

Installation Guide Magelis iDisplay

SAFETY INFORMATION

Prior to attempting the procedures in this Guide, read and understand the Magelis iDisplay User Manual for the Magelis product you are configuring. The following safety messages always apply, but are not in themselves sufficient to proper operation of the Magelis iDisplay devices. Before using this Guide, read and understand the following User Manuals:

- Magelis iDisplay 15" User Manual.
- Magelis iDisplay 15" Keyboard and Touch User Manual.
- Magelis iDisplay 19" User Manual.

Magelis iDisplay 15" DC, 19" AC, and 15" Keyboard are suitable for use in Class I, Division 2, Groups A, B, C, and D hazardous locations or in non-hazardous locations only.

DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

- Disconnect all power from all equipment including connected devices prior to removing any covers or doors, or installing or removing any accessories, hardware, cables, or wires except under the specific conditions specified in the appropriate hardware guide for this equipment.
- Always use a properly rated voltage sensing device to confirm the power is off.
- Unplug the power cable from both the equipment and the power supply.
- Replace and secure all covers, accessories, hardware, cables, and wires and confirm that a proper ground connection exists before applying power to the equipment.
- Use only the specified voltage when operating this equipment and any associated products.

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

DANGER

EXPLOSION HAZARD

- Always confirm the ANSI/ISA 12.12.01 or CSA C22.2 N°213 hazardous location rating of your device before installing or using it in a hazardous location.
- To apply or remove the supply power from an iDisplay device installed in a Class I, Division 2 hazardous location:
 - Use a switch located outside the hazardous environment, or;
 - Use a switch certified for Class I, Division 1 operation inside the hazardous area.
- Do not connect or disconnect any cables or wires while the circuit is live unless the area is known to be free of ignitable concentrations of vapors, gases, and other flammable or combustible materials. This applies to all connections including power, ground, serial, parallel, and network connections.
- Never use unshielded / ungrounded cables in hazardous locations.
- Use only non-incendiary USB devices as described in Control Drawing of the USB outlet (See Control Drawing of the USB outlet on the Magelis iDisplay in the above user manuals).
- When enclosed, keep enclosure doors and openings closed at all times to avoid the accumulation of foreign matter inside the workstation.

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

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

Note: This document does not aim to replace the various manuals supplied with the software: it is simply intended as a step-by-step guide to the standard installation and customization of the software on your machine. Users who require a custom installation are referred to the various user manuals supplied with the software. Before installing any software on the hard disk or compact flash card, carefully read the license and warranty certificates concerning the restrictions on copying and installing software.

IDISPLAY FRONT PANEL

The Magelis iDisplay is an External LCD Display Monitor. This External Display is designed to operate in an industrial environment and features the very latest technologies.

There are 4 versions of iDisplay Front Panel. The product references are:

- MPCYT50NAN00N / HMIDID7DT0: 15" XGA touchscreen
- MPCNB50NAN00N: 15" XGA keyboard
- MPCYT90NAN00N: 19" SXGA touchscreen

ENVIRONMENTAL CHARACTERISTICS

Characteristics

The environmental characteristics given below are applicable to the iDisplay:

Characteristics	Value
Pollution Degree	For use in Pollution Degree 2 environment
Surrounding air temperature	0 °C...+50 °C (32...122 °F)

For more information about all other environmental characteristics, refer to the above user manuals.

CREATING A PANEL CUT FOR CABINET INSTALLATION

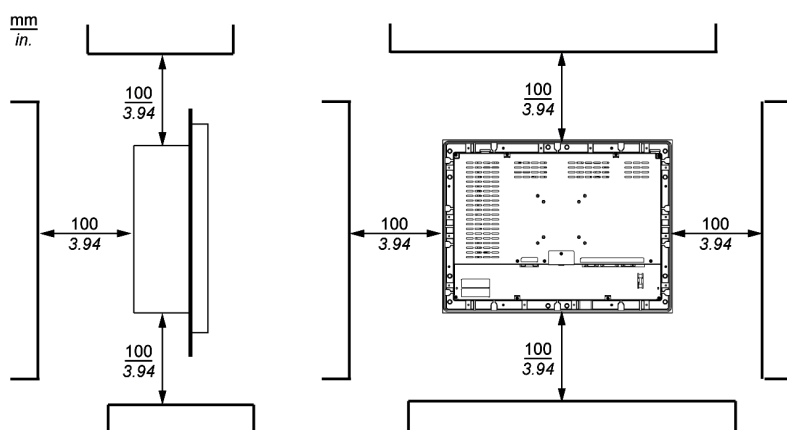
Introduction

For a cabinet installation, the correct sized opening must be cut in the installation panel.

Note: The installation gasket and installation fasteners are needed to install the iDisplay.

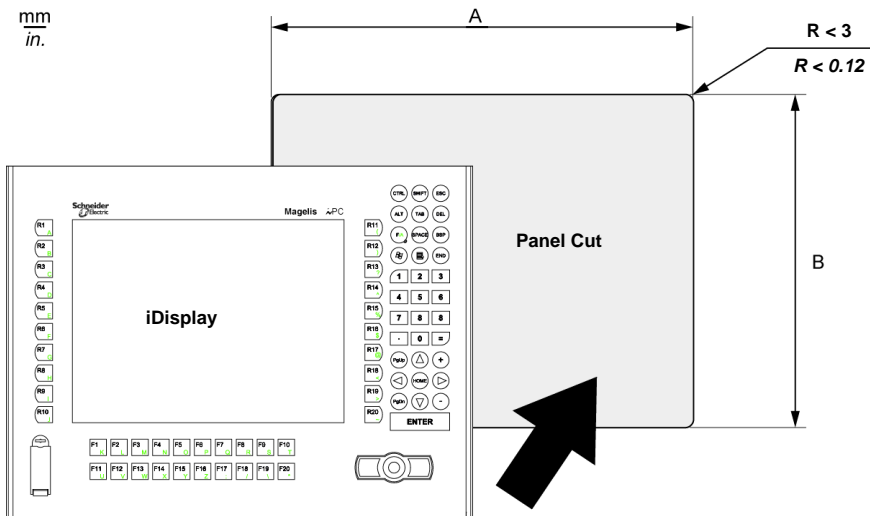
Installation: Space Requirements

For easier maintenance, operation, and improved ventilation, be sure to install the iDisplay at least 100 mm (3.94 in.) away from adjacent structures and other equipment.



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INSERTING A IDISPLAY



	A (mm)	A (in.)	B (mm)	B (in.)
Magelis iDisplay 15"	$383,5^{+1}_0$	$15.10^{+0.04}_0$	$282,5^{+1}_0$	$11.12^{+0.04}_0$
Magelis iDisplay 15" Keyboard and Touch	$441,5^{+1}_0$	$17.38^{+0.04}_0$	$313,5^{+1}_0$	$12.34^{+0.04}_0$
Magelis iDisplay 19"	$419,5^{+1}_0$	$16.52^{+0.04}_0$	$352,5^{+1}_0$	$13.88^{+0.04}_0$

Note:

- Ensure the thickness of the installation panel is from 1.6 to 10 mm (0.06 to 0.4 in.).
- To ensure that the product's water resistance is maintained, install it in a panel that is flat and free of scratches or dents.
- All panel surfaces used should be strengthened. Due consideration should be given to the product's weight, specially if high levels of vibration are expected and the product's installation surface can move. Metal reinforcing strips can be attached to the inside of the panel near the panel cut-out to increase the strength of the panel.
- Ensure all installation tolerances are maintained.
- The iDisplay is UL Listed for use on a flat surface of a Type 1 Enclosure and/or Type 4X (Indoor Use Only) and/or Type 12 Enclosure.

PANEL MOUNTING

Installation Location

⚠ WARNING

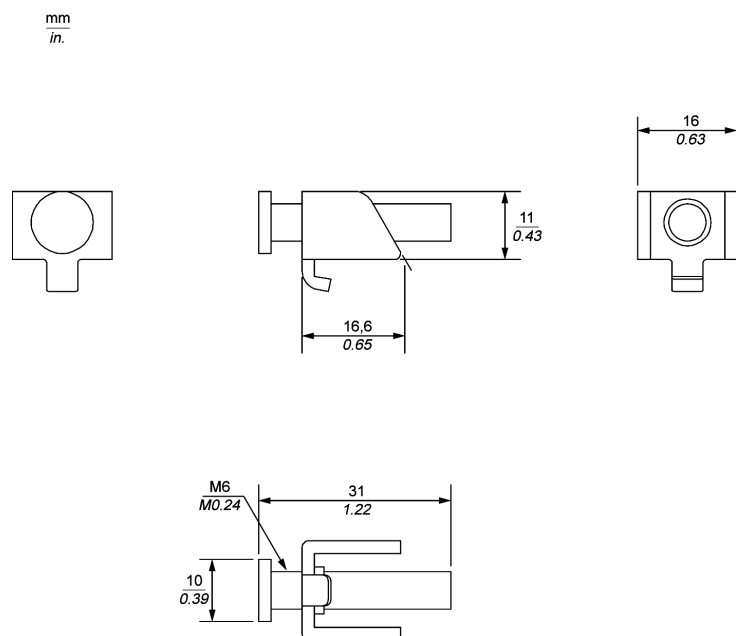
UNINTENDED EQUIPMENT OPERATION

- Overheating can cause incorrect device behavior and device damage:
- Place devices dissipating the most heat at the top of the cabinet and ensure adequate ventilation.
- Avoid placing the iDisplay unit next to devices that might cause overheating.
- Install the iDisplay unit in a location providing a minimum clearance of 100 mm (3.94 in.) or more from all adjacent structures and equipment.
- Install the iDisplay unit in a horizontal panel or attach it to a vertical wall according to the figures in this manual.
- Keep the iDisplay unit away from arc-generating devices such as magnetic switches and non-fused breakers.
- Avoid using the iDisplay unit in environments where corrosive gases are present.

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

Installation Fasteners Dimensions

The iDisplay units are designed to be mounted in a cabinet with the Installation Fasteners, as shown below:



INSTALLING THE IDISPLAY

Vibration and Shocks

Extra care should be taken with respect to the specification concerning vibration levels (refer to Environmental Characteristics in the above user manuals) when installing or moving the iDisplay unit. If the iDisplay is moved, for example, while it is installed in a rack equipped with caster wheels, the unit can receive excessive shock and vibration.

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CAUTION

EXCESSIVE VIBRATION

- Plan your installation activities so that device shock and vibration tolerances are not exceeded.
- Ensure that the panel opening and thickness are within the specified tolerances.
- Before mounting a iDisplay unit into a cabinet or panel, ensure that the installation gasket is attached to the unit. The installation gasket provides additional protection from vibration.
- The recommended torque for mounting the iDisplay device is 0.5 N•m (4.5 lb-in) for MPCYT50NAN00N / HMIDID7DT0 and 0.8 N•m (7.1 lb-in) for MPCYT90NAN00N / MPCNB50NAN00N.

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

Installation Gasket

Use of the installation gasket may help extend the operating life of your iDisplay. The gasket is required to meet the protection ratings (IP65, IP20) of the unit and provides additional protection from vibration. Even if moisture protection is not required, install the gasket delivered with your Magelis product.

CAUTION

LOSS OF SEAL

- Inspect the installation gasket prior to installation or reinstallation and periodically as required by your operating environment.
- Replace the gasket if visible scratches, tears, dirt, or excessive wear are noted during inspection.
- Do not stretch the gasket unnecessarily or allow the gasket to contact the corners or edges of the frame.
- Ensure that the gasket is fully seated in the installation groove.
- Install the iDisplay into a panel that is flat and free of scratches or dents.
- Tighten the installation fasteners using a torque of 0.5 N•m (4.5 lb-in) for MPCYT50NAN00N / HMIDID7DT0 and 0.8 N•m (7.1 lb-in) for MPCYT90NAN00N / MPCNB50NAN00N.

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

Installation Fasteners

CAUTION

OVERTORQUE AND LOOSE HARDWARE

- Do not exert more than 0.6 N•m (5.3 lb-in) of torque for MPCYT50NAN00N / HMIDID7DT0 when tightening the installation fastener, enclosure, accessory, or terminal block screws. Tightening the screws with excessive force can damage the iDisplay.
- When installing or removing screws, be careful that they do not fall inside the iDisplay unit's chassis.

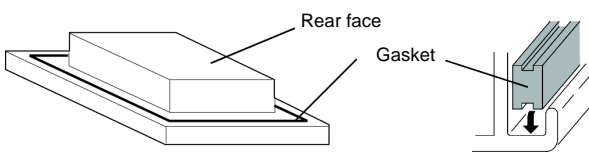
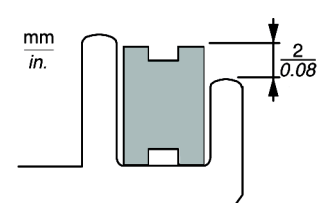
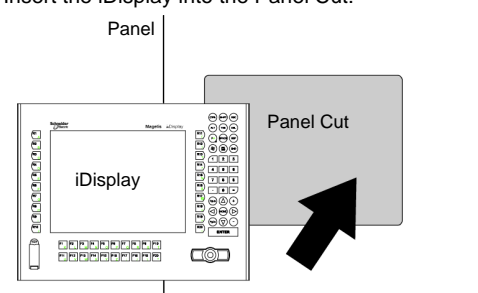
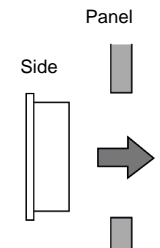
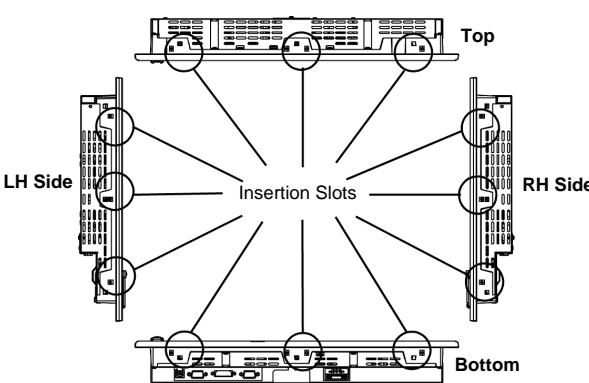
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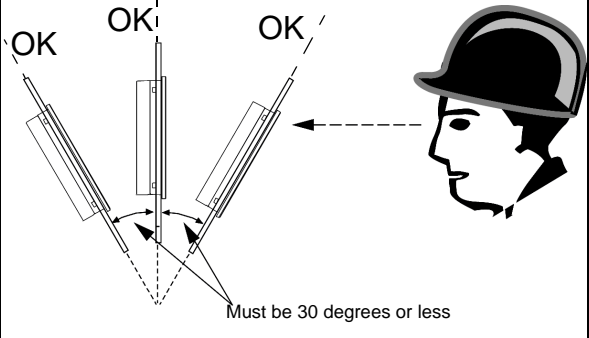
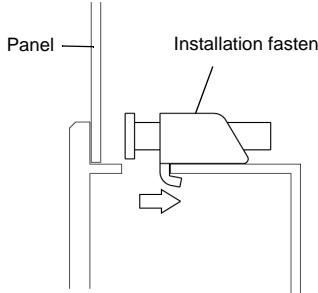
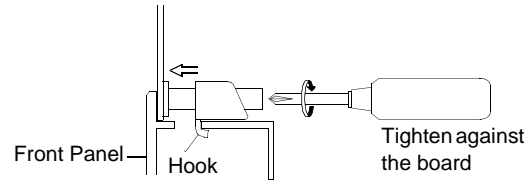
Water and Dust Considerations

The front face of the iDisplay's front panel conforms to IP65, and displays resistance to dust and liquid water in accordance with that rating. However, the other faces of the front panel, and all faces of the control box of the iDisplay, conform to IP20. This means that these faces do not have any resistance to dust nor water (liquid, vapour, or condensate). Therefore, you must ensure that your installation location is free of dust and water, or you must ensure that your installation location is free of dust and water, or you must use a cabinet or other means to protect your device from these substances. When using an enclosure to provide dust and water resistance, remember to inspect the condition of the enclosure's joints, cable grommets, and other openings on a regular basis.

INSTALLING THE IDISPLAY

Follow the steps given below when installing the iDisplay:

Step	Action
1	Attaching the Installation Gasket. 
2	Attach the gasket ensuring that the gasket's grooved edge is on the top and press the gasket completely into the slot. Ensure that the gasket's seam is not inserted into any of the corners of the unit as this may cause the gasket to tear. Check that the gasket is correctly attached to the unit. The upper surface of the gasket should protrude evenly approximately 2 mm (0.08 in.) out of the groove: 
3	Insert the iDisplay into the Panel Cut:  
4	Insert the installation fasteners securely into the slots: 

Step	Action
5	If you are installing the iDisplay in a slanted panel, make sure the panel is not tilted more than 30 degrees: 
7	Pull each fastener back until it is flush with the rear of the attachment hole: 
8	Tighten the screws gradually in an even, crisscross pattern:  <p>Note: The torque required to tighten the screws is 0.5 N•m (4.5 lb-in) for MPCYT50NAN00N and 0.8 N•m (7.1 lb-in) for MPCYT90NAN00N / MPCNB50NAN00N.</p>

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UL/c-UL Application Notes

The following items must be taken into account when building the iDisplay into an end-use product:

- The iDisplay must be used as a built-in component of an end-use product.
- This unit should be installed in the front face of a metal panel.
- If this unit is installed so as to cool itself naturally, be sure to install it in a vertical panel. Also, be sure that the iDisplay unit is mounted at least 100 mm away from any adjacent structures or equipment. If these requirements are not met, the heat generated by the iDisplay unit's internal components may cause the unit to fail to meet UL/c-UL standard.
- For use in Pollution Degree 2 environment.
- Receivable signals are only from isolated secondary source.
- All interface ports (except for Front USB Connector (Type A)) are not intended to be directly connected to a signal source greater than 30 volts and available current greater than 5 mA.
- For all models, front USB Signal Interface must be supplied from Class 2 power supply. For model HMIDID7DT0, DC input must also be supplied from Class 2 power supply.

Note: When the FG terminal is connected, be sure the wire is grounded. Not grounding the Magelis iDisplay unit will result in excess noise and vibration. When using stranded wire, if the conductor's end is not twisted correctly, the end wires may either short against each other or against an electrode.

The grounding wire should have a cross sectional area of 0.75 mm² to 2.5 mm² (18 AWG to 12 AWG). The AC cable included in the AC model iDisplay's package, is 18 AWG. Create the connection point as close to the iDisplay as possible and keep the wire as short as possible. To reduce noise, be sure to twist the wire ends. Use copper conductors only. The temperature rating of field installed conductors is 75 °C (167 °F).

WIRING THE TERMINAL BLOCK

When connecting the wires, follow the procedures given below:

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

AC Type

DC Type

The following table displays the Front USB Interface (Down-stream port) pin assignments and signal names:

Pin Connection	Pin	Signal Name	Meaning
	1	USB1-5 Vdc	+5 Vdc
	2	USBD1(-)	USB data (-)
	3	USBD1(+)	USB data (+)
	4	GND	Ground

Connector: USB 2.0/USB 1.1 compliant.
 Connector set screw: Type A connector.
 Cable: USB Cable included.

⚠ WARNING

IMPROPERLY SECURED POWER CABLES

- Securely clamp power supply cables to the installation panel to prevent disconnection due to excessive stress on the connection.
- Tighten the iDisplay unit's terminal block screws to the specified torque.

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

Please pay special attention to the following instructions when connecting the power cord terminals to the iDisplay unit:

- If the power supply voltage exceeds the iDisplay unit's specified range, connect a voltage transformer
- Between the line and the ground, be sure to use a low noise power supply. If there is still an excessive amount of noise, connect a noise reducing transformer
- Input and Output signal lines must be separated from the power control cables for operational circuits.
- The iDisplay unit's power supply cord should not be bundled with or kept close to main circuit lines (high voltage, high current), or input/ output signal lines.
- Connect a surge absorber to handle power surges.
- To reduce noise, make the power cord as short as possible.
- Must be used with a Class2 Power Supply.