MITSUBISHI

MELSECNET, MELSECNET/B Local Station Data Link Module

User's Manual
(Hardware)

A1SJ71AP23Q, A1SJ71AR23Q A1SJ71AT23BQ

Thank you for purchasing the Mitsubishi programmable controller
MELSEC-A series.

Prior to use, please read this and relevant manuals thoroughly to fully
understand the product.

MODEL	A1SJ71AP23Q-U-HW
MODEL CODE	13JY19
IB(NA)-0800372-B(0710)MEE	

● SAFETY PRECAUTIONS ●

(Always read these instructions before using this product)

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

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 save this manual to make it accessible when required and always forward it to the end user.

[DESIGN PRECAUTIONS]

⟨!⟩DANGER

● For each station's operating status in the case of a communication error in the network, refer to the MELSECNET, MELSECNET/B Local Station Data Link Module User's Manual. A malfunction due to a communication error may result in an accident.

[DESIGN PRECAUTIONS]

◇ DANGER

● To control a running programmable controller (data modification) by connecting GX Developer to a CPU module or connecting a personal computer to an intelligent function module (special function module), create an interlock circuit on the sequence program so that the entire system will function safely all the time.

Also, before performing any other controls (e.g. program modification, operating status change (status control)) to the programmable controller, read the manual carefully and ensure the safety.

Especially, in the case of controlling a remotely-located programmable controller from an external device, a programmable controller side problem could not be resolved immediately due to data communication failure.

To prevent this, establish corrective procedures for communication failure between the external device and the programmable controller CPU, as well as creating an interlock circuit on the program.

⚠ CAUTION

● Do not install the control lines and/or communication cables together with the main circuit or power cables, and also do not bring them close to each other. Keep a distance of 100mm (3.94 inch) or more between them.
Failure to do so may cause a malfunction due to noise.

[INSTALLATION PRECAUTIONS]

⚠ CAUTION

● Use the programmable controller in the environment conditions given in the general specifications of the User's Manual for the CPU module used.
Failure to do so may cause an electric shock, fire, malfunction, or damage to or deterioration of the product.

● Insert the module fixing projection into the module fixing hole in the base unit to mount the module. (For the AnS series module, fix it to the base unit with screws within the specified torque.)
Incorrect module mounting may cause a malfunction, failure, or drop of the module.

● Be sure to shut off all phases of the external power supply used by the system before mounting or removing the module.
Failure to do so may damage the module.

● Do not directly touch any conductive part or electronic component of the module. Doing so may cause a malfunction or failure of the module.

[WIRING PRECAUTIONS]

◇DANGER

● Be sure to shut off all phases of the external power supply before installation or wiring.
Failure to do so may result in an electric shock or damage to the product.

⚠CAUTION

● Properly solder a connector for coaxial cable.
Failure to do so may cause malfunction.
● Be careful to prevent foreign matter such as dust or wire chips from entering the module.
Failure to do so may cause a fire, failure or malfunction.
● Be sure to place the communication cables or power cables in a duct or clamp them.
If not, dangling cables may swing or inadvertently be pulled, resulting in damage to the module or cables, or malfunctions due to poor cable contact.
● When disconnecting a communication cable or power cable, do not pull it by holding the cable part.
To disconnect the cable, hold its connector that is plugged into the module. Loosen screws for a terminal block before disconnecting a cable for connecting terminal block.
Pulling the cable part with the cable still connected to the module may damage the module and/or cable, or cause malfunctions due to poor cable contact.

[START-UP AND MAINTENANCE PRECAUTIONS]

⚠CAUTION

● Do not disassemble or remodel each of the modules.
  Doing so may cause failure, malfunctions, personal injuries and/or a fire.
● When using a wireless communication device such as a mobile phone, keep
  a distance of 25cm (9.84inch) or more from the programmable controller in all
  directions.
  Failure to do so may cause malfunctions.
● Be sure to shut off all phases of the external power supply used by the
  system before mounting or removing the module.
  Not doing so may damage the product.
● Do not touch terminals during power-on.
  Doing so may cause malfunctions.
● Be sure to shut off all phases of the external power supply used by the
  system before cleaning or retightening the terminal screw or module
  mounting screw.
  Not doing so may cause a failure or malfunction of the module.
  If the screw is too loose, it may cause a drop, short circuit or malfunction.
  Excessive tightening may cause damage to the screw and/or module,
  resulting in a drop, short circuit or malfunction.
● Before handling the module, touch a grounded metal object to discharge the
  static electricity from the human body.
  Not doing so may cause a failure or malfunction of the module.

[DISPOSAL PRECAUTIONS]

⚠CAUTION

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

Revisions

* The manual number is given on the bottom right of the cover.

Print Date	*Manual Number	Revision
Mar., 2007	IB(NA)-0800372-A	First edition
Oct., 2007	IB(NA)-0800372-B	Correction Chapter 2

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About Manuals

The following manuals are also related to this product.
Order them by referring to the table below as necessary.

Related manual

Manual name	Manual No. (Model code)
MELSECNET, MELSECNET/B Local Station Data Link Module User's Manual	SH-080670ENG (13JR98)
Type MELSECNET, MELSECNET/B Data Link System Reference Manual	IB-66350 (13JF70)

For the use of this module, read MELSECNET, MELSECNET/B Local Station Data Link Module User's Manual and Type MELSECNET, MELSECNET/B Data Link System Reference Manual.

Support tool

A/QnA to Q conversion support tool (Version 1.02 or later)
This is a tool to support the creation of a program for link data refresh and program for receiving the LRDP/LWTP instruction.
It can be downloaded from the MITSUBISHI ELECTRIC FA NETWORK SERVICE website free.
(http://www.MitsubishiElectric.co.jp/melfansweb)

Compliance with the EMC and low voltage directives

When incorporating the Mitsubishi programmable controller into other machinery or equipment and keeping compliance with the EMC and low voltage directives, refer to Chapter 3 "EMC and Low Voltage Directives" of the User's Manual (Hardware) included with the CPU module or base unit used.
The CE logo is printed on the rating plate of the programmable controller, indicating compliance with the EMC and low voltage directives.
To conform this product to the EMC and low voltage directives, refer to the Section "3.1.5 Precautions for use of the MELSEC-A series module" in Chapter 3 "EMC and Low Voltage Directives" of the User's Manual (Hardware) included with the CPU module or base unit used.

1. OVERVIEW

This manual describes the specifications and part names of the data link module shown below used in the MELSECNET or MELSECNET/B data link system (hereinafter referred to as a local module).

- A1SJ71AP23Q type MELSECNET local station data link module
- A1SJ71AR23Q type MELSECNET local station data link module
- A1SJ71AT23BQ type MELSECNET/B local station data link module

(1) The following shows the application, applicable cable, and mounting position of the local module.

Table 1.1 Application, applicable cable, and mounting position

Model name	Application	Applicable cable	Mounting position
A1SJ71AP23Q	For local station	Optical fiber cable	I/O slot of extension base unit *1
A1SJ71AR23Q		Coaxial cable	
A1SJ71AT23BQ		Shielded twisted pair cable	

*1 A local module can be mounted to the following extension base unit.

- QA1S6□B type extension base unit
- QA6□B type extension base unit + A1ADP-SP type A-A1S module conversion adapter

(2) After unpacking, make sure that the following products are included.

Table 1.2 Products

Model name	Product name	Quantity
A1SJ71AP23Q	A1SJ71AP23Q type MELSECNET local station data link module	1
A1SJ71AR23Q	A1SJ71AR23Q type MELSECNET local station data link module	1
A1SJ71AT23BQ	A1SJ71AT23BQ type MELSECNET/B local station data link module	1
	Terminating resistor (110Ω, 1/2W)	1

(3) The following shows the mountable CPU module and number of mountable modules for the local module

Table 1.3 Mountable CPU module and number of mountable modules

Mountable CPU module	Number of mountable modules
Q02/Q02H/Q06H/Q12H/Q25HCPU	6 *2

*2 Number of modules including the special function module compatible with A-series that can be mounted to the CPU module. For details, refer to the MELSECNET, MELSECNET/B Local Station Data Link Module User's Manual.

2. PERFORMANCE SPECIFICATIONS

This chapter describes the performance specifications of the MELSECNET or MELSECNET/B data link system and the local module. For the general specifications, refer to the QCPU User's Manual (Hardware Design, Maintenance and Inspection).

(1) Performance specifications of MELSECNET data link system and A1SJ71AP23Q

Table 2.1 Performance specifications of MELSECNET data link system and A1SJ71AP23Q

Item		Specifications		
		MELSECNET data link system		
		MELSECNET mode	MELSECNET II mode	MELSECNET II composite mode
Maximum applicable link points per station	Input (X)	Up to the maximum number of I/O points for the CPU module used in the master station is applicable. (The total number of link points for slave station is equal to the number of link using points for the master station)		
	Output (Y)			
Maximum link points in a system	B	1024 points (128 byte)	4096 points (512 byte)	
	W	1024 points (2048 byte)	4096 points (8192 byte)	
Maximum link points per station	Master station	1024 byte	1024 byte (First half of link parameters) 1024 byte (Latter half of link parameters)	
	Local station			
	Remote I/O station	512 byte Number of I/O points: 512 points	-	512 byte Number of I/O points: 512 points
Communication speed		1.25Mbps		
Communication method		Half duplex bit serial method		
Synchronization method		Frame synchronization method		
Transmission path		Duplex loop		
Overall cable distance		Up to 10km (Station-to-station 1km)		
Number of connected stations		Up to 65 (Master station: 1, The total number of local stations and remote I/O stations: 64)		
Modulation method		CMI method		
Transmission format		Conforming to HDLC (Frame format)		
Error control system		Retries due to CRC (generating polynomial $X^{16}+X^{12}+X^5+1$) and time out		
RAS function		• Loopback function due to error detection and cable break • Diagnostic function including link line check of host station etc.		
Connector		2-core optical connector plug (User prepared[*1])		
Applicable cable		Optical fiber cable (User prepared[*1])		
Number of I/O occupied points		32 points (Intelli: 32 points)		

Item	Specifications		
	MELSECNET data link system		
	MELSECNET mode	MELSECNET II mode	MELSECNET II composite mode
Internal current consumption (5VDC)	0.33A		
Weight	0.30kg		

*1 Connecting an optical fiber cable with a connector requires professional skills and special tools. Also, a connector dedicated to an optical fiber cable is required.

For purchase, contact your local Mitsubishi Electric System Service or representative.

(2) Performance specifications of MELSECNET data link system and A1SJ71AR23Q

Table 2.2 Performance specifications of MELSECNET data link system and A1SJ71AR23Q

Item		Specifications		
		MELSECNET data link system		
		MELSECNET mode	MELSECNET II mode	MELSECNET II composite mode
Maximum applicable link points per station	Input (X)	Up to the maximum number of I/O points for the CPU module used in the master station is applicable. (The total number of link points for slave station is equal to the number of link using points for the master station)		
	Output (Y)			
Maximum link points in a system	B	1024 points (128 byte)	4096 points (512 byte)	
	W	1024 points (2048 byte)	4096 points (8192 byte)	
Maximum link points per station	Master station	1024 byte	1024 byte (First half of link parameters) 1024 byte (Latter half of link parameters)	
	Local station			
	Remote I/O station	512 byte Number of I/O points: 512 points	-	512 byte Number of I/O points: 512 points
Communication speed		1.25Mbps		
Communication method		Half duplex bit serial method		
Synchronization method		Frame synchronization method		
Transmission path		Duplex loop		
Overall cable distance		Up to 10km (Station-to-station 500m)		
Number of connected stations		Up to 65 (Master station: 1, The total number of local stations and remote I/O stations: 64)		
Modulation method		CMI method		
Transmission format		Conforming to HDLC (Frame format)		
Error control system		Retries due to CRC (generating polynomial $X^{16}+X^{12}+X^{5}+1$) and time out		
RAS function		• Loopback function due to error detection and cable break • Diagnostic function including link line check of host station etc.		
Connector		Connector plug for 3C-2V (User prepared): • BNC-P-3-NiCAu-CF (DDK Ltd.) Connector plug for 5C-2V (User prepared): • BNC-P-5-NiCAu-CF (DDK Ltd.) • BNC-P-5DV SA(41) (HIROSE ELECTRIC CO., LTD.)		
Applicable cable		Cables equivalent to 3C-2V or 5C-2V (User prepared)		
Number of I/O occupied points		32 points (Intelli: 32 points)		
Internal current consumption (5VDC)		0.80A		
Weight		0.33kg		

(3) Performance specifications of MELSECNET/B data link system and A1SJ71AT23BQ

Table 2.3 Performance specifications of MELSECNET/B data link system and A1SJ71AT23BQ

Item		Specifications		
		MELSECNET/B data link system		
		MELSECNET mode	MELSECNET II mode	MELSECNET II composite mode
Maximum applicable link points per station	Input (X)	Up to the maximum number of I/O points for the CPU module used in the master station is applicable.		
	Output (Y)	(The total number of link points for slave station is equal to the number of link using points for the master station)		
Maximum link points in a system	B	1024 points (128 byte)	4096 points (512 byte)	
	W	1024 points (2048 byte)	4096 points (8192 byte)	
Maximum link points per station	Master station	1024 byte	1024 byte (First half of link parameters) 1024 byte (Latter half of link parameters)	
	Local station			
	Remte I/O station	512 byte Number of I/O points: 512 points	-	512 byte Number of I/O points: 512 points
Communication speed		125kbps/250kbps/500kbps/1Mbps		
Communication method		Half duplex bit serial method		
Synchronization method		Frame synchronization method		
Transmission path		Bus method		
Overall cable distance		Changed due to communication speed (125kbps: 1200m, 250kbps: 600m, 500kbps: 400m, 1Mbps: 200m)		
Number of connected stations		Up to 32 (Master station: 1, The total number of local stations and remote I/O stations: 31)		
Modulation method		NRZI method		
Transmission format		Conforming to HDLC (Frame format)		
Error control system		Retries due to CRC (generating polynomial $X^{16}+X^{12}+X^5+1$) and time out		
RAS function		Diagnostic function including link line check of host station etc.		
Connector		Terminal block		
Applicable cable		Shielded twisted pair cable (User prepared)		
Number of I/O occupied points		32 points (Intelli: 32 points)		
Internal current consumption (5VDC)		0.66A		
Weight		0.22kg		

Overall cable distance

(1) MELSECNET data link system

The overall cable distance refers to a distance from OUT of the master station to IN of the master station via a slave station.
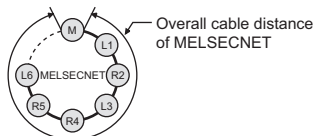

Figure 2.1 Overall cable distance of MELSECNET

(2) MELSECNET/B data link system

The overall cable distance refers to a distance between stations at both ends.

The overall cable distance of the MELSECNET/B data link system is determined depending on communication speed.

The communiation speed is set by the communication speed setting switch of each link module.

Table 2.4 Communication speed and overall cable distance

Communication speed	Overall cable distance
125kbps	1200m
250kbps	600m
500kbps	400m
1Mbps	200m

Overall cable distance of MELSECNET/B
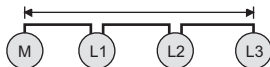
Figure 2.2 Overall cable distance of MELSECNET/B

[INSTALLATION PRECAUTIONS]

⚠CAUTION

● Use the programmable controller in the environment conditions given in the general specifications of the User's Manual for the CPU module used.
Failure to do so may cause an electric shock, fire, malfunction, or damage to or deterioration of the product.

● Insert the module fixing projection into the module fixing hole in the base unit to mount the module. (For the AnS series module, fix it to the base unit with screws within the specified torque.)
Incorrect module mounting may cause a malfunction, failure, or drop of the module.

● Be sure to shut off all phases of the external power supply used by the system before mounting or removing the module.
Failure to do so may damage the module.

● Do not directly touch any conductive part or electronic component of the module. Doing so may cause a malfunction or failure of the module.

3.1 Handling Precautions

(1) Do not drop or give strong impact on the module, since its case is made of resin.

(2) Do not remove a printed-circuit board of the module from a case. Doing so may cause failure.

(3) Be careful to prevent foreign matter such as wire chips from entering the module top at the time of wiring.

(4) Tighten a module mounting screw or a terminal screw within the following range.

Table 3.1 Screw tightening torque

Screw	Tightening torque range
Terminal screw for cable terminal block (M3.5 screw)	59 to 88N•cm
Mounting screw for cable terminal block (M3.5 screw)	59 to 88N•cm
Module mounting screw (M4 screw)	78 to 118N•cm

4. PART NAMES AND SETTINGS

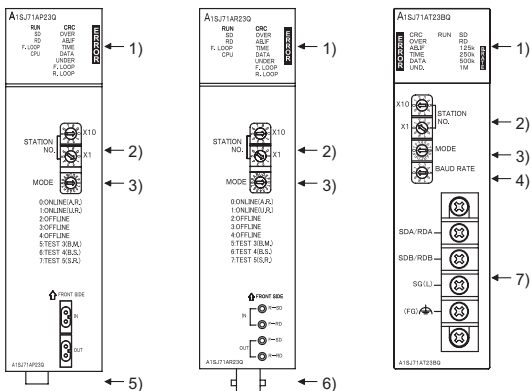This chapter describes the part names and settings of the local module.

Figure 4.1 Outside drawing of local module

Table 4.1 Part names and settings

No.	Name	Description			
	LED	Name	Status	Description	
1)		RUN	ON	Data link normal	
		SD		Data sending	
		RD		Data receiving	
		F.LOOP		Forward loop side receives data (OFF: Reverse loop side receives data)	
		CPU		Communication with CPU module in execution	
		125k	ON	Setting status of communication speed (A1SJ71AT23BQ)	
		250k			
		500k			
		1M			
		CRC		Code check error for receive data	
		OVER		The processing of receive data has been delayed.	
		AB.IF	ON (OFF if normal)	• "1" has been received consecutively more than stipulated times. • Receive data length is shorter than stipulated length.	

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Table 4.1 Part names and settings(Continued)
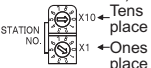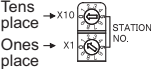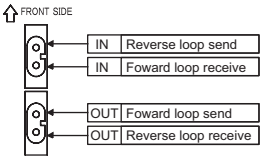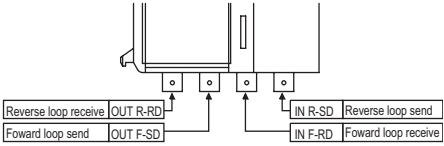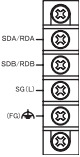
No.	Name	Description			
1)	LED (Continued)	TIME		Data link monitoring time is over.	
		DATA		The data of error code has been received.	
		UNDER	ON (OFF	Internal processing of send data is not	
		UND.	if normal)	executed constantly.	
		F.LOOP		Receive error at forward loop side	
		R.LOOP		Receive error at reverse loop side	
2)	Station No. setting switch (A1SJ71AP23Q/ A1SJ71AR23Q) STATION NO. ×10 ← Tens place ×1 ← Ones place (A1SJ71AT23BQ) Tens place → ×10 STATION NO. Ones → ×1 place	Sets station No. of the local module. (Factory default setting: 1) • A1SJ71AP23Q/A1SJ71AR23Q 1 to 64: Station No. (If other than above is set, the local module goes into offline status (X0=ON).) • A1SJ71AT23BQ 1 to 31: Station No. (If other than above is set, the local module goes into offline status (X0=ON).)				
3)	Mode setting switch (A1SJ71AP23Q/ A1SJ71AR23Q) MODE (A1SJ71AT23BQ) MODE	Sets operation mode. (Factory default setting: 0)				
		No.	Item	Description	
		0	Online	Data link (with automatic return function)	
		1	Online	Data link (without automatic return function)	
		2	Offline	Disconnects host station.	
		3	-	Unusable (If set, the local module goes into offline status (X0=ON).)	
		4	-		
		5	Station-to-station test (Executing station)	Checks a line between two adjacent stations.	
		6	Station-to-station test (Other station)		
		7	Self-loopback test	Checks the hardware including transmission circuit in a single local module.	
		8 to F	-	Unusable (If set, the local module goes into offline status (X0=ON).)	

Table 4.1 Part names and settings(Continued)

No.	Name	Description
4)	Communication speed setting switch (A1SJ71AT23BQ)	Sets communication speed. <table><tr><td>No.</td><td>Communication speed</td></tr><tr><td>0</td><td>125kbps</td></tr><tr><td>1</td><td>250kbps</td></tr><tr><td>2</td><td>500kbps</td></tr><tr><td>3</td><td>1Mbps</td></tr><tr><td>4 to F</td><td>Unusable (If set, the local module goes into offline status (X0=ON).)</td></tr></table>
5)	Connector (A1SJ71AP23Q)	Connects an optical fiber cable.
6)	Connector (A1SJ71AR23Q)	Connects a coaxial cable.
7)	Terminal block (A1SJ71AT23BQ)	Connects a shielded twisted pair cable.

◇DANGER

● Be sure to shut off all phases of the external power supply before installation or wiring.
Failure to do so may result in an electric shock or damage to the product.

⚠CAUTION

● Properly solder a connector for coaxial cable.
Failure to do so may cause malfunction.
● Be careful to prevent foreign matter such as dust or wire chips from entering the module.
Failure to do so may cause a fire, failure or malfunction.
● Be sure to place the communication cables or power cables in a duct or clamp them.
If not, dangling cables may swing or inadvertently be pulled, resulting in damage to the module or cables, or malfunctions due to poor cable contact.
● When disconnect a communication cable or power cable, do not pull it by holding the cable part.
To disconnect the cable, hold its connector that is plugged into the module.
Loosen screws for a terminal block before disconnecting a cable for connecting terminal block.
Pulling the cable part with the cable still connected to the module may damage the module and/or cable, or cause malfunctions due to poor cable contact.

5.1 Optical Fiber Cable

This section describes how to connect an optical fiber cable with the local module.

(1) Precautions for wiring

    (a) Securing of wiring space

        When an optical fiber cable is connected with the local module, a cable bend radius is restricted.

        For details, check the specifications of the cable to be used.

    (b) Laying an optical fiber cable

        When laying an optical fiber cable, do not directly touch an optical fiber core of a plug or jack, and prevent dirt or dust from attaching it.

        If oil from hand, dirt, or dust is attached, transmission loss may increase, resulting in failure at data link.

        In addition, do not remove the cover from a connector of the module before installing an optical fiber cable.

    (c) Installing/removing an optical fiber cable

        Be sure to shut off all phases of the external power supply used by the system.

(2) Connection of cable

    An optical fiber cable connects OUT and IN as shown below. (OUT of the last station is connected to IN of the master station.)
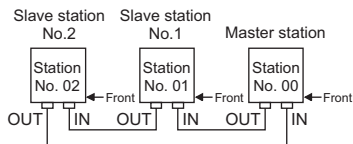
Figure 5.1 Connection method

5.2 Coaxial Cable

This section describes how to connect a coaxial cable with the local module.

(1) Precautions for wiring
  (a) Securing of wiring space
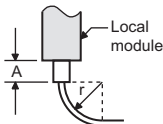   When a coaxial cable is connected with the local module, a cable bend radius is restricted.

Figure 5.2 Allowable bend radius of coaxial cable

Table 5.1 Allowable bend radius of coaxial cable

Applicable cable		Connector part A(mm)	Allowable bend radius r(mm)
Coaxial cable	3C-2V	30	23
	5C-2V		30

  (b) Laying a coaxial cable
     When laying a coaxial cable, keep a distance of 100mm (3.94 inch) or more from other power cables or control cables.
     In addition, connecting FGs of the power supply module of the base unit where the local module is mounted strengthens measures against noise.
  (c) Installing/removing a coaxial cable
     Be sure to shut off all phases of the external power supply used by the system.

(2) Connection of cable
   A coaxial cable connects OUT(F-SD, R-RD) and IN (F-RD, R-SD) as shown below. (OUT(F-SD, R-RD) of the last station is connected to IN (F-RD, R-SD) of the master station.)
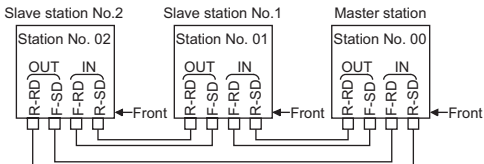

Figure 5.3 Connection method

(3) Connection of cable for coaxial cable
   The following shows how to connect a BNC connector (connector plug for coaxial cable) and a cable.
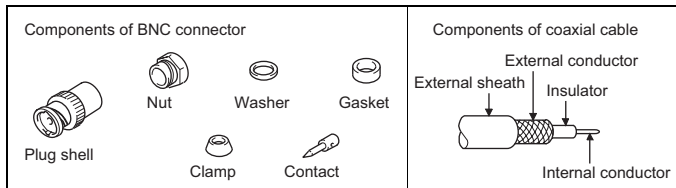   (a) Components of BNC connector and coaxial cable

Components of BNC connector	Components of coaxial cable
Nut Washer Gasket Plug shell Clamp Contact	External conductor External sheath Insulator Internal conductor

Figure 5.4 Components of BNC connector and coaxial cable

(b) How to connect BNC connector and coaxial cable
   1) Remove external sheath of a coaxial cable as shown below.
      Be careful not to damage an external conductor.

15mm
(0.59 inch)
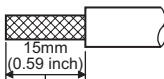
Measures for removing external sheath

   2) Put a nut, washer, gasket, and clamp through the coaxial cable and unravel the external conductor.
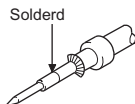
Clamp
Nut
Washer
Gasket
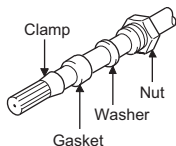
   3) Cut the external conductor, insulator, and internal conductor in the following dimensions.
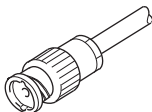   As for the external conductor, cut it in the same dimensions as taper part of the clamp, and smooth it down to the clamp.

Internal conductor   Insulator
3mm
(0.12inch)
6mm
(0.24inch)
Clamp and external conductor

14
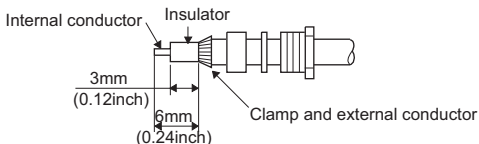
4) Solder a contact to the internal conductor.

Solderd

5) Insert a contact assembly in 4) to a plug shell and screw a nut into the plug shell.

POINT

(1) When soldering an internal conductor and a contact, pay attention to the following points.
   • Do not swell up the soldered part.
   • Properly solder a contact and an insulator of the cable without making space between them or soldering them too tight.
   • Perform soldering immediately so as not to modify the insulator.
(2) Before removing/mounting the coaxial cable connector, be sure to touch a grounded metal object to discharge the static electricity from the human body.
   Not doing so may cause failure of the module.

5.3 Shielded Twisted Pair Cable

This section describes how to connect a shielded twisted pair cable with the local module.

(1) Precautions for wiring

  (a) Laying shielded twisted pair cable
     When laying a shielded twisted pair cable, pay attention to the following points so that it will not be affected by noise or surge induction.

     1) Do not install a shielded twisted pair cable together with the main circuit, high-voltage cable, or load line, and also do not bring them closer to each other. (Keep a distance of 100mm (3.94 inch) or more between them.)

     2) Do not use a part of shielded twisted pair cable (for example, one pair among three pairs) as a cable for power supply.

  (b) Connection of terminating resistor
     For the stations at both ends of the MELSECNET/B data link system, connect SDA/RDA and SDB/RDB with an attahced terminating resistor (110Ω, 1/2W).

  (c) Installing/removing shielded twisted pair cable
     Be sure to shut off all phases of the external power supply used by the system.

(2) Connection of cable
  A shielded twisted pair cable is connected as shown below.
  In addition, use a terminating resistor for stations at both ends.
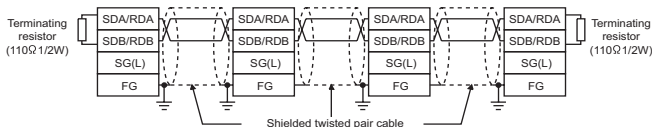

Figure 5.5 Connection method
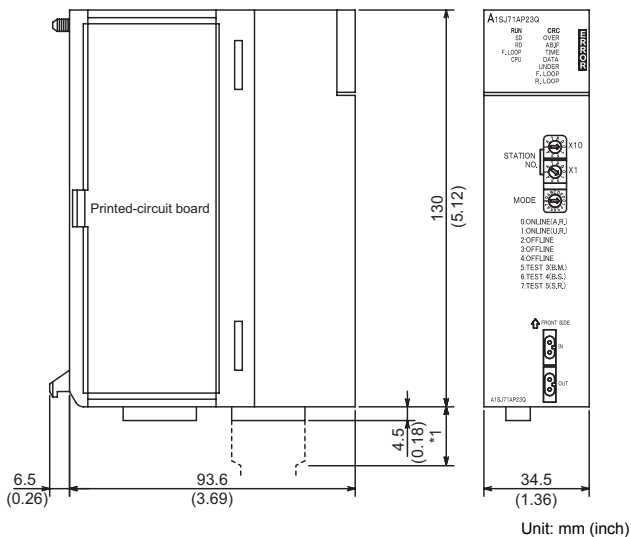
6. EXTERNAL DIMENSIONS

6.1 A1SJ71AP23Q

Figure 6.1 A1SJ71AP23Q

Unit: mm (inch)

*1 For details, contact your local Mitsubishi Electric System Service or representative.
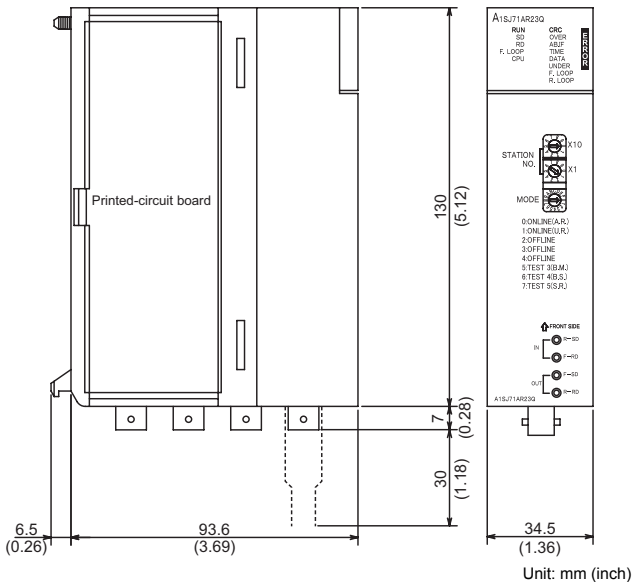
6.2 A1SJ71AR23Q

Figure 6.2 A1SJ71AR23Q

Unit: mm (inch)
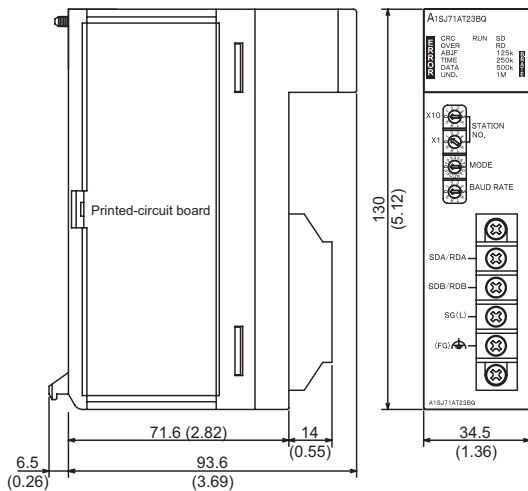
6.3 A1SJ71AT23BQ

Figure 6.3 A1SJ71AT23BQ

Unit: mm (inch)

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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.

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