Harmony GTU User Manual

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The information provided in this documentation contains general descriptions and/or technical characteristics of the performance of the products contained herein. This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications. It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation and testing of the products with respect to the relevant specific application or use thereof. Neither Schneider Electric nor any of its affiliates or subsidiaries shall be responsible or liable for misuse of the information contained herein. If you have any suggestions for improvements or amendments or have found errors in this publication, please notify us.

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All pertinent state, regional, and local safety regulations must be observed when installing and using this product. For reasons of safety and to help ensure compliance with documented system data, only the manufacturer should perform repairs to components.

When devices are used for applications with technical safety requirements, the relevant instructions must be followed.

Failure to use Schneider Electric software or approved software with our hardware products may result in injury, harm, or improper operating results.

Failure to observe this information can result in injury or equipment damage.

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Safety Information

Important Information

NOTICE

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 the Book

At a Glance

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:

Step	Action
1	Go to the Schneider Electric home page *www.schneider-electric.com*.
2	In the **Search** box type the reference of a product or the name of a product range. ● Do not include blank spaces in the reference or product range. ● To get information on grouping similar modules, use asterisks (*).
3	If you entered a reference, go to the **Product Datasheets** search results and click on the reference that interests you. If you entered the name of a product range, go to the **Product Ranges** search results and click on the product range that interests you.
4	If more than one reference appears in the **Products** search results, click on the reference that interests you.
5	Depending on the size of your screen, you may need to scroll down to see the datasheet.
6	To save or print a datasheet as a .pdf file, click **Download XXX product datasheet**.

The characteristics that are presented 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.

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.schneider-electric.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.
- Always use a properly rated voltage sensing device to confirm power is off.
- 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.

NOTE: Open Box is a highly configurable device and is not based on a real-time operating system. Changes to the software and settings of the following must be considered new implementations as discussed in the previous warning messages. Examples of such changes include:

- System BIOS
- Operating System
- Installed hardware
- Installed software

⚠ 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 and vibration acceleration is above what is acceptable, the LCD screen may partially turn white. Once the vibration condition ends, the whitening of the screen 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.
  www.schneider-electric.com

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

⚠ 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.

HMIDT752 and HMIDT952 have a touch screen with projected capacitive touch technology that may operate abnormally when the surface is wet.

⚠ WARNING

LOSS OF CONTROL

- Do not touch the touch screen area during operating system startup.
- Do not operate when the touch screen surface is wet.
- If the touch screen surface is wet, remove any excess water with a soft cloth before operation.

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

NOTE:

- To avoid accidental touch, the touch control is disabled for a few seconds in cases of abnormal touch (like water). Normal touch operation is recovered a few seconds after the abnormal touch condition is removed.
- While the system is starting up, as the touch panel initial values are being checked, do not touch the touch screen area.

NOTICE

EQUIPMENT DAMAGE

- 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.
- Handle this product carefully to prevent puncture, bursting, or cracking of the panel material.

Failure to follow these instructions can result in equipment damage.

Chapter 1
Overview

What Is in This Chapter?

This chapter contains the following topics:

Topic	Page
Part Number Configuration	16
Part Numbers	17
Package Contents	18
Certifications and Standards	20
Federal Communication Commission Radio Frequency Interference Statement - For USA	23
Hazardous Location Installation - For USA and Canada	24
European (CE) Compliance	27
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Wireless LAN Information	29

Part Number Configuration

The following describes the configuration of part numbers.

Box Module

Digit Position	1	2	3	4	5	6
	H	M	I	G	(model)	(type)
					2: Standard 3: Premium 5: Open	U/U2: Universal

Display Module

Digit Position	1	2	3	4	5	6	7	8
	H	M	I	D	(type)	(size)	(LCD)	(type)
					T: Touch	3: 7" 5: 10" 6: 12" 7: 15" 9: 19”	3: TFT normal 4: TFT high definition 5: TFT wide	1: Advanced modular 2: Smart modular 3: Smart + Wireless LAN

Part Numbers

Series		Model Names	Part Numbers
Harmony GTU	Standard Box	HMIG2U	HMIG2U
	Premium Box	HMIG3U	HMIG3U
	Open Box	HMIG5U	HMIG5U
		HMIG5U2	HMIG5U2
	Smart Display	HMIDT542	HMIDT542
		HMIDT642	HMIDT642
		HMIDT643	HMIDT643
		HMIDT732	HMIDT732
		HMIDT752	HMIDT752
		HMIDT952	HMIDT952
	Advanced Display	HMIDT351	HMIDT351
		HMIDT551	HMIDT551
		HMIDT651	HMIDT651

NOTE:

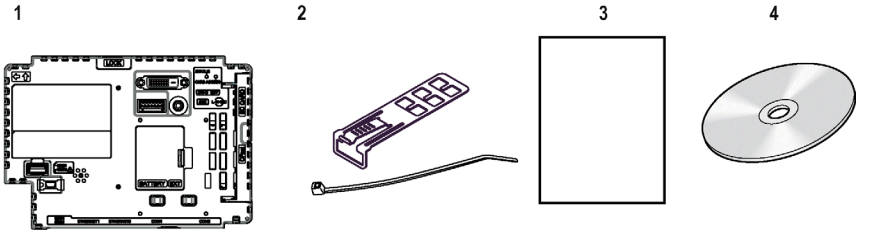
- HMIG2U supports any Display Module shown above except for the HMIDT643.
- HMIG5U supports any Display Module shown above except for HMIDT752 and HMIDT952.
- HMIDT643 support by HMIG3U depends on the screen editing software. Refer to your screen editing software manual.

Package Contents

NOTE: This product has been carefully packed with special attention to quality. However, should you find anything damaged or missing, please contact your local distributor immediately.

Box Module

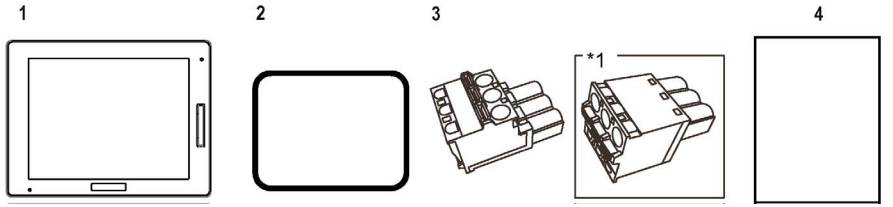
Verify all items listed here are present in your package:



1 Harmony GTU Box Module: 1
2 USB Clamp Type A (1 port): 2 sets for Standard Box and Premium Box, 3 sets for Open Box (1 set = 1 clip and 1 tie)
3 Harmony GTU (Box Module) Quick Reference Guide: 1
4 Restore DVD (only for Open Box): 1
5 End-user License Agreement (only for Open Box): 2

Display Module

Verify all items listed here are present in your package:

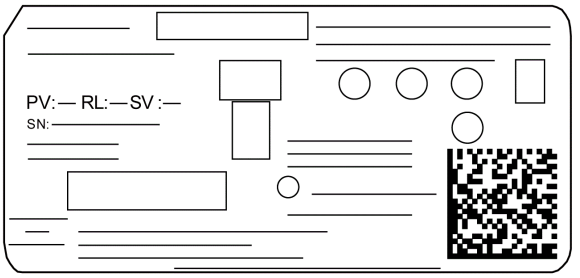


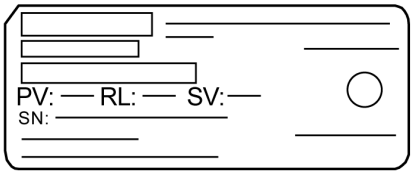
1 Harmony GTU Display Module: 1
2 Installation Gasket: 1 (attached to this product)
3 DC Power Supply Connector (Right-angle[*1]): 1
4 Harmony GTU (Display Module) Quick Reference Guide: 1

*1 Straight type for HMIDT351

Revision

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





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.

www.schneider-electric.com

Agency Certifications

Schneider Electric submitted this product for independent testing and qualification by third-party listing agencies. These agencies have certified this product as meeting the following standards.

HMIG3U and HMIG5U

- Underwriters Laboratories Inc., UL 508 and CSA C22.2 N°142, Industrial Control Equipment

Models except for HMIG3U and HMIG5U

- Underwriters Laboratories Inc., UL 61010-2-201 and CSA C22.2 N°61010-2-201, Industrial Control Equipment

All models

- Underwriters Laboratories Inc., ANSI/ISA 12.12.01 and CSA C22.2 N°213, 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)
- American Bureau of Shipping (ABS)*1
- Bureau Veritas (BV)*1
- China Classification Society (CCS)*1
- Det Norske Veritas - Germanischer Lloyd (DNV-GL)*1
- Lloyd's Register (LR)*1
- Registro Italiano Navale (RINA)*1

*1 Compliance status for marine classification standards is as follows.

HMIG2U: All unsupported

HMIG5U2: Compliant with DNV-GL and NK only

HMIDT752, HMIDT952: Compliant with DNV-GL only

Compliance Standards

Europe:

CE

- Directive2014/35/EU (Low Voltage)
- 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
- Directive 2014/53/EU (RTTE)
  - EN300 328
  - EN301 489
  - EN60950-1

Australia

- RCM
  - EN61000-6-4

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 *(see page 74)*.

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 *(see page 183)* 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.

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 ANSI/ISA 12.12.01 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 ANSI/ISA 12.12.01 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

POTENTIAL FOR EXPLOSION

- 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 ANSI/ISA 12.12.01 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

POTENTIAL FOR EXPLOSION

- Always confirm the ANSI/ISA 12.12.01 or CSA C22.2 N°213 hazardous location rating of your device before installing or using it in a hazardous location.
- To apply or remove the supply power from this product installed in a Class I, Division 2 hazardous location, you must either:
  - Use a switch located outside the hazardous environment, or;
  - Use a switch certified for Class I, Division 1 operation inside the hazardous area.
- Do not connect or disconnect 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.
- Always use a properly rated voltage sensing device to confirm power is off.
- 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

POTENTIAL FOR EXPLOSION

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 1, Type 4X (indoor use only), or 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.

European (CE) Compliance

CE Compliance Note

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.

Wireless LAN Information

Wireless LAN Information

USA

HMIDT643 contains Transmitter Module FCC ID: N6C-SDMGN.

FCC CAUTION

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines in Supplement C to OET65. This equipment should be installed and operated keeping the radiator at least 20 cm or more away from person's body (excluding extremities: hands, wrists, feet and ankles).

Canada

HMIDT643 contains Transmitter Module IC: 4908B-SDMGN.

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment and meets RSS-102 of the IC radio frequency (RF) Exposure rules. This equipment should be installed and operated keeping the radiator at least 20 cm or more away from person's body (excluding extremities: hands, wrists, feet and ankles).

Cet équipement est conforme aux limites d'exposition aux rayonnements énoncées pour un environnement non contrôlé et respecte les règles d'exposition aux fréquences radioélectriques (RF) CNR-102 de l'IC. Cet équipement doit être installé et utilisé en gardant une distance de 20 cm ou plus entre le dispositif rayonnant et le corps (à l'exception des extrémités : mains, poignets, pieds et chevilles).

Europe

CE

EN300 328, EN301 489, EN60950-1

HMIDT643 may be operated in Belgium, Bulgaria, Czech Republic, Denmark, Germany, Estonia, Greece, Spain, France, Ireland, Italy, Cyprus, Latvia, Lithuania, Luxembourg, Malta, Hungary, Netherlands, Austria, Poland, Portugal, Romania, Slovak Republic, Slovenia, Finland, Sweden, United Kingdom.

[EN] English	Hereby, Schneider Electric declares that the radio equipment type HMIDT643 is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following Internet address: http://www.schneider-electric.com
[BG] Bulgarian	С настоящото Schneider Electric декларира, че този тип радиосъоръжение HMIDT643 е в съответствие с Директива 2014/53/ЕС. Цялостният текст на ЕС декларацията за съответствие може да се намери на следния интернет адрес: http://www.schneider-electric.com
[CS] Czech	Tímto Schneider Electric prohlašuje, že typ rádiového zařízení HMIDT643 je v souladu se směrnicí 2014/53/EU. Úplné znění EU prohlášení o shodě je k dispozici na této internetové adrese: http://www.schneider-electric.com
[DA] Danish	Hermed erklærer Schneider Electric, at radioudstyrstypen HMIDT643 er i overensstemmelse med direktiv 2014/53/EU. EU-overensstemmelseserklæringens fulde tekst kan findes på følgende internetadresse: http://www.schneider-electric.com
[DE] German	Hiermit erklärt Schneider Electric, dass der Funkanlagentyp HMIDT643 der Richtlinie 2014/53/EU entspricht. Der vollständige Text der EU-Konformitätserklärung ist unter der folgenden Internetadresse verfügbar: http://www.schneider-electric.com
[ET] Estonian	Käesolevaga deklareerib Schneider Electric, et käesolev raadioseadme tüüp HMIDT643 vastab direktiivi 2014/53/EL nõuetele. ELi vastavusdeklaratsiooni täielik tekst on kättesaadav järgmisel internetiaadressil: http://www.schneider-electric.com
[EL] Greek	Με την παρούσα ο/η Schneider Electric, δηλώνει ότι ο ραδιοεξοπλισμός HMIDT643 πληροί την οδηγία 2014/53/ΕΕ. Το πλήρες κείμενο της δήλωσης συμμόρφωσης ΕΕ διατίθεται στην ακόλουθη ιστοσελίδα στο διαδίκτυο: http://www.schneider-electric.com
[ES] Spanish	Por la presente, Schneider Electric declara que el tipo de equipo radioeléctrico HMIDT643 es conforme con la Directiva 2014/53/UE. El texto completo de la declaración UE de conformidad está disponible en la dirección Internet siguiente: http://www.schneider-electric.com
[FR] French	Le soussigné, Schneider Electric, déclare que l'équipement radioélectrique du type HMIDT643 est conforme à la directive 2014/53/UE. Le texte complet de la déclaration UE de conformité est disponible à l'adresse internet suivante: http://www.schneider-electric.com
[IT] Italian	Il fabbricante, Schneider Electric, dichiara che il tipo di apparecchiatura radio HMIDT643 è conforme alla direttiva 2014/53/UE. Il testo completo della dichiarazione di conformità UE è disponibile al seguente indirizzo Internet: http://www.schneider-electric.com

[LV] Latvian	Ar šo Schneider Electric deklarē, ka radioiekārta HMIDT643 atbilst Direktīvai 2014/53/ES. Pilns ES atbilstības deklarācijas teksts ir pieejams šādā interneta vietnē: http://www.schneider-electric.com
[LT] Lithuanian	Aš, Schneider Electric, patvirtinu, kad radijo įrenginių tipas HMIDT643 atitinka Direktyvą 2014/53/ES. Visas ES atitikties deklaracijos tekstas prieinamas šiuo interneto adresu: http://www.schneider-electric.com
[HR] Croatian	Schneider Electric ovime izjavljuje da je radijska oprema tipa HMIDT643 u skladu s Direktivom 2014/53/EU. Cjeloviti tekst EU izjave o sukladnosti dostupan je na sljedećoj internetskoj adresi: http://www.schneider-electric.com
[HU] Hungarian	Schneider Electric igazolja, hogy a HMIDT643 típusú rádióberendezés megfelel a 2014/53/EU irányelvnek. Az EU-megfelelőségi nyilatkozat teljes szövege elérhető a következő internetes címen: http://www.schneider-electric.com
[MT] Maltese	B'dan, Schneider Electric, niddikjara li dan it-tip ta' tagħmir tar-radju HMIDT643 huwa konformi mad-Direttiva 2014/53/UE. It-test kollu tad-dikjarazzjoni ta' konformità tal-UE huwa disponibbli f'dan l-indirizz tal-Internet li ġej: http://www.schneider-electric.com
[NL] Dutch	Hierbij verklaar ik, Schneider Electric, dat het type radioapparatuur HMIDT643 conform is met Richtlijn 2014/53/EU. De volledige tekst van de EU-conformiteitsverklaring kan worden geraadpleegd op het volgende internetadres: http://www.schneider-electric.com
[PL] Polish	Schneider Electric niniejszym oświadcza, że typ urządzenia radiowego HMIDT643 jest zgodny z dyrektywą 2014/53/UE. Pełny tekst deklaracji zgodności UE jest dostępny pod następującym adresem internetowym: http://www.schneider-electric.com
[PT] Portuguese	O(a) abaixo assinado(a) Schneider Electric declara que o presente tipo de equipamento de rádio HMIDT643 está em conformidade com a Diretiva 2014/53/UE. O texto integral da declaração de conformidade está disponível no seguinte endereço de Internet: http://www.schneider-electric.com
[RO] Romanian	Prin prezenta, Schneider Electric declară că tipul de echipamente radio HMIDT643 este în conformitate cu Directiva 2014/53/UE. Textul integral al declarației UE de conformitate este disponibil la următoarea adresă internet: http://www.schneider-electric.com
[SK] Slovak	Schneider Electric týmto vyhlasuje, že rádiové zariadenie typu HMIDT643 je v súlade so smernicou 2014/53/EÚ. Úplné EÚ vyhlásenie o zhode je k dispozícii na tejto internetovej adrese: http://www.schneider-electric.com
[SL] Slovenian	Schneider Electric potrjuje, da je tip radijske opreme HMIDT643 skladen z Direktivo 2014/53/EU. Celotno besedilo izjave EU o skladnosti je na voljo na naslednjem spletnem naslovu: http://www.schneider-electric.com
[FI] Finnish	Schneider Electric vakuuttaa, että radiolaitetyyppi HMIDT643 on direktiivin 2014/53/EU mukainen. EU-vaatimustenmukaisuusvakuutuksen täysimittainen teksti on saatavilla seuraavassa internetosoitteessa: http://www.schneider-electric.com
[SV] Swedish	Härmed försäkrar Schneider Electric att denna typ av radioutrustning HMIDT643 överensstämmer med direktiv 2014/53/EU. Den fullständiga texten till EU-försäkran om överensstämmelse finns på följande webbadress: http://www.schneider-electric.com

China

1.HMIDT643的使用方法

- 使用频率：2.4 - 2.4835 GHz
  等效全向辐射功率(EIRP)：
  天线增益 < 10dBi时：≤100 mW 或≤20 dBm
- 最大功率谱密度：
  天线增益 < 10dBi时：≤10 dBm / MHz(EIRP)
- 载频容限：20 ppm
- 带外发射功率(在2.4-2.4835GHz頻段以外) ≤-80 dBm / Hz (EIRP)
- 杂散发射(辐射)功率(对应载波±2.5倍信道带宽以外)：
  ≤-36 dBm / 100 kHz (30 - 1000 MHz)
  ≤-33 dBm / 100 kHz (2.4 - 2.4835 GHz)
  ≤-40 dBm / 1 MHz (3.4 - 3.53 GHz)
  ≤-40 dBm / 1 MHz (5.725 - 5.85 GHz)
  ≤-30 dBm / 1 MHz (其它1 - 12.75 GHz)

2.不得擅自更改发射频率、加大发射功率(包括额外加装射频功率放大器)，不得擅自外接天线或改用其它发射天线；

3.使用时不得对各种合法的无线电通信业务产生有害干扰；一旦发现有干扰现象时，应立即停止使用，并采取措施消除干扰后方可继续使用；

4.使用微功率无线电设备，必须忍受各种无线电业务的干扰或工业、科学及医疗应用设备的辐射干扰；

5.不得在飞机和机场附近使用。

Korea

해당 무선설비는 운용 중 전파혼신 가능성이 있음

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 목적 으로 합니다.

해당 무선설비는 전파혼신 가능성이 있으므로 인명안전과 관련된 서비스는 할 수 없습니다

Taiwan

低功率電波輻射性電機管理辦法

第十二條
經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。
第十四條
低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。前項合法通信，指依電信法規定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

Japan

HMIDT643 には、認証済み無線機器を搭載しています。

Chapter 2
Device Connectivity

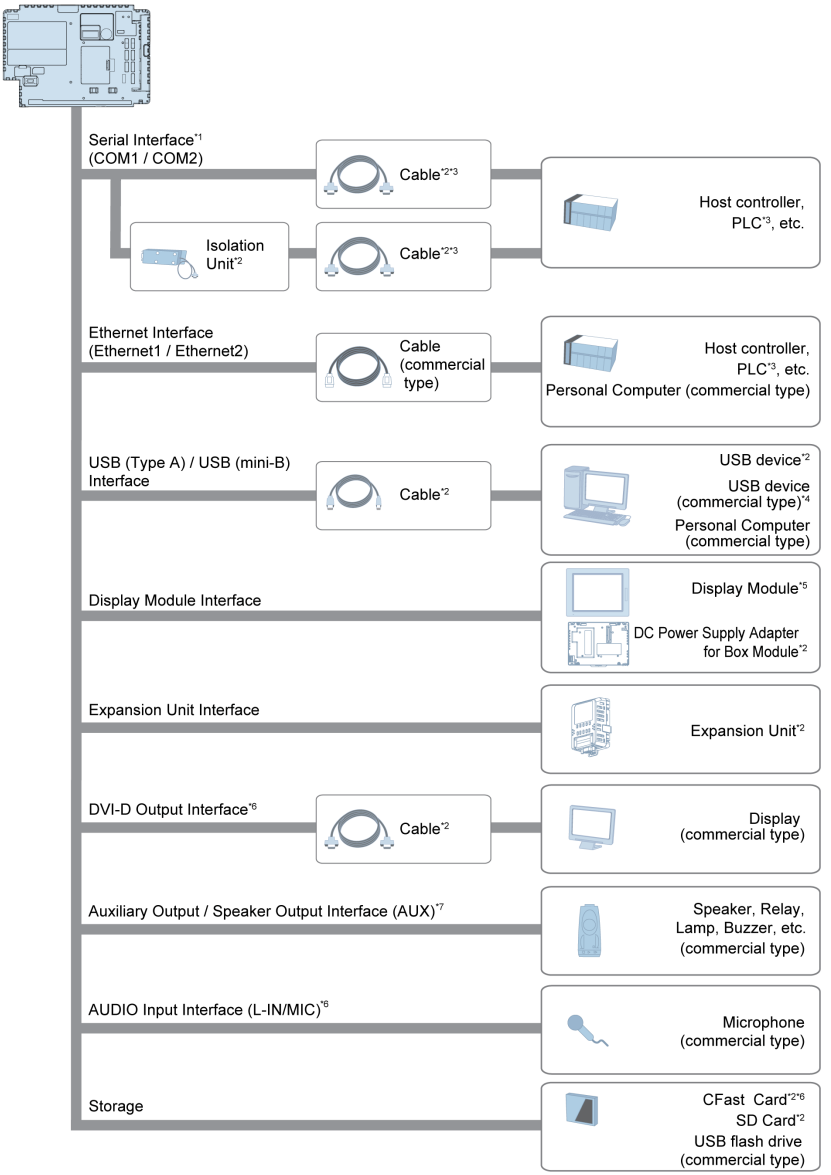
What Is in This Chapter?

This chapter contains the following topics:

Topic	Page
System Design	36
Accessories	38

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 (on Standard Box connect the isolation unit to COM1, and on other Box Modules connect to COM2).

*2 Refer to Accessories *(see page 38)*.

*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.

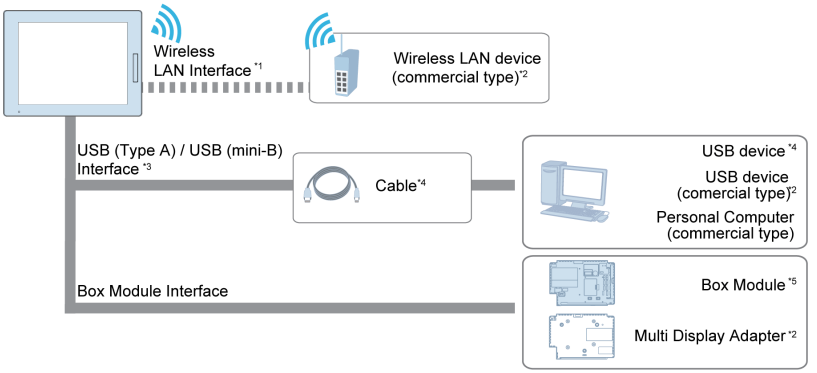
*5 Refer to the Part Numbers *(see page 17)*.

*6 Only for Open Box.

*7 Only for Premium Box and Open Box.

NOTE: When working with the Open Box, refer to both this manual and Help Guide included on the provided restore DVD.

Display Module



*1 Only for Wireless LAN model *(see page 16)*.

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

*3 Only for Smart Display. Refer to the Part Numbers *(see page 17)*.

*4 Refer to Accessories *(see page 38)*.

*5 Refer to the Part Numbers *(see page 17)*.

NOTE: When using wireless LAN models with the Open Box, for the wireless LAN settings, refer to the Harmony GTU Open Box Wireless LAN Setting Manual. When using wireless LAN models with the Premium Box, refer to your screen editing software manual.

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).
	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 Interface	USB Transfer Cable *1 *3	XBTZG935	Box Module Smart Display	Downloads project data via USB Interface.
	USB Front Cable	XBTZGUSB	Box Module	Extension cable that attaches USB interface to front panel.
	USB-Serial (RS-232C) Conversion Cable*3	HMIZURS	Standard Box 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*3	HMIZRA1	Box Module	A unit of 5 illuminated switches with multiple color LED connected to this product via USB.
	Biometric USB Switch*3	XB5S5B2L2	Box Module	Fingerprint recognition unit connected to this product via USB.
	USB Keyboard*3	HMIZKB1	Standard Box Premium Box Smart Display	Numpad easily connected with this product via USB.
	USB Tower Light Tube Mounting with Fixing Plate*3	XVGU3SHAV	Box Module	Tower light connected to this product via USB (with Fixing Plate).
	USB Tower Light Base Mounting*3	XVGU3SWV	Box Module	Tower light connected to this product via USB (Base Mounting).

Product Name		Product Number	Supported Product	Description
USB (mini-B) Interface	USB Transfer Cable (USB Type A/ mini-B)[*1] [*2]	BMXXCAUSBH018	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]).
	USB Transfer Cable (USB Type A/ mini-B)[*1] [*2]	BMXXCAUSBH045	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]).
	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.
Box Module Interface	Multi Display Adapter[*4]	HMIZMDARX	Display Module	Adapter that attaches to the rear of Display Modules when Box Module and Display Module are located separately (one adapter is required for each display if connecting multiple Display Modules to a single Box Module).
Expansion Unit Interface	PROFIBUS DP Slave/MPI Unit[*4]	HMIZGPDP	Premium Box Open Box	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).
	CANopen Slave Unit[*4]	HMIZGCAN	Premium Box Open Box	Expansion unit that enables participation of this product in the CANopen network and communication with the CANopen master.
	J1939 Unit[*4]	HMIZXJ19	Premium Box	Expansion unit that enables participation in the J1939 communication network.
DVI-D Output Interface	DVI-D Cable	HMIYCABDVI1011	Open Box	DVI-D 24 pin male (10 m [32.80 ft]).

Product Name		Product Number	Supported Product	Description
Auxiliary output/Speaker Output Interface	Auxiliary Connector for Universal Box	HMIZGAUX	Premium Box Open Box	AUX connector required in case an external output is used (5 pieces/set).
Storage	SD Memory Card (4 GB)*4 *5	HMIZSD4G	Box Module	SD Memory Card (4 GB, MLC) (Storage)
	CFast Card (32 GB)*4	HMIZCFA32	Open Box	CFast Card (32 GB, SLC) for CFast Card Slot (Storage)
Screen Protection Sheet		HMIZG65	10-inch Display Module	Disposable, dirt-resistant sheet for the display (5 sheets/set)
		HMIZG66	12-inch Display Module	
		MPCYK50SPSKIT	15-inch Display Module	
		HMIZG63	7-inch Wide Display Module	
		HMIZG65W	10-inch Wide Display Module	
		HMIZD66W	12-inch Wide Display Module	
Anti-Glare Film		HMIZDAG7W	15-inch Wide Display Module	Prevents reflections, dirt-resistant sheet for the screen (5 sheets/set)
		HMIZDAG9W	19-inch Wide Display Module	
UV Protection Sheet		HMIZUV5	10-inch Display Module	Sheet to protect the display from dirt and ultraviolet light (1 piece)
		HMIZUV6	12-inch Display Module	
		HMIZUV7	15-inch Display Module	

Product Name	Product Number	Supported Product	Description
UV Protection Sheet	HMIZUV3W	7-inch Wide Display Module	Sheet to protect the display from dirt and ultraviolet light (1 piece)
	HMIZUV5W	10-inch Wide Display Module	
	HMIZUV6W	12-inch Wide Display Module	
Panel Cutout Adapter	XBTZGCO3	10-inch Display Module	Panel cutout adapter for mounting 10-inch Display Module in cutout for XBT F034
	XBTZGCO4	10-inch Display Module	Panel cutout adapter for mounting 10-inch Display Module in cutout for XBT G5330, XBT GT5230, XBT GT6330, XBT GT6340, or HMIGTO6310
	HMIZGCO1	7-inch Wide Display Module	Panel cutout adapter for mounting 7-inch Wide Display Module in cutout for XBT GT4230/4330/4340 or HMIGTO3510/4310
Environmental Cover	HMIZDCOV5	10-inch Display Module	Environmental resistant cover for the display (1 piece)
	HMIZDCOV6	12-inch Display Module	
	HMIZDCOV7	15-inch Display Module	
Battery for Memory Backup	HMIZGBAT	Box Module	Primary battery for time data backup (1 piece)
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 pieces/set)

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

*2 When you use the HMIG5U2 with a Smart Display connected, and there are multiple connections with the transfer cable, the front USB (mini-B) interface takes priority.

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

*4 You can also use a commercial type.

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

Maintenance Accessories

Product Name	Product Number	Supported Product	Description
Installation Gasket	HMIZD55	10-inch Display Module	Provides dust and moisture resistance when this product is installed into a solid panel (1 piece)
	HMIZD56	12-inch Display Module	
	HMIZD57	15-inch Display Module	
	HMIZD53W	7-inch Wide Display Module	
	HMIZD55W	10-inch Wide Display Module	
	HMIZD56W	12-inch Wide Display Module	
	HMIZD57W	15-inch Wide Display Module	
	HMIZD59W	19-inch Wide Display Module	
USB Clamp Type A (1 port)	HMIZGCLP1	Box Module	Clamp to prevent disconnection of USB cable (USB/A, 1 port, 5 clamps/set)
DC Power Supply Connector	HMIZGPWS	Display Module	Connector to connect DC power supply cables (5 pieces/set)
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 pieces/set)
SD Card 1 GB Memory System	HMIZSD1GS	Premium Box	SD memory card (1 GB, SLC) for System Card
CFast Card 16 GB Memory System	HMIZCFA16S	HMIG5U	CFast Card (16 GB, MLC) for System Card
CFast Card 32 GB Memory System	HMIZCFA32S	HMIG5U2	CFast Card (32 GB, MLC) for System Card

Chapter 3
Parts Identification and Functions

What Is in This Chapter?

This chapter contains the following sections:

Section	Topic	Page
3.1	Box Module	44
3.2	Display Module	56

Section 3.1
Box Module

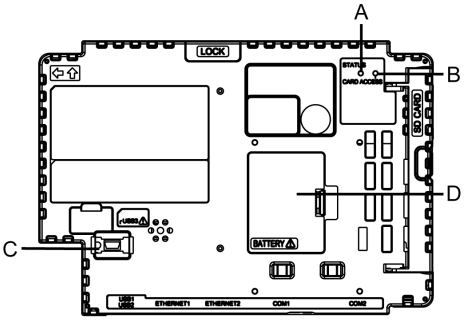
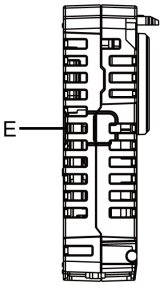
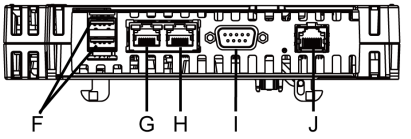
What Is in This Section?

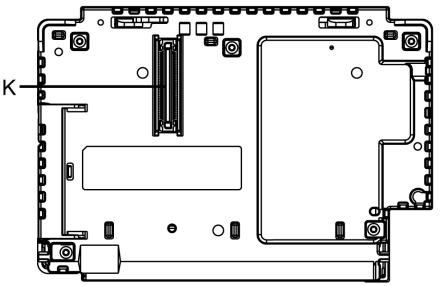
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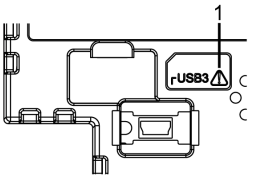
Topic	Page
Standard Box	45
Premium Box	48
Open Box	51
LED Indications	55

Standard Box

HMIG2U

Side	HMIG2U
Front	
Right	
Bottom	

Side	HMIG2U
Rear	

Part	Name	Description
A	Status LED	*(see page 55)*
B	Card Access LED	*(see page 55)*
C	USB (mini-B) Interface	Conforms to USB2.0 (mini-B) x 1. Maximum transmission distance: 5 m (16.4 ft)  1 This mark identifies safety messages about the Interface Connection *(see page 89)*.
D	Expansion Unit Interface Cover (EXT)	Battery for Memory Backup can be connected or replaced in the Expansion Unit Interface Cover opening.
E	Storage Card Cover	The SD Card is located in the Storage Card Cover opening.
F	USB (Type A) Interface	Conforms to USB2.0 (Type A) x 2. Power supply voltage: 5 Vdc ±5% Maximum current supplied: 500 mA Maximum transmission distance: 5 m (16.4 ft)
G	Ethernet Interface (Ethernet1)	Ethernet transmission interface (10BASE-T/ 100BASE-TX) Connector: Modular jack (RJ-45) x 1
H	Ethernet Interface (Ethernet2)	Ethernet transmission interface (10BASE-T/ 100BASE-TX) Connector: Modular jack (RJ-45) x 1

Part	Name	Description
I	Serial Interface (COM1)	RS-232C Interface Connector: D-Sub 9 pin (plug) x 1
J	Serial Interface (COM2)	RS-485 Serial Interface Connector: Modular jack (RJ-45) x 1
K	Display Module Interface	Interface that connects the Display Module and Box Module.

⚠ CAUTION

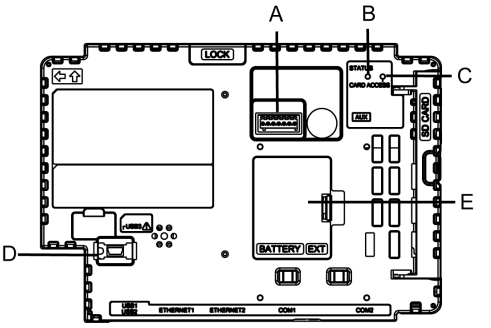
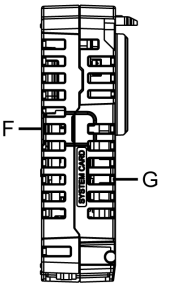
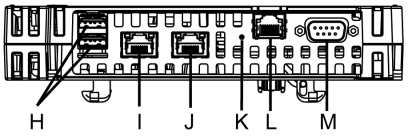
RISK OF BURNING INJURY

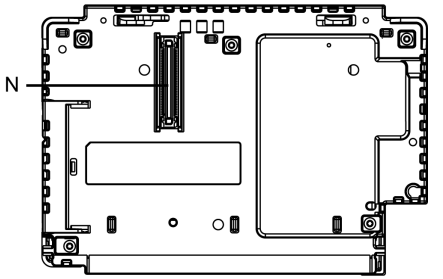
Do not connect the Modbus RJ-45 communication cable to the Ethernet interface.

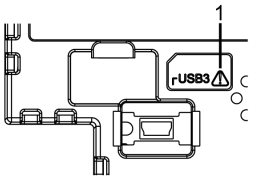
Failure to follow these instructions can result in injury or equipment damage.

Premium Box

HMIG3U

Side	HMIG3U
Front	
Right	
Bottom	

Side	HMIG3U
Rear	

Part	Name	Description
A	Auxiliary Output/ Speaker Output Interface (AUX)	This interface is Alarm Output or Buzzer Output, and Sound Output.
B	Status LED	*(see page 55)*
C	Card Access LED	*(see page 55)*
D	USB (mini-B) Interface	Conforms to USB2.0 (mini-B) x 1. Maximum transmission distance: 5 m (16.4 ft)  1 This mark identifies safety messages about the Interface Connection *(see page 89)*.
E	Expansion Unit Interface Cover (EXT)	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	The SD Card is located in the Storage Card Cover opening.
G	System Card Cover	The system card is located in the System Card Cover opening. You cannot open this cover when the Box Module is in operation.
H	USB (Type A) Interface	Conforms to USB2.0 (Type A) x 2. Power supply voltage: 5 Vdc ±5% Maximum current supplied: 500 mA Maximum transmission distance: 5 m (16.4 ft)

Part	Name	Description
I	Ethernet Interface (Ethernet1)	Ethernet transmission interface (10BASE-T/ 100BASE-TX/ 1000BASE-T) Connector: Modular jack (RJ-45) x 1
J	Ethernet Interface (Ethernet2)	Ethernet transmission interface (10BASE-T/ 100BASE-TX/ 1000BASE-T) Connector: Modular jack (RJ-45) x 1
K	COM1 LED	*(see page 55)*
L	Serial Interface (COM1)	RS-485 (Isolation) Serial Interface Connector: Modular jack (RJ-45)x1
M	Serial Interface (COM2)	RS-232C/422/485 Serial Interface (you can switch the communication method via software.) Connector: D-Sub 9 pin (plug) x 1
N	Display Module Interface	Interface that connects the Display Module and Box Module.

⚠ CAUTION

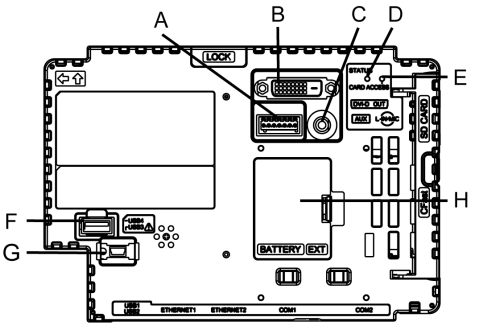
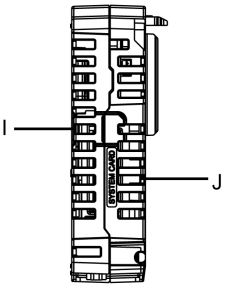
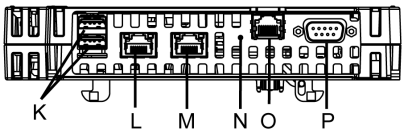
RISK OF BURNING INJURY

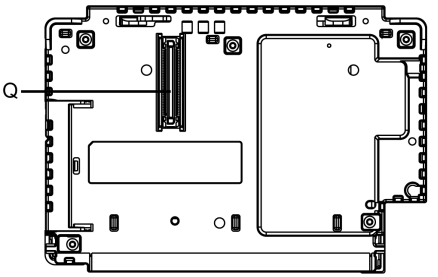
Do not connect the Modbus RJ-45 communication cable to the Ethernet interface.

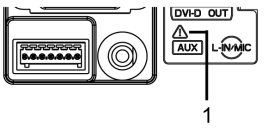
Failure to follow these instructions can result in injury or equipment damage.

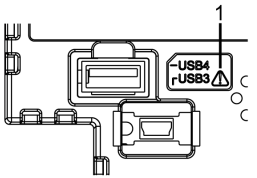
Open Box

HMIG5U/HMIG5U2

Side	HMIG5U/HMIG5U2
Front	
Right	
Bottom	

Side	HMIG5U/HMIG5U2
Rear	

Part	Name	Description
A	Auxiliary Output/Speaker Output Interface (AUX)	This interface is Alarm Output or Buzzer Output, and Sound Output.  1 This mark identifies safety messages and notes about the AUX Connector *(see page 161)*.
B	DVI-D Output Interface	DVI-D Output Interface
C	AUDIO Input Interface (L-IN/MIC)	This interface connects a microphone. Use for mini jack connector (∅3.5 mm [0.14 in]).
D	Status LED	*(see page 55)*
E	Card Access LED	*(see page 55)*
F	USB (Type A) Interface	Conforms to USB2.0 (Type A) x 1. Power supply voltage: 5 Vdc ±5% Maximum current supplied: 500 mA Maximum transmission distance: 5 m (16.4 ft)

Part	Name	Description
G	USB (mini-B) Interface	Conforms to USB2.0 (mini-B) x 1. Maximum transmission distance: 5 m (16.4 ft)  1 This mark identifies safety messages about the Interface Connection *(see page 89)*.
H	Expansion Unit Interface Cover (EXT)	The Expansion Unit can be embedded in the Expansion Unit Interface Cover opening, and Battery for Memory Backup can be connected or replaced.
I	Storage Card Cover	The SD and CFast Card are located in the Storage Card Cover opening.
J	System Card Cover	The system card is located in the System Card Cover opening. Do not open this cover when the Box Module is in operation.
K	USB (Type A) Interface	Conforms to USB2.0 (Type A) x 2. Power supply voltage: 5 Vdc ±5% Maximum current supplied: 500 mA Maximum transmission distance: 5 m (16.4 ft)
L	Ethernet Interface (Ethernet1)	Ethernet transmission interface (10BASE-T/ 100BASE-TX/ 1000BASE-T) Connector: Modular jack (RJ-45) x 1
M	Ethernet Interface (Ethernet2)	Ethernet transmission interface (10BASE-T/ 100BASE-TX/ 1000BASE-T) Connector: Modular jack (RJ-45) x 1
N	COM1 LED	*(see page 55)*
O	Serial Interface (COM1)	RS-485 (Isolation) Serial Interface. Connector: Modular jack (RJ-45) x 1
P	Serial Interface (COM2)	RS-232C/422/485 Serial Interface (you can switch the communication method via software). Connector: D-Sub 9 pin (plug) x 1
Q	Display Module Interface	Interface that connects the Display Module and Box Module.

⚠ 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.**

LED Indications

Status LED

Color	Indicator	HMIG2U/HMIG3U	HMIG5U/HMIG5U2
Green	ON	In operation	
Orange	Flashing	Software starting up	
Red	ON	Power is ON.	
Red/Green	Alternating	Display Module connection error	
Orange/Red	Alternating	HMIG2U: Boot error*1 HMIG3U: SD card boot error	-
-	OFF	Power is OFF.	

*1 The product may be malfunctioning. Please contact your local distributor.

Card Access LED

Color	Indicator	HMIG2U/HMIG3U	HMIG5U/HMIG5U2
Green	ON	Storage Card is being accessed.	Storage Card or System Card (OS) is being accessed.
-	OFF	Storage Card is not inserted or accessed.	Storage Card or System Card (OS) is not accessed.

COM1 LED

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

Section 3.2
Display Module

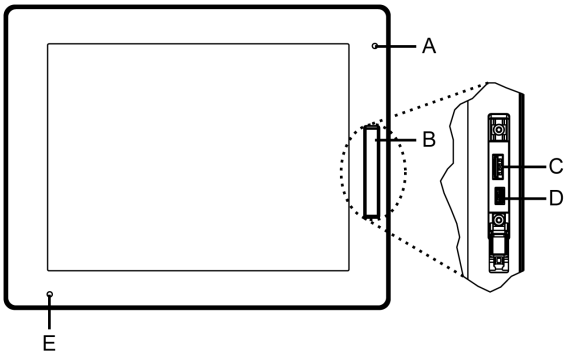
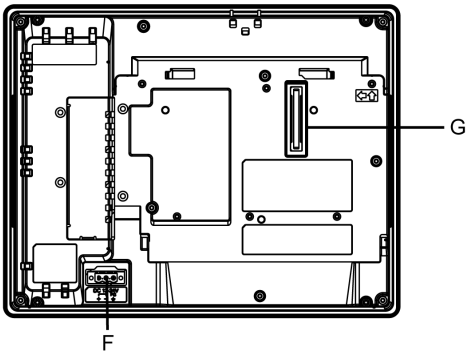
What Is in This Section?

This section contains the following topics:

Topic	Page
Smart Display	57
Advanced Display	63
LED Indications	66

Smart Display

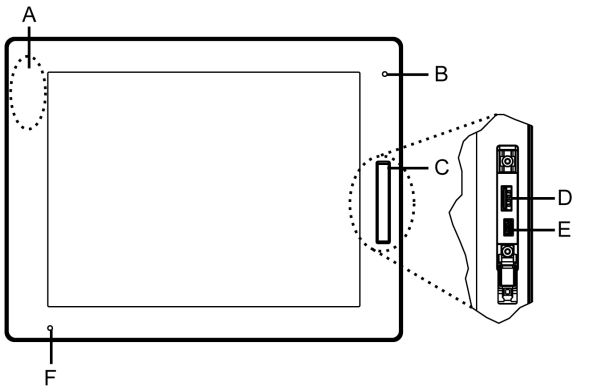
HMIDT542

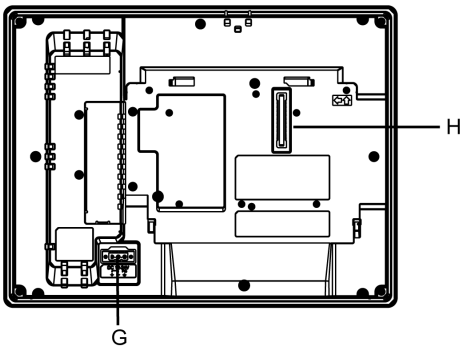
Side	HMIDT542
Front	
Rear	

Part	Name	Description
A	Brightness Sensor	Brightness sensor which automatically controls the brightness of the backlight.
B	Front USB Cover	USB (Type A) Interface and USB (mini-B) Interface are located in the Front USB Cover opening.

Part	Name	Description
C	USB (Type A) Interface	Conforms to USB2.0 (Type A) x 1. Power supply voltage: 5 Vdc ±5% Maximum current supplied: 500 mA Maximum transmission distance: 5 m (16.4 ft)
D	USB (mini-B) Interface	Conforms to USB2.0 (mini-B) x 1. Maximum transmission distance: 5 m (16.4 ft)
E	Status LED	*(see page 66)*
F	Power Plug Connector	-
G	Box Module Interface	Interface that connects the Display Module and Box Module.

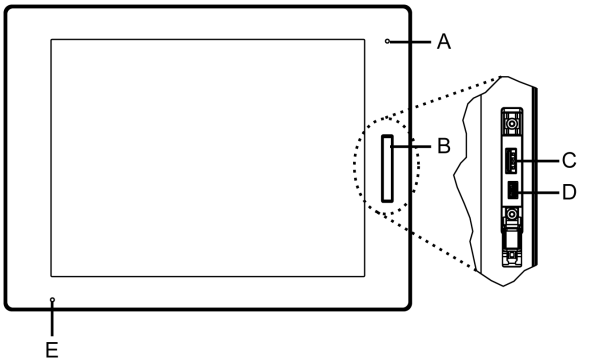
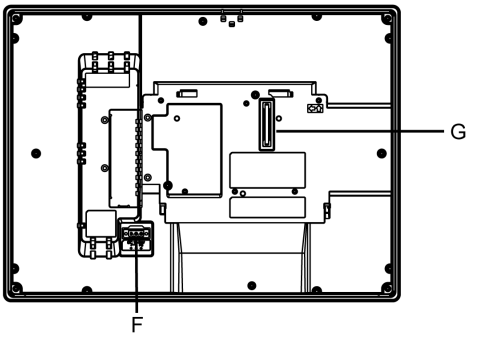
HMIDT642/HMIDT643

Side	HMIDT642/HMIDT643
Front	

Side	HMIDT642/HMIDT643
Rear	

Part	Name	Description
A	Wireless LAN Antenna	A built-in antenna for wireless LAN (only for HMIDT643).
B	Brightness Sensor	Brightness sensor which automatically controls the brightness of the backlight.
C	Front USB Cover	USB (Type A) Interface and USB (mini-B) Interface are located in the Front USB Cover opening.
D	USB (Type A) Interface	Conforms to USB2.0 (Type A) x 1. Power supply voltage: 5 Vdc ±5% Maximum current supplied: 500 mA Maximum transmission distance: 5 m (16.4 ft)
E	USB (mini-B) Interface	Conforms to USB2.0 (mini-B) x 1. Maximum transmission distance: 5 m (16.4 ft)
F	Status LED	*(see page 66)*
G	Power Plug Connector	-
H	Box Module Interface	Interface that connects the Display Module and Box Module.

HMIDT732

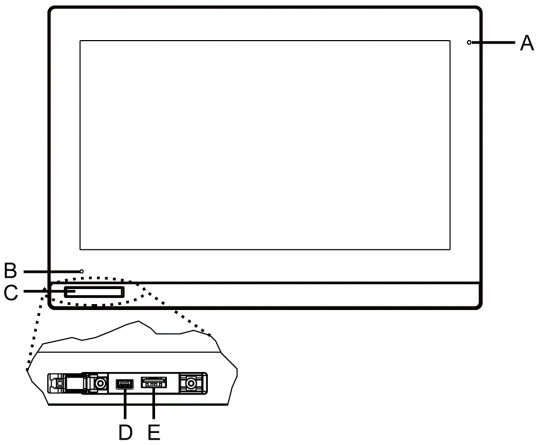
Side	HMIDT732
Front	
Rear	

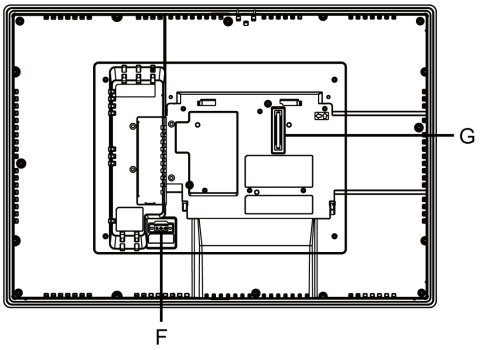
Part	Name	Description
A	Brightness Sensor	Brightness sensor to automatically control the brightness of the backlight.
B	Front USB Cover	USB (Type A) Interface and USB (mini-B) Interface are located in the Front USB Cover opening.
C	USB (Type A) Interface	Conforms to USB2.0 (Type A) x 1. Power supply voltage: 5 Vdc ±5% Maximum current supplied: 500 mA Maximum transmission distance: 5 m (16.4 ft)

Part	Name	Description
D	USB (mini-B) Interface	Conforms to USB2.0 (mini-B) x 1. Maximum transmission distance: 5 m (16.4 ft)
E	Status LED	*(see page 66)*
F	Power Plug Connector	-
G	Box Module Interface	Interface that connects the Display Module and Box Module.

HMIDT752/HMIDT952

NOTE: The figures below show HMIDT952.

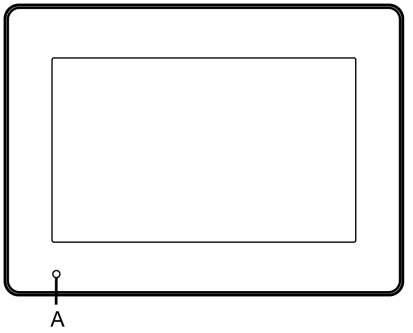
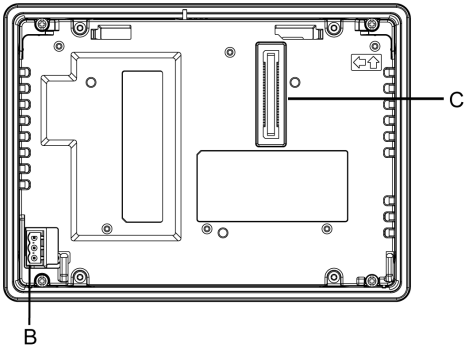
Side	HMIDT752/HMIDT952
Front	

Side	HMIDT752/HMIDT952
Rear	

Part	Name	Description
A	Brightness Sensor	Brightness sensor to automatically control the brightness of the backlight.
B	Status LED	*(see page 66)*
C	Front USB Cover	USB (Type A) Interface and USB (mini-B) Interface are located in the Front USB Cover opening.
D	USB (mini-B) Interface	Conforms to USB2.0 (mini-B) x 1. Maximum transmission distance: 5 m (16.4 ft)
E	USB (Type A) Interface	Conforms to USB2.0 (Type A) x 1. Power supply voltage: 5 Vdc ±5% Maximum current supplied: 500 mA Maximum transmission distance: 5 m (16.4 ft)
F	Power Plug Connector	-
G	Box Module Interface	Interface that connects the Display Module and Box Module.

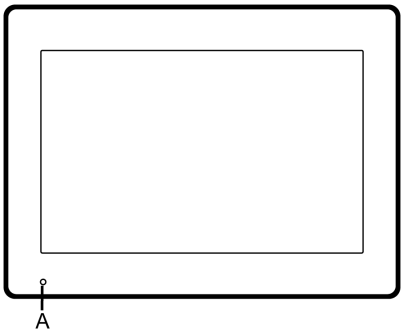
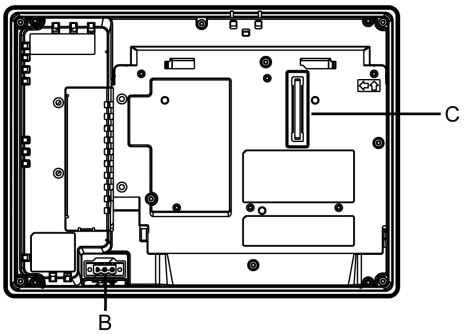
Advanced Display

HMIDT351

Side	HMIDT351
Front	
Rear	

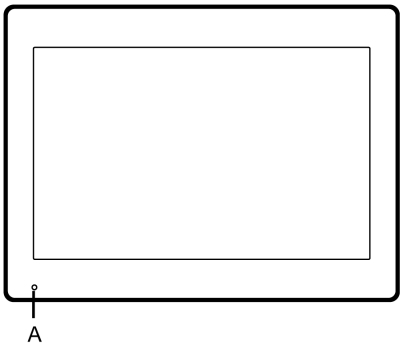
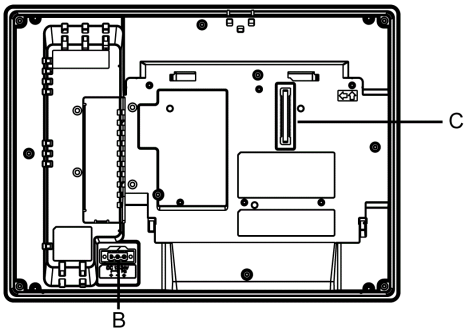
Part	Name	Description
A	Status LED	*(see page 66)*
B	Power Plug Connector	-
C	Box Module Interface	Interface that connects the Display Module and Box Module.

HMIDT551

Side	HMIDT551
Front	
Rear	

Part	Name	Description
A	Status LED	*(see page 66)*
B	Power Plug Connector	-
C	Box Module Interface	Interface that connects the Display Module and Box Module.

HMIDT651

Side	HMIDT651
Front	
Rear	

Part	Name	Description
A	Status LED	*(see page 66)*
B	Power Plug Connector	-
C	Box Module Interface	Interface that connects the Display Module and Box Module.

LED Indications

Status LED

Color	Indicator	Description	
		Connected to HMIG2U/HMIG3U	Connected to HMIG5U/HMIG5U2
Green	ON	In operation	
	LED fade*1	Backlight OFF (Standby Mode)	
Orange	Flashing	Software starting up	
Red	ON	Power is ON.	
Red/Green	Alternating	Box Module connection error	
Orange/Red	Alternating	HMIG2U: Boot error*2 HMIG3U: SD card boot error	-
Orange/Red/Green	Alternating	Display Module internal error	
-	OFF	Power is OFF.	

*1 Make sure your screen editing software supports the function.

*2 The product may be malfunctioning. Please contact your local distributor.

NOTE: When the HMIG5U or HMIG5U2 is connected, even if its operating system is shut down, the status LED on the Display Module will display red if connected to a power supply.

Chapter 4
Specifications

What Is in This Chapter?

This chapter contains the following sections:

Section	Topic	Page
4.1	General Specifications	68
4.2	Functional Specifications	78
4.3	Interface Specifications	84

Section 4.1
General Specifications

What Is in This Section?

This section contains the following topics:

Topic	Page
Electrical Specifications	69
Environmental Specifications	72
Structural Specifications	74

Electrical Specifications

NOTE: The power consumption for the combined unit of Box Module and Display Module equals the sum of power consumption of the two modules.

Box Module

Specification			HMIG2U	HMIG3U	HMIG5U	HMIG5U2
Power Supply	Rated Input Voltage		12 Vdc (Supply from Display Module*1)			
	Power Consumption (Primary Power Supply including power loss)	Max	17.5 W	25 W	35 W	25 W
		When power is not supplied to external devices	8.8 W or less	12.5 W or less	22.5 W or less	15 W or less

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

Display Module

Specification			HMIDT542	HMIDT642	HMIDT643	HMIDT732	HMIDT752	HMIDT952
Power Supply	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 (Primary Power Supply including power loss)	Max (Including Box Module)	50 W	56 W	58 W	57 W	42 W	44 W
		Max (Display Module only)*1	15 W	21 W	23 W	22 W	17 W	19 W
		When power is not supplied to external devices (Display Module only)*1	12 W or less	18 W or less	20 W or less	19 W or less	14 W or less	16 W or less
		When screen turns off the backlight (Standby Mode) (Display Module only)*1	6 W or less		8 W or less	6 W or less		8 W or less
		When screen backlight 20% (Display Module only)*1	8 W or less	11 W or less	13 W or less	11 W or less	8 W or less	9 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)					
Voltage Endurance			1,000 Vac, 20 mA for 1 minute (between charging and FG terminals)					
Insulation Resistance			500 Vdc, 10 MΩ or more (between charging and FG terminals)					

*1 The power consumption for the combined unit of Box Module and Display Module equals the sum of the power consumption for the Modules.

Specification			HMIDT351	HMIDT551	HMIDT651
Power Supply	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 (Primary Power Supply including power loss)	Max (Including Box Module)	41 W	43 W	45 W
		Max (Display Module only)*1	6.5 W	8.5 W	11.5 W
		When power is not supplied to external devices (Display Module only)*1	-		
		When screen turns off the backlight (Standby Mode) (Display Module only)*1	2 W or less	2.5 W or less	2.5 W or less
		When screen backlight 20% (Display Module only)*1	4 W or less	5 W or less	6 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)		
Voltage Endurance			1,000 Vac, 20 mA for 1 minute (between charging and FG terminals)		
Insulation Resistance			500 Vdc, 10 MΩ or more (between charging and FG terminals)		

*1 The power consumption for the combined unit of Box Module and Display Module equals the sum of the power consumption for the Modules.

Environmental Specifications

Box Module / Display Module

Physical Environment	Ambient Air Temperature	0...60 °C (32...140 °F) (except for HMIDT752 and HMIDT952) 0...55 °C (32...131 °F) (HMIDT752 and HMIDT952)
	Storage Temperature	-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 (non-conductive levels)
	Pollution Degree	For use in Pollution Degree 2 environment
	Corrosive Gases	Free of corrosive gases
	Atmospheric Pressure (Operating Altitude)	800...1,114 hPa (2,000 m [6,561 ft] or lower)
Mechanical Environment	Vibration Resistance	IEC/EN 61131-2 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)
	Shock Resistance	IEC/EN 61131-2 compliant 147 m/s^2, X, Y, Z directions for 3 times
Electrical Environment	Electrical fast transient/burst	IEC 61000-4-4 2 kV: Power port (display unit) 1 kV: Signal ports
	Electrostatic Discharge Immunity	Contact discharge method: 6 kV Air discharge method: 8 kV (IEC/EN 61000-4-2 Level 3)

NOTE: When using any of the options for this product, check the specifications for special conditions or cautions that may apply to this product.

Air quality requirements

Do not operate or store the panel where chemicals evaporate, or where chemicals are present in the air:

- Corrosive chemicals: Acids, alkalines, liquids containing salt.
- Flammable chemicals: Organic solvents.

⚠ CAUTION
INOPERATIVE EQUIPMENT 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

	All Box Modules
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

Smart Display

	HMIDT542	HMIDT642 HMIDT643	HMIDT732
Grounding	Functional grounding: Grounding resistance of 100 Ω, 2 mm^2 (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 1, Type 4X (Indoor Use Only)/13 * on the front panel when properly installed in an enclosure and not using the front panel USB port.		
External Dimensions (W x H x D)	272.5 x 214.5 x 67 mm (10.73 x 8.44 x 2.64 in)	315 x 241 x 67 mm (12.4 x 9.49 x 2.64 in)	397 x 296 x 67 mm (15.63 x 11.65 x 2.64 in)
Panel Cut Dimensions (W x H)	259 x 201 mm (10.2 x 7.91 in)*2 Panel thickness area: 1.6...5 mm (0.06...0.2 in)*3	301.5 x 227.5 mm (11.87 x 8.96 in)*2 Panel thickness area: 1.6...5 mm (0.06...0.2 in)*3	383.5 x 282.5 mm (15.1 x 11.12 in)*2 Panel thickness area: 1.6...5 mm (0.06...0.2 in)*3
Weight	2.7 kg (5.9 lb) or less	3.2 kg (7.1 lb) or less	4.5 kg (9.9 lb) or less

	HMIDT752	HMIDT952
Grounding	Functional grounding: Grounding resistance of 100 Ω, 2 mm^2 (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 1, Type 4X (Indoor Use Only)/13 * on the front panel when properly installed in an enclosure and not using the front panel USB port.	
External Dimensions (W x H x D)	414 x 295 x 69 mm (16.30 x 11.61 x 2.72 in)	483 x 337 x 69 mm (19.02 x 13.27 x 2.72 in)

	HMIDT752	HMIDT952
Panel Cut Dimensions (W x H)	396 x 277 mm (15.59 x 10.91 in)*2 Panel thickness area: 1.6...5 mm (0.06...0.2 in)*3	465 x 319 mm (18.31 x 12.56 in)*2 Panel thickness area: 1.6...5 mm (0.06...0.2 in)*3
Weight	5.0 kg (11.0 lb) or less	6.8 kg (15.0 lb) or less

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

*3 Even if the installation wall thickness is within the recommended range for the “Panel Cut Dimensions”, 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.

Advanced Display

	HMIDT351	HMIDT551	HMIDT651
Grounding	Functional grounding: Grounding resistance of 100 Ω, 2 mm^2 (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 1, Type 4X (Indoor Use Only)/13 * on the front panel when properly installed in an enclosure.		
External Dimensions (W x H x D)	203.6 x 148.6 x 36 mm (8.02 x 5.85 x 1.42 in)	268.5 x 198.5 x 67 mm (10.57 x 7.81 x 2.64 in)	308.5 x 230.5 x 67 mm (12.15 x 9.07 x 2.64 in)
Panel Cut Dimensions (W x H)	190 x 135 mm (7.48 x 5.31 in)*2 Panel thickness area: 1.6...5 mm (0.06...0.2 in)*3	255 x 185 mm (10.04 x 7.28 in)*2 Panel thickness area: 1.6...5 mm (0.06...0.2 in)*3	295 x 217 mm (11.61 x 8.54 in)*2 Panel thickness area: 1.6...5 mm (0.06...0.2 in)*3
Weight	1.2 kg (2.6 lb) or less	2.5 kg (5.5 lb) or less	3 kg (6.6 lb) or less

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

*3 Even if the installation wall thickness is within the recommended range for the “Panel Cut Dimensions”, 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

EQUIPMENT DAMAGE

Do not expose the device to direct sunlight.

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.
- Change 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.

Section 4.2
Functional Specifications

What Is in This Section?

This section contains the following topics:

Topic	Page
Display Specifications	79
Memory	81
Clock	82
Touch Panel	83

Display Specifications

Smart Display

	HMIDT542	HMIDT642 HMIDT643*4	HMIDT732	HMIDT752*3	HMIDT952*3
Display Type	TFT Color LCD				
Display Size	10.4”	12.1”	15”	15.6”	18.5”
Resolution	800 x 600 pixels (SVGA)	1,024 x 768 pixels (XGA)		1,366 x 768 pixels (FWXGA)	
Resolution Input from Box Module*1	640 x 480 pixels (VGA)*2, 800 x 600 pixels (SVGA), 1,024 x 768 pixels (XGA), 1,366 x 768 pixels (FWXGA)*3				
Effective Display Area (W x H)	211.2 x 158.4 mm (8.31 x 6.24 in)	245.76 x 184.32 mm (9.68 x 7.26 in)	304.1 x 228.1 mm (11.97 x 8.98 in)	344.2 x 193.5 mm (13.55 x 7.62 in)	409.8 x 230.4 mm (16.13 x 9.07 in)
Display Colors	16 million colors For details about display colors, refer to the manual of your screen editing software.				
Backlight	White LED (Not user replaceable. When replacement is required, 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)				

*1 For the resolution settings in your screen editing software, refer to the manual provided with your screen editing software.

*2 Supported by Box Modules except the HMIG5U. To use this resolution on the HMIG5U2, some set up is required. For set up, refer to the Help Guide included on the provided restore DVD.

*3 Supported by Box Modules except the HMIG5U.

*4 Supported by Box Modules except the HMIG2U.

Advanced Display

	HMIDT351	HMIDT551	HMIDT651
Display Type	TFT Color LCD		
Display Size	7”	10.1”	12.1”
Resolution	800 x 480 pixels (WVGA)	1,280 x 800 pixels (WXGA)	
Effective Display Area (W x H)	154.08 x 95.92 mm (6.06 x 3.78 in)	216.96 x 135.6 mm (8.54 x 5.34 in)	261.12 x 163.2 mm (10.28 x 6.43 in)
Display Colors	262,144 colors		
Backlight	White LED (Not user replaceable. When replacement is required, 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)		

Memory

	HMIG2U	HMIG3U	HMIG5U	HMIG5U2
System Card/ System Memory	Flash EPROM 1 GB (operating system, project data, and other data)	SD Card 1 GB (operating system, project data, and other data)	CFast Card 16 GB (operating system, project data, application, and other data)	CFast Card 32 GB (operating system, project data, application, and other data)
Backup Memory	NVRAM 512 KB	NVRAM 512 KB	NVRAM 512 KB	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 On the Standard Box and the Premium Box, 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.

NOTE: When using the Open Box, make sure you shut down the unit after changing clock data.

Touch Panel

	Smart Display		Advanced Display
	Models except for HMIDT752/HMIDT952	HMIDT752/HMIDT952	
Touch Panel Type	Resistive Film (analog, multi-touch)	Projected Capacitive (multi-touch)	Resistive Film (analog)
Touch Panel Resolution	1,024 x 1,024	2,048 x 2,048	1,024 x 1,024
Touch Panel Service Life	1 million times or more	50 million times or more	1 million times or more

The Advanced Display's 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

On touch panels that do not support multi-touch, do not touch two or more points.

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

Section 4.3
Interface Specifications

What Is in This Section?

This section contains the following topics:

Topic	Page
Interface Specifications	85
Interface Connection	89
Serial Interface (RS-485) for COM1/COM2	93
Serial Interface (RS-232C and RS-422/RS-485) for COM1/COM2	94
Auxiliary Output/Speaker Output Interface (AUX)	97
DVI-D Output Interface	99

Interface Specifications

Box Module

		HMIG2U	HMIG3U	HMIG5U/HMIG5U2
Serial Interface COM1	Asynchronous Transmission	RS-232C	RS-485 (isolation)	
	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	2,400...115,200 bps, 187,500 bps (MPI)	2,400 (1,200)... 115,200 bps
	Connector	D-Sub 9 pin (plug)	Modular jack (RJ-45)	
Serial Interface COM2	Asynchronous Transmission	RS-485	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)		2,400 (1,200)... 115,200 bps
	Connector	Modular jack (RJ-45)	D-Sub 9 pin (plug)	
USB (Type A) Interface	Connector	USB 2.0 (Type A) x 2		USB 2.0 (Type A) x 3
	Power Supply Voltage	5 Vdc ±5%		
	Maximum Current Supplied	500 mA/port		500 mA/port, 1 A total for 3 ports
	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, 10BASE-T/ 100BASE-TX	IEEE802.3i/IEEE802.3u/IEEE802.3ab, 10BASE-T/ 100BASE-TX/ 1000BASE-T*1	
	Connector	Modular jack (RJ-45) x 2		

		HMIG2U	HMIG3U	HMIG5U/HMIG5U2
SD Card Interface	SD Card	SD Card Slot (Storage) x 1	SD Card Slot (System) x 1 SD Card Slot (Storage) x 1	SD Card Slot (Storage) x 1
CFast Card Interface	CFast Card	-	-	CFast Card Slot (System) x 1 CFast Card Slot (Storage) x 1
Expansion Unit Interface	Expansion Unit	-	Fieldbus Unit x 1	
Video Interface	DVI-D	-	-	DVI-D OUT
	Connector			DVI-D 24 pin (socket) x 1
	Resolution			HMIG5U: Up to 1,024 x 768 pixels (XGA) HMIG5U2: Up to 1,920 x 1,200 pixels (WUXGA, VESA compatible)
Sound Input Interface	Sound Input	-	-	MIC or LINE input
	Connector			MINI-JACK Ø3.5 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)	4.0 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.

Display Module

		Smart Display
USB (Type A) Interface	Connector	USB 2.0 (Type A) x 1
	Power Supply Voltage	5 Vdc ±5%
	Maximum Current Supplied	500 mA
	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)
Wireless LAN Interface*1	Standards	IEEE802.11b/IEEE802.11g/IEEE802.11n
	Frequency Bandwidth	2.4 GHz
	Channel Bandwidth	20 MHz
	Channel	Access Point mode*2: 1...11 ch Client mode *3: ● North America US: 1...11 ch ● Europe EU: 1...13 ch ● China CN: 1...13 ch ● Japan JP: 1...13 ch ● Korea KR: 1...13 ch ● Taiwan TW: 1...11 ch
	Transmission Speed	IEEE802.11b: max 11 Mbps IEEE802.11g: max 54 Mbps IEEE802.11n: max 72.2 Mbps
	Transmission Distance*4	Distance varies depending on application software and surrounding environment
	Action Mode	Client mode/Access Point mode
	Communication Mode	Infrastructure
	Network Authentication	Open, WPA-Personal, WPA2-Personal
	Data Encryption	WEP (128 bit) (Open)*5, AUTO/TKIP (WPA-Personal), AES (WPA2-Personal)
	Maximum Client Connections	10*6
	Antenna	Built into the bezel

*1 Only for HMIDT643

*2 In Access Point mode, IEEE802.11d is not supported.

*3 Based on the country information regarding surrounding Access Point. If the surrounding access points do not support IEEE802.11d, channels are limited, from 1 to 11 ch.

*4 You can connect only from the front of the display. The connection angle and distance depend on your operating environment, applications in use, and target communication devices. Conduct an operation test, including directivity, in the operating environment before use.

*5 In Access Point mode, WEP is not supported.

*6 Request for the eleventh connection will be denied. The maximum number of connections you can have with reasonable communication performance depends on the operating environment, applications in use, and target communication devices. Conduct an operation test, including the number of connections, in the operating environment before use.

⚠ WARNING

UNINTENDED EQUIPMENT OPERATION

- Do not use wireless communication to control machinery.
- Wireless communication system design must take into account the possibility of communication interference.

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

Interface Connection

Introduction

Use only the SELV (Safety Extra-Low Voltage) circuit to connect the serial, USB and Ethernet interfaces.

Cable Connections

⚠ DANGER

POTENTIAL FOR EXPLOSION

- Always confirm the ANSI/ISA 12.12.01 or CSA C22.2 N°213 hazardous location rating of your device before installing or using it in a hazardous location.
- To apply or remove the supply power from this product installed in a Class I, Division 2 hazardous location, you must either:
  - Use a switch located outside the hazardous environment, or;
  - Use a switch certified for Class I, Division 1 operation inside the hazardous area.
- Do not connect or disconnect 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. Use only non-incendive USB devices as USB connections do not provide adequate strain relief to allow the use of the USB connections of this product *(see page 90)*. 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.

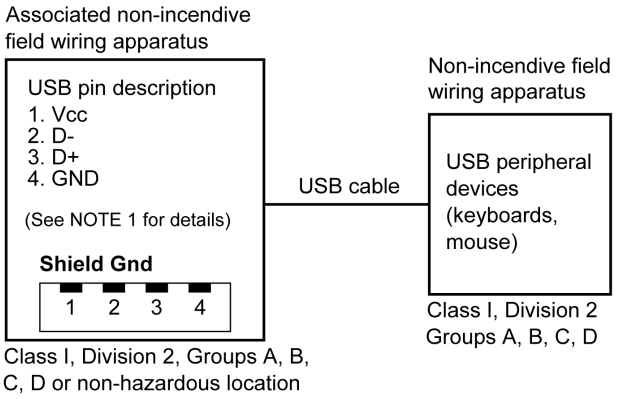
USB Connection

Non-incendive field wiring apparatus (keyboards, mouse) are permitted for use on the front USB port (Type A) of associated field wiring non-incendive apparatus (this product). Non-incendive field wiring apparatus (this product) are permitted for use on front USB port (mini B) of associated field wiring non-incendive apparatus (Computer).

In addition to being non-incendive, any equipment connected to the front USB ports must satisfy the following criteria.

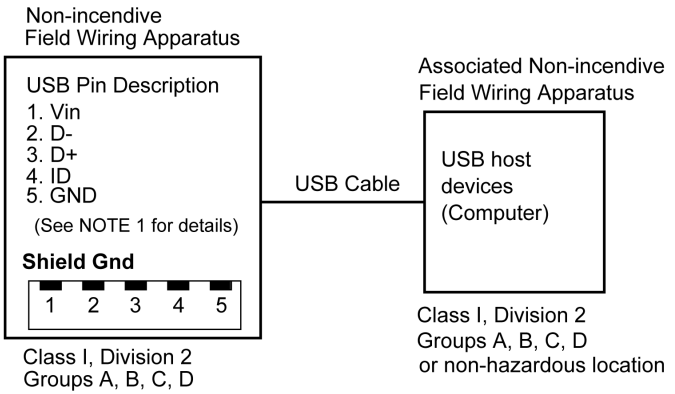
The following figure shows the USB cable wiring:

<Type A>



Circuit Parameters	Front USB (Type A)
Open-circuit voltage = V_{oc}	5.25 Vdc
Short-circuit current = I_{sc}	1,300 mA
Associated capacitance = C_a	265 µF
Associated inductance = L_a	16 µH

<mini B>



Circuit Parameters	Front USB (mini B)
Maximum input voltage = V_{max}	5.25 Vdc
Maximum load current = I_{max}	0.1 mA
Internal capacitance = C_i	0.24 µF
Internal inductance = L_i	16 µH

NOTE:

1. The above tables list the non-incendive circuit parameters.

The Entity Concept allows interconnection of non-incendive apparatus with associated apparatus – not specifically examined combinations – as a system when the approved values of V_{oc} (or U_o) and I_{sc} (or I_o) for the associated apparatus are less than or equal to Vmax (U_i) and Imax (I_i) for the non-incendive apparatus, and the approved values of C_a (C_o) and L_a (L_o) for the associated apparatus are greater than or equal to $C_i + C_{cable}$ and $L_i + L_{cable}$, respectively, for the non-incendive field wiring apparatus.

2. Associated non-incendive field wiring apparatus and non-incendive field wiring apparatus shall satisfy the following:

Associated Non-incendive Field Wiring Apparatus	-	Non-incendive Field Wiring Apparatus
V_{oc}	≤	V_{max}
I_{sc}	≤	I_{max}
C_a	≥	$C_i + C_{cable}$
L_a	≥	$L_i + L_{cable}$

3. If the electrical parameters of the cable are unknown, the following values may be used:

C_{cable} = 196.85 pF/m (60 pF/ft)

L_{cable} = 0.656 µH/m (0.20 µH/ft)

4. Wiring methods must be in accordance with the electrical code of the country where it is used.

This product must be installed in an enclosure. If installed in a Class I, Division 2 Location, the enclosure must be capable of accepting one or more Division 2 wiring methods.

⚠ DANGER

POTENTIAL FOR EXPLOSION

- 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.

Serial Interface (RS-485) for COM1/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.

On HMIG2U, the serial interface is not isolated. On other Box Modules, the serial interface is isolated. The SG (signal ground) and FG (functional ground) terminals are connected inside this product.

⚠ 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.

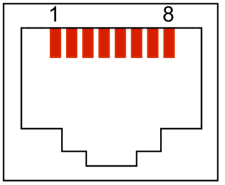
Failure to follow these instructions can result in injury or equipment damage.

NOTE: Use within the rated current.

RS-485

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		
		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

Serial Interface (RS-232C and RS-422/RS-485) for COM1/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

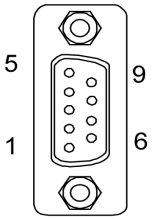
- Do not put excessive stress on the communication ports of all connections.
- Securely attach communication cables to the panel wall or cabinet.

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

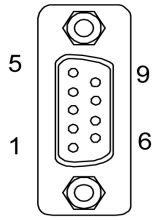
Product side	Pin No.	RS-232C		
		Signal Name	Direction	Meaning
	1	CD	Input	Carrier Detect
	2	RD (RXD)	Input	Receive Data
	3	SD (TXD)	Output	Send Data
	4	ER (DTR)	Output	Data Terminal Ready
	5	SG	–	Signal Ground
	6	DR (DSR)	Input	Data Set Ready
	7	RS (RTS)	Output	Request to Send
	8	CS (CTS)	Input	Send 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)

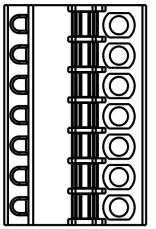
⚠ ⚠ DANGER

ELECTRIC SHOCK AND FIRE

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

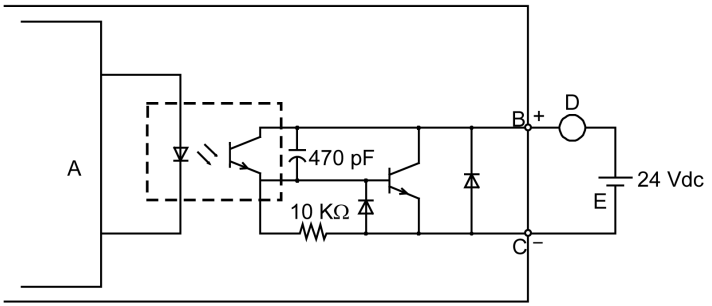
- Verify that a ground loop is not created when you set up the system.
- Connect the SG terminal to remote equipment when the external device is not isolated.
- Connect the SG terminal to a known reliable ground connection to reduce the risk of damaging the circuit.

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

Cable connection side	Pin No.	Signal Name	Direction	Meaning
 1 7	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

DVI-D Output Interface

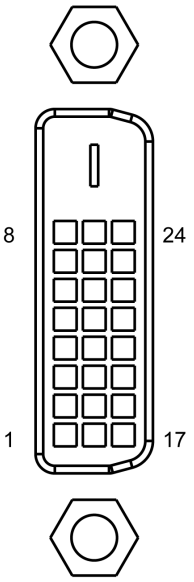
⚠ ⚠ DANGER

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.

Product side	Pin No.	Signal Name	Direction
	1	TMDS DATA 2-	Output
	2	TMDS DATA 2+	Output
	3	TMDS DATA 2 SHIELD	–
	4	NC	–
	5	NC	–
	6	DDC Clock	Output
	7	DDC Data	Input/Output
	8	NC	–
	9	TMDS DATA 1-	Output
	10	TMDS DATA 1+	Output
	11	TMDS DATA 1 SHIELD	–
	12	NC	–
	13	NC	–
	14	+5 Vdc Power	–
	15	GND	Ground
	16	HMIG5U: NC HMIG5U2: Hot Plug Detect	HMIG5U: - HMIG5U2: Input
	17	TMDS DATA 0-	Output
	18	TMDS DATA 0+	Output
	19	TMDS DATA 0 SHIELD	–
	20	NC	–

Product side	Pin No.	Signal Name	Direction
	21	NC	–
	22	TMDS CLOCK SHIELD	–
	23	TMDS CLOCK+	Output
	24	TMDS CLOCK-	Output
	Shell	FG	Functional Ground

Recommendations:

DVI Cable by Schneider Electric (HMIYCABDVI1011 <10 m>)

NOTE:

- For noise-free operation, use the recommended DVI-D cable.
- The following notes are only for HMIG5U:
  - DVI-D output supports display resolutions up to XGA (1,024 x 768). When the screen output mode is set to clone mode, the maximum display resolution of the display module is the same as the display resolution of DVI-D output, which is XGA (1,024 x 768).
  - DVI-D output does not support Hot Plug Detect (HPD). Even when the main unit power is on while connected to an external display, this product outputs the display signal as XGA. If the external display does not support XGA Input, the screen will not display.

Chapter 5
Dimensions

What Is in This Chapter?

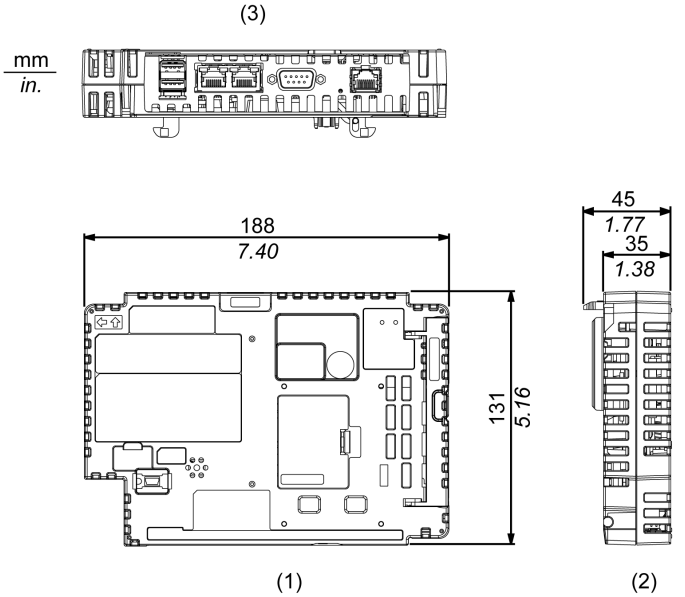
This chapter contains the following sections:

Section	Topic	Page
5.1	Standard Box	102
5.2	Premium Box	103
5.3	Open Box	104
5.4	Smart Display	105
5.5	Advanced Display	111
5.6	Box and Display Modules - Combined Dimensions	115

Section 5.1
Standard Box

HMIG2U

External Dimensions

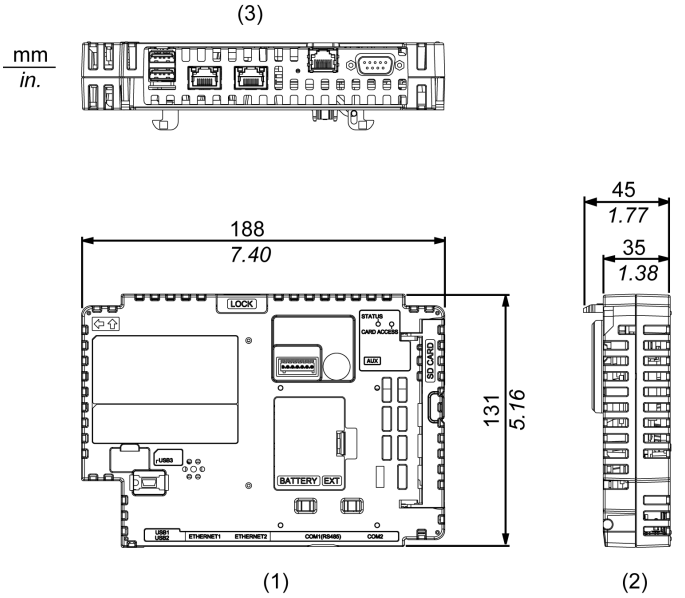


1 Front
2 Left
3 Bottom

Section 5.2
Premium Box

HMIG3U

External Dimensions

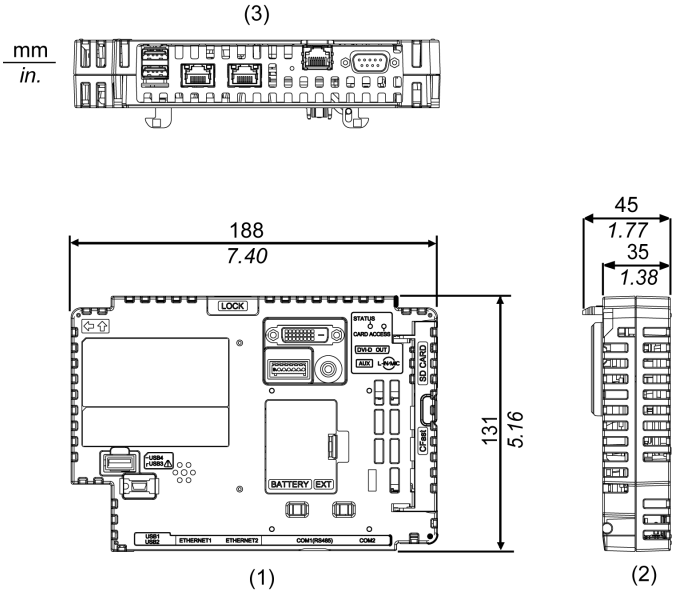


1 Front
2 Left
3 Bottom

Section 5.3
Open Box

HMIG5U/HMIG5U2

External Dimensions



1 Front
2 Left
3 Bottom

Section 5.4
Smart Display

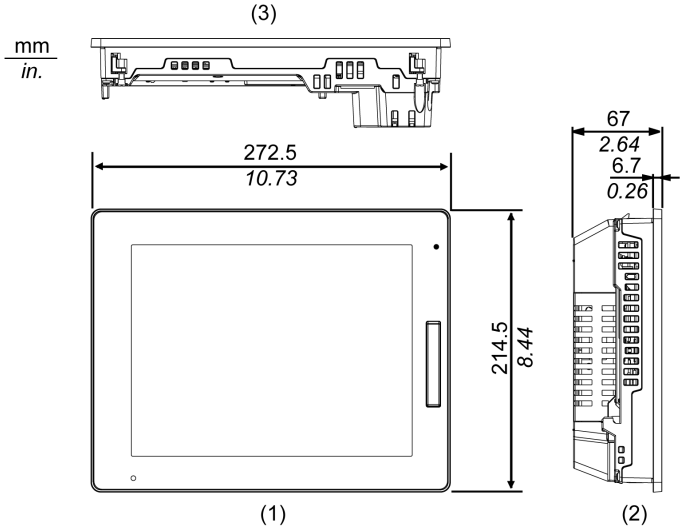
What Is in This Section?

This section contains the following topics:

Topic	Page
HMIDT542	106
HMIDT642/HMIDT643	107
HMIDT732	108
HMIDT752	109
HMIDT952	110

HMIDT542

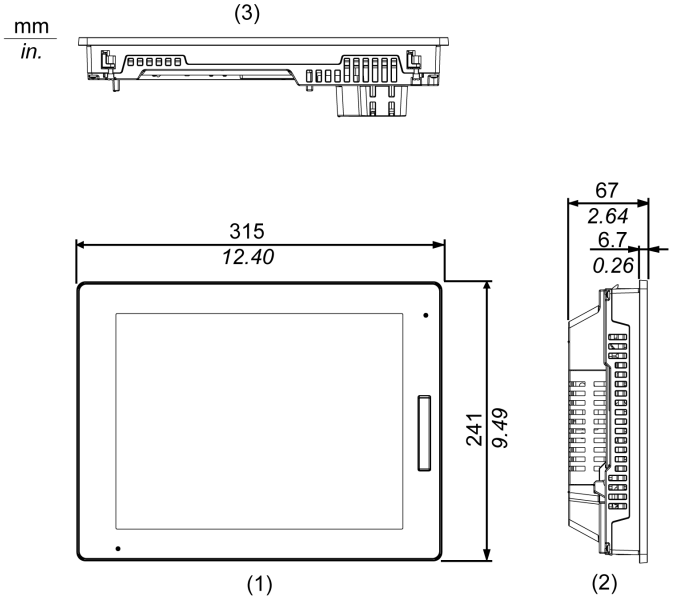
External Dimensions



1 Front
2 Left
3 Bottom

HMIDT642/HMIDT643

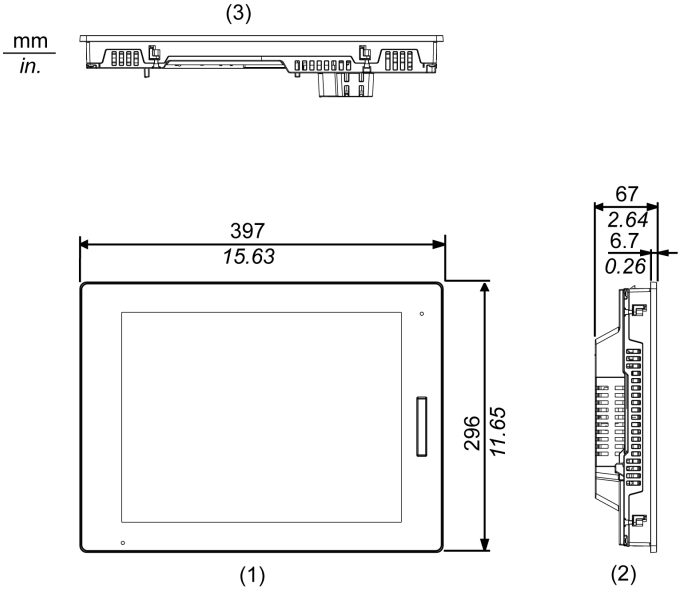
External Dimensions



1 Front
2 Left
3 Bottom

HMIDT732

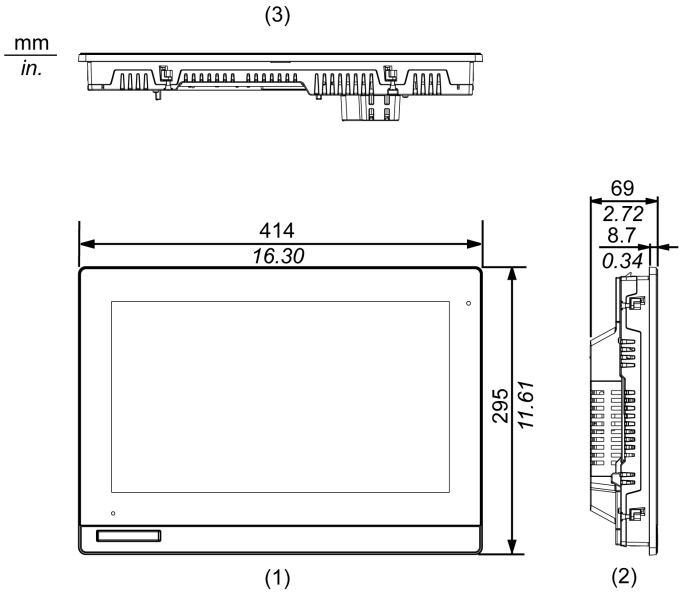
External Dimensions



1 Front
2 Left
3 Bottom

HMIDT752

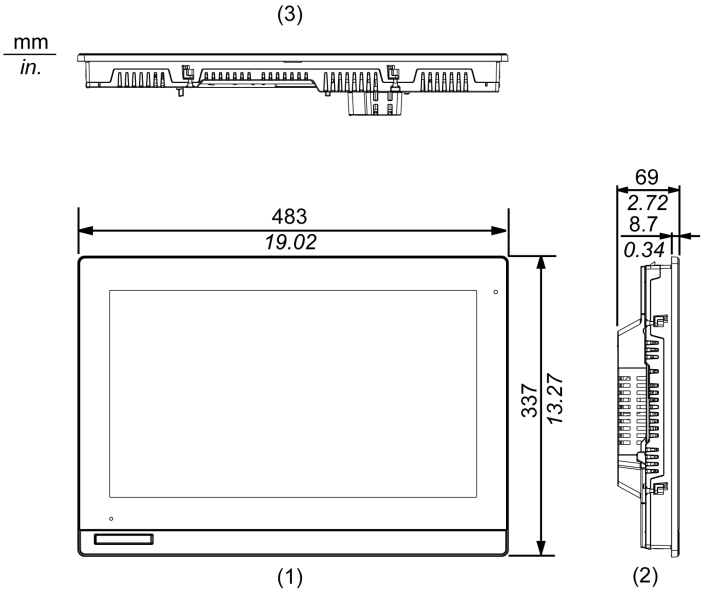
External Dimensions



1 Front
2 Left
3 Bottom

HMIDT952

External Dimensions



1 Front
2 Left
3 Bottom

Section 5.5
Advanced Display

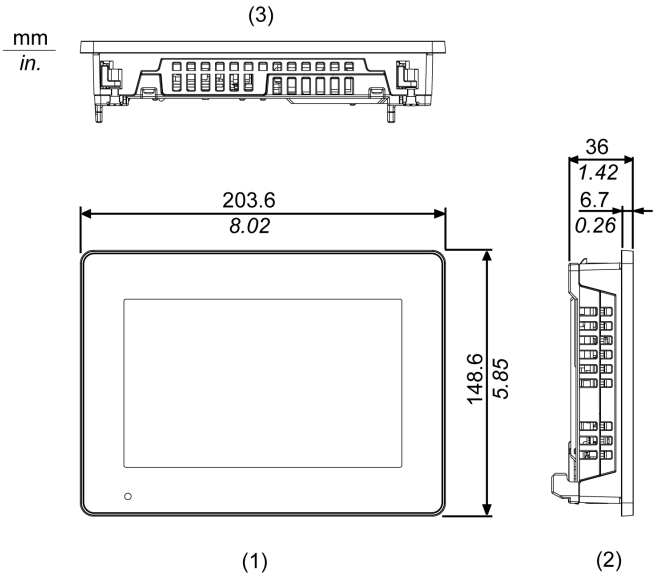
What Is in This Section?

This section contains the following topics:

Topic	Page
HMIDT351	112
HMIDT551	113
HMIDT651	114

HMIDT351

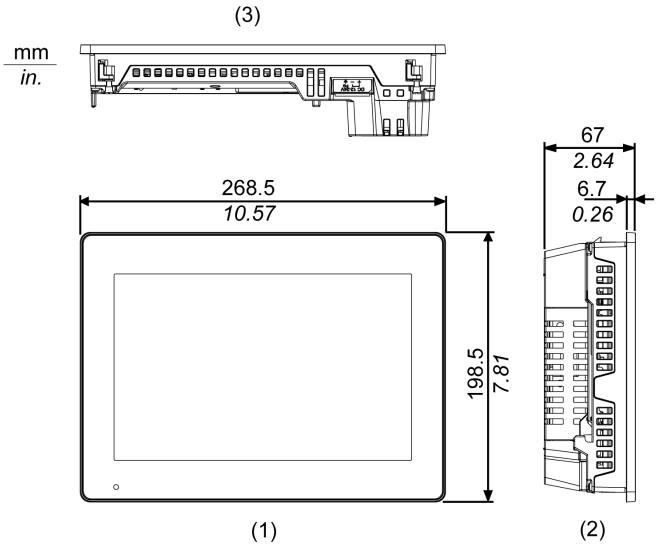
External Dimensions



1 Front
2 Left
3 Bottom

HMIDT551

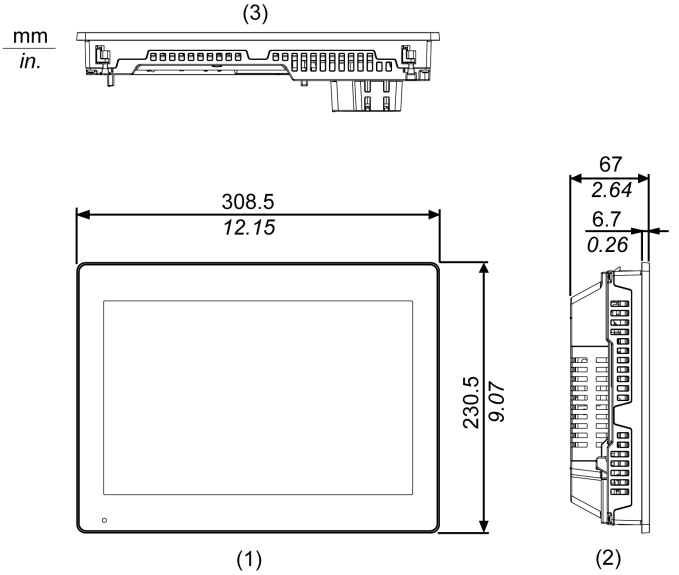
External Dimensions



1 Front
2 Left
3 Bottom

HMIDT651

External Dimensions



1 Front
2 Left
3 Bottom

Section 5.6
Box and Display Modules - Combined Dimensions

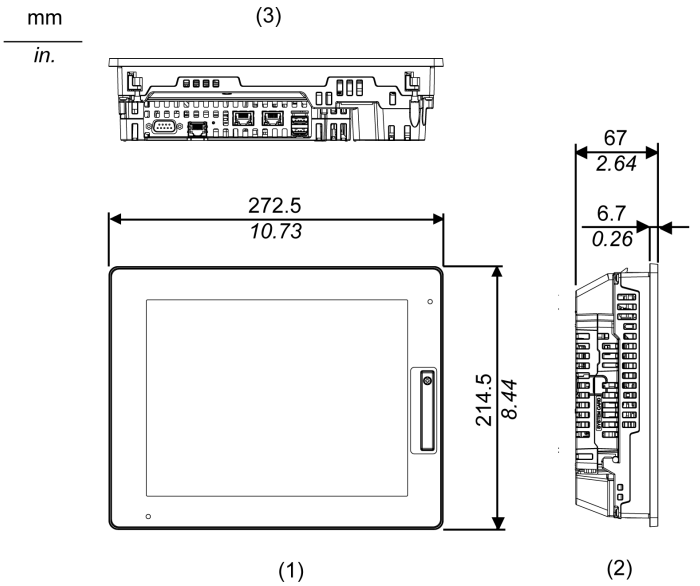
What Is in This Section?

This section contains the following topics:

Topic	Page
HMIDT542 with Box Module	116
HMIDT642/HMIDT643 with Box Module	118
HMIDT732 with Box Module	120
HMIDT752 with Box Module	122
HMIDT952 with Box Module	124
HMIDT351 with Box Module	126
HMIDT551 with Box Module	128
HMIDT651 with Box Module	130

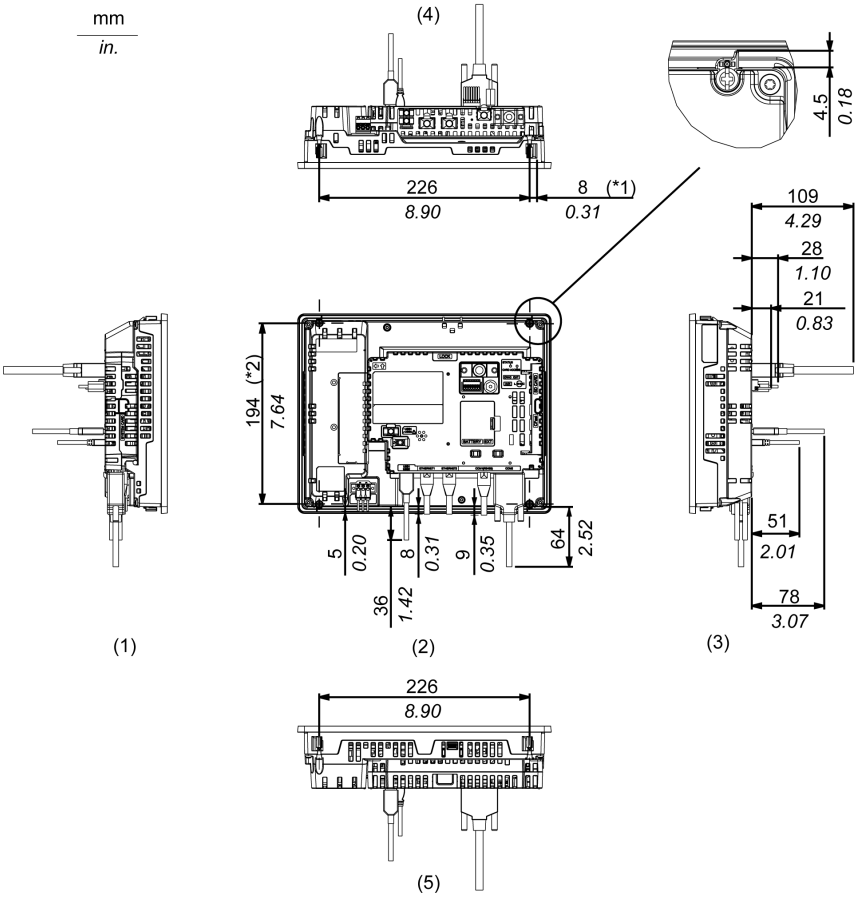
HMIDT542 with Box Module

External Dimensions



1 Front
2 Left
3 Bottom

Dimensions with Cables



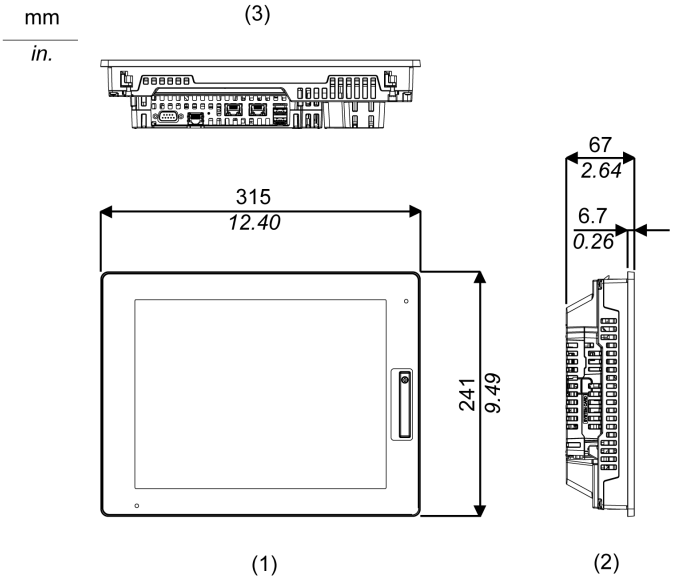
***1** Rotation area of the fastener
***2** Pitch of the center of installation fastener screws

1 Right
2 Front
3 Left
4 Bottom
5 Top

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.

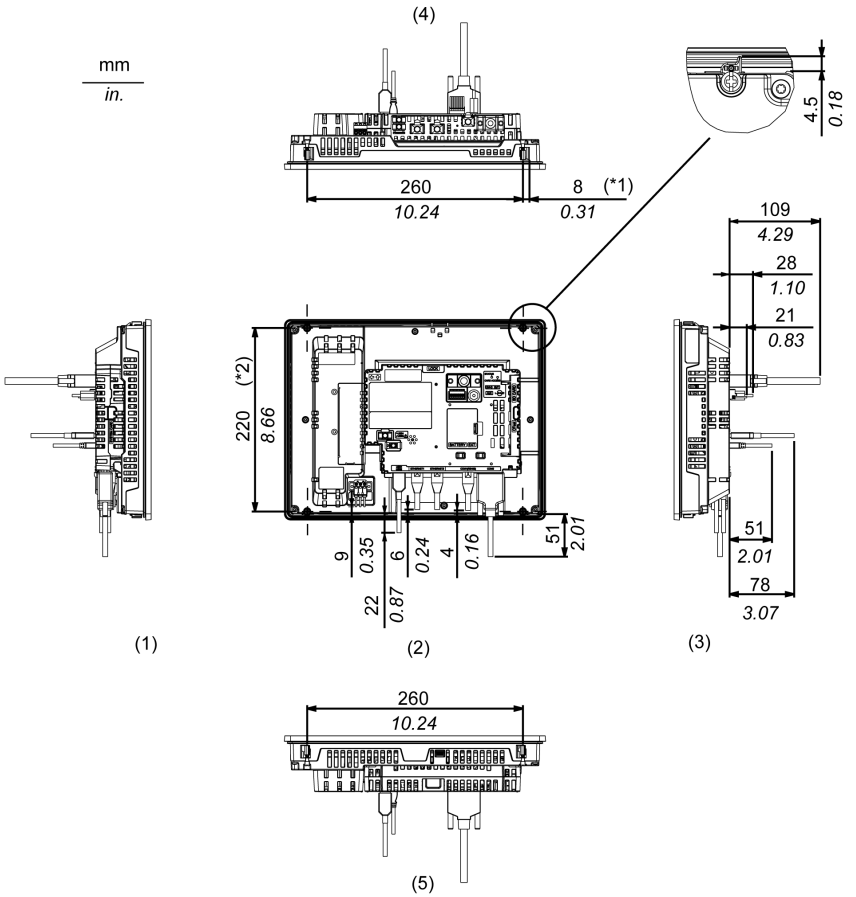
HMIDT642/HMIDT643 with Box Module

External Dimensions



1 Front
2 Left
3 Bottom

Dimensions with Cables



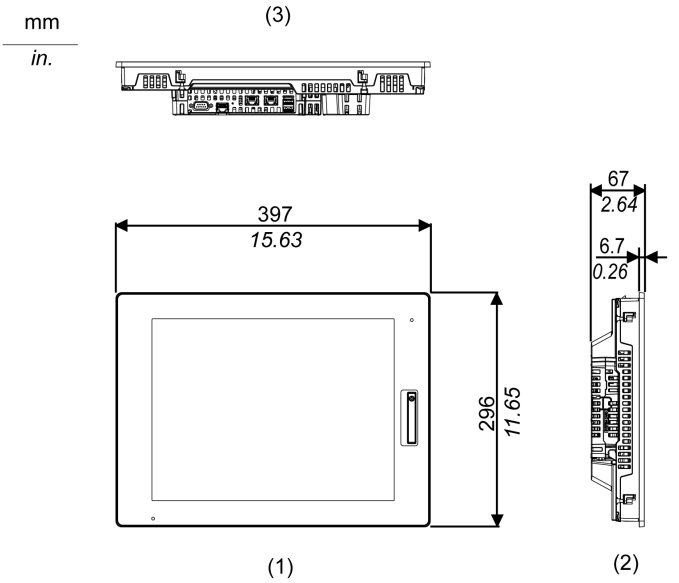
***1** Rotation area of the fastener
***2** Pitch of the center of installation fastener screws

1 Right
2 Front
3 Left
4 Bottom
5 Top

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.

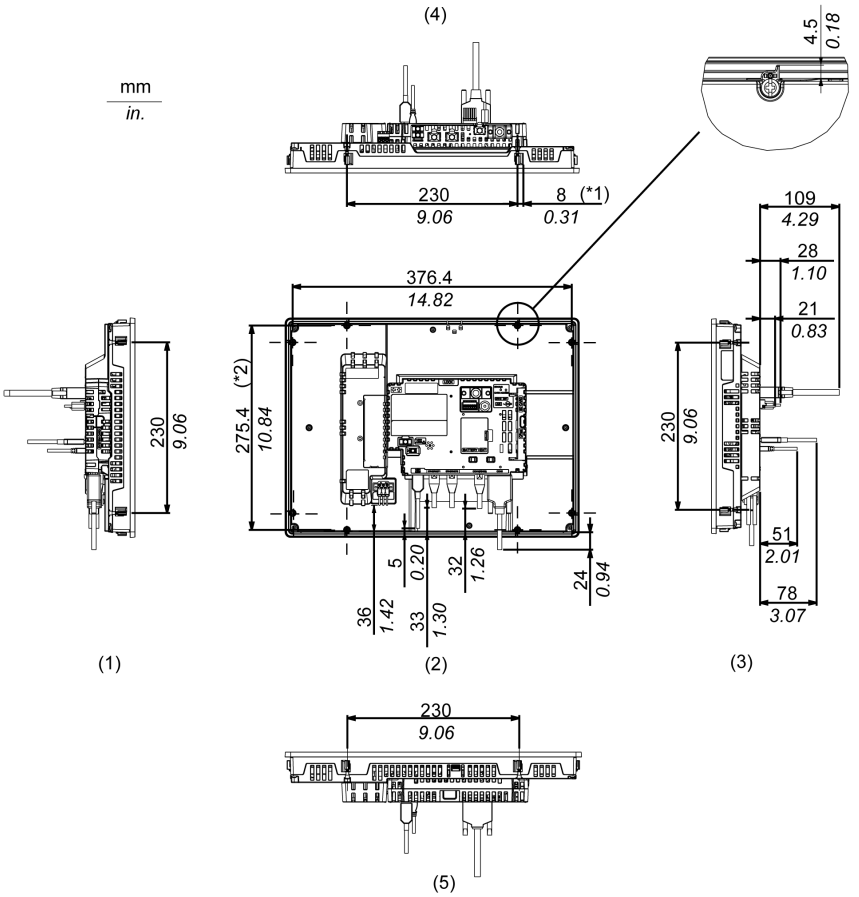
HMIDT732 with Box Module

External Dimensions



1 Front
2 Left
3 Bottom

Dimensions with Cables



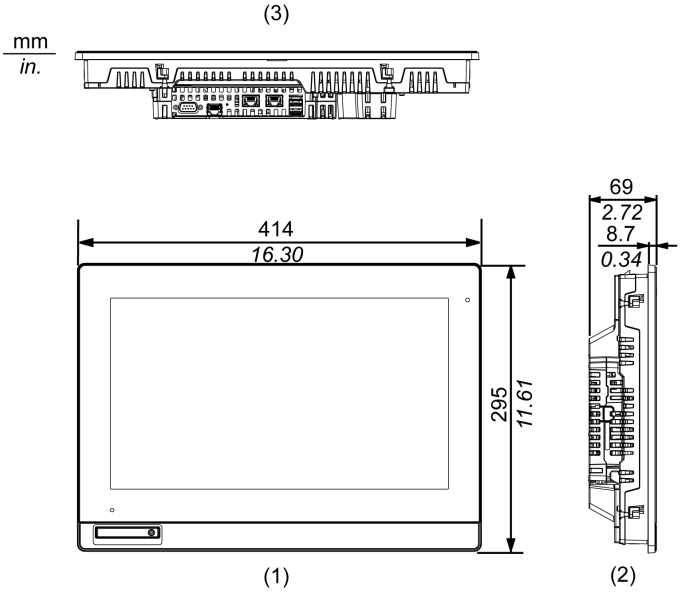
***1** Rotation area of the fastener
***2** Pitch of the center of installation fastner screws

1 Right
2 Front
3 Left
4 Bottom
5 Top

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.

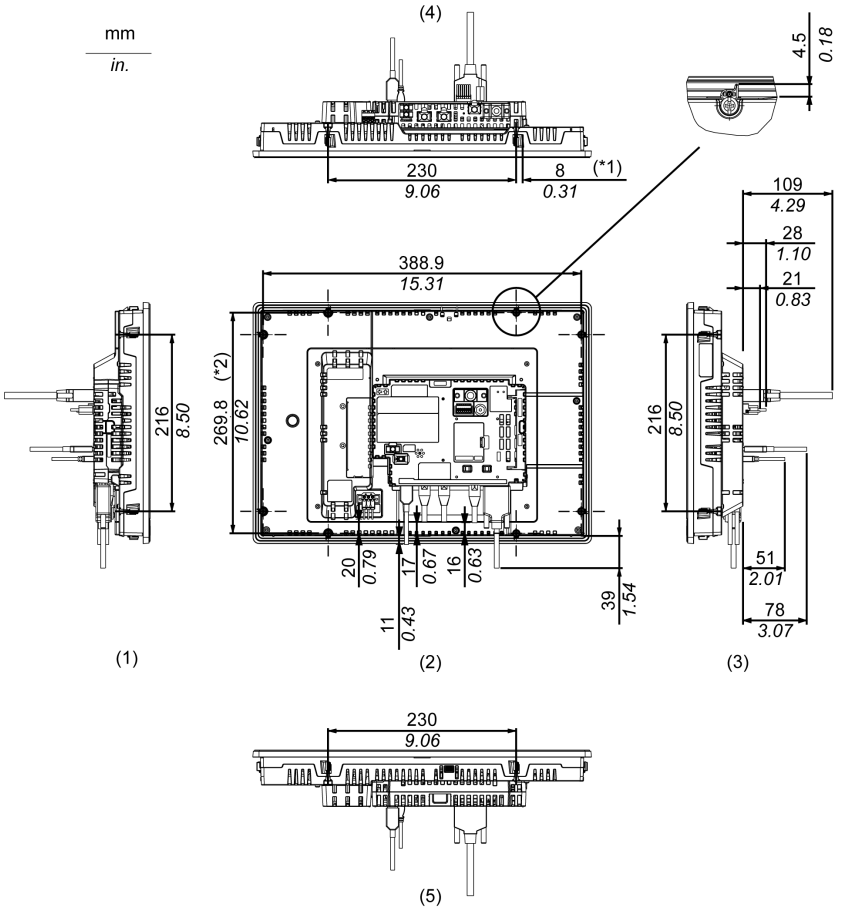
HMIDT752 with Box Module

External Dimensions



1 Front
2 Left
3 Bottom

Dimensions with Cables



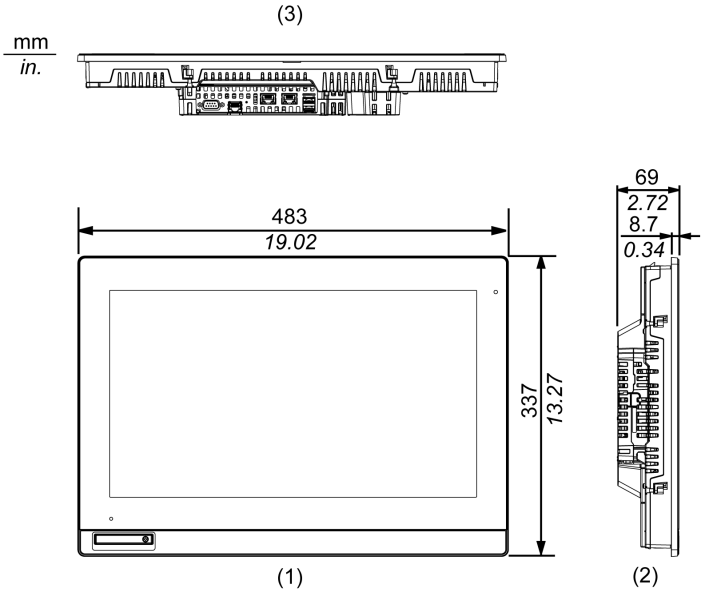
***1** Rotation area of the fastener
***2** Pitch of the enter of installation fastener screws

1 Right
2 Front
3 Left
4 Bottom
5 Top

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.

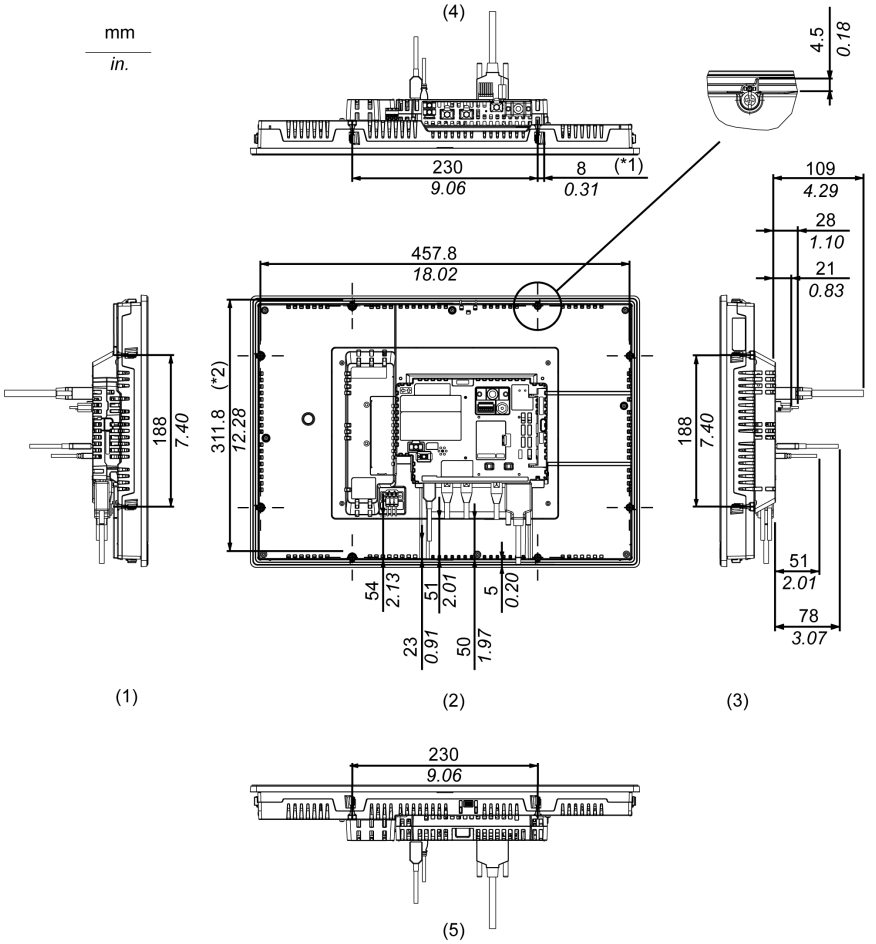
HMIDT952 with Box Module

External Dimensions



1 Front
2 Left
3 Bottom

Dimensions with Cables



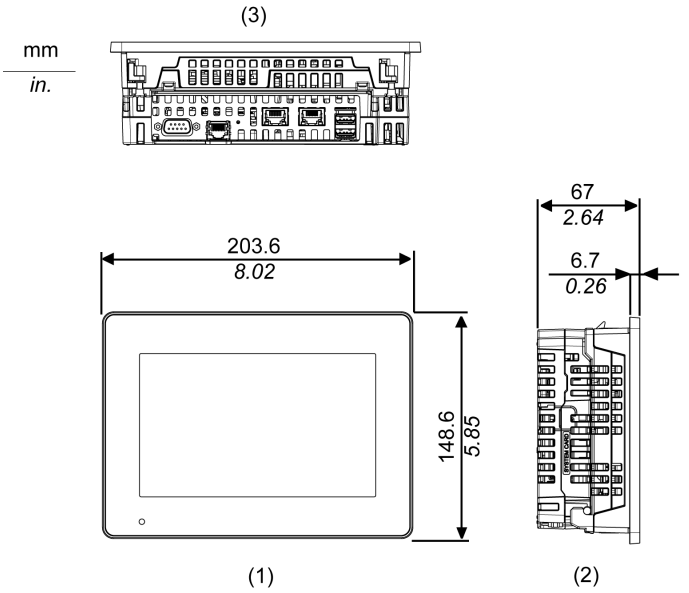
***1** Rotation area of the fastener
***2** Pitch of the enter of installation fastener screws

1 Right
2 Front
3 Left
4 Bottom
5 Top

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.

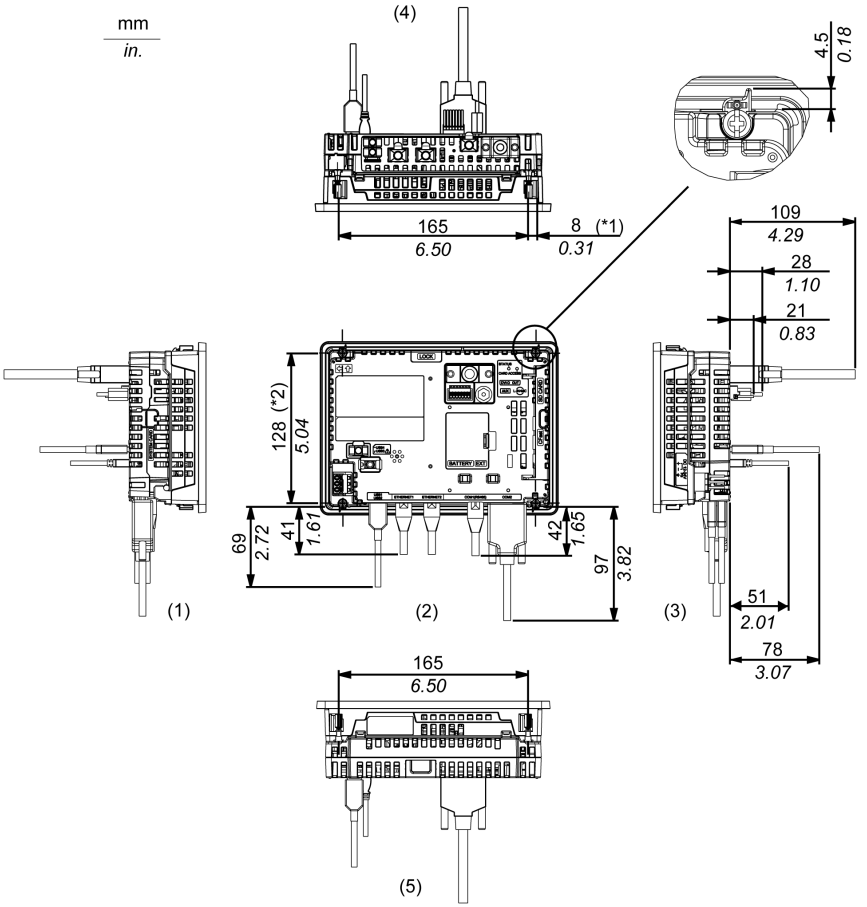
HMIDT351 with Box Module

External Dimensions



1 Front
2 Left
3 Bottom

Dimensions with Cables



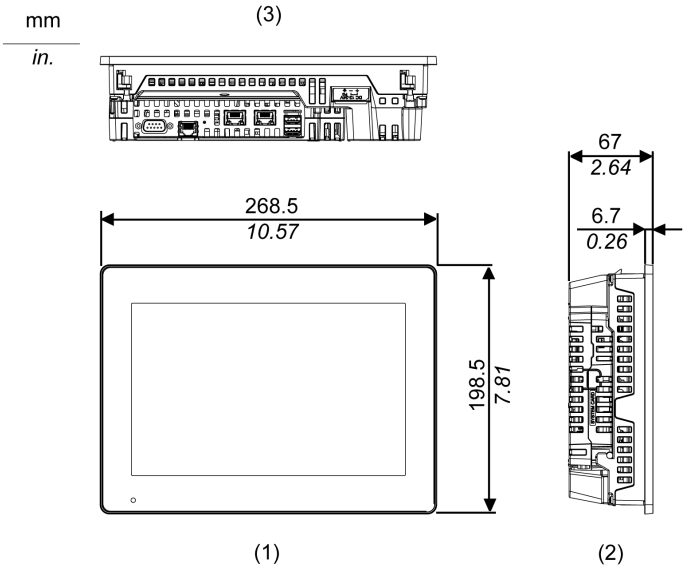
***1** Rotation area of the fastener
***2** Pitch of the center of installation fastener screws

1 Right
2 Front
3 Left
4 Bottom
5 Top

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.

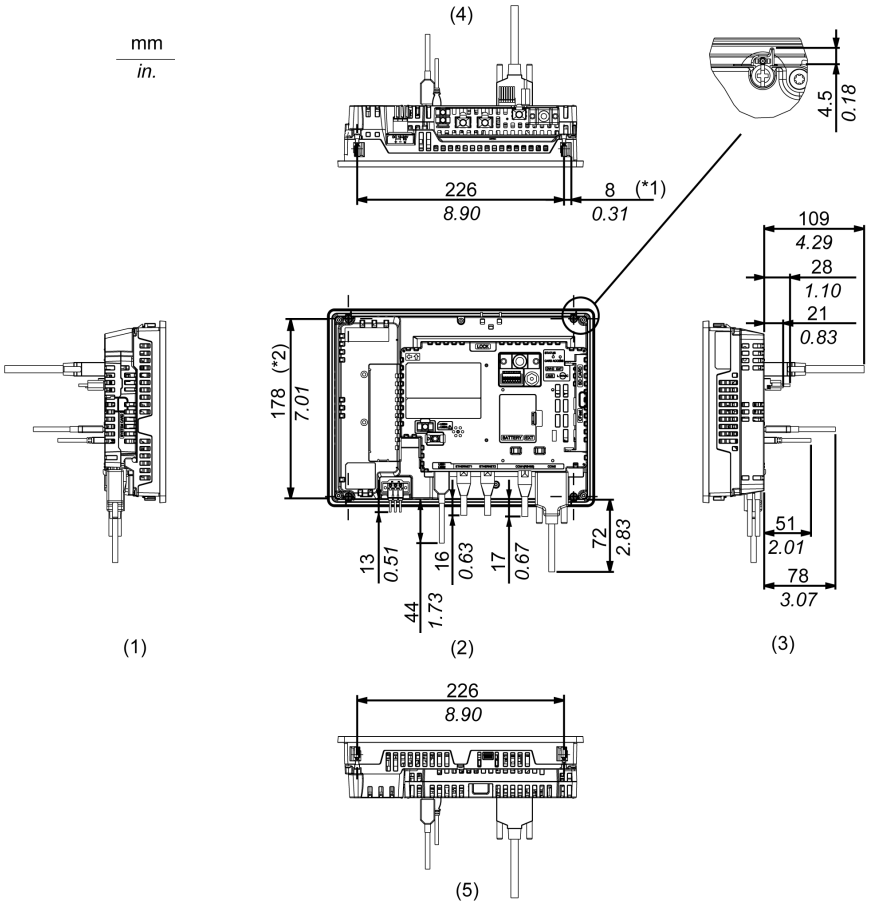
HMIDT551 with Box Module

External Dimensions



1 Front
2 Left
3 Bottom

Dimensions with Cables



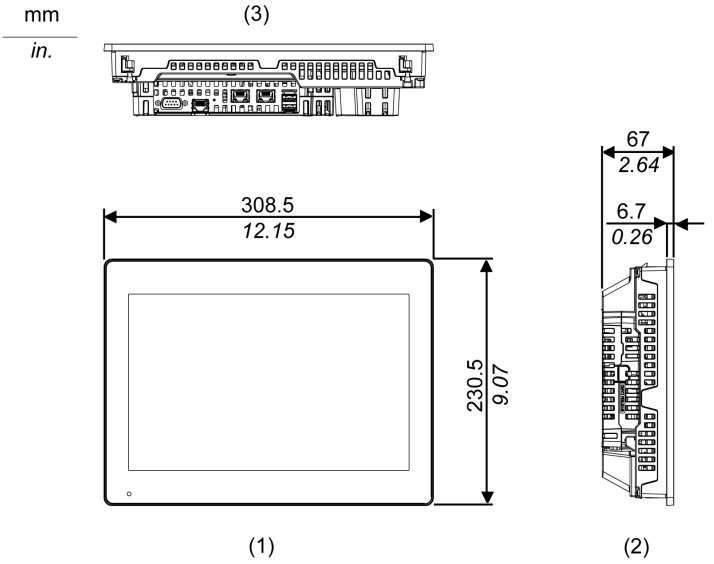
***1** Rotation area of the fastener
***2** Pitch of the center of installation fastener screws

1 Right
2 Front
3 Left
4 Bottom
5 Top

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.

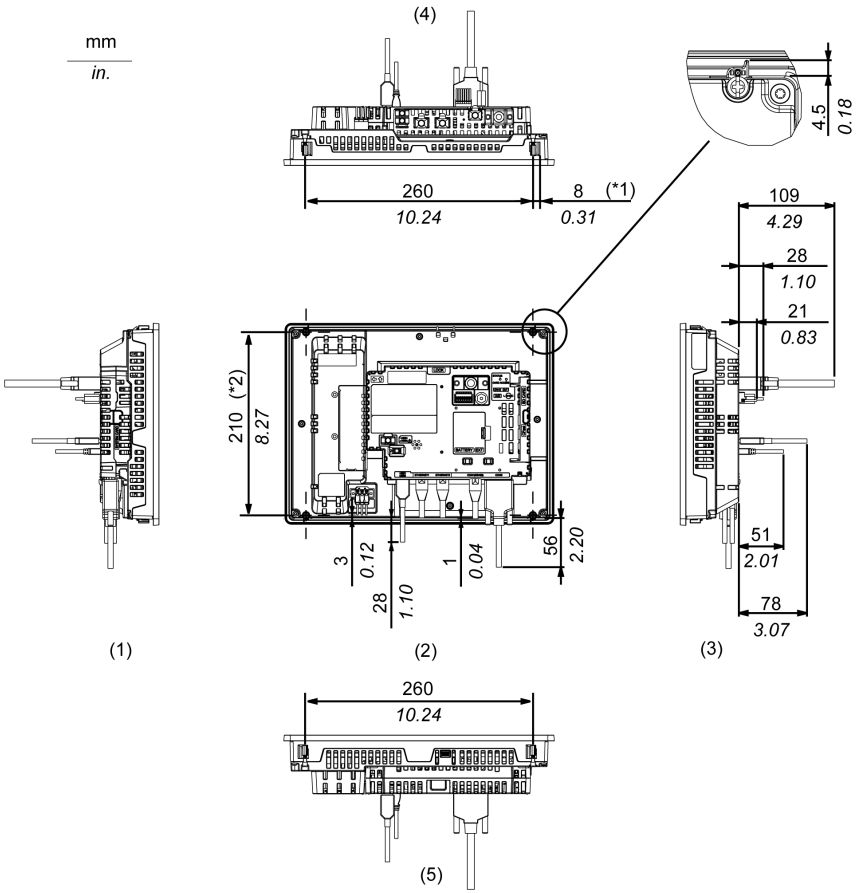
HMIDT651 with Box Module

External Dimensions



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 Right
2 Front
3 Left
4 Bottom
5 Top

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.

Chapter 6
Installation and Wiring

What Is in This Chapter?

This chapter contains the following sections:

Section	Topic	Page
6.1	Installation	134
6.2	Wiring Principles	149
6.3	USB Cable Clamp	158
6.4	AUX Connector	161
6.5	SD Card Insertion/Removal	163
6.6	CFast Card Insertion/Removal	170
6.7	Front USB Cover	177
6.8	Isolation Unit	179

Section 6.1
Installation

Installation Procedures

Introduction

This product is designed for use on flat surfaces of Type 1, Type 4X (Indoor Use Only) or Type 13 Enclosure.

Mount this product in an enclosure that provides a clean, dry, robust and controlled environment (IP66F, IP67F, Type 1, Type 4X [Indoor Use Only], or Type 13 Enclosure).

For Advanced Display, the front surface is IP66F, IP67F, Type 1, Type 4X (Indoor Use Only) or Type 13 Enclosure.

For Smart Display, the front surface is IP66F, IP67F, Type 1, Type 4X (Indoor Use Only) or Type 13 Enclosure.

Display Front Surface		Enclosure Front Surface
Smart Display	Advanced Display	
IP66F, IP67F, Type 1, Type 4X (Indoor Use Only), Type 13	IP66F, IP67F, Type 1, Type 4X (Indoor Use Only), Type 13	IP66F, IP67F, Type 1, Type 4X (Indoor Use Only), Type 13

When the front USB cover*1 is open, the front surface is Type 1 Enclosure.

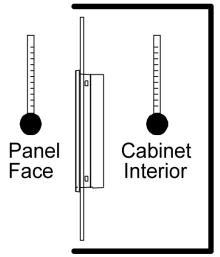
Be aware of the following when building this product into an end-use product:
- The rear face of this product is not approved as an enclosure. When building this product into an end-use product, be sure to use an enclosure that satisfies standards as the end-use product's overall enclosure.
- Install this product in an enclosure with mechanical rigidity.
- This product 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.

*1 The necessary torque is 0.5 N•m (4.4 lb-in).

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

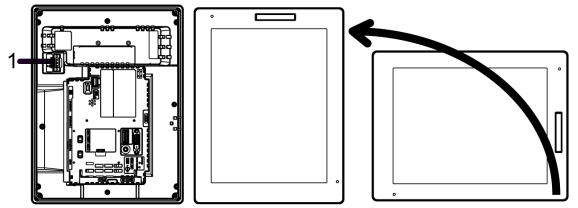
Installation Requirements

⚠ CAUTION
RISK OF BURNING INJURY Do not touch the bezel or rear chassis during operation. **Failure to follow these instructions can result in injury or equipment damage.**

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: 1.6...5 mm (0.06...0.2 in). Even if the installation wall thickness is within the recommended range for the Panel Cut Dimensions *(see page 138)*, 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 *(see page 72)*. When installing this product in a cabinet or enclosure, the ambient air temperature is the cabinet's or enclosure's internal temperature. 
Be sure that heat from surrounding equipment does not cause this product to exceed its standard operating temperature.

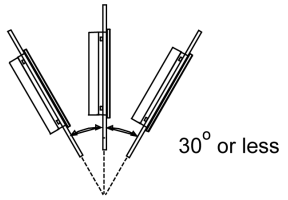
When mounting this product vertically, ensure that the right side of this product faces up. In other words, the DC power connector should be at the top.

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



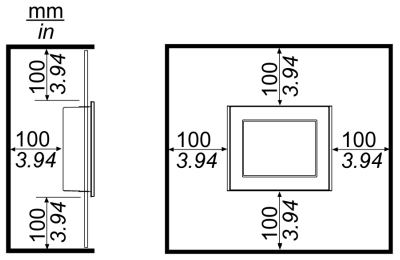
1 Power connector

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



When installing this product in a slanted position with an incline more than 30°, the ambient temperature must not exceed 40 °C (104 °F). You may need to use forced air cooling (fan, A/C) to ensure the ambient operating temperature is 40 °C or less (104 °F or less).

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.

For Wireless LAN models, do not block the wireless LAN antenna area with your hand, body or other objects. It may cause interference in wireless LAN communications.

Wireless LAN Models

⚠ WARNING

ELECTROMAGNETIC/RADIO INTERFERENCE

If you are uncertain of the policy that applies to the use of the Wireless LAN model, ask the administrator about its use before you turn it on.

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

2.4 GHz Wireless Devices

The Wireless LAN model uses the 2.4 GHz frequency range, which is used by a wide range of wireless equipment. Example usage includes industrial, scientific, and medical equipment such as microwave ovens, on-site wireless stations (requiring licenses), low-power wireless stations (not requiring licenses) as well as amateur wireless stations (requiring licenses).

1 Before use, confirm that no on-site wireless stations and specified low-power wireless stations or amateur wireless stations operate in your vicinity.
2 In the event that the Wireless LAN model causes harmful interference to any other "on-site wireless stations", immediately change the channel frequency of the Wireless LAN model, or change its location, or halt operation of radio emissions and contact the administrator of the wireless network to resolve the issue.

Security on Your Wireless LAN

Because wireless LANs do not normally provide adequate data security, the following problems may occur.

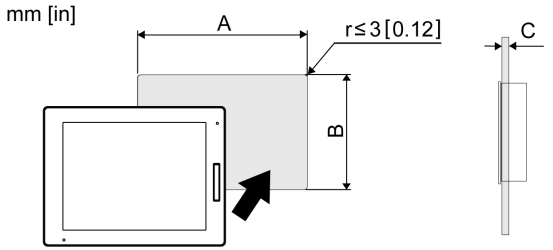
1. Unlawful access of communication information.
   - There is a chance that information found in emails, and personal information such as user IDs, passwords, and credit card numbers, may be intentionally intercepted by a malicious third party.
2. Illegal Access
   A malicious third party may be able to access personal or company data over the company's local area network without permission, to:
   - Obtain personal and confidential information (information leak)
   - Impersonate someone by communicating as that person and disseminating invalid information (spoofing)
   - Alter intercepted communications and re-transmitting tolerated content (falsification)
   - Cause critical damage to data and or systems due to a computer virus (damage).

This wireless LAN product includes security features that enable you to configure security-related settings that reduce the likelihood of the above-mentioned problems.

We recommend that you make yourself fully acquainted with the possible implications of what might happen if you use a wireless product without enabling security features, and that you configure security-related settings and use wireless products at your own responsibility.

Panel Cut Dimensions

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



Model Name	A	B	C
HMIDT542	259 mm (+1/-0 mm) (10.2 in [+0.04/-0 in])	201 mm (+1/-0 mm) (7.91 in [+0.04/-0 in])	1.6...5 mm (0.06...0.2 in)
HMIDT642 HMIDT643	301.5 mm (+1/-0 mm) (11.87 in [+0.04/-0 in])	227.5 mm (+1/-0 mm) (8.96 in [+0.04/-0 in])	
HMIDT732	383.5 mm (+1/-0 mm) (15.1 in [+0.04/-0 in])	282.5 mm (+1/-0 mm) (11.12 in [+0.04/-0 in])	
HMIDT752	396 mm (+1/-0 mm) (15.59 in [+0.04/-0 in])	277 mm (+1/-0 mm) (10.91 in [+0.04/-0 in])	
HMIDT952	465 mm (+1/-0 mm) (18.31 in [+0.04/-0 in])	319 mm (+1/-0 mm) (12.56 in [+0.04/-0 in])	
HMIDT351	190 mm (+1/-0 mm) (7.48 in [+0.04/-0 in])	135 mm (+1/-0 mm) (5.31 in [+0.04/-0 in])	
HMIDT551	255 mm (+1/-0 mm) (10.04 in [+0.04/-0 in])	185 mm (+1/-0 mm) (7.28 in [+0.04/-0 in])	
HMIDT651	295 mm (+1/-0 mm) (11.61 in [+0.04/-0 in])	217 mm (+1/-0 mm) (8.54 in [+0.04/-0 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 the Display Module and the power supply.
- Always use a properly rated voltage sensing device to confirm power is off.
- Replace and secure all covers or elements of the system before applying power to the Display Module.

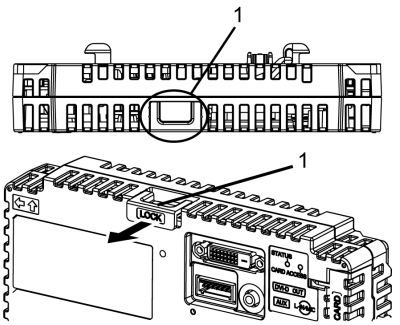
Failure to follow these instructions will result in death or serious injury.

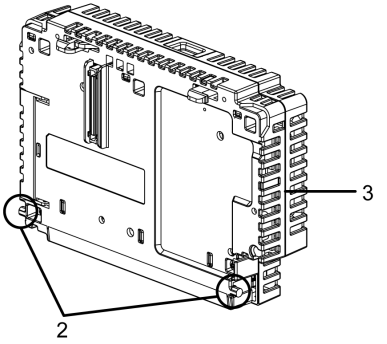
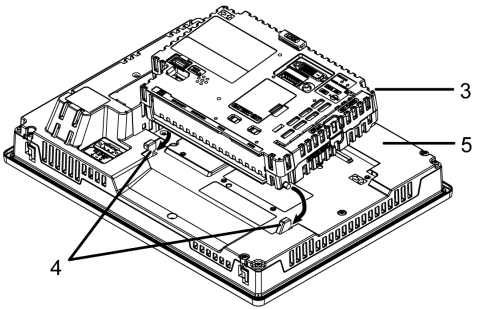
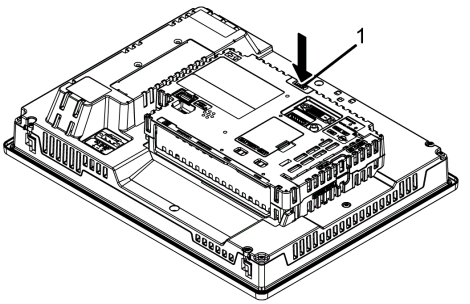
NOTICE

EQUIPMENT DAMAGE

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

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

Step	Action
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 *(see page 143)*.

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 the Display Module and the power supply.
- Always use a properly rated voltage sensing device to confirm power is off.
- Replace and secure all covers or elements of the system before applying power to the Display Module.

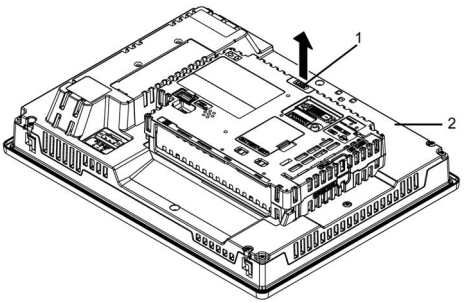
Failure to follow these instructions will result in death or serious injury.

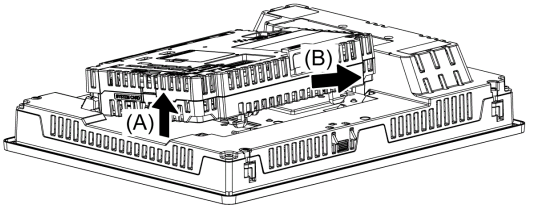
NOTICE

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 *(see page 146)*.
2	Release the LOCK on the top of the Box Module as illustrated.  **1** LOCK **2** Display Module

Step	Action
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). 

⚠ CAUTION

RISK OF INJURY

Do not drop the Box Module when you remove it from the Display Module.

- Hold the unit in place after removing the fasteners.
- Use both hands.

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

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 the Display Module and the power supply.
- Always use a properly rated voltage sensing device to confirm power is off.
- Replace and secure all covers or elements of the system before applying power to the Display Module.

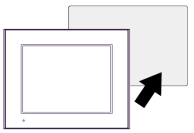
Failure to follow these instructions will result in death or serious injury.

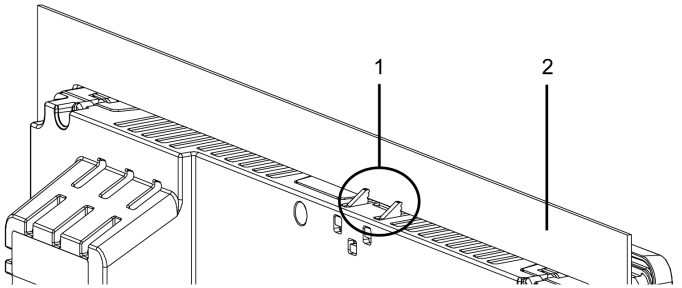
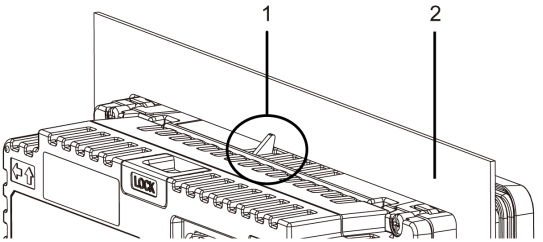
NOTICE

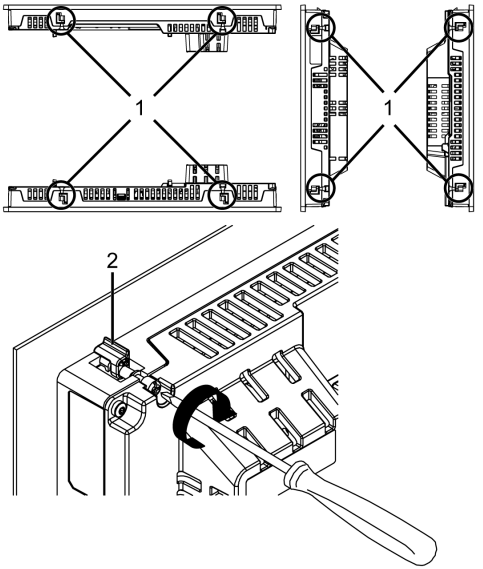
EQUIPMENT DAMAGE

- 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 *(see page 139)*.
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 *(see page 186)*.
3	Based on the Display Module's panel cut dimensions *(see page 138)*, 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 HMIDT351  HMIDT351  **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 0.5 N•m (4.4 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

BROKEN ENCLOSURE

Do not exert more than 0.5 N•m (4.4 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 the Display Module and the power supply.
- Always use a properly rated voltage sensing device to confirm power is off.
- Replace and secure all covers or elements of the system before applying power to the Display Module.

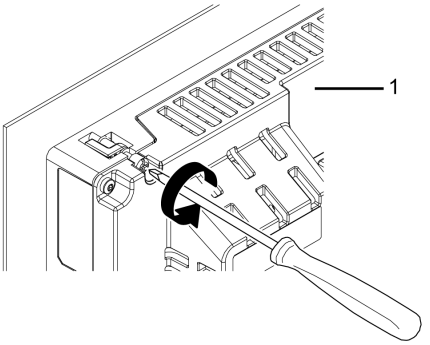
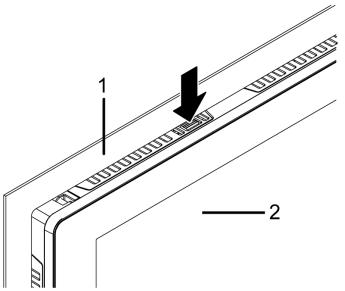
Failure to follow these instructions will result in death or serious injury.

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 *(see page 143)*. ● 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

⚠ 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.

Section 6.2
Wiring Principles

What Is in This Section?

This section contains the following topics:

Topic	Page
Connecting the DC Power Cord	150
Connecting the Power Supply	154
Grounding	156

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.
- 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.

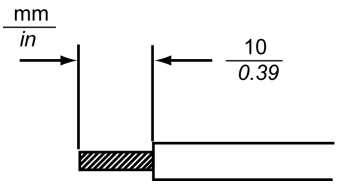
Failure to follow these instructions will result in death or serious injury.

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 electromagentic 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.

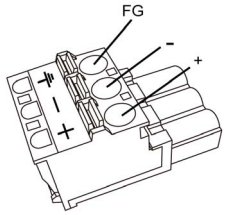
Power Cord Diameter	0.75...2.5 mm^2 (18...13 AWG)*1
Conductor type	Solid or stranded wire
Conductor length	

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

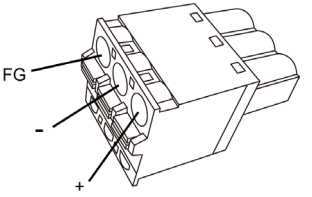
DC Power Supply Connector Specifications: Spring Clamp Terminal Blocks

Models except for HMIDT351 come with the right-angle-type power connector, and the HMIDT351 comes with the straight-type power connector.

Right-angle type



Straight type

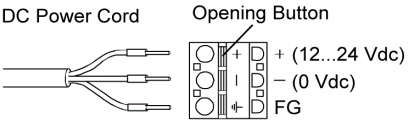


Connection	Wire
+	12...24 Vdc
-	0 Vdc
FG	Grounded terminal connected to the panel chassis.

NOTE:

- You cannot connect the right-angle type to the HMIDT351.
- Right-angle type: HMIZGPWS2 by Schneider Electric.
  Straight type: HMIZGPWS by Schneider Electric.

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.  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.

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

Precautions

⚠ ⚠ DANGER

SHORT CIRCUIT, FIRE, OR UNINTENDED EQUIPMENT OPERATION

Avoid excessive force on the power cable to prevent accidental disconnection

- Securely attach power cables to an installation panel or cabinet.
- Install and fasten this product on installation panel or cabinet prior to connecting power supply and communication lines.

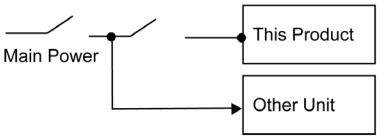
Failure to follow these instructions will result in death or serious injury.

Improving Noise/Surge Resistance

- This product's power supply 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 be sure to twist the ends of the wires together (i.e. twisted pair cabling) from close to 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.

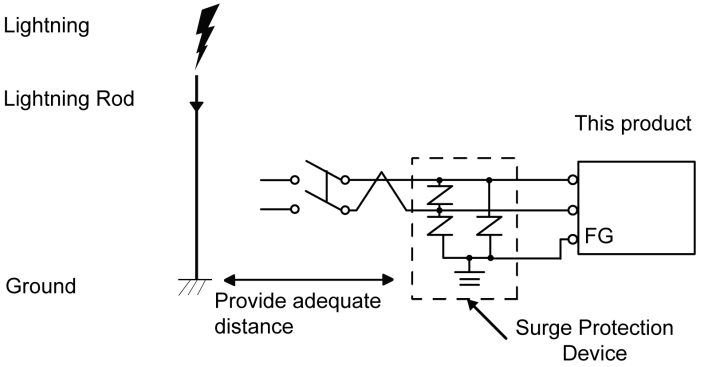
Power Supply Connections

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

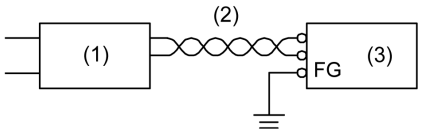


- Use a Class 2 power supply or SELV (Safety Extra-Low Voltage) circuit and LIM (Limited Energy) circuit for DC input.

- The following shows a surge protection device connection:



- 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.

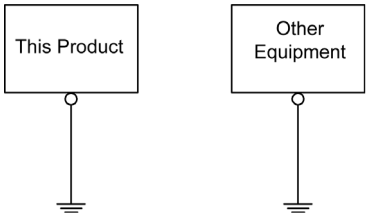


1 Regulated power supply
2 Twisted-pair cord
3 This product

Grounding

Exclusive Grounding

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



Precautions

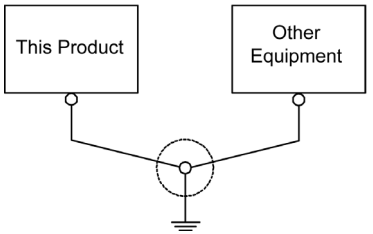
- Check that the grounding resistance is 100 Ω or less.*1
- The FG wire should have a cross sectional area greater than 2 mm^2 (AWG14)*1. Create the connection point as close to this product as possible, and make the wire as short as possible. When using a long grounding wire, replace the thin wire with a thicker wire, and place it in a duct.
- The SG (signal ground) and FG (functional ground) 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.

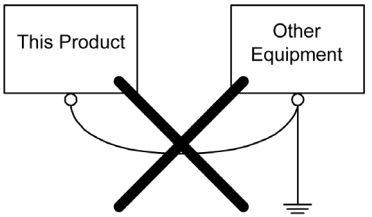
Common Grounding

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



Incorrect grounding



Section 6.3
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

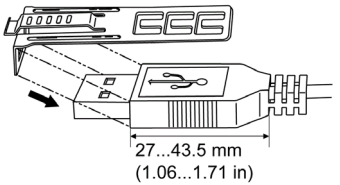
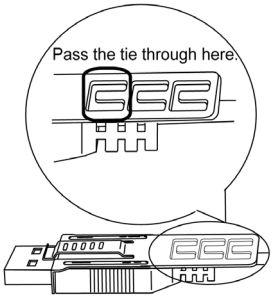
POTENTIAL FOR EXPLOSION

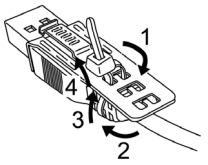
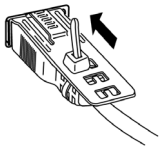
- Verify the power, input, and output (I/O) wiring are in accordance with Class I, Division 2 wiring methods.
- Substitution of any components may impair suitability for Class I, Division 2.
- Do not disconnect equipment while the circuit is live or unless the area is known to be free of ignitable concentrations.
- 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)

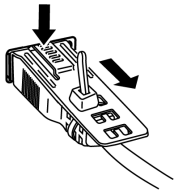
NOTE: Watch your fingers. The edge of the clip is sharp.

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.



Section 6.4
AUX Connector

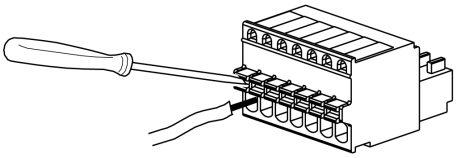
Introduction

⚠ ⚠ 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.

Section 6.5
SD Card Insertion/Removal

What Is in This Section?

This section contains the following topics:

Topic	Page
Introduction	164
Inserting the SD Card	165
Removing the SD Card	167
SD Card Data Backup	169

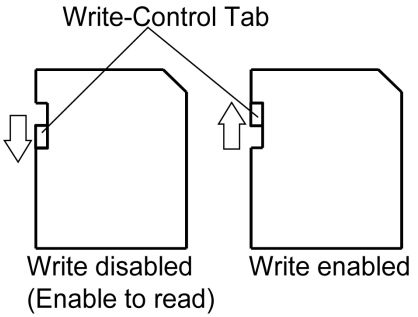
Introduction

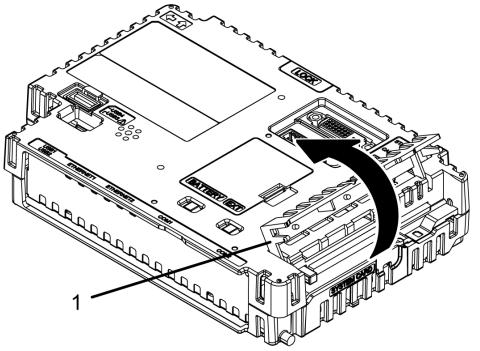
NOTICE
LOSS OF DATA When using a SD Card: ● Make sure you regularly back up the SD Card data since the SD Card has a life span and accidental data loss can occur at any time. ● While a SD Card is accessed, do not turn OFF or reset this product, and do not insert or remove the SD Card. ● Before removing 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.**

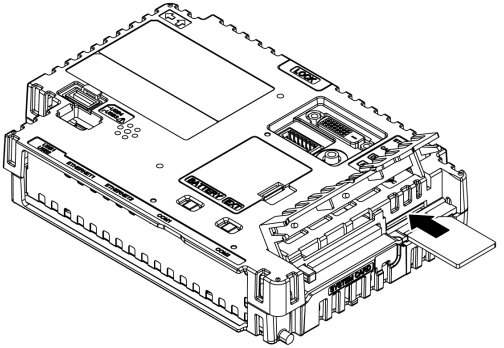
NOTICE
LOSS OF DATA When handling the SD Card: ● Avoid storing the SD Card where there is static electricity or electromagnetic waves. ● Avoid storing the SD Card in direct sunlight, near a heater, or other locations where high temperatures can occur. ● Do not bend the SD Card. ● Do not drop or strike 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.**

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

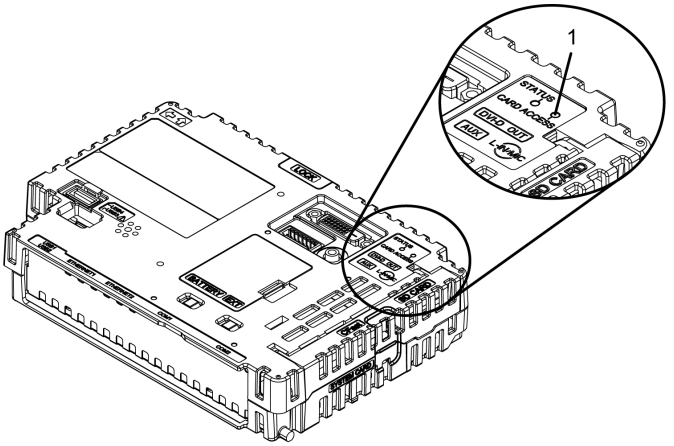
Step	Action
2	Insert the SD Card into the SD Card Slot with the front face of the SD Card facing up and push until you hear it “click”. 
3	Close the Storage Card Cover.

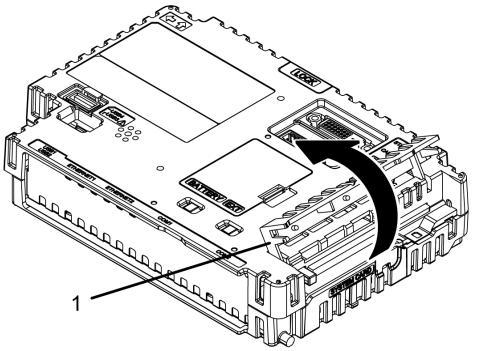
Removing the SD Card

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.

When using the Open Box, use Windows® hardware removal tool to safely remove the SD Card.

Step	Action
1	Make sure the Card Access LED is off.  **1** Card Access LED

Step	Action
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.

SD Card Data Backup

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.

Section 6.6
CFast Card Insertion/Removal

What Is in This Section?

This section contains the following topics:

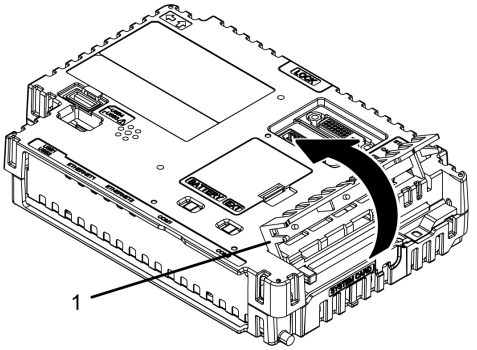
Topic	Page
Introduction	171
Inserting the CFast Card	172
Removing the CFast Card	174
CFast Card Data Backup	176

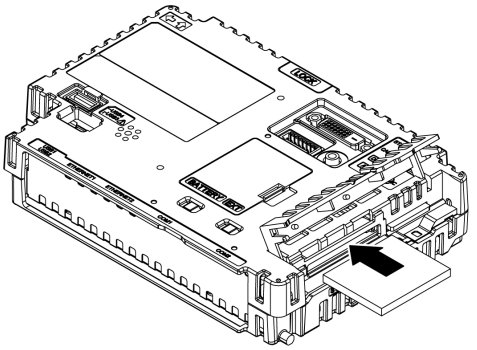
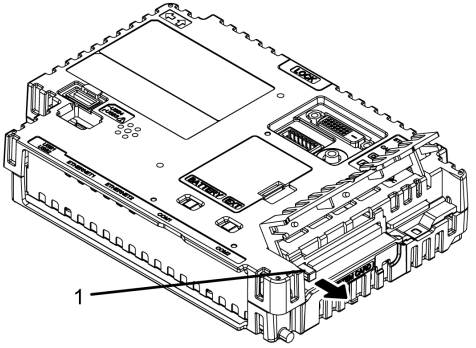
Introduction

NOTICE
LOSS OF DATA When using a CFast Card: ● Make sure you regularly back up the CFast Card data since the CFast Card has a life span and accidental data loss can occur at any time. ● While a CFast Card is accessed, do not turn OFF or reset this product, and do not remove the CFast Card. ● Turn OFF this product when inserting or removing the CFast Card. ● Make sure of the CFast Card's orientation before inserting it into the CFast Card slot. **Failure to follow these instructions can result in equipment damage.**

NOTICE
LOSS OF DATA When handling the CFast Card: ● Avoid storing the CFast Card where there is static electricity or electromagnetic waves. ● Avoid storing the CFast Card in direct sunlight, near a heater, or other locations where high temperatures can occur. ● Do not bend the CFast Card. ● Do not drop or strike the CFast Card against another object. ● Keep the CFast Card dry. ● Do not touch the CFast Card connectors. ● Do not disassemble or modify the CFast Card. ● Use the CFast Card initialized by this product. You may not be able to use the CFast Card initialized by other devices. **Failure to follow these instructions can result in equipment damage.**

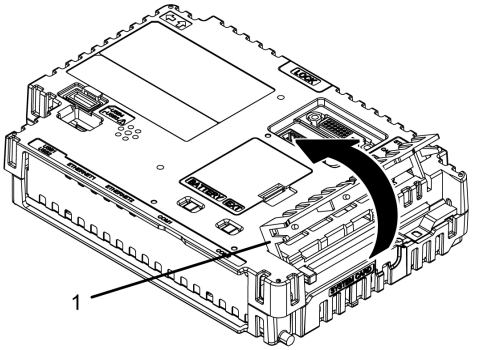
Inserting the CFast Card

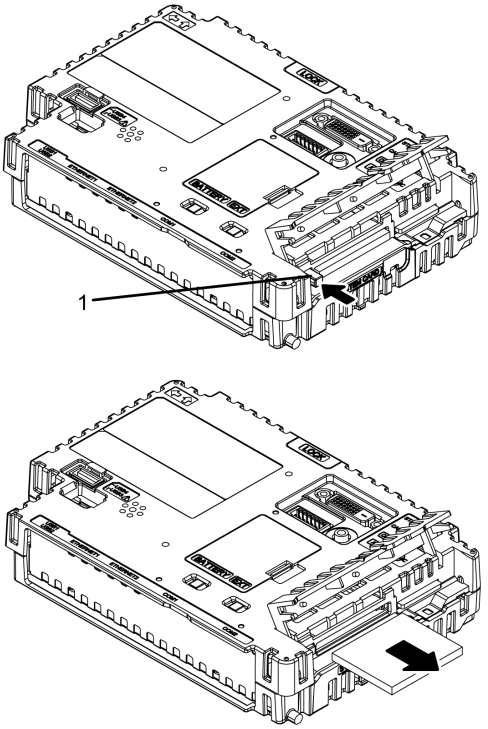
Step	Action
1	Open the Storage Card cover.  **1** Storage Card Cover

Step	Action
2	Insert the CFast Card into the CFast Card Slot with the front face of the CFast Card facing up, and push until the eject button comes out.   **1** Eject button
3	Close the Storage Card Cover.

Removing the CFast Card

If you remove the CFast Card while it is in use, you risk corrupting your data. Turn OFF this product when removing the CFast Card.

Step	Action
1	Make sure that this product is turned OFF.
2	Open the Storage Card Cover.  **1** Storage Card Cover

Step	Action
3	Push the eject button to release, and pull out the card.  **1** Eject button
4	Close the Storage Card Cover. **NOTE:** After using the CFast Card, store the CFast Card in its case or other safe location.

CFast Card Data Backup

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

Section 6.7
Front USB Cover

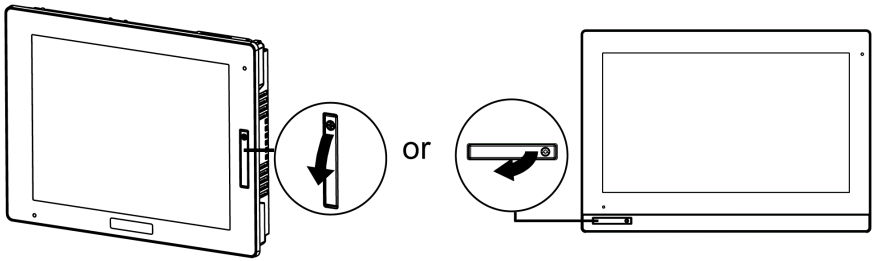
Opening the Front USB Cover

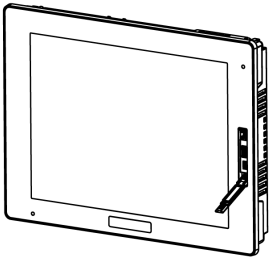
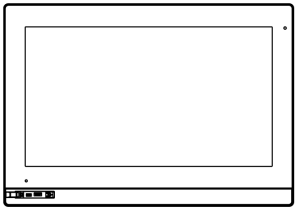
For Smart Display, the front surface is IP66F, IP67F, Type 1, Type 4X (Indoor Use Only) or Type 13 Enclosure, but when the front USB cover*1 is open, the front surface is Type 1 Enclosure.

⚠ CAUTION
RISK OF INJURY When opening the Front USB Cover, be careful not to injure your fingers. **Failure to follow these instructions can result in injury or equipment damage.**

*1 The necessary torque is 0.5 N•m (4.4 lb-in).

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

Step	Action
1	Loosen the screws on the top of the front USB cover with a Phillips screwdriver.  **NOTE:** The required torque is 0.5 N•m (4.4 lb-in).

Step	Action
2	The USB interface can be seen once you pull out the front USB cover.  or 

NOTICE
BROKEN ENCLOSURE 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.**

Section 6.8
Isolation Unit

What Is in This Section?

This section contains the following topics:

Topic	Page
Introduction	180
Installing to the Box Module	181

Introduction

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

⚠ ⚠ DANGER

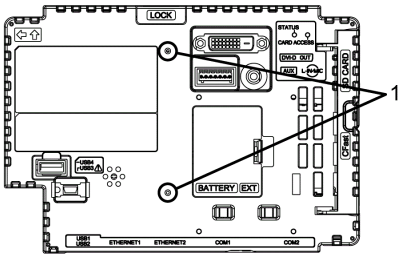
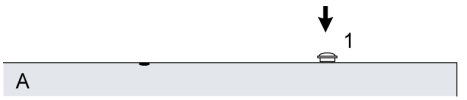
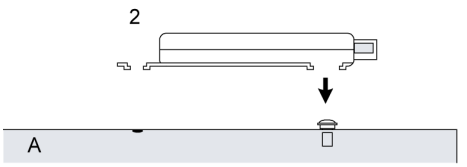
HAZARD OF ELECTRIC SHOCK OR EXPLOSION

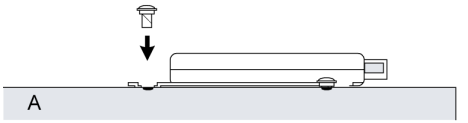
To avoid an electric shock, prior to connecting the Isolation Unit to this product, confirm that this product's power supply is completely turned OFF.

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

Installing to the Box Module

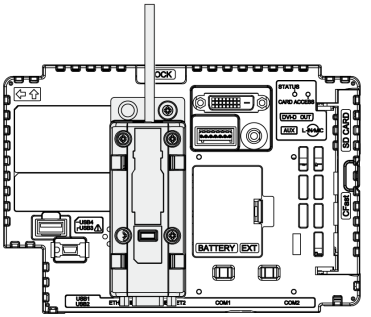
You can install the Isolation Unit to the back of the Box Module or to the installation panel. For more information on how to attach the Isolation Unit to the installation panel, please refer to the Isolation Unit Quick Reference Guide.

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

Step	Action
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.



Chapter 7
Maintenance

What Is in This Chapter?

This chapter contains the following topics:

Topic	Page
Regular Cleaning	184
Periodic Check Points	185
Replacing the Installation Gasket	186
Replacing the Primary Battery	188
Replacing the System Card (SD Card)	191
Replacing the System Card (CFast Card)	194
Replacing the Backlight	197

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, soak a soft cloth in water with a neutral detergent, wring the cloth tightly and wipe this product.

Periodic Check Points

Operation Environment

- Is the ambient air temperature within the allowable range? Refer to Environmental Specifications *(see page 72)*
- Is the ambient air humidity within the specified range? Refer to Environmental Specifications *(see page 72)*
- Is the operating atmosphere free of corrosive gasses?

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 *(see page 69)*
- Are all power cords and cables connected properly? Are there any loose cables?
- Are all mounting brackets 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.

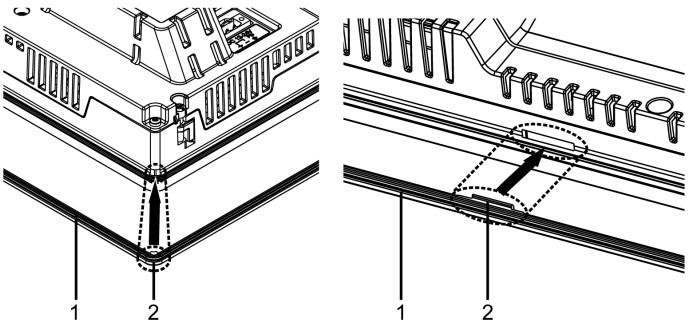
Replacing the Installation Gasket

Introduction

The installation gasket provides protection against dust and moisture.

NOTICE
GASKET AGING ● Inspect the gasket periodically as required by your operating environment. ● Change 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

Introduction

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.
  Battery ambient temperature 40 °C (104 °F): 5 years or more
  Battery ambient temperature 50 °C (122 °F): 4.1 years or more
  Battery ambient temperature 60 °C (140 °F): 1.5 years

When the voltage of the Supercapacitor drops at the same time as the voltage in the Battery for Memory Backup, clock data is lost when power is disconnected. If the clock data error message appears while the Battery for Memory Backup is connected, the Battery for Memory Backup 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.
- Always use a properly rated voltage sensing device to confirm power is off.
- 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.

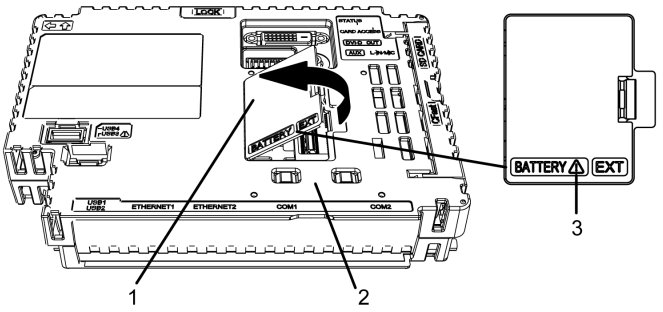
Failure to follow these instructions will result in death or serious injury.

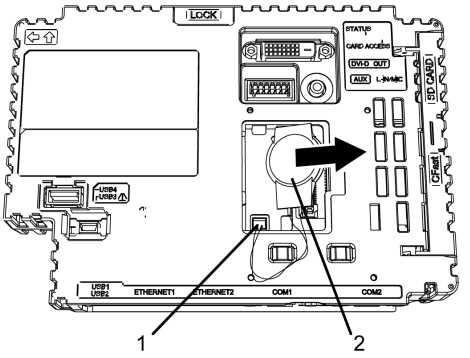
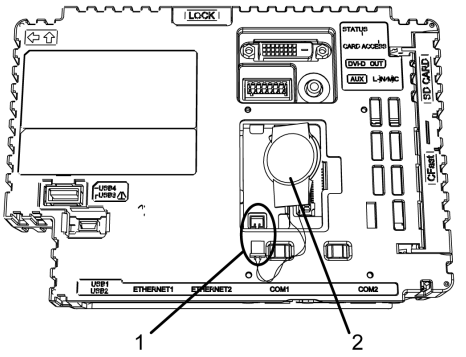
NOTICE

LOSS OF DATA

- Before replacing the Battery for Memory Backup, supply power to the Box Module for 5 minutes or more.
- Replace the Battery for Memory Backup regularly every five years after you purchase this product.
- Allow only qualified personnel to change the Battery for Memory Backup.

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 on this page and on the previous page)

Step	Action
5	If the Battery for Memory Backup is already installed, slide the Battery for Memory Backup in the direction of the arrow as illustrated. Unplug the cable from the connector.  **1** Connector **2** Battery
6	Insert a new Battery for Memory Backup 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)

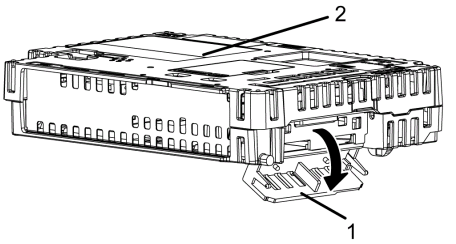
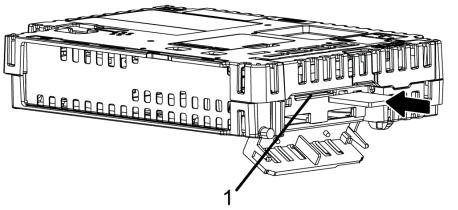
The System Card is an SD Card with the operating system installed on it.

To replace the System Card, use a SD Card by Schneider Electric. See the Accessories *(see page 38)*.

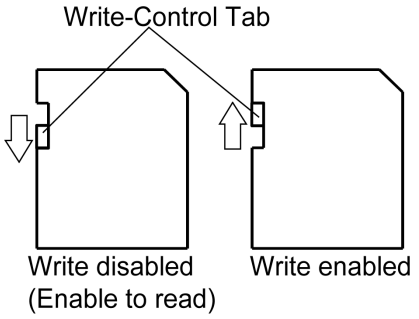
NOTICE
LOSS OF DATA When using a SD Card: ● Make sure you regularly back up the SD Card data since the SD Card has a life span and accidental data loss can occur at any time. ● While a SD Card is accessed, do not turn OFF or reset this product, and do not insert or remove the SD Card. ● Make sure of 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.schneider-electric.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 *(see page 134)*
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 System Card (CFast Card)

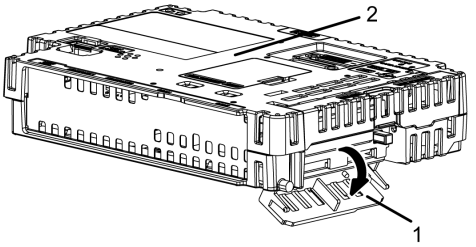
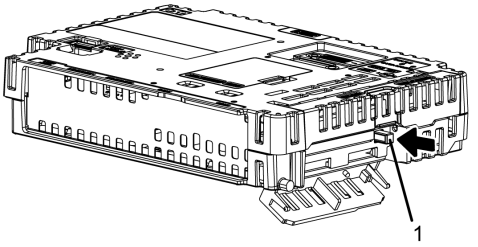
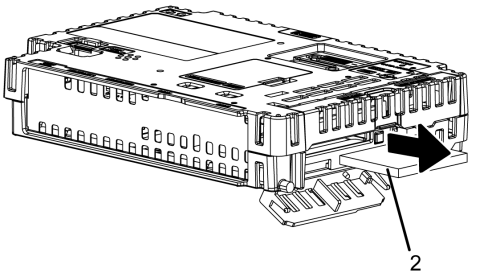
The System Card is a CFast Card with the operating system installed on it.

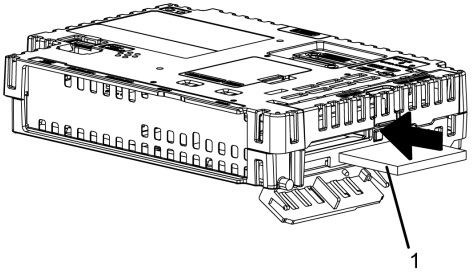
To replace the System Card, use CFast Card by Schneider Electric. See the Accessories *(see page 38)*.

NOTICE
LOSS OF DATA When using a CFast Card: ● Make sure you regularly back up the CFast Card data since the CFast Card has a life span and accidental data loss can occur at any time. ● While a CFast Card is accessed, do not turn OFF or reset this product, and do not insert or remove the CFast Card. ● Turn OFF this product when inserting or removing the CFast Card. ● Make sure of the CFast Card's orientation before inserting it into the CFast Card slot. **Failure to follow these instructions can result in equipment damage.**

NOTE: For information on backing up your CFast card, which is used as a system card, use the system backup software included on the provided restore DVD.

NOTICE
LOSS OF DATA When handling the CFast Card: ● Avoid storing the CFast Card where there is static electricity or electromagnetic waves. ● Avoid storing the CFast Card in direct sunlight, near a heater, or other locations where high temperatures can occur. ● Do not bend the CFast Card. ● Do not drop or strike the CFast Card against another object. ● Keep the CFast Card dry. ● Do not touch the CFast Card connectors. ● Do not disassemble or modify the CFast 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 *(see page 134)*.
3	As illustrated, open the System Card Cover in the direction of the arrow.  **1** System Card Cover **2** Box Module
4	Push the eject button once to release, and pull out the card.   **NOTE:** After using the CFast card, store the CFast Card in its case or other safe location. **1** Eject button **2** System Card

Step	Action
5	Insert the CFast Card into the System Card Slot with the front face of the CFast Card facing down, and push until the eject button comes out.  **1** System Card
6	Close the System Card Cover.
7	Mount the Box Module on the Display Module.

Replacing the Backlight

Not user replaceable. When replacement is required, contact your local distributor.

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