

mitsubishi electric

E1061 and E1063

Installation manual

Installation manual for the E1000 series operator terminals

Foreword

The E1000 operator terminal is developed to satisfy the demands of human-machine communication. Built-in functions such as displaying and controlling text, dynamic indication, time channels, alarm and recipe handling are included.

The operator terminal work, for the most part, in an object-oriented way, making it easy to understand and use. The configuration operation of the terminal is made in a personal computer, using the configuration tool E-Designer. The project is then transferred and stored in the operator terminal.

The operator terminal can be connected to many types of automation equipment, such as PLCs, servos or drives. In this manual the expression “the controller“ is used as a general term for the connected equipment.

This manual explains how to install the operator terminal. Please refer to the reference manual for further information.

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Read the entire installation manual prior to installing and using this equipment.

Only qualified personnel may install, operate or repair this equipment. The manufacturer is not responsible for modified, altered or renovated equipment.

Because the equipment has a wide range of applications, users must acquire the appropriate knowledge to use the equipment properly in their specific applications.

Persons responsible for the application and the equipment must themselves ensure that each application is in compliance with all relevant requirements, standards and legislation in respect to configuration and safety.

Only parts and accessories manufactured according to specifications set by The manufacturer may be used.

THE MANUFACTURER SHALL NOT BE LIABLE TO ANYONE FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE INSTALLATION, USE OR REPAIR OF THIS EQUIPMENT, WHETHER ARISING IN TORT, CONTRACT, OR OTHERWISE. BUYER'S SOLE REMEDY SHALL BE THE REPAIR, REPLACEMENT, OR REFUND OF PURCHASE PRICE, AND THE CHOICE OF THE APPLICABLE REMEDY SHALL BE AT THE SOLE DISCRETION OF THE MANUFACTURER.

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1 Safety Precautions

Both the installer and the owner and/or operator of the operator terminal must read and understand this installation manual.

1.1 UL Installation

Power, input and output (I/O) wiring must be in accordance with Class 1, Division 2 wiring methods (Article 501-4 (b) of the National Electric Code, NFPA 70) and in accordance with the authority having jurisdiction.

1.2 General

- Only qualified personnel may install or operate the operator terminal.
- The operator terminal must be installed according to the installation instructions.
- The operator terminal is designed for stationary installation on a plane surface, where the following conditions are fulfilled:
 - no high explosive risks
 - no strong magnetic fields
 - no direct sunlight
 - no large, sudden temperature changes
- Never allow fluids, metal filings or wiring debris to enter any openings in the operator terminal. This may cause fire or electrical shock.
- The operator terminal fulfills the requirements of article 4 of EMC directive 89/336/EEC.
- Storing the operator terminal where the temperature is lower/higher than recommended in this manual can cause the LCD display liquid to congeal/become isotopic.
- The LCD display liquid contains a powerful irritant. In case of skin contact, wash immediately with plenty of water. In case of eye contact, hold the eye open, flush with plenty of water and get medical attention.
- The supplier is not responsible for modified, altered or reconstructed equipment.
- Use only parts and accessories manufactured according to specifications of the supplier.
- Peripheral equipment must be appropriate for the application and location.
- The figures in this manual serves an illustrative purpose. Because of the many variables associated with any particular installation, the supplier cannot assume responsibility for actual use based on the figures.
- The supplier neither guarantees that the operator terminal is suitable for your particular application, nor assumes responsibility for your product design, installation or operation.

1.3 During Use

- Keep the operator terminal clean.
- Emergency stop and other safety functions may not be controlled from the operator terminal.
- Do not use too much force or sharp objects when touching the keys, display etc.

1.4 Service and Maintenance

- Only qualified personnel should carry out repairs.
- The agreed warranty applies.
- Before carrying out any cleaning or maintenance operations, disconnect the equipment from the electrical supply.
- Clean the display and surrounding front cover with a soft cloth and mild detergent.
- Replacing the battery incorrectly may result in explosion. Only use batteries recommended by the supplier.

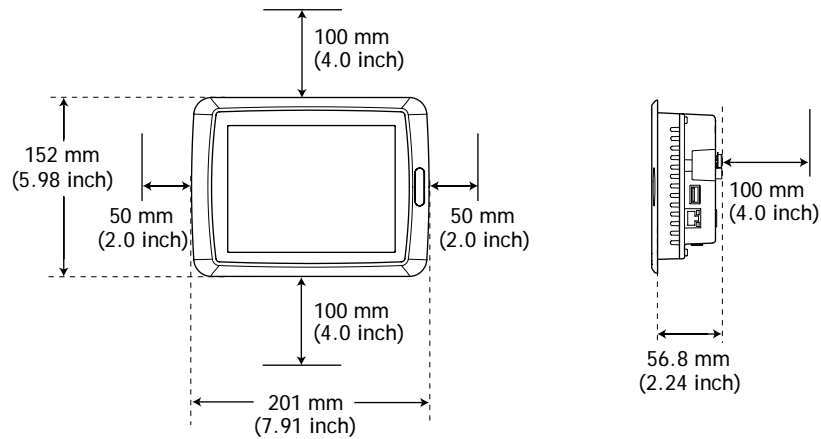
1.5 Dismantling and Scrapping

- The operator terminal or parts thereof shall be recycled according to local regulations.
- The following components contain substances that might be hazardous to health and the environment: lithium battery, electrolytic capacitor and display.

2 Installation

2.1 Space Requirements

- Installation plate thickness: 1.5 - 7.5 mm (0.06 - 0.3 inch)
- Space requirements when installing the operator terminal:

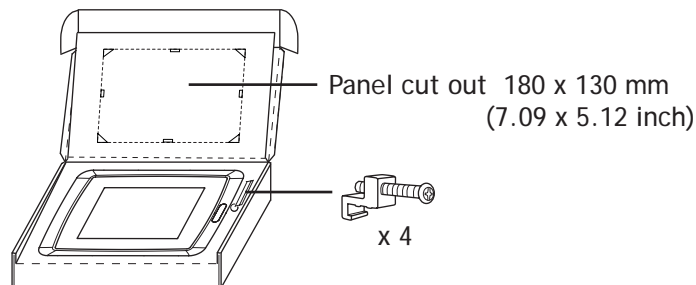


Caution

The openings on the enclosure are for air convection. Do not cover these openings.

2.2 Installation Process

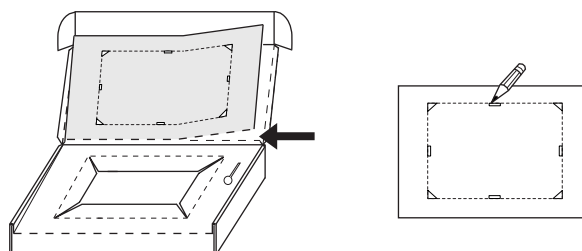
1. Unpack and check the delivery. If damage is found, notify the supplier.



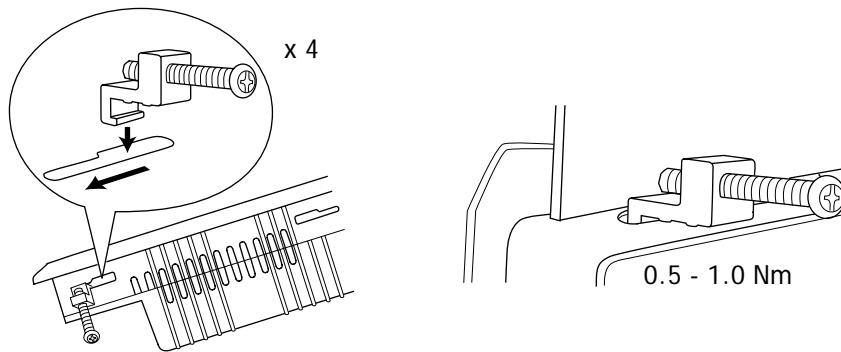
Note:

Place the operator terminal on a stable surface during installation. Dropping it or letting it fall may cause damage.

2. Place the panel cut out where the operator terminal is to be situated, draw along the outer sides of the holes and cut according to the markings.



- Secure the operator terminal in position, using all the fastening holes and the provided brackets and screws:



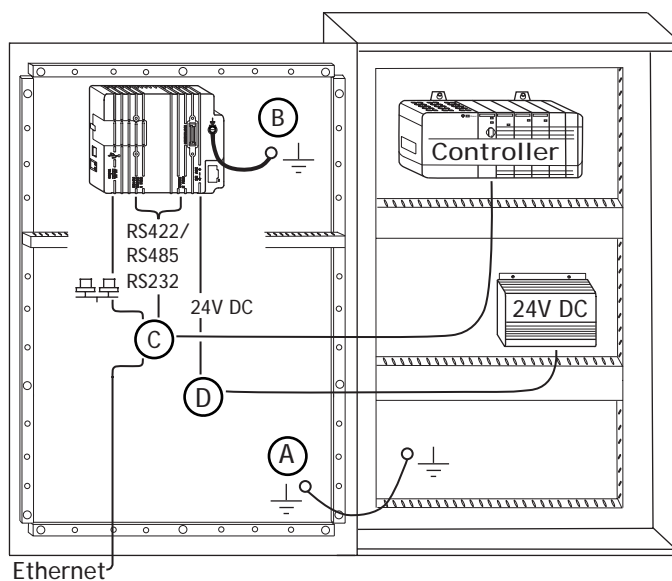
- Connect the cables in the specified order.

- Caution**

Ensure that the operator terminal and the controller system have the same electrical grounding (reference voltage level), otherwise errors in communication may occur.
- Use an M5 screw and a grounding conductor (as short as possible) with a cross-section of minimum 2.5 mm^2 .
- Caution**

 - Use only shielded communication cables.
 - Separate high voltage cables from signal and supply cables.
- Caution**

 - The operator terminal must be brought to ambient temperature before it is started up. If condensation forms, ensure that the operator terminal is dry before connecting it to the power outlet.
 - Ensure that the voltage and polarity of the power source is correct.



- Carefully remove the laminated film over the operator terminal display, to avoid static electricity that could damage the terminal.

3 Technical Data

Parameter	E1061	E1063
Front panel, W x H x D	201 x 152 x 6 mm	
Mounting depth	56.8 mm (156.8 mm including clearance)	
Front panel seal	IP 66	
Rear panel seal	IP 20	
Touch screen material	Touch screen: Polyester on glass, 1 million finger touch operations. Overlay: Autotex F250 *.	
Reverse side material	Powder-coated aluminum	
Weight	0.87 kg	
Serial port RS422/ RS485	25-pin D-sub contact, chassis-mounted female with standard locking screws 4-40 UNC.	
Serial port RS232C	9-pin D-sub contact, male with standard locking screws 4-40 UNC.	
Ethernet	Shielded RJ 45	
USB	Host type A (USB 1.1), power consumption max. 500 mA	
Flash memory for application	12 MB (incl. fonts)	
Real time clock	±20 PPM + error because of ambient temperature and supply voltage. Total max error: 1 min/month at 25 °C Minimum life of the real time clock battery: 3 years Temperature coefficient: 0.004 ppm/°C ²	
Power consumption at rated voltage	Normal: 0.25 A Maximum: 0.45 A	
Display	CSTN-LCD. 320 x 240 pixels, 64K colors. CCFL backlight lifetime at the ambient temperature of +25 °C: >60,000 h.	FSTN-LCD. 320 x 240 pixels, monochrome. CCFL backlight lifetime at the ambient temperature of +25 °C: >45,000 h.
Active area of display, W x H	115.2 x 86.4 mm	
Fuse	Internal DC fuse, 2.0 AT, 5 x 20 mm	
Power supply	+24V DC (20 - 30V DC). 3-pin jack connection block. CE: The power supply must conform with the requirements for SELV or PELV according to IEC 950 or IEC 742. UL: The power supply must conform with the requirements for class II power supplies.	
Ambient temperature	Vertical installation: 0 ° to +50 °C Horizontal installation: 0 ° to +40 °C	
Storage temperature	-20 ° to +70 °C	
Relative humidity	5 - 85 % non-condensed	
EMC tests on the operator terminal	The operator terminal conforms with the essential protection requirements in article 4 of the directive 89/336/EEC. Noise tested according to EN61000-6-4 emission and EN61000-6-2 immunity.	
UL, cUL approvals (when product or packing is marked)	UL 1604 Class I, Div 2 / UL 508 / UL 50 4x indoor use only	
DNV	Certification in progress	
NEMA	4x indoor use only	

* See section [Chemical Resistance](#) for more information.

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