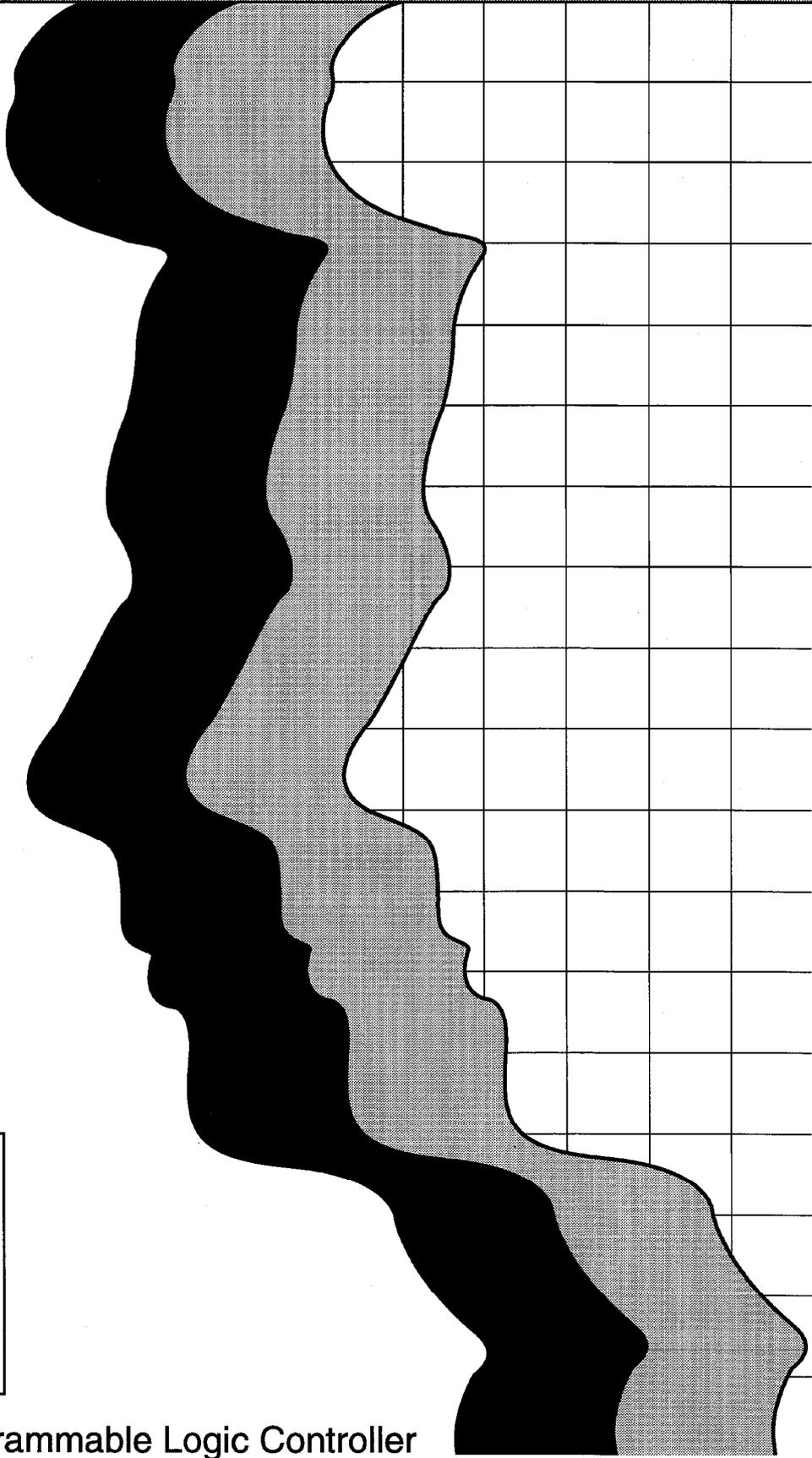


MITSUBISHI

GPP function peripheral connection module type AJ65BT-G4

User's Manual



Mitsubishi Programmable Logic Controller

● SAFETY PRECAUTIONS ●

(Read these precautions before using.)

When using Mitsubishi equipment, thoroughly read this manual and the associated manuals introduced in this manual. Also pay careful attention to safety and handle the module properly.

These precautions apply only to Mitsubishi equipment. Refer to the CPU module user's manual for a description of the PLC system safety precautions.

These ● SAFETY PRECAUTIONS ● classify the safety precautions into two categories: "DANGER" and "CAUTION".



DANGER

Procedures which may lead to a dangerous condition and cause death or serious injury if not carried out properly.



CAUTION

Procedures which may lead to a dangerous condition and cause superficial to medium injury, or physical damage only, if not carried out properly.

Depending on circumstances, procedures indicated by  CAUTION may also be linked to serious results.

In any case, it is important to follow the directions for usage.

Store this manual in a safe place so that you can take it out and read it whenever necessary. Always forward it to the end user.

[DESIGN PRECAUTIONS]



DANGER

- When using the GPP function peripheral for the online operation of the running PLC (e.g. data change, forced output, program change or operating status change), establish an interlock circuit outside the PLC system so that the whole system always operates on the safe side. Also, the user should determine corrective and other actions to be taken when a data communication error occurs between the peripheral and PLC.



CAUTION

- Do not bunch the control wires or communication cables with the main circuit or power wires, or install them close to each other. They should be installed 100mm(3.94inch) or more from each other. Not doing so could result in noise that would cause malfunction.

[INSTALLATION PRECAUTIONS]

CAUTION

- Use the module in an environment that meets the general specifications contained in the manual. Using this module in an environment outside the range of the general specifications could result in fire, malfunction, and damage to or deterioration of the product.
- Securely fix the module using the DIN rail or mounting screws and fully tighten the mounting screws within the specified torque range.
If the screws are loose, it may result in fallout, short circuits, or malfunctions.
Tightening the screw too far may cause damages to the screws and/or the module, resulting in a fallout, short circuits, or malfunctions.
- Do not directly touch the module's conductive parts or electronic components.
Doing so could cause malfunction or failure in the module.

[WIRING PRECAUTIONS]

DANGER

- Make sure to switch all phases of the external power supply off when installing or placing wiring. Not doing so could result in electric shock or damage to the product.
- When switching power on or starting operation after mounting, wiring, operation check or other work, always close the terminal cover.
Not doing so can cause a short circuit or misoperation due to module damage or cable connection fault.

CAUTION

- Before wiring the module, confirm the rated voltage and terminal arrangement of the product. A fire or failure can occur if the power supply connected is different from the rating or wiring is incorrect.
- Tighten the terminal screws within the range of the specified torque.
If the terminal screws are loose, it may result in short circuits, or malfunctions.
Tightening the terminal screws too far may cause damages to the terminal screws and/or the module, resulting in short circuits, or malfunctions.
- Be sure there are no foreign substances such as sawdust or wiring debris inside the module.
Such debris could cause fires, failure, or malfunction.
- Be sure to ground the FG terminal using the class D (class three grounding) or higher grounding designated for PLCs.
Not doing so may cause misoperation.

[WIRING PRECAUTIONS]

CAUTION

- Always secure the communication and power cables connected to the module in conduits or with clamps.
Not doing so can damage the module or cables due to dangling, moved or accidentally pulled cables or can cause misoperation due to cable contact failure.
- Do not grab on the cable when removing the communication or power cable connected to the module.
When removing the cable with a connector, hold the connector on the side that is connected to the module.
When disconnecting a cable without a connector, first loosen the screws on the part that is connected to the module. Pulling the cable when it is still connected to the module may cause damage to the module or cable, or misoperation due to cable contact failure.
- Before connecting the cables, check the type of interface to be connected.
Do not connect the cables to the equipment of different interface specifications.
It can cause the module to fail.
- Perform correct pressure-displacement, crimp-contact or soldering for wire connections using the tools specified by the manufactures. Attach connectors to the module securely.
Doing so could cause malfunction or failure in the module.

[STARTING AND MAINTENANCE PRECAUTIONS]

DANGER

- Do not touch the connector while the power is on.
Doing so could cause malfunction.
- Make sure to switch all phases of the external power supply off before cleaning or retightening screws.
If you do not switch off the external power supply, it will cause failure or malfunction of the module.
If the screws are loose, it may result in fallout, short circuits, or malfunctions.
Tightening the screws too far may cause damages to the screws and/or the module, resulting in a fallout, short circuits, or malfunctions.

[STARTING AND MAINTENANCE PRECAUTIONS]

CAUTION

- Do not disassemble or modify the module.
Doing so could cause failure, malfunction, injury, or fire.
- The module case is made of resin. Do not drop it or give it hard impact.
This can damage the module.
- Before mounting or dismounting the module to or from an enclosure, always switch power off externally in all phases. Otherwise, the module can fail or misoperate.
- While power is on, do not change the switch settings (except SW1 (operation mode setting) of the operation setting DIP switches).
This can cause a failure or misoperation.
- When mounting, wiring or operation check is not performed, always close the terminal cover.
Not doing so can cause a short circuit or misoperation due to module damage or cable connection fault.

[OPERATING PRECAUTIONS]

DANGER

- Before using the GPP function peripheral for the online operation of the running PLC (e.g. data change, forced output, program change or operating status change), thoroughly read the manual to ensure complete safety.
Otherwise, an improper operation may cause machine damage or accident.

[DISOSAL PRECAUTIONS]

CAUTION

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

Revisions

*The manual number is noted at the lower left of the back cover.

Print Date	*Manual Number	Revision
Jan.1998	SH(NA)-3650-A	First printing
Mar.1998	SH(NA)-3650-B	<p>Corrections</p> <p>Entire manual (mode name changed from Q mode to QnA mode), Section 2.3, Section 3.3, Section 4.2.2(2)(b) table, Section 5.4.2</p> <p>Additions</p> <p>Section 7.1</p>
Dec. 1999	SH(NA)-3650-C	<p>Corrections</p> <p>Entire manual (Terminology), SAFETY PRECAUTIONS, About This Manual, Chapter 1, Section 1.1 (3), Section 1.2, Section 2.1, Section 2.2, Section 2.3, Section 3.2, Section 4.1, Section 4.2.2 (POINT), Section 4.2.3 (1), Section 4.3.1 (1), Section 4.3.2 (1), Section 5.2.1 (1), Section 5.3, Section 5.4.3 (POINT), Section 5.5, Chapter 6, Section 6.1, Section 6.2, Section 7.2, Section 7.3</p> <p>Additions</p> <p>Section 2.3 (2), Section 4.2.3 (2), Section 4.3.2 (2), Section 5.3 (POINT), Section 6.1.2, Section 6.2.2, Section 7.1 (POINT)</p> <p>Deletions</p> <p>Section 3.3</p>

This manual confers no industrial property rights or any rights of any other kind, nor does it confer any patent licenses. Mitsubishi Electric Corporation cannot be held responsible for any problems involving industrial property rights which may occur as a result of using the contents noted in this manual.

Introduction

Thank you for the Mitsubishi MELSEC-A Series of General Purpose Programmable Logic Controllers. Please read this manual carefully so that equipment is used to its optimum. A copy of this manual should be forwarded to the end user.

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About This Manuals

The following product manuals are available. Please use this table as a reference to request the appropriate manual as necessary.

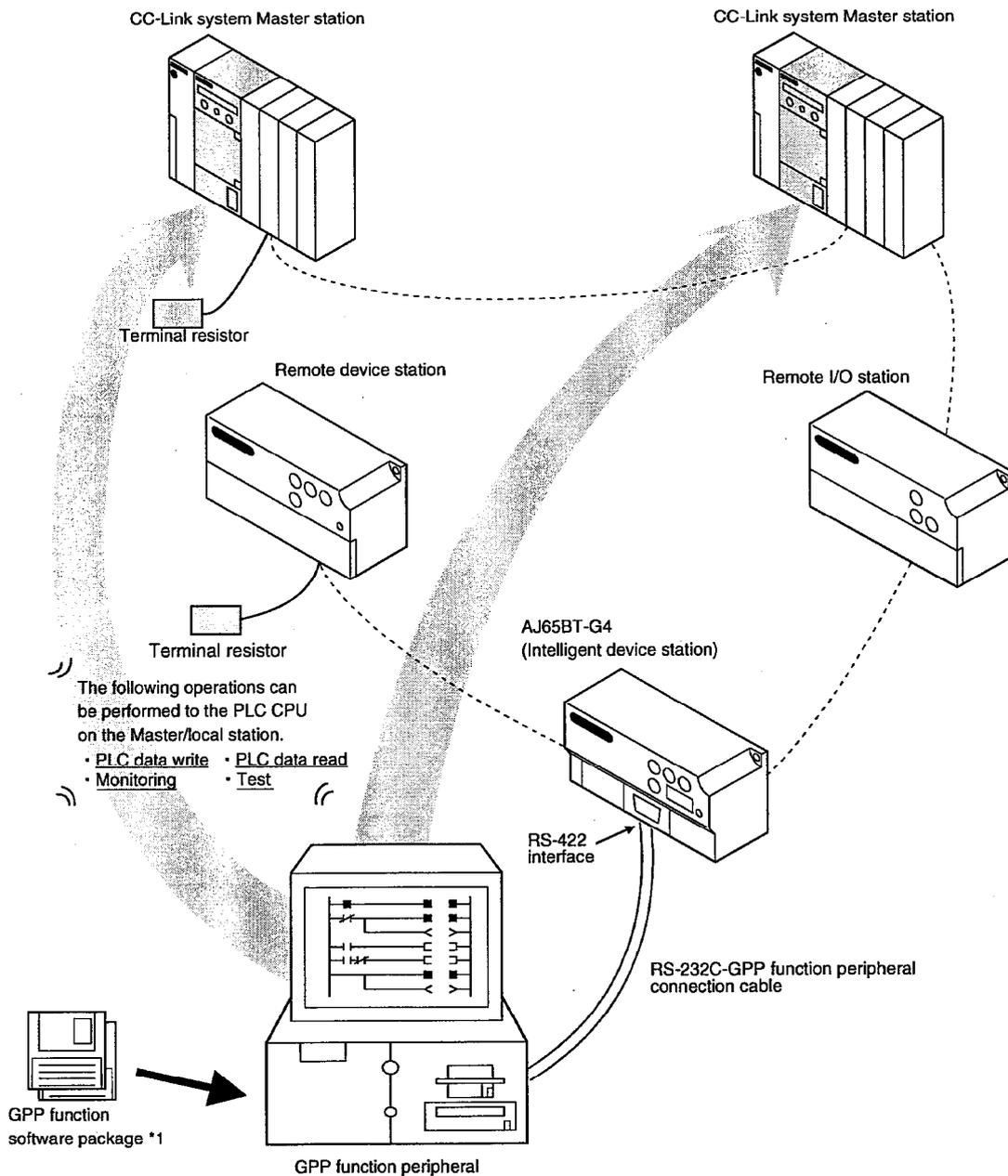
Related Manuals

Manual Name	Manual No. (Model Code)
CC-Link System Master-Local Module type AJ61BT11/A1SJ61BT11 User's Manual Describes the system configuration, performance specifications, functions, handling, wiring and troubleshooting of the AJ61BT11 and A1SJ61BT11. (Option)	IB-66721 (13J872)
CC-Link System Master-Local Module type AJ61QBT11/A1SJ61QBT11 User's Manual Describes the system configuration, performance specifications, functions, handling, wiring and troubleshooting of the AJ61QBT11 and A1SJ61QBT11. (Option)	IB-66722 (13J873)
GPP Function Software for Windows SW4D5C-GPPW-E(V) Operating Manual Describes the online functions of the SW4D5C-GPPW-E(V) including the programming procedure, printing out procedure, monitoring procedure, and debugging procedure. (Option)	SH-080032 (13J963)
Type SW2IVD-GPPQ GPP Software package Operating Manual(Online) Describes the online functions, such as the monitoring and debugging methods, of the SW2IVD-GPPQ. (Option)	IB-66775 (13J922)
Type SW2IVD-GPPQ GPP Software package Operating Manual(Offline) Describes the offline functions, such as the programming method, print-out method and file maintenance, of the SW2IVD-GPPQ. (Option)	IB-66774 (13J921)
Type SW4IVD-GPPA(GPP) Operating Manual Describes the system configuration, performance specifications, functions, system start-up procedure, detailed operation of each GPP function, and error messages of the SW4IVD-GPPA(GPP). (Option)	IB-66855 (13JL62)
Type A6GPP/A6PHP(SW4GP-GPPA) Operating Manual Describes the system configuration, performance specifications, functions, system start-up procedure, detailed operation of each GPP function, and error messages of the SW4GP-GPPA. (Option)	IB-66259 (13J717)

1. OVERVIEW

This user's manual describes the specifications and handling information of the AJ65BT-G4 GPP function peripheral connection module (hereinafter referred to as "the AJ65BT-G4") compatible with the A/QnA series PLC used in the Control & Communication Link (hereinafter referred to as "CC-Link") system.

The AJ65BT-G4 is designed to incorporate a GPP function peripheral into the CC-Link system to perform PLC data write, PLC data read, monitoring, test and other functions from the GPP function peripheral to the Master and Local stations in the CC-Link system and to other station PLC on the MELSECNET.



*1: GPPW: GPP function software for Windows (SW2D5C/F-GPPW-E and above, hereafter referred to as the "GPPW")
 GPPQ: SWn-GPPQ type GPP function software package (hereafter referred to as the "GPPQ")
 GPPA: SWn-GPPA type GPP function software package (hereafter referred to as the "GPPA")

1.1 Features

(1) Available GPP functions

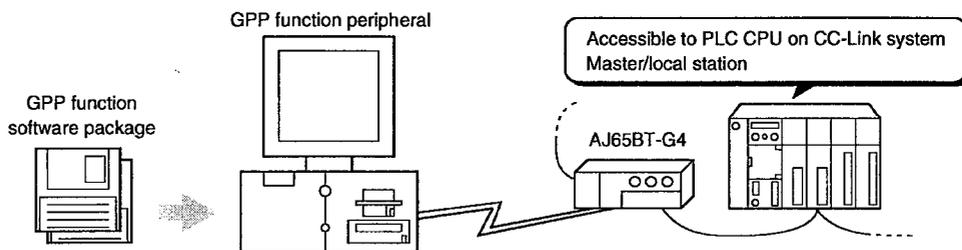
The following functions of the GPP function software package may be used with the PLC CPUs in the CC-Link system and other station PLC CPUs on the MELSECNET.

- PLC write to PLC CPU
- PLC read from PLC CPU
- Monitoring of PLC CPU
- Device write and test to PLC CPU

(For full information on the available GPP functions, refer to Sections 4.2 and 4.3.)

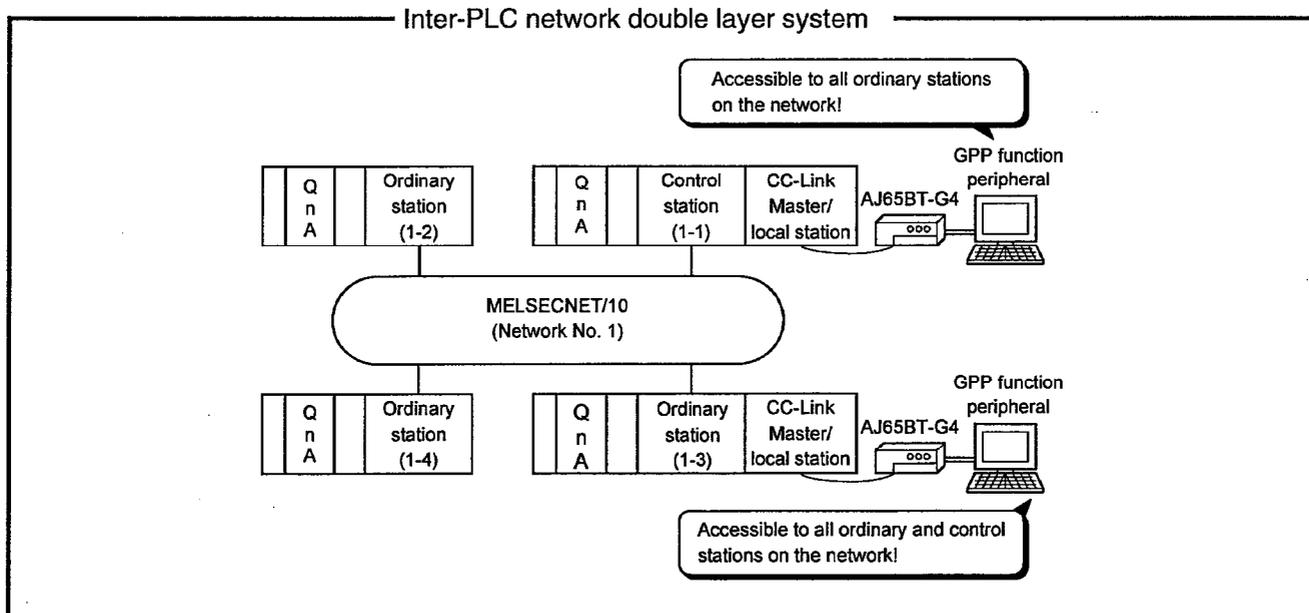
(2) Accessible stations

(a) PLCs on the Master and Local stations in the CC-Link system are accessible when the operation mode of the AJ65BT-G4 is either the QnA mode or A mode.

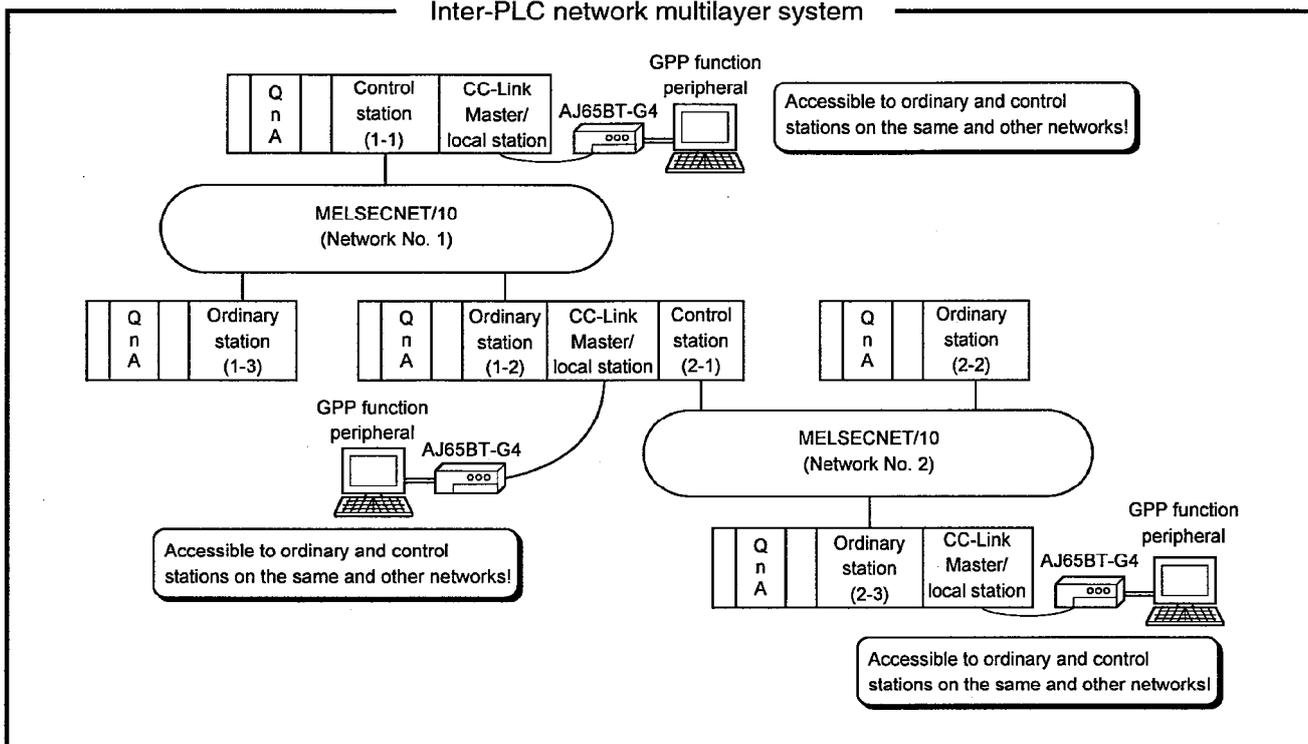


(b) If the Master and Local stations of the CC-Link system are incorporated in the MELSECNET/10 system, the GPP functions are accessible to other station PLCs on the network when the AJ65BT-G4 is operating in the QnA mode. (If the PLC CPUs on the midway station and access destination are the MELSEC-QnA series)

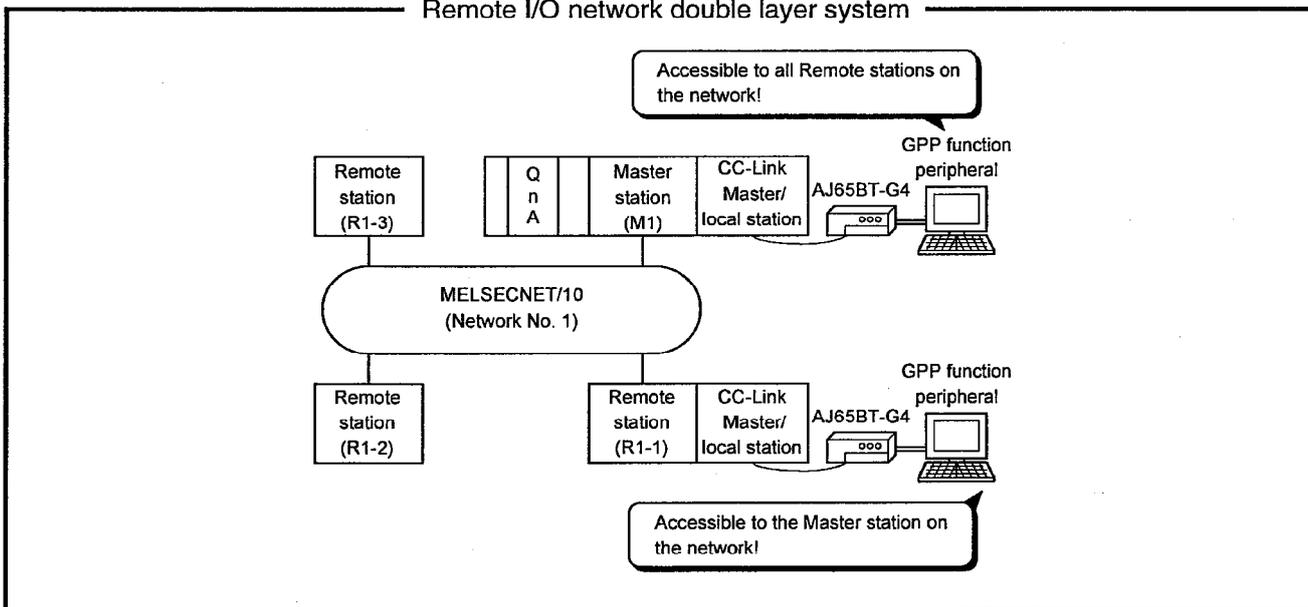
The midway station is the station loaded with the CC-Link module to which the AJ65BT-G4 is connected and with the MELSECNET module which intervenes in the MELSECNET.

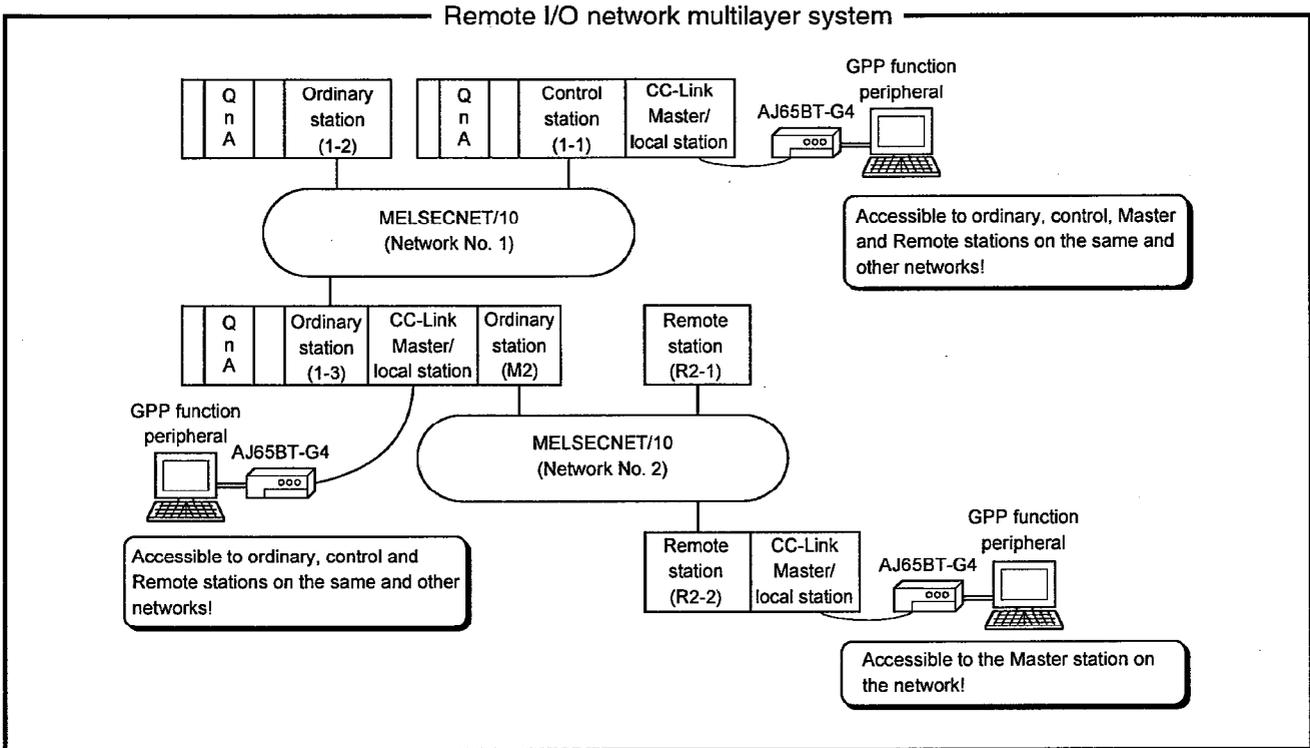


Inter-PLC network multilayer system

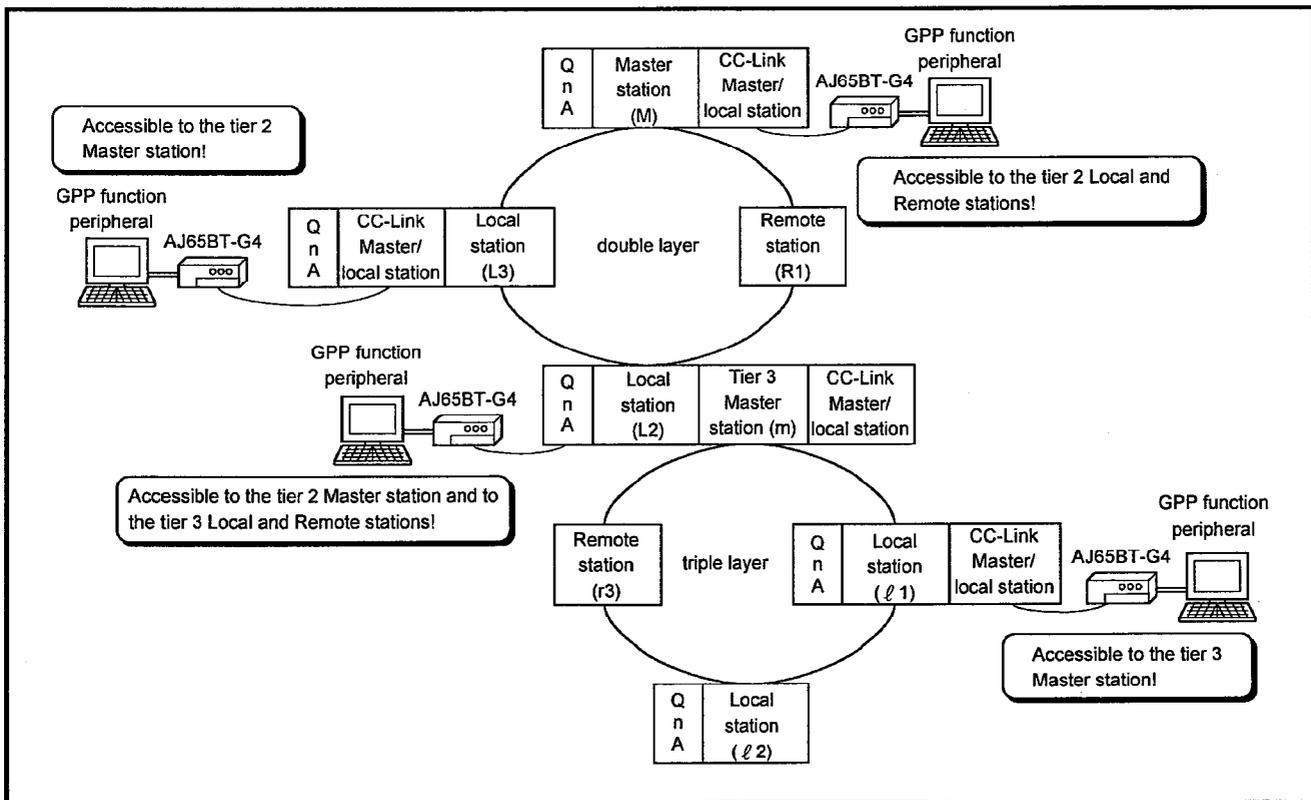


Remote I/O network double layer system





(c) If the Master and Local stations in the CC-Link system are incorporated in the MELSECNET(II) system, the GPP functions can access other station PLCs in the data link when the AJ65BT-G4 is operating in the QnA mode. (If the PLC CPUs in the midway station and access destination are the MELSEC-QnA series)



(3) Connectable with all GPP function peripherals!

The AJ65BT-G4 can be connected with the peripherals in which the following GPP function software packages are incorporated to perform writing, reading, monitoring, testing between the PLC and a personal computer.

Available GPP Function Software Package	Connectable GPP Function Peripheral	Remarks
SWnD5C/F-GPPW-E	Windows-compatible personal computer	SW2D5C/F-GPPW-E and above
SWnIVD-GPPA, SWnIVD-GPPQ, SWnIX-GPPA	IBM PC/AT compatible personal computer	—
SWnGP-GPPA	A6GPP, A6HGP, A6PHP	—

1.2 Abbreviations and Generic Names Used in This Manual

In this manual, the following abbreviations and generic names are used for explanation.

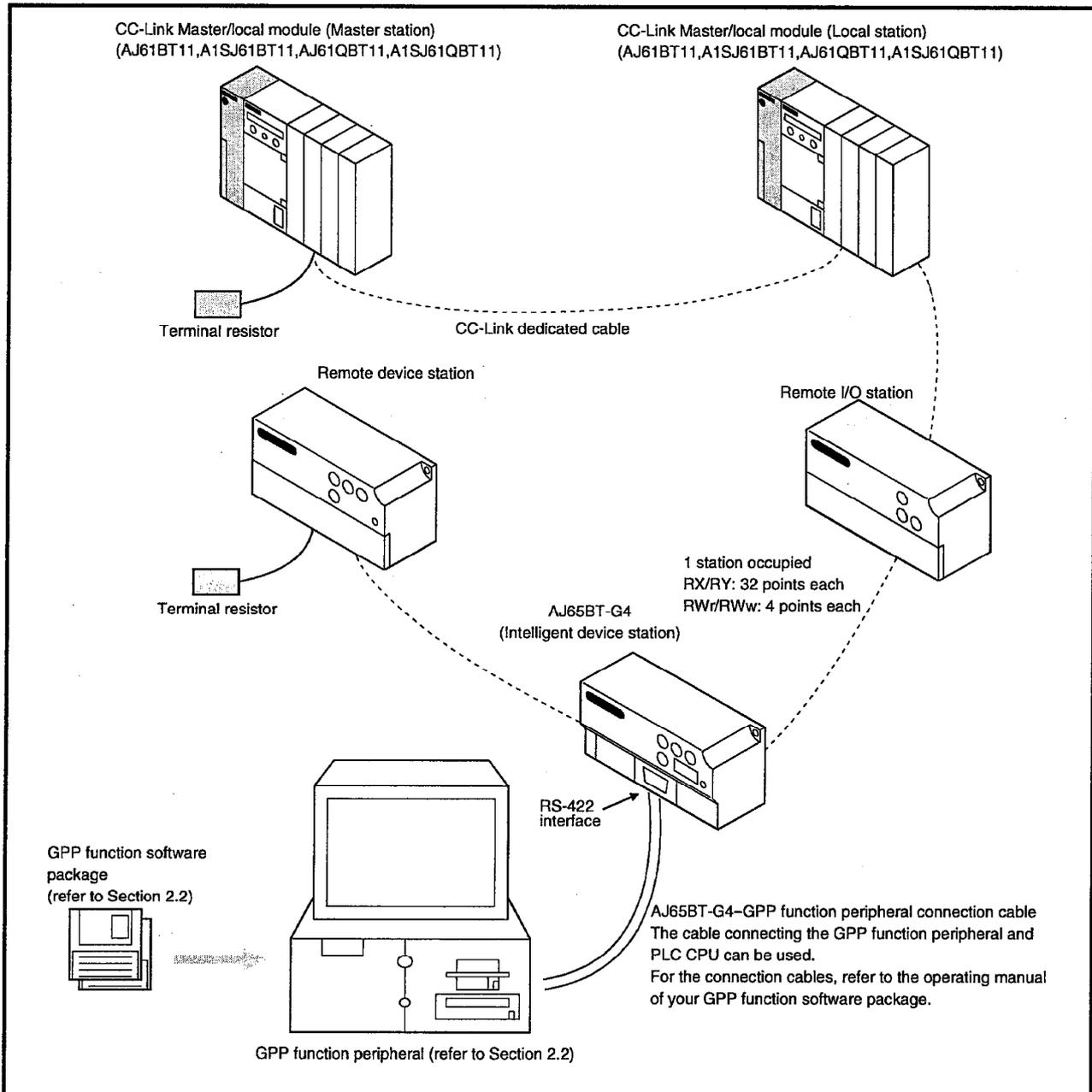
Abbreviation/Generic Name	Description
A1SJ61BT11	Abbreviation for the A1SJ61BT11 CC-Link system Master/local module.
A1SJ61QBT11	Abbreviation for the A1SJ61QBT11 CC-Link system Master/local module.
AJ61BT11	Abbreviation for the AJ61BT11 CC-Link system Master/local module.
AJ61QBT11	Abbreviation for the AJ61QBT11 CC-Link system Master/local module.
AJ65BT-G4	Abbreviation for the AJ65BT-G4 GPP function peripheral connection module.
GPP function peripheral	Generic name for the GPPW, GPPQ, and GPPA peripherals.
GPP function software package	Generic name for the GPPW, GPPQ, and GPPA.
GPPA	Abbreviation for the SWn-GPPA type GPP function software package.
GPPA peripheral	Peripheral where the SWn-GPPA type GPP function software package has been installed.
GPPQ	Abbreviation for the SWn-GPPQ type GPP function software package.
GPPQ peripheral	Peripheral where the SWn-GPPQ type GPP function software package has been installed.
GPPW	Abbreviation for the GPP function software for Windows (SW2D5C/F-GPPW-E and above).
GPPW peripheral	Peripherals where the GPP function software for Windows (SW2D5C/F-GPPW-E and above) is installed.
Intelligent device station	Station which can make transient transmission. The AJ65BT-G4 is an Intelligent device station.
Local module	Generic name for the AJ61BT11, A1SJ61BT11, AJ61QBT11 and A1SJ61QBT11 when used as Local stations.
Local station	Station which has a CPU and can communicate with the Master and other Local stations.
Master module	Generic name for the AJ61BT11, A1SJ61BT11, AJ61QBT11 and A1SJ61QBT11 when used as the Master stations.
Master station	Station which controls Remote and Local stations. One Master station is required in a single system.
Master/local module	Generic name for the AJ61BT11, A1SJ61BT11, AJ61QBT11 and A1SJ61QBT11.
Remote I/O station	Remote station which handles bit data only.
Remote device station	Remote station which handles bit data and word data.
Remote module	Generic name for modules used as Remote I/O, Remote device and Intelligent device stations.

2. SYSTEM CONFIGURATION

This chapter describes the system configuration for use of the AJ65BT-G4.

2.1 Overall Configuration

The following diagram shows the overall configuration for use of the AJ65BT-G4.
Up to 26 AJ65BT-G4's may be connected to one CC-Link Master module.



Refer to Control & Communication Link System Master/Local Module User's Manual for the maximum distance of the total system extension.

2.2 Connectable Peripherals

The following table lists the GPP function peripherals that may be connected with the AJ65BT-G4 and the GPP function software packages available.

Available GPP Function Software Package	Connectable GPP Function Peripheral	Remarks
SWnD5C/F-GPPW-E	Windows-compatible personal computer	SW2D5C/F-GPPW-E and above
SWnIVD-GPPA, SWnIVD-GPPQ, SWnIX-GPPA	IBM PC/AT compatible personal computer	_____
SWnGP-GPPA	A6GPP, A6HGP, A6PHP	_____

2.3 Instructions for System Configuration

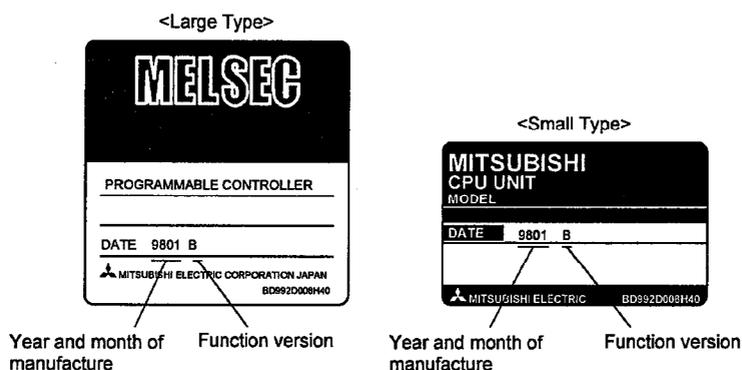
When using the AJ65BT-G4, follow these system configuration instructions.

(1) Master/local module with which the AJ65BT-G4 may be used

The AJ65BT-G4 may be used with the Master/local module whose function version is B or later and whose software version is J or later.

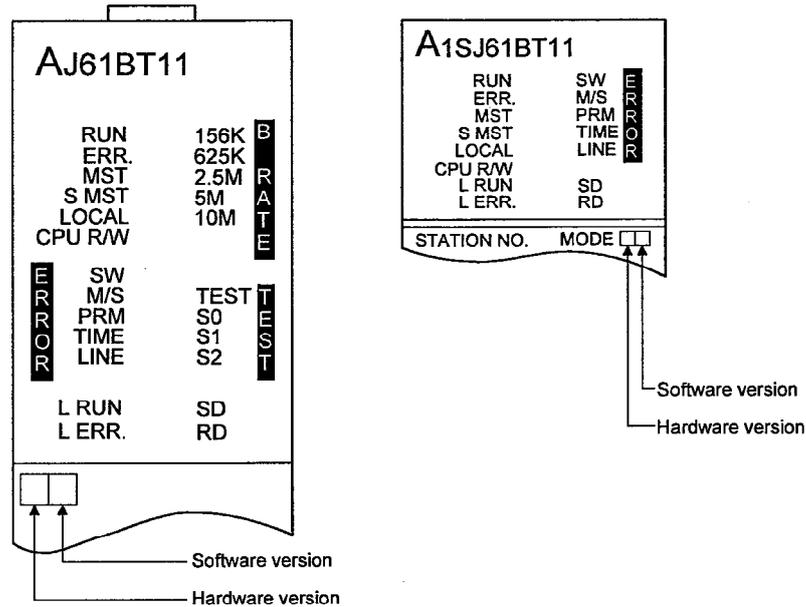
The modules that do not support the versions described above cannot be used.

The function version is indicated in the DATE field of the rating plate.



*The function version is indicated on the plate of only version B or later.

The software version is indicated on the module version seal on the module front.



(2) Applicable version of the AJ65BT-G4

Use the following software versions of the AJ65BT-G4 according to the PLC CPU accessed with the GPP function.

- When accessing the QnA series CPU: Version B and above
- When accessing the A series CPU: Version A and above
- * Select the type of the target CPU by setting the operation mode with the DIP switch on the front panel of the AJ65BT-G4. (See Section 4.1, and Section 5.3.)
- * For the indication of the software version of the AJ65BT-G4, refer to Section 5.3*.

3. SPECIFICATIONS

3.1 General Specifications

The following table lists the general specifications of the AJ65BT-G4.

Item	Specifications					
Operating ambient temperature	0 to 55°C					
Storage ambient temperature	-20 to 75°C					
Operating ambient humidity	10 to 90%RH, non-condensing					
Storage ambient humidity	10 to 90%RH, non-condensing					
Vibration resistance	Conforms to JIS B3501 and IEC 1131-2.		Frequency	Acceleration	Amplitude	Sweep Count
		In case of intermittent vibration	10 to 57Hz	—	0.075mm	10 times in each of X, Y and Z directions (for 80 minutes)
			57 to 150Hz	9.8m/s ²	—	
		In case of continuous vibration	10 to 57Hz	—	0.035mm	
57 to 150Hz	4.9m/s ²		—			
Shock resistance	Conforms to JIS B3501 and IEC 1131-2 (147m/s ² , 3 times in each of three directions).					
Operating atmosphere	No corrosive gas					
Operating altitude	2000m(6557.38feet) or less					
Installation site	Inside control panel					
Overvoltage category*1	II or less					
Contamination level*2	2 or less					

*1: Indicates the element in the distribution system between the public electricity grid and the mechanical equipment inside the premises that the relevant device is assumed to be connected to.
 Category II applies to devices such as those that draw their power supply from fixed installations.
 The surge voltage withstand capability of devices with ratings up to 300V is 2,500V.

*2: This index gives a measure of the incidence of conductive materials in the environment in which the device is used.
 A contamination level of 2 indicates an environment in which there is only contamination by non-conducting materials, but due to occasional condensation, conductivity may occur.

3. SPECIFICATIONS

MELSEC-A

3.2 Performance Specifications

The following table lists the performance specifications of the AJ65BT-G4.

Item	Specifications
CC-Link station type	Intelligent device station
Number of stations occupied	1 station: RX/RX 32 points each RWr/RWw 4 points each
Transmission speed/max. transmission distance	(Refer to Control & Communication Link System Master/Local Module User's Manual.)
Connection cable (for CC-Link)	
Max. number of modules connected	Up to 26
Power supply	24VDC
Current consumption(A)	0.19
Noise immunity	Measure using a noise simulator of noise voltage 500Vp-p, noise width 1 μ s and noise frequency 25 to 60Hz.
Withstanding voltage	500VAC for 1 minute across all DC external terminals and grounding terminal
Insulation resistance	10M Ω or more across all DC external terminals and grounding terminal using a 500VDC insulation resistance tester.
Terminal block	7-pin terminal block (M3.5 \times 7 screws)
Applicable cable size(mm ²)	0.75 to 2.00
Applicable crimping terminal	RAV1.25-3, RAV2-3.5 (conforming to JIS C2805)
Permissible instantaneous power failure time (ms)	1
RS-422 interface	For connection of GPP function peripheral, 1 channel
Module mounting screws	Screws of M4 \times 0.7mm \times 16mm or larger DIN rail may also be used for mounting.
Applicable DIN rails	TH35-7.5Fe, TH35-7.5Al, TH35-15Fe (conforming to JIS-C2B12)
Weight(kg)	0.36
Outline dimensions (mm){inch}	80(3.15) \times 170(6.70) \times 63.5(2.50)

4. OPERATION MODES OF THE AJ65BT-G4

This chapter contains the GPP functions available by online operation via the AJ65BT-G4, the accessible ranges of the GPP functions, and how to set PLC numbers (Station numbers) and others on an operation mode basis.

4.1 Operation Modes

Operation Mode	Description																																																			
QnA mode	This function is chosen under the following conditions.																																																			
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Use the operation setting DIP switch to select between the QnA and A modes. (Refer to Section 5.3.)

4.2 Accessible Ranges and Available GPP Functions in the QnA Mode

This section explains the accessible ranges of the GPP functions, how to set the PLC numbers (Station numbers) and others, and available GPP functions in the QnA mode.

4.2.1 Instructions for data communication

- (1) When the Master and Local stations of the CC-Link system to which the AJ65BT-G4 is connected are incorporated in the MELSECNET system, the GPP functions can access other station PLCs on the MELSECNET. (Refer to (1) to (4), Section 4.2.2.)

The accessible range for access to the other stations on the MELSECNET is unchanged if it is made via the Master station or Local station in CC-Link.

- (2) When accessing the other network via the MELSECNET/10, always set the routing parameters with the GPP functions.

For details and setting method of the routing parameters, refer to the GPP function operating manual and MELSECNET/10 network system reference manual.

- (3) The accessible ranges explained in Section 4.2.2 also apply to the case where access is made via Ethernet.

Observe the following instructions when accessing the other station PLC on the other network via Ethernet.

- (a) Available Ethernet interface modules

Other station access can be made when the following module is used.

1) AJ71QE71(-B5), A1SJ71QE71-B2, A1SJ71QE71-B5

2) Use the above Ethernet interface modules which have the year and month of manufacture and function version of 9707B or later.

The year and month of manufacture and the function version are indicated in the DATE field of the module's rating plate.

*The function version is indicated on the plate of only version B or later.

- (b) Parameter setting

When accessing the other station PLC on the other network via Ethernet, always set the parameters designed for MELSECNET/10 relay communication.

For the details and setting method of the parameters designed for MELSECNET/10 relay communication, refer to the GPP function operating manual and QnA-compatible Ethernet interface module user's manual.

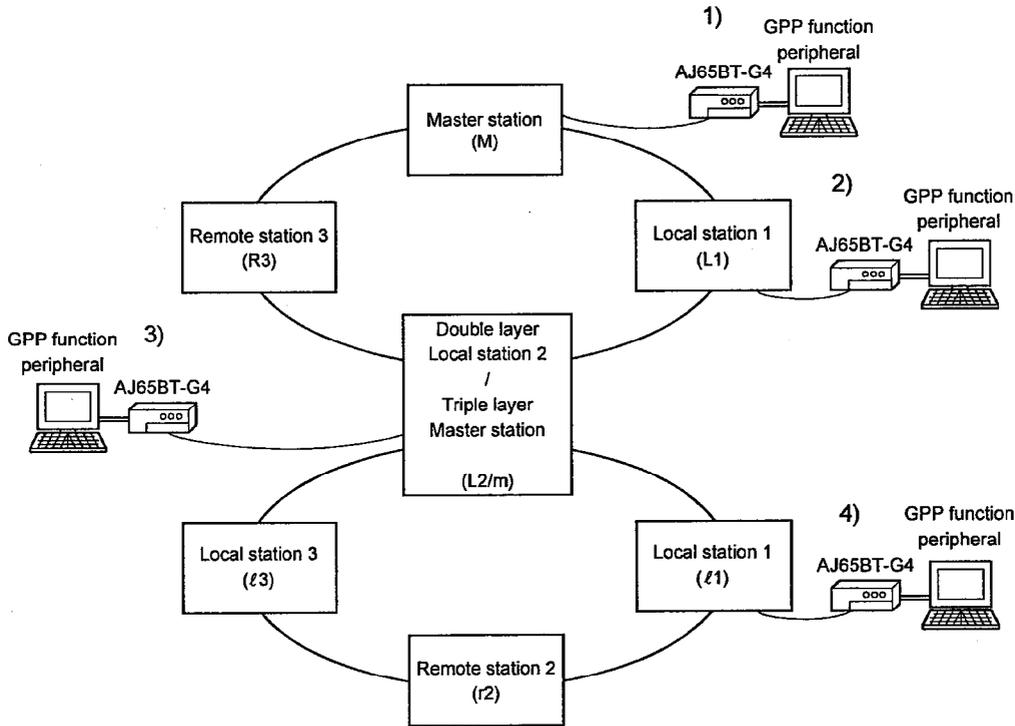
- (4) When data link is normal in CC-Link, the PLC can be accessed by the GPP function peripheral connected to the AJ65BT-G4.

4.2.2 Accessible ranges

This section provides the accessible ranges and the PLC numbers (Station numbers) and network numbers to be set in the QnA mode.

POINT
(1) The accessible range to the Master/local/remote/control/ordinary stations via the MELSECNET II or MELSECNET/10 is the same as that directly connected to the PLC CPU (via MELSECNET).
(2) The midway station described in this section indicates the station or relay station loaded with the CC-Link module to which the AJ65BT-G4 is connected and with the MELSECNET module which intervenes in the MELSECNET for the access to the other station on the MELSECNET in the QnA mode.

(1) When the midway station is on the MELSECNET (II) or MELSECNET/B

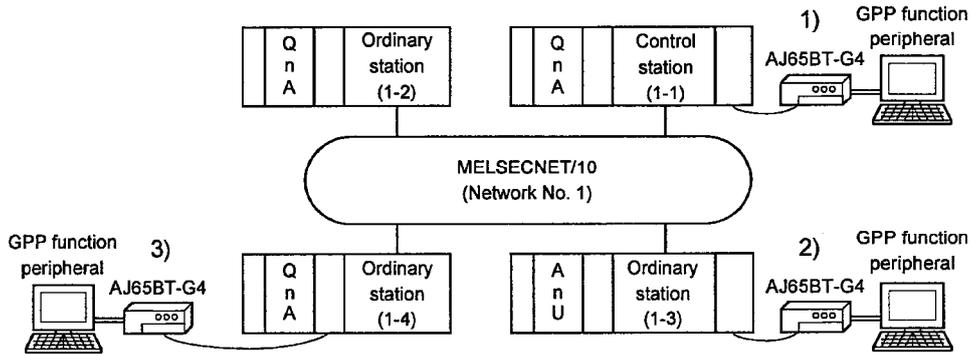


Number	Station to Which AJ65BT-G4 Is Connected	GPP Function Accessible Range						
		M	L1	R3	L2/m	l1	r2	l3
1)	M	O(Host station)	O(01)	x	O(02)	x	x	x
2)	L1	O(00)	O(Host station)	x	x	x	x	x
3)	L2/m	O(00)	x	x	O(Host station)	O(01)	x	O(03)
4)	l1	x	x	x	O(00)	O(Host station)	x	x

O: Accessible. Specified PLC number within parentheses
 x: Inaccessible

(2) When the midway station is on the inter-PLC network of the MELSECNET/10

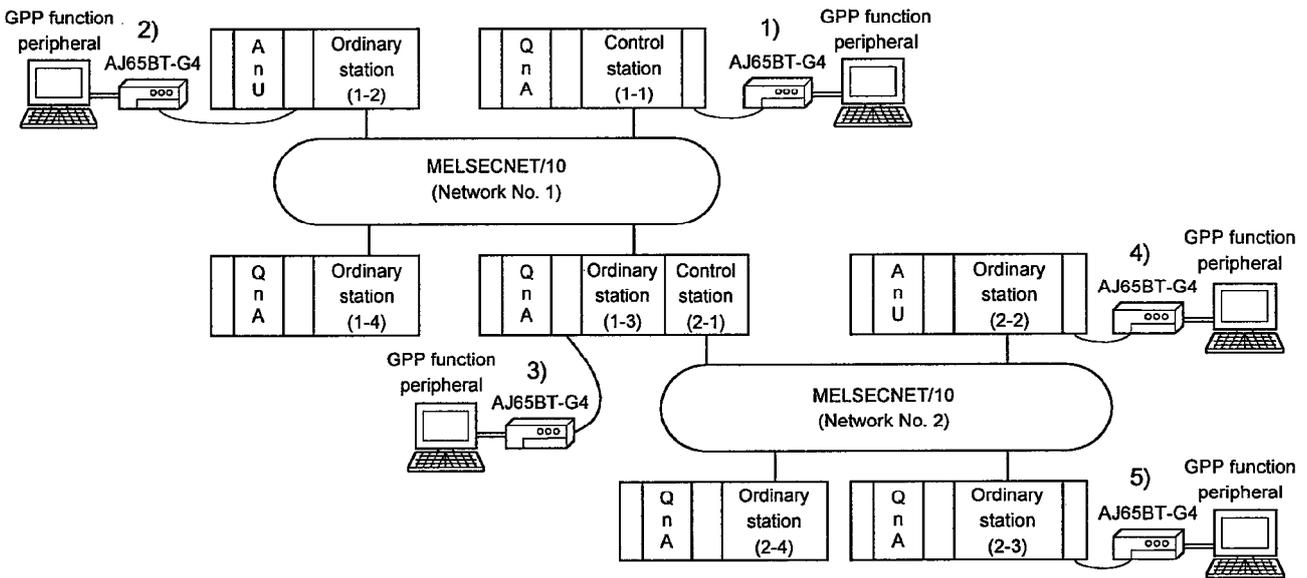
(a) MELSECNET/10 double layer system



Number	Station to Which AJ65BT-G4 Is Connected	GPP Function Accessible Range			
		QnA(1-1)	QnA(1-2)	AnU(1-3)	QnA(1-4)
1)	QnA(1-1)	○(Host station)	○(1-2)	×	○(1-4)
2)	AnU(1-3)	×	×	×	×
3)	QnA(1-4)	○(1-1)	○(1-2)	×	○(Host station)

○: Accessible. Specified network No.-PLC number within parentheses
 ×: Inaccessible

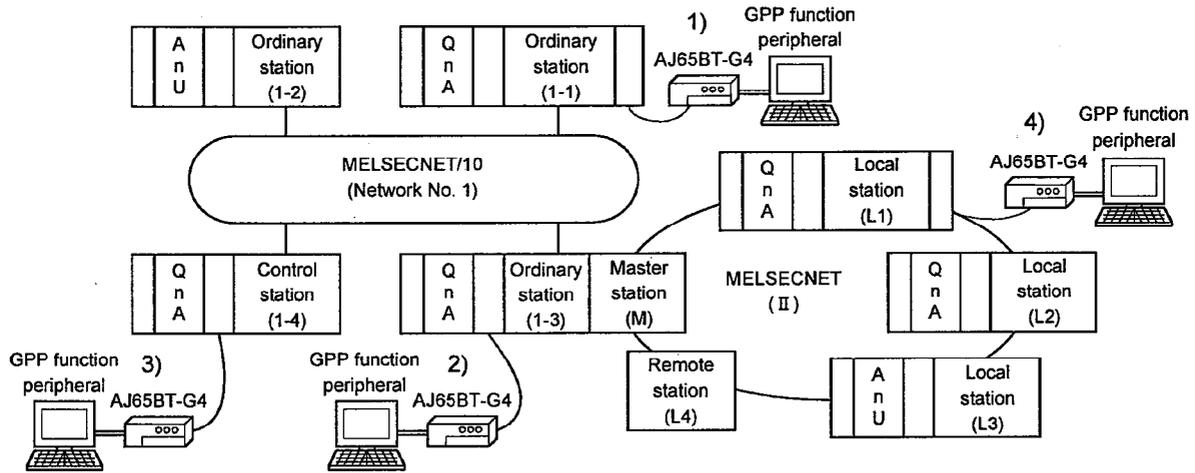
(b) MELSECNET/10 multilayer system



Number	Station to Which AJ65BT-G4 Is Connected	GPP Function Accessible Range						
		QnA (1-1)	AnU (1-2)	QnA (1-1)(2-1)	QnA (1-4)	AnU (2-2)	QnA (2-3)	QnA (2-4)
1)	QnA(1-1)	○(Host station)	×	○(1-3)	○(1-4)	×	○(2-3)	○(2-4)
2)	AnU(1-2)	×	×	×	×	×	×	×
3)	QnA(1-3)(2-1)	○(1-1)	×	○(Host station)	○(1-4)	×	○(2-3)	○(2-4)
4)	AnU(2-2)	×	×	×	×	×	×	×
5)	QnA(2-3)	○(1-1)	×	○(2-1)	○(1-4)	×	○(Host station)	○(2-4)

○: Accessible. Specified network No.-PLC number within parentheses
 ×: Inaccessible

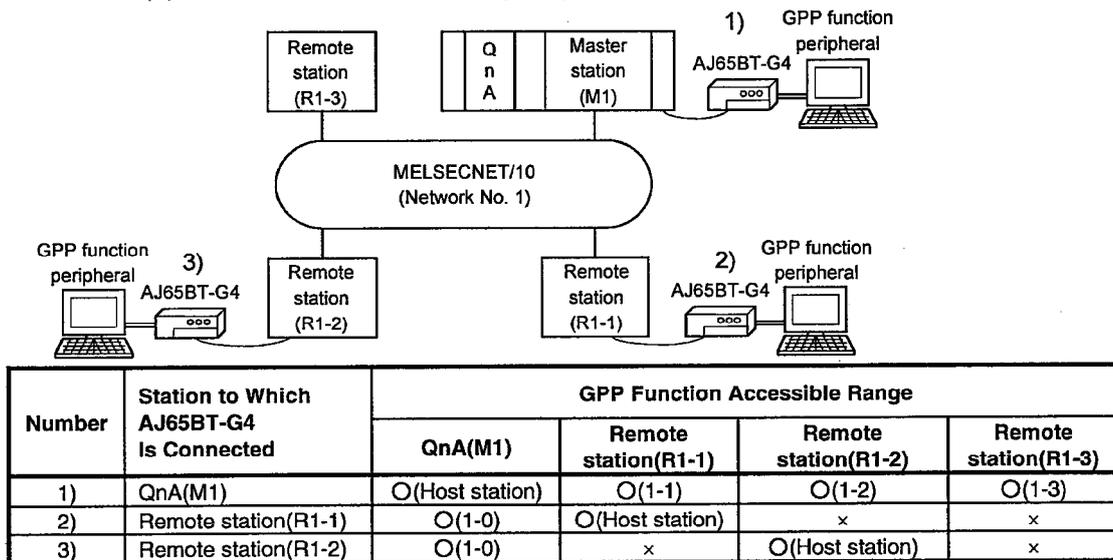
(3) When the midway station is in the mixed MELSECNET/10 and MELSECNET(II) system



Number	Station to Which AJ65BT-G4 Is Connected	GPP Function Accessible Range							
		QnA (1-1)	AnU (1-2)	QnA (1-3)(M)	QnA (1-4)	QnA (L1)	QnA (L2)	AnU (L3)	Remote station(R4)
1)	QnA(1-1)	O(Host station)	×	O(1-3)	O(1-4)	×	×	×	×
2)	QnA(1-3)(M)	O(1-1)	×	O(Host station)	O(1-4)	O(01)	O(02)	×	O(04)
3)	QnA(1-4)	O(1-1)	×	O(1-3)	O(Host station)	×	×	×	×
4)	QnA(L1)	×	×	O(00)	×	O(Host station)	×	×	×

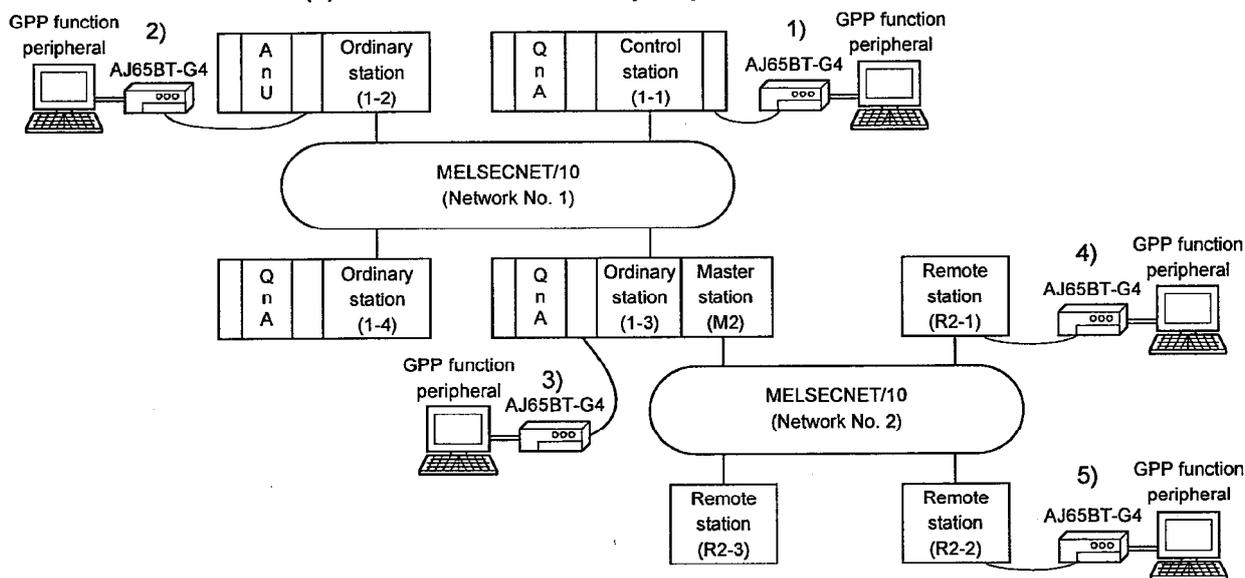
O: Accessible. Specified network No.-PLC number within parentheses
 ×: Inaccessible

(4) When the midway station is on the Remote I/O network of the MELSECNET/10
 (a) MELSECNET/10 double layer system



O: Accessible. Specified network No.-PLC number within parentheses
 x: Inaccessible

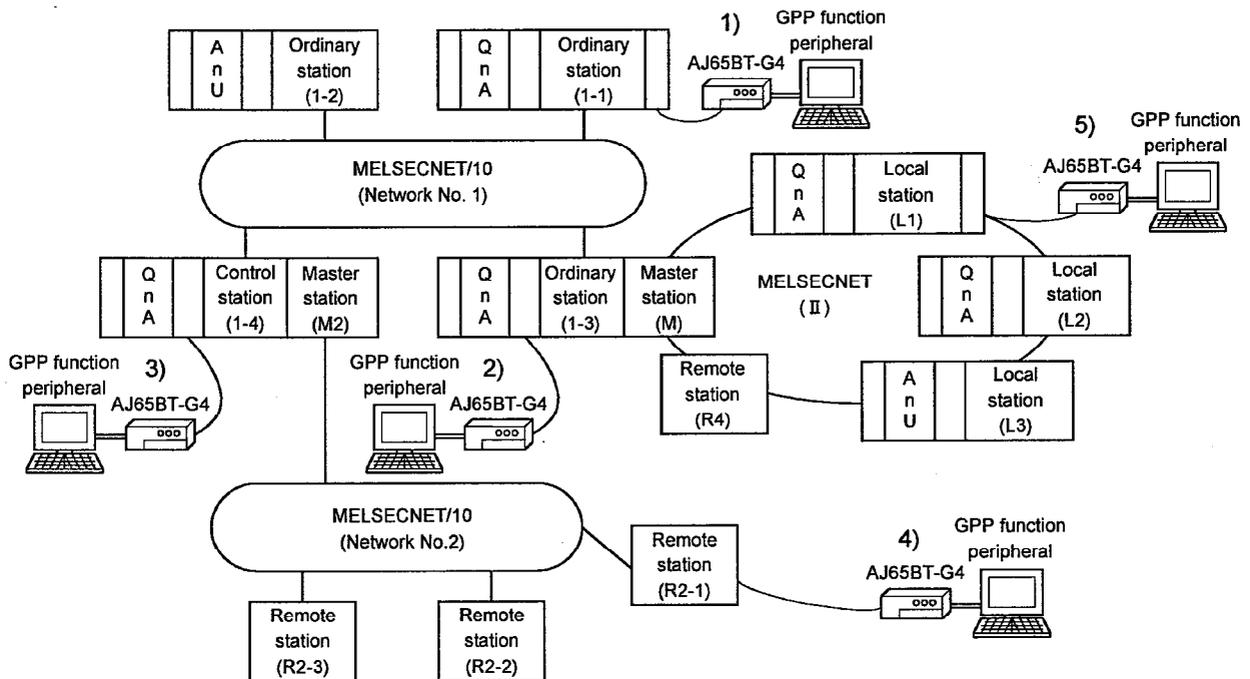
(b) MELSECNET/10 multilayer system



Number	Station to Which AJ65BT-G4 Is Connected	GPP Function Accessible Range						
		QnA(1-1)	AnU(1-2)	QnA(1-3)(M2)	QnA(1-4)	Remote station (R2-1)	Remote station (R2-2)	Remote station (R2-3)
1)	QnA(1-1)	O(Host station)	x	O(1-3)	O(1-4)	x	x	x
2)	AnU(1-2)	x	x	x	x	x	x	x
3)	QnA(1-3)(M2)	O(1-1)	x	O(Host station)	O(1-4)	O(2-1)	O(2-2)	O(2-3)
4)	Remote station (R2-1)	x	x	O(2-0)	x	O(Host station)	x	x
5)	Remote station (R2-2)	x	x	O(2-0)	x	x	O(Host station)	x

O: Accessible. Specified network No.-PLC number within parentheses
 x: Inaccessible

(c) Mixed MELSECNET/10 and MELSECNET(II) system



Number	Station to Which AJ65BT-G4 Is Connected	GPP Function Accessible Range										
		QnA (1-1)	AnU (1-2)	QnA (1-3)(M)	QnA (1-4)(M2)	Remote station (R2-1)	Remote station (R2-2)	Remote station (R2-3)	QnA (L1)	AnU (L2)	QnA (L3)	Remote station (R4)
1)	QnA(1-1)	O(Host station)	x	O(1-3)	O(1-4)	x	x	x	x	x	x	x
2)	QnA(1-3)(M)	O(1-1)	x	O(Host station)	O(1-4)	x	x	x	O(01)	x	O(03)	O(04)
3)	QnA(1-4)(M2)	O(1-1)	x	O(1-3)	O(Host station)	O(2-1)	O(2-2)	O(2-3)	x	x	x	x
4)	Remote station (R2-1)	x	x	x	O(2-0)	O(Host station)	x	x	x	x	x	x
5)	QnA(L1)	x	x	O(00)	x	x	x	x	O(Host station)	x	x	x

○: Accessible. Specified network No.-PLC number within parentheses
 ×: Inaccessible

4.2.3 Available GPP functions

This section lists the GPP functions for the online operation which can be used for the access to the PLC CPU via the AJ65BT-G4 (in the QnA mode).

For the GPP functions other than the following such as those for the offline operation, refer to the operating manual of your GPP function software package.

(1) For the operation with the GPPQ

(In the QnA mode)

Mode	Menu	Function	Availability	
			Host station*1	Other station*2
Initial setting		New PLC data read	Available	
		Ladder monitoring		
		CPU diagnostic		
Initial setting mode		New PLC read		
Ladder mode(ladder write)		Write during RUN		
Ladder mode (monitor)		Ladder monitoring		
		Device registration monitoring		
		ON/OFF cause automatic search		
Ladder mode (test)		Monitor trigger stop		
		Forced ON/OFF		
		Present value change		
		Set value change		
Ladder mode (debugging)		Step execution		
		Partial execution		
Ladder mode	PLC	Read, write, verify		
		Read a new file for editing		
		File list		
		Connection designation		
		Remote operation		
	Monitoring/test	Batch device monitoring		
		Batch multi-device monitoring		
		ON/OFF cause automatic search		
		Scan time measurement		
		Device registration monitoring		
		Monitoring condition setting		
		Monitoring stop condition setting		
		Monitor data registration/utilization		
		Device test		
		Sampling/monitoring trace		
		Step execution		
		Partial execution		
		Skip execution		
		I/O, link, buffer memory simulation		
		Monitoring field value display switching		
Program run status monitoring				
Local device setting				
Option	Monitoring destination setting			
List mode	PLC	Read, write, verify		
		Read a new file for editing		
		File list		
		Connection designation		
		Remote operation		

4. OPERATION MODES OF THE AJ65BT-G4

MELSEC-A

(In the QnA mode)

Mode	Menu	Function	Availability	
			Host station*1	Other station*2
Parameter mode	PLC	Read, write, verify	Available	
		Read a new file for editing		
		File list		
		Connection designation		
		Remote operation		
Device mode	PLC	Buffer memory simulation		
		Read, write, verify		
		Read a new file for editing		
		File list		
		Connection designation		
		Remote operation		
Online mode	Drive name selection			
	File selection			
	PLC	Read, write, verify		
		Read a new file for editing		
		File list		
		Remote operation		
		Write option		
		Password registration		
		Device memory operation		
		Batch PLC memory operation		
		Delete		
		Title creation		
	Find	Find first/last		
		Find file		
		Find number		
		Fine data		
	Trace	Sampling trace		
		Monitoring trace		
		Status latch		
		Programming trace		
	Test	Device test		
		Local device setting		
	PLC diagnostic mode	Diagnosis target selection		
Present error display				
Fault history display				
CPU message				
Module detail display				
PLC		Fault history clear		
		Clock setting		
		Module loading/unloading during RUN		
Display		Present error display		
		Fault history display		
		CPU message		
		Module detail display		
		CPU panel		
		Detail HELP display		

4. OPERATION MODES OF THE AJ65BT-G4

MELSEC-A

(In the QnA mode)

Mode	Menu	Function	Availability	
			Host station*1	Other station*2
PLC diagnostic mode	Network	Line monitoring (host/other station)	Available	
		Status monitoring		
		Error history monitoring		
		Transient transmission monitoring		
		Network test		
		Online network status diagnostic		
		Loop test		
		Setting check test		
		Station sequence check test		
		Communication test		
		Device monitoring (when Remote station is connected)		
	Network (CC-Link diagnostic)	Line monitoring (host station)		
		Line monitoring (other station)		
		Device monitoring		
		Network test		
		Line test		
		Parameter test		
Documentation mode	PLC	Read, write, verify		
		Read a new file for editing		
		File list		
		Connection designation		
		Remote operation		
File maintenance mode	PLC	File ← PLC (read)		
		File → PLC (write)		
		File, PLC verify		
		File deletion		
		File list		
		Connection designation		
		Remote operation		
		Write option		
		Password registration		
	IC memory card	File ← IC memory card (read)		
		File → IC memory card (write)		
		File, IC memory card verify		
		File deletion		
		File list		
		Write option		
		Password registration		
		Title creation		

*1:Host station: Indicates access to the PLC CPU on the Master or Local station in the CC-Link system to which the AJ65BT-G4 is connected.

*2:Other station: Indicates access to the PLC on the other network or the other link when the MELSECNET system incorporates the Master or Local station of the CC-Link system to which the AJ65BT-G4 is connected.

4. OPERATION MODES OF THE AJ65BT-G4

MELSEC-A

(2) For the operation with the GPPW

(a) Common functions

(In the QnA mode)

Online (Common functions)		Availability	
		Host station*1	Other station*2
Transfer setup	Designates a PLC destination from GPPW.	Available	
Read from PLC	Reads data from PLC.		
Write to PLC	Writes data to PLC.		
Verify with PLC	Verifies data with PLC data.		
Write to PLC (Flash ROM)		Not available	
Write the program memory to ROM	Writes program memory data to the standard ROM/IC memory card (ROM).		
Write to PLC (Flash ROM)	Writes data to the standard ROM/IC memory card (ROM).		
Delete PLC data	Deletes PLC data.	Available	
Change PLC data attributes	Change PLC data attributes.		
PLC user data		Not available	
Read PLC user data	Reads user data from the PLC.		
Write PLC user data	Writes user data to the PLC.		
Delete PLC user data	Deletes user data of the PLC.		
Monitor		Available	
Monitor mode	Places the circle edit screen in monitor mode.		
Monitor (write mode)	Sets the circuit (monitor write) mode.		
Start monitor (All windows)	Starts monitoring all open windows.		
Stop monitor (All windows)	Stops monitoring all open windows.		
Start monitor	Restarts the stopped monitor.		
Stop monitor	Stops the monitor.		
Change current value monitor (Decimal)	Displays the current device value of the circuit monitor in decimal form.		
Change current value monitor (Hexadecimal)	Displays the current device value of the circuit monitor in hexadecimal form.		
Device batch	Monitors devices in batch mode.		
Entry data monitor	Entry data mode.		
Buffer memory batch	Monitors the buffer memory in batch mode.		
Monitor condition setup	Sets the monitor execution conditions.		
Monitor stop condition setup	Sets the monitor stop conditions.	Not available	
Program monitor list	Monitors a program list.	Available	
Interrupt program monitor list	Lists the interrupt programs.		
Scan time measurement	Measures the scan time.		
Entry ladder monitor	Entry the ladder block.		
Delete all entry ladder	Delete all entry ladder.		
Debug (Ladder)		Available	
Device test	Turns on or off the device or changes the value.		
Debug	Executes/disables the debugging function.		
Skip execution	Makes settings for skip.		
Partial execution	Makes settings for partial operation.		
Step execution	Makes settings for step execution.		
Trace	Sampling trace.		

4. OPERATION MODES OF THE AJ65BT-G4

MELSEC-A

(In the QnA mode)

Online (Common functions)		Availability	
		Host station*1	Other station*2
Remote operation	Operates the PLC remotely.	Available	
Keyword/Password	Register keyword	Available	
	Delete keyword		
	Disable keyword		
Clear PLC memory	Clears the PLC memory cassette or device memory.		
Format PLC memory	Formats the PLC memory.		
Arrange PLC memory	Arranges the data area within the PLC memory.		
Set clock	Sets the internal timer of the PLC.		
Diagnosis (Common functions)		—	
PLC diagnostics	Diagnoses the PLC.	Available	
Network diagnostics	Diagnoses the network. (Network monitor only)		
CC-Link diagnostics	CC-Link diagnostics.		
System monitor	Monitors the system status of the PLC.	Not available	
Tool (Common functions)		—	
Start ladder logic test	Starts the ladder logic test.	Available	
Set TEL data	Connection	Not available	
	Disconnect		
	TEL data		
	AT command		
	Call book		

(b) Ladder editing functions

(In the QnA mode)

Conversion (Ladder editing functions)		Availability	
		Host station*1	Other station*2
Convert block (Online change)	Converts the program and writes it during run.	Available	

(c) SFC editing functions

(In the QnA mode)

Online (Common functions)		Availability	
		Host station*1	Other station*2
Debug (SFC)	Device test	Available	
	Block brake		
	Step brake		
	Block run		
	Step run		
	1 step run		
	Block forced stopping		
	Step forced stopping		
	Reset stored step		
	Run all block		
	Run all block	Not available	

*1 Host station: Indicates the access to the PLC CPU on the Master or Local station in the CC-Link system to which the AJ65BT-G4 is connected.

*2 Other station: Indicates the access to the PLC on the other network or the other link when the MELSECNET system incorporates the Master or Local station of the CC-Link system to which the AJ65BT-G4 is connected.

4.3 Accessible Range and Available GPP Functions in the A Mode

This section explains the accessible range of the GPP functions, how to set the PLC number (Station numbers), and available GPP functions in the A mode.

4.3.1 Accessible range

(1) Accessible range

The accessible range in the A mode is only the PLC on the Master or Local station of the CC-Link module to which the AJ65BT-G4 is connected.

It is impossible to access to the other station via MELSECNET II /B or MELSECNET/10.

(2) How to set the PLC number (Station numbers)

When setting the PLC number, always select "VIA MELSECNET(II)" and set the station number of the Master or Local station of the CC-Link module to which the AJ65BT-G4 is connected.

Refer to Section 6.2 for the station number setting method.

AJ65BT-G4 Connection Destination	PC Numbers to Be Set
CC-Link Master station	"VIA MELSECNET(II)": Set 0.
CC-Link Local station	"VIA MELSECNET(II)": Set any of 1 to 64.

4. OPERATION MODES OF THE AJ65BT-G4

MELSEC-A

4.3.2 Available GPP functions

This section lists the GPP functions for online operations which can be used for the access to the PLC CPU via the AJ65BT-G4 (in the A mode).

For GPP functions other than the following such as those for the offline operation, refer to the operating manual of your GPP function software package.

(1) For the operation with the GPPA

(In the A mode)

Menu	Mode		Function	Availability
Programming menu	Ladder	Auxiliary	Ladder modification during PLC CPU RUN	Unavailable
		Monitoring	Circuit monitoring, registration monitoring	Available
			Present value monitoring display switching	
			Monitor screen stop	
		Test	Forced ON/OFF	
			SET/RST	
			Present value changing	
			Step run	
			Offline designation	
			16-point registration monitoring	
			Batch device monitoring	
			Batch buffer memory monitoring	
		Display switching, main/sub switching		
		Monitoring destination setting		
Online menu	PLC	Read, write, verify	Unavailable	
		Test		
		Password registration		
		DWR setting		
		CHNO. PCNO changing		
	Network monitoring (other than AnUCPU)	Loop monitoring(when Master station is connected)		
		Loop monitoring(when Local station is connected)		
		Loop monitoring(when Remote I/O station is connected)		
		Batch monitoring(when Remote I/O station is connected)		
	Network monitoring (AnUCPU)	Line monitoring, status monitoring		
		Error history monitoring		
		Network test		
	Network diagnostic	Loop test		
		Setting check		
		Station sequence check test, communication test		
	Status latch	Setting		Setting
				PLC read
	Status latch			All clear
				PLC read
	Sampling trace	Registration		Registration
				Capacity
				PLC write, PLC read
				All clear
		Display		Display
				PLC read
	Monitoring trace	Registration		Registration
				All clear
Display		Display		
Drawing menu	Comment		PLC read, PLC write	
	Extra comments 1, 2, 3, 4		PLC read (Expansion comment 1 only), PLC write (Expansion comment 1 only)	

4. OPERATION MODES OF THE AJ65BT-G4

MELSEC-A

(2) For the operation with the GPPW

(a) Common functions

(In the A mode)

Online (Common functions)		Availability
Transfer setup	Designates a PLC destination from GPPW.	Available
Read from PLC	Reads data from PLC.	
Write to PLC	Writes data to PLC.	
Verify with PLC	Verifies data with PLC data.	
Write to PLC (Flash ROM)		Not available
Write the program memory to ROM	Writes program memory data to the standard ROM/IC memory card (ROM).	
Write to PLC (Flash ROM)	Writes data to the standard ROM/IC memory card (ROM).	
Delete PLC data	Deletes PLC data.	Not available
Change PLC data attributes	Change PLC data attributes.	
PLC user data		Not available
Read PLC user data	Reads user data from the PLC.	
Write PLC user data	Writes user data to the PLC.	
Delete PLC user data	Deletes user data of the PLC.	
Monitor		Available
Monitor mode	Places the circle edit screen in monitor mode.	
Monitor (write mode)	Sets the circuit (monitor write) mode.	
Start monitor (All windows)	Starts monitoring all open windows.	
Stop monitor (All windows)	Stops monitoring all open windows.	
Start monitor	Restarts the stopped monitor.	
Stop monitor	Stops the monitor.	
Change current value monitor (Decimal)	Displays the current device value of the circuit monitor in decimal form.	
Change current value monitor (Hexadecimal)	Displays the current device value of the circuit monitor in hexadecimal form.	
Device batch	Monitors devices in batch mode.	
Entry data monitor	Entry data mode.	
Buffer memory batch	Monitors the buffer memory in batch mode.	
Monitor condition setup	Sets the monitor execution conditions.	
Monitor stop condition setup	Sets the monitor stop conditions.	
Program monitor list	Monitors a program list.	Not available
Interrupt program monitor list	Lists the interrupt programs.	
Scan time measurement	Measures the scan time.	Available
Entry ladder monitor	Entry the ladder block.	
Delete all entry ladder	Delete all entry ladder.	
Debug (Ladder)		Available
Device test	Turns on or off the device or changes the value.	
Debug	Executes/disables the debugging function.	Not available
Skip execution	Makes settings for skip.	
Partial execution	Makes settings for partial operation.	Available
Step execution	Makes settings for step execution.	

4. OPERATION MODES OF THE AJ65BT-G4

MELSEC-A

(In the A mode)

Online (Common functions)		Availability
Trace	Sampling trace.	Execute sampling trace.
Remote operation		Operates the PLC remotely.
Keyword/Password		
	Register keyword	Registers or changes the keyword.
	Delete keyword	Cancels the keyword.
	Disable keyword	Unlocks access by keywords.
Clear PLC memory		Clears the PLC memory cassette or device memory.
Format PLC memory		Formats the PLC memory.
Arrange PLC memory		Arranges the data area within the PLC memory.
Set clock		Sets the internal timer of the PLC.
Diagnosis (Common functions)		—
PLC diagnostics		Diagnoses the PLC.
Network diagnostics		Diagnoses the network. (Network monitor only) * The AnUCPU is monitored as the AnACPU.
CC-Link diagnostics		CC-Link diagnostics.
System monitor		Monitors the system status of the PLC.
Tool (Common functions)		—
Start ladder logic test		Starts the ladder logic test.
Set TEL data		
	Connection	Connect the line for A6TEL/Q6TEL.
	Disconnect	Disconnect the line.
	TEL data	Set the report data of A6TEL or Q6TEL.
	AT command	Entry the modem.
	Call book	Set the call book.

(2) Ladder editing functions

(In the A mode)

Conversion (Ladder editing functions)		Availability
Convert block (Online change)		Converts the program and writes it during run.

(3) SFC editing functions

(In the A mode)

Online (Common functions)		Availability
Debug (SFC)		
	Device test	Sets the device value.
	Block brake	Block brake.
	Step brake	Step brake.
	Block run	Block run.
	Step run	Step run.
	1 step run	1 step run.
	Block forced stopping	Block forced stopping.
	Step forced stopping	Step forced stopping.
	Reset stored step	Reset stored step.
	Run all block	Run all block.

4.4 Precautions on data communication

The following instructions should be followed when the GPP functions are used to access the PLC CPU via the AJ65BT-G4.

- (1) Access made once from the GPP function to the PLC ends with several times of communications according to the processing.
For example, when the PLC is to be monitored, several times of communications are made to perform monitoring processing once and monitoring processing communications are repeated until monitoring ending operation is performed.
- (2) There can be a considerable delay in access to the other station PLCs on the MELSECNET depending on the number of other stations to be accessed, access conditions, etc.
- (3) The following example indicates access time (guideline) needed to access the host station PLC in the CC-Link.

(Conditions)

Item	Condition
CC-Link system	Only Master station and AJ65BT-G4 are connected.
Scan time of access destination PLC CPU	10ms(Stop status when sequence program is written)
Data transmission speed	·CC-Link system 10Mbps ·Between AJ65BT-G4 and GPP function peripheral 19200bps

(Access time)

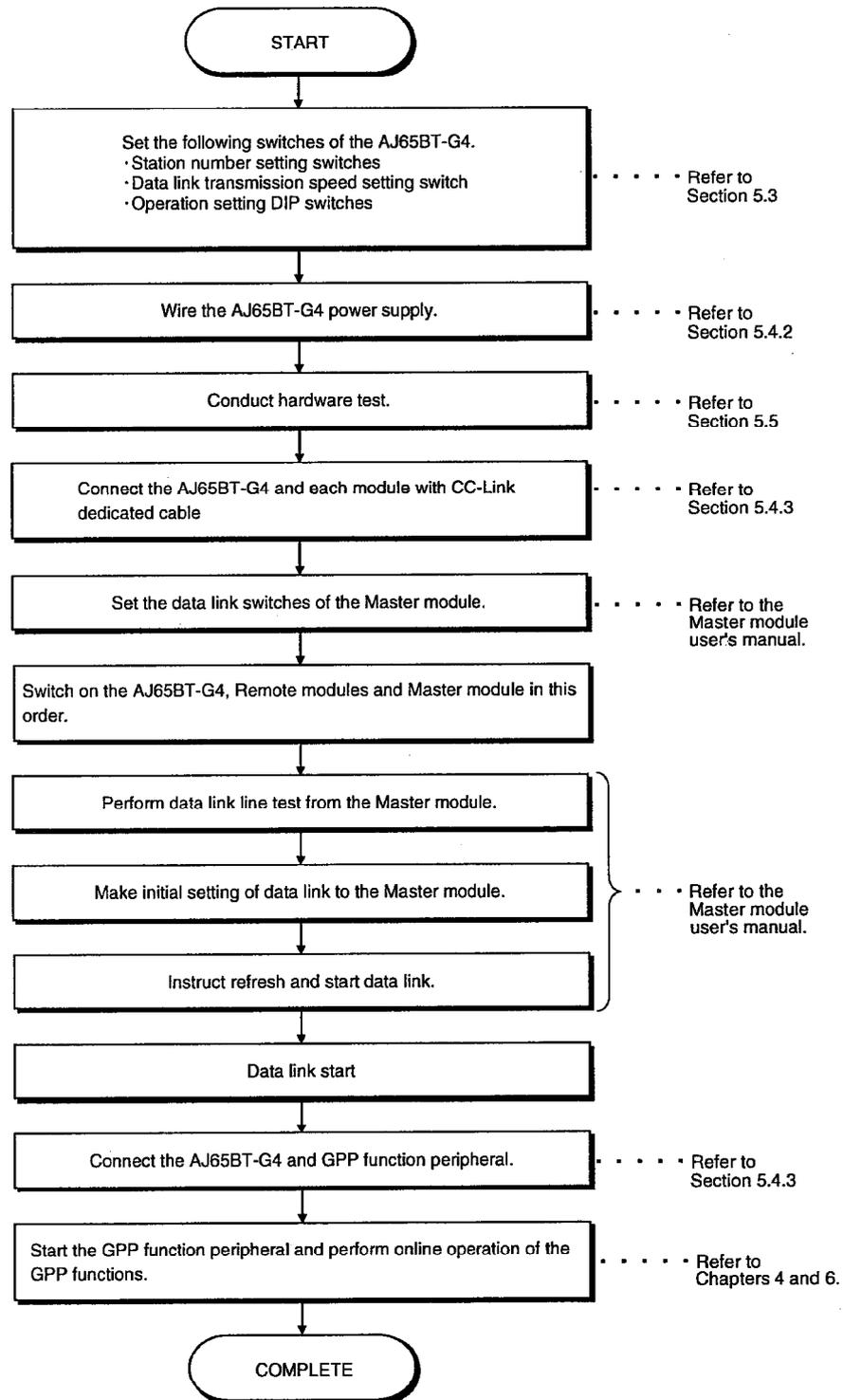
Access	Access Time (Guideline)
Sequence program read (10k steps)	Approx. 1 minute
Sequence program write (10k steps)	Approx. 2 minutes

- (4) The online operation of the GPP functions via the AJ65BT-G4 should be started when the L RUN LED of the AJ65BT-G4 is ON.
* The L RUN LED of the AJ65BT-G4 is ON when the initial communication of the CC-Link is complete.
- (5) When data link is normal in CC-Link, the PLC can be accessed by the GPP function peripheral connected to the AJ65BT-G4.

5. PRE-OPERATION SETTINGS AND PROCEDURE

5.1 Pre-Operation Procedure

The following flowchart indicates a pre-operation procedure for the AJ65BT-G4.



5.2 Loading and Installation

This section gives the handling instructions to be followed from unpacking to installation of the AJ65BT-G4 and its installation environment.

5.2.1 Handling instructions

This section gives the handling instructions of the AJ65BT-G4.

POINT
For handling instructions such as module installation/removal, read ●SAFETY PRECAUTIONS● given at the beginning of this manual.

- (1) Tighten the terminal screws and fixing screws of the module within the following ranges.

Screw Location	Tightening Torque Range N·cm
Module mounting screw (M4 screw)	78 to 118
Terminal block terminal screw (M3.5 screw)	59 to 88
Terminal block mounting screw (M4 screw)	78 to 118
RS-422 connector mounting screw (M2.6 screw)	19 to 24

- (2) When using the DIN rail adapter, note the following in mounting the DIN rail.
- (a) Applicable DIN rail type (conforming to JIS-C2B12)
 - TH35-7.5Fe
 - TH35-7.5Al
 - TH35-15Fe
 - (b) DIN rail mounting screw pitch
 - When mounting the DIN rail, tighten screws in 200mm(7.88inch) or less pitch.

5.2.2 Installation environment

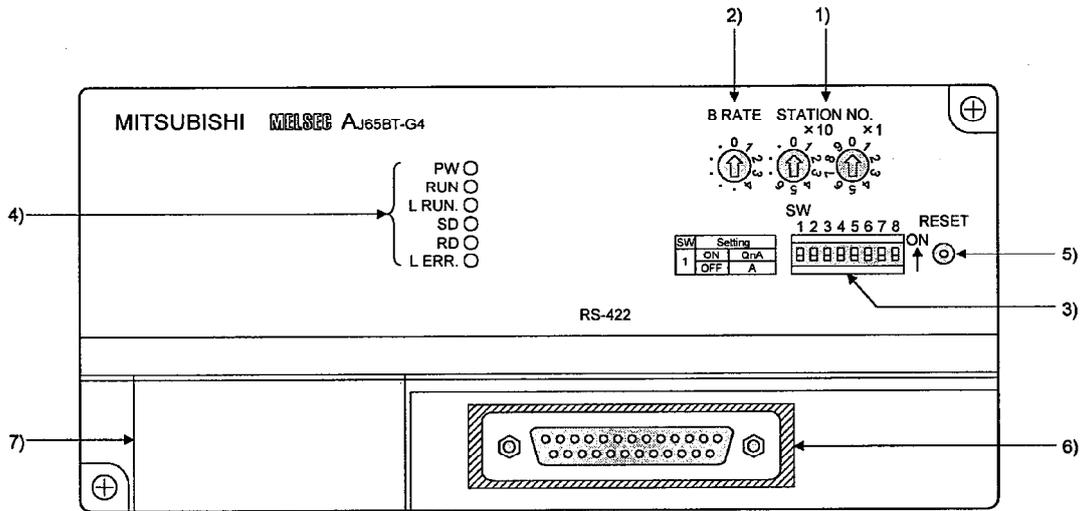
 CAUTION	<p>When installing the module, avoid the following environment. If the environment of the module used is outside the range of general specifications, an electric shock, fire, misoperation or product damage or deterioration can occur.</p> <ul style="list-style-type: none"> ● Ambient temperature outside the range 0 to 55°C ● Ambient humidity outside the range 10 to 90%RH ● Condensation due to sudden temperature changes ● Corrosive or combustible gasses ● Dust, conductive powder (e.g. metal filings), oil mist, salt and organic solvent ● Direct sunlight ● Strong power and magnetic fields ● Vibration and impact
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5. PRE-OPERATION SETTINGS AND PROCEDURE

MELSEC-A

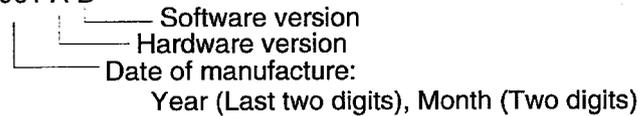
5.3 Names of the Parts and Their Settings

This section provides the names of the AJ65BT-G4 parts and how to set them.



* The hardware and software versions of the AJ65BT-G4 are indicated in the end of the DATE field of the rating plate on the rear side of the module.
(Indication example in the DATE field)

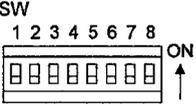
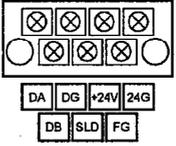
DATE 9901 A B



Number	Name	Description														
1)	Station number setting switches 	Used to set the station number of the AJ65BT-G4 between 1 and 64. (If the station number you set is other than 1 to 64, the L.ERR LED is ON.) Use "x10" to set the tens. Use "x1" to set the modules. <p style="text-align: right;">(Factory setting: 00)</p>														
2)	Data link transmission speed setting switch 	Used to set the transmission speed of the AJ65BT-G4. (For data link) <table border="1" style="width: 100%; margin-top: 10px;"> <thead> <tr> <th>Number to Be Set</th> <th>Transmission Speed</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>156kbps</td> </tr> <tr> <td>1</td> <td>625kbps</td> </tr> <tr> <td>2</td> <td>2.5Mbps</td> </tr> <tr> <td>3</td> <td>5Mbps</td> </tr> <tr> <td>4</td> <td>10Mbps</td> </tr> <tr> <td>Other than 0 to 4</td> <td>Unused (If the value you set is other than 0 to 4, the L.ERR LED is ON to indicate a communication error.)</td> </tr> </tbody> </table> <p style="text-align: right;">(Factory setting: 0 (156kbps))</p>	Number to Be Set	Transmission Speed	0	156kbps	1	625kbps	2	2.5Mbps	3	5Mbps	4	10Mbps	Other than 0 to 4	Unused (If the value you set is other than 0 to 4, the L.ERR LED is ON to indicate a communication error.)
Number to Be Set	Transmission Speed															
0	156kbps															
1	625kbps															
2	2.5Mbps															
3	5Mbps															
4	10Mbps															
Other than 0 to 4	Unused (If the value you set is other than 0 to 4, the L.ERR LED is ON to indicate a communication error.)															

5. PRE-OPERATION SETTINGS AND PROCEDURE

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Number	Name	Description																																																		
3)	<p>Operation setting DIP switches</p> 	<p>Used to set the operational specifications of the AJ65BT-G4.</p> <table border="1" data-bbox="539 302 1409 1144"> <thead> <tr> <th rowspan="2">SW Number</th> <th rowspan="2">Setting Item</th> <th colspan="2">Setting Switch Position</th> <th rowspan="2">Description</th> </tr> <tr> <th>ON</th> <th>OFF</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Operation mode setting</td> <td>QnA mode</td> <td>A mode</td> <td>Set this switch according to the access destination PLC CPU, etc. of the GPP functions. For details, refer to Section 4.1. This switch setting may be changed during operation.</td> </tr> <tr> <td rowspan="4">2,3</td> <td rowspan="4">Peripheral to peripheral transmission speed setting (bps)</td> <td colspan="2"> <table border="1" data-bbox="842 593 1090 862"> <thead> <tr> <th>SW2</th> <th>SW3</th> <th>Transmission Speed (bps)</th> </tr> </thead> <tbody> <tr> <td>OFF</td> <td>OFF</td> <td>9600</td> </tr> <tr> <td>ON</td> <td>OFF</td> <td>19200</td> </tr> <tr> <td>OFF</td> <td>ON</td> <td>38400</td> </tr> <tr> <td>ON</td> <td>ON</td> <td>Must not be set.</td> </tr> </tbody> </table> </td> <td rowspan="4">Valid for the QnA mode setting only. Set this switch according to the GPP function peripheral.</td> </tr> <tr> <td>4</td> <td rowspan="2">Parity bit yes /no setting</td> <td>No (Must not be selected)</td> <td>Yes</td> <td rowspan="2">Always set SW 4 and 5 to the OFF position.</td> </tr> <tr> <td>5</td> <td>Even (Must not be selected)</td> <td>Odd</td> </tr> <tr> <td>6,7</td> <td>Not used</td> <td colspan="2"></td> <td></td> </tr> <tr> <td>8</td> <td>Test mode setting</td> <td>Test mode</td> <td>Online mode</td> <td>Set this switch to ON when making hardware test.</td> </tr> </tbody> </table> <p style="text-align: center;">(Factory setting: All switches in OFF position)</p>	SW Number	Setting Item	Setting Switch Position		Description	ON	OFF	1	Operation mode setting	QnA mode	A mode	Set this switch according to the access destination PLC CPU, etc. of the GPP functions. For details, refer to Section 4.1. This switch setting may be changed during operation.	2,3	Peripheral to peripheral transmission speed setting (bps)	<table border="1" data-bbox="842 593 1090 862"> <thead> <tr> <th>SW2</th> <th>SW3</th> <th>Transmission Speed (bps)</th> </tr> </thead> <tbody> <tr> <td>OFF</td> <td>OFF</td> <td>9600</td> </tr> <tr> <td>ON</td> <td>OFF</td> <td>19200</td> </tr> <tr> <td>OFF</td> <td>ON</td> <td>38400</td> </tr> <tr> <td>ON</td> <td>ON</td> <td>Must not be set.</td> </tr> </tbody> </table>		SW2	SW3	Transmission Speed (bps)	OFF	OFF	9600	ON	OFF	19200	OFF	ON	38400	ON	ON	Must not be set.	Valid for the QnA mode setting only. Set this switch according to the GPP function peripheral.	4	Parity bit yes /no setting	No (Must not be selected)	Yes	Always set SW 4 and 5 to the OFF position.	5	Even (Must not be selected)	Odd	6,7	Not used				8	Test mode setting	Test mode	Online mode	Set this switch to ON when making hardware test.
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4)	<p>Indicator LEDs</p> <p>PW ○ RUN ○ L RUN ○ SD ○ RD ○ L ERR ○</p> <p>For more information on the indicator LEDs, refer to Section 7.2.</p>	<table border="1" data-bbox="526 1176 1422 1579"> <tbody> <tr> <td>PW</td> <td>ON: Power on.</td> <td>OFF: Power off.</td> </tr> <tr> <td>RUN</td> <td>ON: Normal operation.</td> <td>OFF: 24VDC power OFF or watchdog timer error.</td> </tr> <tr> <td>L RUN</td> <td>ON: Normal communication.</td> <td>OFF: Communication fault (time excess error).</td> </tr> <tr> <td>SD</td> <td colspan="2">ON to indicate data transmission.</td> </tr> <tr> <td>RD</td> <td colspan="2">ON to indicate data receive.</td> </tr> <tr> <td>L ERR</td> <td colspan="2"> ON: Indicates that a communication data error (CRC error) occurred or that the station number setting or data link transmission speed setting switch is set to outside the range. Flicker at regular intervals: Indicates that the station number setting or data link transmission speed setting switch position was changed while power is on. Flicker at irregular intervals: Indicates that the terminal resistor is left unconnected or that the module or CC-Link dedicated cable is affected by noise. OFF: Normal communication </td> </tr> </tbody> </table>	PW	ON: Power on.	OFF: Power off.	RUN	ON: Normal operation.	OFF: 24VDC power OFF or watchdog timer error.	L RUN	ON: Normal communication.	OFF: Communication fault (time excess error).	SD	ON to indicate data transmission.		RD	ON to indicate data receive.		L ERR	ON: Indicates that a communication data error (CRC error) occurred or that the station number setting or data link transmission speed setting switch is set to outside the range. Flicker at regular intervals: Indicates that the station number setting or data link transmission speed setting switch position was changed while power is on. Flicker at irregular intervals: Indicates that the terminal resistor is left unconnected or that the module or CC-Link dedicated cable is affected by noise. OFF: Normal communication																																	
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5)	<p>Reset switch</p> <p>RESET</p> 	<p>Hardware reset. Used to reset to the power-on status.</p>																																																		
6)	<p>RS-422 interface</p>	<p>Interface for connection of GPP function peripheral device The same cable as the one for connection of the GPP function peripheral device and PLC CPU may be used. Refer to the GPP Function Software Package Operating Manual.</p>																																																		
7)	<p>Power supply and data link terminal block</p>	<p>Terminal block for power supply and data link. For the wiring method, refer to Sections 5.4.2 and 5.4.3.</p> 																																																		

POINT
<p>If the following modules are used as the Master station of the CC-Link system to which the AJ65BT-G4 is connected, set SW8 of the condition setting switches of the Master station to OFF (Module mode: Intelligent mode). (Modules to which the setting above is applied)</p> <ul style="list-style-type: none"> · AJ61BT11 CC-Link system Master/Local module · A1SJ61BT11 CC-Link system Master/Local module

5.4 Wiring

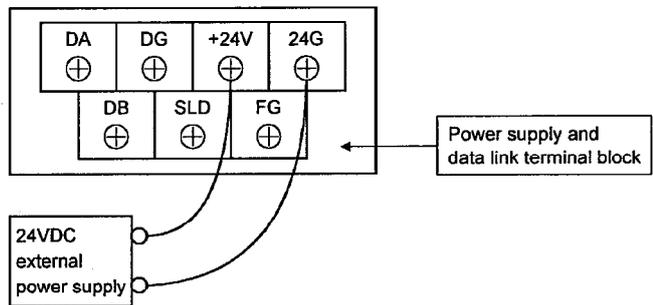
5.4.1 CC-Link dedicated cable handling instructions

If CC-Link dedicated cables are handled roughly, they will be damaged. Therefore.

- (1) Do not compress the cable with a sharp edge.
- (2) Do not twist the cable roughly.
- (3) Do not pull the cable roughly (more than permissible tension).
- (4) Do not stamp on the cable.
- (5) Do not put anything on the cable.
- (6) Do not scratch the cable sheath.

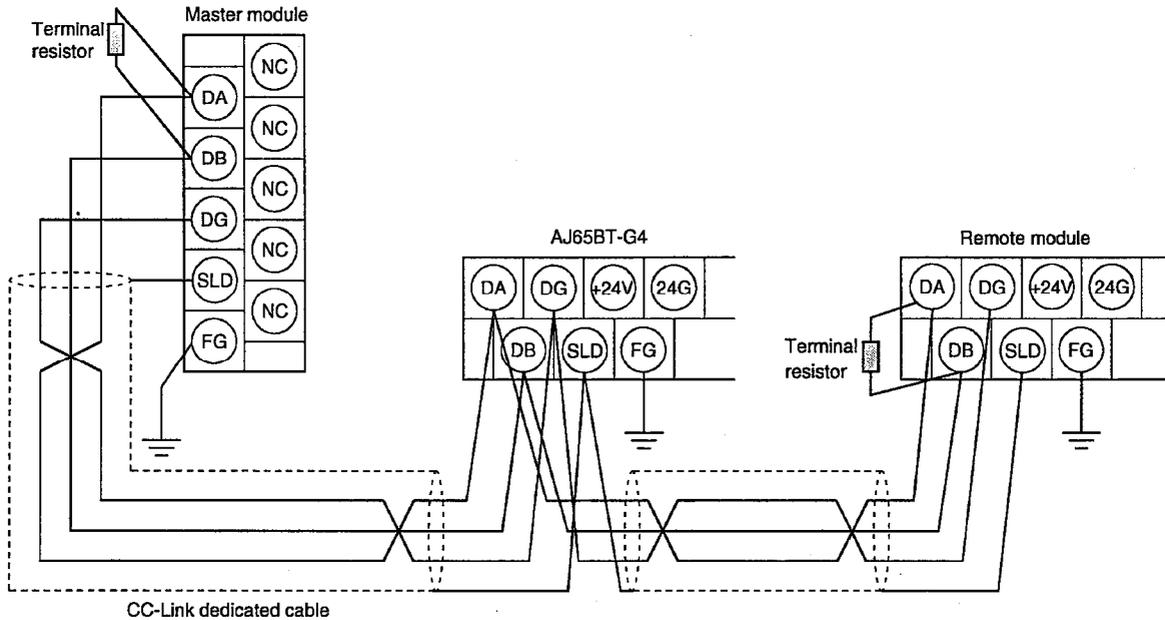
5.4.2 AJ65BT-G4 power supply wiring method

The following diagram shows the wiring of the AJ65BT-G4 power supply cables.

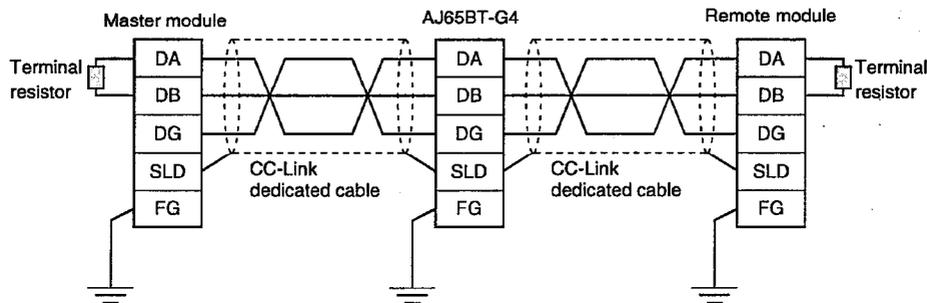


5.4.3 Connection of cables with the modules

The following diagram shows how to wire CC-Link dedicated cables between the Master module and Remote module.



[Sketch]



POINT

"Terminal resistors" must be connected to the sections between DA and DB of the modules at the both ends of the CC-Link.
 When connecting the terminal resistor to the AJ65BT-G4, use the terminal resistor supplied with the Master module.
 (Refer to the Control & Communication Link System Master/Local Module User's Manual.)

5.5 Hardware Check Test Operation Procedure

The following procedure indicates how to perform the AJ65BT-G4 hardware check test (hereinafter referred to as "the hardware test") operation.

Always perform the hardware test before incorporating the AJ65BT-G4 into the CC-Link system.

(Step 1)

When the CC-Link dedicated cables are used for the connection of the AJ65BT-G4 and GPP function peripherals, disconnect each cable.

(Step 2)

Connect the RS-422 single-station loopback cable to the AJ65BT-G4.

Refer to the RS-422 single-station loopback cable specifications given below and fabricate the cable on the user side.

RS-422 Interface	Pin number	Cable Connection
	2	←
	3	
	4	←
	5	
	15	←
	16	
	17	←
	18	
	20	
	21	

(Step 3)

Set the operation setting DIP switch SW8 of the AJ65BT-G4 to ON (test mode). (Refer to Section 5.3.)

Set the station number setting switches to 0. (Refer to Section 5.3.)

(Step 4)

Switch on the AJ65BT-G4. If it is already on, press the reset switch.

(Step 5)

Check the RUN LED of the AJ65BT-G4.

L RUN LED Status	Error Definition
Flickers at intervals of 0.5 seconds for 30 seconds or longer.	Normal
Flickers at intervals of 2 seconds	ROM check error
Flickers at intervals of 4 seconds	RAM check error
Flickers at intervals of 6 seconds	Data link loopback check error
Flickers at intervals of 8 seconds	RS-422 loopback check error
ON	Hardware fault

When the L ERR LED is ON or flickers at intervals of 2, 4, 6 or 8 seconds, make sure that.

- 1) The CC-Link dedicated cable is not connected to the AJ65BT-G4 (if connected, disconnect).
- 2) The operation setting DIP switch SW8 of the AJ65BT-G4 is set to ON (test mode) and the station number setting switches are set to 0.
- 3) The GPP function peripheral connection cable is not connected to the AJ65BT-G4 (if connected, disconnect).

Then, perform the hardware test again. If the L ERR LED is still ON or flickers at 2, 4, 6, or 8-second intervals after the test, the possible cause is a hardware fault. Consult your sales representative.

(Step 6)

Switch off the AJ65BT-G4, disconnect the RS-422 single-station loopback cable, and set the operation setting DIP switch SW8 to OFF.

Set the station number setting switches to the station number assigned to the AJ65BT-G4 in the CC-Link system.

6. GPP FUNCTION SETTING OPERATION REQUIRED FOR CONNECTION TO THE AJ65BT-G4

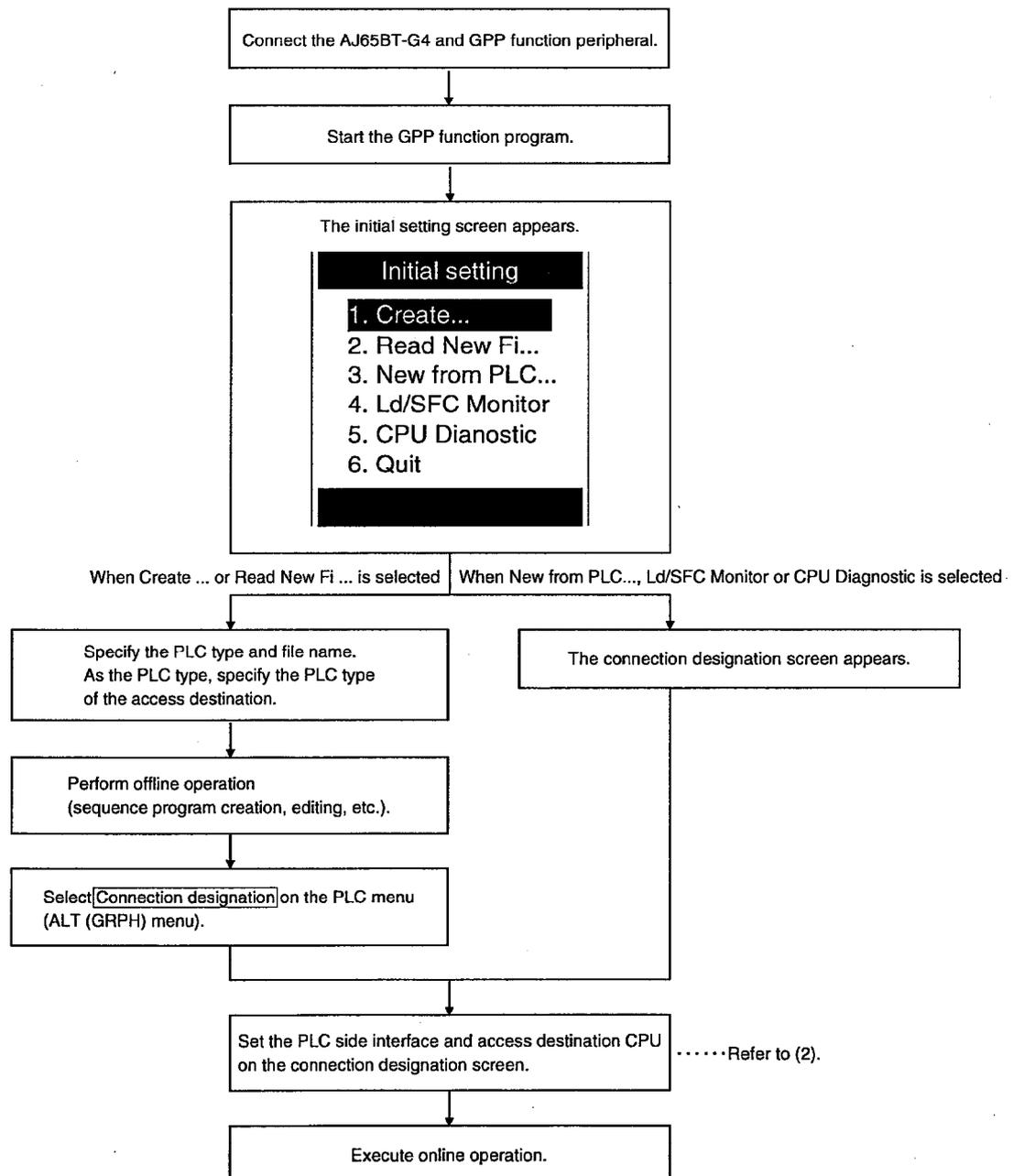
This chapter explains the setting operation which must be performed when the AJ65BT-G4 and GPP function peripheral are connected to perform the online operation of the GPP functions.

For the details of the GPP operation procedure, refer to the operating manual of your GPP function software package.

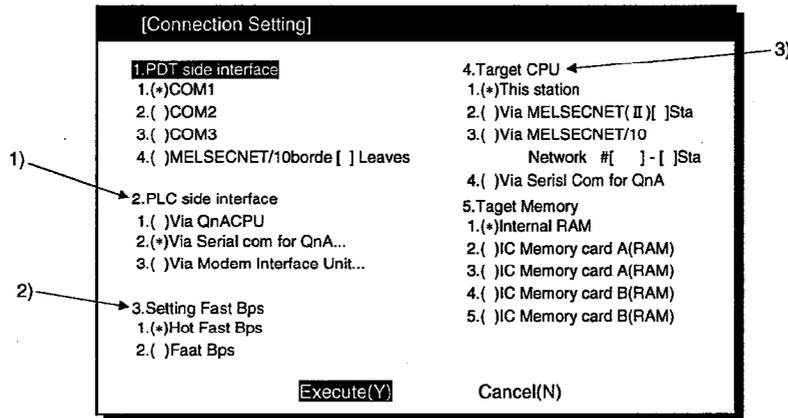
6.1 Operation of the GPP function (In the QnA mode)

6.1.1 Operation of the GPPQ

(1) General procedure



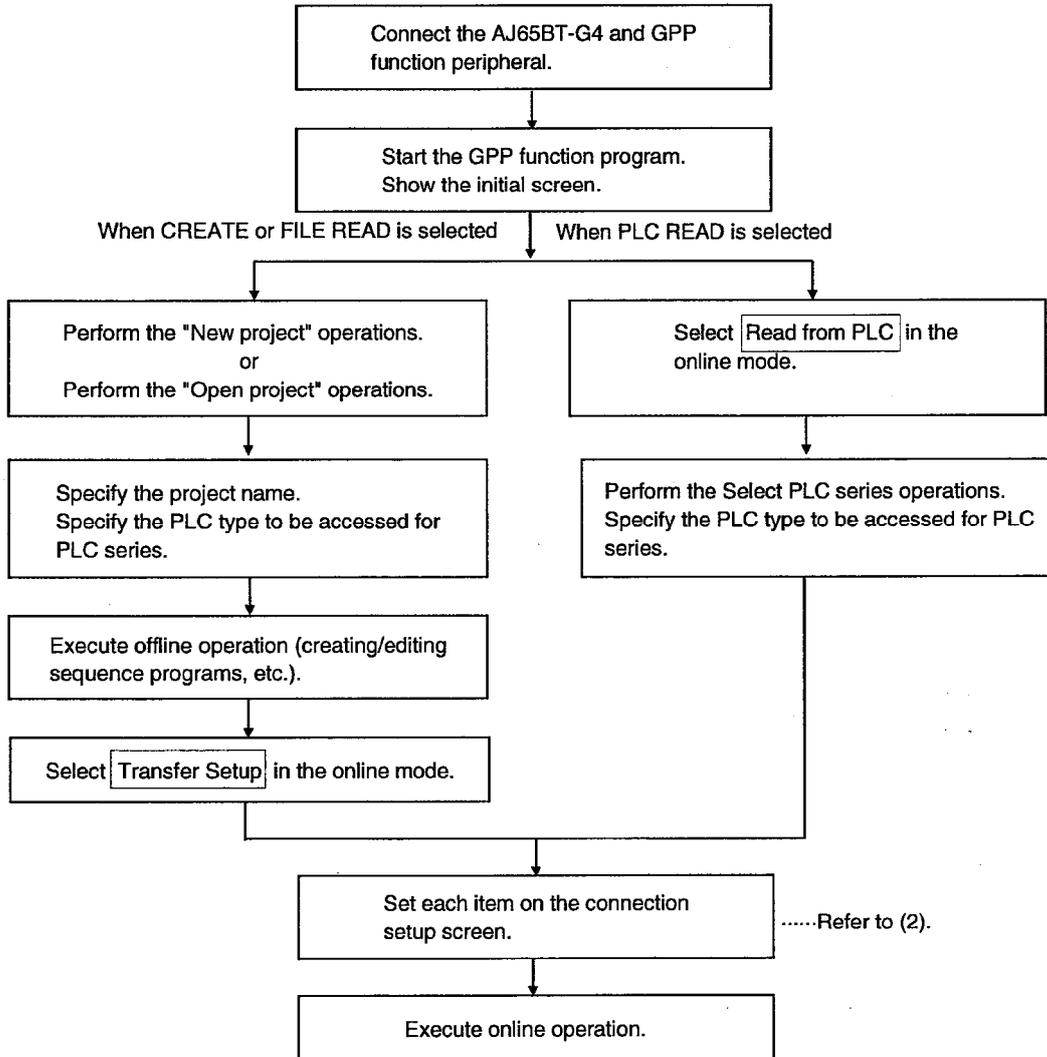
(2) Setting of connection designation screen



Number	Setting Item	Description								
1)	PLC side interface	<p>Always specify "Via Serial com for QnA". When "Via Serial com for QnA" is specified, the "Via Serial com for QnA" (PLC side interface) screen appears.</p> <p>Specify the peripheral-to-peripheral transmission speed selected with the AJ65BT-G4 operation setting DIP switches SW2, 3. (Refer to Section 5.3.)</p> <p>When performing operation to the PLC (host station) of the Master/local station in the CC-Link, specify the station number of the Master/local station to be accessed. When performing operation to the PLC (other station) on the MELSECNET, specify the station number of the Master/local station in its own CC-Link which intervenes in the MELSECNET first.</p> <p>Specify "Odd".</p>								
2)	Fast Bps setting	<p>Specify "Not Fast Bps". If "Fast Bps" is specified, high-speed communication cannot be made.</p>								
3)	Target CPU	<p>What is specified depends on the PLC to be accessed.</p> <table border="1" style="width: 100%;"> <thead> <tr> <th>Access Destination</th> <th>Setting Item</th> </tr> </thead> <tbody> <tr> <td>PLC on CC-Link Master/local station</td> <td>Specify "This Station".</td> </tr> <tr> <td>Other station PLC in MELSECNET (II) system</td> <td>Specify "Via MELSECNET(II)" and specify the station number of the access destination.</td> </tr> <tr> <td>Other station PLC in MELSECNET/10 (including Ethernet) system</td> <td>Specify "Via MELSECNET/10" and specify the network number and station number of the access destination.</td> </tr> </tbody> </table> <p>Refer to Section 4.2.2 for how to specify the station number and network number when "Via MELSECNET(II)" or "Via MELSECNET/10" is specified.</p>	Access Destination	Setting Item	PLC on CC-Link Master/local station	Specify "This Station".	Other station PLC in MELSECNET (II) system	Specify "Via MELSECNET(II)" and specify the station number of the access destination.	Other station PLC in MELSECNET/10 (including Ethernet) system	Specify "Via MELSECNET/10" and specify the network number and station number of the access destination.
Access Destination	Setting Item									
PLC on CC-Link Master/local station	Specify "This Station".									
Other station PLC in MELSECNET (II) system	Specify "Via MELSECNET(II)" and specify the station number of the access destination.									
Other station PLC in MELSECNET/10 (including Ethernet) system	Specify "Via MELSECNET/10" and specify the network number and station number of the access destination.									

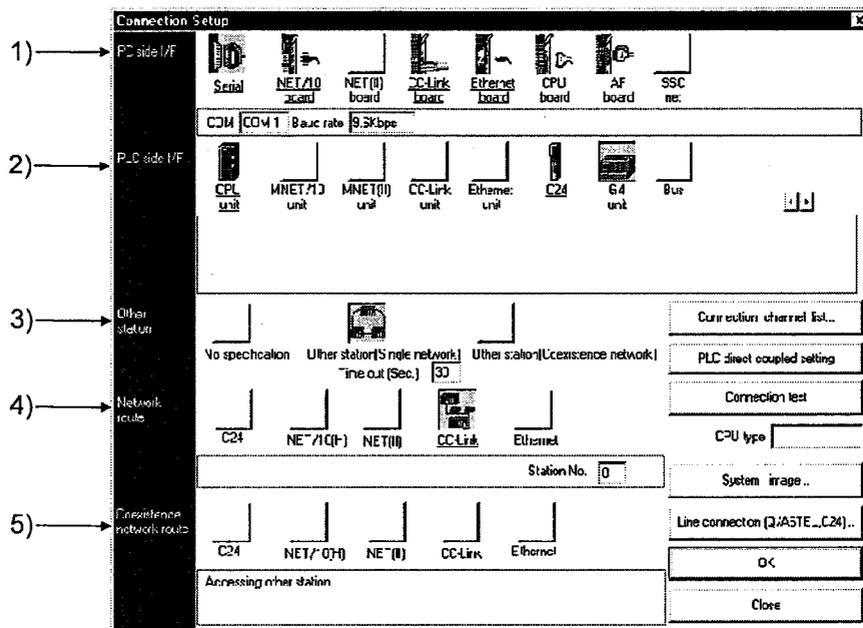
6.1.2 Operation of the GPPW

(1) General procedure



(2) Setting of the connection setup screen

(When the SW4D5C-GPPW is used)

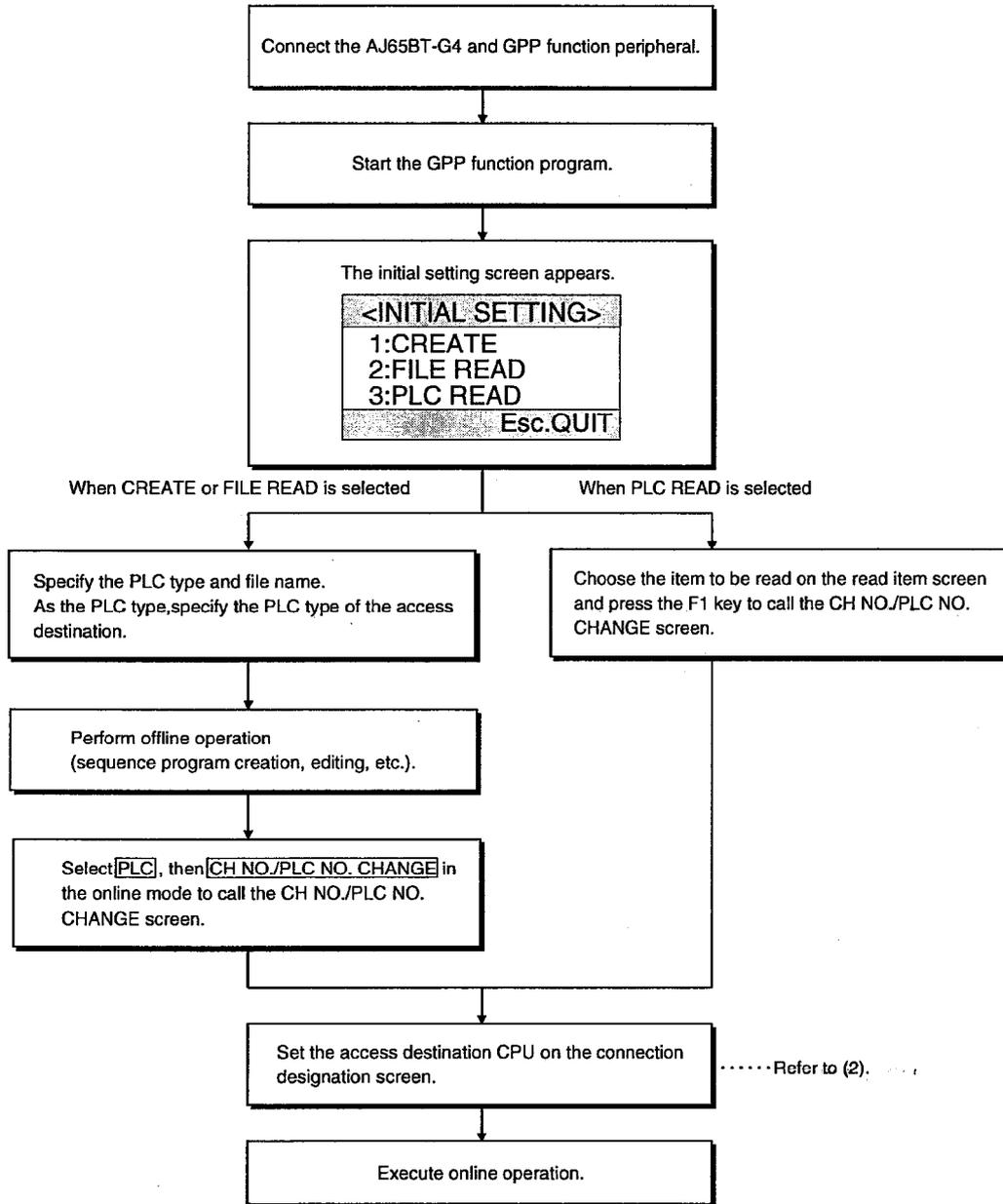


Number	Setting Item	Description										
1)	PC side I/F	Always select "Serial." In the "PC side I/F Serial setting" field, set the interface and transmission speed on the GPP function peripheral side. Set the same transmission speed as that of the AJ65BT-G4.										
2)	PLC side I/F	Select "G4 Unit."										
3)	Other station	Select "Other station (Single network)" or "Other station (Coexistence network)." Change the timeout period for data communication if necessary.										
4)	Network route	"CC-link" is automatically selected. To access the PLC station on the CC-Link system, specify the station No. of the access station. To access the other station on the MELSECNET via the CC-Link system, specify the station No. of the Master/Local station on the CC-Link system which acts as a midway station.										
5)	Coexistence network route	When "Other station (Coexistence network)" is selected for "Other station" above, specify the network (No.) to be passed and the station No. of the PLC to be accessed. The specifying item varies depending on the PLC to be accessed. <table border="1" style="width: 100%; margin-top: 10px;"> <thead> <tr> <th>Access Destination</th> <th>Setting Item</th> </tr> </thead> <tbody> <tr> <td>The PLC CPU of the other station on the multi-drop connection via a serial communication module</td> <td>Select "C24" and specify the station No. of the serial communication module to be accessed.</td> </tr> <tr> <td>The PLC of the other station on the MELSECNET/10 (including Ethernet) system</td> <td>Select "NET/10(H)" and specify the network No. and station No. of the access destination.</td> </tr> <tr> <td>The PLC CPU of the other station on the MELSECNET (II) system</td> <td>Select "NET(II)" and specify the station No. of the access destination.</td> </tr> <tr> <td>The PLC CPU of the other station on the Ethernet system</td> <td>Select "Ethernet" and specify the station No. of the access destination.</td> </tr> </tbody> </table> <p>Refer to Section 4.2.2 for the specification procedure of the station No. and network No. when "NET(II)," "NET/10(H)," or "Ethernet" is selected. * The concept of the network No. and station No. for the Ethernet system is the same as that for the MELSECNET/10. Use the network No. and station No. for the MELSECNET/10 specified to the target Ethernet interface module.</p>	Access Destination	Setting Item	The PLC CPU of the other station on the multi-drop connection via a serial communication module	Select "C24" and specify the station No. of the serial communication module to be accessed.	The PLC of the other station on the MELSECNET/10 (including Ethernet) system	Select "NET/10(H)" and specify the network No. and station No. of the access destination.	The PLC CPU of the other station on the MELSECNET (II) system	Select "NET(II)" and specify the station No. of the access destination.	The PLC CPU of the other station on the Ethernet system	Select "Ethernet" and specify the station No. of the access destination.
Access Destination	Setting Item											
The PLC CPU of the other station on the multi-drop connection via a serial communication module	Select "C24" and specify the station No. of the serial communication module to be accessed.											
The PLC of the other station on the MELSECNET/10 (including Ethernet) system	Select "NET/10(H)" and specify the network No. and station No. of the access destination.											
The PLC CPU of the other station on the MELSECNET (II) system	Select "NET(II)" and specify the station No. of the access destination.											
The PLC CPU of the other station on the Ethernet system	Select "Ethernet" and specify the station No. of the access destination.											

6.2 Operation of the GPP function (In the A mode)

6.2.1 Operation of the GPPA

(1) General procedure



(2) Setting of the CH No./PLC No. change screen

[CH NO./PLC NO CHANGE]	
<input checked="" type="checkbox"/> CH NO	<input checked="" type="checkbox"/> PLC NO
0.COM1	HOST PLC No FF
1.COM2	VIA MELSECNET II
2.COM3	PLC No [] (0-64)
3.COM4	VIA MELSECNET/10
4.MELSECNET II	NET No. [] (1-255)
5.MELSECNET/10-1	ST. [] (0-64)
6.MELSECNET/10-2	
7.MELSECNET/10-3	
8.MELSECNET/10-4	
END:SET ESC:CLOSE	

1)

Number	Setting Item	Description						
1)	PLC NO	<p>Select "VIA MELSECNET(II)" and set the station number of the Master/local station of the CC-Link module to which the AJ65BT-G4 is connected.</p> <table border="1"> <thead> <tr> <th>Access Destination</th> <th>PC Number to Be Specified</th> </tr> </thead> <tbody> <tr> <td>CC-Link Master station</td> <td>"VIA MELSECNET(II)": Specify 0.</td> </tr> <tr> <td>CC-Link Local station</td> <td>"VIA MELSECNET(II)": Specify any of 1 to 64.</td> </tr> </tbody> </table>	Access Destination	PC Number to Be Specified	CC-Link Master station	"VIA MELSECNET(II)": Specify 0.	CC-Link Local station	"VIA MELSECNET(II)": Specify any of 1 to 64.
Access Destination	PC Number to Be Specified							
CC-Link Master station	"VIA MELSECNET(II)": Specify 0.							
CC-Link Local station	"VIA MELSECNET(II)": Specify any of 1 to 64.							

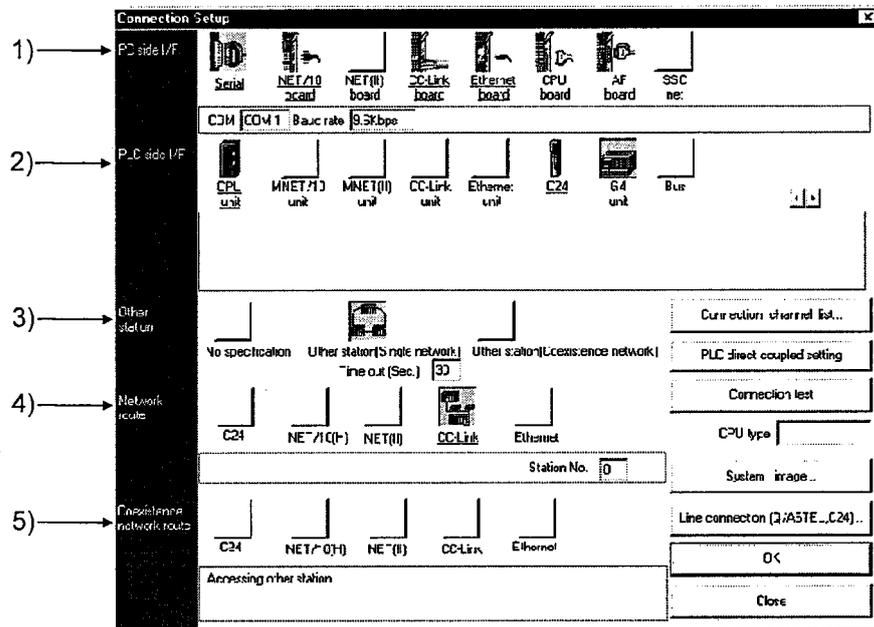
6.2.2 Operation of the GPPW

(1) General procedure

The general procedure is the same as that for the AJ65BT-G4 in the QnA mode. Refer to Section 6.1.1.

(2) Setting of the connection setup screen

(When the SW4D5C-GPPW is used)



Number	Setting Item	Description
1)	PC side I/F	Always select "Serial." In the "PC side I/F Serial setting" field, set the GPP function peripheral device side interface. The transmission speed may only be confirmed (cannot be changed).
2)	PLC side I/F	Select "G4 Unit."
3)	Other station	"Other station (Single network)" is automatically selected. Change the timeout period for data communication if necessary.
4)	Network route	"CC-link" is automatically selected. Specify the station No. of the access station on the CC-Link system.
5)	Coexistence network route	(Setting impossible)

6.3 A7HGP, A6GPP, A6PHP and A6HGP (A Mode)

Before starting online operation, call the PLC No. setting screen, specify "VIA MELSECNET (II)", and set the station number of the Master/local station in its own CC-Link to be accessed.

For more information on the PLC No. setting operation, refer to the operating manual of the GPP function software package used.

7. TROUBLESHOOTING

7.1 Online Operation of the GPP Functions Cannot Be Performed for the CPU Specified as the Access Destination

The following table lists the causes and corrective actions when the online operation of the GPP functions cannot be performed.

Cause	Corrective Action						
CC-Link communication error occurred.	Check the indicator LEDs. (Refer to section 7.2 and 7.3.)						
Cable is not connected properly between AJ65BT-G4 and GPP function peripheral.	<p>Check the connection cable Whether cable connection between AJ65BT-G4 and GPP function peripheral is proper or not can be checked using the remote input signal of the AJ65BT-G4.</p> <table border="1" data-bbox="507 712 1425 824"> <thead> <tr> <th data-bbox="507 712 778 750">Input Number</th> <th data-bbox="778 712 1098 750">Signal Name</th> <th data-bbox="1098 712 1425 750">Status</th> </tr> </thead> <tbody> <tr> <td data-bbox="507 750 778 824">RX(n+1)A</td> <td data-bbox="778 750 1098 824">Remote station ready signal</td> <td data-bbox="1098 750 1425 824">ON: Normal connection OFF: Connection error</td> </tr> </tbody> </table> <p>n: Indicates the first I/O number of the AJ65BT-G4 assigned to the Master module by station number setting.</p>	Input Number	Signal Name	Status	RX(n+1)A	Remote station ready signal	ON: Normal connection OFF: Connection error
Input Number	Signal Name	Status					
RX(n+1)A	Remote station ready signal	ON: Normal connection OFF: Connection error					
Operation setting DIP switches of the AJ65BT-G4 are not set to correct positions.	Check the operation setting DIP switches. (Refer to Section 5.3.)						
PLC cannot be accessed by GPP function peripheral.	<p>If error message "CANNOT COMMUNICATE WITH PLC" appears on the GPP function screen, check for:</p> <ul style="list-style-type: none"> · Incorrect station number specified for the station to communicate with. · Abnormal data communication between master module and AJ65BT-G4. (This can be checked by the indicator LED.) · Abnormal operation of the PLC to be accessed. (This can be checked by the ERROR LED and special relay/special data register.) · Abnormal data link of the MELSECNET when access is made to the other station via the MELSECNET. (This can be checked by the special relay/special data register, etc. for MELSECNET.) · A fault of the cable for connection between GPP function peripheral and AJ65BT-G4. (Refer to the Corrective Action of the second Cause above.) 						
GPP function setting error	<p>If any of the following error message is displayed on the GPP function peripheral screen, first check the PLC station number setting, etc. of the access destination (Refer to Chapter 6.)</p> <ul style="list-style-type: none"> · "Password is not released" · "Cannot receive from PLC(time over)" · "PLC type incorrect" <p>When online operation cannot be performed after checking and correct setting are made in accordance with Chapter 6 or when the error message displayed on the GPP function peripheral screen is other than the above, refer to the operating manual of the GPP function software package used and take corrective action.</p>						

POINT
<p>(1) If the following modules are used as the Master station of the CC-Link system to which the AJ65BT-G4 is connected, set SW8 of the condition setting switches of the Master station to OFF (Module mode: Intelligent mode). (Modules to which the setting above is applied)</p> <ul style="list-style-type: none"> · AJ61BT11 CC-Link system Master/Local module · A1SJ61BT11 CC-Link system Master/Local module <p>(2) Use the following software versions of the AJ65BT-G4 according to the PLC CPU accessed with the GPP function. (Select it by setting the operation mode with the DIP switch on the front panel of the AJ65BT-G4.) (Refer to Section 5.2 *1.)</p> <ul style="list-style-type: none"> · When accessing the QnA series CPU: Version B and above · When accessing the A series CPU: Version A and above

7.2 How to Check an Error with the Indicator LEDs

This section describes how to check an error using the indicator LEDs of the AJ65BT-G4.

For errors related to the PLC CPU and Master module, refer to the user's manuals of the PLC CPU and Master/Local module.

(a) If the PW LED of the AJ65BT-G4 goes OFF

Cause	Corrective Action
24VDC power is not supplied to the AJ65BT-G4 or voltage is insufficient.	Check the voltage of the 24VDC power supply.

(b) If the RUN LED of the AJ65BT-G4 goes OFF

Cause	Corrective Action
Watchdog timer error occurred.	Switch on power of the AJ65BT-G4 again*1. If the RUN LED does not turn ON after power is switched on again, the hardware may be faulty. Consult your sales representative.

(c) If the L RUN LED of the AJ65BT-G4 goes OFF

Cause	Corrective Action
Watchdog timer error occurred.	Switch on power of the AJ65BT-G4 again*1. If the L RUN LED does not turn ON after power is switched on again, the hardware may be faulty. Consult your sales representative.
CC-Link dedicated cable is broken or shorted.	Check and repair the CC-Link dedicated cable.
Master station stopped link.	Check for an error at Master station.
Station number was repeated.	Switch power on again*1 after correcting the station number setting of the module of which station number was repeated.
Station number setting switch or data link transmission setting switch setting is wrong.	Switch power on again*1 after correcting the station number setting switch or data link transmission setting switch setting.

(d) If the L ERR LED of the AJ65BT-G4 flickers at regular intervals

Cause	Corrective Action
Station number setting switch or data link transmission speed setting switch setting was changed during normal operation.	Return the station number or data link transmission speed to the previous setting. If the L RUN LED does not turn ON with the previous setting, the hardware may be faulty. Consult your sales representative.
Station number setting switches or data link transmission speed setting switch is faulty	If the L ERR LED begins to flicker although the switch setting was not changed during operation, the hardware may be faulty. Consult your sales representative.

*1: Switch power on again: Switch on the AJ65BT-G4 again or press on the reset switch of the AJ65BT-G4.

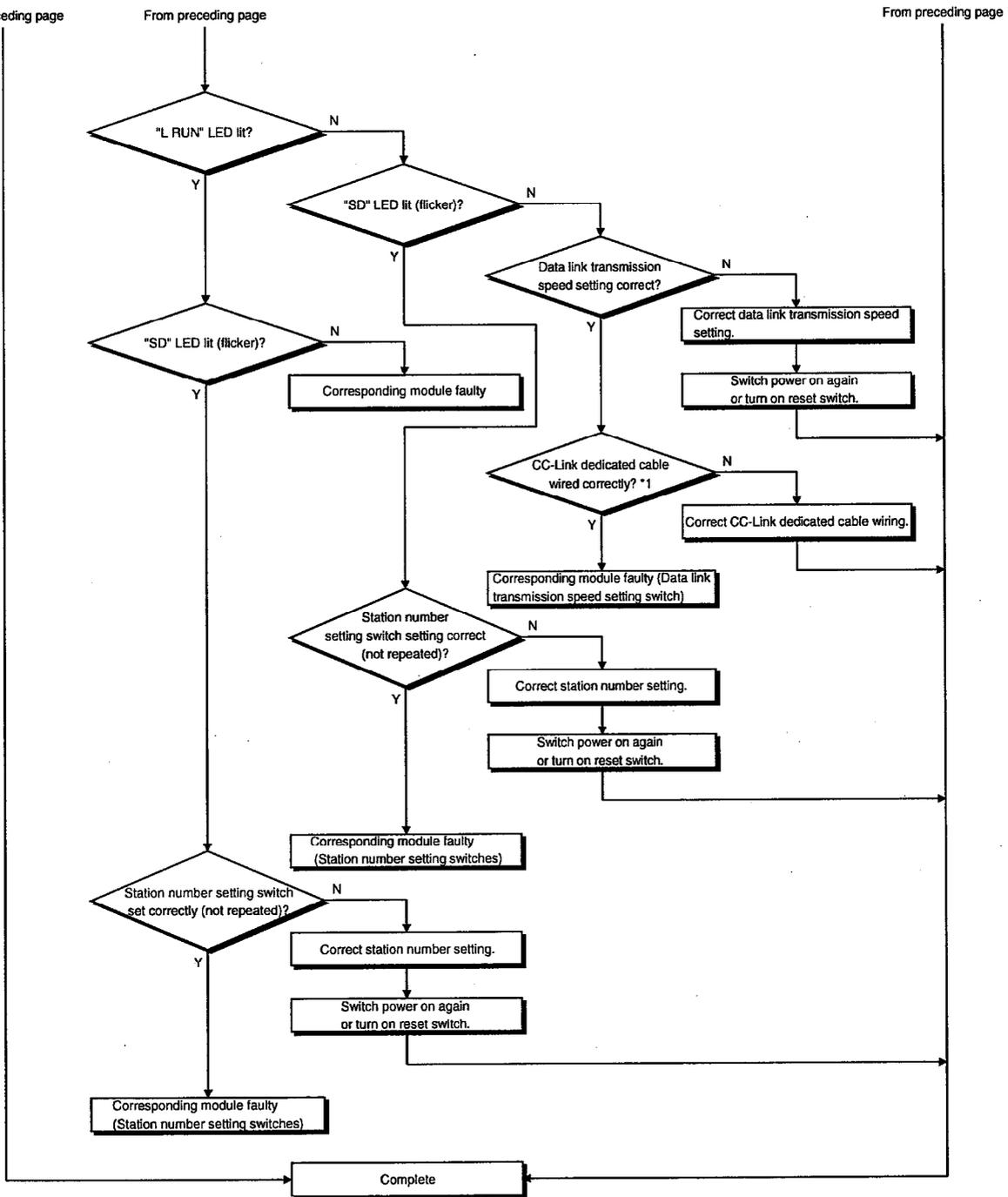
(e) If the L ERR LED of the AJ65BT-G4 flickers at irregular intervals

Cause	Corrective Action
Terminal resistors are left unconnected.	Check that the terminal resistors are connected. If not, connect them and switch power on again*1.
Modules or CC-Link dedicated cable are affected by noise.	<ul style="list-style-type: none"> · Connect both ends of the shielded wire of the CC-Link dedicated cable to grounded (class three grounding) via SLD and FG of each module. · Securely connect the FG terminal of the module to ground. · Securely ground the piping when running cables in piping.

(f) If the L ERR LED of the AJ65BT-G4 is ON

Cause	Corrective Action
Station number setting switch or data link transmission setting switch setting is wrong.	Switch power on again*1 after correcting the station number setting switch or data link transmission setting switch setting.

*1: Switch power on again: Switch on the AJ65BT-G4 again or press the reset switch of the AJ65BT-G4.

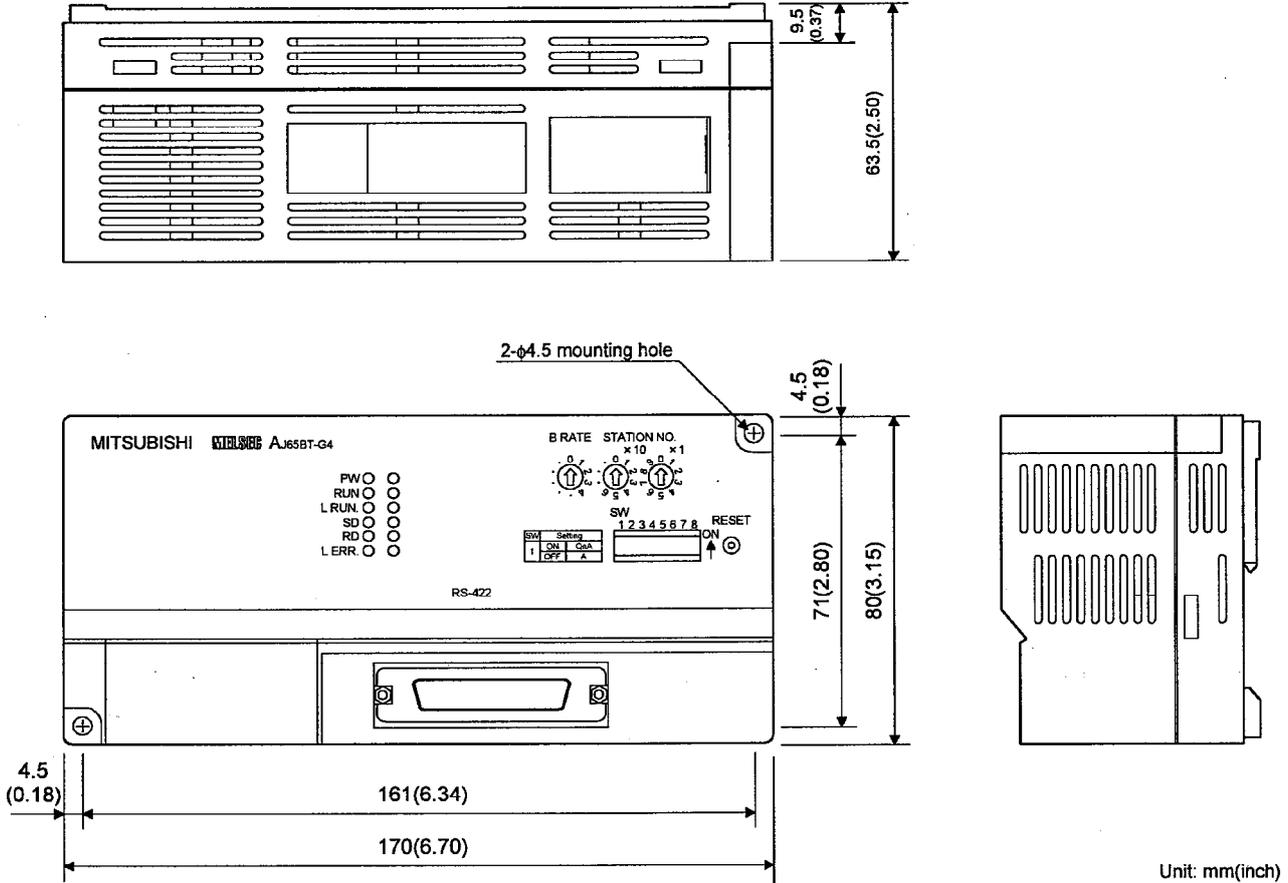


*1: Check for short circuit, reverse connection, wire breakage, no terminal resistor, improper FG connection, improper overall distance and improper interstation distance.

APPENDIX

Appendix 1 Outline Dimension Drawing

The outline dimension drawing of the AJ65BT-G4 is shown below.



Unit: mm(inch)

WARRANTY

Please confirm the following product warranty details before starting use.

1. Gratis Warranty Term and Gratis Warranty Range

If any faults or defects (hereinafter "failure") found to be the responsibility of Mitsubishi occurs during use of the product within the gratis warranty term, the product shall be repaired at no cost via the dealer or Mitsubishi Service Company. Note that if repairs are required at a site overseas, on a detached island or remote place, expenses to dispatch an engineer shall be charged for.

[Gratis Warranty Term]

The gratis warranty term of the product shall be for one year after the date of purchase or delivery to a designated place.

Note that after manufacture and shipment from Mitsubishi, the maximum distribution period shall be six (6) months, and the longest gratis warranty term after manufacturing shall be eighteen (18) months. The gratis warranty term of repair parts shall not exceed the gratis warranty term before repairs.

[Gratis Warranty Range]

- (1) The range shall be limited to normal use within the usage state, usage methods and usage environment, etc., which follow the conditions and precautions, etc., given in the instruction manual, user's manual and caution labels on the product.
- (2) Even within the gratis warranty term, repairs shall be charged for in the following cases.
 1. failure occurring from inappropriate storage or handling, carelessness or negligence by the user. Failure caused by the user's hardware or software design.
 2. Failure caused by unapproved modifications, etc., to the product by the user.
 3. When the Mitsubishi product is assembled into a user's device, failure that could have been avoided if functions or structures, judged as necessary in the legal safety measures the user's device is subject to or as necessary by industry standards, had been provided.
 4. Failure that could have been avoided if consumable parts (battery, backlight, fuse, etc.) designated in the instruction manual had been correctly serviced or replaced.
 5. Failure caused by external irresistible forces such as fires or abnormal voltages, and failure caused by force majeure such as earthquakes, lightning, wind and water damage.
 6. Failure caused by reasons unpredictable by scientific technology standards at time of shipment from Mitsubishi.
 7. Any other failure found to not be the responsibility of Mitsubishi or the user.

2. Onerous repair term after discontinuation of production

- (1) Mitsubishi shall accept onerous product repairs for seven (7) years after production of the product is discontinued. Discontinuation of production shall be notified with Mitsubishi Technical Bulletins, etc.
- (2) Product supply (including repair parts) is not possible after production is discontinued.

3. Overseas service

Overseas, repairs shall be accepted by Mitsubishi's local overseas FA Center. Note that the repair conditions at each FA Center may differ.

4. Exclusion of chance loss and secondary loss from warranty liability

Regardless of the gratis warranty term, Mitsubishi shall not be liable for compensation to damages caused by any cause found not to be the responsibility of Mitsubishi, chance losses, lost profits incurred to the user by failures in Mitsubishi products, damages and secondary damages caused from special reasons regardless of Mitsubishi's expectations, compensation for accidents, and compensation for damages to products other than Mitsubishi products and other duties.

5. Changes in product specifications

The specifications given in the catalogs, manuals or technical documents are subject to change without prior notice.

6. Product application

- (1) In using the Mitsubishi MELSEC programmable logic controller, the usage conditions shall be that the application will not lead to a major accident even if any problem or fault should occur in the programmable logic controller device, and that backup and fail-safe functions are systematically provided outside of the device for any problem or fault.
- (2) The Mitsubishi general-purpose programmable logic controller has been designed and manufactured for applications in general industries, etc. Thus, applications in which the public could be affected such as in nuclear power plants and other power plants operated by respective power companies, and applications in which a special quality assurance system is required, such as for each Japan Railways company or the Department of Defense shall be excluded from the programmable logic controller applications.

Note that even with these applications, if the user approves that the application is to be limited and a special quality is not required, application shall be possible.

When considering use in aircraft, medical applications, railways, incineration and fuel devices, manned transport devices, equipment for recreation and amusement, and safety devices, in which human life or assets could be greatly affected and for which a particularly high reliability is required in terms of safety and control system, please consult with Mitsubishi and discuss the required specifications.

GPP function peripheral connection module type AJ65BT-G4

User's Manual

MODEL	AJ65BTG4-U-S-E
MODEL CODE	13JL40
SH(NA)3650-C(9912)MEE	

 **MITSUBISHI ELECTRIC CORPORATION**

HEAD OFFICE : MITSUBISHI DENKI BLDG MARUNOUCHI TOKYO 100-8310 TELEX : J24532 CABLE MELCO TOKYO
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