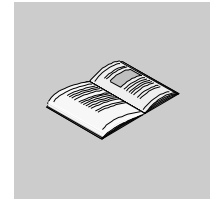


Magelis iPC External LCD monitors User Manual

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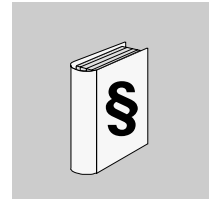
Table of Contents



	Safety Information	5
	About the Book	11
Part I	Overview of the external LCD monitors	13
	Introduction	13
Chapter 1	Overview of the external LCD monitors	15
	Introduction	15
Chapter 2	Physical description	17
	External LCD monitors	17
Chapter 3	Characteristics	19
	Introduction	19
	General specifications for the monitors	20
	Environment characteristics	22
Part II	Implementation	23
	Introduction	23
Chapter 4	Connection of power supply for the external LCD monitors	25
	Introduction	25
	Mains supply of the monitors	26
	Direct current supply of monitors	27
	Connection of a monitor to a Control-Box	30
Chapter 5	Dimensions and Assembly	31
	Introduction	31
	Dimensions of the 12" monitor	32
	Dimensions of the 15" monitor	33
	Cropping for cabinet installation	34
	Mounting on a panel	35
	19" rack mounting	36

Part III	Appendices	39
	Introduction	39
Chapter 6	Accessories	39
	Accessories	39

Safety Information



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 required information which is adequate to conform with the proper use of the products. However, those who wish to make 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 is not contractual, and in no way constitutes an extension to, or restriction of the contractual warranty clauses.

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

Personnel qualifications

Only **qualified personnel** are authorized to implement, operate or maintain the products. The interference of non-qualified persons or failure to observe the security setpoints contained in this manual, or attached to the devices, can endanger the safety of such persons, or irretrievably damage the equipment. The following persons can be designated as "**qualified persons**":

- 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),
- as far as preventive or corrective maintenance is concerned, persons trained and qualified in regulating or repairing automatic devices (for example an operating technician, an after-sales service 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.


**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.

	WARNING
	<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">● This device may not cause harmful interference received, including interference that may cause undesired operation.● This device must accept any interference received, including interference that may cause undesired operation. <p>Failure to follow this precaution can result in death, serious injury, or equipment damage.</p>

Safety Warnings
- For U.K.

	WARNING
	<p>This apparatus must be earthed for your safety.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>Failure to follow this precaution can result in death, serious injury, or equipment damage.</p>

**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.

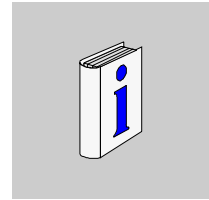
The mains plug on this equipment must be used to disconnect the mains power.

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

Failure to follow this precaution can result in death, serious injury, or equipment damage.

	WARNING
	<ul style="list-style-type: none">• 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.• Disconnect the mains plug from the supply socket when the computer is not in use. <p>Failure to follow this precaution can result in death, serious injury, or equipment damage.</p>

About the Book



At a Glance

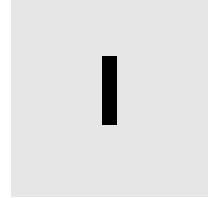
Document Scope This manual describes the installation of the external LCD monitors in the Magelis iPC range.

Related Documents

Title of Documentation	Reference Number
Magelis iPC installation guide	35005232
User manual	35005230

User Comments We welcome your comments about this document. You can reach us by e-mail at TECHCOMM@modicon.com

Overview of the external LCD monitors



Introduction

Purpose of this section

This section provides information about the external LCD monitors.

What's in this Part?

This part contains the following chapters:

Chapter	Chapter Name	Page
1	Overview of the external LCD monitors	15
2	Physical description	17
3	Characteristics	19

Overview of the external LCD monitors



Introduction

Thank you

Congratulations!
Thank you for having purchased an external LCD monitor from the Magelis iPC range.

Introduction

The LCD monitors have all the specifications required to operate in an industrial environment. In addition, they feature the very latest technologies.
There are four versions of the external LCD monitor:

Scaling	Supply	Reference
12"	alternating	MPC YS2 0NAN 00N
	direct	MPC YS2 0NDN 00N
15"	alternating	MPC YS5 0NAN 00N
	direct	MPC YS5 0NDN 00N

The specifications (See *Characteristics*, p. 19) are different depending on the model

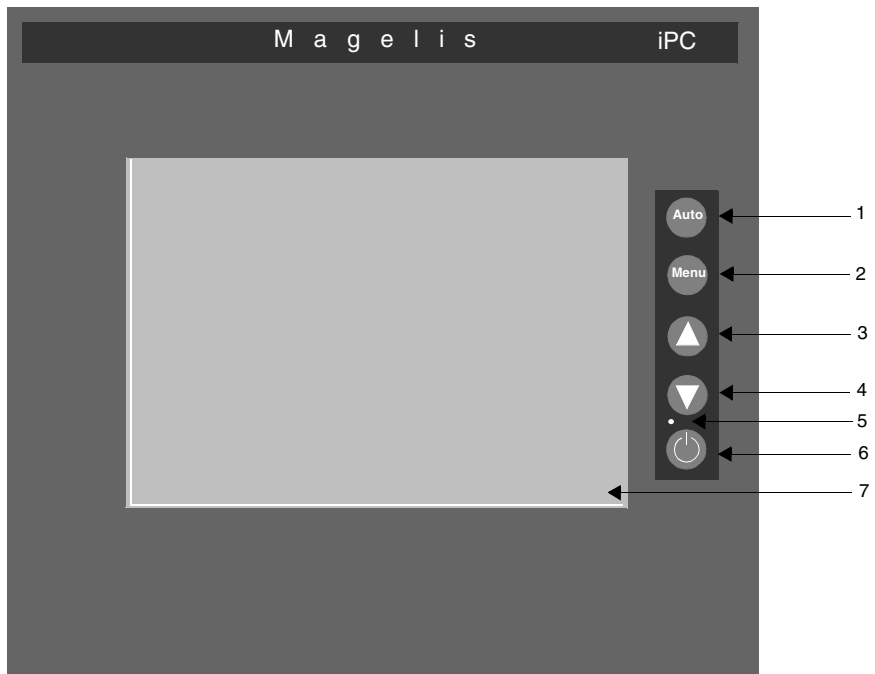
Physical description

2

External LCD monitors

Introduction These external LCD monitors come with a 12" or 15" screen. They are composed of an LCD screen that has 5 keys and an LED. The keys provide access to the various monitor adjustments and to the LED, whose three colors indicate monitor status.

Description Front view:



Description of the external LCD monitor keys:

Number	Function	Description
1	Auto key	This key is used to launch an auto-detect of the screen parameters.
2	Menu key	This key is used to manually adjust the phase.
3	Up key	Press these keys continuously to regulate brightness. After you have pressed the <code>Menu</code> key, they can be used to adjust the phase.
4	Down key	
5	LED	<ul style="list-style-type: none">● Green: normal operation, screen illuminated and presence of video signal,● Red: screen in standby mode and absence of video signal,● Orange: screen in standby mode and presence of a video signal.
6	On/Off key	This key is used to turn the monitor on or off. Note: This key does not shut down the main power supply.
7	Screen	LCD screen.

Auto-detect function

This function is used to trigger automatic analysis of the current video mode and to determine optimum parameter management of the LCD screen. In order to obtain correct parameters, it is recommended that this analysis be triggered on a fixed video image with a background color other than black. For example, a Windows type image will allow excellent adjustments to be obtained. On the other hand, an MS-DOS type image (black background with few characters) will not be entirely satisfactory.

PHASE Function

This function can be used in addition to the AUTO function to remove any flickering that the AUTO function was not able to resolve (temperature drift). The adjustment parameters (including brightness) are stored in case there is a power outage.

Characteristics



3

Introduction

Aim of this chapter

This chapter presents the different characteristics of the external LCD monitors.

What's in this Chapter?

This chapter contains the following topics:

Topic	Page
General specifications for the monitors	20
Environment characteristics	22

General specifications for the monitors

12" Monitor

The table below gives the specifications for the MPC YS2 0N•N 00N monitors:

Type of screen	SVGA active matrix
Definition	800*600
Number of colors	262144
View angle	<ul style="list-style-type: none"> ● Horizontal = 110, ● Vertical = 90.
Brightness	200 cd/m (typical), adjustable
Scanning frequencies supported	60 to 75 Hz
Optimum video mode	800*600, 65,535 colors (16 bits), 60 Hz
Weight	7.5 Kg

15" Monitor

The table below gives the specifications for the MPC YS5 0N•N 00N monitors:

Type of screen	XGA active matrix
Definition	1024*768
Number of colors	262144
View angle	<ul style="list-style-type: none"> ● Horizontal = 160, ● Vertical = 160.
Brightness	200 cd/m (typical), adjustable
Scanning frequencies supported	60 to 75 Hz
Optimum video mode	1024*768, 65,535 colors (16 bits), 60 Hz
Weight	8.5 Kg

Direct current supply

The following table gives the specifications of direct current supply of the type MPC YS• 0NDN 00N:

Supply voltage	24 V DC, (threshold values: 19.8 to 32 V DC)
Power consumption	30 W
Micro power outages	1 ms

**Alternating
current supply**

The following table gives the specifications of alternating current supply of the type MPC YS• ONAN 00N:

Supply voltage	115 to 230 V AC, (threshold values: 98 to 264 VAC)
Frequency	50/60 Hz (threshold values: 47 to 63 Hz) Compliance with EN61131-2
Power consumption	30 W
Micro power outages	10 ms

Environment characteristics

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

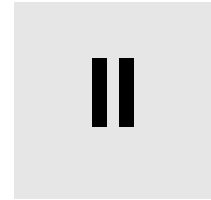
Characteristics the environment characteristics are as follows:

Specification	Value	Standards
Degree of Protection	<ul style="list-style-type: none"> ● IP65 for the forward part of the front panels. ● IP 20 for the rest of the product 	IEC 529
Operating temperature	0 °C to 50 °C	EN 61131-2, UL compliant
Storage temperature	-20°C60°C	IEC 68-2-2 tests Bb and Ab, IEC 68-2-14 tests Na and EN 61131-2 compliant
Usage altitude	0 to 3000m max.	-
Storage altitude	0 to 12000m max.	-
Vibration (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
Shock Resistance (in operation)	15gn over 11ms	IEC 68-2-27 Ea test and EN 61131-2 compliant
Hygrometry	20...80%	-
Interference immunity	High frequency interference	EN 61131, IEC 1000-4-3/6 level 3
	Electromagnetic Emissions	Class A/EN 55022/55011
	Human and material safety	EN 61131-2, UL/CSA and IEC 950

Certification The products have been developed to comply with the following standards:

- UL 508
- UL 60950
- CUL
- EN 55022
- IEC 1131-2

Implementation



Introduction

Purpose of this section

This section describes the implementation of the external LCD monitors.

What's in this Part?

This part contains the following chapters:

Chapter	Chapter Name	Page
4	Connection of power supply for the external LCD monitors	25
5	Dimensions and Assembly	31

Connection of power supply for the external LCD monitors

4

Introduction

Aim of this chapter

This chapter describes power supply connection for the external LCD monitors.

What's in this Chapter?


This chapter contains the following topics:

Topic	Page
Mains supply of the monitors	26
Direct current supply of monitors	27
Connection of a monitor to a Control-Box	30

Mains supply of the monitors

Introduction

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

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

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

Direct current supply of monitors

Introduction

Direct current versions of the monitors connect to a 24 V DC supply (see).

Note: It is not advisable to use direct current monitor 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:

- Length limited to 30 meters (60 meters 'round-trip') with 2.5 mm² section copper wires
- Length limited to 20 meters (40 meters 'round-trip') with 1.5 mm² section copper wires

Possible connections

Connection of a monitor supplied by a non-grounded safety DC network:

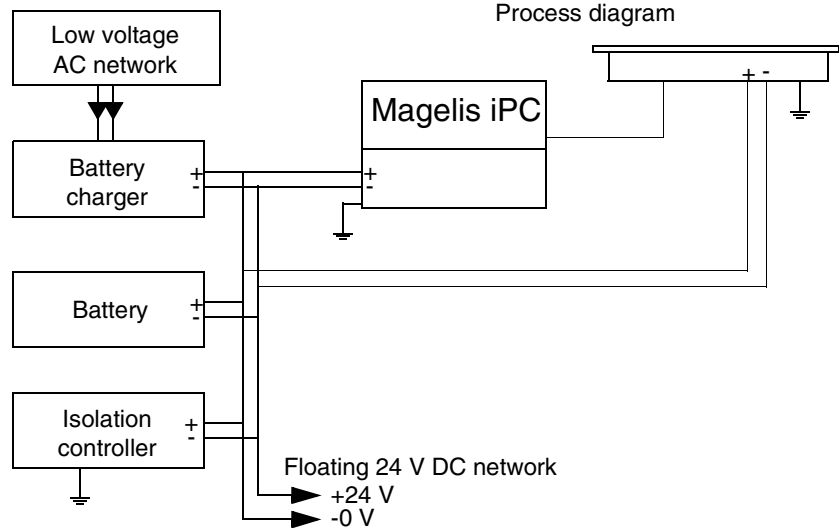
The 0V and mechanical ground are connected internally, as well as in the network cabling accessories.

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

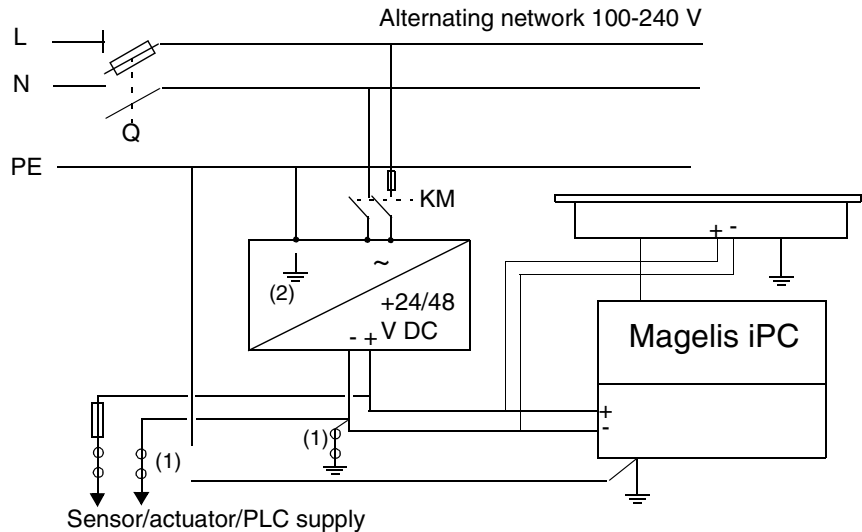
For this, the 24 V DC input of the monitor supplies is isolated in relation to the outputs and mechanical ground:

- Primary/Secondary dielectric strength:
 - 500 V AC
- Primary/Ground dielectric strength:
 - 500 V AC

Connection of a 24 V DC monitor using a floating direct current network:



Connection of a 24 V DC monitor using a ground referenced network:



Q: General isolator

KM: Line contactor or circuit breaker

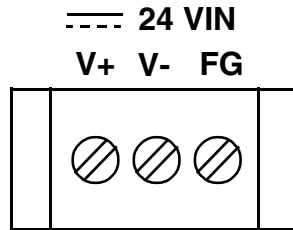
(1): Isolation strip for detecting grounding faults

(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 monitors 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

View of the connection terminal block:



FG is the ground connection. It is connected to the mechanical ground of the monitor.

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

Connection of a monitor to a Control-Box

Description

The monitor is connected to the Control-Box by a VGA cable supplied with the monitor.

Dimensions and Assembly



Introduction

Aim of this chapter

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

What's in this Chapter?

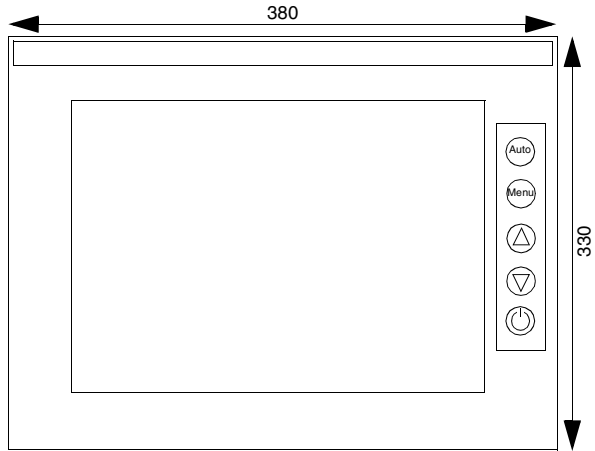
This chapter contains the following topics:

Topic	Page
Dimensions of the 12" monitor	32
Dimensions of the 15" monitor	33
Cropping for cabinet installation	34
Mounting on a panel	35
19" rack mounting	36

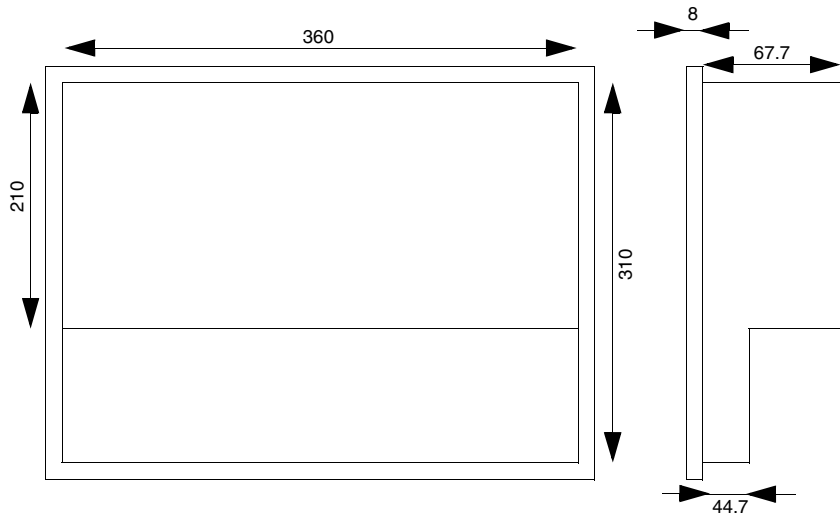
Dimensions of the 12" monitor

Dimensions

The dimensions below are given in mm.
Front view:



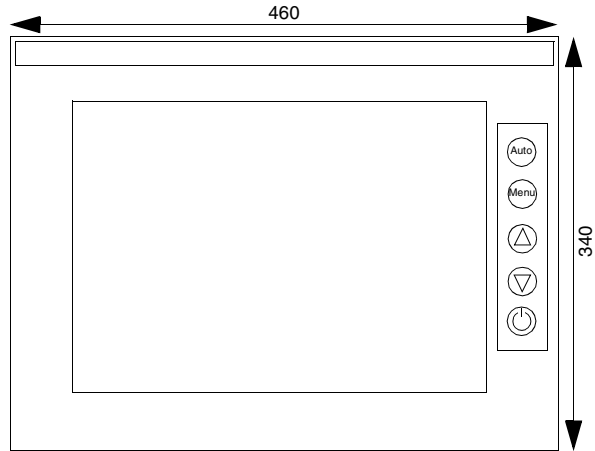
Back and side view:



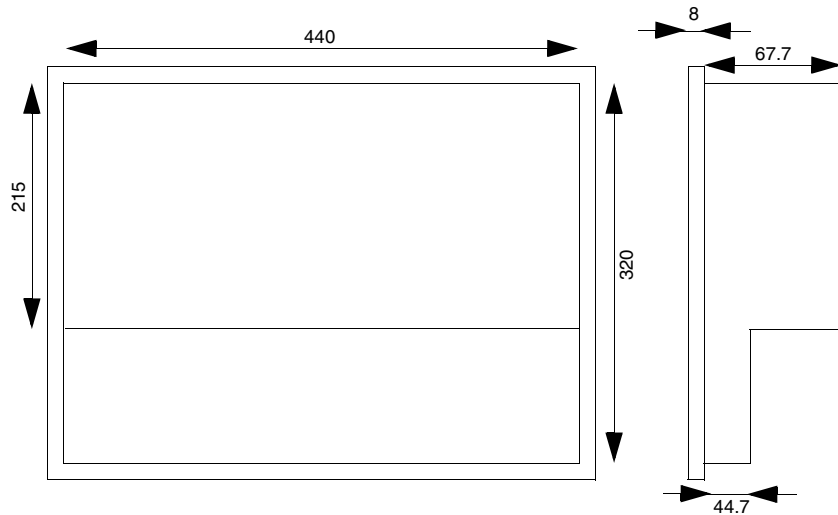
Dimensions of the 15" monitor

Dimensions

The dimensions below are given in mm.
Front view:



Back and side view:



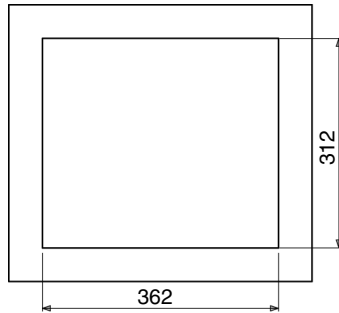
Cropping for cabinet installation

Introduction

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.

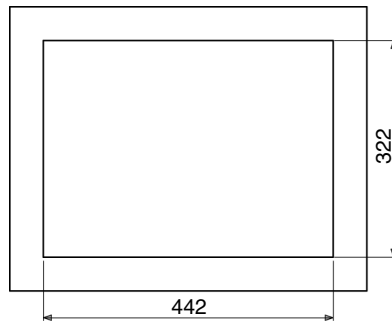
12" Monitor

Crop dimensions



15" Monitor

Crop dimensions

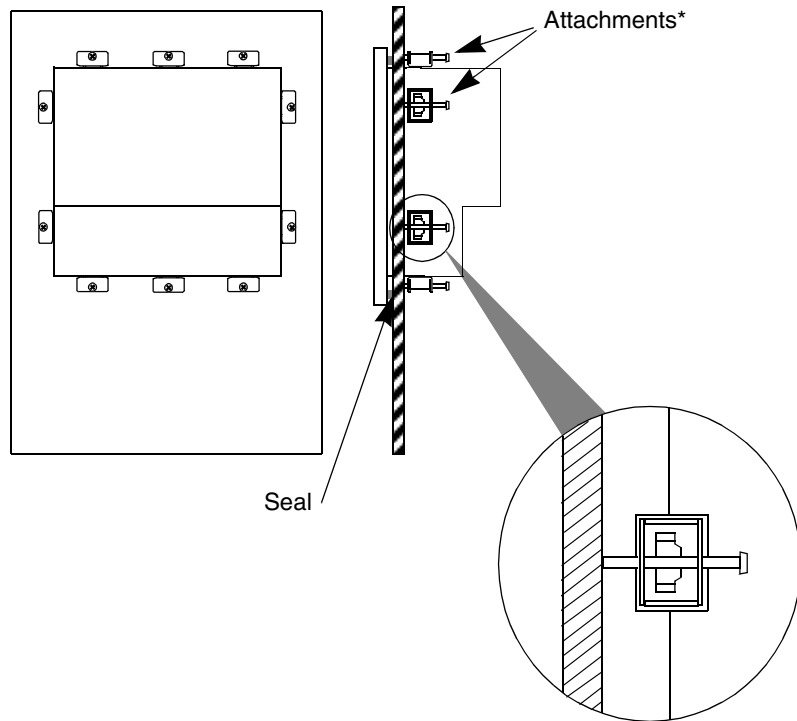


Mounting on a panel

Introduction

The monitors are designed to be attached to the door of a cabinet. Products can be mounted as described below.

Illustration



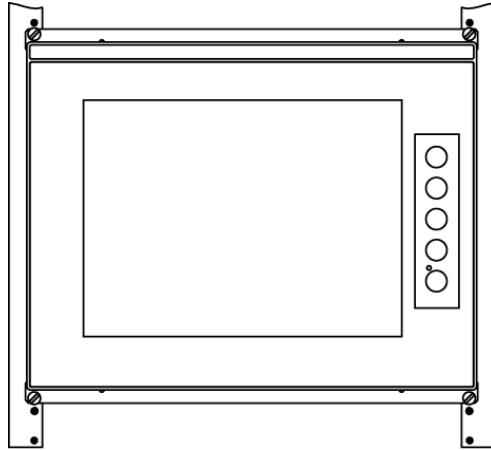
Affix the MPC to the panel using the attachments as shown.

19" rack mounting

Introduction

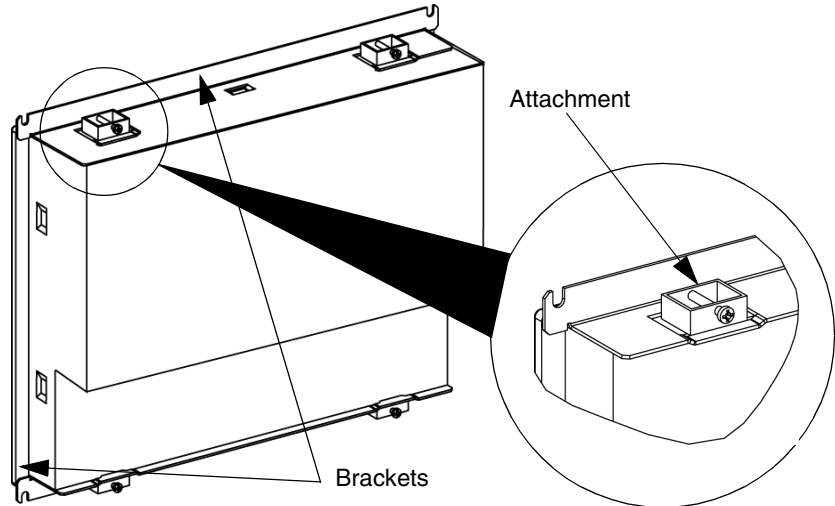
A 15" monitor can be mounted in a 19" rack. This mounting uses brackets available in the catalogue (Ref. **MPC YN00 RMK 00N**).

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

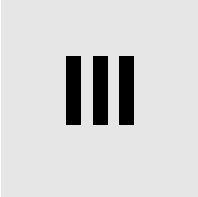


Mounting

View of a front panel mounted using attachment brackets



Appendices



Introduction

Purpose of this section

This section contains the appendices relating to the products.

What's in this Part?

This part contains the following chapters:

Chapter	Chapter Name	Page
6	Accessories	39

Accessories



Accessories

List

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

Description	Reference
Swivel arm for LCD monitor	MPC YN0 0ARM 00N
Set of 19" fastening brackets for 15" screen front panel	MPC YN0 0RMK 00N
