Harmony GTUX

User Manual

EIO0000003565_05
02/2023

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Legal Information

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Safety Information

Important Information

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

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

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

⚠ DANGER

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

⚠ WARNING

WARNING indicates a hazardous situation which, if not avoided, **could result in** death or serious injury.

⚠ CAUTION

CAUTION indicates a hazardous situation which, if not avoided, **could result** in minor or moderate injury.

NOTICE

NOTICE is used to address practices not related to physical injury.

Please Note

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

A qualified person is one who has skills and knowledge related to the construction and operation of electrical equipment and its installation, and has received safety training to recognize and avoid the hazards involved.

About This Book

Document Scope

This manual describes how to use this product.

Validity Note

This documentation is valid for this product.

The technical characteristics of the devices described in the present document also appear online. To access the information online, go to the Schneider Electric home page www.se.com/ww/en/download/.

The characteristics that are described in the present document should be the same as those characteristics that appear online. In line with our policy of constant improvement, we may revise content over time to improve clarity and accuracy. If you see a difference between the document and online information, use the online information as your reference.

Registered Trademarks

Microsoft and Windows are registered trademarks of Microsoft Corporation in the United States and/or other countries.

QR Code is a registered trademark of DENSO WAVE INCORPORATED in Japan and other countries.

Product names used in this manual may be the registered trademarks owned by the respective proprietors.

Related Documents

You can download the manual related to this product, such as the software manual, from our website at www.se.com.

Product Related Information

If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Remove all power from the device before removing any covers or elements of the system, and prior to installing or removing any accessories, hardware, or cables.
- Unplug the power cable from both this product and the power supply prior to installing or removing the product.
- Always use a properly rated voltage sensing device to confirm power is off where and when indicated.
- Replace and secure all covers or elements of the system before applying power to this product.
- Use only the specified voltage when operating this product. This product is designed to use 12 to 24 Vdc. Always check whether your device is DC powered before applying power.

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

Critical alarm indicators and system functions require independent and redundant protection hardware and/or mechanical interlocks.

When you cycle power, wait at least 10 seconds after it has been turned off. If this product is restarted too quickly, it may not operate correctly.

In the event the screen cannot be properly read, for example, if the backlight is not functioning, it may be difficult or impossible to identify a function. Functions that may present a hazard if not immediately executed, such as a fuel shut-off, must be provided independently of this product. The machine's control system design must take into account the possibility of the backlight no longer functioning and the operator being unable to control the machine or making mistakes in the control of the machine.

⚠WARNING

LOSS OF CONTROL

- The designer of any control scheme must consider the potential failure modes of control paths and, for certain critical control functions, provide a means to achieve a safe state during and after a path failure. Examples of critical control functions are emergency stop and overtravel stop, power outage and restart.
- Separate or redundant control paths must be provided for critical control functions.
- System control paths may include communication links. Consideration must be given to the implications of unanticipated transmission delays or failures of the link.
- Observe all accident prevention regulations and local safety guidelines.
- Each implementation of this product must be individually and thoroughly tested for proper operation before being placed into service.
- The machine control system design must take into account the possibility of the backlight no longer functioning and the operator being unable to control the machine, or making errors in the control of the machine.

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

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

⚠WARNING

UNINTENDED EQUIPMENT OPERATION

- The application of this product requires expertise in the design and programming of control systems. Only persons with such expertise should be allowed to program, install, alter, and apply this product.
- Follow all local and national safety standards.

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

⚠WARNING

UNINTENDED EQUIPMENT OPERATION

- Do not use this product as the only means of control for critical system functions such as motor start/stop or power control.
- Do not use this equipment as the only notification device for critical alarms, such as device overheating or overcurrent.
- Use only the software provided with this product. If you use another software, please confirm the operation and safety before use.

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

The following characteristics are specific to the LCD panel and are considered normal behavior:

- LCD screen may show unevenness in the brightness of certain images or may appear different when seen from outside the specified viewing angle. Extended shadows, or crosstalk may also appear on the sides of screen images.
- LCD screen pixels may contain black and white colored spots and color display may seem to have changed.
- When experiencing vibrations within a certain frequency range in a low temperature environment and vibration acceleration is above what is acceptable, the LCD screen may partially turn white. Once this condition ends, the issue is resolved.
- When the same image is displayed on the screen for a long period, an afterimage may appear when the image is changed.
- The panel brightness may decrease when used for a long time in an environment continuously filled with inert gas. To prevent deterioration of panel brightness, regularly ventilate the panel.

  For more information, please contact your local distributor.

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⚠WARNING

SERIOUS EYE AND SKIN INJURY

The liquid in the LCD panel contains an irritant:

- Avoid direct skin contact with the liquid.
- Wear gloves when you handle a broken or leaking unit.
- Do not use sharp objects or tools in the vicinity of the LCD panel.
- Handle the LCD panel carefully to prevent puncture, bursting, or cracking of the panel material.
- If the panel is damaged and any liquid comes in contact with your skin, immediately rinse the area with running water for at least 15 minutes. If the liquid gets in your eyes, immediately rinse your eyes with running water for at least 15 minutes and consult a doctor.

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

NOTICE

REDUCTION OF SERVICE LIFE OF PANEL

Change the screen image periodically and try not to display the same image for a long period of time.

Failure to follow these instructions can result in equipment damage.

NOTE: When there is water, oil, and so on, on the unit, exposing it to direct sunlight for long periods could cause discoloration of the display face. If the display face is wet, wipe off the moisture with a soft cloth.

⚠CAUTION

RISK OF BURNING INJURY

- Do not touch the bezel or rear chassis during operation.
- Wear appropriate gloves for touch operation when operating in ambient temperatures less than 0 ºC (32 ºF) or greater than 60 ºC (140 ºF).

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

Cybersecurity

Cybersecurity Guideline

Use this product inside a secure industrial automation and control system. Total protection of components (equipment/devices), systems, organizations, and networks from cyber attack threats requires multi-layered cyber risk mitigation measures, early detection of incidents, and appropriate response and recovery plans when incidents occur. For more information about cybersecurity, refer to the Harmony HMI/iPC Cybersecurity Guide.
https://www.se.com/ww/en/download/document/EIO0000004948/

⚠WARNING

POTENTIAL COMPROMISE OF SYSTEM AVAILABILITY, INTEGRITY, AND CONFIDENTIALITY

- Change default passwords at first use to help prevent unauthorized access to device settings, controls and information.
- Disable unused ports/services and default accounts, where possible, to minimize pathways for malicious attacks.
- Place networked devices behind multiple layers of cyber defenses (such as firewalls, network segmentation, and network intrusion detection and protection).
- Apply the latest updates and hotfixes to your Operating System and software.
- Use cybersecurity best practices (for example: least privilege, separation of duties) to help prevent unauthorized exposure, loss, modification of data and logs, interruption of services, or unintended operation.

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

Overview

What's in This Chapter

Part Numbers

Part Numbers

Series		Model names	Part numbers
Harmony GTUX	eXtreme Box	HMIG3X	HMIG3X HMIG3XFH
	eXtreme Display	HMIDT35X	HMIDT35X HMIDT35XFH
		HMIDT65X	HMIDT65X HMIDT65XFH
		HMIDT75X	HMIDT75X HMIDT75XFH

NOTE:

- You can connect any eXtreme Display to eXtreme Box.
- All part numbers may be followed by any letter or number.

Part Number Configuration

The following describes the configuration of part numbers.

Box Module

Digit Position						
1	**2**	**3**	**4**	**5**	**6**	**7**
H	M	I	G	(model)	(type)	(other)
				3: Premium	X: eXtreme	FH: Harsh environment model

Display Module

Digit Position								
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
H	M	I	D	(type)	(size)	(LCD)	(type)	(other)
				T: Touch	3: 7" 6: 12" 7: 15"	5: TFT wide	X: eXtreme	FH: Harsh environment model

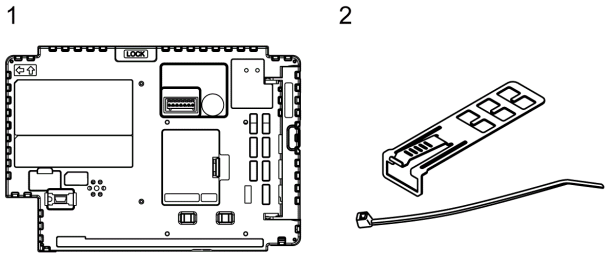
Package Contents

Verify all items listed here are present in your package.

Please contact customer support immediately if you find anything damaged or missing.

⚠WARNING
UNINTENDED EQUIPMENT OPERATION Do not use damaged products or accessories. **Failure to follow these instructions can result in death, serious injury, or equipment damage.**

Box Module

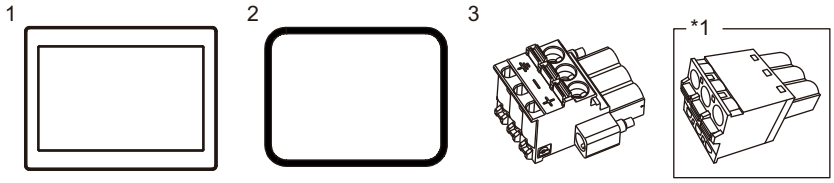


1 Harmony GTUX eXtreme Box: 1

2 USB Clamp Type A (1 port): 2 sets (1 set = 1 clip and 1 tie)

3 Quick Reference Guide: 1

Display Module



1 Harmony GTUX eXtreme Display: 1

2 Installation Gasket: 1 (attached to this product)

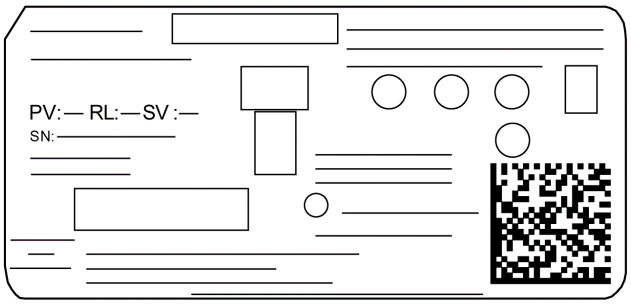
3 DC Power Supply Connector (Right-angle*1): 1

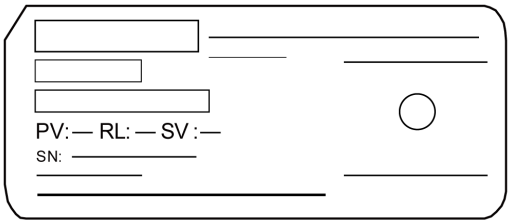
4 Quick Reference Guide: 1

*1 Straight type for HMIDT35X.

Product Revision and QR Code for Manual

You can identify the product version (PV), revision level (RL), and the software version (SV) from the product label.





You can also check the contents of this manual by scanning the QR code attached to the product.

Certifications and Standards

Some products are not subject to certification and standards. And some products have not received their certification and standards but are scheduled for assessment.

The certifications and standards listed below may include those that are not yet acquired for this product. For the latest certifications and standards that this product has acquired, please check the product marking or the following URL.

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Agency Certifications

- Underwriters Laboratories Inc., UL 61010-2-201 and CSA C22.2 No61010-2-201, Industrial Control Equipment
- Underwriters Laboratories Inc., UL 121201 and CSA C22.2 No213, Electrical Equipment for Use in Class I, Division 2 Hazardous (Classified) Locations
- IECEx / ATEX for use in zones 2/22
- EAC certification (Russia, Belarus, Kazakhstan)

Compliance Standards

Europe:

CE

- Directive 2014/30/EU (EMC)
  - Programmable Controllers: EN 61131-2
  - EN61000-6-4
  - EN61000-6-2

- Directive 2014/34/EU (ATEX)
  - EN60079-0
  - EN60079-15
  - EN60079-31

Australia

- RCM
  - AS/NZS CISPR11 (EN55011)

Korea

- KC
  - KN11
  - KN61000-6-2

Qualifications Standards

Schneider Electric voluntarily tested this product to additional standards. The additional tests performed, and the standards under which the tests were conducted, are specifically identified in Structural Specifications, page 29.

Hazardous Substances

This product is designed to be compliant with the following environmental regulations, even if the product may not fall directly in the scope of the regulation:

- WEEE, Directive 2012/19/EU
- RoHS, Directive 2011/65/EU and 2015/863/EU
- RoHS China, Standard GB/T 26572
- REACH regulation EC 1907/2006

End of Life (WEEE)

The product contains electronic boards. It must be disposed of in specific treatment channels. The product contains cells and/or storage batteries which must be collected and processed separately when they have run out and at the end of product life (Directive 2012/19/EU).

Refer to Maintenance, page 74 when extracting cells and batteries from the product. These batteries do not contain a weight percentage of heavy metals over the threshold notified by European Directive 2006/66/EC.

European (CE) Compliance

The product described in this manual comply with the European Directives concerning Electromagnetic Compatibility and Low Voltage (CE marking) when used as specified in the relevant documentation, in application for which they are specifically intended, and in connection with approved third-party products.

KC Markings

사용자안내문

기 종 별	사 용 자 안 내 문
A급 기기 (업무용 방송통신기자재)	이 기기는 업무용(A급) 전자파적합기기로서 판매자 또는 사용자는 이 점을 주의하시기 바라며, 가정외의 지역에서 사용하는 것을 목적으로 합니다.

Federal Communication Commission Radio Frequency Interference Statement - For USA

FCC Radio Interference Information

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

- Install and operate this product in such a manner that it does not radiate sufficient electromagnetic energy to cause interference in nearby devices.
- Install and test this product to ensure that the electromagnetic energy generated by nearby devices does not interfere with the operation of this product.
- Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this product.

⚠WARNING

ELECTROMAGNETIC / RADIO INTERFERENCE

Electromagnetic radiation may disrupt the operation of this product leading to unintended equipment operation. If electromagnetic interference is detected:

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

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

Hazardous Location Installation - For USA and Canada

General

This product has been designed with the intention of meeting the requirements of Class I, Division 2 hazardous location application. Division 2 locations are those locations where ignitable concentrations of flammable substances are normally confined, prevented by ventilation, or present in an adjacent Class I, Division 1 location, but where an abnormal situation might result in intermittent exposure to such ignitable concentrations.

While this product is a non-incendive device under UL 121201 and CSA C22.2 N° 213, it is not designed for, and should never be used within a Division 1 (normally hazardous) location.

This product is suitable for use in Class I, Division 2, Groups A, B, C, and D hazardous locations or in non-hazardous locations. Before installing or using this product, confirm that the UL 121201 or CSA22.2 N°213 certification appears on the product labeling.

NOTE: Some products are not yet rated as suitable for use in hazardous locations. Always use your product in conformance with the product labeling and this manual.

⚠DANGER

EXPLOSION HAZARD

- Do not use this product in hazardous environments or locations other than Class I, Division 2, Groups A, B, C, and D.
- Substitution of any component may impair suitability for Class I, Division 2.
- Do not connect or disconnect this product unless power has been switched off or the area is known to be non-hazardous.
- Always confirm that this product is suitable for use in hazardous locations by checking the UL 121201 or CSA C22.2 N°213 certification appears on the product labeling.
- Do not install any Schneider Electric or OEM components, equipment, or accessories unless these have also been qualified as suitable for use in Class I, Division 2, Groups A, B, C, and D locations.
- Do not attempt to install, operate, modify, maintain, service, or otherwise alter this product except as permitted in this manual. Unpermitted actions may impair the suitability of this product for Class I, Division 2 operation.

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

⚠DANGER

EXPLOSION HAZARD

- Always confirm the UL 121201 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 this product installed in a Class I, Division 2 hazardous location, you must either: A) Use a switch located outside the hazardous environment, or B) Use a switch certified for Class I, Division 1 operation inside the hazardous area.
- Do not connect or disconnect equipment unless power has been switched off or the area is known to be non-hazardous. This applies to all connections including power, ground, serial, parallel, and network connections.
- Never use unshielded/ungrounded cables in hazardous locations.
- Use only non-incendive USB devices.
- When enclosed, keep enclosure doors and openings closed at all times to avoid the accumulation of foreign matter inside the workstation.

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

⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Remove all power from the device before removing any covers or elements of the system, and prior to installing or removing any accessories, hardware, or cables.
- Unplug the power cable from both this product and the power supply prior to installing or removing the product.
- Always use a properly rated voltage sensing device to confirm power is off where and when indicated.
- Replace and secure all covers or elements of the system before applying power to this product.
- Use only the specified voltage when operating this product. This product is designed to use 12 to 24 Vdc. Always check whether your device is DC powered before applying power.

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

Make sure that this 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.

Operation and Maintenance

The systems have been designed for compliance with relevant spark ignition tests.

⚠DANGER

EXPLOSION HAZARD

In addition to the other instructions in this manual, observe the following rules when installing this product in a hazardous location:

- Wire the equipment in accordance with the National Electrical Code article 501.10 (B) for Class I, Division 2 hazardous locations.
- Install this product in an enclosure suitable for the specific application. IP66F, IP67F, Type 4X (indoor and outdoor use), Type 12 and Type 13 enclosures are recommended even when not required by regulations.

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

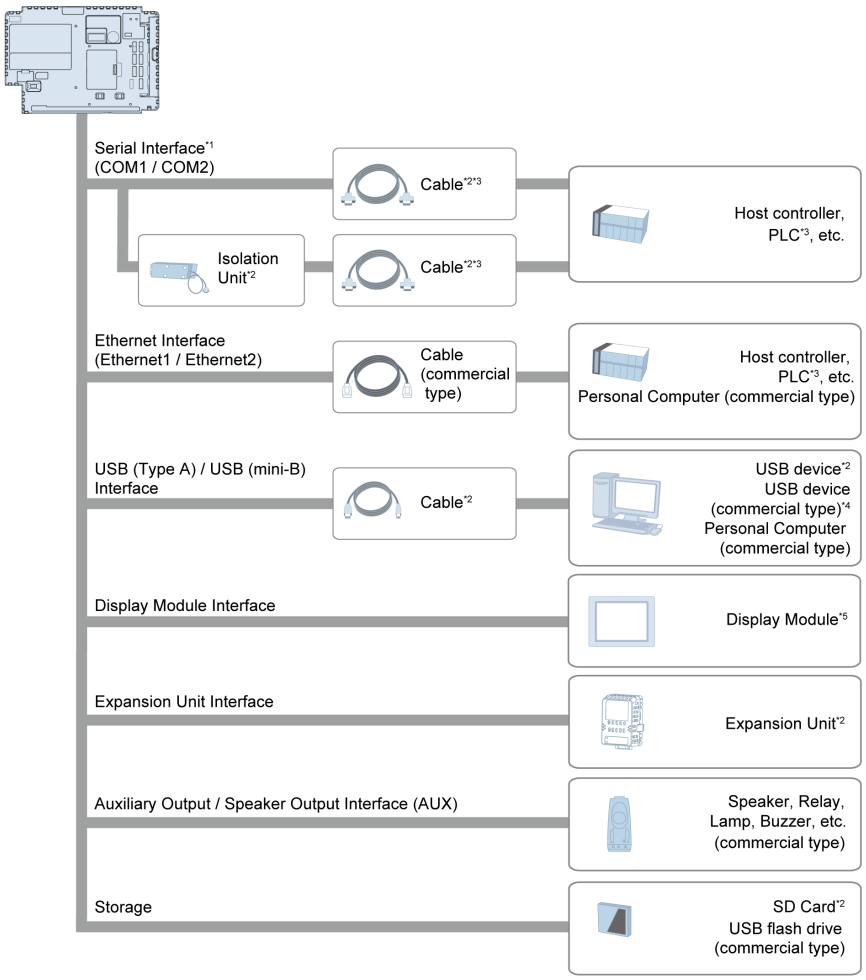
NOTE: IP66F and IP67F are not part of UL certification.

Device Connectivity

What's in This Chapter

System Design

Box Module



*1 In order to use this as an isolation port, Isolation Unit is required. To use RS-232C isolation unit, set the #9 pin of the COM port to VCC. (Only for COM2)

*2 Refer to Accessories, page 19.

*3 For information on how to connect controllers and other types of equipment, refer to the corresponding device driver manual of your screen editing software.

*4 For supported models, contact your local Schneider Electric support representative.

*5 Connects only to eXtreme Display. Refer to the Part Numbers, page 11.

Display Module

*1 Connects only to eXtreme Box.

Accessories

For host controllers and connection cables, refer to the corresponding device driver manual of your screen editing software.

Product name	Product number	Supported product	Description
Serial interface			
RJ-45 to D-Sub 25 pin Conversion Cable	XBTZG939	Box Module	Connects a D-Sub 25-pin cable to this product (RJ-45).
9-pin to 25-pin RS-232C Conversion Cable	XBTZG919	Box Module	Connects a standard RS-232C cable (D-Sub 25-pin socket) to this product (D-sub 9 pin plug).
COM Port Conversion Adapter	XBTZGCOM1	Box Module	Connects optional RS-422 communication items to serial interface (RS-232C).
RS-232C Isolation Unit	XBTZGI232	Box Module	Connects a host controller to this product and provides isolation. (RS-232C and RS-422 are switchable.)
USB (Type A) interface			
USB Front Cable	XBTZGUSB	Box Module	Extension cable that attaches USB interface to front panel.
USB-Serial (RS-232C) Conversion Cable*2	HMIZURS	Premium Box	Cable for converting a USB interface into a serial interface (RS-232C). Allows connection to modems or bar code readers that support RS-232C.
USB Illuminated Switch*2	HMIZRA1	Premium Box	A unit of 5 illuminated switches with multiple color LED connected to this product via USB.
Biometric USB Switch*2	XB5S5B2L2	Box Module	Fingerprint recognition unit connected to this product via USB.
USB Keyboard*2	HMIZKB1	Box Module Smart Display	Numpad easily connected with this product via USB.
USB Tower Light Tube Mounting with Fixing Plate*2	XVGU3SHAV	Box Module	Tower light connected to this product via USB (with Fixing Plate).
USB Tower Light Base Mounting*2	XVGU3SWV	Box Module	Tower light connected to this product via USB (Base Mounting).
USB (mini-B) interface			

Product name	Product number	Supported product	Description
USB Transfer Cable (USB Type A/ mini-B)*1	BMXXCAUSB-H018	Box Module Smart Display	Cable for transferring screen data from a PC (USB Type A) to this product (USB mini-B) (1.8 m [5.91 ft]). Supported USB 2.0 High Speed (480 Mbps)
USB Transfer Cable (USB Type A/ mini-B)*1	BMXXCAUSB-H045	Box Module Smart Display	Cable for transferring screen data from a PC (USB Type A) to this product (USB mini-B) (4.5 m [14.76 ft]). Supported USB 2.0 High Speed (480 Mbps)
Remote USB Port Location for Mini-USB	HMIZSUSBB	Box Module	Extension cable that attaches to the USB (mini-B) interface on the front side of the operation panel.
Expansion unit interface			
PROFIBUS DP Slave/MPI Unit*2	HMIZGPDP	Box Module	Expansion unit that enables participation of this product in the PROFIBUS network and communication with the PROFIBUS DP master or in the MPI network. (Communication speed: 12 Mbps).
Auxiliary output/Speaker output interface			
Auxiliary Connector for Universal Box	HMIZGAUX	Box Module	AUX connector required in case an external output is used (5 pcs/ set).
Storage			
SD Memory Card (4 GB)*3 *4	HMIZSD4G	Box Module	SD Memory Card (4 GB, MLC) (Storage)
Others			
Battery for Memory Backup	HMIZGBAT	Box Module	Primary battery for time data backup (1 piece)
Box Module Fixing Bracket	HMIZXFIX1	7-inch Wide Display Module	Bracket for fixing Box Module to Display Module (1 piece)
	HMIZXFIX2	12-inch Wide Display Module/ 15-inch Wide Display Module	
DC Power Supply Connector (Right-angle)	HMIZGPWS2	Display Module (except 7-inch Wide Display Module)	Right-angle connector to connect DC power supply cables (5 pcs/ set)

*1 You can connect using just one of the available USB (Type A/mini-B) interfaces.

*2 Make sure your screen editing software supports the product.

*3 You can also use a commercial type.

*4 SD/SDHC card of up to 32 GB.

Maintenance Accessories

Product name	Product number	Supported product	Description
Installation Gasket	HMIZD53W	7-inch Wide Display Module	Provides dust and moisture resistance when this product is installed into a solid panel (1 piece)
	HMIZD56W	12-inch Wide Display Module	

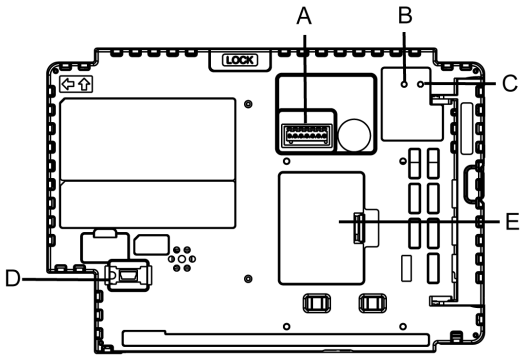
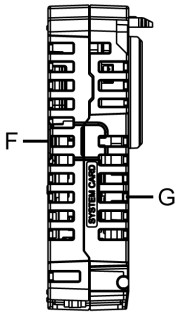
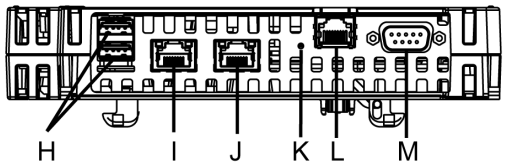
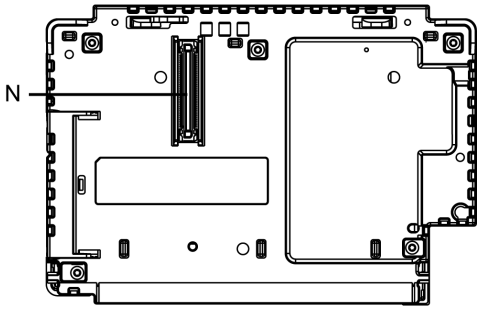
Product name	Product number	Supported product	Description
	HMIZX57W	15-inch Wide Display Module	
DC Power Supply Connector	HMIZGPWS	Display Module	Connector to connect DC power supply cables (5 pcs/set)
DC Power Supply Connector with fixable screws (Angle type)	HMIZXPWS	Display Module (except 7-inch Wide Display Module)	Connector with fixable screws to connect DC power supply cables (Angle type, 5 pcs/set)
USB Clamp Type A (1 port)	HMIZGCLP1	Box Module	Clamp to prevent disconnection of USB cable (USB Type A, 1 port, 5 clamps/set)
SD Memory Card (1 GB) for System Card	HMIZSD1GS	Box Module	SD memory card (1 GB, SLC) for System Card

Parts Identification and Functions

What's in This Chapter

Parts Identification

HMIG3X

Side	HMIG3X
Front	
Right	
Bottom	
Rear	

A: Auxiliary output/ Speaker output interface (AUX)

This interface is alarm output or buzzer output, and sound output.

B: Status LED*1

C: Card access LED*1

D: USB (mini-B) interface*2

E: Expansion unit interface cover (EXT)*3

The expansion unit can be embedded in the expansion unit interface cover opening, and battery for memory backup can be connected or replaced.

F: Storage card cover

G: System card cover

You cannot open this cover when the Box Module is in operation.

H: USB (Type A) interface*2

I: Ethernet interface (Ethernet1)*2

J: Ethernet interface (Ethernet2)*2

K: COM1 LED*2

L: Serial interface (COM1)*2

M: Serial interface (COM2)*2

N: Display Module interface

⚠CAUTION

RISK OF BURNING INJURY

Do not connect the Modbus RJ-45 communication cable to the Ethernet interface.

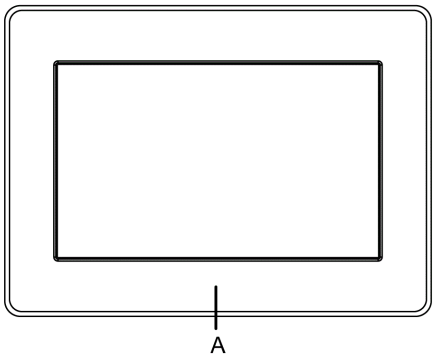
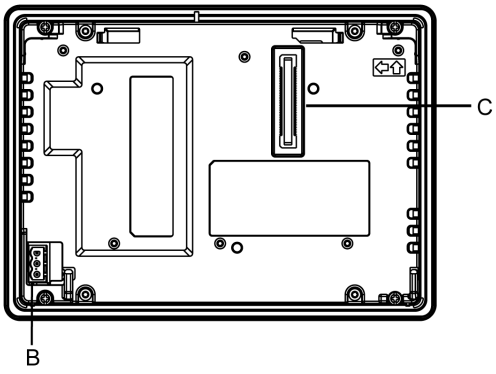
Failure to follow these instructions can result in injury or equipment damage.

*1 Refer to LED Indications, page 25

*2 Refer to Interface Specifications, page 32

*3 Refer to Replacing the Primary Battery, page 76

HMIDT35X

Side	HMIDT35X
Front	
Rear	

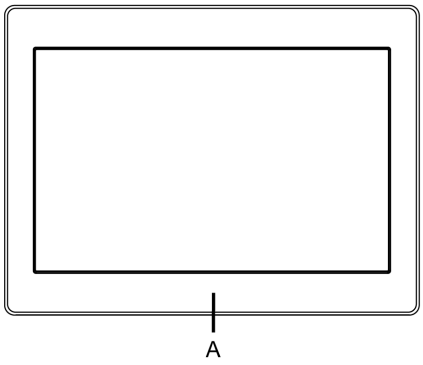
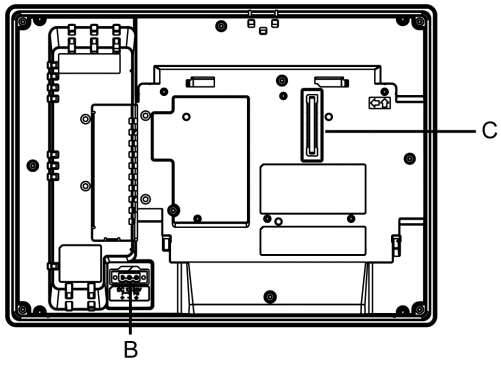
A: Bezel (stainless steel)

B: Power plug connector

C: Box Module interface

HMIDT65X/HMIDT75X

NOTE: The figures below show HMIDT65X.

Side	HMIDT65X/HMIDT75X
Front	
Rear	

A: Bezel (stainless steel)

B: Power plug connector

C: Box Module interface

LED Indications

Status LED

After power is turned on, normal status indicated by the LED is: red light > flashing orange > green light.

Color	Indicator	HMIG3X
Green	ON	In operation
Orange	Flashing	Software starting up
Red	ON	Power is ON.
Red/Green	Alternating	Display Module connection error.
Orange/Red	Alternating	SD Card boot error.
-	OFF	Power is OFF.

Card Access LED

Color	Indicator	HMIG3X
Green	ON	Storage card is inserted.
-	OFF	Storage card is not inserted or is not detected.

COM1 LED

Color	Indicator	Description
Yellow	ON	Data transmission is in progress.
-	OFF	No data transmission.

Specifications

What's in This Chapter

General Specifications

Electrical Specifications

Box Module

Specification		HMIG3X
Rated Input Voltage		12 Vdc (Supply from Display Module)
Power consumption (primary power supply including power loss)	Max	20 W

Display Module

Specification		HMIDT35X	HMIDT65X	HMIDT75X
Rated input voltage		12...24 Vdc		
Input voltage limits		10.8...28.8 Vdc		
Voltage drop		12 Vdc: 1.25 ms or less 24 Vdc: 5 ms or less		
Power consumption	Max*1	29 W	37 W	48 W
	When power is not supplied to external devices*1	17.5 W or less	23 W or less	34 W or less
	When screen turns off the backlight (standby mode)*1 (Power is not supplied to external devices)	12.5 W or less	12.5 W or less	12.5 W or less
	When screen backlight 20%*1 (Power is not supplied to external devices)	15 W or less	16 W or less	19 W or less
In-rush current		30 A or less		
Noise immunity		Noise voltage: 1,000 Vp-p Pulse duration: 1 µs Rise time: 1 ns (via noise simulator)		
Dielectric Strength		1,000 Vac for 1 minute (between power terminal and FG terminal), leakage current: 20 mA or less		
Insulation resistance		500 Vdc, 10 MΩ or more (between power terminal and FG terminal)		

*1 The power consumption is the sum of the power consumption of Box Module and Display Module.

Environmental Specifications

NOTE:

- Box Module environmental specifications follow those of the connected Display Module.
- When using any of the options for this product, check the specifications for special conditions or cautions that may apply to this product.

Display Module

Specification	HMIDT35X	HMIDT65X	HMIDT75X
Physical environment			
Ambient air temperature*1	-30...65 °C (-22...149 °F) (T4) When installing and wiring: -5...65 °C (23...149 °F)	-30...70 °C (-22...158 °F) (T4) When installing and wiring: -5...70 °C (23...158 °F)	-20...60 °C (-4...140 °F) (T4) When installing and wiring: -5...60 °C (23...140 °F)
Storage temperature*1	-30...70 °C (-22...158 °F)	-30...70 °C (-22...158 °F)	-20...60 °C (-4...140 °F)
Ambient air and storage humidity	10%...90% RH (Non condensing, wet bulb temperature 39 °C [102.2 °F] or less)		
Dust	0.1 mg/m^3 (10^{-7} oz/ft^3) or less (free of conductive dust particles on all surfaces other than the front face)		
Pollution degree	3 for front face, 2 for other sides.		
Corrosive gases	Free of corrosive gases Part numbers ending in “FH”: IEC/EN 60721-3-3 Class 3C3*2		
Atmospheric pressure (operating altitude)	800...1,114 hPa (2,000 m [6,561 ft] or lower)		
UV resistance (front side)	Cutoff: 99% or more (380 nm)		
Mechanical environment			
Vibration resistance*1	IEC 60068-2-6 compliant 5...9 Hz Single amplitude 7 mm (0.28 in) 9...150 Hz Fixed acceleration: 19.6 m/s^2 X, Y, Z directions for 10 cycles (approximately 100 minutes) IEC 61373: 1999 (Category 1, Class B) 5≤f≤150 Hz (weight < 500 kg: f1=5 Hz, f2=150 Hz) acceleration: Up and down: 7.90 m/s^2, Right and left: 3.50 m/s^2, Back and forward: 5.50 m/s^2		IEC 60068-2-6 compliant 5...9 Hz Single amplitude 3.5 mm (0.14 in) 9...150 Hz Fixed acceleration: 9.8 m/s^2 X, Y, Z directions for 10 cycles (approximately 100 minutes) IEC 61373: 1999 (Category 1, Class B) 5≤f≤150 Hz (weight < 500 kg: f1=5 Hz, f2=150 Hz) acceleration: Up and down: 7.90 m/s^2, Right and left: 3.50 m/s^2, Back and forward: 5.50 m/s^2

Specification	HMIDT35X	HMIDT65X	HMIDT75X
Shock resistance*1	IEC 60068-2-27 compliant 392 m/s², 11 ms, X, Y, Z directions for 3 times		IEC 60068-2-27 compliant 147 m/s², X, Y, Z directions for 3 times
Electrical environment			
Electrical fast transient/burst immunity	IEC 61000-4-4 2 kV: Power port 1 kV: Signal ports		
Electrostatic discharge immunity	Contact discharge method: 6 kV Air discharge method: 8 kV (IEC/EN 61000-4-2 Level 3)		

*1 When using a Fieldbus unit, use this product within the specifications of the Fieldbus unit.

*2 For use in more severe environments, products with part numbers that end in “FH” have conformal coating of electronic boards. Test levels are as follows.

Model	Standard	Levels
Products with part numbers that end in “FH”	IEC/EN 60721-3-3	Flowing mixed gas; class 3C3, 25 °C (77 °F), 75% relative humidity, t = 7 days Concentrations (ppm): H_2S: 2.5 / Cl_2: 0.1 / SO_2: 2.0

Apply grease (Nyogel 760G) for corrosion prevention to the following interface points.

Box Module	Display module interface, expansion unit interface, Ethernet interface x 2, USB (Type A) interface x 2, USB (mini-B) interface, system card interface, storage card interface
Display Module	Box module interface

⚠CAUTION

INOPERATIVE EQUIPMENT

- Do not operate or store the product where chemicals evaporate, or where chemicals are present in the air. Chemicals refer to the following: A) Corrosive chemicals: Acids, alkalines, liquids containing salt, B) Flammable chemicals: Organic solvents.
- Do not allow water, liquids, metal, and wiring fragments to enter the panel case.

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

Structural Specifications

Box Module

	HMIG3X
Cooling method	Natural air circulation
External dimensions (W x H x D)	188 x 131 x 35 mm (7.4 x 5.16 x 1.38 in)
Weight	0.9 kg (1.98 lb) or less

Display Module

	HMIDT35X	HMIDT65X	HMIDT75X
Grounding	Functional grounding: Grounding resistance of 100 Ω or less, 2 mm² (AWG 14) or thicker wire, or your country's applicable standard (same for FG and SG terminals).		
Cooling method	Natural air circulation		
Structure *1	IP66F, IP67F, Type 4X (indoor and outdoor use), Type 12, Type 13*2 * on the front panel when properly installed in an enclosure.		
External dimensions (W x H x D)	203.6 x 148.6 x 37 mm (8.02 x 5.85 x 1.45 in)	308 x 230.5 x 68 mm (12.15 x 9.07 x 2.68 in)	408 x 264 x 68 mm (16.06 x 10.39 x 2.68 in)
Panel cut dimensions (W x H)	190 x 135 mm (7.48 x 5.31 in)*3 Panel thickness area: 1.6...5 mm (0.06...0.2 in)*4	295 x 217 mm (11.61 x 8.54 in)*3 Panel thickness area: 1.6...5 mm (0.06...0.2 in)*4	394 x 250 mm (15.51 x 9.84 in)*3 Panel thickness area: 1.6...5 mm (0.06...0.2 in)*4
Weight	1.3 kg (2.9 lb) or less	3.2 kg (7.1 lb) or less	4.8 kg (10.6 lb) or less
Front bezel materials	Aluminum die-cast Stainless steel		

*1 The front face of this product, installed in a solid panel, has been tested using conditions equivalent to the standards shown in the specification. Even though this product's level of resistance is equivalent to these standards, oils that should have no effect on this product can possibly harm this product. This can occur in areas where either vaporized oils are present, or where low viscosity cutting oils are allowed to adhere to this product for long periods of time. If this product's front face protection sheet or cover glass peels off, these conditions can lead to the ingress of oil into this product and separate protection measures are suggested.

Also, if non-approved oils are present, they may cause deformation or corrosion of the front panel's cover. Therefore, prior to installing this product, be sure to confirm the type of conditions that will be present in this product 's operating environment. If the installation gasket is used for a long period of time, or if this product and its gasket are removed from the panel, the original level of protection cannot be kept. To maintain the original protection level, be sure to replace the installation gasket regularly.

*2 Check the part number and product version (PV) on the product label. If the product version is “PV: 01” and only with one of the following part numbers, the protection level is IP66F.

Part number: HMIDT35X, HMIDT65X

*3 For dimensional tolerance, everything +1/-0 mm (+0.04/-0 in) and R in angle are below R3 (R0.12 in).

*4 Even if the installation wall thickness is within the recommended range for the Panel Cut Dimensions, page 50, depending on wall’s material, size, and installation location of this product and other devices, the installation wall could warp. To prevent warping, the installation surface may need to be strengthened.

NOTICE

EQUIPMENT DAMAGE

- Ensure this product is not in permanent and direct contact with oils.
- Do not press on the display of this product with excessive force or with a hard object.
- Do not press on the touch panel with a pointed object, such as the tip of a mechanical pencil or a screwdriver.

Failure to follow these instructions can result in equipment damage.

NOTICE

STORAGE AND OPERATION OUTSIDE OF SPECIFICATIONS

- Store the panel in areas where temperatures are within the product's specifications.
- Do not restrict or block this panel's ventilation slots.

Failure to follow these instructions can result in equipment damage.

NOTICE

GASKET AGING

- Inspect the gasket periodically as required by your operating environment.
- Replace the gasket at least once a year, or as soon as scratches or dirt become visible.

Failure to follow these instructions can result in equipment damage.

Functional Specifications

Display Specifications

	HMIDT35X	HMIDT65X	HMIDT75X
Display type	TFT Color LCD (High brightness)		
Display size	7" wide	12.1" wide	15.6" wide
Resolution	800 x 480 pixels (WVGA)	1,280 x 800 pixels (WXGA)	1,366 x 768 pixels (FWXGA)
Effective display area (W x H)	152.4 x 91.4 mm (6.00 x 3.60 in)	261.1 x 163.2 mm (10.28 x 6.43 in)	344.2 x 193.5 mm (13.55 x 7.62 in)
Display colors	262,144 colors		
Backlight	White LED (Not user replaceable. Please contact your local distributor.)		
Backlight service life	50,000 hours or more (continuous operation at 25 °C [77 °F] before backlight brightness decreases to 50%)		
Brightness control	0...100 (Adjusted with touch panel or software)		
Brightness (LCD panel)	1000 cd/m^2 (Typ.)		

Touch Panel

	HMIDT35X/HMIDT65X/HMIDT75X
Touch panel type	Resistive film (analog)
Touch points	Single touch
Touch panel resolution	1,024 x 1,024
Touch panel service life	1 million times or more

The touch panel does not support multi-touch (two point touch / multiple point touch). If you touch multiple points on the touch panel, it may operate as if you touched the center-point of the multiple touches. For example, if you touch two or more points on the touch panel and at the center of the touches is a switch for a drive system, even though you did not directly touch that switch, it may function as if you did.

⚠WARNING

UNINTENDED EQUIPMENT OPERATION

Do not touch two or more points on the touch panel.

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

Memory, Clock

Memory

Memory

	HMIG3X
System card	SD Card 1 GB (operating system, project data, and other data)
Backup memory	NVRAM 512 KB

Clock

±60 seconds per month (deviation at room temperature and power is OFF). Variations in operating conditions and battery life can cause clock deviations from -380 to +90 seconds per month.

For systems where this level of precision is insufficient, the user should monitor and make adjustments when required.

Backup clock data uses a supercapacitor (electric double-layer capacitor) for power. When the voltage from the supercapacitor is low, clock data is lost*1 when this product is turned OFF.

The average period for backup is as follows:

Initial: Approximately 100 days

After 5 years: Approximately 30 days (when used with an ambient temperature of 25 °C [77 °F])

*1 If clock data is lost, a clock data error message appears when starting up this product. When this happens, leave this product ON for at least 5 minutes, and then set the clock again. Refer to your screen editing software manual on how to set up the clock.

By connecting the optional backup battery (part number: HMIZGBAT) for clock data backup, you can maintain a backup period of 5 years or more (when used with an ambient temperature of 25 °C [77 °F]). However, as the battery expires after 5 years, we recommend regularly changing the battery every 5 years.

Interface Specifications

Interface Specifications

Box Module

	HMIG3X
Serial interface COM1	
Asynchronous transmission	RS-485 (isolation)
Data length	7 or 8 bits

	HMIG3X
Stop bit	1 or 2 bits
Parity	None, odd, or even
Data transmission speed	2,400...115,200 bps
Connector	Modular jack (RJ-45)
Serial interface COM2	
Asynchronous transmission	RS-232C/422/485
Data length	7 or 8 bits
Stop bit	1 or 2 bits
Parity	None, odd, or even
Data transmission speed	2,400...115,200 bps, 187,500 bps (MPI)
Connector	D-Sub 9 pin (plug)
USB (Type A) interface	
Connector	USB 2.0 (Type A) x 2
Power supply voltage	5 Vdc ±5%
Maximum current supplied	500 mA/port
Maximum transmission distance	5 m (16.4 ft)
USB (mini-B) interface	
Connector	USB 2.0 (mini-B) x 1
Maximum transmission distance	5 m (16.4 ft)
Ethernet interface	
Standard	IEEE802.3i/IEEE802.3u/IEEE802.3ab, 10BASE-T/ 100BASE-TX/ 1000BASE-T*1
Connector	Modular jack (RJ-45) x 2
SD Card interface	
SD Card	SD Card slot (System) x 1 SD Card slot (Storage) x 1
Expansion unit interface	
Expansion unit	Fieldbus unit x 1
Sound output interface	
Speaker output	300 mW or more (Rated Load: 8 Ω, Frequency: 1 kHz)
LINE output	1.4 Vp-p (Rated load: 10 kΩ)
Connector	2-piece terminal block (AUX) x 1
AUX output interface	
AUX output	Alarm output/Buzzer output
Rated voltage	24 Vdc
Rated current	50 mA
Connector	2-piece terminal block (AUX) x 1

*1 For 1000BASE-T communication, use twisted pair Ethernet cables with a rating of category 5e or higher.

Interface Connection

Cable Connections

Use only the SELV (Safety Extra-Low Voltage) circuit to connect all interfaces on this product.

⚠DANGER

EXPLOSION HAZARD

- Always confirm the UL 121201 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 this product installed in a Class I, Division 2 hazardous location, you must either: A) Use a switch located outside the hazardous environment, or B) Use a switch certified for Class I, Division 1 operation inside the hazardous area.
- Do not connect or disconnect equipment unless power has been switched off or the area is known to be non-hazardous. This applies to all connections including power, ground, serial, parallel, and network connections.
- Never use unshielded/ungrounded cables in hazardous locations.
- Use only non-incendive USB devices.
- Use the USB (mini-B) interface for temporary connection only during maintenance and setup of the device.
- Do not use the USB (mini-B) interface in hazardous locations.
- When enclosed, keep enclosure doors and openings closed at all times to avoid the accumulation of foreign matter inside the workstation.

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

Division 2 hazardous location regulations require that all cable connections be provided with adequate strain relief and positive interlock. As this product does not provide adequate strain relief for the USB connection (USB mini-B interface) on this product, use only non-incendive USB devices. 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 must be a metal conductive type (for example, molded zinc) and the ground shield braid must be 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 so that a reliable degree of strain relief is maintained. Always secure the D-sub connectors to the workstation-mating connectors via the two screws located on both sides.

Serial Interface (RS-485 [Isolation]) for COM1

Introduction

NOTE: For information on how to connect controllers and other types of equipment, refer to the corresponding device driver manual of your screen editing software.

⚠CAUTION

LOSS OF COMMUNICATION

- Do not put excessive stress on the communication ports of all connections.
- Securely attach communication cables to the panel wall or cabinet.
- Use a RJ-45 connector that has a functional locking tab.

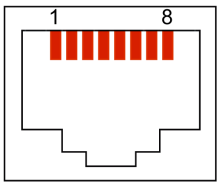
Failure to follow these instructions can result in injury or equipment damage.

NOTE: Use within the rated current.

RS-485 (Isolation)

RJ-45 connector

NOTE: When setting up RS-485 communication, the cable diagram for some equipment may require polarization on the terminal side. Change the setting for polarization with your screen editing software.

Product side	Pin No.	RS-485 (Isolation)		
		Signal name	Direction	Meaning
	1	NC	–	No connection
	2	NC	–	No connection
	3	NC	–	No connection
	4	Line A	Input/Output	Transfer Data A (+)
	5	Line B	Input/Output	Transfer Data B (-)
	6	RS (RTS)	Output	Request to Send
	7	NC	–	No connection
	8	SG	–	Signal Ground
	Shell	FG	–	Functional Ground

NOTE: The FG and SG terminals are isolated.

Serial Interface (RS-232C and RS-422/RS-485) for COM2

Introduction

NOTE: For information on how to connect controllers and other types of equipment, refer to the corresponding device driver manual of your screen editing software.

You can switch the communication method between RS-232C and RS-422/RS-485 via the software.

The serial interface is not isolated. The SG (signal ground) and FG (functional ground) terminals are connected inside this product. When the serial interface connector is D-Sub, connect the FG wire to the shell.

⚠⚠DANGER

ELECTRIC SHOCK AND FIRE

When using the SG terminal to connect an external device to this product:

- Verify that a ground loop is not created when you set up the system.
- Connect the SG terminal to remote equipment when the external device is not isolated.
- Connect the SG terminal to a known reliable ground connection to reduce the risk of damaging the circuit.

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

⚠CAUTION

LOSS OF COMMUNICATION

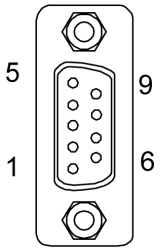
- Do not put excessive stress on the communication ports of all connections.
- Securely attach communication cables to the panel wall or cabinet.
- Use a D-Sub 9 pin connector that has jack screws.

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

NOTE: Use within the rated current.

RS-232C

D-Sub 9 pin plug connector

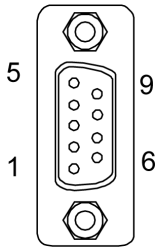
Product side	Pin No.	RS-232C		
		Signal name	Direction	Meaning
	1	CD	Input	Carrier Detect
	2	RD (RXD)	Input	Receive Data
	3	SD (TXD)	Output	Send Data
	4	ER (DTR)	Output	Data Terminal Ready
	5	SG	–	Signal Ground
	6	DR (DSR)	Input	Data Set Ready
	7	RS (RTS)	Output	Request to Send
	8	CS (CTS)	Input	Send possible
	9	CI (RI)/VCC	Input/–	Called Status Display +5 Vdc ±5% Output 0.25 A*1
	Shell	FG	–	Functional Ground (Common with SG)

*1 You can switch pin #9 between CI (RI) and VCC via the software. The VCC output is not protected against overcurrent. To prevent damage or malfunction, use only within the rated current.

Interfit bracket is #4-40 (UNC).

RS-422/485

D-Sub 9 pin plug connector

Product side	Pin No.	RS-422/RS-485		
		Signal name	Direction	Meaning
	1	RDA	Input	Receive Data A (+)
	2	RDB	Input	Receive Data B (-)
	3	SDA	Output	Send Data A (+)
	4	ERA	Output	Data Terminal Ready A (+)
	5	SG	–	Signal Ground
	6	CSB	Input	Send Possible B (-)
	7	SDB	Output	Send Data B (-)
	8	CSA	Input	Send possible A (+)
	9	ERB	Output	Data Terminal Ready B (-)
	Shell	FG	–	Functional Ground (Common with SG)

Interfit bracket is #4-40 (UNC).

Auxiliary Output/Speaker Output Interface (AUX)

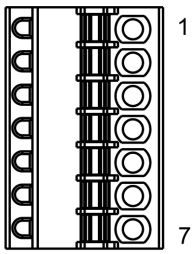
⚠⚠DANGER

ELECTRIC SHOCK AND FIRE

When using the SG terminal to connect an external device to this product:

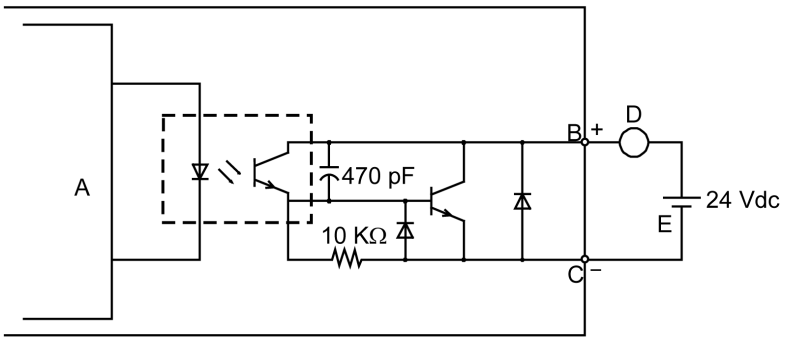
- Verify that a ground loop is not created when you set up the system.
- Connect the SG terminal to remote equipment when the external device is not isolated.
- Connect the SG terminal to a known reliable ground connection to reduce the risk of damaging the circuit.

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

Cable connection side	Pin No.	Signal name	Direction	Meaning
	1	LineOut	Output	Line Out
	2	LineOut_GND	Output	Line Out Ground
	3	SP+	Output	Speaker +
	4	SP-	Output	Speaker -
	5	NC	–	No Connection
	6	ALARM+/ BUZZER+	Output	(Can be changed via software)
	7	ALARM-/ BUZZER-	Output	

AUX Connector: HMIZGAUX by Schneider Electric

Output Circuit



A Internal Circuit

B Pin Number 6: ALARM+/BUZZER+

C Pin Number 7: ALARM-/BUZZER-

D Load

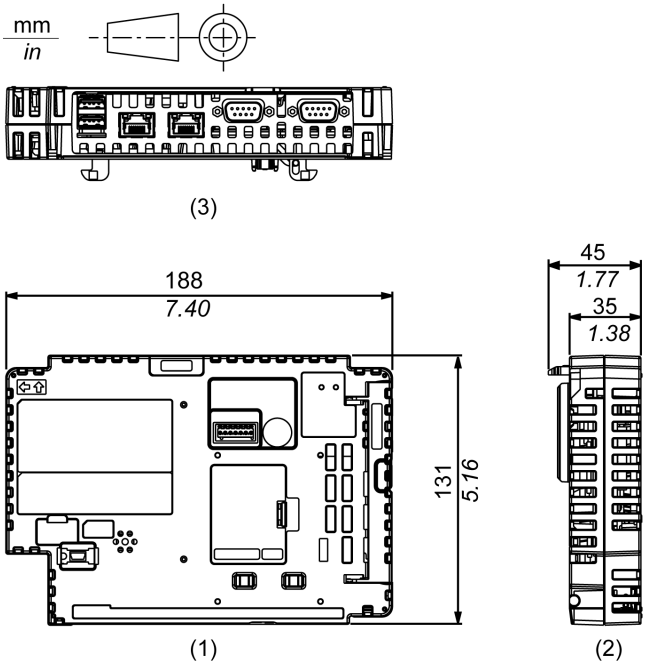
E External Power

Dimensions

What's in This Chapter

HMIG3X

External Dimensions



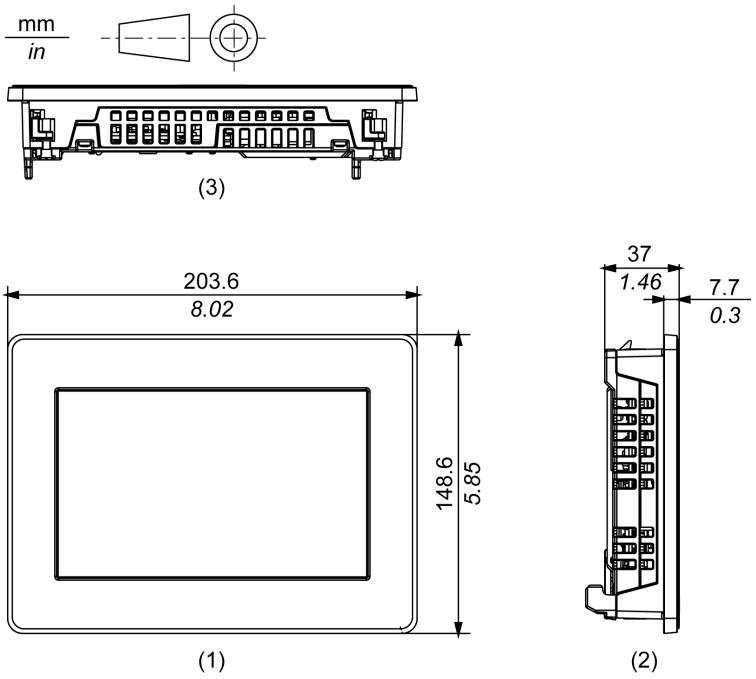
1 Front

2 Left

3 Bottom

HMIDT35X

External Dimensions

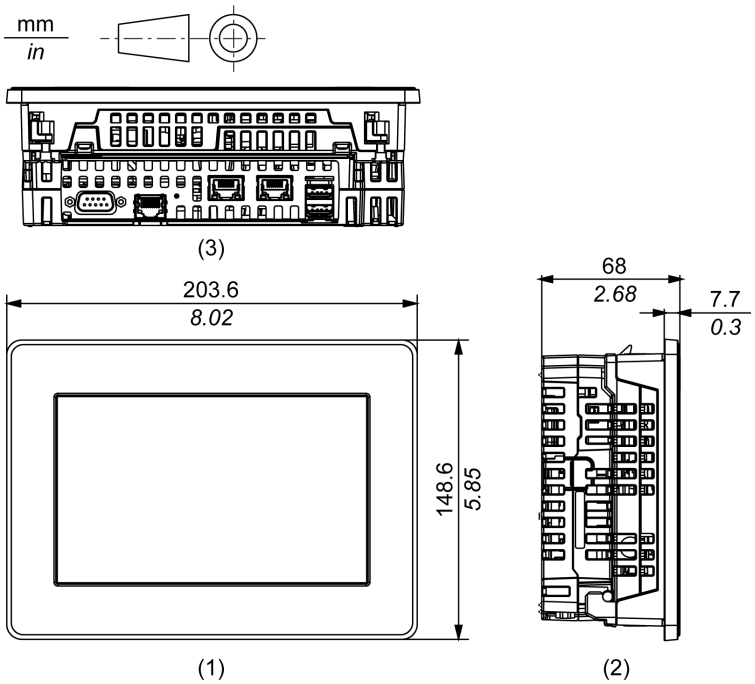


1 Front

2 Left

3 Bottom

Dimensions with Box Module

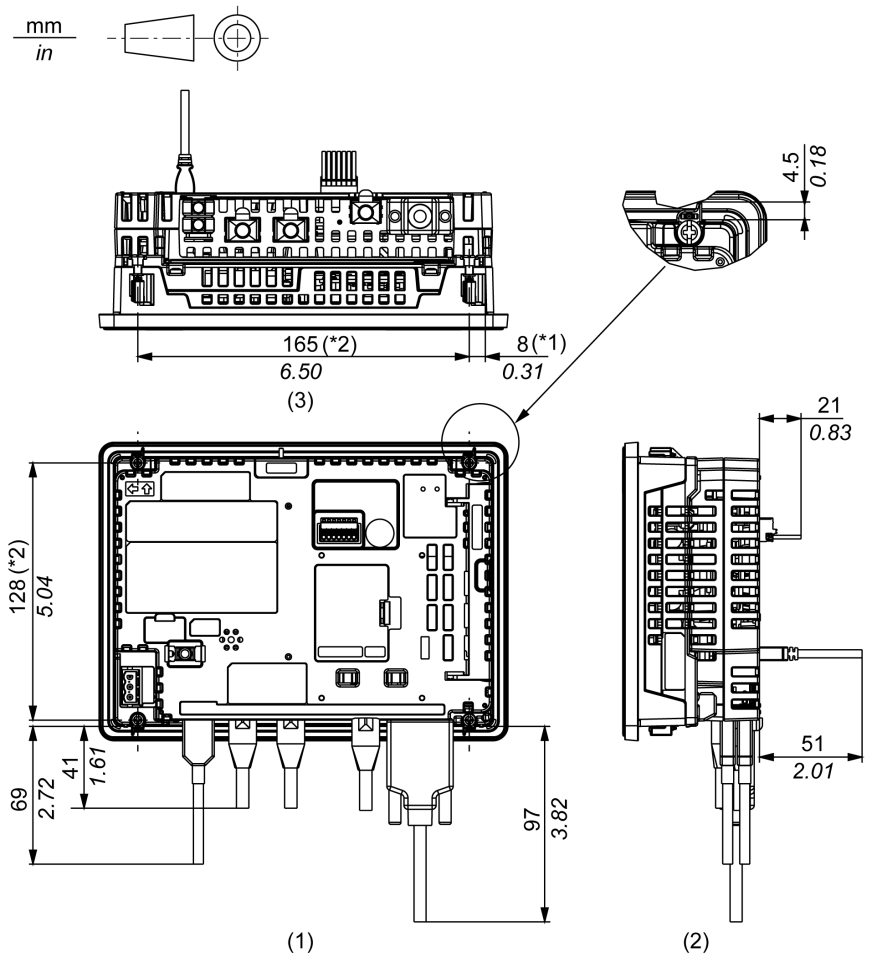


1 Front

2 Left

3 Bottom

Dimensions with Cables



*1 Rotation area of the fastener

*2 Pitch of the enter of installation fastener screws

1 Rear

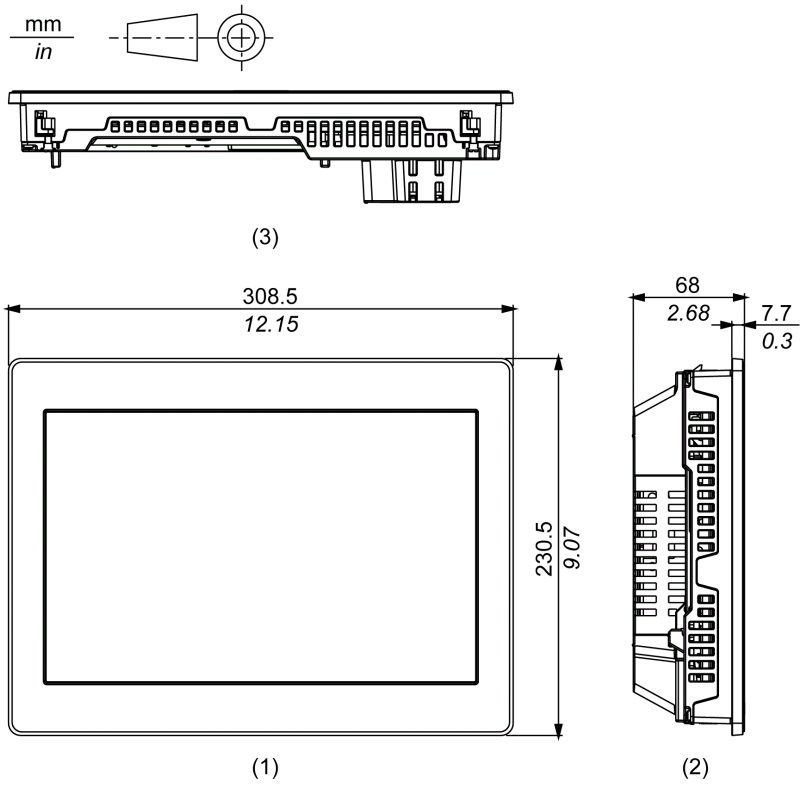
2 Right

3 Bottom

NOTE: All the above values are designed with cable bending in mind. The dimensions given here are representative values depending on the type of connection cable in use. Therefore, these values are intended for reference only.

HMIDT65X

External Dimensions

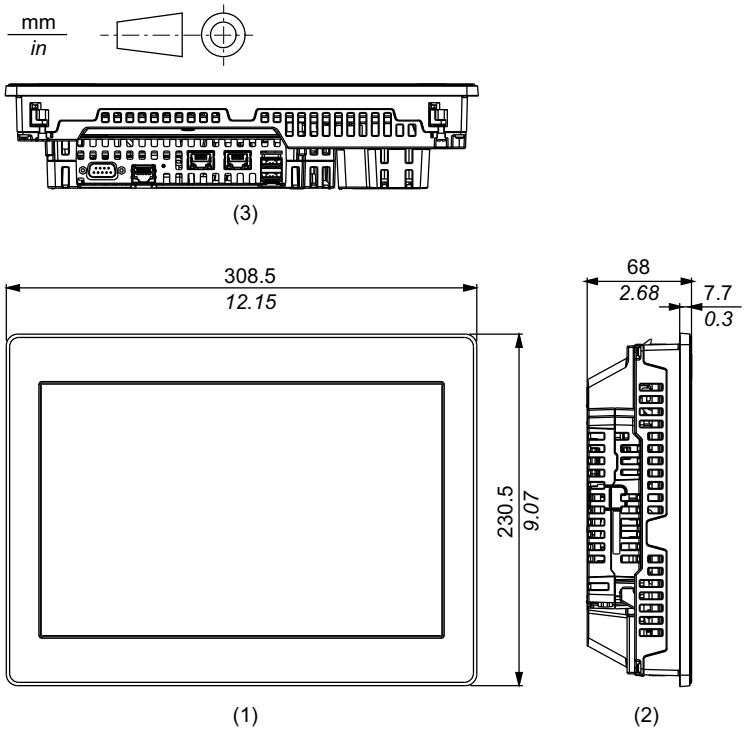


1 Front

2 Left

3 Bottom

Dimensions with Box Module

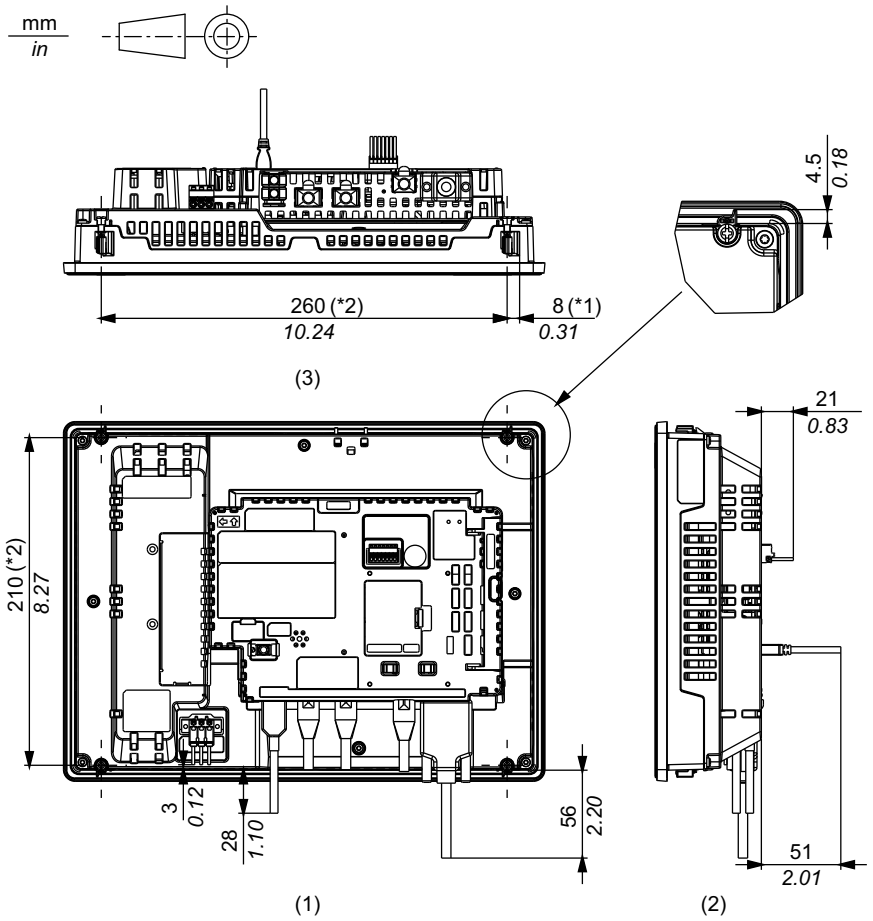


1 Front

2 Left

3 Bottom

Dimensions with Cables



*1 Rotation area of the fastener

*2 Pitch of the enter of installation fastener screws

1 Rear

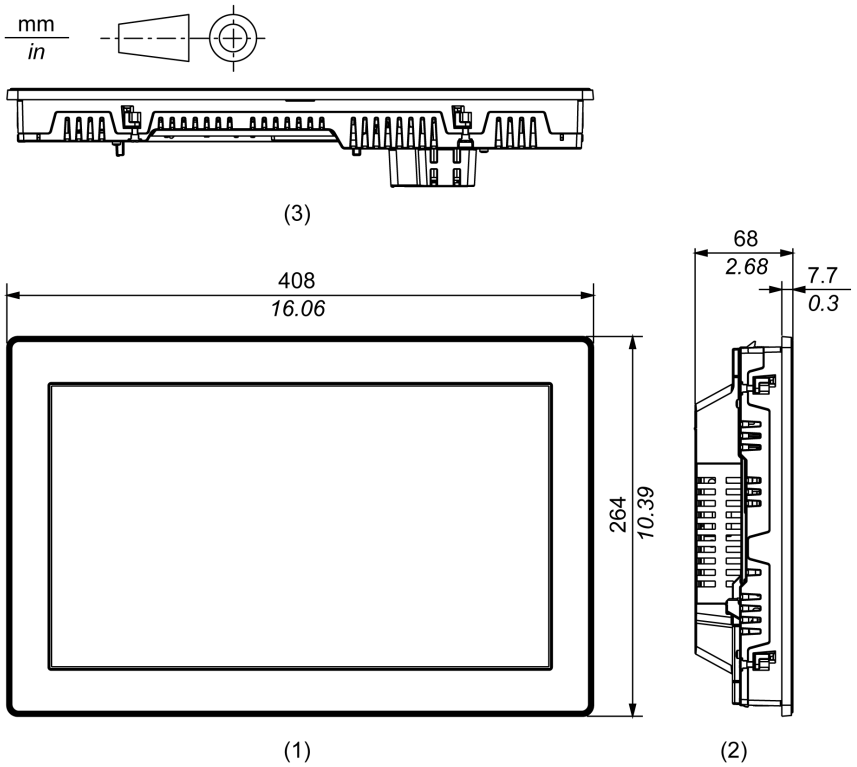
2 Right

3 Bottom

NOTE: All the above values are designed with cable bending in mind. The dimensions given here are representative values depending on the type of connection cable in use. Therefore, these values are intended for reference only.

HMIDT75X

External Dimensions

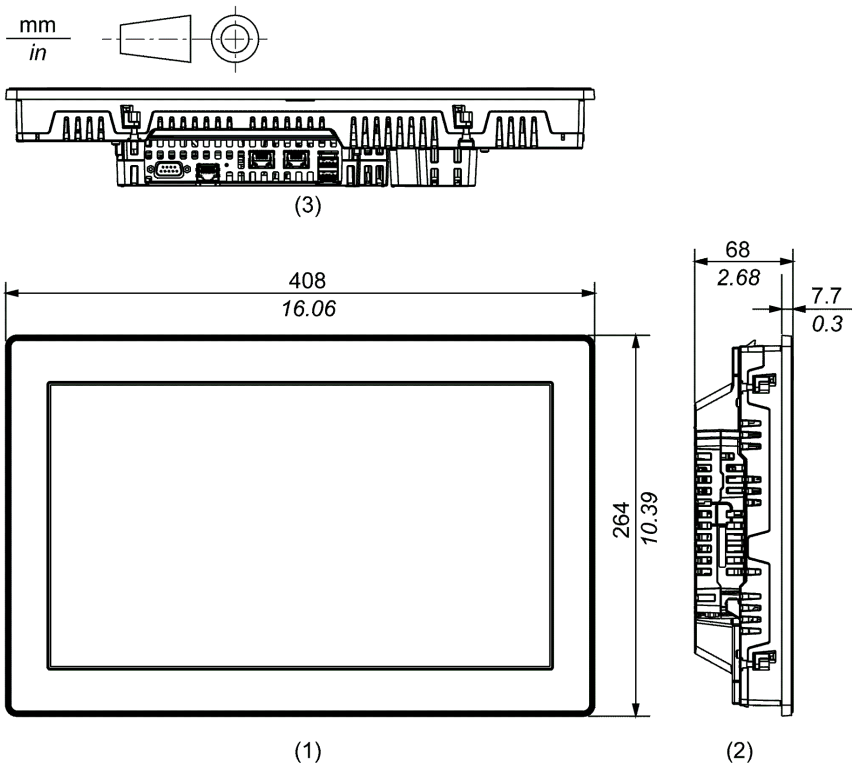


1 Front

2 Left

3 Bottom

Dimensions with Box Module

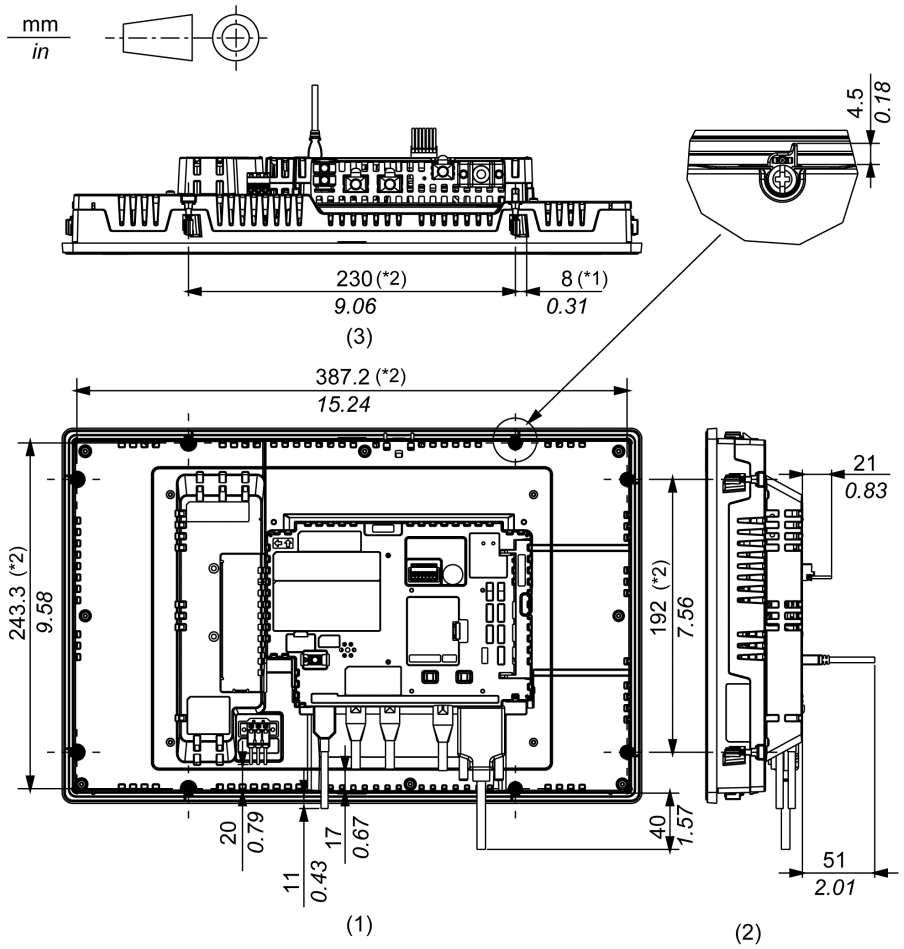


1 Front

2 Left

3 Bottom

Dimensions with Cables



*1 Rotation area of the fastener

*2 Pitch of the enter of installation fastener screws

1 Rear

2 Right

3 Bottom

NOTE: All the above values are designed with cable bending in mind. The dimensions given here are representative values depending on the type of connection cable in use. Therefore, these values are intended for reference only.

Installation and Wiring

What's in This Chapter

Installation

Introduction

This product is designed for use on flat surfaces of IP66F, IP67F, Type 4X (indoor and outdoor use), Type 12 and Type 13 enclosures.

Mount this product in an enclosure that provides a clean, dry, robust and controlled environment.

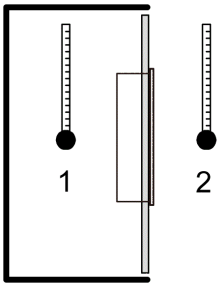
Be aware of the following when building this product into an end-use product:

- The rear face of eXtreme Display and all faces of eXtreme Box are not approved as an enclosure. When building this product into an end-use product, be sure to use an enclosure that satisfies standards as the end-use product's overall enclosure.
- Install this product in an enclosure with mechanical rigidity.
- The front face of eXtreme Display is designed for indoor and outdoor use, and for use in a wet location. UL certification obtained is for indoor and outdoor use for the front side, and indoor use only for other sides.
- eXtreme Box is not designed for outdoor use. UL certification obtained is for indoor use only.
- Install and operate this product with its front panel facing outward.

NOTE: IP66F and IP67F are not part of the UL certification.

Installation Requirements

Check that the installation wall or cabinet surface is flat, in good condition and has no jagged edges. Metal reinforcing strips may be attached to the inside of the wall, near the panel-cut, to increase its rigidity.
Decide on the thickness of the enclosure wall, based on the level of strength required. Even if the installation wall thickness is within the recommended range for the Panel Cut Dimensions, page 50, depending on wall's material, size, and installation location of this product and other devices, the installation wall could warp. To prevent warping, the installation surface may need to be strengthened.
Check that the ambient air temperature and the ambient humidity are within their specified ranges in Environmental Specifications, page 28. When installing this product in a cabinet or enclosure, the ambient air temperature is the cabinet's or enclosure's internal and external temperature.



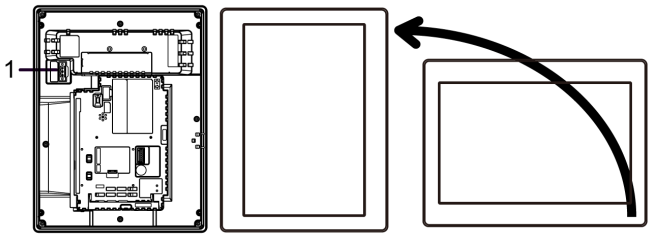
1 Internal temperature

2 External temperature

Be sure that heat from surrounding equipment does not cause this product to exceed its standard operating temperature.

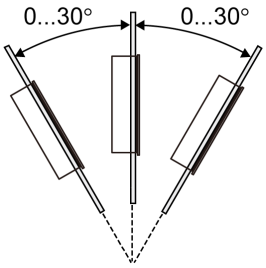
When mounting this product vertically, ensure that the right side of this product faces up. In other words, the DC power connector should be at the top.

NOTE: For vertical mounting, make sure your screen editing software supports the function.

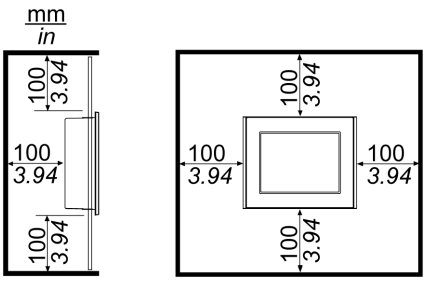


1 Power connector

When installing this product in a slanted position, the product face should not incline more than 30°.



For easier maintenance, operation and improved ventilation, install this product at least 100 mm (3.94 in) away from adjacent structures and other equipment as shown in the following illustration:



Please ensure you have enough space to insert and remove the storage card.

Pressure Differences

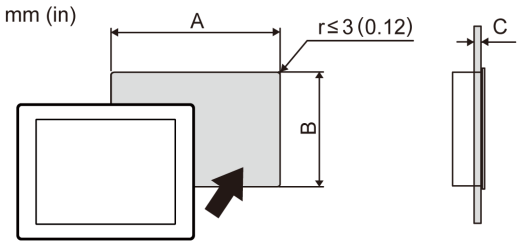
When applying and installing this product, it is important that steps are taken to eliminate any pressure difference between the inside and the outside of the enclosure in which this product is mounted. Higher pressure inside the enclosure can cause delamination of the front membrane of the display. Even a small pressure difference inside the enclosure will act on the large area of the membrane and can result in sufficient force to delaminate the membrane and thus

cause failure of the touch capability. Pressure differences can often occur in applications where there are multiple fans and ventilators moving air at different rates in different rooms. Please follow these techniques to ensure that this product's function is not impacted by this mis-application:

1. Seal all conduit connections inside of the enclosure, especially those that lead to other rooms that may be at a different pressure.
2. Where applicable, install a small weep hole at the bottom of the enclosure to allow equalization of the internal and external pressure.

Panel Cut Dimensions

Based on the panel cut dimensions, open a mount hole on the panel.



Model Name		
A	**B**	**C**
HMIDT35X		
190 mm (+1/-0 mm) (7.48 in [+0.04/-0 in])	135 mm (+1/-0 mm) (5.31 in [+0.04/-0 in])	1.6...5 mm (0.06...0.2 in)
HMIDT65X		
295 mm (+1/-0 mm) (11.61 in [+0.04/-0 in])	217 mm (+1/-0 mm) (8.54 in [+0.04/-0 in])	1.6...5 mm (0.06...0.2 in)
HMIDT75X		
394 mm (+1/-0 mm) (15.51 in [+0.04/-0 in])	250 mm (+1/-0 mm) (9.84 in [+0.04/-0 in])	1.6...5 mm (0.06...0.2 in)

Installing onto Display Module

⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Remove all power from the device before removing any covers or elements of the system, and prior to installing or removing any accessories, hardware, or cables.
- Unplug the power cable from both this product and the power supply prior to installing or removing the product.
- Always use a properly rated voltage sensing device to confirm power is off where and when indicated.
- Replace and secure all covers or elements of the system before applying power to this product.

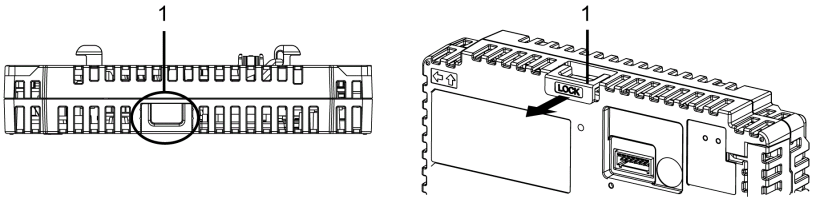
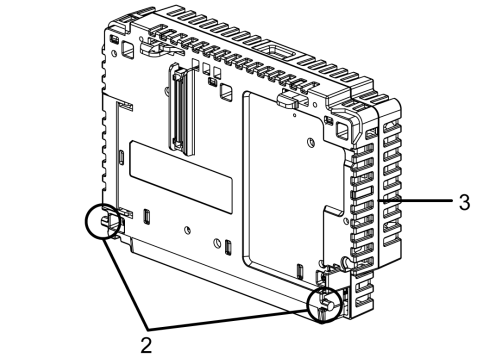
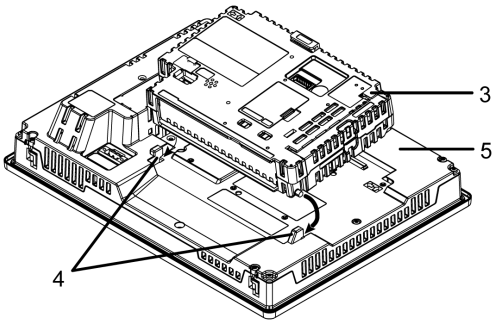
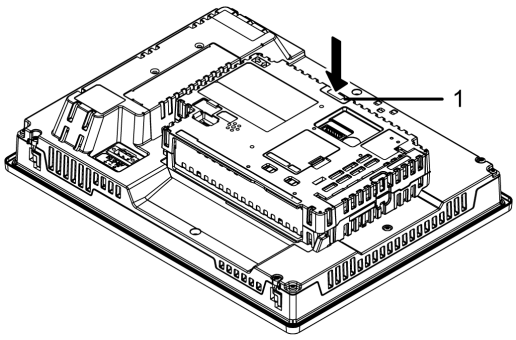
Failure to follow these instructions will result in death or serious injury.

NOTICE

EQUIPMENT DAMAGE

- When mounting this product vertically, before attaching to the panel, install the Box Module onto the Display Module.
- When installing the Box Module onto the Display Module, place the Display Module on a clean and level surface with the screen facing downward.

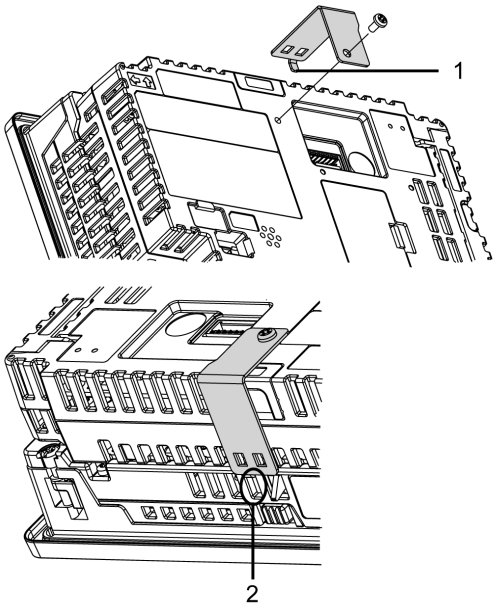
Failure to follow these instructions can result in equipment damage.

Step	Action
1	Pull the LOCK forward on the top of the Box Module to release the lock as illustrated.  **1** LOCK
2	Insert the protruding points on the bottom left and right of the Box Module into the two holes on the back of the Display Module to attach the Box Module.   **2** Protruding points **3** Box Module **4** Holes for insertion **5** Display Module
3	Fully push on the LOCK on the top of the Box Module to mount the Box Module on the Display Module  **1** LOCK

NOTE: For instructions on how to mount the Display Module to the panel, refer to Installing to the Panel, page 55.

Attaching Fixing Bracket (HMIDT35X)

By using the fixing bracket optional part (part number: HMIZXFIX1), you can secure the Box Module to the Display Module.

Step	Action
1	Hook the end of the fixing bracket in the ventilation hole at the top of the Display Module, and use a screw (1 piece) to secure the fixing bracket to the back of the Box Module. The necessary torque is 0.5 N•m (4.4 lb-in).  **1** Fixing bracket **2** Ventilation hole

NOTICE

EQUIPMENT DAMAGE

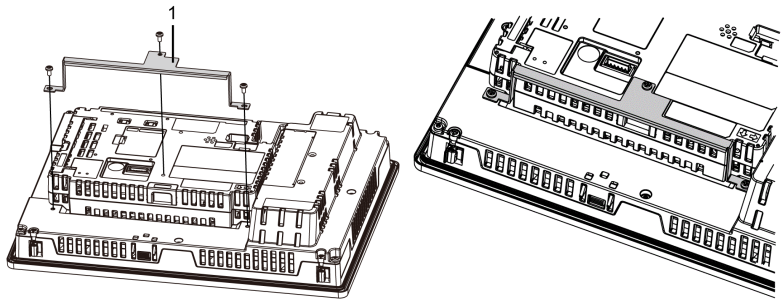
Do not exert more than 0.5 N•m (4.4 lb-in) of torque when tightening the screw.

Failure to follow these instructions can result in equipment damage.

NOTE: When the fixing bracket is attached, you cannot attach the isolation unit.

Attaching Fixing Bracket (HMIDT65X/HMIDT75X)

By using the fixing bracket optional part (part number: HMIZXFIX2), you can secure the Box Module to the Display Module.

Step	Action
1	Line up the fixing bracket to the back of the Box Module and secure with a screw (1 piece). Also fasten screws to the Display Module in 2 places. The necessary torque is 0.5 N•m (4.4 lb-in).  **1** Fixing bracket

NOTICE

EQUIPMENT DAMAGE

Do not exert more than 0.5 N•m (4.4 lb-in) of torque when tightening the screw.

Failure to follow these instructions can result in equipment damage.

NOTE: When the fixing bracket is attached, you cannot attach the isolation unit.

Removing from Display Module

⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Remove all power from the device before removing any covers or elements of the system, and prior to installing or removing any accessories, hardware, or cables.
- Unplug the power cable from both this product and the power supply prior to installing or removing the product.
- Always use a properly rated voltage sensing device to confirm power is off where and when indicated.
- Replace and secure all covers or elements of the system before applying power to this product.

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

⚠CAUTION

RISK OF INJURY

- When removing the Box Module from the Display Module, hold the unit in place so it does not drop.
- Use both hands.

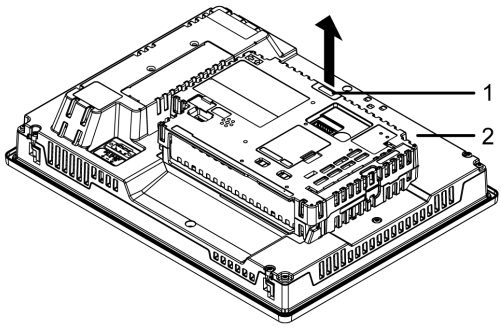
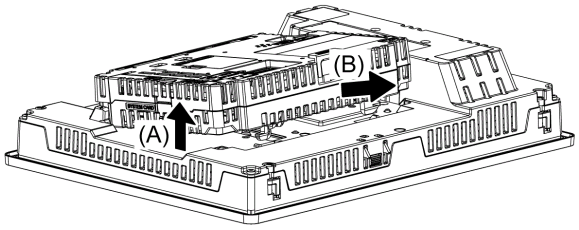
Failure to follow these instructions can result in injury or equipment damage.

NOTICE

EQUIPMENT DAMAGE

When this product is mounted vertically, first remove the Display Module from the panel, then remove the Box Module from the Display Module.

Failure to follow these instructions can result in equipment damage.

Step	Action
1	When mounting this product vertically, remove the Display Module from the panel and place the Display Module on a clean and level surface with the screen facing down. Refer to Removing from the Panel, page 59.
2	Release the LOCK on the top of the Box Module as illustrated.  **1** LOCK **2** Display Module
3	Lift the Box Module in the direction indicated by arrow (A) in the diagram and remove it by sliding in the direction indicated by arrow (B). 

Installing to the Panel

DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Remove all power from the device before removing any covers or elements of the system, and prior to installing or removing any accessories, hardware, or cables.
- Unplug the power cable from both this product and the power supply prior to installing or removing the product.
- Always use a properly rated voltage sensing device to confirm power is off where and when indicated.
- Replace and secure all covers or elements of the system before applying power to this product.

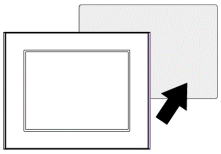
Failure to follow these instructions will result in death or serious injury.

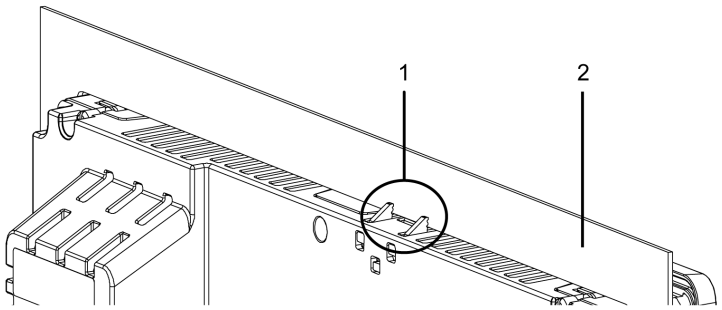
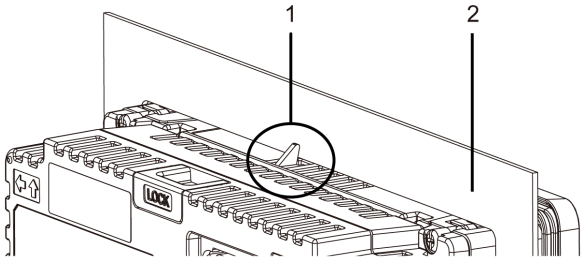
NOTICE

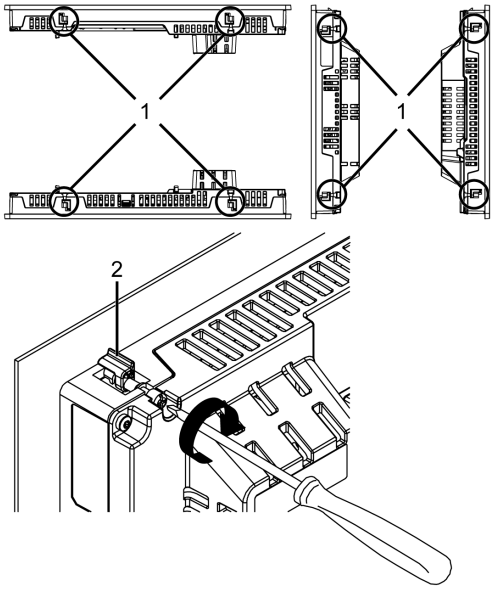
EQUIPMENT DAMAGE

- When mounting this product vertically, install the Box Module onto the Display Module before attaching the Display Module to the panel.
- Keep this product stabilized in the panel-cut while you are installing or removing the screw fasteners.

Failure to follow these instructions can result in equipment damage.

Step	Action
1	When mounting this product vertically, place the Display Module on a clean and level surface with the screen facing down and mount the Box Module to the Display Module. Refer to Installing onto Display Module, page 50.
2	Check that the Display Module's gasket is seated securely into the bezel's groove, which runs around the perimeter of the display panel frame. **NOTE:** Always use the installation gasket, since it absorbs vibration in addition to repelling water. For the procedure on replacing the installation gasket, refer to Replacing the Installation Gasket, page 75.
3	Based on the Display Module's Panel Cut Dimensions, page 50, open a mount-hole on the panel and attach the Display Module to the panel from the front side. 

Step	Action
4	Confirm that the anti-drop lock on the top of the Display Module is attached to the panel. Except for HMIDT35X  HMIDT35X  **1** Anti-drop lock **2** Panel

Step	Action
5	Using a Phillips screwdriver, gradually tighten (turn clockwise) the screws for the fasteners (top, bottom, left, and right), alternating diagonally between screws until all are secure. Be sure that the L-shaped part of the installation fastener (2 in figure below) is completely vertical. The necessary torque is 0.7 N•m (6.2 lb-in). **NOTE:** • If the Display Module is not mounted properly, it may fall. • If the panel is thick (approximately 5 mm [0.2 in]), you may have trouble straightening the L-shaped part of the installation fastener. If this happens, push the display module from the front as you tighten the screws.  **1** Installation fastener **2** L-shaped part of the installation fastener **Number of Installation Fasteners** 15-inch or larger models: • Top - 2, Bottom - 2, Right - 2, Left - 2 Models less than 12-inch: • Top - 2, Bottom - 2, Right - None, Left - None

NOTICE

EQUIPMENT DAMAGE

Do not exert more than 0.7 N•m (6.2 lb-in) of torque when tightening the fastener's screws.

Failure to follow these instructions can result in equipment damage.

Removing from the Panel

⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Remove all power from the device before removing any covers or elements of the system, and prior to installing or removing any accessories, hardware, or cables.
- Unplug the power cable from both this product and the power supply prior to installing or removing the product.
- Always use a properly rated voltage sensing device to confirm power is off where and when indicated.
- Replace and secure all covers or elements of the system before applying power to this product.

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

⚠CAUTION

RISK OF INJURY

Do not drop this product when you remove it from the panel.

- Hold this product in place after removing the fasteners.
- Use both hands.
- While pushing on the anti-drop lock, be careful not to hurt your fingers.

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

NOTICE

EQUIPMENT DAMAGE

To avoid damage, remove this product while pushing the anti-drop lock or by making sure the lock does not touch the panel.

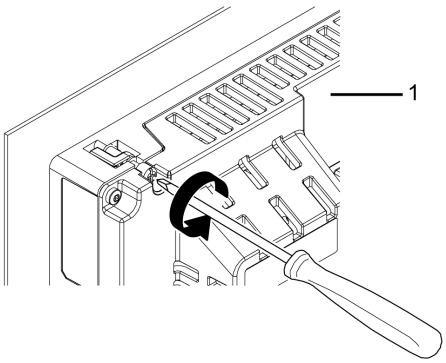
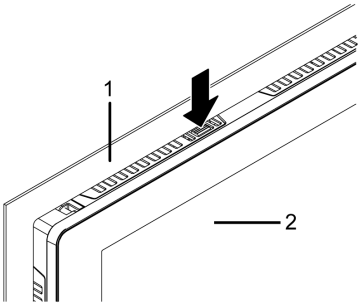
Failure to follow these instructions can result in equipment damage.

NOTICE

EQUIPMENT DAMAGE

- When this product is mounted vertically, first remove the Display Module from the panel, then remove the Box Module from the Display Module.
- Keep this product stabilized in the panel cutout while you are installing or removing the screw fasteners.

Failure to follow these instructions can result in equipment damage.

Step	Action
1	Using a Phillips screwdriver, gradually loosen (turn counterclockwise) the screws for the fasteners (top, bottom, left, and right), alternating diagonally between screws until all screws are loose.  **1** Rear side **NOTE:** • For the number of installation fasteners on your model, see Number of Installation Fasteners in Step 5 of Installing to the Panel, page 55. • If the panel is thick (approximately 5 mm [0.2 in]), you may have trouble straightening the L-shaped part of the installation fastener. If this happens, push the display module from the front as you loosen the screws.
2	While pushing on the anti-drop lock on the top of the Display Module with a tool such as a screwdriver, slowly remove the Display Module from the panel.  **1** Panel **2** Front side

Wiring Principles

Connecting the DC Power Cord

⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Remove all power from the device before removing any covers or elements of the system, and prior to installing or removing any accessories, hardware, or cables.
- Remove power before wiring this product's power terminals.
- Always use a properly rated voltage sensing device to confirm power is off where and when indicated.
- Replace and secure all covers or elements of the system before applying power to this product.
- Use only the specified voltage when operating this product. This product is designed to use 12 to 24 Vdc power. Always check whether your device is DC powered before applying power.
- Since this product is not equipped with a power switch, be sure to connect a power switch to the power supply.
- Be sure to ground this product's FG terminal.

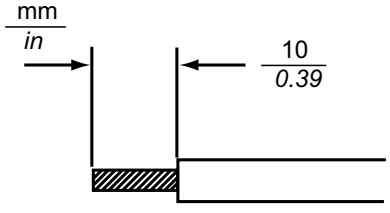
Failure to follow these instructions will result in death or serious injury.

NOTE:

- The SG (signal ground) and FG (functional ground) terminals are connected internally in this product.
- When the FG terminal is connected, be sure the wire is grounded. Not grounding this product can result in excessive electromagnetic interference (EMI).

DC Power Cord Preparation

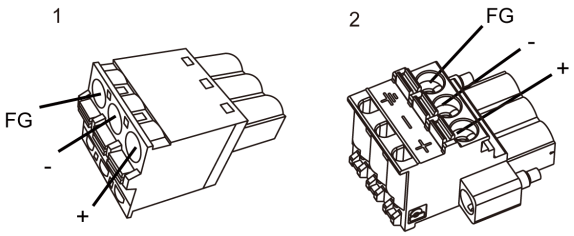
- Make sure the ground wire is either the same or heavier gauge than the power wires.
- Do not use aluminum wires in the power supply's power cord.
- To prevent the possibility of a terminal short, use a pin terminal that has an insulating sleeve.
- If the ends of the individual wires are not twisted correctly, the wires may create a short circuit.
- The conductor type is solid or stranded wire.
- Use copper wire rated for 75 °C (167 °F) or higher.

Power Cord Diameter	0.75...2.5 mm^2 (18...13 AWG)*1
Conductor type	Solid or stranded wire
Conductor length	

*1 For UL compatibility, use AWG 14 or AWG 13.

DC Power Supply Connector Specifications: Spring Clamp Terminal Blocks

Models except for HMIDT35X come with the right-angle-type power connector, and the HMIDT35X comes with the straight-type power connector.



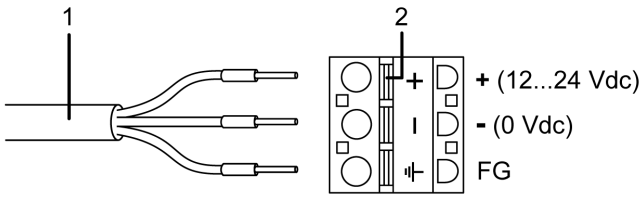
1 Straight type: HMIZGPWS by Schneider Electric

2 Right-angle type: HMIZGPWS2 by Schneider Electric

NOTE: You cannot connect the right-angle type to the HMIDT35X.

Connection	Wire
+	12...24 Vdc
-	0 Vdc
FG	Grounded terminal connected to the panel chassis.

How to connect the DC Power Cord

Step	Action
1	Confirm the power cord is not connected to the power supply.
2	Check the rated voltage and remove the “DC24V” sticker on the DC power supply connector.
3	Connect each wire from the power cable to a pin terminal.
4	Push the Opening button with a small and flat screwdriver to open the desired pin hole.
5	Insert each power cord wire into its corresponding hole. Release the Opening button to clamp the wire in place.  **1** Power cord **2** Opening button When using stranded wire, do not short with neighboring wires.
6	After inserting all three power cord wires, insert the DC power supply connector into the power connector on this product.
7	When using the DC power connector with fixable screws, use a slot-head screwdriver to affix the screws on both sides of the connector. The necessary torque is 0.5 N•m (4.4 lb-in).

NOTE:

- Do not solder the wire directly to the power crimp pin.
- If the wire is not inserted into the FG terminal properly, touch may not respond normally.

Connecting the Power Supply

Power Supply Precautions

⚠ DANGER

SHORT CIRCUIT, FIRE, OR UNINTENDED EQUIPMENT OPERATION

- Install and fasten this product in an installation panel or cabinet prior to connecting power supply and communication lines.
- Securely attach power cables to an installation panel or cabinet.
- Avoid excessive force on the power cable.

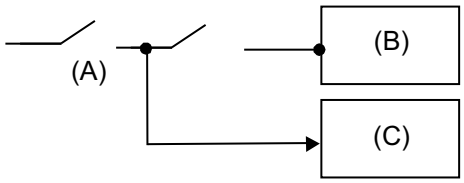
Failure to follow these instructions will result in death or serious injury.

Improving Noise/Surge Resistance

- This product's power cord should not be bundled with or kept close to main circuit lines (high voltage, high current), power lines, or input/output lines, and their various systems should be kept separate. When power lines cannot be wired via a separate system, use shielded cables for input/output lines.
- Make the power cord as short as possible, and twist the wires (twisted pair cabling) all the way from the side of the power supply unit.
- If there is an excess amount of noise on the power supply line, reduce the noise with a noise filter before turning on the power.
- Connect a surge protection device to handle power surges.
- To increase noise resistance, attach a ferrite core to the power cable.

Power Supply Connections

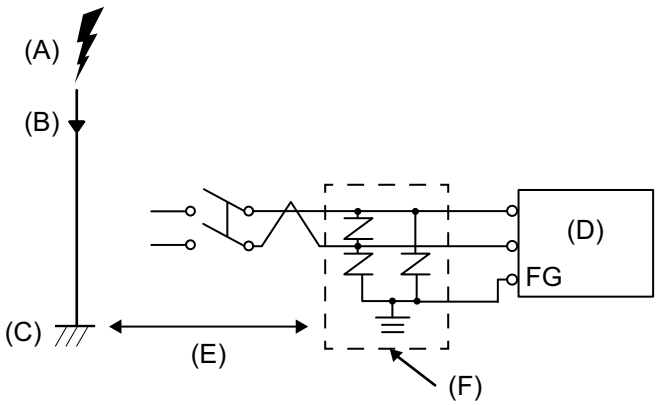
- When supplying power to this product, connect the power as shown below.



A. Main power
B. This product
C. Other unit

- Use the SELV (Safety Extra-Low Voltage) circuit and LIM (Limited Energy) circuit for DC input.

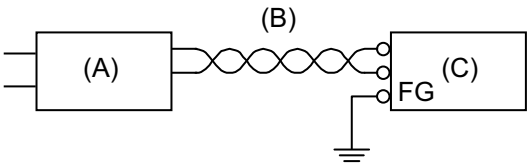
- The following shows a surge protection device connection:



A. Lightning
B. Lightning rod
C. Ground
D. This product
E. Provide adequate distance
F. Surge protection device

- Attach a surge protection device to prevent damage to this product as a result of a lightning induced power surge from a large electromagnetic field generated from a direct lightning strike. We also strongly recommend to connect the crossover grounding wire of this product to a position close to the ground terminal of the surge protection device.

  It is expected that there will be an effect on this product due to fluctuations in grounding potential when there is a large surge flow of electrical energy to the lightning rod ground at the time of a lightning strike. Provide adequate distance between the lightning rod grounding point and the surge protection device grounding point.
- If the voltage variation is outside the prescribed range, connect a regulated power supply.

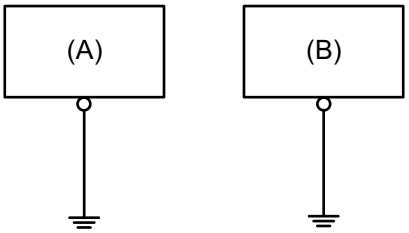


A. Regulated power supply
B. Twisted-pair cord
C. This product

Grounding

Independent Grounding

Always ground the FG (functional ground) terminal. Be sure to separate this product from the FG of other devices as shown below.



A. This product
B. Other equipment

Precautions

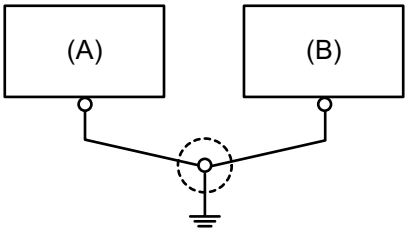
- Check that the grounding resistance is 100 Ω or less.*1
- The FG wire should have a cross sectional area 2 mm^2 (AWG14) or greater*1. Create the connection point as close as possible to this product, and make the wire as short as possible. When using a long grounding wire, replace the thin wire with a thicker wire, and place it in a duct.
- The SG and FG terminals are connected internally in this product. When connecting the SG line to another device, be sure that no ground loop is formed.

*1 Observe local codes and standards.

Common Grounding

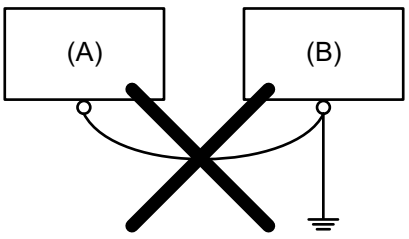
Electromagnetic Interference (EMI) can be created if devices are improperly grounded. EMI can cause loss of communication. If exclusive grounding is not possible, use a common grounding point as shown in the configuration below. Do not use any other configuration for common grounding.

Correct grounding



A. This product
B. Other equipment

Incorrect grounding



A. This product
B. Other equipment

USB Cable Clamp

USB Clamp Type A (1 port)

Introduction

When using a USB device, attach a USB cable clamp to the USB interface to prevent the USB cable from being disconnected.

⚠DANGER

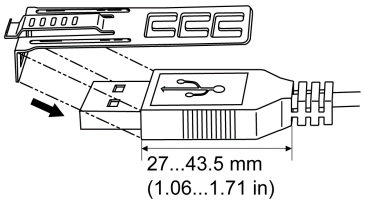
EXPLOSION HAZARD

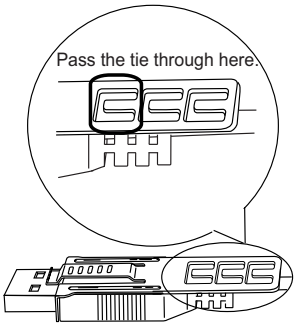
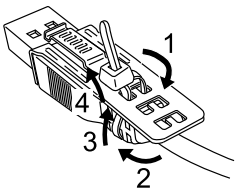
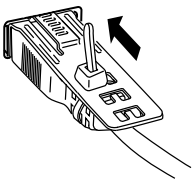
- Verify the power, input, and output (I/O) wiring are in accordance with Class I, Division 2 wiring methods.
- Substitution of any components may impair suitability for Class I, Division 2.
- Do not disconnect equipment while the circuit is live or unless the area is known to be free of ignitable concentrations.
- Remove power before attaching or detaching any connectors to or from this product.
- Ensure that power, communication, and accessory connections do not place excessive stress on the ports. Consider the vibration in the environment when making this determination.
- Securely attach power, communication, and external accessory cables to the panel or cabinet.
- Use only commercially available USB cables.
- Use only non-incendive USB configurations.
- Suitable for use in Class I, Division 2, Groups A, B, C, D Hazardous Locations.
- Confirm that the USB cable has been attached with the USB cable clamp before using the USB interface.

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

Attaching USB Clamp Type A (1 port)

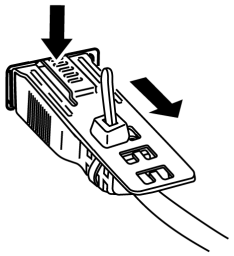
NOTE: Watch your fingers. The edge of the clip is sharp.

Step	Action
1	Mount the clip to the USB mark  connector shell so that it overlaps. The clip matches the 27 to 43.5 mm (1.06 to 1.71 in) length of the USB connector.  **NOTE:** When installing clamps to reduce cable stress onto both USB1 and USB2, at USB1 overlay the clip on the side with the USB mark, and on USB2 the side without the USB mark. Make sure the ties do not interfere with the other.
2	Align the clip and the USB cable connector shell. Adjust the position of the holes where the clip is attached. To ensure stability, select the clip-hole position that is closest to the base of the connector shell.

Step	Action
	
3	As shown, pass the tie through the clip hole. Next, turn the tie and pass it through the head so that the USB cable can pass through the center of the tie loop. The clip is now attached to the USB cable.  **NOTE:** • Check the direction of the head beforehand. Make sure the USB cable is through the center of the tie loop and that the tie can pass through the head. • You can substitute the tie provided with HMIZGCLP1 (by Schneider Electric), or other commercially available ties with a width of 4.8 mm (0.19 in) and thickness of 1.3 mm (0.05 in).
4	While pressing the grip on the clip, insert the cable from step 3 all the way into the USB host interface. Make sure that the clip tab is secured to the USB cable attached to this product. 

Removing USB Cable Clamp Type A (1 port)

Remove the USB cable while pushing the grip section of the clip.



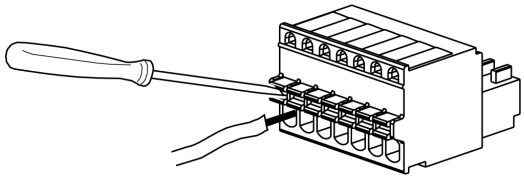
AUX Connector

⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Remove the AUX connector from this product prior to wiring.
- Strip wires only to the required length.
- Do not solder the wire itself.

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

Step	Action
1	Align the flat-head screwdriver with the groove of the orange spring release button, and while depressing the button insert the electric wire into the wire insertion slot (round-shaped hole).
2	Pull out the screwdriver from the release button. The wire insertion slot is then closed and the wire is held securely in place. To remove the wire, align the flat-head screwdriver with the groove of the release button, and while depressing the button pull the wire out. 
3	Insert the wired AUX connector into the Auxiliary Output/Speaker Output Interface (AUX) of this product.

Recommendations:

- AUX Connector: HMIZGAUX by Schneider Electric
- Screwdriver: Be sure the screwdriver has the following dimensions:

  - Blade thickness: 0.4 mm (0.02 in)

  - Blade width: 2.0 mm (0.08 in)

  Point shape should have isolation properties meeting DIN 5264 and EN60900.

  NOTE:

  - Wire should be AWG 28 to AWG 20 thick and twisted.
  - Applicable wire sizes are Style 1015 and Style 1007.
  - Be sure to strip 8.0 mm (0.31 in) of cover from the wire.
  - Use copper wire rated for 75 °C (167 °F) or higher.

SD Card Insertion/Removal

Introduction

NOTICE

LOSS OF DATA

When using a SD Card:

- Make sure you regularly back up the SD Card data.
- While a SD Card is accessed, do not turn OFF or reset this product, and do not remove the SD Card.
- Before removing the SD Card from this product, stop all operations on the SD Card.
- Make sure of the SD Card's orientation before inserting it into the SD Card slot.

Failure to follow these instructions can result in equipment damage.

NOTICE

LOSS OF DATA

When handling the SD Card:

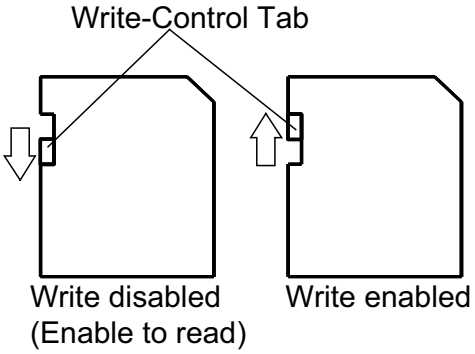
- Avoid storing the SD Card where there is static electricity or electromagnetic waves.
- Avoid storing the SD Card in direct sunlight, near a heater, or other locations where high temperatures can occur.
- Do not bend the SD Card.
- Do not drop or strike the SD Card against another object.
- Keep the SD Card dry.
- Do not touch the SD Card connectors.
- Do not disassemble or modify the SD Card.
- Use the SD Card initialized by this product. You may not be able to use the SD Card initialized by other devices.

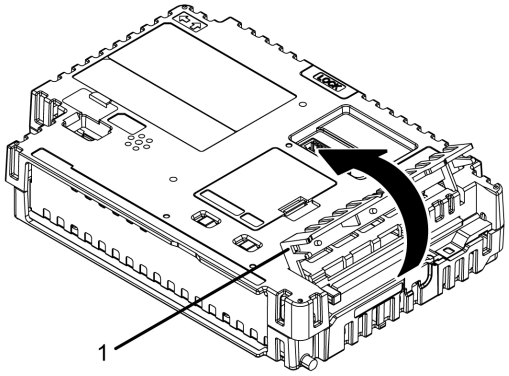
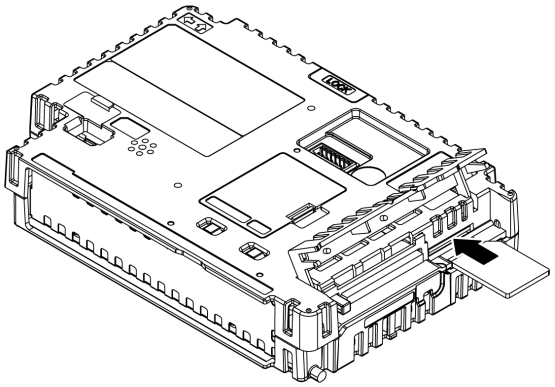
Failure to follow these instructions can result in equipment damage.

NOTE: To make your backups, you can either insert the SD Card directly into the SD Card Slot on your computer, or use a commercially available SD Card reader.

Inserting the SD Card

NOTE: As shown in the image below (example on the left-hand side), you can set the Write-Control Tab to prevent write operations to the SD Card. Push the tab up, as shown in the example on the right-hand side, to release the lock and enable writing to the SD Card. Before using a commercial-type SD Card, read the manufacturer's instructions.

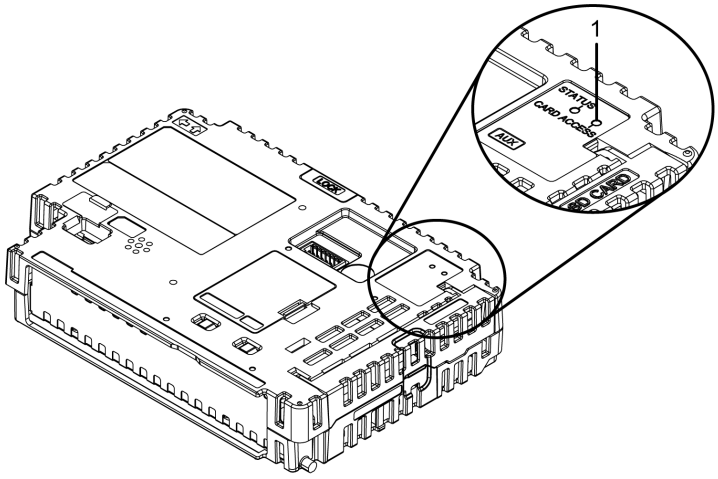
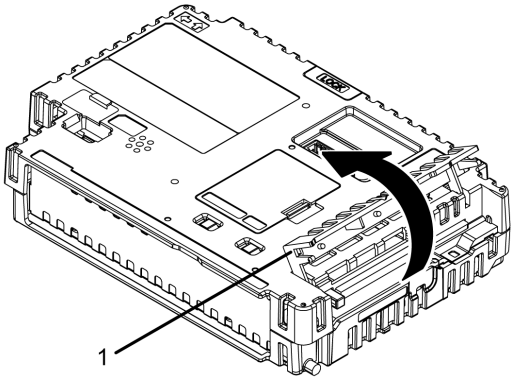


Step	Action
1	Open the Storage Card Cover.  **1** Storage card cover
2	Insert the SD Card into the SD Card Slot with the front face of the SD Card facing up and push until you hear it “click”. 
3	Close the Storage Card Cover.

Removing the SD Card

If you remove the SD Card while it is in use, you risk corrupting your data. Before removing the SD Card from this product, stop all operations on the SD Card.

For instructions on removing the SD Card safely, refer to the corresponding topic in the manual of your screen editing software.

Step	Action
1	Make sure the Card Access LED is off.  **1** Card access LED
2	Open the Storage Card Cover.  **1** Storage card cover
3	Push the SD Card once to release, and pull out the card. **NOTE:** After using the SD Card, store the SD Card in its case or other safe location.
4	Close the Storage Card Cover.

Isolation Unit

Introduction

NOTE: For details such as settings when using the Isolation Unit, refer to the product manual.

⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK OR EXPLOSION

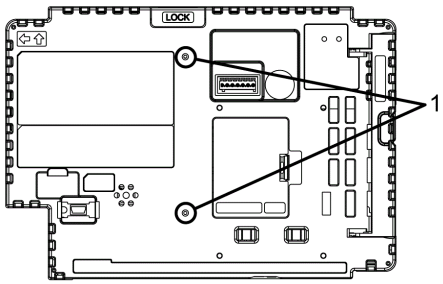
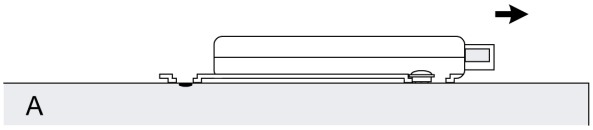
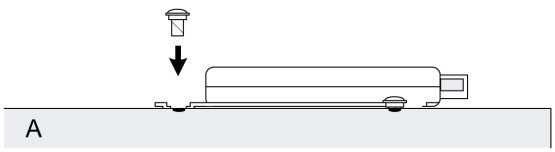
To avoid an electric shock, prior to connecting the Isolation Unit to this product, confirm that this product's power supply is completely turned OFF.

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

Installing to the Box Module

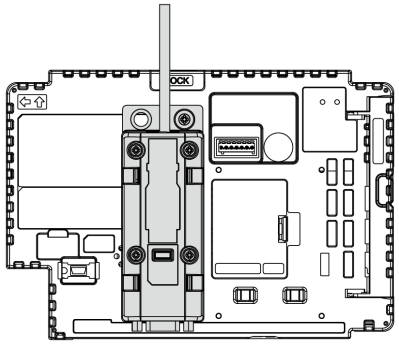
You can install the Isolation Unit to the back of the Box Module or to the installation panel. For more information on how to attach the Isolation Unit to the installation panel, please refer to the Isolation Unit Quick Reference Guide.

NOTE: When the fixing bracket is attached, you cannot attach the isolation unit.

Step	Action
1	Check the locations of two screw holes on the front of the Box Module.  **1** Screw hole
2	Install one of the two attachment screws included in the Isolation Unit to the Box Module. Use a torque of 0.5 N•m (4.4 lb-in).  **1** Attachment screw **A** Box Module
3	Attach the Isolation Unit to the Box Module.  **2** Isolation Unit **A** Box Module
4	Slide the Isolation Unit in the direction of the arrow so the Isolation Unit is hooked by the screw from Step 2.  **A** Box Module
5	Secure the Isolation Unit in place with another attachment screw. Use a torque of 0.5 N•m (4.4 lb-in).  **A** Box Module

NOTE:

- Attach the Isolation Unit to a stable surface. Do not leave the Isolation Unit hanging by its cord.
- Be careful with wire placement. Overlapping cords may cause noise.
- When attaching the Isolation Unit to the Box Module, be careful with the attachment position.
- See the illustration below for recommended installation.



Maintenance

What's in This Chapter

Regular Cleaning

Cleaning This Product

NOTICE
EQUIPMENT DAMAGE • Power off this product before cleaning it. • Do not use hard or pointed objects to operate the touch panel. • Do not use paint thinner, organic solvents, or a strong acid compound to clean the unit. **Failure to follow these instructions can result in equipment damage.**

When this product gets dirty, wipe this product with a soft, dry cloth or a soft cloth soaked in only water and wrung tightly.

NOTE: When the product is very dirty, soak the soft cloth in water with a neutral detergent, wring the cloth tightly and wipe the product while avoiding the product label.

Periodic Check Points

Operation Environment

- Is the ambient air temperature within the allowable range? Refer to Environmental Specifications, page 28.
- Is the ambient air humidity within the specified range? Refer to Environmental Specifications, page 28.

When this product is inside a panel, the ambient environment refers to the interior of the panel.

Electrical Specifications

- Is the input voltage appropriate? Refer to Electrical Specifications, page 27.
- Are all power cords and cables connected properly? Are there any loose cables?
- Are all installation fasteners holding the unit securely?
- Are there scratches or traces of dirt on the installation gasket?

Unit Disposal

When disposing this product, dispose it in a manner appropriate to, and in accordance with, your country's industrial machinery disposal/recycling standards.

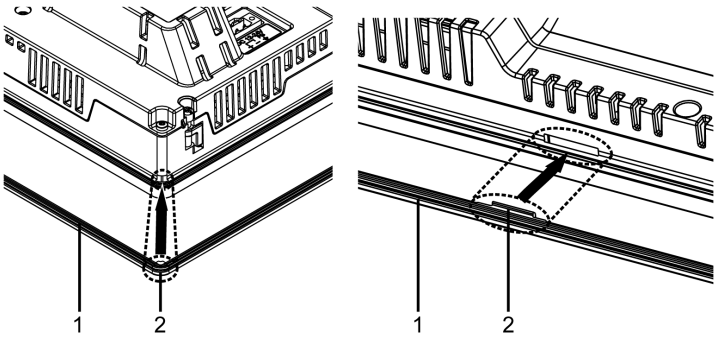
Replacing the Installation Gasket

Introduction

The installation gasket provides protection against dust and moisture.

NOTICE
GASKET AGING • Inspect the gasket periodically as required by your operating environment. • Replace the gasket at least once a year, or as soon as scratches or dirt become visible. **Failure to follow these instructions can result in equipment damage.**

Installing the Installation Gasket

Stage	Description
1	Place the Display Module on a flat, level surface, with the display face pointing down.
2	Remove the gasket from the Display Module.
3	Attach the new gasket to the Display Module. Insert the protrusions from the four corners of the gasket into the corresponding holes in the corners of the Display Module. Depending on your model, there may be additional protrusions. In the following, refer to the figure on the right and insert the protrusions accordingly. **NOTE:** When using a tool to insert the gasket, make sure the tool does not catch the rubber gasket and cause a tear.  **1** Installation gasket **2** Protruduing point

The gasket must be inserted correctly into the groove for moisture resistance for the Display Module.

NOTICE

EQUIPMENT DAMAGE

Be careful not to stretch the gasket unnecessarily.

Failure to follow these instructions can result in equipment damage.

Replacing the Primary Battery

Backup clock data uses a Supercapacitor (electric double-layer capacitor) for power. When the voltage from the Supercapacitor is low, clock data is lost*1 when this product is turned OFF. The average period for backup is as follows:

Initial: approximately 100 days

After 5 years: approximately 30 days (when used with an ambient temperature of 25 °C [77 °F])

*1 If clock data is lost, a clock data error message appears when starting up this product. When this happens, please set up the clock again. Refer to your screen editing software manual on how to set up the clock.

By connecting the optional backup battery (part number: HMIZGBAT) for clock data backup, you can maintain a backup period of up to 5 years or more (when used with an ambient temperature of 25 °C [77 °F]). However, as the battery expires after 5 years, we recommend regularly changing the battery every 5 years.

NOTE:

- Because the battery for clock data backup is a lithium battery, its performance degrades based on the temperature. As a result, when the battery's ambient temperature is higher, the backup period is shorter.

When the voltage of the Supercapacitor drops at the same time as the voltage in the battery, clock data is lost when power is disconnected. If the clock data error message appears while the battery is connected, the battery is low and requires replacement.

⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Remove all power from the device before removing any covers or elements of the system, and prior to installing or removing any accessories, hardware, or cables.
- Unplug the power cable from both this product and the power supply prior to installing or removing the product.
- Always use a properly rated voltage sensing device to confirm power is off where and when indicated.
- Replace and secure all covers or elements of the system before applying power to this product.
- Use only the specified voltage when operating this product. This product is designed to use 12 to 24 Vdc. Always check whether your device is DC powered before applying power.

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

⚠ DANGER

EXPLOSION, FIRE, OR CHEMICAL HAZARD

- Use only the identical replacement battery for this product.
- Do not cause a short circuit.
- Recycle or properly dispose of used batteries.

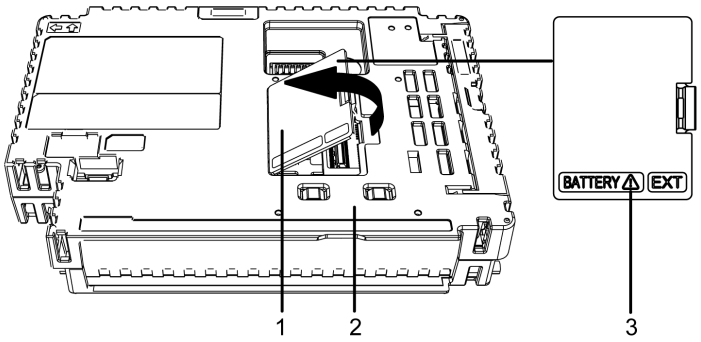
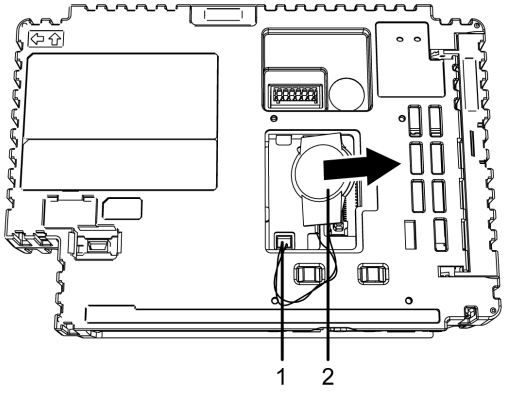
Failure to follow these instructions will result in death or serious injury.

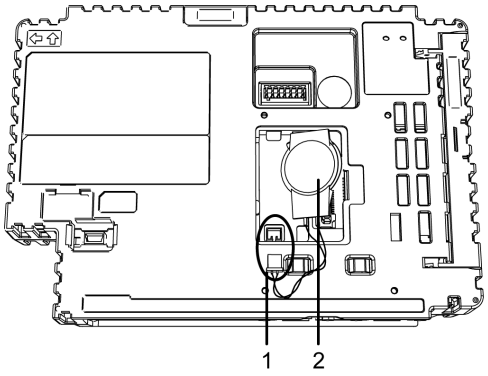
NOTICE

LOSS OF DATA

- Before replacing the battery, supply power to this product for 5 minutes or more.
- Replace the battery regularly every five years after you purchase this product.
- Allow only qualified personnel to replace the battery.

Failure to follow these instructions can result in equipment damage.

Step	Action
1	Disconnect the power supply from this product.
2	Touch the housing or ground connection to discharge any electrostatic charge from your body.
3	Place the Box Module on a flat, level surface, with the front side pointing up.
4	Open the Expansion Unit Interface Cover on the Box Module.  **1** Expansion Unit Interface Cover **2** Box Module **3** Safety alert symbol (see the safety messages stated in this topic)
5	If the battery is already installed, slide the battery in the direction of the arrow as illustrated. Unplug the cable from the connector.  **1** Connector

Step	Action
	2 Battery
6	Insert a new battery and the connector all the way. Either side of the battery can face top or bottom.  **1** Connector **2** Battery
7	Close the Expansion Unit Interface Cover. **NOTE:** Make sure the cable is inserted completely inside the enclosure. Otherwise, you can damage the cable when you close the cover.
8	Reconnect the power supply to this product. **NOTE:** After reconnecting the power supply, set up the clock again. Refer to your screen editing software manual on how to set up the clock.

Replacing the System Card (SD Card)

The System Card is an SD Card with the operating system installed on it.

To replace the System Card, use a SD Card by Schneider Electric. Refer to Accessories, page 19.

NOTICE
LOSS OF DATA When using a SD Card: • Make sure you regularly back up the SD Card data. • While a SD Card is accessed, do not turn OFF or reset this product, and do not remove the SD Card. • Before removing the SD Card from this product, stop all operations on the SD Card. • Make sure of the SD Card's orientation before inserting it into the SD Card slot. **Failure to follow these instructions can result in equipment damage.**

NOTE: For information on backing up your SD card, used as a system card, refer to our website at www.se.com.

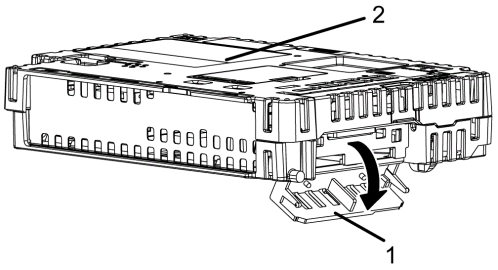
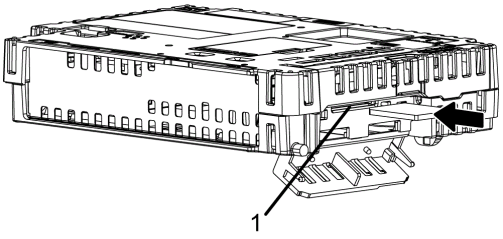
NOTICE

LOSS OF DATA

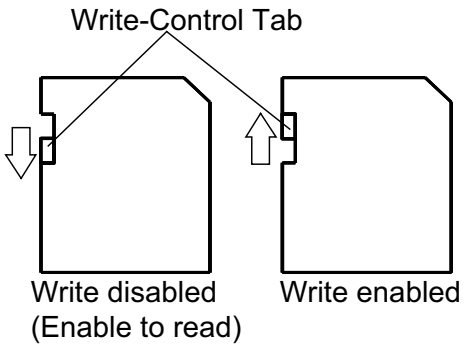
When handling the SD Card:

- Avoid storing the SD Card where there is static electricity or electromagnetic waves.
- Avoid storing the SD Card in direct sunlight, near a heater, or other locations where high temperatures can occur.
- Do not bend the SD Card.
- Do not drop or strike the SD Card against another object.
- Keep the SD Card dry.
- Do not touch the SD Card connectors.
- Do not disassemble or modify the SD Card.

Failure to follow these instructions can result in equipment damage.

Step	Action
1	Turn OFF this product.
2	Remove the Box Module from the Display Module. **NOTE:** Refer to Installation, page 48.
3	As illustrated, open the System Card Cover in the direction of the arrow.  **1** System Card Cover **2** Box Module
4	Push the SD Card once to release, and pull out the card. **NOTE:** After using the SD Card, store the SD Card in its case or other safe location.
5	Insert the SD Card into the System Card Slot with the front face of the SD Card facing down, and push until you hear it “click”.  **1** System Card Slot
6	Close the System Card Cover.
7	Mount the Box Module on the Display Module.

NOTE: As shown in the image below (example on the left-hand side), you can set the Write-Control Tab to prevent write operations to the SD Card. Push the tab up, as shown in the example on the right-hand side, to release the lock and enable writing to the SD Card.



Replacing the Backlight

Not user replaceable. Please contact your local distributor.

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