equipment unless the power has been switched off or the area is known to be non-hazardous.

**Avertissement Risque d' Explosion**

Avant de déconnecter l'équipement, couper le courant ou s'assurer que l'emplacement est designé non dangereux..

**Warning- Explosion Hazard**

When in hazardous locations, turn off power before replacing or wiring modules.

**Avertissement Risque d' Explosion**

Dans les situations risquées, couper le courant avant de remplacer ou de câbler les modules.

**Warning**

To maintain a safe condition, do not use an external keyboard or mouse or USB port devices when the unit is operating in a hazardous environment.

**Definition**

The following Class and Division explanations are derived from Article 500 (Sections 5 and 6) of the United States National Fire Protection Agency National Electric Code (NFPA 70, 1990). They are not complete and are included here only for a general description for those not familiar with generic hazardous locations requirements. Persons responsible for the installation of this equipment in Hazardous Locations are responsible for ensuring that all relevant codes and regulations related to location rating, enclosure, and wiring are met.

**Class I Locations**

Class I locations are those in which flammable gases or vapors are or may be present in the air in quantities sufficient to produce explosive or ignitable mixtures.

**Class II Locations**

Class II locations are those that are, or may become, hazardous because of the presence of combustible dust.

**Division I Locations**

A Division 1 location is one in which flammable or ignitable gasses, vapors, or combustible dusts and particles can exist due the following conditions:

- Normal operating conditions.
- Because of repair, maintenance conditions, leakage, or where mechanical failure or abnormal operation of machinery or equipment might release or cause explosive or ignitable mixtures to be released or produced.
- Combustible dusts of an electrically conductive nature may be present in hazardous quantities.

**Note:**

Schneider Automation MPC<sup>•••</sup> systems are not suitable for installation within Division 1 locations.

**Note:**

Electrical equipment cannot be installed in Division 1 locations unless they are intrinsically safe, installed inside approved explosion-proof enclosures, or installed inside approved purged and pressurized enclosures.

### **Division 2 Locations**

- Class I volatile flammable liquids or flammable gasses are handled, processed, or used, but confined within closed containers or closed systems from which they can escape only in cases of accidental rupture or breakdown of such enclosures or sys-tems, or in case of abnormal operation of equipment.
- Ignitable concentrations of Class I vapors or gasses are normally prevented by posi-tive mechanical ventilation, but which may become hazardous due to mechanical failure of those ventilation systems.
- Location is adjacent to a Division 1 location.
- Class II combustible dust is not normally in the air in quantities sufficient to produce explosive or ignitable mixtures. Dust accumulations are normally insufficient to interfere with normal operation of electrical equipment or other apparatus. Combustible dust may be in suspension in the air as a result of the following: infrequent malfunctioning of handling or processing equipment; combustible dust accumulations on, or in the vicinity of electrical equipment; may be ignitable by abnormal operation or failure of electrical equipment.

### **Groups**

All electrical equipment that is approved for use in hazardous locations must include a group rating. Various flammable and combustible substances are divided into these groups as a function of their individual maximum experimental safe gap (MESG), explosion pressure, and ignition temperature. Component temperatures and the potential for spark based upon voltage, current, and circuit characteristics, within electrical equipment, will determine what the equipment group rating will be. A device approved for installation within Class I, Group A locations may also be used in Groups B, C, or D.

#### **Note:**

Approved Class I equipment may not be suitable for Class II installations. Class I includes Groups A, B, C, and D. Class II includes Groups F, and G.

**Power Switch**

The systems do not have a power switch. The amount of input power required by these systems classifies a power switch as an incendiary device because the voltage and current across the make/break device are capable of creating a spark. Hazardous locations regulations require that a power switch rated for ordinary locations may be used if it is located in an area specified as non-hazardous. However, limits in cable length between the workstation and the power switch may apply. Otherwise the switch must be compliant with Class I, Division 1 requirements (intrinsically safe). These switches are built in a manner that prevents the possibility of a spark when contacts are made or broken.

Use suitable UL listed and/or CSA Certified Class I, Division 1 switches in hazardous locations. These switches are available from a wide number of sources. It is the responsibility of the customer to ensure that the power switch selected for their installation has the correct hazardous locations rating for the location in which it is installed.

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**Cable connections**

Division 2 hazardous locations regulations require that all cable connections be provided with adequate strain relief and positive interlock. USB connections can never be used in hazardous location installations, because USB connectors do not provide adequate strain relief. Never connect or disconnect a cable while power is applied at either end of the cable. All communication cables should include a chassis ground shield. This shield should include both copper braid and aluminum foil. The D-sub style connector housing should be a metal conductive type (e.g., molded zinc) and the ground shield braid should be well terminated directly to the connector housing. Do not use a shield drain wire.

The outer diameter of the cable must be suited to the inner diameter of the cable connector strain relief in order to ensure that a reliable degree of strain relief is maintained. Always secure the D-Sub connectors to the 3515/3512KPM workstation-mating connectors via the two screws located on both sides.

**Warning**

Never connect or disconnect the communication cables while power is applied at either end of the cable. This may result in an incendiary spark. Permanent damage to the workstation communication components may occur.

---

## Operation and Maintenance

The systems have been designed for compliance with relevant spark ignition tests. However, please note that the workstation front panel contrast adjustment tactile switches and keyboard connector are the only make/break components intended to be exercised by the operator in the course of normal operation.

### Warning

To maintain safe conditions, never use an external keyboard or mouse or USB port devices when the unit is operating in a hazardous environment.

Always observe the following rules with respect to hazardous location installations:

- Always install the workstations within an enclosure suitable for the specific application. General purpose enclosures may be acceptable for Class I applications but are never acceptable for Class II applications. Type 4 (IP 65) enclosures are recommended even when not required by regulations.
- If present, keep enclosure doors or openings closed at all times, to avoid the accumulation of foreign matter inside the workstation.
- Never subject the unit to any installation or service procedures unless power is removed and the area is known to be non-hazardous. This includes the installation or removal of power cables, communication cables, or removal of the rear cover of the unit.

### Warning

For AC version equipment only:  
The power switch is an arcing device.  
Explosion hazard. Do not operate switch unless power is removed and the area is known to be non-hazardous.

Only technically qualified service personnel should perform all installation and service. These workstations are designed to require no service in the course of normal operation by an operator.

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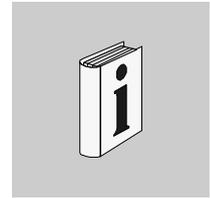
## Safety Agency Approval

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

- Underwriters Laboratories Inc., UL 1604 Standard for Safety Electrical equipment for use in Class I and Class II, Division 2, locations
  - Underwriters Laboratories Inc., UL 60950, Information Technology Equipment
  - Canadian Standard Association, Specification C22.2 No. 213-M1987 Non-incendiary electrical equipment for use in Class I, Division 2 hazardous locations
  - Canadian Standard Association, Specification C22.2 No. 950 Information Technology Equipment
  - EN 60950, Information Technology Equipment
-

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## About the book



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### At a Glance

**Document Scope** User manual for the Magelis iPC range of industrial PCs

**Related Documents**

Title of Documentation	Reference Number
Magelis iPC installation guide	35005232

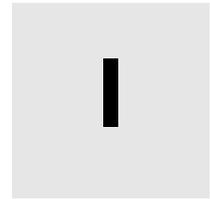
**User Comments** We welcome your comments about this document. You can reach us by e-mail at [TECHCOMM@modicon.com](mailto:TECHCOMM@modicon.com)

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## General overview



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### At a Glance

#### Subject of this part

This part provides an overview of the industrial PCs in the Magelis iPC range.

#### What's in this part?

This Part contains the following Chapters:

Chapter	Chaptername	Page
1	Introduction	23
2	Physical overview	25
3	Characteristics	37
4	Specific functions	49

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# Introduction



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## Introduction

### Thank you

Congratulations!

Thank you for having purchased an industrial computer from the Magelis iPC range. This computer, designed to operate in an industrial environment, features the very latest technologies.

### At a Glance

Magelis iPC computers are modular products, made up of a Control Box and a Front Panel that you have to assemble prior to commissioning (see *Assembly of the front panel onto the Control Box*, p. 58).

The Control Box may however be used in stand-alone with a video monitor and an external keyboard (see *Mounting without a front panel*, p. 100).

There are three versions of Control Box:

- References: MPC AN\*\*\*
- References: MPC BN\*\*\*
- References: MPC CN\*\*\*

with different characteristics (see *Control Box specifications*, p. 38).

The Control-Boxes MPC BN\*\*\* and MPC CN\*\*\* also use a modular design in order to facilitate maintenance. They are made up of a power supply block, a control box block and a block for extension cards.

There are several versions of front panel:

- 12" or 15" LCD screen
  - With or without built-in dust and damp proof keyboard
  - LCD screen may or may not be touch-sensitive
-



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# Physical overview



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## At a Glance

### Subject of this chapter

This chapter provides physical overviews of the products.

### What's in this Chapter?

This Chapter contains the following Sections:

Section	Topic	Page
2.1	Description of the Control Boxes	26
2.2	Description of the front panels	33

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## 2.1 Description of the Control Boxes

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### At a Glance

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**Subject of this Section** This section describes the different models of Control Box.

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**What's in this Section?** This Section contains the following Maps:

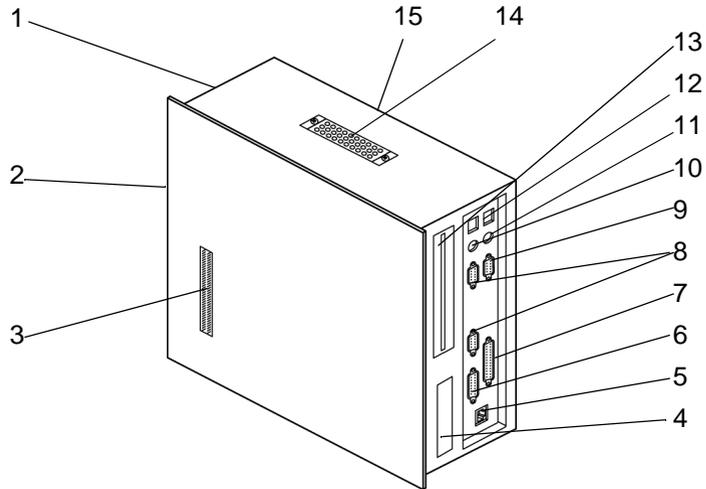
Topic	Page
MPC AN*** Control Box	27
MPC BN*** Control Box	29
MPC CN*** Control Box	31

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## MPC AN... Control Box

### Description

View of an MPC AN...:



Number	Designation
1	On-Off switch and power supply connection (mains or 24 V DC)
2	Cooling blowers
3	Front panel connector
4	Diskette drive
5	RJ45 Ethernet link connector
6	15-pin, female, VGA output SUB-D connector for connection to an external video monitor
7	25-pin, female, LPT parallel port SUB-D connector for printer
8	2 x 9-pin, male RS 232 serial port SUB-D connectors
9	9-pin, female RS422/RS485 SUB-D connector
10	External keyboard input (see note)
11	External mouse port (see note)
12	2 USB port connectors
13	Slot for CD-ROM drive (optional)
14	Ventilation grid and dust filter

Number	Designation
15	On the rear panel: <ul style="list-style-type: none"><li data-bbox="500 228 906 253">● Hatch for access to RAM memory strips</li><li data-bbox="500 256 732 280">● Blower with dust filter</li></ul>

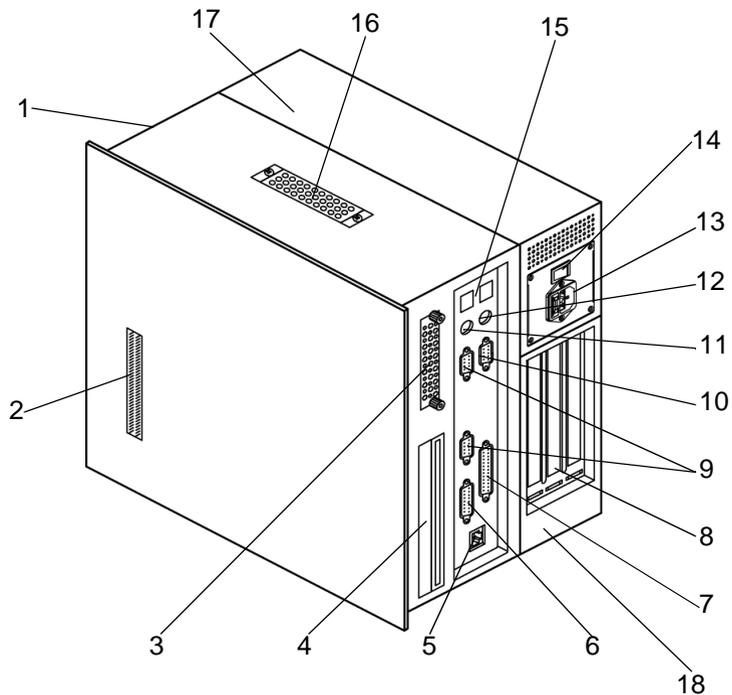
**Note:** The external keyboard input (No. 10) and external mouse input (No. 11) are only authorized when the Control Box is used in stand-alone with an external video monitor.

---

## MPC BN... Control Box

### Description

View of an MPC BN...:



Number	Designation
1	Cooling blowers
2	Front panel connector
3	Hard disk
4	Removable CD-ROM and disk drive drawer
5	RJ45 Ethernet link connector
6	15-pin, female, VGA output SUB-D connector for connection to an external video monitor
7	25-pin, female, LPT parallel port SUB-D connector for printer
8	ISA/PCI extension card slots

Number	Designation
9	2 x 9-pin, male RS 232 serial port SUB-D connectors
10	9-pin, female RS422/RS485 SUB-D connector
11	External keyboard input (see note)
12	External mouse port (see note)
13	Mains or 24 V DC terminal block socket
14	On-Off switch
15	2 USB port connectors
16	Ventilation grid with dust filter
17	Power supply block
18	Block with slots for extension cards

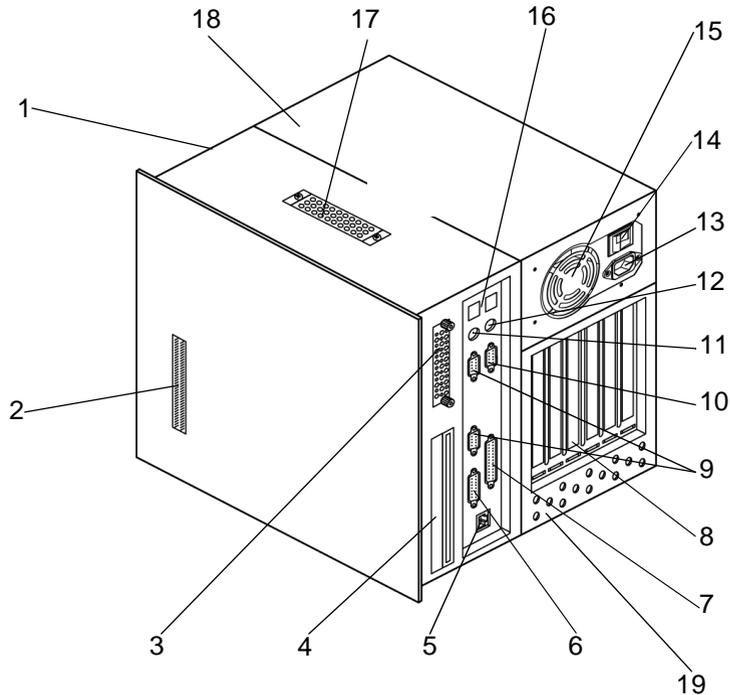
**Note:** The external keyboard input (No. 11) and external mouse input (No. 12) are only authorized when the Control Box is used in stand-alone with an external video monitor.

---

## MPC CN\*\*\* Control Box

### Description

View of an MPC CN\*\*\* mains supply:



Number	Designation
1	Cooling blowers
2	Front panel connector
3	Hard disk
4	Removable CD-ROM and disk drive drawer
5	RJ45 Ethernet link connector
6	15-pin, female, VGA output SUB-D connector for connection to an external video monitor
7	25-pin, female, LPT parallel port SUB-D connector for printer
8	6 ISA/PCI extension card slots
9	2 x 9-pin, male RS 232 serial port SUB-D connectors

Number	Designation
10	9-pin, female RS422/RS485 SUB-D connector
11	External keyboard input (see note)
12	External mouse port (see note)
13	Mains or 24 V DC terminal block socket
14	On-Off switch
15	Power supply blower
16	2 USB port connectors
17	Ventilation grid with dust filter
18	Power supply block
19	Block with slots for extension cards

**Note:** The external keyboard input (No. 11) and external mouse input (No. 12) are only authorized when the Control Box is used in stand-alone with an external video monitor.

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## 2.2 Description of the front panels

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### At a Glance

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#### Subject of this section

This section describes the different front panels of the products.

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#### What's in this Section?

This Section contains the following Maps:

Topic	Page
MPC NT•• front panels	34
MPC NA•• and MPC NB•• front panels	35

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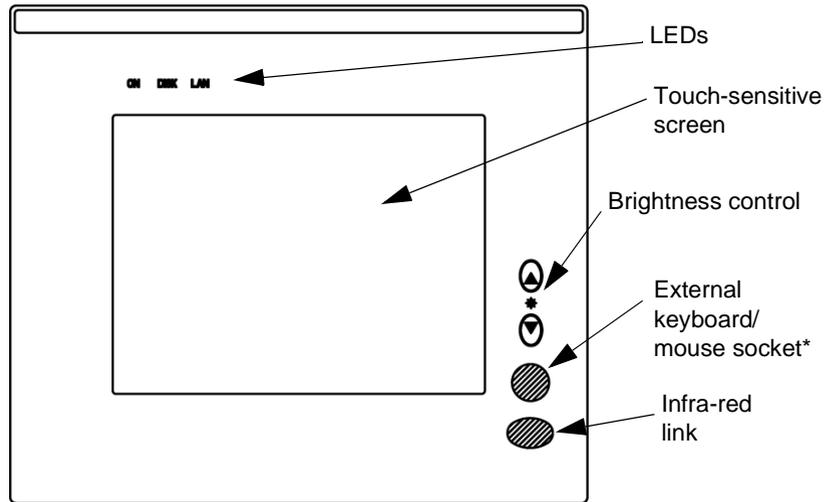
## MPC NT•• front panels

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**At a Glance** These front panels come with a 12" or 15" touch-sensitive screen.

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**Description** View of an MPC NT•• front panel



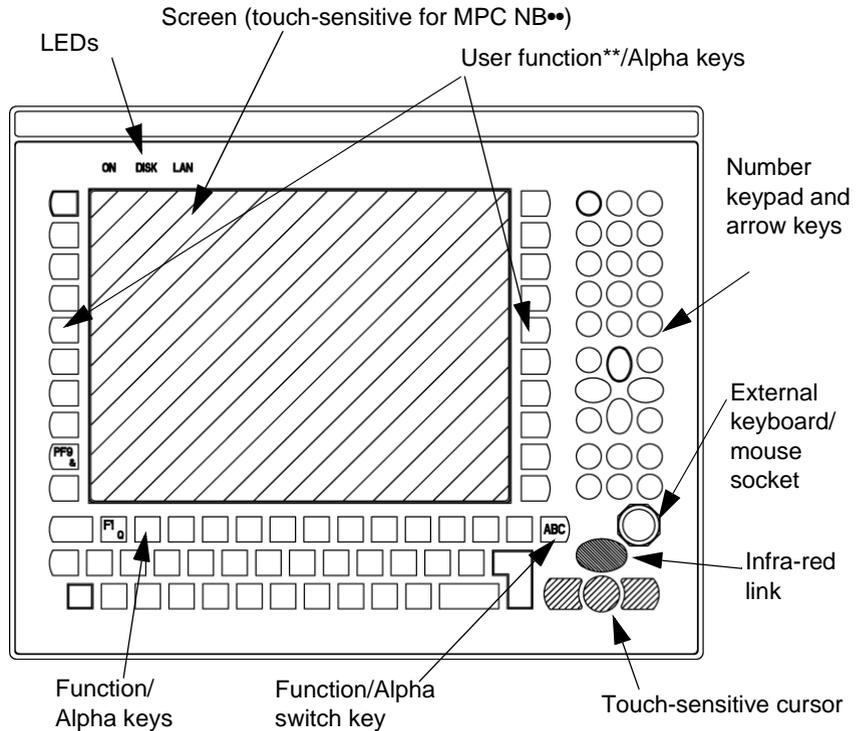
## MPC NA\*\* and MPC NB\*\* front panels

### At a Glance

These front panels come with a 12" or 15" screen and a keyboard. For the MPC NB\*\*, the screen is touch-sensitive.

### Description

View of an MPC NA\*\* or MPC NB\*\* front panel



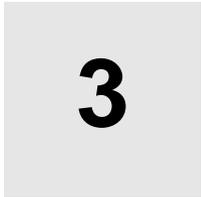
\*See *Specific keys*, p. 50

\*\*The user function keys can be used by an application.



---

# Characteristics



# 3

---

## At a Glance

### Subject of this chapter

This chapter gives the product characteristics.

### What's in this Chapter?

This Chapter contains the following Sections:

Section	Topic	Page
3.1	Control Box specifications	38
3.2	Characteristics of the front panels	45
3.3	Environment characteristics	46

---

## 3.1 Control Box specifications

---

### At a Glance

---

**Subject of this Section** This section specifies the characteristics of the Control Boxes.

---

**What's in this Section?** This Section contains the following Maps:

Topic	Page
Characteristics of MPC AN*** products	39
Characteristics of MPC BN*** products	41
Characteristics of MPC CN*** products	43

---

## Characteristics of MPC AN... products

### Introduction

The characteristics of the MPC AN... products differ from model to model. These are given below according to product reference.

### Shared characteristics

Characteristics:

<b>Processor</b>	Intel Celeron with a clock frequency greater than or equal to 566 MHz
<b>Ram</b>	SDRAM 128 Mb, upgradable to 512 Mb
<b>Hard disk</b>	Capacity greater than or equal to 20 Gb IDE - 2" 1/2
<b>Video card</b>	64 bit PCI controller, 2 Mb of Ram
<b>Diskette drive</b>	3.5", 1, 44 Mb - fixed
<b>CD-ROM drive</b>	Optional
<b>Ethernet TCP/IP link</b>	1 x 10/100base TX (RJ45) interface
<b>USB port</b>	2 12Mb/s links
<b>COM4 serial port</b>	1 RS232 or RS 422/485 (exclusive) serial link
<b>COM1 serial port</b>	1 RS 232 link
<b>Parallel port</b>	1 bi-directional link
<b>Extension card slot</b>	-
<b>Dimensions</b>	See <i>Other dimensions, p. 90</i>
<b>Weight</b>	7.2 Kg

### Power supply

Power supply of MPC AN...•A• products (AC):

<b>Supply voltage</b>	115...230 V AC - 50/60 Hz, (threshold values: 98...264 V AC)
<b>Frequency</b>	50/60 Hz (threshold values: 47/63 Hz), EN 61131-2 compliant
<b>Consumption</b>	130 W
<b>Micro-cuts</b>	10 ms

Power supply of MPC AN...•D• products (DC):

<b>Supply voltage</b>	24 V DC, (threshold values: 19.8...32 V)
<b>Consumption</b>	120 W
<b>Micro-cuts</b>	1 ms

**Operating systems**

The products are delivered with a pre-installed operating system according to the reference ordered.

The products have been tested with the following operating systems:

- Microsoft Windows 2000
  - Microsoft Windows NT4 SP6
  - Microsoft Windows 98
- 

**Pre-installed packs**

Pre-installed packs according to product reference:

Reference	Software	Hardware
MPC AN●● ●● ●N	No pre-installed pack	-
MPC AN●● ●● ●A	Vijeo Look Run Time 1024	-

---

## Characteristics of MPC BN\*\*\* products

### Introduction

The characteristics of the MPC BN\*\*\* products differ from model to model. These are given below according to product reference.

### Shared characteristics

Characteristics:

<b>Ram</b>	SDRAM 128 Mb, upgradable to 512 Mb
<b>Hard disk</b>	Capacity greater than or equal to 20 Gb IDE - 2" 1/2
<b>Video card</b>	64 bit PCI controller, 2 Mb of Ram
<b>Diskette drive</b>	3.5", 1, 44 Mb - removable
<b>CD-ROM drive</b>	24x, removable
<b>Ethernet TCP/IP link</b>	1 x 10/100base TX (RJ45) interface
<b>USB port</b>	2 x 12Mb/s links
<b>COM4 serial port</b>	1 x RS232 or RS 422/485 (exclusive) serial link
<b>COM1 serial port</b>	1 x RS 232 link
<b>Extension card slot</b>	1 ISA card slot 1 PCI card slot (slave mode only) 1 mixed (ISA/PCI) slot
<b>Dimensions</b>	See <i>Other dimensions, p. 90</i>
<b>Weight</b>	10.6 Kg

### Processor

Type of processor according to product reference:

<b>Reference</b>	<b>Operating system</b>
MPC BN*2 ***	Intel Celeron with a clock frequency greater than or equal to 566 MHz
MPC BN*5 ***	Intel Pentium III with a clock frequency greater than or equal to 850 MHz

**Power supply**

Power supply of MPC BN\*\*•A• products (AC):

<b>Supply voltage</b>	115...230 V AC - 50/60 Hz, (threshold values: 90...264 V AC)
<b>Frequency</b>	50/60 Hz (threshold values: 47/63 Hz), EN 61131-2 compliant
<b>Consumption</b>	200 W
<b>Micro-cuts</b>	10 ms

Power supply of MPC BN\*\*•D• products (DC):

<b>Supply voltage</b>	24 V DC, (threshold values: 18..0.36 V)
<b>Consumption</b>	160 W
<b>Micro-cuts</b>	1 ms

**Operating systems**

The products are delivered with a pre-installed operating system according to the reference ordered.

The products have been tested with the following operating systems:

- Microsoft Windows 2000
- Microsoft Windows NT4 SP6
- Microsoft Windows 98

**Pre-installed packs**

Pre-installed packs according to product reference:

Reference	Software	Hardware
MPC BN**••••N	No pre-installed pack	-
MPC BN**••••A	Vijeo Look Run Time 1024 I/O	-
MPC BN**••••B	Vijeo Look Run Time 1024 I/O	-
MPC BN**••••C	Vijeo Look Run Time 1024 I/O PL7 Pro	-
MPC BN**••••D	Vijeo Look Run Time 1024 I/O PL7 Pro	T PCX 57203

## Characteristics of MPC CN\*\*\* products

### Introduction

The characteristics of the MPC CN\*\*\* products differ from model to model. These are given below according to product reference.

### Shared characteristics

Characteristics:

<b>Ram</b>	SDRAM 128 Mb, upgradable to 512 Mb
<b>Hard disk</b>	Capacity greater than or equal to 20 Gb IDE - 2" 1/2
<b>Video card</b>	64 bit PCI controller, 2 Mb of Ram
<b>Diskette drive</b>	3.5", 1, 44 Mb - removable
<b>CD-ROM drive</b>	24x, removable
<b>Ethernet TCP/IP link</b>	1 x 10/100base TX (RJ45) interface
<b>USB port</b>	2 x 12Mb/s links
<b>COM4 serial port</b>	1 x RS232 or RS 422/485 (exclusive) serial link
<b>COM1 serial port</b>	1 x RS 232 link
<b>Extension card slot</b>	2 ISA card slots 3 ISA card slots 1 mixed (ISA/PCI) slot
<b>Dimensions</b>	See <i>Other dimensions, p. 90</i>
<b>Weight</b>	13 Kg

### Processor

Type of processor according to product reference:

<b>Reference</b>	<b>Operating system</b>
MPC CN*2 *** **	Celeron with a clock frequency greater than or equal to 566 MHz
MPC CN*5 *** **	Pentium III with a clock frequency greater than or equal to 850 MHz

**Power supply**

Power supply of MPC CN••••A• products (AC):

<b>Supply voltage</b>	115...230 V AC - 50/60 Hz, (threshold values: 90...264 V AC)
<b>Frequency</b>	50/60 Hz (threshold values: 47/63 Hz), EN 61131-2 compliant
<b>Consumption</b>	350 W
<b>Micro-cuts</b>	10 ms

Power supply of MPC CN••••D• products (DC):

<b>Supply voltage</b>	24 V DC, (threshold values: 19...32 V)
<b>Consumption</b>	350 W
<b>Micro-cuts</b>	1 ms

**Operating systems**

The products are delivered with a pre-installed operating system according to the reference ordered.

The products have been tested with the following operating systems:

- Microsoft Windows 2000
- Microsoft Windows NT4 SP6
- Microsoft Windows 98

**Pre-installed packs**

Pre-installed packs according to product reference:

Reference	Software	Hardware
MPC CN•••••N	No pre-installed pack	-
MPC CN•••••E	Vijeo Look Run Time 1024 I/O PL7 Pro	T PCX 57353

## 3.2 Characteristics of the front panels

### Characteristics of the front panels

**Introduction** The characteristics of the front panels differ from model to model. These are given below.

**Characteristics** Shared characteristics:

Number of colors	262144
Brightness	200 cd/m <sup>2</sup> (typical value), adjustable
Infra-red link	IrDA Standard
Power supply	By Control Box unit

Specific characteristics:

Reference	Screen type	Screen size	Definition	View angle	Touch-sensitive Screen	Keyboard	Weight (Kg)
<b>MPC NT2•</b>	SVGA active matrix	12"	800x600	Hor. 110 Vert. 90	Analog resistant 35 million cycles	-	6.5
<b>MPC NT5•</b>	XGA active matrix	15"	1024x768	Hor. 160 Vert. 160	Analog resistant 35 million cycles	-	7.1
<b>MPC NA2•</b>	SVGA active matrix	12"	800x600	Hor. 110 Vert. 90	-	IBM standard 70-key alphanumeric 2x10 user function keys	6.6
<b>MPC NA5•</b>	XGA active matrix	15"	1024x768	Hor. 160 Vert. 160	-	IBM standard 70-key alphanumeric 2x10 user function keys	7.2
<b>MPC NB2•</b>	SVGA active matrix	12"	800x600	Hor. 110 Vert. 90	Analog resistant 35 million cycles	IBM standard 70-key alphanumeric 2x10 user function keys	6.6
<b>MPC NB5•</b>	XGA active matrix	15"	1024x768	Hor. 160 Vert. 160	Analog resistant 35 million cycles	IBM standard 70-key alphanumeric 2x10 user function keys	7.2

For the front-panel dimensions, please refer to *Other dimensions*, p. 90

### 3.3 Environment characteristics

#### Environment characteristics

##### General

The environment characteristics given below are applicable to both the Control Boxes and the front panels of the products.

##### Characteristics

the environment characteristics are as follows:

Characteristic	Value	Standards
<b>Degree of protection</b>	<ul style="list-style-type: none"> <li>● IP65 / NEMA4 for the forward part of the front panels.</li> <li>● IP 20 for the rest of the product</li> </ul>	-
<b>Operating temperature</b>	0 °C to 50 °C	EN 61131-2, UL compliant
<b>Storage temperature</b>	-25 °C to 60 °C	IEC 68-2-2 tests Bb and Ab, IEC 68-2-14 tests Na and EN 61131-2 compliant
<b>Operating altitude</b>	0 to 3000m max.	-
<b>Storage altitude</b>	0 to 12000m max.	-
<b>Vibrations</b> (in operation)	75 microns amplitude from 10 to 57 Hz, 1g amplitude from 57 to 150 Hz	IEC 68-2-6 Fc test and EN 61131-2 compliant
<b>Shock resistance</b> (in operation)	15gn over 11ms	IEC 68-2-27 Ea test and EN 61131-2 compliant
<b>Hygrometry</b>	20...80%	-
<b>Immunity to interference</b>	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 products have been developed to comply with the following standards:

- UL 508
  - UL 60950
  - cUL
  - EN 55022
  - IEC 1131-2
  - Classification in hazardous areas: class 1 - division 2 - UL 1604
-



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# Specific functions



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## At a Glance

### Subject of this chapter

This chapter describes the specific functions of MPC products.

### What's in this Chapter?

This Chapter contains the following Maps:

Topic	Page
Specific keys	50
Touch-sensitive cursor	53
LED indicators	54

## Specific keys

---

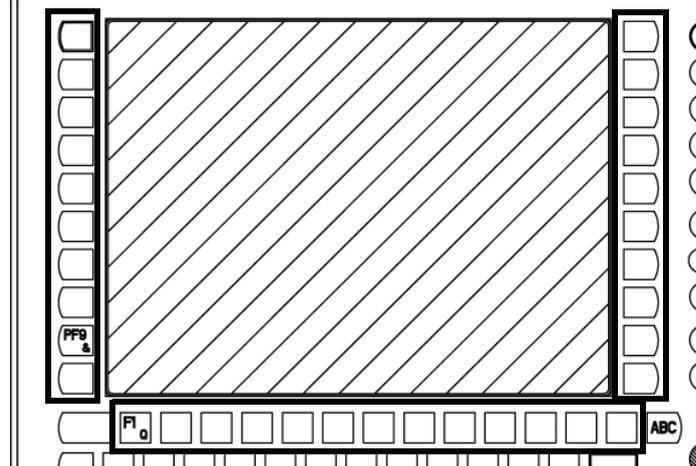
### At a Glance

On front panels with a keyboard, there are keys with a specific function. These are described below.

---

### Dual-function keys

View of dual-function keys:



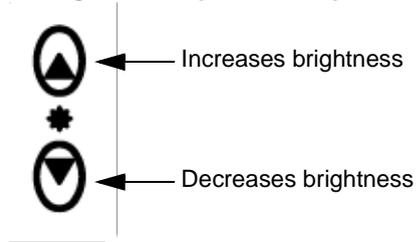
The keys boxed in on the above illustration are dual-function keys. Depending on the status of the **ABC** key, these keys either work as the function keys **F1** to **F12** and the user function keys **PF1** to **PF20**, or as the alpha keys **QWERTYUIOP** etc.. The LED for the **ABC** key is lit when it is in the Alpha position.

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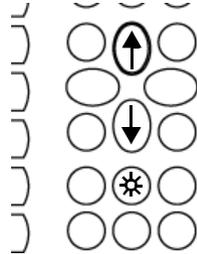
## Brightness control

The brightness of the LCD screen is adjusted in different ways depending on the type of front panel. The two types of adjustment are shown below.

### View of brightness adjustment keys on MPC NT\*\*\* front panels



### View of brightness adjustment keys on MPC NA\*\*\* and MPC NB\*\*\* front panels



These keys are located on the number pad (to the right of the front panel).

To make an adjustment:

- Hold down the  key, then press the  key to increase the brightness
- Hold down the  key, then press the  key to decrease the brightness

**PF keys**

Pressing a PFx key corresponds to pressing a sequence of keys. The key sequences are given below.

<b>PF key</b>	<b>Sequence</b>
PF1	CTRL ALT F1
PF2	CTRL ALT F2
PF3	CTRL ALT F3
PF4	CTRL ALT F4
PF5	CTRL ALT F5
PF6	CTRL ALT F6
PF7	CTRL ALT F7
PF8	CTRL ALT F8
PF9	CTRL ALT F9
PF10	CTRL ALT F10
PF11	CTRL ALT F11
PF12	CTRL ALT F12
PF13	CTRL ALT I
PF14	CTRL ALT M
PF15	CTRL ALT H
PF16	CTRL ALT A
PF17	CTRL ALT B
PF18	CTRL ALT C
PF19	CTRL ALT D
PF20	CTRL ALT F

**Note:** CTRL = left "Ctrl" key, ALT = left "Alt" key

---

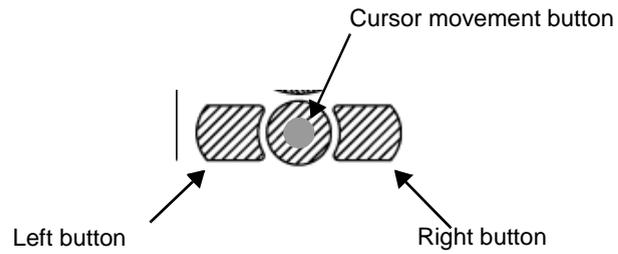
## Touch-sensitive cursor

---

**At a Glance** Front panels with a keyboard feature a touch-sensitive cursor in the bottom right-hand corner. It is described below.

---

**Description** View of the touch-sensitive cursor:



## LED indicators

---

### At a Glance

On the front panel there are three LED indicators, the meanings of which are as follows.

---

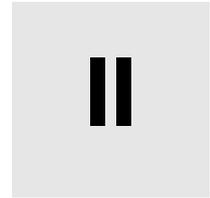
### Meaning

ON	This is lit when the computer is powered-up
DISK	This shows when read/write operations are being performed on the hard disk
LAN	This shows when data is being exchanged on the built-in Ethernet link

---

---

# Implementation



---

## At a Glance

### Subject of this part

This part concerns the implementation of products.

### What's in this part?

This Part contains the following Chapters:

Chapter	Chaptername	Page
5	Assembly and connections	57
6	Getting started	63
7	Hardware extensions	65
8	Configuration of the Bios	73
9	Maintenance	81

---



---

# Assembly and connections



# 5

---

## At a Glance

### Subject of this chapter

This chapter concerns the assembly and connection of the products.

### What's in this Chapter?

This Chapter contains the following Maps:

Topic	Page
Assembly of the front panel onto the Control Box	58
Mains supply of the Control Boxes	59
Direct current supply of Control Boxes	60

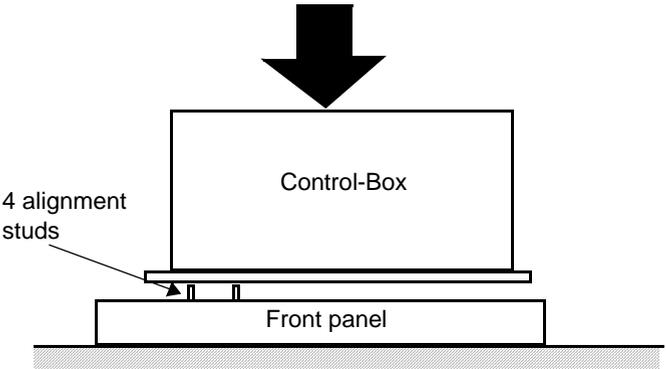
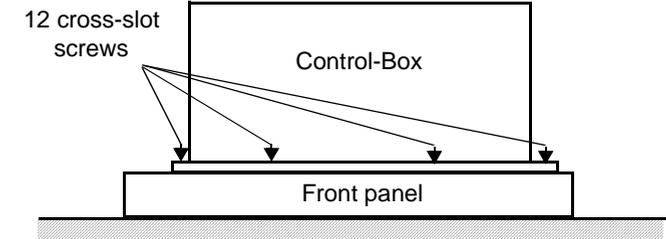
## Assembly of the front panel onto the Control Box

### At a Glance

If you are using one of the computers in the range with a MPC NT••, MPC NA•• or MPC NB•• type front panel, you must first assemble this front panel onto the Control-Box. These operations must be performed with the **power switched off**.

### Procedure

In order to assemble the two sections, use a Pozidriv cross-slot screwdriver and follow the instructions below:

1	<p>Assemble the Control-Box on the front panel using the 4 alignment studs located at the rear of the front panel</p> 
2	<p>Fasten the assembly at all points around the Control Box, using the 12 cross-slot screws supplied</p> 

---

## Mains supply of the Control Boxes

---

### At a Glance

Alternating Current versions of the Control Boxes are connected to the mains using the lead supplied.

	<b>CAUTION</b>
	<p>It is essential to connect the computer to the ground via the power supply's terminal block</p> <p><b>Failure to observe this precaution can result in injury or equipment damage.</b></p>

**Note: Protection fuse:** The mains supply modules for the Control Boxes are fitted with a protection fuse as standard. This fuse is located inside the module but cannot be accessed.

**Note:** The MPC AN\*\* and supply module of the MPC BN\*\* are equipped with a 3.15 A time-delayed fuse located in the mains input connector. In the event of error, it is essential that this fuse be replaced by a fuse of the same rating.

---

## Direct current supply of Control Boxes

---

### At a Glance

Direct current versions of the Control Boxes connect to a 24 V DC supply (see *Control Box specifications*, p. 38).

**Note:** It is not advisable to use direct current Control Box supplies featuring a strong inrush current on a direct current network with a fold back current limitation protection.

When a supply module is connected to a direct current network, it is compulsory to limit the length of the supply cable, in order to prevent line losses:

- Supply of an MPC AN••• or MPC BN•••:
  - Length limited to 30 meters (60 meters 'round-trip') with 2.5 mm<sup>2</sup> section copper wires
  - Length limited to 20 meters (40 meters 'round-trip') with 1.5 mm<sup>2</sup> section copper wires
- Supply of an MPC CN•••:
  - Length limited to 15 meters (30 meters 'round-trip') with 2.5 mm<sup>2</sup> section copper wires
  - Length limited to 10 meters (20 meters 'round-trip') with 1.5 mm<sup>2</sup> section copper wires

### Possible connections

#### Connection of a Magelis iPC supplied by a non-grounded safety DC network:

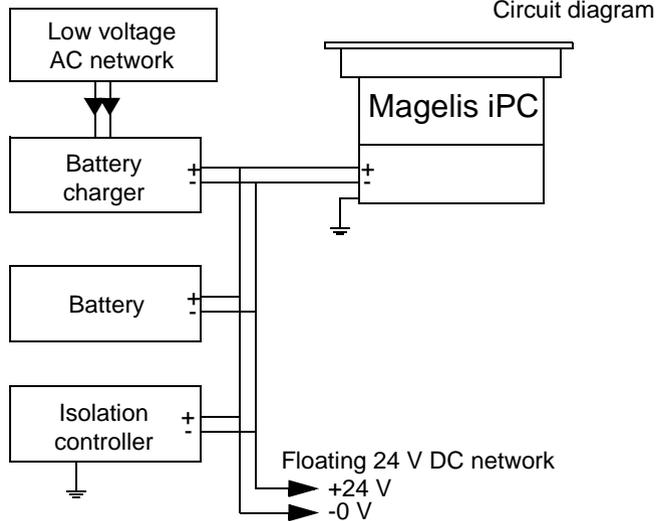
The 0V and mechanical ground are connected internally inside the front panels and Control-Boxes, as well as in the network cabling accessories.

Specific connection measures are to be taken for specific applications that use a floating mounting. These depend on the chosen mode of installation.

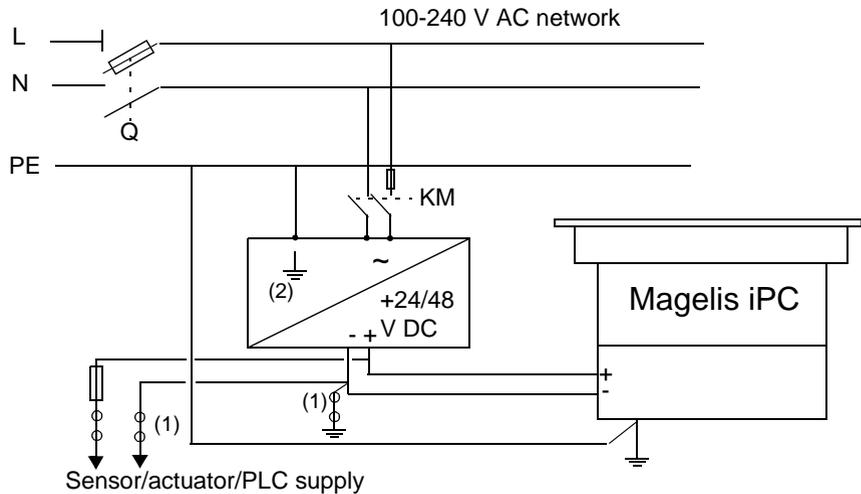
For this, the 24 V DC input of the Control Box supplies is isolated in relation to the outputs and mechanical ground:

- Primary/Secondary dielectric strength:
  - MPC AN•/BN• : 500 V AC
  - MPC CN• : 3000 V AC
- Primary/Ground dielectric strength:
  - MPC AN•/BN• : 500 V AC
  - MPC CN• : 1500 V AC

**Connection of a 24 V DC Magelis iPC using a floating direct current network:**



**Connection of a 24 V DC Magelis iPC using a ground referenced network:**



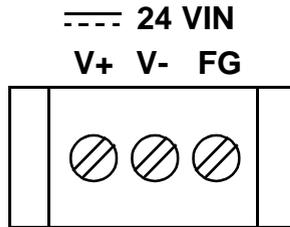
- Q: General isolator
- KM: Line contactor or circuit breaker
- (1) : Isolation strip for detecting grounding faults
- (2) : possibility of using a TSX SUP process supply (see Schneider Automation product catalog).

**Note: Protection fuse:** the 24 V DC mains supply modules for the Control Boxes are fitted with a protection fuse as standard. This fuse, fitted in series with the 24 V DC input, is located inside the module but cannot be accessed.

---

**Terminal block**

View of the connection terminal block:



FG is the ground connection. It is connected to the mechanical ground of the Control Box.

Tightening torque of the terminal block screws: **1 N.m.**

---

---

## Getting started



---

### First power-up

#### Warning

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

#### Preparation

On first power-up, it is necessary, depending on the software configuration of your MPC••, to perform the following operations:

- Customization and parametering of the operating system
- Installation, customization and parametering of Schneider Automation and Schneider Electric applications (PL7 Junior or PL7 Pro, Vijeo Look, OFS, MMI 17, XBT-L1000, PL7-07)

For these different operations, refer to the "MPC installation guide" (ref. 35005232).

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# Hardware extensions



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## At a Glance

### Subject of this chapter

This chapter concerns the hardware extensions for the Magelis iPC range of industrial PCs.

### What's in this Chapter?

This Chapter contains the following Maps:

Topic	Page
Removing/inserting the CD-ROM and diskette drive	66
Disassembling the modules	67
Installing an extension card	69
Adding a memory extension card	71

---

## Removing/inserting the CD-ROM and diskette drive

---

### At a Glance

A removable CD-ROM and diskette drive is installed in the MPC BN••• and MPC CN••• Control Boxes. The procedure for removing and inserting this drive is given below.

**Note:** MPC AN••• Control Boxes are installed with a CD-ROM drive only, but the procedure is similar.



#### CAUTION

Static electricity may destroy electronic components. Always handle the drive by its metal cover.

### Removing the drive

the removal procedure for the drive is as follows:

1	Switch off the power to the computer
2	Unscrew the two fastening screws of the drive
3	Remove the drive from its housing by gently pulling it towards you using the fastening screws

### Inserting the drive

the insertion procedure for the drive is as follows:

1	Switch off the power to the computer
2	Position the drive in its housing and gently push it in until the stop is reached.
3	Tighten the fastening screws alternately

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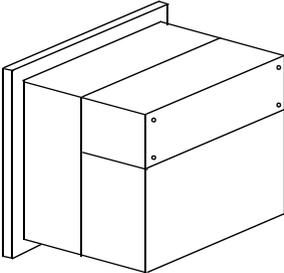
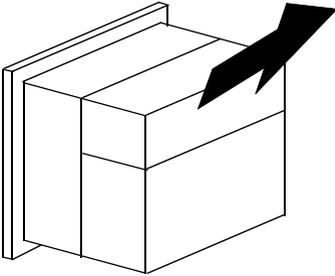
## Disassembling the modules

### At a Glance

In order to maintain the MPC BN•• and MPC CN•• products, it is possible to replace the power supply module and extension card module. The procedure is as follows.

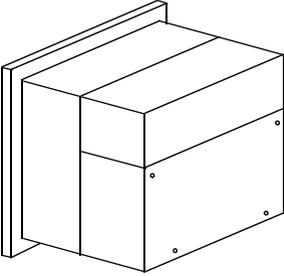
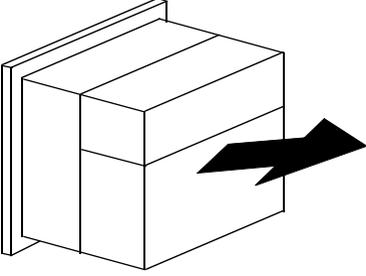
### Power supply module

Disassembly/Reassembly:

1	Disconnect the supply lead
2	Unscrew the four fastening screws at the rear of the MPC using a cross-slot screwdriver 
3	Remove the power supply module 
4	To reassemble the module, perform the above operations in the reverse order using the alignment studs <b>Note:</b> For MPC CN•• products, it is necessary to link the power supply block to the extension card block with a connector

**Extension module**

Disassembly/Reassembly:

1	Disconnect the supply lead
2	<b>Caution!</b> For MPC CN** products, <b>first</b> remove the power supply module
3	<p>Unscrew the four fastening screws at the rear of the MPC extension block using a cross-slot screwdriver</p> 
4	<p>Remove the extension module</p> 
5	To reassemble the module, first replace the extension card block, then the power supply block

## Installing an extension card

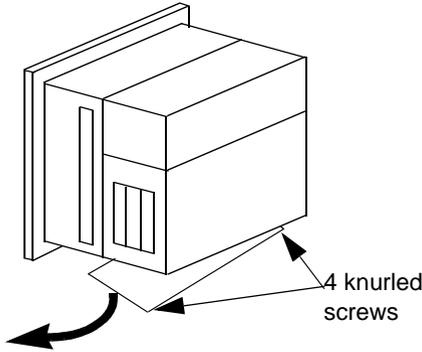
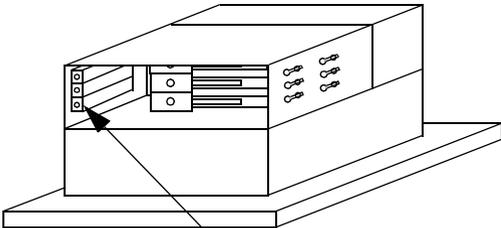
### At a Glance

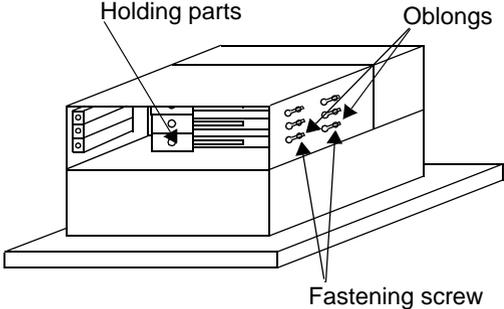
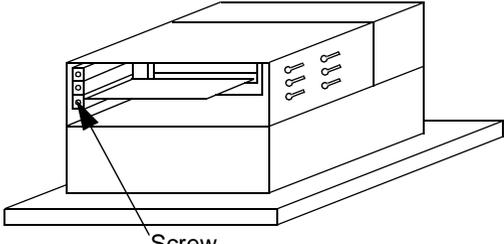
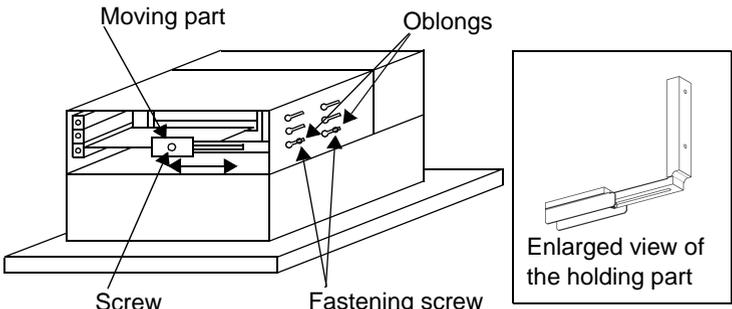
MPC BN•• and MPC CN•• Control Boxes feature a compartment for ISA and/or PCI-format extension cards.

The procedure for installing a card is given below.

### Installation

In order to install an extension card, use a Pozidriv cross-slot screwdriver and follow the steps described below:

1	Switch off the power to the computer
2	Unscrew the four knurled screws located under the Control Box in order to remove the cover of the hatch giving access to the extension card slots 
3	Select an ISA or PCI slot
4	Unscrew the cable plate screw and remove 

<p>5</p>	<p>Unscrew the two fastening screws from the extension card retaining bracket that correspond to the selected slot, release from the oblongs and remove.</p> 
<p>6</p>	<p>Place the card in its connector until the stop is reached</p>
<p>7</p>	<p>Attach the front panel of the card to the Control Box using the screw</p> 
<p>8</p>	<p>Replace the holding part of the card so that it comes into contact with the top of the extension card, thus preventing the card from coming away from its connector. Position the moving part to suit the length of the card, and to facilitate access to its functions, where necessary. Then tighten the screw on the moving part, then the fastening screws.</p> 
<p>9</p>	<p>Replace the hatch cover and tighten the 4 knurled screws</p>

## Adding a memory extension card

### At a Glance

It is possible to increase the memory capacity of the Control Boxes. A memory card access hatch is provided for this purpose. The procedure for accessing the memory extension cards is provided below.

	<b>CAUTION</b>
	Static electricity may destroy electronic components. Always handle cards by their edges, without touching the components or the conducting tracks.

### MPC AN\*\*\*

The procedure for accessing memory extension cards is as follows:

1	Switch off the power to the computer
2	Unscrew the four cross-slot screws of the cover located at the rear of the computer.
3	Insert a memory extension card in a free slot, ensuring proper direction of insertion.
4	Secure the card in its slot by folding inwards the plastic fastening tabs located at each end.
5	Replace the rear cover by tightening the four cross-slot screws.
6	Power-up the computer and, when requested, press <b>F1</b> to acknowledge the new configuration

### MPC BN\*\* and MPC CN\*\*

The procedure for accessing memory extension cards is as follows:

1	Switch off the power to the computer
2	Remove the supply block by unscrewing the four cross-slot screws and pulling it towards you (see <i>Disassembling the modules</i> , p. 67). You now have access to the memory card hatch
3	Unscrew the cross-slot screws in order to remove the cover of the memory slot hatch.
4	Insert a memory extension card in a free slot, ensuring proper direction of insertion.
5	Secure the card in its slot by folding inwards the plastic fastening tabs located at each end.
6	Replace the rear cover by tightening the three cross-slot screws.
7	Replace and tighten the screws of the power supply block

8	Power-up the computer and, when requested, press <b>F1</b> to acknowledge the new configuration
---	---

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---

# Configuration of the Bios



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## At a Glance

### What's in this Chapter?

This chapter describes how to access certain parameters of the Bios (operating system of the computer) that need to be modified depending on its existing configuration.

### What's in this Chapter?

This Chapter contains the following Maps:

Topic	Page
Accessing the Bios configuration	74
Configuration screens	75
Modifying the date and time	77
Modifying the User password	78

---



## Configuration screens

### General

13 headings are available from the welcome screen.

- Use the 4 arrow keys to move from one heading to another



- The **ESC** key is used to quit configuration mode
- The **F10** function key is used to save modifications and quit configuration mode
- The keys **Shift+F2** are used to modify the color of the screens

### Headings

Description of the different headings:

STANDARD CMOS SETUP	This is used to modify the standard parameters in the CMOS memory, such as the date, time and display.
BIOS FEATURES SETUP	This is used to modify the characteristics of the Bios. <b>We strongly recommend that you do not modify these values.</b>
CHIPSET FEATURE SETUP	This is used to modify the characteristics of the Chipset. <b>We strongly recommend that you do not modify these values.</b>
POWER MANAGEMENT SETUP	This is used to modify the power saving mode for the power supply, hard drive and video. <b>We strongly recommend that you do not modify these values.</b>
PnP/PCI CONFIGURATION	This is used to configure the PCI bus. <b>We strongly recommend that you do not modify these values.</b>
LOAD BIOS DEFAULTS	This is used to restore the Bios parameters to factory values (for example to restart with stable values in the event of problems).
LOAD SETUP DEFAULTS	This is used to restore the parameters of the Bios with optimized values.
INTEGRATED PERIPHERALS	This is used to modify the parameters of internal peripherals. <b>We strongly recommend that you do not modify these values.</b>
SUPERVISOR PASSWORD	This is used to enter a password in order to access the Bios configuration.

USER PASSWORD	This is used to define a user password for the machine.
IDE HDD AUTODETECTION	This is used to automatically detect the hard drive installed in the machine or to modify the type of hard drive. <b>We strongly recommend that you do not use this function.</b>
SAVE & EXIT SETUP	This is used to save modifications in the CMOS memory and to quit the Bios configuration.
EXIT WITHOUT SAVING	This is used to quit configuration without saving the modifications made.

**Note:** The rest of this chapter will only contain descriptions of the screens that may need to be modified during the course of use. All other screens shall only be modified at the request of a properly informed technical department.

---



## Modifying the User password

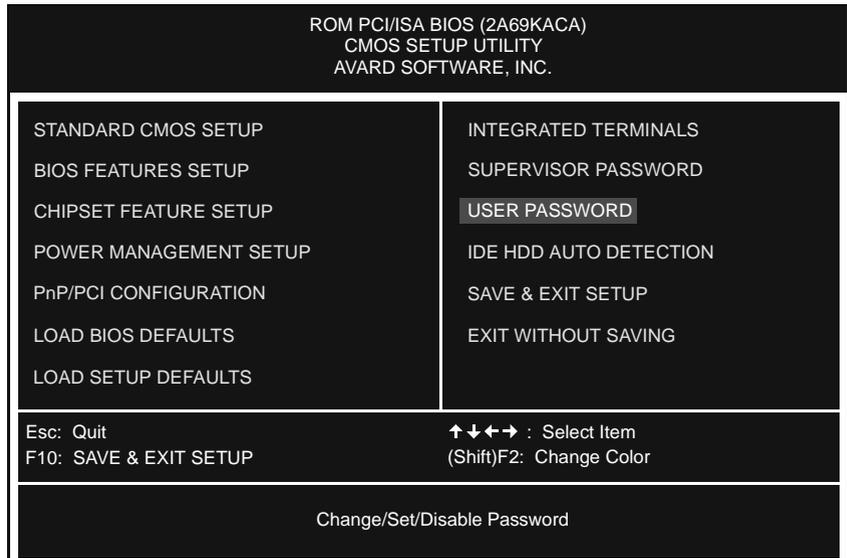
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### At a Glance

The user password can be modified from the Bios configuration welcome screen.

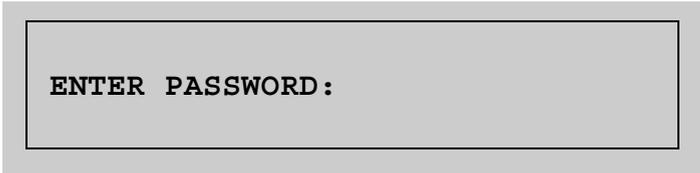
**Note:** The password can be assigned either when the computer is started (System), or when the Bios is modified (Setup). This option can be chosen by selecting **Security Option** in the **BIOS FEATURE SETUP** screen. In order for the password to be active on start-up, you must select the option **System**. The default option (**Setup**) only asks for the password to access the Bios configuration.

View of the screen:



**Procedure**

The password modification procedure is as follows:

1	<p>Select the type of password: SUPERVISOR or USER, using the direction keys:</p>  <p>Then press <b>Enter</b> The following box appears:</p>  <p>Note: if you no longer require a password, simply press <b>Enter</b></p>
2	<p>Enter your password and press <b>Enter</b> The following box appears:</p> 
3	Enter your password again and press <b>Enter</b>
4	Press <b>F10</b> to save and quit



---

# Maintenance



# 9

---

## At a Glance

### Subject of this chapter

This chapter covers maintenance of the computers from the Magelis iPC range.

### What's in this Chapter?

This Chapter contains the following Maps:

Topic	Page
Reinstallation	82
Replacing dust filters	83

## Reinstallation

---

### At a Glance

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

---

### Before reinstalling

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

- A CD-ROM drive, for MPC AN•• reference Control Boxes (Ref. **MPC YN00 CDR 00N**).
- The reinstallation CD-ROM that was provided with the product
- The recovery disk

<p><b>Note: Important:</b> save all important data contained on the hard drive (the reinstallation process erases all data on the hard drive). The reinstallation process will return the computer to its factory settings.</p>
---

---

### Reinstallation

Proceed as follows

1	Insert the recovery disk in the disk drive and power-up the computer.
2	Insert the reinstallation CD-ROM in the CD-ROM drive.
3	Follow the messages that appear on the screen.
4	Once installation is complete, remove the disk and the CD-ROM from their drives and restart the computer.

---

### Specific drivers

Specific drivers are available on the reinstallation CD-ROM. These drivers are already installed on your machine and should not need to be reinstalled.

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## Replacing dust filters

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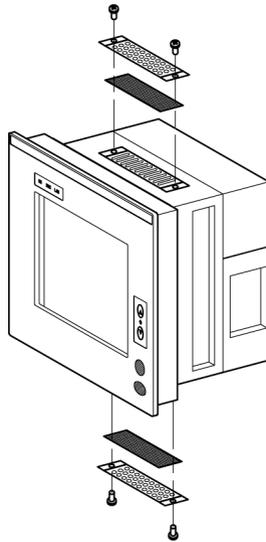
### At a Glance

It is necessary to regularly check the condition of the Control Boxes' dust filters, in order to clean or change them if they are very dirty.

---

### Accessing the filters

View of the filters' location:



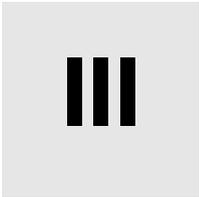
**Note:** On MPC AN•• reference Control Boxes, a third filter is located on the blower at the rear of the product.

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# Installation



---

## At a Glance

**Subject of this part**

This part concerns product installation.

**What's in this part?**

This Part contains the following Chapters:

Chapter	Chaptername	Page
10	Dimensions/Assembly	87
11	Connections	101



---

## Dimensions/Assembly

# 10

---

### At a Glance

#### 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 Maps:

Topic	Page
Dimensions of the front panels	88
Other dimensions	90
Cropping for cabinet installation	96
Panel mounting	98
19" rack mounting	99
Mounting without a front panel	100

---

## Dimensions of the front panels

---

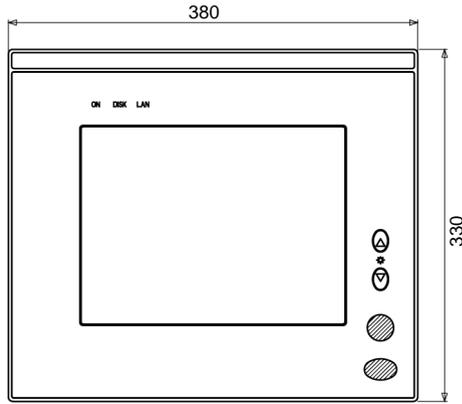
### At a Glance

The dimensions of the four types of front panels are provided below (in mm).

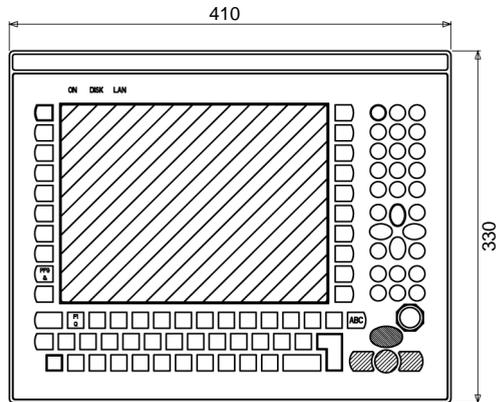
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### Front panels with 12" screen

Front panels with touch sensitive pad:

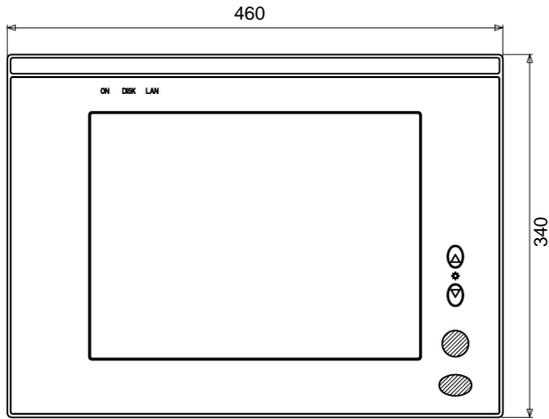


Front panels with keyboard:

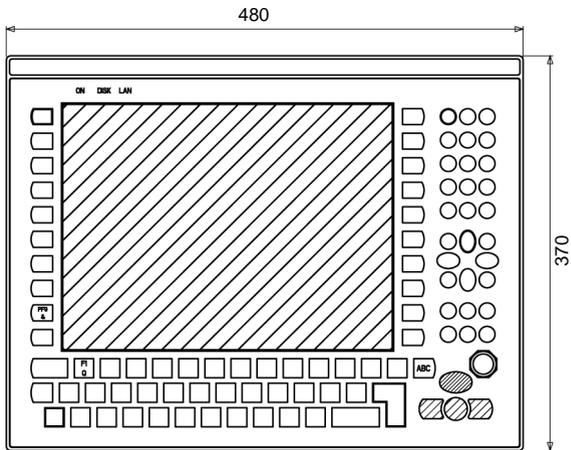


**Front panels with 15" screen**

Front panels with touch sensitive pad:



Front panels with keyboard:



## Other dimensions

---

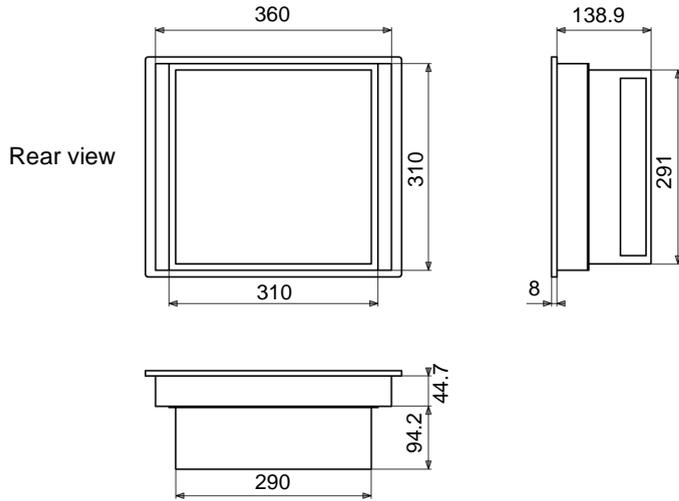
### At a Glance

The dimensions of the products equipped with a front panel are provided below (in mm).

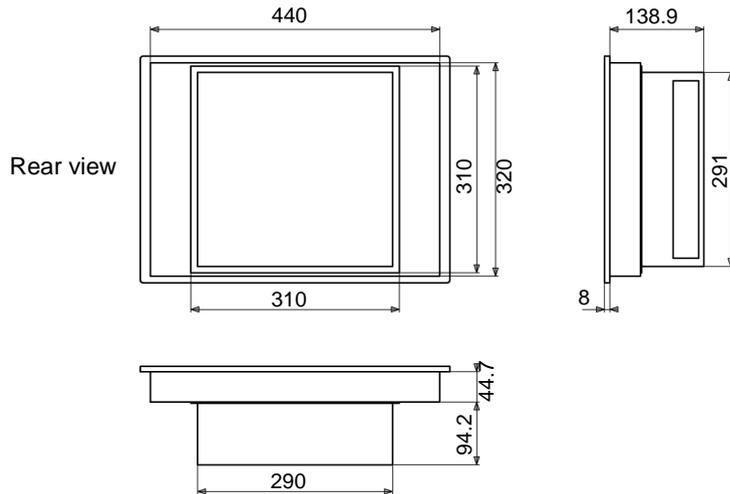
---

### MPC AN\*\*\*

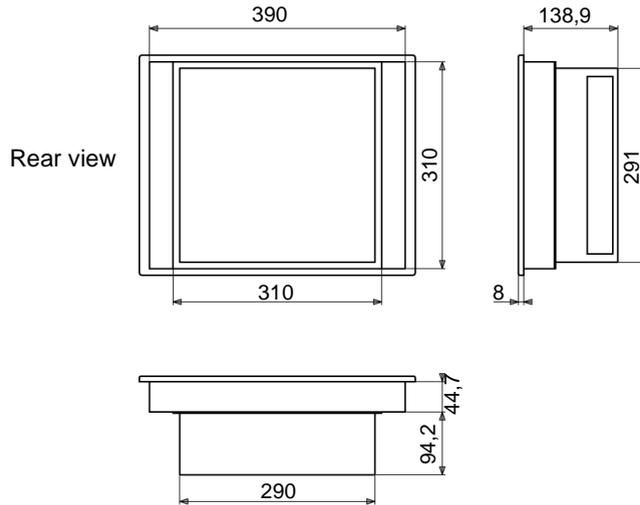
With a 12" touch-sensitive screen front panel: MPC NT20 \*\*



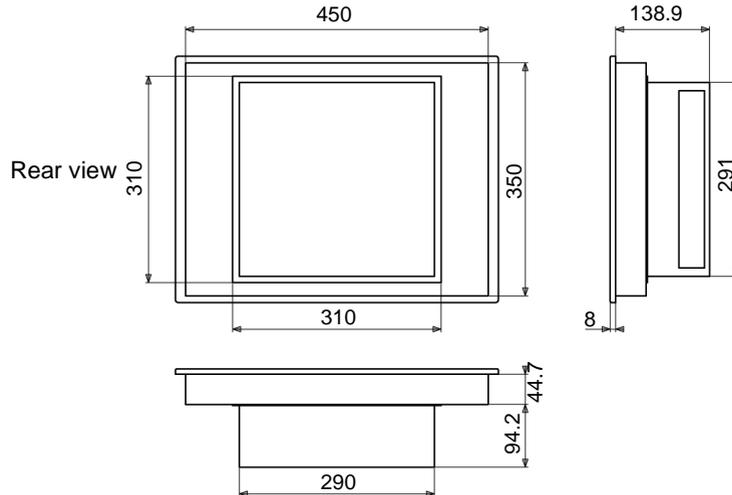
With a 15" touch-sensitive screen front panel: MPC NT50 \*\*



With a 12" screen front panel (touch-sensitive or non-touch-sensitive) and keyboard:  
 MPC NA20 •• or MPC NB20 ••

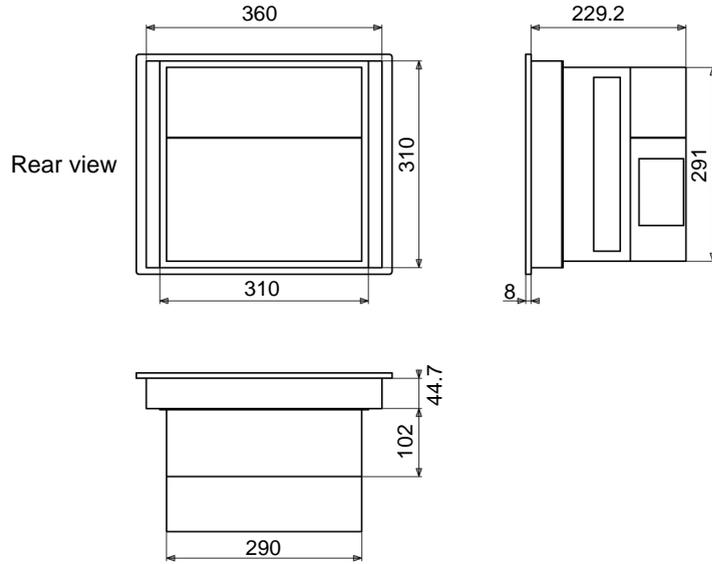


With a 15" screen front panel (touch-sensitive or non-touch-sensitive) and keyboard:  
 MPC NA50 •• or MPC NB50 ••

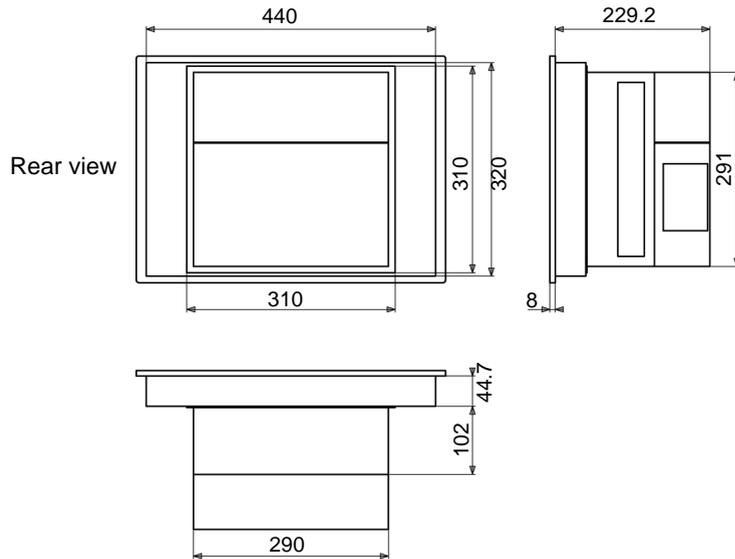


**MPC BN\*\*\***

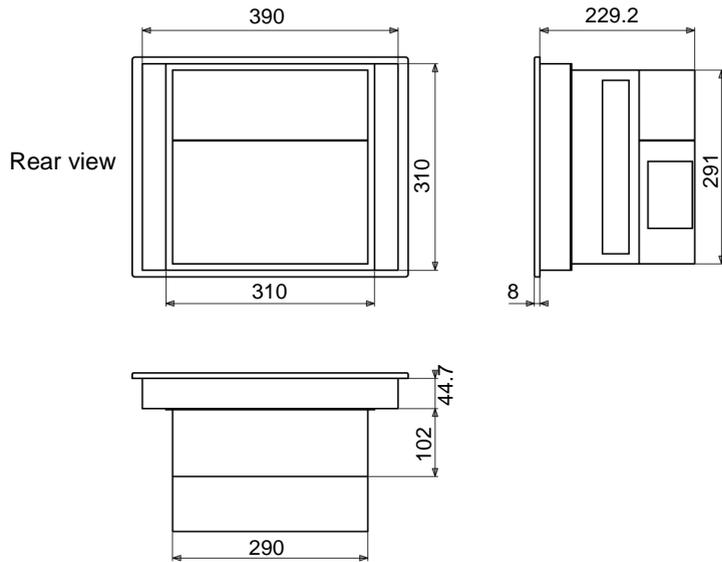
With a 12" touch-sensitive screen front panel: MPC NT20 \*\*



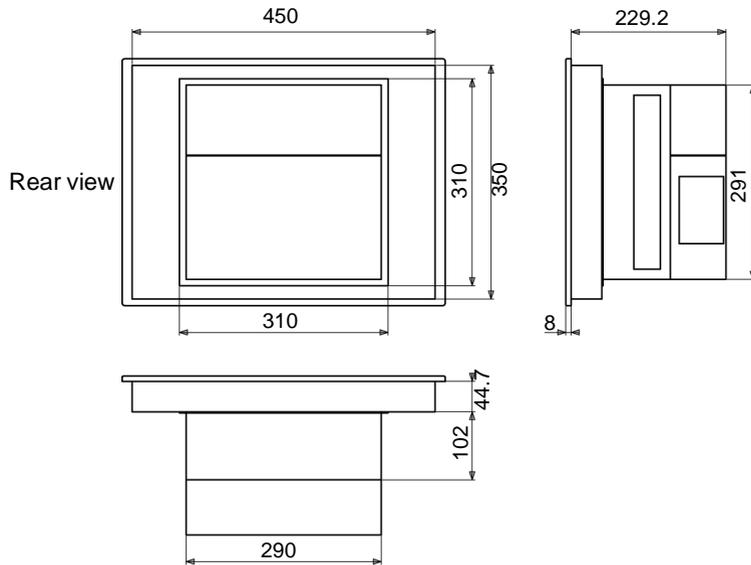
With a 15" touch-sensitive screen front panel: MPC NT50 \*\*



With a 12" screen front panel (touch-sensitive or non-touch-sensitive) and keyboard:  
 MPC NA20 •• or MPC NB20 ••

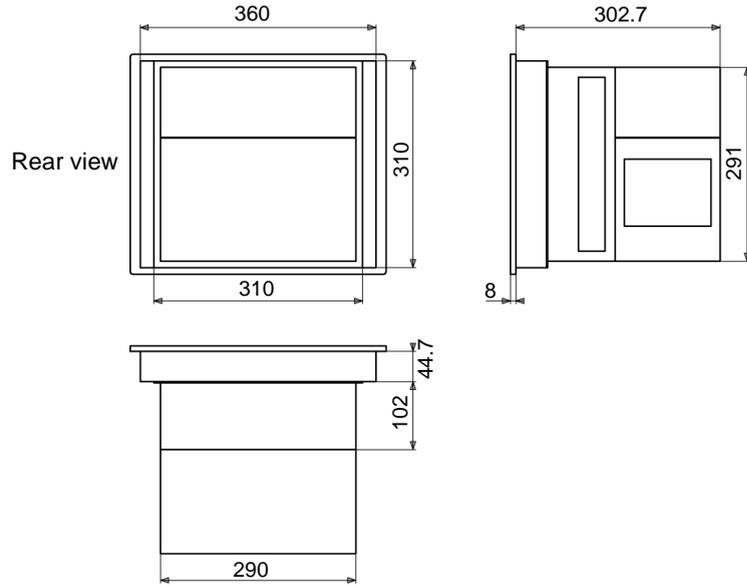


With a 15" screen front panel (touch-sensitive or non-touch-sensitive) and keyboard:  
 MPC NA50 •• or MPC NB50 ••

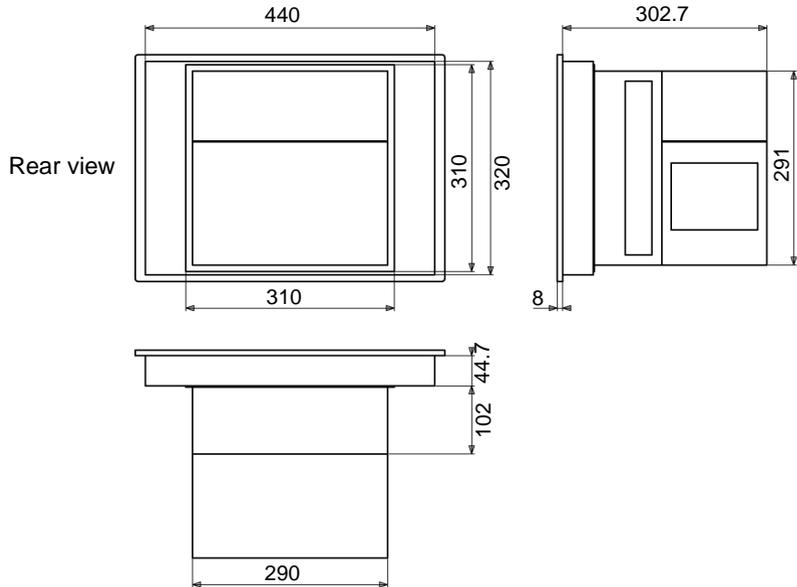


**MPC CN**

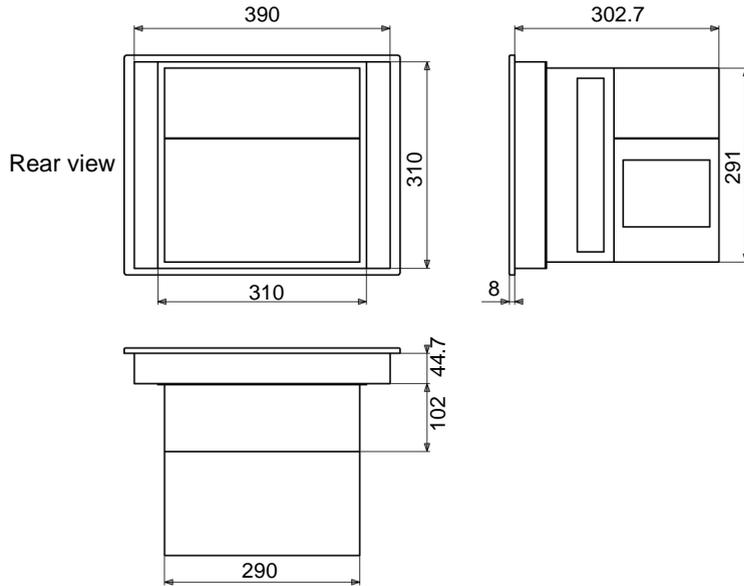
With a 12" touch-sensitive screen front panel: MPC NT20



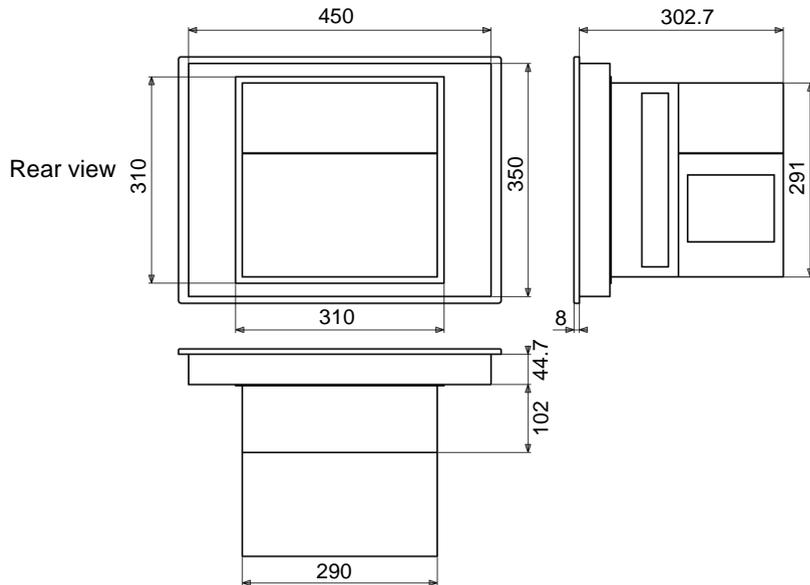
With a 15" touch-sensitive screen front panel: MPC NT50



With a 12" screen front panel (touch-sensitive or non-touch-sensitive) and keyboard:  
 MPC NA20 ●● or MPC NB20 ●●



With a 15" screen front panel (touch-sensitive or non-touch-sensitive) and keyboard:  
 MPC NA50 ●● or MPC NB50 ●●



## Cropping for cabinet installation

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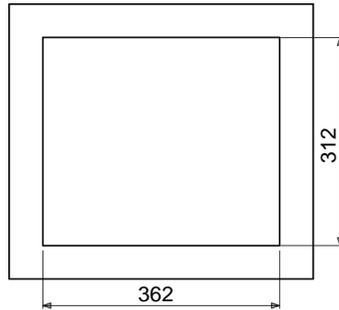
### At a Glance

For cabinet installations, it is necessary for products to be cropped. The dimensions of the crop to be performed (in mm) depend on the type of front panel used.

---

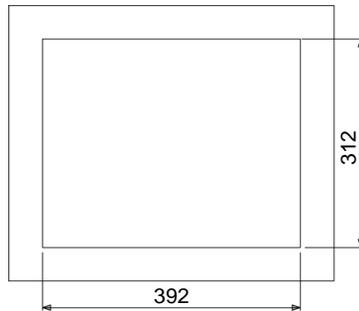
### 12" screen without keyboard

Crop dimensions



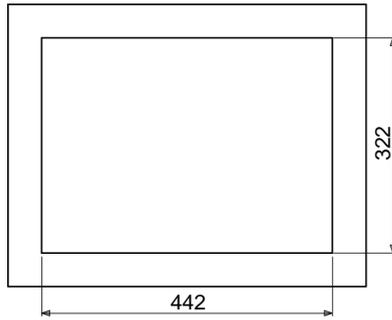
### 12" screen with keyboard

Crop dimensions



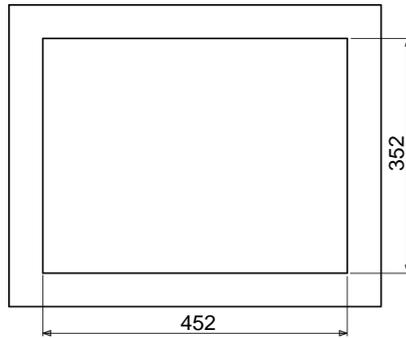
**15" screen  
without  
keyboard**

Crop dimensions



**15" screen with  
keyboard**

Crop dimensions



## Panel mounting

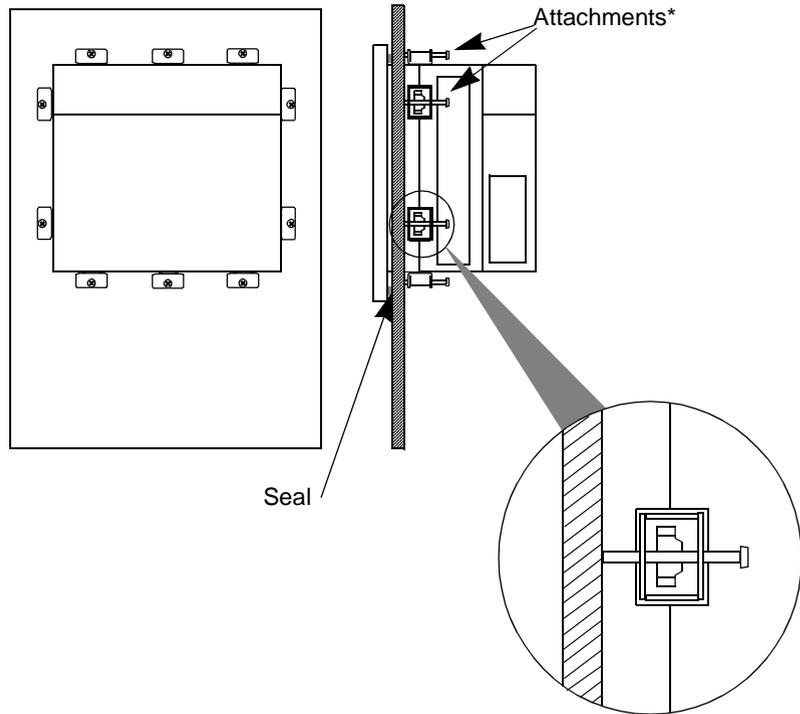
---

### At a Glance

The products and their front panels are designed to be attached to the door of a cabinet. Products can be mounted as described below.

---

### Illustration



Affix the MPC to the panel using the attachments as shown.

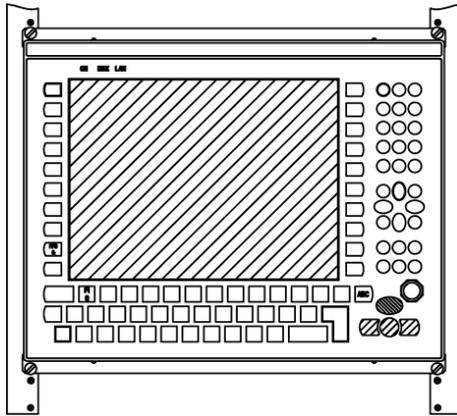
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## 19" rack mounting

### At a Glance

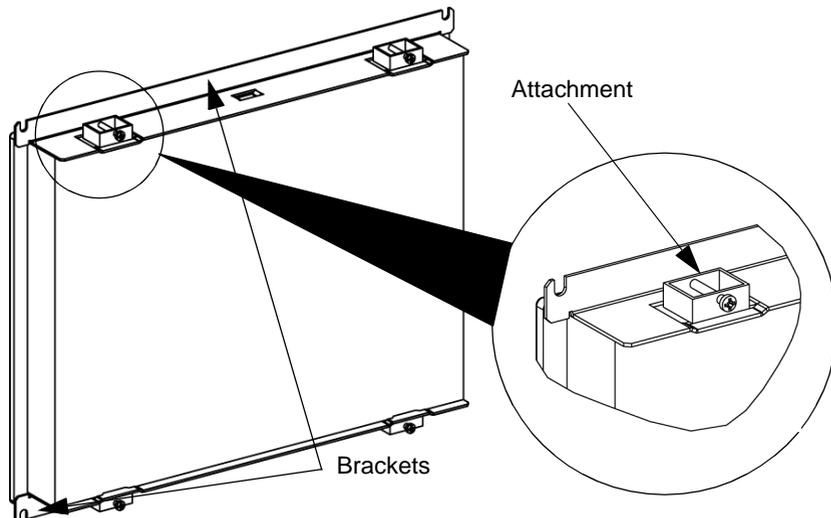
A front panel with 15" screen can be mounted in a 19" rack. This mounting uses brackets available in the catalogue (Ref. **MPC YN00 RMK 00N**).

View of a front panel mounted in a 19" rack:



### Mounting

View of a front panel mounted using attachment brackets



## Mounting without a front panel

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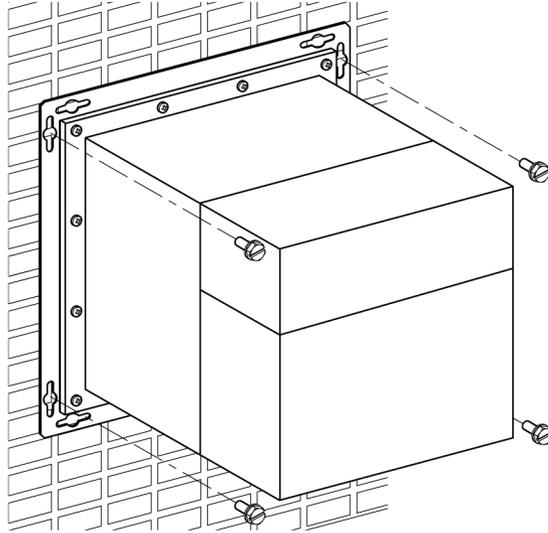
### At a Glance

It is possible to use a Control Box with a video monitor and external keyboard instead of a front panel. Here, the connection base accessory **MPC NP00 NNN 00N** is used as an attachment and front panel connector cover.

---

### Mounting

View of a Control Box mounted on a Telequick **AM1 PA** plate:



Mounting distance: 330 mm

Procedure:

1	Assemble the Control Box connection base using the 12 cross-slot screws supplied.
2	Attach the assembly to the plate using the four screws

---

---

## Connection to PLCs

### At a Glance

Different connection cables are used depending on the PLC. These are specified below.

### Nano, Micro, Premium

This connection requires the use of connection cable **TSX PCX 1031** supplied with PL7 Pro and PL7 Junior software.

This 2 meter-long cable is equipped with the following:

- A 9-contact SUB-D-type female connector for connection to the Magelis iPC.
- A 5-contact microDin-type male connector for connection to the PLC.

### Series 7

This concerns TSX 27 PLCs, and TSX/PMX 47/67/87/107 PLCs.

This connection requires the use of connection cable **FT20CBCL30** supplied with XTEL Pack software.

This 2.5 meter-long cable is equipped with the following:

- A 9-contact SUB-D-type female connector for connection to the Magelis iPC.
- A 9-contact SUB-D-type male connector for connection to the PLC.

### TSX 17

TSX 17 PLCs are connected via an accessory for converting the COM1 link (RS 232) into a RS 485 link (to be ordered separately).

Accessory reference: **TSX 17 ACC PC**

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**April 2000/30000** This connection requires the use of connection cable **TSX PKIT 2040** (to be ordered separately).

This 2 meter-long cable is equipped with the following:

- A 9-contact SUB-D-type female connector for connection to the Magelis iPC.
  - A 9-contact SUB-D-type male connector for connection to the PLC.
-

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# Appendices



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## At a Glance

### Subject of this part

This part contains the appendices relating to the products.

### What's in this part?

This Part contains the following Chapters:

Chapter	Chaptername	Page
12	Accessories	105



---

## Accessories

12

---

### Accessories

#### List

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

Description	Reference
Connection base used when the Control Box is used without a front panel	MPC NP0 0NNN 00N
12" external LCD monitor	MPC YS2 0NNN 00N
15" external LCD monitor	MPC YS5 0NNN 00N
17" external LCD monitor	MPC YS8 0NNN 00N
Swivel arm for LCD monitor	MPC YN0 0ARM 00N
Industrial external keyboard	MPC YN0 0KBD 00N
Optional CD-ROM drive for MPC NA**	MPC YN0 0CDR 00N
100W AC power supply for MPC NB**	MPC YN0 0PWS ACM
230W AC power supply for MPC NC**	MPC YN0 0PWS ACL
100W 24V DC power supply for MPC NB**	MPC YN0 0PWS DCM
300W 24V DC power supply for MPC NB**	MPC YN0 0PWS DCL
3 slot block for extension cards	MPC YN0 0SLT 003
6 slot block for extension cards	MPC YN0 0SLT 006
CD-ROM and disk drive sub assembly for MPC NB/NC	MPC YN0 0DRV 00N
64 Mb Control Box Ram extension	MPC YN0 0RAM 064
128 Mb Control Box Ram extension	MPC YN0 0RAM 128
256 Mb Control Box Ram extension	MPC YN0 0RAM 256
Set of 19" fastening brackets for 15" screen front panel	MPC YN0 0RMK 00N
Maintenance kit (seal, screws, filters) 12" touch screen	MPC YN2 0MNT KIT
Maintenance kit (seal, screws, filters) 12" keyboard	MPC YN2 0MNT KIT
Maintenance kit (seal, screws, filters) 15" touch screen	MPC YN5 0MNT KIT

Accessories

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<b>Description</b>	<b>Reference</b>
Maintenance kit (seal, screws, filters) 15" keyboard	<b>MPC YN5 KMNT KIT</b>

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