

MITSUBISHI

ID Interface Module

User's Manual
(Hardware)

QD35ID1

QD35ID2

Thank you for buying the Mitsubishi general-purpose programmable logic controller MELSEC-Q Series.

Prior to use, please read both this manual and detailed manual thoroughly and familiarize yourself with the product.

MELSEC-Q

Mitsubishi Programmable
Logic Controller

• SAFETY PRECAUTIONS •

(Please read the following before using the product.)

When using this product, please read this manual as well as the related manuals that are referenced in this manual, and make sure that strict attention is paid to the safety and proper use of the product.

The precautionary notes in this manual cover only this product. For the precautionary notes regarding the safety of the entire system using this product, please read the User's Manual of the CPU module.


In this manual, two levels of safety precautions, Danger and Caution, are used as shown below:



Improper handling may result in a dangerous situation leading to severe injuries and possible death.



Improper handling may result in a dangerous situation leading to slight-to-moderate injuries and material damages.

Items marked by  **CAUTION**, however, may also result in serious consequences. Please pay attention to this safety information as well.

Please keep this manual for reference, and be sure to attach it to the product when the product is transferred to another location or party.

[DESIGN PRECAUTIONS]

DANGER

- Provide a safety circuit externally to the PLC so that the safety of the overall system is always maintained in case of an external power supply failure or a PLC main unit breakdown.
Accidents may occur due to an erroneous output or a malfunction.
- Design the circuit in such a way that the external power supply is turned on after the PLC main unit is powered on.
Turning on the external power supply first may cause accidents due to an erroneous output or a malfunction.

CAUTION

- Do not bundle the reader writer cables together with the main circuit or the power cable, and do not install them close to each other.
They should be installed at least 100 mm away from each other.
Failure to do so may generate noise, resulting in a malfunction.

[INSTALLATION PRECAUTIONS]

CAUTION

- Use the PLC in an operating environment that meets the general specifications described in the manual.
Using the PLC in any other operating environments may cause an electric shock, a fire or a malfunction, or may damage or degrade the PLC.
- Before installing the module, securely insert the module fastening latch at the lower part of the module into the installation hole on the base unit. (Q Series modules must be fixed to the base unit with screws using the specified torque.)
If the module is not installed properly, it may cause the module to malfunction, fail or fall off.
- Tighten the installation screws within the specified torque.
If the screws are loose, it may cause the module to fall off or malfunction.
If the screws are tightened excessively, it may damage the screws and the module, and cause the module to fall off or malfunction.
- Connect the reader writer cables securely to the connectors of the module. After connecting, make sure to check that the cables are not loose.
If the cables are loose, poor cable connections may cause erroneous inputs and/or outputs.
- Do not directly touch the conducting parts and electronic parts of the module.
It may cause the module to malfunction or fail.

[WIRING PRECAUTIONS]

CAUTION

- Before starting any installation or wiring work, make sure to shut off all phases of the power supply externally.
Failure to completely shut off all phases of the power supply may result in an electric shock as well as a damage or a malfunction of the product.
- Always ground the FG terminal using Class D grounding (Class 3 grounding) or higher designated specifically for the PLC.
Otherwise, there is a risk of an electric shock or a malfunction.
- Wire correctly to the PLC upon checking the rated voltage and terminal layout of the product.
Connecting a power supply not having the rated voltage or conducting incorrect wiring may cause a fire or a breakdown.
- Tighten the terminal screws using the specified torque.
If the terminal screws are loose, it may cause the module to short-circuit or malfunction.
If the terminal screws are tightened excessively, it may damage the screws and the module, resulting in a short circuit or a malfunction.
- Be careful not to let any foreign particles such as chips and wire burrs get inside the module.
They may cause a fire, as well as a breakdown or a malfunction of the module.
- Make sure to place the communication cable and the power cable to be connected to the module in a duct or fasten them using a cable clamp.
If the cables are not placed in a duct or fastened with a cable clamp, their positions may become unstable or moved, and they may be pulled inadvertently. This may damage the module and the cables or result in a malfunction because of poor cable contact.
- When disconnecting the communication cable and the power cable from the module, do not pull the cables by hand.
Loosen the screws in the part of the cable connected to the module, and then remove the cable. If the cable is pulled while being connected to the module, it may damage the module or the cable, or result in a malfunction because of poor cable contact.

Revisions

* The manual number is indicated in the right bottom of the front cover of this manual.

| Print Date | *Manual Number | Revision |
|------------|-------------------|----------------|
| Oct., 2001 | IB-(NA)-0800208-A | First printing |
| | | |

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About the Manuals

The following table lists manuals regarding this product.
Use this table to order necessary manuals respective to the functions used.

Related Manuals

| Manual name | Manual No. (Model code) |
|---|----------------------------|
| Q Corresponding ID Interface Module User's Manual (QD35ID1, QD35ID2) | SH-080199 (13JT76) |

Please read the Intelligent Communication Module User's Manual
before using this module.

1. Overview

This manual explains the specifications, handling and names of component sections of the QD35ID1/QD35ID2 ID Interface Module (hereinafter called ID Interface Module).

This module is compatible with the D-2N Series (batteryless type).

Please check that the following items are included in the package:

| Item name | Quantity |
|--|----------|
| ID Interface Module | 1 |
| ID Interface Module User's Manual (Hardware) | 1 |

2. Performance Specifications

The following shows the performance specifications of the ID Interface Module:

| Item | | Specification | |
|--------------------------------------|----------------------------------|--|---|
| Model name | | QD35ID1 | QD35ID2 |
| Connectable reader/writer | | D-2N422RW (-C2), D-2N422RWS (-C2) | |
| Number of connectable reader/writers | | 1 | 2 |
| Connectable cable | | D-NS422CAB10 (10 m), D-NS422CAB20 (20 m), D-NS422CAB40 (40 m), D-NS422CAB100 (100 m) (Maximum of two cables can be combined.) | |
| Data carrier that can be used | | D-2N03PS, D-2N03PM | |
| Occupied points | | 32 points | |
| Occupied slot | | 1 slot | |
| Current consumption | 5 V DC | 0.40 A (power supplied internally from the PLC) | 0.42 A (power supplied internally from the PLC) |
| | External power supply 24 V DC | 0.17 A | 0.33 A |
| Weight | | 0.13 kg | 0.14 kg |

A reader/writer and a data carrier are required in order to use the ID Interface Module.

For general specifications, refer to the User's Manual of the PLC CPU to be used.

3. Handling

3.1 Precautionary Item when Handling

- 1) Do not drop or apply severe shock to the module case since it is made of resin.
- 2) Tighten the terminal block and module installation screws within the specified torque range as follows:

| Screw location | Tightening torque range |
|---|-------------------------|
| Terminal block terminal screws (M3) | 42 to 58 N•cm |
| Module fixing screw (normally not required) (M3) (*1) | 36 to 48 N•cm |

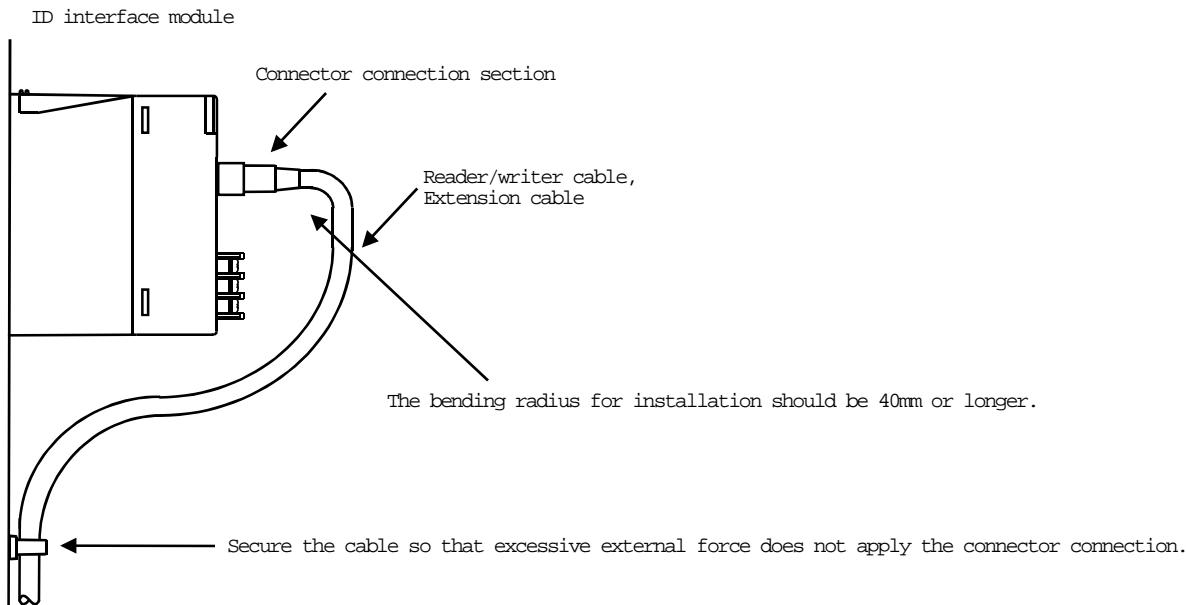
*1 The module can be easily fixed onto the base unit using the hook provided at the top of the module. However, it is recommended that the module will be secured with the dedicated installation screws if it is subject to significant vibration or shock.

3.2 Installation Environment

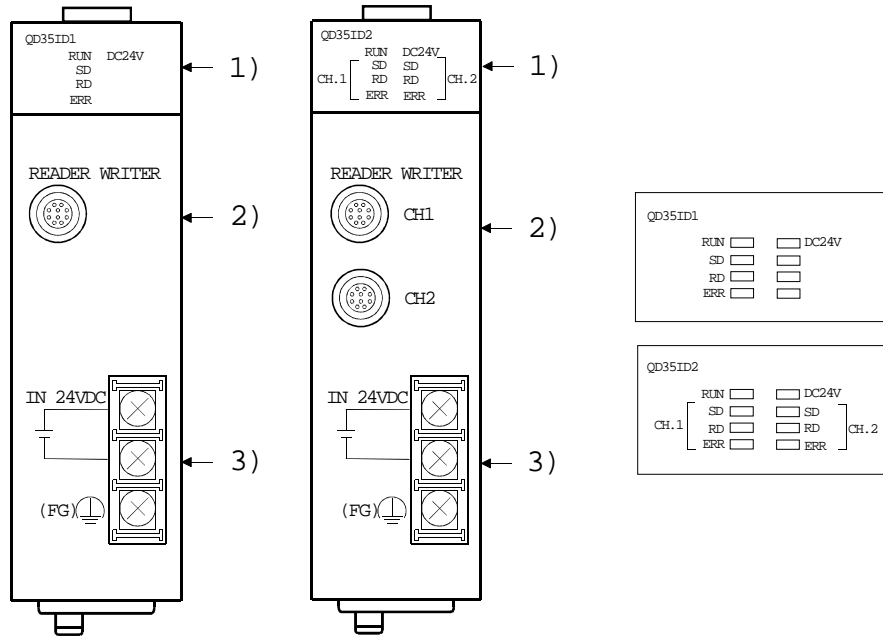
For further details, refer to the user's manual for the CPU module used.

3.3 Cable installation

When connecting a reader/writer cable or an extension cable to ID interface module, be sure that excessive force does not apply to the connector connection of the module.



4. Names of Component Sections



| | Name | Contents |
|----|-------------------------|---|
| 1) | LED display | LED display (Refer to 1) for the display contents.) |
| 2) | Reader writer connector | Connector for reader writer connection |
| 3) | Power supply terminal | Terminal for connecting 24 V power supply and Class D grounding (Class 3 grounding) |

1) LED display list

| LED name | Display contents | ● : On/Flashing | ○ : Off |
|----------|---|------------------------|-----------------|
| RUN | Normal operation display | Normal | Error, reset |
| SD | Transmission status display | Data being transmitted | Not transmitted |
| RD | Reception status display | Data being received | Not received |
| ERR | Error status display | Error has occurred | Normal |
| DC24V | Lit while supplying power to the reader writer. | Normal | Error |

5. Wiring

The following explains the wiring of the ID Interface Module.

5.1 Wiring Precautions

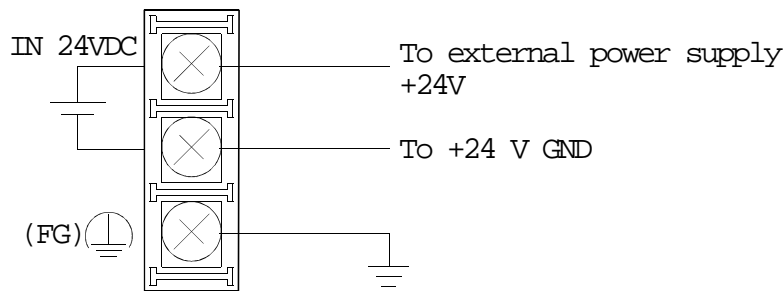
External wiring that is not easily affected by noise is required as one of the conditions to make a full use of the functions of the ID Interface Module and to configure a highly reliable system.

The following describes the precautions on the external wiring of the ID Interface Module.

- (1) Do not wire the ID Interface Module close to or bundle with the main circuit cable, a high-voltage power cable, or a load cable from other than the PLC. Failure to follow this instruction may make the ID Interface Model susceptible to noise and surge induction. They should be installed at least 100 mm away from each other.
- (2) If a group of devices such as an inverter and a servo motor are to be used, always ground them using Class D grounding (Class 3 grounding). Otherwise, they may be affected by the electromagnetic field from the module main unit and the cables, and there is the risk of malfunction.
- (3) Do not connect the external power supply by reversing the polarities of +24 V and 24 G. If they are connected in reverse, the ID Interface Module will not operate.

5.2 Wiring of the Power Supply Terminals

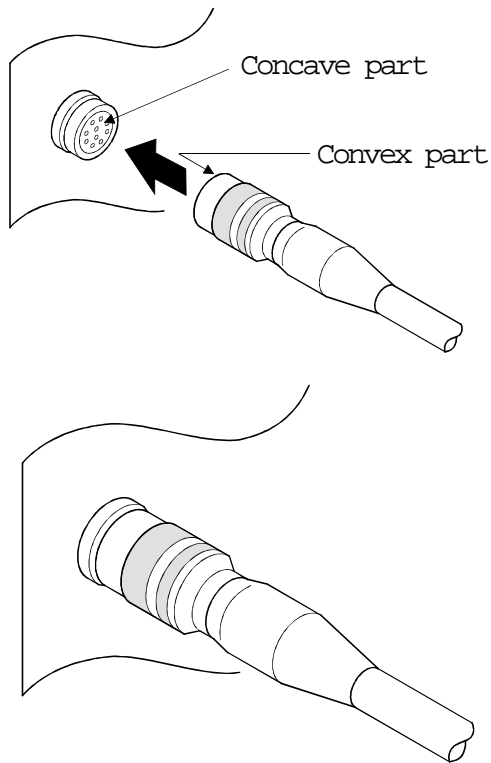
Perform the wiring of the power supply terminals as shown in the figure below.



5.3 Connecting and Disconnecting the Reader Writer and the Cables

The following shows how to connect and disconnect the reader writer and the cables:

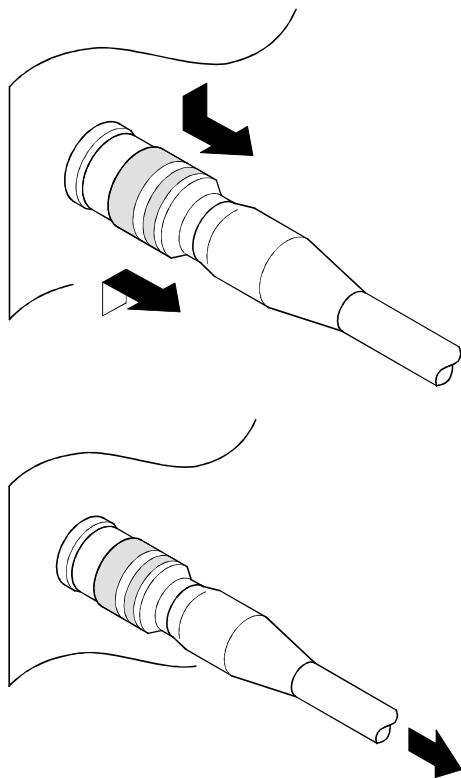
(1) Connecting



1. Insert the convex part of the plug into the concave part of the jack.

2. Insert the plug securely into the position until the plug locks (you will hear a click sound).

(2) Disconnecting

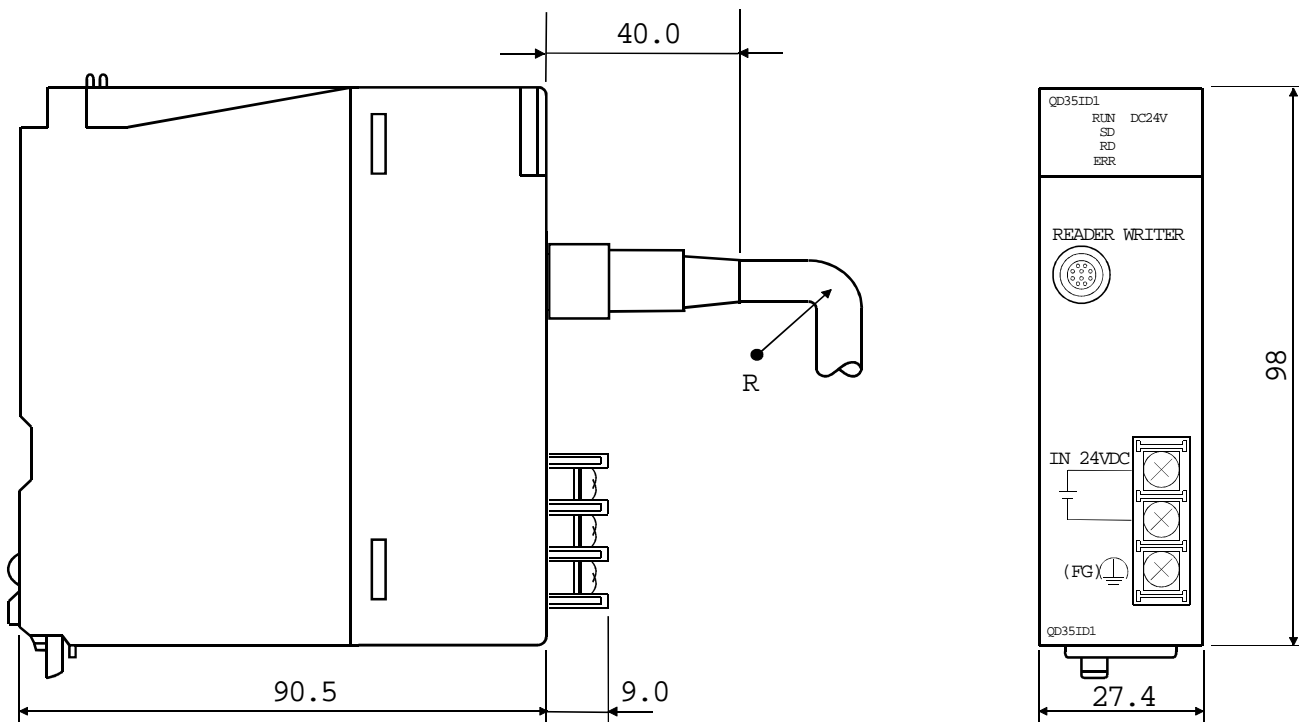


1. Release the lock by pulling the lock release mechanism section of the plug in the direction of the arrows.

2. Hold and pull the plug in the direction of the arrow.

6. External Dimension Diagrams

The following figure shows the external dimensions of the QD35ID1. The external dimensions of the QD35ID2 are also the same.



R (Bending radius near connector) : 40mm

Unit: mm

Warranty

Mitsubishi will not be held liable for damage caused by factors found not to be the cause of Mitsubishi; machine damage or lost profits caused by faults in the Mitsubishi products; damage, secondary damage, accident compensation caused by special factors unpredictable by Mitsubishi; damages to products other than Mitsubishi products; and to other duties.

⚠ For safe use

- This product has been manufactured as a general-purpose part for general industries, and has not been designed or manufactured to be incorporated in a device or system used in purposes related to human life.
- Before using the product for special purposes such as nuclear power, electric power, aerospace, medicine or passenger movement vehicles, consult with Mitsubishi.
- This product has been manufactured under strict quality control. However, when installing the product where major accidents or losses could occur if the product fails, install appropriate backup or failsafe functions in the system.

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| | |
|----------------------------|-------------------|
| Model | QD35ID1/2-U-HW-JE |
| Model code | 13JT75 |
| IB(NA)-0800208-A (0110)MEE | |

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