

# MITSUBISHI

## Positioning Module

User's Manual  
(Hardware)

QD75MH1

QD75MH2

QD75MH4

Thank you for buying the Positioning Module.

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 INSTRUCTIONS •

(Always read these instructions before using this equipment.)

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

The instructions given in this manual are concerned with this product. For the safety instructions of the programmable controller system, please read CPU module User's Manual.

In this manual, the safety instructions are ranked as "DANGER" and "CAUTION".




**DANGER**

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 medium or slight personal injury or physical damage.

Note that the  CAUTION level may lead to a serious consequence according to the circumstances. Always follow the instructions of both levels because they are important to personal safety.

Please store this manual in a safe place and make it accessible when required. Always forward it to the end user.

### [INSTALLATION PRECAUTION]

#### CAUTION

- Use the PLC within the general specifications environment given in the CPU module User's Manual to use.  
Using this PLC in an environment outside the range of the general specifications may cause electric shock, fire, malfunction, and damage to or deterioration of the product.
- While pressing the installation lever located at the bottom of module, insert the module fixing tab into the fixing hole in the base unit until it stops. Then, securely mount the module with the fixing hole as a supporting point.  
Incorrect loading of the module can cause a malfunction, failure or drop.  
When using the module in the environment of much vibration, tighten the module with a screw. Tighten the screws within the specified torque range.  
Undertightening can cause a drop, short circuit or malfunction.  
Overtightening can cause a drop, short circuit or malfunction due to damage to the screws or module.
- Completely turn off the externally supplied power used in the system before installing or removing the module. Not doing so may damage the product.
- Do not directly touch the module's conductive parts and electronic components of the module.  
Touching the conductive parts and electronic components of the module could cause an operation failure or give damage to the module.

## [WIRING PRECAUTION]

### DANGER

- Completely turn off the externally supplied power used in the system before installing or placing wiring.  
Not doing so may cause electric shock or damage to the product.

### CAUTION

- Check the layout of the terminals and then properly route the wires to the module.
- Solder connector for external input signal cable properly.  
Insufficient soldering may cause malfunction.
- Be careful not to let foreign matter such as sawdust or wire chips get inside the module.  
These may cause fires, failure or malfunction.
- The top surface of the module is covered with protective films to prevent foreign objects such as cable off cuts from entering the module when wiring.  
Do not remove this film until the wiring is complete.  
Before operating the system, be sure to remove the film to provide adequate ventilation.
- Securely connect the connector for SSCNETIII cable to the bottom connector on the module.
- When removing the cable or power supply cable from the module, do not pull the cable. When removing the cable with a connector, hold the connector on the side that is connected to the module.  
Pulling the cable that is still connected to the module may cause malfunction or damage to the module or cable.
- The cable used for connecting the QD75MH external input signal cable and SSCNETIII cable should not be routed near or bundled with the main circuit cable, power cable and/or other such load carrying cables other than those for the PLC. These cables should be separated by at least 100mm (3.94inch). They can cause electrical interference, surges and inductance that can lead to mis-operation.
- When pulling out SSCNETIII cable from SSCNETIII connector, be sure to put the cap on SSCNETIII connector. If the end face of SSCNETIII connector is dirty, optical transmission is interrupted and it may cause malfunctions.
- Do not see directly the light generated from SSCNETIII connector of servo amplifier or QD75MH. When the light gets into eye, may feel something is wrong for eye.  
(The light source of SSCNETIII corresponds to class1 defined in JISC6802 or IEC60825-1.)
- If SSCNETIII cable is added a power such as a major shock, lateral pressure, haul, sudden bending or twist, its inside distorts or breaks, and optical transmission will not be available. SSCNETIII cable should be given loose slack to avoid from becoming smaller than the minimum bend radius, and it should not be twisted.
- Make sure to use SSCNETIII cable within the range of operating temperature described in this manual. The optical cable and code part melts down if being left near the fire or high temperature.  
Therefore, do not make it touched the part which becomes high temperature, such as radiator or regenerative brake option of servo amplifier, or servomotor.

 CAUTION

- Make sure to lay SSCNET III cable with greater radius than the minimum bend radius.  
(Refer to the Section 5.2 Precautions for SSCNET III cable wiring.)
- Fix the optical cable at the closest part to the connector with bundle material in order to prevent SSCNET III cable from putting its own weight on SSCNET III connector.
- Never use vinyl tape for optical cord. Plasticizing material in vinyl tape goes into optical fiber and lowers the optical characteristic. At worst, it may cause wire breakage. If using adhesive tape for the optical cable laying, the fire resistant acetate cloth adhesive tape 570F (Teraoka Seisakusho Co., Ltd) is recommended.  
If laying with other wires, do not make the optical cable touched wires or cables made from soft polyvinyl chloride (PVC), polyethylene resin (PE), teflon (Fluorocarbon resin) or nylon which contains plasticizing material.
- If the adhesion of solvent and oil to the code part of SSCNET III cable may lower the optical characteristic and machine characteristic. If it is used such an environment, be sure to do the protection measures to the optical cord.
- When storing, put a cap on the connector part for preventing the connector edge of SSCNET III from getting dirt, dust and so on.
- SSCNET III connector is put a cap to protect light device inside connector from dust.  
For this reason, do not remove a cap until just before mounting SSCNET III cable.  
Then, when removing SSCNET III cable, make sure to put a cap.
- Keep the cap for SSCNET III connector and the tube for protecting light code end of SSCNET III cable in a plastic bag with a zipper of SSCNET III cable to prevent them from becoming dirty.
- When changing the servo amplifier or QD75MH, make sure to put cap on SSCNET III connector.  
When asking repair of servo amplifier for some troubles, make sure to put a cap on SSCNET III connector. When the connector is not put a cap, the light device may be damaged at the transit.  
In this case, exchange and repair of light device is required.

REVISIONS

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## About Manuals

There are following manuals for this product.

If it is required, please make this table reference and request it.

### Relevant Manuals

Manual Name	Manual Number (Model Code)
Type QD75MH Positioning Module User's Manual (Details)	IB-0300117 (1XB917)
GX Configurator-QP Version2 Operating Manual	SH-080172 (13JU19)

## Conformation to the EMC Directive Instruction

For details on making Mitsubishi PLC conform to the EMC directive instruction when installing it in your product, please refer to Chapter 3, "EMC Directive and Low Voltage Instruction" of the using PLC CPU module User's Manual (Hardware).

The CE logo is printed on the rating plate on the main body of the PLC that conforms to the EMC directive instruction.

For the other EMC Directive guidelines on the servo amplifier and the servomotor, refer to the "EMC INSTALLATION GUIDELINES" (IB (NA)-67303).



## 1. Overview

This manual explains how to handle the Positioning Module, model numbers QD75MH1, QD75MH2, QD75MH4 (hereinafter collectively referred to as the QD75MH).

After unpacking the QD75MH, please verify that the corresponding product as listed below is enclosed in the package.

Model name	Description	Quantity
QD75MH1	QD75MH1 Positioning Module (Single-axis SSCNET III type)	1
QD75MH2	QD75MH2 Positioning Module (Dual-axis SSCNET III type)	1
QD75MH4	QD75MH4 Positioning Module (Four-axis SSCNET III type)	1

### Important

The user should arrange for a connector for external input signal cable and SSCNET III cable since it is not provided in the package.

\* Connector type

- A6CON1 (Soldering type)
- A6CON2 (Crimp-contact type)
- A6CON3 (Pressure-displacement type)
- A6CON4 (Soldering type, useable for straight out and diagonal out)

\* A6CON2 Crimp-contact tool

- Model name: FCN-363T-T005/H

\* A6CON3 Pressure-displacement tool

- Model name: FCN-367T-T012/H (Locator Plate)  
: FCN-707T-T001/H (Cable Cutter)  
: FCN-707T-T101/H (Hand Press)

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FUJITSU COMPONENTS HONG KONG CO., LTD.	Suite 913 Ocean Centre, 5 Canton Road. TST, Kowloon, Hong Kong Tel : (852) 2881-8495
FUJITSU ELECTRONIC COMPONENTS (SHANGHAI) CO., LTD.	Rm 3105, Bund Center, 222 Yan An Rd(E), Shanghai, 200002 Tel : (86) 21-6335-2560

## 2. Specifications

(1) The specifications for the QD75MH1, QD75MH2 and QD75MH4

Item	Specification		
	QD75MH1	QD75MH2	QD75MH4
Number of axes (axis)	1	2	4
SSCNET III cable	MR-J3BUS□M (Note-1)	<ul style="list-style-type: none"> <li>• Connection between QD75MH and MR-J3-□B.</li> <li>• Connection between MR-J3-□B and MR-J3-□B.</li> <li>• Standard code for inside panel.</li> <li>• 0.15m(0.49ft.), 0.3m(0.98ft.), 0.5m(1.64ft.), 1m(3.28ft.), 3m(9.84ft.)</li> </ul>	
	MR-J3BUS□M-A (Note-1)	<ul style="list-style-type: none"> <li>• Connection between QD75MH and MR-J3-□B.</li> <li>• Connection between MR-J3-□B and MR-J3-□B.</li> <li>• Standard code for outside panel.</li> <li>• 5m(16.40ft.), 10m(32.81ft.), 20m(65.62ft.)</li> </ul>	
	MR-J3BUS□M-B (Note-1)	<ul style="list-style-type: none"> <li>• Connection between QD75MH and MR-J3-□B.</li> <li>• Connection between MR-J3-□B and MR-J3-□B.</li> <li>• Long distance cable.</li> <li>• 30m(98.43ft.), 40m(131.23ft.), 50m(164.04ft.)</li> </ul>	
SSCNET III cable over all length	The cable length of the SSCNET III cable depends on the cable type. MR-J3BUS□M: The cable length is 3m(0.98ft.) max. / MR-J3BUS□M-A: The cable length is 20m(65.62ft.) max. / MR-J3BUS□M-B: The cable length is 50m(164.04ft.) max.		
Applicable wire size	0.3 mm <sup>2</sup> (when A6CON1/A6CON4 is used), AWG#24 to 28 (when A6CON2 is used), AWG#28 (twisted) or AWG#30 (single wire) (when A6CON3 is used)		
Applicable connector	A6CON1, A6CON2, A6CON3, A6CON4 (sold separately)		
Number of I/O occupied points (points)	32 (I/O assignment: Intelligent function module 32 )		
5 V DC current consumption (A)	0.60	0.60	0.60
External dimensions (mm/inch)	98 (3.86) (H) × 27.4 (1.08) (W) × 90 (3.54) (D)		
Weight (kg/lb.)	0.15 (0.33)	0.15 (0.33)	0.16 (0.35)

(Note-1) : □ = Cable length

(015: 0.15m (0.49ft.), 03: 0.3m (0.98ft.), 05: 0.5m (1.64ft.), 1: 1m (3.28ft.), 3: 3m (9.84ft.), 5: 5m (16.40ft.), 10: 10m (32.80ft.), 20: 20m (65.62ft.), 30: 30m (98.43ft.), 40: 40m (131.23ft.), 50: 50m (164.04ft.) )

(Note-2) : For the general specifications of the QD75MH, see the "User's Manual for the CPU module used".

### 3. Handling

#### CAUTION

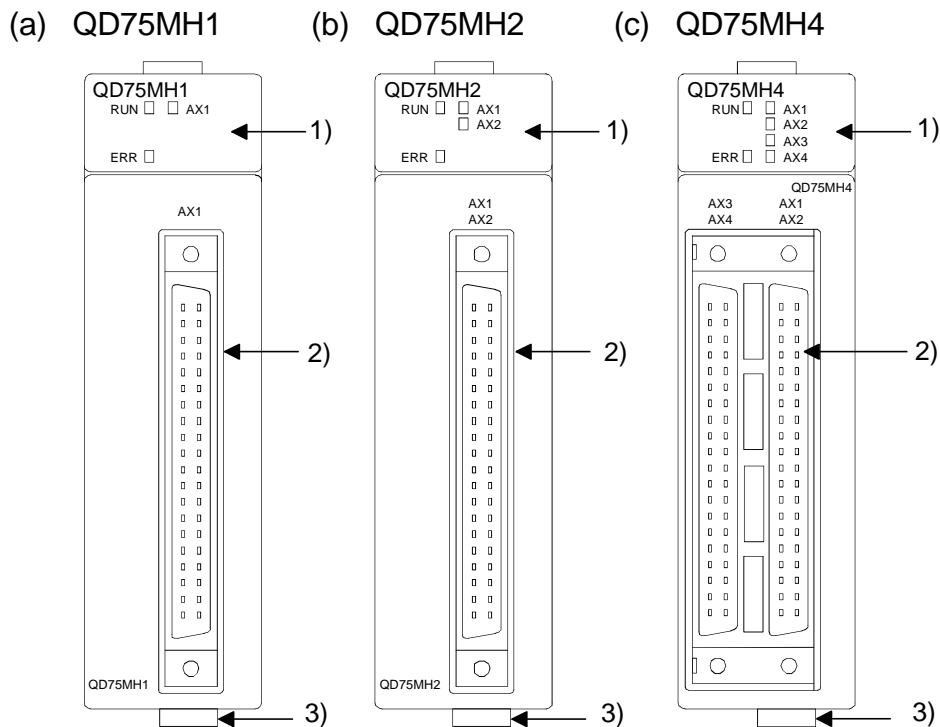
- Use the PLC within the general specifications environment given in the CPU module User's Manual to use.  
Using the PLC outside the general specification range environment could lead to electric shocks, fires, malfunctioning, product damage or deterioration.
- While pressing the installation lever located at the bottom of module, insert the module fixing tab into the fixing hole in the base unit until it stops. Then, securely mount the module with the fixing hole as a supporting point.  
Incorrect loading of the module can cause a malfunction, failure or drop.  
When using the module in the environment of much vibration, tighten the module with a screw.  
Tighten the screws within the specified torque range.  
Undertightening can cause a drop, short circuit or malfunction.  
Overtightening can cause a drop, short circuit or malfunction due to damage to the screws or module.
- Completely turn off the externally supplied power used in the system before installing or removing the module. Not doing so may damage the product.
- Do not directly touch the module's conductive parts and electronic components of the module. Touching the conductive parts and electronic components of the module could cause an operation failure or give damage to the module.

#### 3.1 Handling Precautions

- (1) Since the module case is made of resin, do not drop it or subject it to strong impact.
- (2) The module can easily be secured to the base unit using the hooks located at the top of the module. However, if the module is to be placed in an area that is subject to strong vibration or impact, we recommend that it is secured with module mounting screws (to be provided by the user). In this case, tighten the module mounting screws within the following torque range.  
Module mounting screws (M3 × 12): Tightening torque range is from 0.36 to 0.48 N·m.

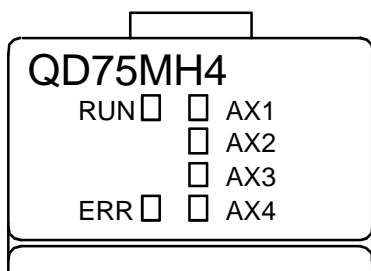
## 4. Part Identification Nomenclature

### (1) Part identification nomenclature



Number	Name	Number	Name
1)	LED display	3)	SSCNET III cable connector
2)	External device connector		

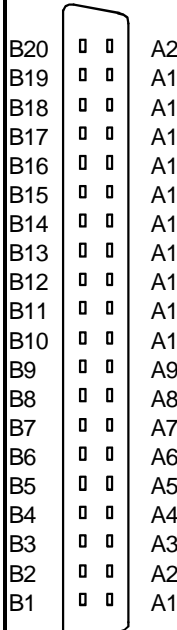
### (2) LED display contents



LED name	Display contents
RUN	On: Operating normally Off: Hardware error/ watch dog timer error occurrence
AX1	On: Axis 1 is operating Flashing: Axis 1 error Off: Axis 1 is stopped
AX2	On: Axis 2 is operating Flashing: Axis 2 error Off: Axis 2 is stopped
AX3	On: Axis 3 is operating Flashing: Axis 3 error Off: Axis 3 is stopped
AX4	On: Axis 4 is operating Flashing: Axis 4 error Off: Axis 4 is stopped
ERR	On: System error occurrence Flashing: Axis error Off: Normal

All LED on the QD75MH may be ON when there is an error in the QD75MH hardware.

### (3) External device connector signal layout

Pin layout	Axis 4 (AX4)		Axis 3 (AX3)		Axis 2 (AX2)		Axis 1 (AX1)	
	Pin No.	Signal name	Pin No.	Signal name	Pin No.	Signal name	Pin No.	Signal name
 <p>Front view of the module</p>	2B20	No connect	2A20	No connect	1B20	PULSER B-	1A20	PULSER B+
	2B19	No connect	2A19	No connect	1B19	PULSER A-	1A19	PULSER A+
	2B18	No connect	2A18	No connect	1B18	No connect	1A18	No connect
	2B17	No connect	2A17	No connect	1B17	No connect	1A17	No connect
	2B16	No connect	2A16	No connect	1B16	No connect	1A16	No connect
	2B15	No connect	2A15	No connect	1B15	P5	1A15	P5
	2B14	No connect	2A14	No connect	1B14	SG	1A14	SG
	2B13	No connect	2A13	No connect	1B13	No connect	1A13	No connect
	2B12	No connect	2A12	No connect	1B12	No connect	1A12	No connect
	2B11	No connect	2A11	No connect	1B11	No connect	1A11	No connect
	2B10	No connect	2A10	No connect	1B10	No connect	1A10	No connect
	2B9	No connect	2A9	No connect	1B9	No connect	1A9	No connect
	2B8	No connect	2A8	No connect	1B8	EMI.COM	1A8	EMI
	2B7	COM	2A7	COM	1B7	COM	1A7	COM
	2B6	COM	2A6	COM	1B6	COM	1A6	COM
	2B5	CHG	2A5	CHG	1B5	CHG	1A5	CHG
	2B4	STOP	2A4	STOP	1B4	STOP	1A4	STOP
	2B3	DOG	2A3	DOG	1B3	DOG	1A3	DOG
	2B2	RLS	2A2	RLS	1B2	RLS	1A2	RLS
	2B1	FLS	2A1	FLS	1B1	FLS	1A1	FLS

( Note-1): Pin No. "1□□□" indicates the pin No. for the right connector. Pin No. "2□□□" indicates the pin No. for the left connector.

( Note-2): When 1-axis module is used, pin Nos. 1B1 to 1B7 are "No connect".

( Note-3): For 1-axis module and 2-axis module do not have AX3 and AX4 connector of the left side.

## 5. Wiring

### DANGER

- Completely turn off the externally supplied power used in the system before installing or placing wiring.  
Not doing so may cause electric shock or damage to the product.

### CAUTION

- Check the layout of the terminals and then properly route the wires to the module.
- Solder connector for external input signal cable properly.  
Insufficient soldering may cause malfunction.
- Be careful not to let foreign matter such as sawdust or wire chips get inside the module. These may cause fires, failure or malfunction.
- The top surface of the module is covered with protective films to prevent foreign objects such as cable off cuts from entering the module when wiring.  
Do not remove this film until the wiring is complete.  
Before operating the system, be sure to remove the film to provide adequate ventilation.
- Securely connect the connector for the SSCNET III cable to the bottom connector on the module.
- When removing the cable or power supply cable from the module, do not pull the cable. When removing the cable with a connector, hold the connector on the side that is connected to the module.  
Pulling the cable that is still connected to the module may cause malfunction or damage to the module or cable.
- The cable used for connecting the QD75MH external input signal cable and SSCNET III cable should not be routed near or bundled with the main circuit cable, power cable and/or other such load –carrying cables other than those for the PLC. These cables should be separated by at least 100mm (3.94inch) They can cause electrical interference, surges and inductance that can lead to mis-operation.
- When pulling out the SSCNET III cable from SSCNET III connector, be sure to put the cap on the SSCNET III connector. If the end face of SSCNET III connector is dirty, optical transmission is interrupted and it may cause malfunctions.
- Do not see directly the light generated from SSCNET III connector of servo amplifier or QD75MH. When the light gets into eye, may feel something is wrong for eye. (The light source of SSCNET III corresponds to class1 defined in JISC6802 or IEC60825-1.)
- If optical fiber is added a power such as a major shock, lateral pressure, haul, sudden bending or twist, its inside distorts or breaks, and optical transmission will not be available.  
Optical cord should be given loose slack to avoid from becoming smaller than the minimum bend radius, and it should not be twisted.

## CAUTION

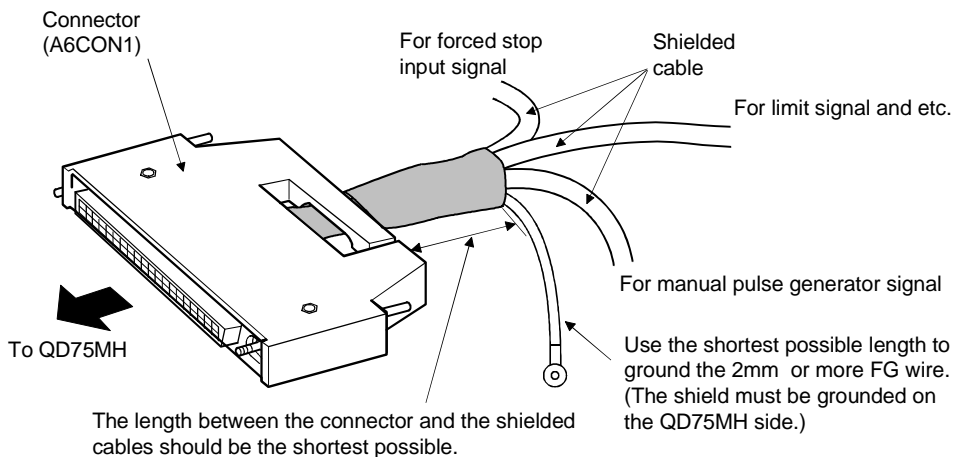
- Make sure to use SSCNETⅢ cable within the range of operating temperature described in this manual. The optical cable and code part melts down if being left near the fire or high temperature.  
Therefore, do not make it touched the part which becomes high temperature, such as radiator or regenerative brake option of servo amplifier, or servomotor.
- Make sure to lay SSCNETⅢ cable with greater radius than the minimum bend radius. (Refer to the Section 5.2 Precautions for SSCNETⅢ cable wiring.)
- Fix the optical cable at the closest part to the connector with bundle material in order to prevent SSCNETⅢ cable from putting its own weight on SSCNETⅢ connector.
- Never use vinyl tape for optical cord. Plasticizing material in vinyl tape goes into optical fiber and lowers the optical characteristic. At worst, it may cause wire breakage. If using adhesive tape for the optical cable laying, the fire resistant acetate cloth adhesive tape 570F (Teraoka Seisakusho Co., Ltd) is recommended. If laying with other wires, do not make the optical cable touched wires or cables made from soft polyvinyl chloride (PVC), polyethylene resin (PE), teflon (Fluorocarbon resin) or nylon which contains plasticizing material.
- If the adhesion of solvent and oil to the code part of SSCNETⅢ cable may lower the optical characteristic and machine characteristic. If it is used such an environment, be sure to do the protection measures to the optical cord.
- When storing, put a cap on the connector part for preventing the connector edge of SSCNETⅢ from getting dirt, dust and so on.
- SSCNETⅢ connector is put a cap to protect light device inside connector from dust. For this reason, do not remove a cap until just before mounting SSCNETⅢ cable. Then, when removing SSCNETⅢ cable, make sure to put a cap.
- Keep the cap for SSCNETⅢ connector and the tube for protecting light code end of SSCNETⅢ cable in a plastic bag with a zipper of SSCNETⅢ cable to prevent them from becoming dirty.
- When changing the servo amplifier or QD75MH, make sure to put cap on SSCNETⅢ connector. When asking repair of servo amplifier for some troubles, make sure to put a cap on SSCNETⅢ connector.  
When the connector is not put a cap, the light device may be damaged at the transit. In this case, exchange and repair of light device is required.

## 5.1 Wiring Precautions

- (1) Use separate cables for connecting to the QD75MH and for the power cable that create surge and inductance.
- (2) The cable for connecting QD75MH can be placed in the duct or secured in place by clamps. If the cable is not placed in the duct or secured by clamps, unevenness or movement of the cable or careless pulling on it could result in damage to the unit or cable or defective cable connections could cause mis-operation of the unit.
- (3) If a duct is being used and cables to connect to QD75MH are separated from the power line duct, use metal piping. Ground the pipes securely after metal piping.
- (4) The cable is to use the twisted pair shielded cable (wire size  $0.3 \text{ mm}^2$ ). The shielded must be grounded on the QD75MH side. (The following figure shows a wiring example.)
- (5) Use separate shielded cables of the forced stop input signal (EMI, EMI.COM), limit signal (FLS, RLS, DOG, STOP, CHG, COM) and etc., and manual pulse generator signal (PULSER A+, PULSER A-, PULSER B+, PULSER B-, P5, SG) for connecting to the QD75MH. They can cause electrical interference, surges and inductance that can lead to mis-operation.

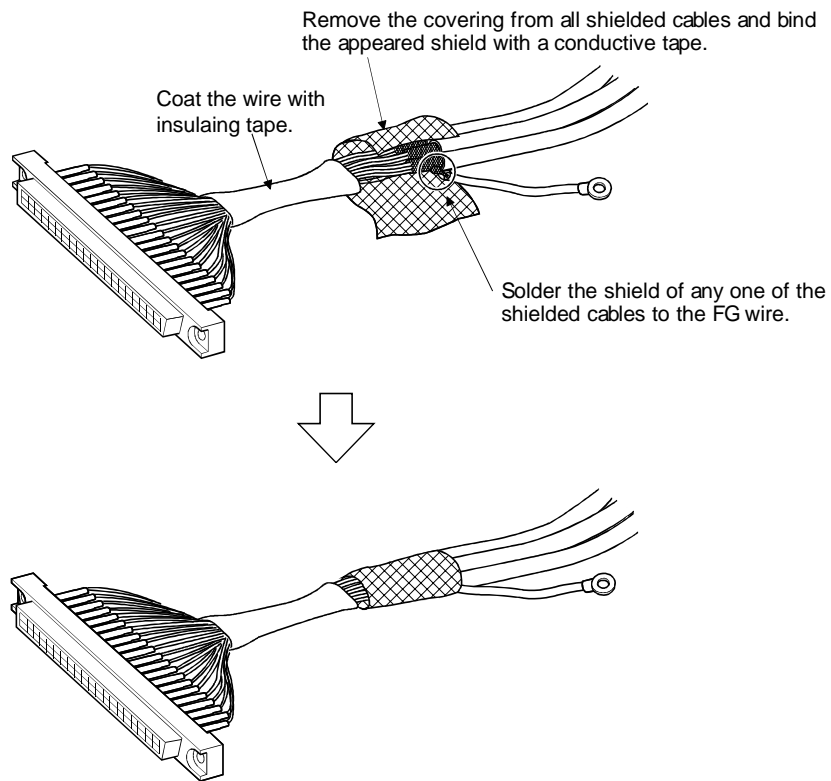
### [Wiring example of shielded cable]

The following shows a wiring example for noise reduction in the case where the connector (A6CON1) is used.

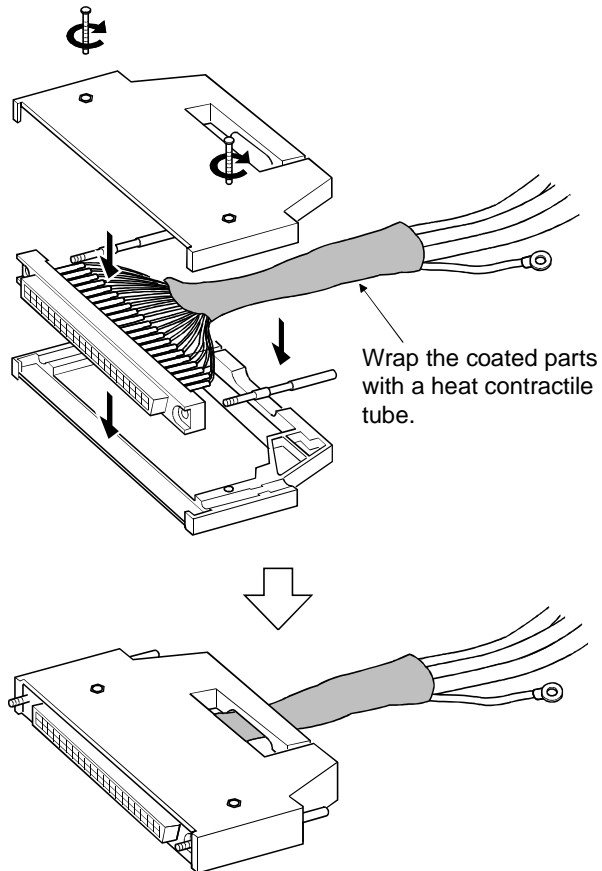




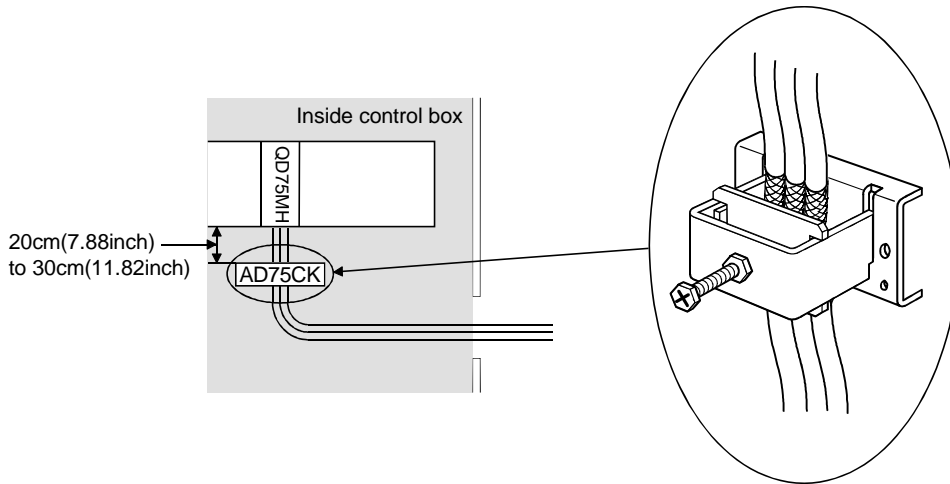
[Processing example of shielded cables]  
Connections of FG wire and each shielded cable



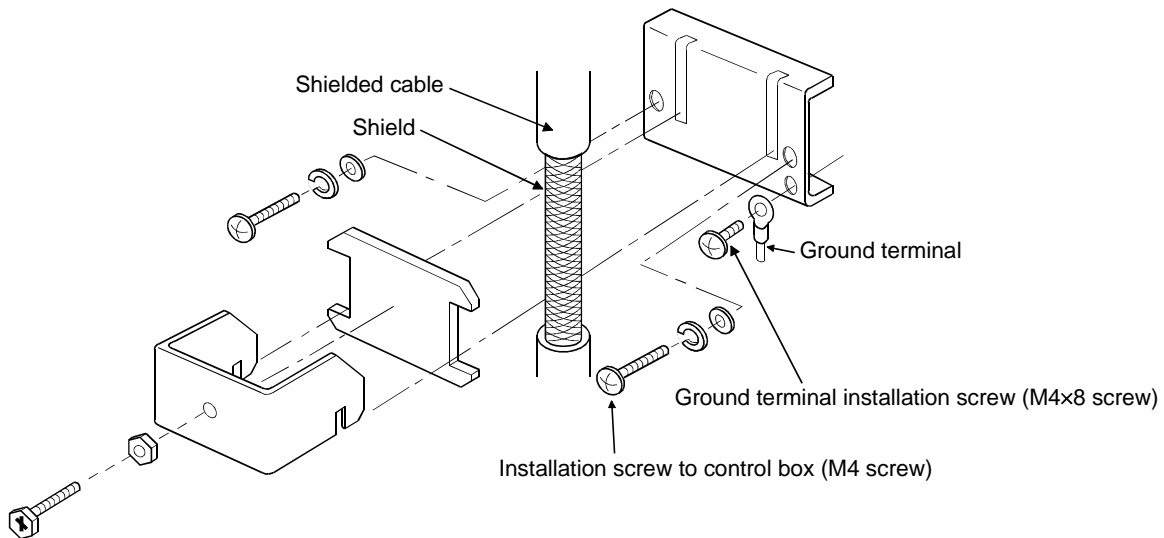
Assembling of connector (A6CON1)



- (6) To make this product conform to the EMC directive instruction, be sure to use of a AD75CK type cable clamp (manufactured by Mitsubishi Electric) for grounding connected to the control box and the shielded cable/ the shielded cable.



[How to ground shielded cable using AD75CK]



Using the AD75CK, you can tie four cables of about 7mm outside diameter together for grounding.

## 5.2 SSCNETIII Cable Precautions

SSCNETIII cable is made from optical fiber. If optical fiber is added a power such as a major shock, lateral pressure, haul, sudden bending or twist, its inside distorts or breaks, and optical transmission will not be available. Make sure to use SSCNETIII cable within the range of operating temperature described in this manual. The optical cable and code part melts down if being left near the fire or high temperature. Therefore, do not make it touched the part which becomes high temperature, such as radiator or regenerative brake option of servo amplifier, or servomotor.

### (1) Ambient temperature

SSCNETIII cable	Ambient temperature [°C] ([°F]) (Note-1)
MR-J3BUS □ M	-40 to 80 (-40 to 176)
MR-J3BUS □ M-A	
MR-J3BUS □ M-B	-20 to 70 (-4 to 158)

( Note-1): It is a value in optical cable (code) unit.

### (2) Minimum bend radius

Make sure to lay SSCNETIII cable with greater radius than the minimum bend radius.

If the SSCNETIII cable is less than the minimum bend radius, optical transmission is interrupted and it may cause malfunctions.

SSCNETIII cable	Minimum bend radius [mm] ([inch])
MR-J3BUS □ M	25 (0.98)
MR-J3BUS □ M-A	Reinforcement film cable : 50 (1.97) Code part : 25 (0.98)
MR-J3BUS □ M-B	Reinforcement film cable : 50 (1.97) Code part : 30 (1.18)

(3) Tension

If tension is added on SSCNET III cable, the increase of transmission loss occurs because of external force which concentrates on the fixing part of SSCNET III cable or the connecting part of SSCNET III connector. At worst, the breakage of SSCNET III cable or damage of SSCNET III connector may occur. For SSCNET III cable laying, handle without putting forced tension.

SSCNET III cable	Maximum tension [N]
MR-J3BUS □ M	The cable length is 0.15 [m](0.49 [ft.]) : 70/ The cable length is 0.3 to 3 [m](0.98 to 9.8 [ft.]) : 140
MR-J3BUS □ M-A	The cable length is 5 to 20 [m](16.40 to 65.62 [ft.]) : 420 (Reinforcement film cable)
MR-J3BUS □ M-B	The cable length is 30 to 50 [m](98.43 to 164.04 [ft.]) : 980 (Reinforcement film cable)

(4) Lateral pressure

If lateral pressure is added on SSCNET III cable, the optical cable itself distorts, internal optical fiber gets stressed, and then transmission loss will increase. At worst, the breakage of SSCNET III cable may occur. As the same condition also occurs at cable laying, do not tighten up optical cable with a thing such as nylon band (TY-RAP).

(5) Twisting

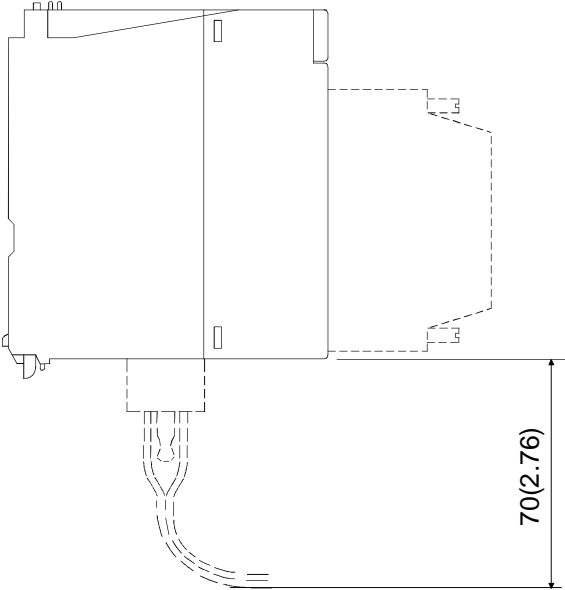
If SSCNET III cable is twisted, it will become the same stress added condition as when local lateral pressure or bend is added. Consequently, transmission loss increases, and the breakage of SSCNET III cable may occur at worst.

5.3 SSCNETIII cable wiring

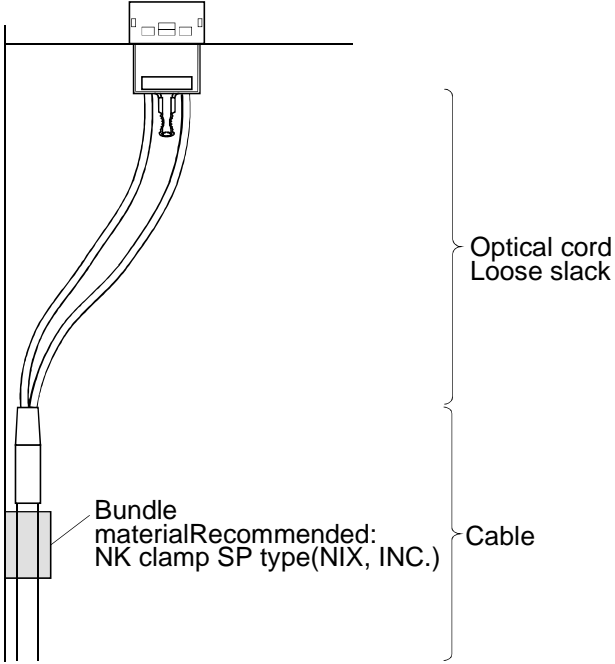
Fix the cable at the closest part to the connector with bundle material in order to prevent SSCNETIII cable from putting its own weight on SSCNETIII connector.

- Wiring duct  
If the duct is below the bottom of the module, leave sufficient clearance to eliminate effects on the SSCNETIII cable, limit the space height to 70 mm (2.76 inch) MIN.

Unit : mm (inch)



- Bundle fixing



## 5.4 External Interface

The internal circuits of interface for connecting external devices to the QD75MH are shown by the schematic diagrams in the tables below.

### (1) Input

External wiring	Pin No.	Internal circuit	Signal name		Need for wiring (Note-1)	
<p>When upper-limit switch is not used</p> <p>When lower-limit switch is not used</p> <p>(Note-2)</p> <p>24 V DC</p> <p>5V</p> <p>A</p> <p>B</p> <p>0V</p> <p>Manual pulse generator (MR-HDP01)</p> <p>5VDC</p>	1A1		Upper-limit LS signal (Note-4)	FLS	<p style="text-align: center;">△</p>	
	1A2		Lower-limit LS signal (Note-4)	RLS		
	1A3		Near-point dog signal (Note-4)	DOG		
	1A4		Stop signal	STOP		
	1A5		External command signal/switching signal	CHG		
	1A6		Common	COM		
	1A7					
	1A8		Forced stop input signal	EMI		EMI.COM
	1B8					
	(+)		Manual pulse generator A phase	PULSER A+		PULSER A-
	1A19					
	(-)		Manual pulse generator B phase	PULSER B+		PULSER B-
	1B19					
	(+)		Manual pulse generator power supply (+5VDC) (Note-3), (Note-5)	P5		
	1A20					
	(-)		Manual pulse generator power supply (GND) (Note-5)	SG		
	1B20					
	(5V)		Manual pulse generator power supply (+5VDC) (Note-3), (Note-5)	P5		
	1A15					
	(5V)		Manual pulse generator power supply (GND) (Note-5)	SG		
1B15						
(0V)	Manual pulse generator power supply (GND) (Note-5)	SG				
1A14						
(0V)	Manual pulse generator power supply (GND) (Note-5)	SG				
1B14						
	1A10		—	—	—	

( Note-1): The symbols in Need for wiring column indicate the following meanings:

- : Wiring is necessary for positioning.
- △ : Wiring is necessary depending on the situation.

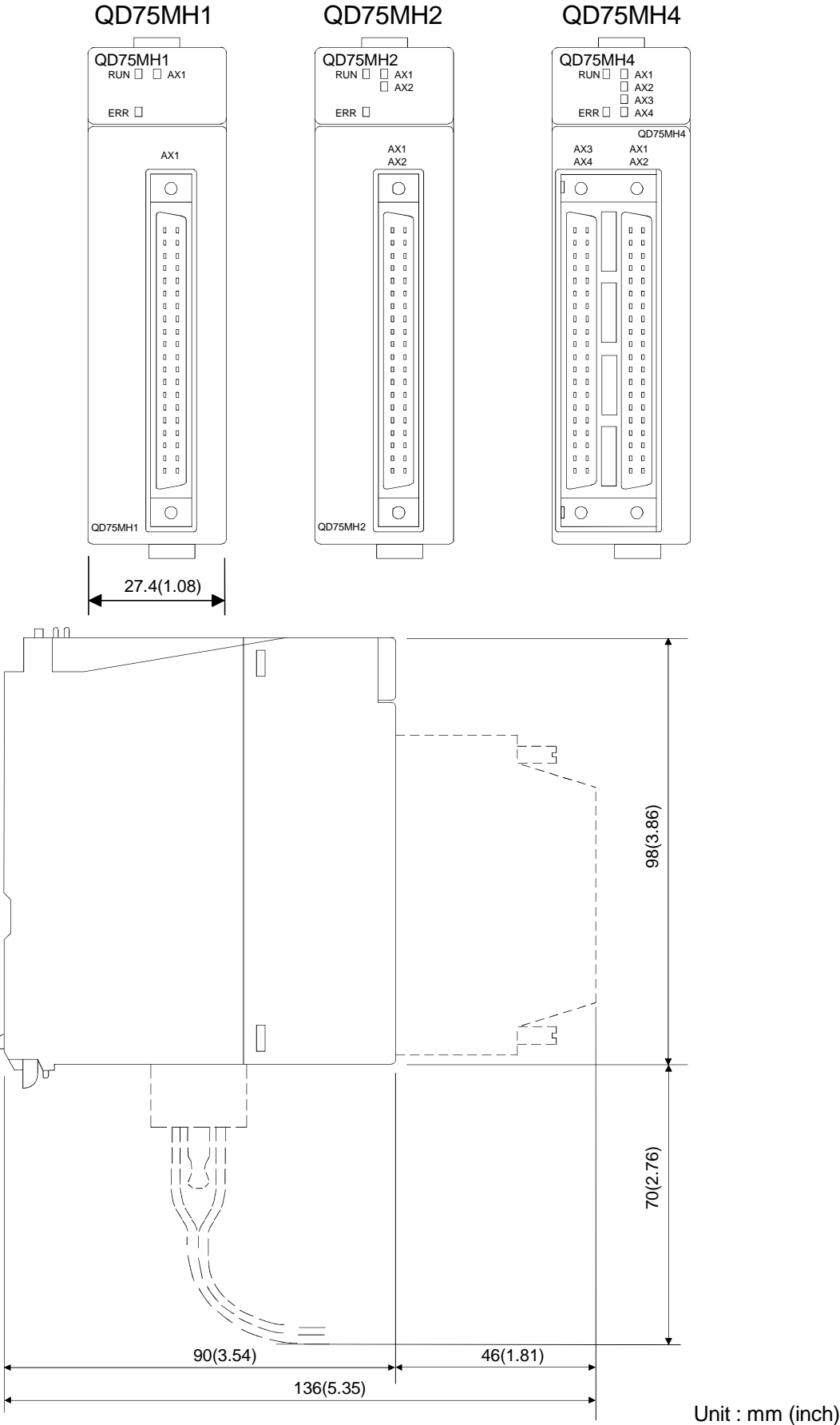
( Note-2): Either polarity can be connected to the common (COM).

( Note-3): If using separately-placed power supply as manual pulse generator power supply, do not connect power supply 5V(P5) on QD75MH side. Use separately-placed power supply as 5V stabilized power supply. Using power supply of different voltage between P5 and SG could lead to faults.

( Note-4): When using external input signal of servo amplifier, set the detailed parameters 1. In addition, refer to "Type QD75MH Positioning Module User's Manual (Details)".

( Note-5): Do not use P5 and SG for other than manual pulse generator power supply.

# 6. External Dimensions



## Warranty

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