

Before Using the Product

Before using the product, please read this manual. Make sure that the end users read this manual and then keep the manual in a safe place for future reference.

SAFETY PRECAUTIONS

(Read these precautions before using this product.)

Before using this product, please read this manual and the relevant manuals carefully and pay full attention to safety to handle the product correctly.

The precautions given in this manual are concerned with this product only.

For the safety precautions of the programmable controller system, refer to the user's manual for the CPU module used.

In this manual, the safety precautions are classified into two levels: "⚠️ WARNING" and "⚠️ CAUTION".

⚠️ WARNING Indicates that incorrect handling may cause hazardous conditions, resulting in death or severe injury.

⚠️ CAUTION Indicates that incorrect handling may cause hazardous conditions, resulting in minor or moderate injury or property damage.

⚠️ AVERTISSEMENT Atteire l'attention sur le fait qu'une négligence peut créer une situation de danger avec risque de mort ou de blessures graves.

⚠️ ATTENTION Atteire l'attention sur le fait qu'une négligence peut créer une situation de danger avec risque de blessures légères ou de gravité moyennes ou risque de dégâts matériels.

Under some circumstances, failure to observe the precautions given under "⚠️ CAUTION" may lead to serious consequences.

Observe the precautions of both levels because they are important for personal and system safety.

Make sure that the end users read this manual and then keep the manual in a safe place for future reference.

[Design Precautions]

⚠️ WARNING

● In the case of a communication failure in the network, data in the master/local module are held. Check Data link status (each station) (SW00B0 to SW00B7) and configure an interlock circuit in the program to ensure that the entire system will operate safely.

● When the module is disconnected due to a communication failure in the network or the CPU module is in the STOP status, all outputs are held or turned off according to the parameter setting. Configure an interlock circuit in the program to ensure that the entire system will always operate safely even in such a case. Failure to do so may result in an accident due to an incorrect output or malfunction.

● Outputs may remain on or off due to a failure of the module. Configure an external circuit for monitoring output signals that could cause a serious accident.

● Do not use any "use prohibited" signals as a remote input or output signal. These signals are reserved for system use. Do not write any data to the "use prohibited" area in the remote register. If these operations are performed, correct operation of the module cannot be guaranteed.

[Design Precautions]

⚠️ CAUTION

● Do not install the control lines or communication cables together with the main circuit lines or power cables. Keep a distance of 100mm or more between them. Failure to do so may result in malfunction due to noise.

● During control of an inductive load such as a lamp, heater, or solenoid valve, a large current (approximately ten times greater than normal) may flow when the output is turned from off to on. Therefore, use a module that has a sufficient current rating.

[Installation Precautions]

⚠️ WARNING

● Shut off the external power supply (all phases) used in the system before mounting or removing a module. Failure to do so may result in electric shock or cause the module to fail or malfunction.

[Installation Precautions]

⚠️ CAUTION

● Use the module in an environment that meets the general specifications in the user's manual for the module. Failure to do so may result in electric shock, fire, malfunction, or damage to or deterioration of the product.

● Do not directly touch any conductive parts and electronic components of the module. Doing so can cause malfunction or failure of the module.

● Securely connect the cable connectors. Poor contact may cause malfunction.

● After the first use of the product, do not connect/disconnect the connector more than 50 times (IEC 61131-2/JIS B 3502 compliant). Exceeding the limit may cause malfunction.

● After the first use of the product, do not connect/disconnect the connector more than 50 times (IEC 61131-2/JIS B 3502 compliant). Exceeding the limit may cause malfunction.

● Before handling the module or the cable to be connected to the module, touch a conducting object such as a grounded metal to discharge the static electricity from the human body. Failure to do so may cause the module to fail or malfunction.

● Startup and maintenance of a control panel must be performed by qualified maintenance personnel with knowledge of protection against electric shock. Lock the control panel so that only qualified maintenance personnel can operate it.

● When disposing of this product, treat it as industrial waste.

CONDITIONS OF USE FOR THE PRODUCT

(1) Mitsubishi programmable controller ("the PRODUCT") shall be used in conditions:

i) where any problem, fault or failure occurring in the PRODUCT, if any, shall not lead to any major or serious accident; and

ii) where the backup and fail-safe function are systematically or automatically provided outside of the PRODUCT for the case of any problem, fault or failure occurring in the PRODUCT.

(2) The PRODUCT has been designed and manufactured for the purpose of being used in general industries.

MITSUBISHI SHALL HAVE NO RESPONSIBILITY OR LIABILITY (INCLUDING, BUT NOT LIMITED TO ANY AND ALL RESPONSIBILITY OR LIABILITY BASED ON CONTRACT, WARRANTY, TORT, PRODUCT LIABILITY) FOR ANY INJURY OR DEATH TO PERSONS OR LOSS OR DAMAGE TO PROPERTY CAUSED BY THE PRODUCT THAT ARE OPERATED OR USED IN APPLICATION NOT INTENDED OR EXCLUDED BY INSTRUCTIONS, PRECAUTIONS, OR WARNING CONTAINED IN MITSUBISHI'S USER, INSTRUCTION AND/OR SAFETY MANUALS, TECHNICAL BULLETINS AND GUIDELINES FOR THE PRODUCT.

("Prohibited Application")

Prohibited Applications include, but not limited to, the use of the PRODUCT in;

• Nuclear Power Plants and any other power plants operated by Power companies, and/or any other cases in which the public could be affected if any problem or fault occurs in the PRODUCT.

• Railway companies or Public service purposes, and/or any other cases in which establishment of a special quality assurance system is required by the Purchaser or End User.

• Aircraft or Aerospace, Medical applications, Train equipment, transport equipment such as Elevator and Escalator, Incineration and Fuel devices, Vehicles, Manned transportation, Equipment for Recreation and Amusement, and Safety devices, handling of Nuclear or Hazardous Materials or Chemicals, Mining and Drilling, and/or other applications where there is a significant risk of injury to the public or property.

Notwithstanding the above, restrictions Mitsubishi may in its sole discretion, authorize use of the PRODUCT in one or more of the Prohibited Applications, provided that the usage of the PRODUCT is limited only for the specific applications agreed to by Mitsubishi and provided further that no special quality assurance or fail-safe, redundant or other safety features which exceed the general specifications of the PRODUCTS are required. For details, please contact the Mitsubishi representative in your region.

1. Relevant manuals

The product details are described in the following manual (sold separately). Please develop familiarity with the functions and performance of the product to handle the product correctly.

• CC-Link IE Field Network Remote IO-Link Module User's Manual SH-081917ENG (13JX85)

2. Packing list

Check that the following items are included in the package of the product.

Item	Quantity
Module	1
Before Using the Product (this document)	1

3. Operating ambient temperature

Use the product within the range of 0 to 55°C.

3. Température ambiante de fonctionnement

Utilisez ce produit sur une gamme de température entre 0 et 55 °C.

[Wiring Precautions]

⚠️ WARNING

● Shut off the external power supply (all phases) used in the system before wiring. Failure to do so may result in electric shock or cause the module to fail or malfunction.

[Wiring Precautions]

⚠️ CAUTION

● Individually ground the FG terminal of the programmable controller with a ground resistance of 100Ω or less. Failure to do so may result in electric shock or malfunction.

● Use applicable solderless terminals and tighten them within the specified torque range.

● Check the rated voltage and terminal layout before wiring to the module, and connect the cables correctly. Connecting a power supply with a different voltage rating or incorrect wiring may cause a fire or failure.

● Tighten the terminal block screws within the specified torque range.

Undertightening can cause short circuit, fire, or malfunction. Overtightening can damage the screw and/or module, resulting in drop, short circuit, fire, or malfunction.

● Prevent foreign matter such as dust or wire chips from entering the module. Such foreign matter can cause a fire, failure, or malfunction.

● Place the cables in a duct or clamp them. If not, dangling cable may swing or inadvertently be pulled, resulting in damage to the module or cables or malfunction due to poor contact.

● Do not install the control lines or communication cables together with the main circuit lines or power cables. Keep a distance of 100mm or more between them. Failure to do so may result in malfunction due to noise.

● When disconnecting the cable from the module, do not pull the cable by the connector. For the cable with connector, hold the connector part of the cable. For the cable connected to the terminal block, loosen the terminal screw. Pulling the cable connected to the module may result in malfunction or damage to the module or cable.

● When an overcurrent caused by a failure of an external device or a programmable controller flows for a long time, it may cause smoke and fire. To prevent this, configure external safety circuits, such as fuses, for the module power supply and external power supply.

● Mitsubishi programmable controllers must be installed in control panels. Wiring and replacement of a module must be performed by qualified maintenance personnel with knowledge of protection against electric shock. For wiring methods, refer to "INSTALLATION AND WIRING" in the user's manual for the module.

● Do not connect an output device of a SIO device to a channel set with IO-Link mode. Failure to do so may cause malfunction.

[Startup and Maintenance Precautions]

⚠️ WARNING

● Do not touch any terminal while power is on. Doing so will cause electric shock or malfunction.

● Shut off the external power supply (all phases) used in the system before cleaning the module or retightening the terminal block screws and connector screws. Failure to do so may cause the module to fail or malfunction.

[Startup and Maintenance Precautions]

⚠️ CAUTION

● Do not disassemble or modify the module. Doing so may cause failure, malfunction, injury, or fire.

● Do not drop or apply strong shock to the module. Doing so may damage the module.

● Shut off the external power supply (all phases) used in the system before mounting or removing a module. Failure to do so may cause the module to fail or malfunction.

● After the first use of the product, do not mount/remove the module more than 50 times (IEC 61131-2/JIS B 3502 compliant). Exceeding the limit may cause malfunction.

● After the first use of the product, do not connect/disconnect the connector more than 50 times (IEC 61131-2/JIS B 3502 compliant). Exceeding the limit may cause malfunction.

● Before handling the module or the cable to be connected to the module, touch a conducting object such as a grounded metal to discharge the static electricity from the human body. Failure to do so may cause the module to fail or malfunction.

● Startup and maintenance of a control panel must be performed by qualified maintenance personnel with knowledge of protection against electric shock. Lock the control panel so that only qualified maintenance personnel can operate it.

[Disposal Precautions]

⚠️ CAUTION

● When disposing of this product, treat it as industrial waste.

[Terminal block for module power supply and FG]

Bornier du module d'alimentation et FG

[Précautions lors de la conception]

⚠️ AVERTISSEMENT

● En cas de problème de communication dans le réseau, les données sont gardées en mémoire du module maître / local. Vérifier l'état de la liaison de données (sur chaque station) (SW00B0 à SW00B7) et constituer dans le programme séquentiel un circuit de verrouillage permettant de garantir la sécurité de fonctionnement de l'ensemble du système.

● Quand le module se trouve déconnecté suite à un problème de communication dans le réseau ou quand le module CPU entre à l'état STOP, toutes les entrées peuvent être maintenues ou désactivées, ce qui dépend du paramétrage. Pour cette éventualité, constituer dans le programme un circuit de verrouillage permettant de garantir la sécurité de fonctionnement de l'ensemble du système.

● Non-respect de cette précaution peut être à l'origine d'un accident en cas de sortie erronée ou de dysfonctionnement.

● Selon la nature du panneau du module, les sorties peuvent rester activées ou désactivées. Configurer un circuit de surveillance externe pour le suivi des signaux de sortie susceptibles de provoquer un accident grave.

● Comme signal d'entrée ou de sortie distante, il ne faut utiliser aucun des signaux dont l'usage est interdit ("use prohibited"). L'usage de ces signaux est réservé au système. N'inscrire aucune données dans les zones du registre distant marquées "use prohibited". Si ces restrictions ne sont pas respectées, le bon fonctionnement du module ne peut être garanti.

[Précautions lors de la conception]

⚠️ ATTENTION

● Ne pas entremêler les lignes de commandes ou câbles de communication avec les lignes des circuits principaux ou les câbles d'alimentation. Les installer en maintenant entre eux une distance minimum de 100 mm. Faute de quoi, il y a risque de dysfonctionnement.

● À la commande d'une charge induktive comme une lampe, un réchauffeur ou une électrophone, un fort courant (jusqu'à 10 fois l'intensité normale) traverse la sortie quand celle-ci passe de OFF à ON. Il faut donc que le module utilisé ait une capacité de courant suffisante.

[Précautions d'installation]

⚠️ AVERTISSEMENT

● Couper l'alimentation externe du système (sur toutes les phases) avant de mettre en place ou de retirer un module. Faute de quoi, il y a risque de choc électrique et de panne ou dysfonctionnement du module.

[Précautions d'installation]

⚠️ ATTENTION

● Utiliser le module dans un environnement en conformité avec les spécifications générales que présente son Manuel de l'utilisateur. Faute de quoi, il y a risque d'électrocution, de départ de feu, de dysfonctionnement, d'endommagement ou de déterioration du produit.

● Éviter tout contact direct avec les parties conductrices et les composants électroniques du module. Une manipulation incorrecte peut être à l'origine de dysfonctionnements ou de pannes du module.

● Raccorder fermement les connecteurs des câbles. Tout mauvais contact peut être source de dysfonctionnements.

● Après la première mise en service du produit, le nombre maximum admissible d'opérations de connexion/déconnexion du connecteur est de 50 (selon CEI 61131-2/JIS B 3502). Le dépassement de cette limite peut être à l'origine de dysfonctionnements.

[Précautions de câblage]

⚠️ AVERTISSEMENT

● Avant le câblage, couper l'alimentation externe du système (sur toutes les phases). Faute de quoi, il y a risque de choc électrique et de panne ou dysfonctionnement du module.

[Précautions de câblage]

⚠️ ATTENTION