# MITSUBISHI

# A985GOT/A975GOT/A970GOT/A960GOT

# User's Manual







A985GOT-TBA(-EU)(-V)/TBD(-V) A975GOT-TBA(-EU)(-B)/TBD(-B) A970GOT-TBA(-EU)(-B)/TBD(-B) A970GOT-SBA(-EU)/SBD A970GOT-LBA(-EU)/LBD A960GOT-EBA(-EU)/EBD

MITSUBISHI Graphic Operation Terminal

SAFETY PRECAUTIONS

(Always read these instructions before using this equipment.)

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

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

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

DANGER	Indicates that incorrect handling may cause hazardous conditions, resulting in death or severe injury.
	Indicates that incorrect handling may cause hazardous conditions, resulting in medium or slight personal injury or physical damage.

Note that the AUTION 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]]

#### • Some failures of the GOT, communication unit, communication board or cable may keep the outputs on or off. An external monitoring circuit should be provided to check for output signals which may lead to a serious accident. Not doing so can cause an accident due to false output or malfunction. • If a communication fault (including cable disconnection) occurs during monitoring on the GOT, communication between the GOT and PLC CPU is suspended and the GOT becomes inoperative. For bus connection : The CPU becomes faulty and the GOT becomes inoperative. For other than bus connection : The GOT becomes inoperative. A system where the GOT is used should be configured to perform any significant operation to the system by using the switches of a device other than the GOT on the assumption that a GOT communication fault will occur. Not doing so can cause an accident due to false output or malfunction. • Do not use the GOT as the warning device that may cause a serious accident. An independent and redundant hardware or mechanical interlock is required to configure the device that displays and outputs serious warning. Failure to observe this instruction may result in an accident due to incorrect output or malfunction.

### [Design Precautions]

### Incorrect operation of the touch switch(s) may lead to a serious accident if the GOT backlight is gone out. When the GOT backlight goes out, the display section turns black and causes the monitor screen to appear blank, while the input of the touch switch(s) still remains active. This may confuse an operator in thinking that the GOT is in "screensaver" mode, who then tries to release the GOT from this mode by touching the display section, which may cause a touch switch to operate. Note that the following occurs on the GOT when the backlight goes out. The monitor screen disappears even when the screensaver is not set. •The monitor screen will not come back on by touching the display section, even if the screensaver is set. **ACAUTION** • Do not bundle the control and communication cables with main-circuit, power or other wiring. Run the above cables separately from such wiring and keep them a minimum of 100mm apart. Not doing so noise can cause a malfunction. [Mounting Precautions]] • Before installing or removing the GOT to or from the control panel, always switch off the GOT power externally in all phases. Not doing so can cause the GOT to fail or malfunction. Before loading or unloading the communication board, communication unit or memory board to or from the GOT, always switch off the GOT power externally in all phases. Not doing so can cause the unit to fail or malfunction.

# 

The GOT should be used in the environment given in the general specifications of the GOT user's manual.

Not doing so can cause an electric shock, fire, malfunction or product damage or deterioration.

• When mounting the GOT to the control panel, tighten the mounting screws in the specified torque range.

Undertightening can cause the GOT to drop, short circuit or malfunction.

Overtightening can cause a drop, short circuit or malfunction due to the damage of the screws or the GOT.

### [Mounting Precautions]

<ul> <li>When loading the communication board or communication unit to the GOT, fit it to the connection interface of the GOT and tighten the mounting screws in the specified torque range.</li> <li>Undertightening can cause a drop, failure or malfunction.</li> <li>Overtightening can cause a drop, failure or malfunction due to the damage of the screws or unit.</li> </ul>
<ul> <li>When loading the memory board into the GOT, load it into its corresponding GOT slot and tighten the mounting screws in the specified torque range. Undertightening can cause a malfunction due to a poor contact. Overtightening can cause a malfunction due to the damage of the screws or the GOT.</li> </ul>
<ul> <li>When loading the PC card into the GOT, insert and push it into its corresponding GOT slot until the PC card eject button comes up.</li> <li>Not doing so can cause a malfunction due to a poor contact.</li> </ul>
<ul> <li>Before loading or unloading the PC card to or from the GOT, set the memory card access switch to the OFF position.</li> <li>Not doing so can cause the PC card data to be corrupted.</li> </ul>
When taking out the PC card, hold it with one hand and remove. If removed without a hand support, the PC card may drop, resulting in breakage or damage.

### [Wiring Precautions]

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 Before starting wiring, always switch off the GOT power externally in all phases. Not doing so may cause an electric shock, product damage or malfunction.

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Please make sure to ground FG terminal, LG terminal, and protective ground terminal of the GOT power supply section by applying Class D Grounding (Class 3 Grounding Method) or higher which is used exclusively for the GOT.

Not doing so may cause an electric shock or malfunction.

• Correctly wire the GOT power supply section after confirming the rated voltage and terminal arrangement of the product.

Not doing so can cause a fire or failure.

- Tighten the terminal screws of the GOT power supply section in the specified torque range. Undertightening can cause a short circuit or malfunction. Overtightening can cause a short circuit or malfunction due to the damage of the screws or the GOT.
- Exercise care to avoid foreign matter such as chips and wire offcuts entering the GOT. Not doing so can cause a fire, failure or malfunction.

### [Wiring Precautions]

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Plug the bus connection cable by inserting it into the connector of the connected unit until it "clicks".

After plugging, check that it has been inserted snugly.

Not doing so can cause a malfunction due to a contact fault.

Plug the communication cable into the connector of the connected unit and tighten the mounting and terminal screws in the specified torque range.

Undertightening can cause a short circuit or malfunction.

Overtightening can cause a short circuit or malfunction due to the damage of the screws or unit.

### [Test Operation Precautions]

# 

Before performing test operation (bit device on/off, word device's present value changing, timer/ counter's set value and present value changing, buffer memory's present value changing) for a user-created monitor screen, system monitoring, special module monitoring or ladder monitoring, read the manual carefully to fully understand how to operate the equipment.

During test operation, never change the data of the devices which are used to perform significant operation for the system.

False output or malfunction can cause an accident.

### [Startup/Maintenance Precautions]

# DANGER

- When power is on, do not touch the terminals.
   Doing so can cause an electric shock or malfunction.
- Before starting cleaning or terminal screw retightening, always switch off the power externally in all phases.

Not switching the power off in all phases can cause a unit failure or malfunction.

Undertightening can cause a short circuit or malfunction.

Overtightening can cause a short circuit or malfunction due to the damage of the screws or unit.

# 

Do not disassemble or modify the unit.
 Doing so can cause a failure, malfunction, injury or fire.

Do not touch the conductive and electronic parts of the unit directly.

Doing so can cause a unit malfunction or failure.

### [Startup/Maintenance Precautions]

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- The cables connected to the unit must be run in ducts or clamped.
   Not doing so can cause the unit or cable to be damaged due to the dangling, motion or accidental pulling of the cables or can cause a malfunction due to a cable connection fault.
- When unplugging the cable connected to the unit, do not hold and pull the cable portion. Doing so can cause the unit or cable to be damaged or can cause a malfunction due to a cable connection fault.

### [Backlight Changing Precautions]

# DANGER

Before changing the backlight, always switch off the GOT power externally in all phases (when the GOT is connected to the bus, the PLC CPU power must also be switched off externally in all phases) and remove the GOT from the control panel.

Not switching the power off in all phases may cause an electric shock.

Not removing the unit from the control panel can cause injury due to a drop.

# 

• When replacing the backlight, use the gloves.

Otherwise, it may cause you to be injured.

If you should directly touch the plated area of the main unit case with hand, be sure to wipe off the fingerprint and so on, and install the main unit case.

Otherwise, it may cause a trouble or malfunction.

 Start changing the backlight more than 5 minutes after switching the GOT power off. Not doing so can cause a burn due to the heat of the backlight.

### [Disposal Precautions]

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• When disposing of the product, handle it as industrial waste.

#### REVISIONS

\*The manual number is given on the bottom left of the back cover.

Print Date	* Manual Number	Revision
Sep., 1998	SH(NA)-4005-A	First edition
Feb., 1999	SH(NA)-4005-B	Addition
		Section 1.1, 2.1, 2.2, 3.2, 3.3, 4.1, 4.2, 6.1, 6.3, 6.10, 6.11, 6.12, 6.13, 7.4, Appendix
		1,2
		A985GOT-TBA/TBD
Apr., 1999	SH(NA)-4005-C	Addition
		Section 1.2, 1.3, 2.2, 3.2, 3.3, 6.1, 6.5, 7.4, 8.2, INDEX
		A975GOT-TBA-B/TBD-B, A970GOT-TBA-B/TBD-B
		A975GOT-TBA-EU, A970GOT-TBA-EU/SBA-EU, A960GOT-EBA-EU
Mar., 2000	SH(NA)-4005-D	Partial correction
		Section 2.1, 3.1, 6.1, 6.3, 6.5, 6.12, 7.4, Appendix 1, 2, 3
		Partial addition
		Section 2.2. 3.2. 3.3. 6.4. 6.6. 6.7
		Addition
		Section 2.3. 2.4. 6.14. 8.5
		4985GOT_TBA_FUL A970GOT_LBA/LBD
Dec., 2000	SH(NA)-4005-E	Partial correction
,		[Fartial correction]
		Chapter 1, Section 1.1, 2.2, 2.4, 3.2, 3.3, 4.1, 6.1, 6.3, 6.4, 6.6, 6.10, 7.4,
		Addition
		Section 6.1.6, 6.1.7, 6.15, A985GOT-TBA-V, A985GOT-TBD-V
Jun., 2001	SH(NA)-4005-F	Partial correction
		Section 1.2.1, 2.3
		Partial addition
		Section 1.1, 1.2.2, 2.2, 3.2.1, 3.2.2, 3.2.3, 3.3.1, 3.3.2, 4.2, 6.1.2, 6.1.3, 6.1.4, 6.5.3,
		6.7.1, 6.14.2, 8.2, Appendix 2
		Addition
		Section 2.3.1, 2.3.2, 2.3.3, 2.3.4, 2.3.5
Feb., 2002	SH(NA)-4005-G	Partial correction
		SAFETY PRECAUTIONS
Apr., 2002	SH(NA)-4005-H	Partial correction
		Section 2.3.3
		Partial addition
		Section 2.3.4. 2.3.5. 6.1.4. 8.2
Jul., 2002	SH(NA)-4005-I	Partial correction
		Section 21 321 616 617 642 6122 615
		Section 2.2, Appendix 2

Print Date	* Manual Number	Revision
Dec., 2003	SH(NA)-4005-J	Partial correction
		Section 1.1, 1.2, 1.2.1, 1.2.2, 1.2.3, 1.3.1, 1.3.3, 1.3.5, 2.1, 2.2, 2.3.2, 3.1, 3.2.1,
		3.2.2, Chapter 5, Section 6.1.1, 6.1.2, 6.1.3, 6.1.5, 6.1.6, 6.1.7, 6.4.2, 6.5.1, 6.5.2,
		6.6, 6.7, 6.8, 6.9, 6.11, 6.12, 6.14, 6.15, Chapter 8, Section 8.3, 8.6
Feb 2004	SH(NA)-4005-K	Section 2.3, 2.3.1, 2.3.3, 2.3.4, 2.3.5, 2.4, 2.6, 6.1.4, 6.5.3, 7.4
1 00., 200 1		
		Chapter 1, Section 2.2, 3.2.2, 3.2.3, 6.4.2, 6.6.2, 6.7.2, 6.12.2, 6.15.2, 7.4,
		Partial addition
Jun., 2004	SH(NA)-4005-L	Partial correction
,		Section 231 233 321 323 642 651 74 Appendix 1 WARRANTY
Sep., 2004	SH(NA)-4005-M	Section 2.2, 3.3.1, 6.1.2, 6.1.4, 7.4.1
		MODEL CODE change
Dec. 2005	SH(NA)-4005-N	Changed from 13JL70 to 1DM099
200., 2000		Partial correction
		Partial addition
May., 2006	SH(NA)-4005-O	Partial correction
-		Section 2.2.6.5.1
Nov., 2006	SH(NA)-4005-P	Partial correction
		Layouts were revised.

Japanese Manual Version SH-3311-Q

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#### INTRODUCTION

Thank you for choosing the Mitsubishi Graphic Operation Terminal.

Before using the equipment, please read this manual carefully to use the equipment to its optimum.

A copy of this manual should be forwarded to the end user.

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#### ABOUT THE MANUALS

For details of the manuals relevant to this product, refer to the PDF manual stored within the drawing software used.

#### ABBREVIATIONS AND GENERIC TERMS IN THIS MANUAL

Abbreviations and generic terms		Description	
	A985GOT-V	Generic term of A985GOT-TBA-V and A985GOT-TBD-V	
	A985GOT	Generic term of A985GOT-TBA, A985GOT-TBD and A985GOT-TBA-EU	
	AOZECOT	Generic term of A975GOT-TBA-B, A975GOT-TBD-B, A975GOT-TBA, A975GOT-TBD and	
	A973001	A975GOT-TBA-EU	
GOT		Generic term of A970GOT-TBA-B A970GOT-TBD-B, A970GOT-TBA, A970GOT-TBD, A970GOT-	
	A970GOT	SBA, A970GOT-SBD, A970GOT-LBA, A970GOT-LBD, A970GOT-TBA-EU, A970GOT-SBA-EU	
		and A970GOT-LBA-EU	
	A97 * GOT	Generic term of A975GOT and A970GOT	
	A960GOT	Generic term of A960GOT-EBA, A960GOT-EBD and A960GOT-EBA-EU	
Communica-	Bus connection board	Generic term of A9GT-QBUSS, A9GT-QBUS2S, A9GT-BUSS and A9GT-BUS2S	
tion board	Serial communica- tion board	Generic term of A9GT-RS4, A9GT-RS2 and A9GT-RS2T	
	Bus connection unit	Generic term of A9GT-BUSSU and A9GT-BUS2SU	
	Data link unit	Generic term of A7GT-J71AP23, A7GT-J71AR23 and A7GT-J71AT23B	
Communica	Network unit	Generic term of A9GT-QJ71LP23, A9GT-QJ71BR13, A7GT-J71LP23 and A7GT-J71BR13	
tion unit	CC-Link communica-	Conorio term of ASCT 161PT13 and ASCT 161PT15	
	tion unit		
	Ethernet communica-	Abbreviation of A9GTI71E71-T	
	tion unit		
	External I/O interface unit	Abbreviation of A9GT-70KBF type external I/O interface unit	
Option unit	Video/RGB hybrid interface unit	Abbreviation of A9GT-80V4R1 type Video/RGB hybrid interface unit	
Option unit	Video input interface unit	Abbreviation of A9GT-80V4 type Video input interface unit	
	RGB input interface unit	Abbreviation of A9GT-80R1 type RGB input interface unit	
	Backlight	Abbreviation of A9GT-80LTT, A9GT-70LTTBW, A9GT-70LTTB, A9GT-70LTT and A9GT-70LTS type	
	Backlight	backlights	
	Debug stand	Abbreviation of A9GT-80STAND and A9GT-70STAND type debug stand	
	Memory board	Abbreviation of A9GT-FNB, A9GT-FNB1M, A9GT-FNB2M, A9GT-FNB4M, A9GT-FNB8M, A9GT-	
	QFNB, A9GT-QFNB4M, A9GT-QFNB8M type opt	QFNB, A9GT-QFNB4M, A9GT-QFNB8M type option function memory board	
	Ten-key Panel	Abbreviation of A8GT-TK ten-key Panel	
	A7GT-CNB	Abbreviation of A7GT-CNB bus connector conversion box	
Option	A9GT-QCNB	Abbreviation of A9GT-QCNB bus connector conversion box	
	Protection sheet	Abbreviation of A9GT-80PSC, A9GT-70PSC and A9GT-60PSC type transparent protection sheets	
	Attachment	Generic term of A77GT-96ATT/A87GT-96ATT/A87GT-97ATT attachments	
	PC card (memory card)	Abbreviation of PC card with PCMCIA Ver.2.1	
	Flash PC card	Generic term of A9GTMEM-10MF, A9GTMEM-20MF and A9GTMEM-40MF	
	Compact flash PC card	Compact flash PC card compliant with Compact FlashTM	

Abbreviations and generic terms used in this manual are described as follows

Abbreviations and generic terms		Description
	GT Works Version5	Abbreviation of SW5D5C-GTWORKS-E(-V) software
	GT Designer Version5	Abbreviation of SW5D5C-GOTR-PACKE(V) software
	GT Works2 Version1	Abbreviation of SW1D5C-GTWK2-E software
	GT Designer2 Version1	Abbreviation of SW1D5C-GTD2-E software
	GT Designer	Abbreviation of image creation software GT Designer for GOT900
	GT Designer2	Abbreviation of image creation software GT Designer2 for GOT900
	GT Simulator	Abbreviation of GT Simulator screen simulator GOT900
Software	GT Simulator2	Abbreviation of GT Simulator2 screen simulator GOT900
	GT Converter	Abbreviation of data conversion software GT Converter for GOT900
	GT Debugger	Abbreviation of debugging software GT Debugger
	GT Manager	Abbreviation of GT Manager data editing software for GOT900
	GT SoftGOT	Abbreviation of GT SoftGOT monitoring software
	GT SoftGOT2	Abbreviation of GT SoftGOT2 monitoring software
	GX Developer	Generic term of SWDD5C-GPPW-E/SWDD5F-GPPW-E software packages
		Generic term of SWID5C-LLT-F ladder logic test tool function software package (SW5D5C-LLT-F
	GX Simulator	or later)
	QCPU (Q Mode)	Generic term of Q00JCPU, Q00CPU, Q01CPU,Q02CPU, Q02HCPU, Q06HCPU, Q12HCPU, Q25HCPU, Q12PHCPU and Q25PHCPU CPU
	QCPU (A Mode)	Generic term of Q02CPU-A, Q02HCPU-A and Q06HCPU-A CPU
	QCPU	Generic term of QCPU (Q Mode) and QCPU (A Mode)
	QnACPU Type	Generic term of Q2ACPU, Q2ACPU-S1, Q2AHCPU, Q2AHCPU-S1, Q3ACPU, Q4ACPU and Q4ARCPU CPU
	QnASCPU Type	Generic term of Q2ASCPU, Q2ASCPU-S1, Q2ASHCPU and Q2ASHCPU-S1 CPU
	QnACPU	Generic term of QnACPU Type and QnASCPU Type
	AnUCPU	Generic term of A2UCPU, A2UCPU-S1, A3UCPU and A4UCPU CPU
	AnACPU	Generic term of A2ACPU, A2ACPU-S1 and A3ACPU CPU
	AnNCPU	Generic term of A1NCPU, A2NCPU, A2NCPU-S1 and A3NCPU CPU
	AnCPU Type	Generic term of AnUCPU, AnACPU and AnNCPU CPU
CPU	AnUS(H)CPU	Generic term of A2USCPU, A2USCPU-S1 and A2USHCPU-S1 CPU
	AnS(H)CPU	Generic term of A1SCPU, A1SCPUC24-R2, A2SCPU, A2SCPU-S1, A1SHCPU, A2SHCPU and A2SHCPU-S1 CPU
	A1SJ(H)CPU	Generic term of A1SJCPU, A1SJCPU-S3 and A1SJHCPU CPU
	AnSCPU Type	Generic term of A2US(H)CPU, AnS(H)CPU and A1SJ(H)CPU CPU
	ACPU	Generic term of AnCPU Type, AnSCPU Type, A1FXCPU, A0J2HCPU, A2CCPU, A2CCPU24 and A2CJCPU CPU
	FXCPU	Generic term of FX0 series, FX0N series, FX0S series, FX1 series, FX1N series, FX1S series, FX2 series, FX2N series, FX1NS series and FX2NC series CPU
	Motion controller CPU	Generic term of A273UCPU, A273UHCPU, A273UHCPU-S3, A373CPU, A373UCPU, A373UCPU, A373UCPU-S3, A171SCPU, A171SCPU-S3, A171SCPU-S3N, A171SHCPU, A171SHCPUN, A172SHCPU, A172SHCPU, A173UHCPU, A173UHCPU-S1 CPU
	FA controller	Generic term of LM610, LM7600, LM8000 CPU
Peripheral connection module	G4	Abbreviation of AJ65BT-G4-S3
	E71	Generic term of AJ71E71-S3, AJ71E71N-T, AJ71E71N-B2, AJ71E71N-B5, AJ71E71N-B5T, A1SJ71E71-B2-S3, A1SJ71E71-B5-S3, A1SJ71E71N-T, A1SJ71E71N-B2, A1SJ71E71N-B5 and A1SJ71E71N-B5T
Ethernet module	QE71	Generic term of AJ71QE71, AJ71QE71-B5, AJ71QE71N-T, AJ71QE71N-B2, AJ71QE71N-B5, AJ71QE71N-B5T, A1SJ71QE71-B2, A1SJ71QE71-B5, A1SJ71QE71N-T, A1SJ71QE71N-B2, A1SJ71QE71N-B5 and A1SJ71QE71N-B5T
	Q series-compatible E71	Generic term of QJ71E71, QJ71E71-B2, QJ71E71-B5, QJ71E71-100

Abbreviations and generic terms		Description
	Omron PLC	Generic term of C200HS, C200H, C200Hα series(C200HX, C200HG, C200HE), CQM1, C1000H,C2000H,CV500, CV1000, CV2000, CVM1-CPU11, CVM1-CPU21, CS1, CS1D, CJ1M, CPM1, CPM1A, CPM2A, CPM2C CPU, CQM1H
	Yaskawa PLC	Generic term of GL60S, GL60H, GL70H, GL120, GL130, CP-9200SH, CP-9300MS, MP-920, MP-930, MP-940, CP-9200(H) and PROGIC-8 CPU
	SLC500 Series	Generic term of SLC500-20, SLC500-30, SLC500-40, SLC5/01 SLC5/02, SLC5/03, SLC5/04 SLC5/05
	MicroLogix1000 Series	Generic term of 1761-L10BWA, 1761-L10BWB, 1761-L16AWA, 1761-L16BWA, 1761-L16BWB, 1761-L16BBB, 1761-L32AWA, 1761-L32BWA, 1761-L32BWB, 1761-L32BBB, 1761-L32AAA, 1761-L20AWA-5A, 1761-L20BWA-5A, 1761-L20BWB-5A
	MicroLogix1500 Series	Abbreviation of 1764-LSP
	Allen-Bradley PLC	Generic term of SLC 500 Series, MicroLogix1000 Series, MicroLogix1500 Series
	Sharp PLC	Generic term of JW-21CU, JW-22CU, JW-31CUH, JW-32CUH, JW-33CUH, JW-50CUH, JW-70CUH, JW-100CUH, JW-100CU, Z-512J CPU
Other PLC	PROSEC T Series	Generic term of T2(PU224 type), T2E, T2N, T3, T3H CPU
	PROSEC V Series	Generic term of S2T and Model3000(S3) CPU
	Toshiba PLC	Generic term of PROSEC T Series and PROSEC V Series
	SIEMENS PLC	Generic term of SIMATIC S7-300 Series and SIMATIC S7-400 Series CPU
	Large type H series	Generic term of H-302(CPU2-03H), H-702(CPU2-07H), H-1002(CPU2-10H), H-2002(CPU2-20H), H-4010(CPU3-40H), J-300(CPU-03Ha), H-700(CPU-07Ha), H-2000(CPU-20Ha)
	H200 to 252 Series	Generic term of H-200(CPU-02H, CPE-02H), H-250(CPU21-02H), H-252(CPU22-02H), H-252B(CPU22-02HB), H-252C(CPU22-02HC, CPE22-02HC)
H Series board type Generic term of H- HL-40DR, HL-64D	Generic term of H-20DR, H-28DR, H-40DR, H-64DR, H-20DT, H-28DT, H-40DT, H-64DT, HL-40DR, HL-64DR	
	EH-150 Series	Generic term of EH-CPU104, EH-CPU208, EH-CPU308, EH-CPU316
	HITACHI PLC (HIDIC H Series)	Generic term of large type H series, H-200 to 252 Series H Series board type, EH-150 Series
	Matsushita Electric Works PLC	Generic term of FP0-C16CT, FP0-C32CT, FP1-C24C, FP1-C40C, FP2, FP2SH, FP3, FP5, FP10(S), FP10SH, FP-M(C20TC) and FP-M(C32TC)
	Memory	abbreviation of memory (flash memory) in the GOT
	OS	Abbreviation of GOT system software
Othora	Object	Setting data for dynamic image
Others	Personal Computer	Personal computer where the corresponding software package is installed
	Servo amplifier	Generic term of the MR-J2S-oA, MR-J2S-oCP and MR-J2M A series
	MELDAS C6/C64	Generic term of the FCA C6, FCA C64

#### PACKING LIST

After unpacking, confirm that the following parts are included.

Product	Quantity				
GOT main unit		1			
Mounting fixture		4			
Communication unit secur- ing fixture		3			
Caution plate (seal)* <sup>1</sup>	The second secon	1			
A975GOT-TBA/TBD(-B), A970GOT-TBA/TE	A975GOT-TBA/TBD(-B), A970GOT-TBA/TBD(-B), A970GOT-SBA/SBD,				
A970GOT-LBA/LBD, A960GOT-EBA/EBD User's Manual (Hardware) *2					
A985GOT-TBA-EU, A975GOT-TBA-EU, A970GOT-TBA-EU, A970GOT-SBA-EU, A970GOT-LBA-EU, A960GOT-EBA-EU User's Manual (Hardware) * <sup>2</sup>					
A985GOT-TBA/TBD(-V) User's Manual (Hardware) *2					
*1 Affix a caution plate in a conspicuous position such as memory card interface part. (Affix a caution plate on a communication unit during its use.) The caution plate is included only in the following GOT models. A97* GOT (except -EU): Hardware version L (Jun., 2001) or later.					

A960GOT (except -EU): Hardware version H (Jun., 2001) or later.



\*2 Changes with the GOT you purchased.

This user's manual explains the specifications, handling and other information of the GOT-A900 series graphic operation terminal (abbreviated to the GOT).

The GOT can be used as an electronic operator panel which has achieved on its monitor screen the switch operation, lamp indication, data display, message display and other operations which were previously performed on an operator panel.

Turpo		Rough Specifications			
туре	Power supply type	Display color [Color]	Display section	Resolution [Dots]	Screen size [cm]
A985GOT-TBA- V	100 to 240VAC	256 (During image			
A985GOT-TBD- V	24VDC	display: 65536)			
A985GOT-TBA	100 to 240VAC			800 × 600	31 (12inch)
A985GOT-TBD	24VDC				
A985GOT-TBA-EU	100 to 240VAC				
A975GOT-TBA	100 to 240VAC	256			
A975GOT-TBD	24VDC	250			
A975GOT-TBA-B	100 to 240VAC		TFT color liquid crystal		
A975GOT-TBD-B	24VDC				
A975GOT-TBA-EU	100 to 240VAC				
A970GOT-TBA	100 to 240VAC				
A970GOT-TBD	24VDC				
A970GOT-TBA-B	100 to 240VAC	16		040 400	26 (10inch)
A970GOT-TBD-B	24VDC			640 × 480	20 (1011011)
A970GOT-TBA-EU	100 to 240VAC				
A970GOT-SBA	100 to 240VAC				
A970GOT-SBD	24VDC	8	D-STN color liquid crystal		
A970GOT-SBA-EU	100 to 240VAC				
A970GOT-LBA	100 to 240VAC				
A970GOT-LBD	24VDC	2 (Monochrome)	STN monochrome liquid crystal		
A970GOT-LBA-EU	100 to 240VAC	(monoonionio)			
A960GOT-EBA	100 to 240VAC	2			
A960GOT-EBD	24VDC	(Yellow orange,	EL	640 × 400	23 (9inch)
A960GOT-EBA-EU	100 to 240VAC	black)			

The following GOT types are available.

# 1.1 Features

 Compact display device in pursuit of mounting, external dimensions and thinness With the display screen size identical to that of the conventional type, the external dimensions and depth are substantially reduced to achieve a compact size and thin design. The GOT is designed to connect cables at its bottom to ensure that extra space is not needed for the connectors and bending of the cables when the GOT is mounted on a control panel or the like.



(2) User-friendly multimedia display device

transfer can also be made as conventionally.)

Clear, high-grade display has been achieved by 256-color representation. (A975GOT, A985GOT (-V) only)

Ear-appealing information transmission has also been achieved by supporting speech output using the Windows WAV file.



(3) Fast data transfer of OS and screen data by memory card The PC card for OS and screen data can be created easily on a personal computer. By loading the created card into the GOT, you can exchange the OS and screen data rapidly. (RS-232C data



- (4) Compatible with a wide variety of connection forms
  - The GOT is compatible with various connection forms such as the MELSEC and computer link connections, including the bus connection which permits fast communication. You can choose the connection form matching the system.
- (5) Heavy-duty body usable in rigorous environment and operation The display section of the GOT complies with the IP65f, IP67f and NEMA4 Waterproof, Dustproof Standard and is usable in a wide range of environment.
- (6) Maintenance function further enhanced in affinity with PLC
  - Supporting the factor search mode which searches for the contact of a failure factor at the device search time in the ladder monitoring function, the GOT has shortened the failure factor analysis time.
  - Upgraded alarm history function The GOT can support the failure occurrence counting function, cumulative failure time totalizing function and history printing function, and start ladder monitoring with the corresponding device searched with a single keystroke at the failure detail display time.
- (7) Improvement of safety by upgraded security function
  - Supporting the operation protective function using up to 16 levels of passwords, the GOT can hide the display or disable input operation according to the password level. You can achieve hidden screens and hidden operations and easily change the display data per GOT used.
  - You can specify the time delay function (ON delay/OFF delay) of the touch switches, doublepushing switches and interlock conditions to reduce malfunctions due to wrong key pushing.
- (8) Energy saving mode using human sensor (A985GOT(-V) only)
  - The human sensor detects operators in the sensor detection area and turns the backlight ON/ OFF automatically.

The backlight can be turned off automatically if no operator motions are not detected for a given period of time. (This time can be set by the user.)

# 1.2 Requirements to meet EMC Directive

EMC Directives which are among European Directives become forced.

EMC Directives are those which require "any strong electromagnetic force is not output to the external.: Emission (electromagnetic interference)" and "It is influenced by the electromagnetic wave from the external.: Immunity (electromagnetic sensitivity)".

Items 1.2.1 thru 1.2.3 summarize the precautions to use GOT and configure the mechanical unit in order to match the EMC directives.

Though the data described herein are produced with our best on the basis of the requirement items and standards of the restrictions gathered by Mitsubishi, they do not completely guaranteed that all mechanical unit manufactured according to the data do not always match the above directives. The manufacturer itself which manufactures the mechanical unit must finally judge the method and others to match the EMC directives.

### 1.2.1 EMC Directive

Specification	Test item	Test details	Standard value
EN61000-6-4 : 2001	EN55011 Radiated noise <sup>*2</sup>	Electromagnetic emissions from the product are mea- sured.	30 M-230 MHz QP: 30 dB $\mu$ V/m (30 m in measurement range) <sup>*1</sup> 230 M-1000 MHz QP: 37 dB $\mu$ V/m (30 m in measurement range)
	EN55011 Conducted noise* <sup>2</sup>	Electromagnetic emissions from the product to the power line is measured.	Standard value30 M-230 MHz QP:30 dB $\mu$ V/m (30 m inmeasurement range) *1230 M-1000 MHz QP:37 dB $\mu$ V/m (30 m inmeasurement range)150 k-500 kHz QP:79 dB, Mean: 66 dB*1500 k-30 MHz QP:3 dB, Mean: 60 dB $\pm$ 15kV Aerial dischargePower line: 2kVDigital I/O (24V or higher): 1kV(Digital I/O (24V or less) > 250V10V/m, 26-1000 MHz,80%AM modulation@1 kHzPower line: 1kVDigital I/O (24V or higher): 1 kV
	EN61000-4-2 Electrostatic immunity* <sup>2</sup>	Immunity test in which static electricity is applied to the cabinet of the equip- ment.	$\pm$ 15kV Aerial discharge
EN61131-2 : 1994/A12	EN61000-4-4 Fast transient burst noise* <sup>2</sup>	Immunity test in which burst noise is applied to the power line and signal lines.	Power line: 2kV Digital I/O (24V or higher): 1kV (Digital I/O (24V or less) > 250V (Analog I/O, signal lines) > 250V
(2000)	EN61000-4-3 Radiated field AM modu- lation* <sup>2</sup>	Immunity test in which field is irradiated to the product.	10V/m, 26-1000 MHz, 80%AM modulation@1 kHz
	EN61000-4-12 Damped oscillatory wave immunity* <sup>2</sup>	Immunity test in which a damped oscillatory wave is superimposed on the power line.	Power line: 1kV Digital I/O (24V or higher): 1 kV

The standards of the EMC Directive are shown below.

\*1 QP: Quasi-peak value, Mean: Average value

\*2 The GOT is an open type device (device installed to another device) and must be installed in a conductive control panel.

The above test items are conducted in the condition where the GOT is installed on the conductive control panel and combined with the Mitsubishi PLC.

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#### 1.2.2 Installation inside Control Panel

The GOT is an open type device (device installed to another device) and must be installed in a conductive control panel.

It not only assure the safety but also has a large effect to shut down the noise generated from GOT, on the control panel.

- (1) Control panel
  - (a) The control panel must be conductive.
  - (b) When fixing a top or bottom plate of the control panel with bolts, do not coat the plate and bolt surfaces so that they will come into contact. And connect the door and box using a thick grounding cable in order to ensure the low impedance under high frequency.
  - (c) When using an inner plate to ensure electric conductivity with the control panel, do not coat the fixing bolt area of the inner plate and control panel to ensure conductivity in the largest area as possible.
  - (d) Ground the control panel using a thick grounding cable in order to ensure the low impedance under high frequency.
  - (e) The diameter of cable holes in the control panel must be 10cm (3.94in.). In order to reduce the chance of radio waves leaking out, ensure that the space between the control panel and its door is small as possible.

Attach some EMI gaskets to fill up the space and suppress the leakage of radio waves. Our test have been carried out on a panel having the damping characteristics of 37 dB max. and 30 dB mean (measured by 3m method with 30 to 300 MHz).

- (2) Connection of power and ground wires Ground and power supply wires for the GOT must be connected as described below.
  - (a) Provide an earthing point near the GOT. Earth the power supply's LG and FG terminals (LG : Line Ground, FG : Frame Ground) with the thickest and shortest wire possible. (The wire length must be 30cm (11.18in.) or shorter.) The LG and FG terminals function is to pass the noise generated in the PLC system to the ground, so an impedance that is as low as possible must be ensured. As the wires are used to relieve the noise, the wire itself carries a large noise content and thus short wiring means that the wire is prevented from acting as an antenna. Note) A long conductor will become a more efficient antenna at high frequency.
  - (b) The earth wire led from the earthing point must be twisted with the power supply wires. By twisting with the earthing wire, noise flowing from the power supply wires can be relieved to the earthing. However, if a filter is installed on the power supply wires, the wires and the earthing wire may not need to be twisted.

The noise filter (power supply line filter) is a device effective to reduce conducted noise. Except some models, installation of a noise filter onto the power supply lines is not necessary. However conducted noise can be reduced if it is installed. (The noise filter is generally effective for reducing conducted noise in the band of 10MHz or less.) Usage of the following filters is recommended.

Model name	FN343-3/01	FN660-6/06	ZHC2203-11
Manufacturer	SCHAFFNER	SCHAFFNER	TDK
Rated current	ЗA	6A	3A
Rated voltage	250V		

The precautions required when installing a noise filter are described below.

(1) Do not install the input and output cables of the noise filter together to prevent the output side noise will be inducted into the input side cable where noise has been eliminated by the noise filer



a) Installing the input and output cables together will cause noise induction.

b) Cable from the output cable.

(2) Connect the noise filter's ground terminal to the control panel with the shortest cable as possible (approx. 10cm (3.94in) or less).

# 1.3 Requirements for compliance with the Low Voltage Directive

The Low Voltage Directive is mandatory within Europe, effective 1st January 1997.

The Low Voltage Directive requires each device which operates with power supply ranging from 50VAC to 1000V and 75VDC to 1500V to satisfy necessary safety items.

In the Sections from 1.3.1 to 1.3.5, cautions on installation and wiring of the GOT to conform to the Low Voltage Directive requires are described.

We have put the maximum effort to develop this material based on the requirements and standards of the Directive that we have collected. However, compatibility of the devices which are fabricated according to the contents of this manual to the above Directive is not guaranteed. Each manufacturer who fabricates such device should make the final judgement about the application method of the Low Voltage Directive and the product compatibility.

#### 1.3.1 Standard subject to for GOT

The standard subject to for GOT is EN61010-1 safety of devices used in measurement rooms, control rooms, or laboratories.

#### 1.3.2 Power supply

The insulation specification of the GOT was designed assuming installation category II. Be sure to use the installation category II power supply to the GOT.

The installation category indicates the durability level against surge voltage generated by lightning strike. Category I has the lowest durability; category IV has the highest durability.



Installation Category

Category II indicates a power supply whose voltage has been reduced by two or more levels of isolating transformers from the public power distribution.

#### 1.3.3 Control Panel

Because the GOT is open type equipment (device designed to be stored within another device), be sure to use it only when installed in a control panel.

(1) Shock protection

In order to prevent those who are unfamiliar with power facility, e.g., an operator, from getting a shock, make sure to take the following measures on the control panel.

- (a) Store the GOT within the control panel locked, and allow only those who are familiar with power facility to unlock the panel.
- (b) Build the structure in order that the power supply will be shut off when the control panel is opened.
- (2) Dustproof and waterproof features

The control panel also provides protection from dust, water and ether substances. Insufficient ingression protection may lower the insulation withstand voltage, resulting in insulation destruction. The insulation in the GOT is designed to cope with the pollution level 2, so use in an environment with pollution level 2 or higher.

Pollution level 1 :	An environment where the air is dry and conductive dust does not
	exist.

Pollution level 2 : An environment where conductive dust does not usually exist, but occasional temporary conductivity occurs due to the accumulated dust.

Generally, this is the level for inside the control panel equivalent a control room or on the floor of a typical factory.

- Pollution level 3 : An environment where conductive dust exits and conductivity may be generated due to the accumulated dust. An environment for a typical factory floor.
- Pollution level 4 : Continuous conductivity may occur due to rain, snow, etc. An outdoor environment.

#### 1.3.4 Grounding

There are two kinds of grounding terminals as shown below. Both terminals must be grounded. Be sure to ground the grounding for the safety reasons and EMC Directives.

Protective grounding : Maintains the safety of the GOT and improves the noise resistance.

Functional grounding (\_\_\_\_):

Improves the noise resistance.

HANDLING

#### 1.3.5 External wiring

#### (1) External devices

When a device with a hazardous voltage circuit is externally connected to the PLC, select a model which complies with the Low Voltage Directive's requirements for isolation between the primary and secondary circuits.

#### (2) Insulation requirements

Dielectric withstand voltages are shown in the following table.

Reinforced Insulation Withstand Voltage (Installation Category II, source : IEC664)

Rated voltage of hazardous voltage area	Surge withstand voltage (1.2/50 µs)
150 VAC or below	2500V
300 VAC or below	4000V

### SYSTEM CONFIGURATION 2

This chapter explains the system configuration of the GOT.

#### 2.1 **Overall Configuration**

The overall configuration of the GOT is shown below.



\*1 For details of the system configuration, refer to the [GOT-A900 Series User's Manual (Connection System Manual)]. \*2 Only the A985GOT may be connected to the CRT. (A985GOT-V can not be used.)

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# 2.2 Component List

AppSQUT         AppSQUT         Table 31 tom (12mh) 226 over display, TF color liquid crystal, 100 to 240AC, Video/REG display supports           ABSGUT         AppSQUT         Tam (12mh) 226 over display, TF color liquid crystal, 100 to 240AC, but-in CRT interface           ABSGUT         AppSQUT         Tam (12mh) 256 over display, TF color liquid crystal, 100 to 240AC, but-in CRT interface           ABSGUT         AppSQUT         Tam (12mh) 256 over display, TF color liquid crystal, 100 to 240AC, but-in CRT interface           ABSGUT         AppSQUT         Tam (12mh) 256 over display, TF color liquid crystal, 100 to 240AC, but-in CRT interface           APSGUT         AppSQUT         Tam (12mh) 256 over display, TF color liquid crystal, 100 to 240AC, but-in CRT interface           APSGUT         AppSQUT         Tam (12mh) 256 over display, TF color liquid crystal, 100 to 240AC, but-in CRT interface           APSGUT         AppSQUT         Tam (12mh) 256 over display, TF color liquid crystal, 100 to 240AC, but-in CRT interface           APSGUT         Exem (10mh), 156 over display, TF color liquid crystal, 100 to 240AC, but-in CRT interface           APSGUT         Exem (10mh), 156 over display, TF color liquid crystal, 100 to 240AC, but-in CRT interface           APSGUT         Exem (10mh), 16 color display, TF color liquid crystal, 100 to 240AC, but-in CRT interface           APSGUT         Exem (10mh), 16 color display, ET color liquid crystal, 100 to 240AC, but-in CRT interface           APSGUT	Component	Type	Description		
A98500T-V         Tops (12)         Tops (12)         Tops (12)         Tops (12)         2400C Velocitied asping unprovided           A98500T         A98500TTEA         Tops (12)         256 color stage), TTF color liquid crystal, 100 b 240VAC, bull-in CRT interface           A98500T         A98500TTEA         Tom (12)         256 color stage), TTF color liquid crystal, 100 b 240VAC, bull-in CRT interface, EMC           A98500T         Tom (12)         256 color stage), TTF color liquid crystal, 100 b 240VAC           A97500TTED         256 m(10)         256 color stage), TTF color liquid crystal, 100 b 240VAC           A97500TTED         256 m(10)         256 color stage), TTF color liquid crystal, 24VDC           A97500TTED         256 m(10)         256 color stage), TTF color liquid crystal, 24VDC           A97500TTED         256 m(11)         256 color stage), TTF color liquid crystal, 24VDC           A97500TTED         256 m(11)         256 color stage), TTF color liquid crystal, 24VDC           A97500TTED         256 m(11)         256 color stage), TTF color liquid crystal, 100 b 24VMAC           A97500TTED         256 m(11)         256 color stage), TTF color liquid crystal, 100 b 24VMAC           A97500TTED         256 m(11)         256 color stage), TTF color liquid crystal, 100 b 24VMAC           A97500TTED         256 m(11)         256 color stage), TTF         256 color stage), TTF	Component		31cm (12inch) 256 color display. TET color liquid comptain 100 to 240\/AC. Video/PGB display supports		
ABSCOT TRAA         Storn (12001), 256 poor subject, TF code Tapid 1, 2007, Duits in CRT interface           ABSCOT TRAA         Tim (12001), 256 poor subject, TF code Tapid 1, 2007, Duits in CRT interface           ABSCOT TRAA         Tim (12001), 256 poor subject, TF code Tapid 2, 2007, Duits in CRT interface           ABSCOT TRAA         Tim (12001), 256 poor subject, TF code Tapid 2, 2007, Duits in CRT interface           ABSCOT TRAA         Ziem (10001), 256 poor subject, TF code Tapid 2, 2014           ABSCOT TRAA         Ziem (10001), 256 poor subject, TF code Tapid 2, 2014           ABSCOT TRAA         Ziem (10001), 256 poor subject, TF code Tapid 2, 2014           ABSCOT TRAA         Ziem (10001), 256 poor subject, TF code Tapid 2, 2014           ABSCOT TRAA         Ziem (10001), 256 poor subject, TF code Tapid 2, 2014           ABSCOT TRAA         Ziem (10001), 256 poor subject, TF code Tapid 2, 2014           ABSCOT TRAA         Ziem (10001), 16 poor subject, TF code Tapid 2, 2014           ABSCOT TRAA         Ziem (10001), 16 poor subject, TF code Tapid 2, 2014           ABSCOT TRAA         Ziem (10001), 16 poor subject, TF code Tapid 2, 2014           ABSCOT TRAA         Ziem (10001), 2007 subject, 2014           ABSCOT TRAA         Ziem (10001), 2007 subject, 2014           ABSCOT TRAA         Ziem (10001), 2007 subject, 2014           ABSCOT TRAA         Ziem (100010), 2007 subject, 2014	A985GOT-V		31m (12inch), 256 color display, TT color liquid crystal, 100 to 210m/to, Naconce a using supports		
A98500T A88500T-TB0 316m (15mh), 256 ooid diapsy, 11T color liquid crystal, 2400C, buffin CRT interface. EMC A98500T A98500T-TBA.EU Directive and Low Visige Directive completing product A27500TTBA.EU Completing Com			31m (12inch), 256 color display, TTT color liquid crystal, 24/06, video Kob display supports		
ABBGOT         ABBGOTIAD         2 http://initial.com/abb/strice/abb/stric/abb/strice/abb/stric/abb/strice/abb/strice/abb/st			31 m (12 inch), 256 color display, 111 color inquid crystal, 100 to 240 AG, built in CRT interface		
A98600T1RA-EU         Orden Letting, Automa phase, in a local aquad using in a local setup. Construction, Junit of Nather Header, Junit 2000, Juni 2000, Junit 2000, Junit 2000, Juni 2000, Junit 2000, Ju	A985GOT	A900GOT-TBD	21cm (12inch), 256 color display, TET color liquid crystal, 24VDC, built-in CRT interface EMC		
A9760TTBA         Decem (10mch), 286 cobor display, TFT cobor liquid crystal, 2010 2 40VAC           A9750T         A9750TTBA         28cm (10mch), 286 cobor display, TFT cobor liquid crystal, 700 2 40VAC           A9750TTBA         28cm (10mch), 286 cobor display, TFT cobor liquid crystal, 700 2 40VAC           A9750TTBA         28cm (10mch), 286 cobor display, TFT cobor liquid crystal, 700 2 40VAC           A9750TTBA         28cm (10mch), 286 cobor display, TFT cobor liquid crystal, 700 1 240VAC, EMC Directive and Low Voltage Derective compliant product           A9750TTBA         28cm (10mch), 16 cobor display, TFT cobor liquid crystal, 700 1 240VAC, EMC Directive and Low Voltage Derective compliant product           A970COTTBA         28cm (10mch), 16 cobor display, TFT cobor liquid crystal, 700 10 240VAC           A970COTTBA         28cm (10mch), 16 cobor display, TFT cobor liquid crystal, 700 10 240VAC           A970COTTBA         28cm (10mch), 16 cobor display, TFT cobor liquid crystal, 700 10 240VAC           A970COTTBA         28cm (10mch), 16 cobor display, TFT cobor liquid crystal, 700 10 240VAC           A970COTTBA         28cm (10mch), 18 cobor display, DSTN cobor liquid crystal, 700 10 240VAC           A970COTTBA         28cm (10mch), 18 cobor display, DSTN cobor liquid crystal, 700 10 240VAC           A970COTLBA         28cm (10mch), 18 cobor display, DTN cobor liquid crystal, 700 10 240VAC           A970COTLBA         28cm (10mch), 20cor display, EL 240VDC           A970COTLBA		A985GOT-TBA-EU	Directive and Low Voltage Directive compliant product		
A975COT TED         20cm (10mch), 256 coint display, TF redor liquid crystal, 24VDC           A975COT TED.4         20cm (10mch), 256 coint display, TF redor liquid crystal, 100 to 240VAC           A975COT TEA.4         20cm (10mch), 256 coint display, TF color liquid crystal, 100 to 240VAC           A975COT TEA.4         20cm (10mch), 156 coint display, TF color liquid crystal, 100 to 240VAC           A975COT TEA.4         20cm (10mch), 16 coint display, TF color liquid crystal, 100 to 240VAC           A975COT TEA.4         20cm (10mch), 16 coint display, TF color liquid crystal, 100 to 240VAC           A975COT TEA.4         20cm (10mch), 16 coint display, TF color liquid crystal, 100 to 240VAC           A975COT TEA.4         20cm (10mch), 16 coint display, TF color liquid crystal, 100 to 240VAC           A975COT TEA.4         20cm (10mch), 16 coint display, TF color liquid crystal, 100 to 240VAC           A975COT TEA.4         20cm (10mch), 16 coint display, DFT color liquid crystal, 24VDC           A975COT TEA.4         20cm (10mch), 16 coint display, DFT color liquid crystal, 24VDC           A975COT TEA.4         20cm (10mch), 16 coint display, DFT color liquid crystal, 24VDC           A975COT TEB.4         20cm (10mch), 18 noncolmons liquid crystal, 100 to 240VAC           A975COT TEB.4         20cm (10mch), 18 noncolmons liquid crystal, 100 to 240VAC           A975COT TEB.4         20cm (10mch), 20col display, E, 240DC           A975COT TEB.4         20cm (10			26cm (10inch) 256 color display TET color liquid crystal 100 to 240\/AC		
A975GOT         A975GOT*TBA-B         28cm (10mch) 286 color display, 1FT color liquid crystal, 100 b 240VAC.           A975GOT*TBA-B         28cm (10mch) 286 color display, 1FT color liquid crystal, 100 b 240VAC.           A975GOT*TBA-B         28cm (10mch) 286 color display, 1FT color liquid crystal, 100 b 240VAC.           A975GOT*TBA-B         28cm (10mch) 16 color display, 1FT color liquid crystal, 100 b 240VAC.           A975GOT*TBA-B         28cm (10mch), 16 color display, 1FT color liquid crystal, 120 b 240VAC.           A975GOT*TBA-B         28cm (10mch), 16 color display, 1FT color liquid crystal, 120 b 240VAC.           A970GOT*TBA-B         28cm (10mch), 16 color display, 1FT color liquid crystal, 120 b 240VAC.           A970GOT*TBA-B         28cm (10mch), 16 color display, 1FT color liquid crystal, 120 b 240VAC.           A970GOT*BA-B         28cm (10mch), 16 color display, 1FT color liquid crystal, 120 b 240VAC.           A970GOT-SBA-EU         28cm (10mch), 16 color display, D-STN color liquid crystal, 120 b 240VAC.           A970GOT-SBA-EU         28cm (10mch), STN monochrome liquid crystal, 100 b 240VAC.           A970GOT-LBA         28cm (10mch), STN monochrome liquid crystal, 24VDC             A960GOT-EBA <td></td> <td></td> <td>26cm (10inch), 256 color display, TT color liquid crystal, 100 to 240 VAC</td>			26cm (10inch), 256 color display, TT color liquid crystal, 100 to 240 VAC		
A975GOT         A975GOT         A975GOT-TBA-EU         Zöm (100ch), 285 color display, 1FT color liquid crystal, 24/OC           A975GOT-TBA-EU         Zöm (100ch), 285 color display, 1FT color liquid crystal, 24/OC           A975GOT-TBA-EU         Zöm (100ch), 85 color display, 1FT color liquid crystal, 24/OC           A975GOT-TBA         Zöm (100ch), 16 color display, 1FT color liquid crystal, 24/OC           A970GOT-TBA         Zöm (100ch), 16 color display, 1FT color liquid crystal, 24/OC           A970GOT-TBA-EU         Zöm (100ch), 16 color display, 1FT color liquid crystal, 24/OC           A970GOT-TBA-EU         Zöm (100ch), 16 color display, 1FT color liquid crystal, 24/OC           A970GOT-TBA-EU         Zöm (100ch), 16 color display, 1FT color liquid crystal, 24/OC           A970GOT-SBA         Zöm (100ch), 8 color display, D-STN color liquid crystal, 24/OC           A970GOT-LBA         Zöm (100ch), 8 color display, D-STN color liquid crystal, 24/OC           A970GOT-LBA         Zöm (100ch), 8 color display, D-STN color liquid crystal, 24/OC           A970GOT-LBA         Zöm (100ch), STN monochrome liquid crystal, 14/OD           A970GOT-LBA         Zöm (100ch), STN monochrome liquid crystal, 24/OC           A970GOT-LBA         Zöm (100ch), STN monochrome liquid crystal, 24/OC           A970GOT-LBA         Zöm (100ch), STN monochrome liquid crystal, 24/OC           A970GOT-LBA         Zöm (100ch), STN monochrome liquid crystal, 24/OC <td></td> <td>A975GOT TBA B</td> <td>26cm (10inch), 256 color display, TT color liquid crystal, 24VDC</td>		A975GOT TBA B	26cm (10inch), 256 color display, TT color liquid crystal, 24VDC		
A976G71-TBA-EU Sem 10mch) 255 order display. TFT color liquid crystal. 100 b 240VAC, EMC Directive and Low Voltage Directive compliant product A976G71-TBA-EU Sem (10mch). 16 color display. TFT color liquid crystal. 240VAC A970G71-TBA-EU Zem (10mch). 16 color display. TFT color liquid crystal. 240VAC A970G71-TBA-EU Zem (10mch). 16 color display. TFT color liquid crystal. 240VAC A970G71-TBA-EU Zem (10mch). 16 color display. TFT color liquid crystal. 240VAC A970G71-TBA-EU Zem (10mch). 16 color display. TFT color liquid crystal. 240VAC A970G71-TBA-EU Zem (10mch). 16 color display. TFT color liquid crystal. 240VC A970G71-TBA-EU Zem (10mch). 16 color display. TFT color liquid crystal. 100 b 240VAC. A970G71-SBA Zem (10mch). 8 color display. DTT color liquid crystal. 240VC A970G71-SBA Zem (10mch). 8 color display. DSTN color liquid crystal. 240VAC A970G71-LBA Zem (10mch). 8 color display. DSTN color liquid crystal. 100 b 240VAC. A970G71-LBA Zem (10mch). 8 color display. DSTN color liquid crystal. 100 b 240VAC. A970G71-LBA Zem (10mch). STN monochrome liquid crystal. 100 b 240VAC. A970G71-LBA Zem (10mch). STN monochrome liquid crystal. 100 b 240VAC. A970G71-LBA Zem (10mch). 2 color display. EL 100 b 240VAC. A970G71-LBA Zem (10mch). 2 color display. EL 100 b 240VAC. A960G7EEN Zem (10mch). 2 color display. EL 100 b 240VAC. A960G7EBA Zem (10mch). 2 color display. EL 100 b 240VAC. A960G7EBA Zem (10mch). 2 color display. EL 100 b 240VAC. A960G7EBA Zem (10mch). 2 color display. EL 100 b 240VAC. A960G7EBA Zem (10mch). 2 color display. EL 100 b 240VAC. A960G7EBA Zem (10mch). 2 color display. EL 100 b 240VAC. A960G7EBA Zem (10mch). 2 color display. EL 100 b 240VAC. A960G7EBA Zem (10mch). 2 color display. EL 100 b 240VAC. A960G7EBA Zem (10mch). 2 color display. EL 100 b 240VAC. A960G7EBA Zem (10mch). 2 color display. EL 100 b 240VAC. A960G7EBA Zem (10mch). 2 color display. EL 100 b 240VAC. A960G7EBA ZEM Zem (10mch). 2 color display. EL 100 b 240VAC. A960G7EBA ZEM Zem (10mch). 2 color display. EL 100 b	A975GOT	A975GOT-TBD-B	26cm (10inch), 256 color display, TFT color liquid crystal, 100 to 210 V/O		
A975G0T-TBA-EU         EMC Directive and Low Voltage Directive compliant product           A975G0T-TBA         Zéron (10nch), 16 color digely, TFT color liquid crystal, 100 to 240VAC           A970GOT-TBA-B         Zéron (10nch), 16 color digely, TFT color liquid crystal, 24/0C           A970GOT-TBA-B         Zéron (10nch), 16 color digely, TFT color liquid crystal, 24/0C           A970GOT-TBA-B         Zéron (10nch), 16 color digely, TFT color liquid crystal, 24/0C           A970GOT-TBA-B         Zéron (10nch), 16 color digely, TFT color liquid crystal, 24/0C           A970GOT-TBA-B         Zéron (10nch), 8 color digely, D-STN color liquid crystal, 24/0C           A970GOT-TBA         Zéron (10nch), 8 color digely, D-STN color liquid crystal, 100 to 240/AC,           A970GOT-TBA         Zéron (10nch), 8 color digely, D-STN color liquid crystal, 100 to 240/AC,           A970GOT-TBA         Zéron (10nch), STN monochrome liquid crystal, 100 to 240/AC,           A970GOT-TBA         Zéron (10nch), STN monochrome liquid crystal, 100 to 240/AC,           A970GOT-TBA         Zéron (10nch), STN monochrome liquid crystal, 24/DC           A970GOT-TBA         Zéron (10nch), STN monochrome liquid crystal, 100 to 240/AC,           Basonnection         A960GOT-EBA         Záro (10nch), STN monochrome liquid crystal, 24/DC           A980GOT-EBA         Záro (10nch), STN monochrome liquid crystal, 24/DC           A980GOT-EBA         Záro (10nch), STN monochrome liquid crys			26cm (10inch), 256 color display, TFT color liquid crystal, 21020		
A970GOTTED         25cm (10inch): 16 color display, TET color liquid crystal, 100 to 240VAC           A970GOTTED         25cm (10inch): 16 color display, TET color liquid crystal, 24VDC           A970GOTTED         25cm (10inch): 16 color display, TET color liquid crystal, 100 to 240VAC           A970GOTTED         25cm (10inch): 16 color display, TET color liquid crystal, 100 to 240VAC           A970GOTTEALEU         25cm (10inch): 16 color display, TET color liquid crystal, 100 to 240VAC           A970GOTTEALEU         25cm (10inch): 8 color display, D-STN color liquid crystal, 100 to 240VAC           A970GOTSED         25cm (10inch): 8 color display, D-STN color liquid crystal, 100 to 240VAC           A970GOTSED         25cm (10inch): 8 color display, D-STN color liquid crystal, 100 to 240VAC           A970GOT-BA         25cm (10inch): 8 color display, D-STN color liquid crystal, 100 to 240VAC           A970GOT-BA         25cm (10inch): STN monochrome liquid crystal, 100 to 240VAC           A970GOT-BA         25cm (10inch): STN monochrome liquid crystal, 100 to 240VAC           A970GOT-BA         25cm (10inch): STN monochrome liquid crystal, 100 to 240VAC           A970GOT-BA         25cm (10inch): STN monochrome liquid crystal, 100 to 240VAC           A970GOT-BA         25cm (10inch): STN monochrome liquid crystal, 100 to 240VAC           A970GOT-BA         25cm (10inch): STN monochrome liquid crystal, 100 to 240VAC           A960GOTEBA         25cm (10inch): C		A975GOT-TBA-EU	EMC Directive and Low Voltage Directive compliant product		
AP7060TTBD         25cm (10mch): 16 color display, TFT color liquid crystal, 24VDC           AP7060TTBD-8         25cm (10mch): 16 color display, TFT color liquid crystal, 24VDC           AP7060TTBD-8         25cm (10mch): 16 color display, TFT color liquid crystal, 24VDC           AP7060TTBD-8         25cm (10mch): 16 color display, TFT color liquid crystal, 24VDC           AP7060TSBA         25cm (10mch): 8 color display, D-STN color liquid crystal, 100 to 240VAC           AP7060TSBA         25cm (10mch): 8 color display, D-STN color liquid crystal, 100 to 240VAC           AP7060TSBA         25cm (10mch): 8 color display, D-STN color liquid crystal, 100 to 240VAC           AP7060T-BA         25cm (10mch): 8 color display, D-STN color liquid crystal, 100 to 240VAC           AP7060T-BA         25cm (10mch): STN monochrome liquid crystal, 100 to 240VAC           AP7060T-BA         25cm (10mch): STN monochrome liquid crystal, 24VDC           AP7060T-BA         25cm (10mch): STN monochrome liquid crystal, 100 to 240VAC           AP7060T-BA         25cm (10mch): 2 color display, EL, 100 to 240VAC           AP8060T         A960GOT-EBA         25cm (10mch): 2 color display, EL, 100 to 240VAC           A960GOT-EBA         25cm (10mch): 2 color display, EL, 100 to 240VAC           A960GOT-EBA         25cm (10mch): 2 color display, EL, 100 to 240VAC           A960GOT-EBA         25cm (10mch): 2 color display, EL, 100 to 240VAC           A9		A970GOT-TBA	26cm (10inch), 16 color display, TFT color liquid crystal, 100 to 240VAC		
A970GOTTBA-B         28cm (10mch), 16 color display, TFT color liquid crystal, 100 to 240VAC.           A970GOTTBA-B         28cm (10mch), 16 color display, TFT color liquid crystal, 100 to 240VAC.           A970GOTTBA-B         28cm (10mch), 16 color display, TFT color liquid crystal, 100 to 240VAC.           A970GOTSBA         22cm (10mch), 8 color display, D-STN color liquid crystal, 240DC           A970GOTSBA         22cm (10mch), 8 color display, D-STN color liquid crystal, 240DC           A970GOTLBA         28cm (10mch), 8 color display, D-STN color liquid crystal, 240DC           A970GOTLBA         28cm (10mch), 8 color display, D-STN color liquid crystal, 240DC           A970GOTLBA         28cm (10mch), STN monochrome liquid crystal, 100 to 240VAC,           A970GOTLBA         28cm (10mch), STN monochrome liquid crystal, 100 to 240VAC,           A970GOTLBA         28cm (10mch), STN monochrome liquid crystal, 100 to 240VAC,           A970GOTLBA         28cm (10mch), STN monochrome liquid crystal, 240DC           A970GOTLBA         28cm (10mch), STN monochrome liquid crystal, 100 to 240VAC,           A960GOTLBA         22cm (10mch), STN monochrome liquid crystal, 100 to 240VAC,           A960GOTLBA         22cm (10mch), STN monochrome liquid crystal, 100 to 240VAC,           A960GOTLBA         22cm (10mch), STN monochrome liquid crystal, 100 to 240VAC,           A960GOTLBA         22cm (10mch), STN monochrope liquid crystal, 100 to 240VAC,		A970GOT-TBD	26cm (10inch), 16 color display, TFT color liquid crystal, 24VDC		
A970GOT_TBD-B         25cm (10mch): 16 color display, TFT color liquid crystal, 100 to 240NAC,           A970GOT_TBA-EU         25cm (10mch): 6 color display, TFT color liquid crystal, 100 to 240NAC,           A970GOT_SBA         25cm (10mch): 6 color display, D-STN color liquid crystal, 100 to 240NAC,           A970GOT_SBA         25cm (10mch): 8 color display, D-STN color liquid crystal, 100 to 240NAC,           A970GOT_SBA         25cm (10mch): 8 color display, D-STN color liquid crystal, 100 to 240NAC,           A970GOT_SBA         25cm (10mch): 8 color display, D-STN color liquid crystal, 100 to 240NAC,           A970GOT_BD         25cm (10mch): STN monochrome liquid crystal, 100 to 240NAC,           A970GOT_BD         25cm (10mch): STN monochrome liquid crystal, 100 to 240NAC,           A970GOT_BD         25cm (10mch): STN monochrome liquid crystal, 100 to 240NAC,           A970GOT_BD         25cm (10mch): STN monochrome liquid crystal, 100 to 240NAC,           A970GOT_BD         25cm (10mch): STN monochrome liquid crystal, 100 to 240NAC,           A960GOT_EBD         25cm (10mch): 2 color display, EL: 24VDC           A960GOT_EBD         25cm (10mch): 2 color display, EL: 24VDC           A960GOT_EBD         25cm (10mch): 2 color display, EL: 24VDC           A960GOT_EBD         25cm (10mch): 5 TN monochrome liquid crystal, 100 to 240NAC,           Bus connection         A9GT-BUSS           For bus connection corecolor to CPU/Computer		A970GOT-TBA-B	26cm (10inch), 16 color display, TFT color liquid crystal, 100 to 240VAC		
A970GOT.TBA-EU         Börm (10inch), 16 color display, TFT color liquid crystal, 100 to 240VAC, EMC Directive and Low Voltage Directive compliant product           A970GOT.SBA         28cm (10inch), 8 color display, D-STN color liquid crystal, 24VDC           A970GOT.SBA-EU         Zéom (10inch), 8 color display, D-STN color liquid crystal, 24VDC           A970GOT.BBA         26cm (10inch), 8 color display, D-STN color liquid crystal, 100 to 240VAC, EMC Directive and Low Voltage Directive compliant product           A970GOT.BA         26cm (10inch), STN monochrome liquid crystal, 100 to 240VAC, EMC Directive and Low Voltage Directive compliant product           A970GOT.BA         26cm (10inch), STN monochrome liquid crystal, 100 to 240VAC, EMC Directive and Low Voltage Directive compliant product           A980GOTEB         23cm (10inch), 2 color display, EL, 100 to 240VAC, EMC Directive and Low Voltage Directive compliant product           A980GOTEBD         23cm (10inch), 2 color display, EL, 100 to 240VAC, EMC Directive and Low Voltage Directive compliant product           Bus connection         A9GT-BUSS           For bus connection, small connector type (For QCPU (Q mode))           A9GT-BUSS         For multidrop bus connection, small connector type (For QCPU (Q mode))           A9GT-BUSSS         For multidrop bus connection type (For QCPU (Q mode))           A9GT-BUSSS         For Direct connection to CPU/Computer link connection/Microcomputer connection and RS-422 connection (Without clock function)           A9GT-RS2         For Di		A970GOT-TBD-B	26cm (10inch), 16 color display, TFT color liquid crystal, 24VDC		
APROGOT         EMC Directive and Low Voltage Directive compliant product           APROGOTSB0         26cm (10inch), 8 color display, D-STN color liquid crystal, 100 to 240VAC, 28cm (10inch), 8 color display, D-STN color liquid crystal, 100 to 240VAC, EMC Directive and Low Voltage Directive compliant product           APROGOTSB0         28cm (10inch), 8 color display, D-STN color liquid crystal, 100 to 240VAC, EMC Directive and Low Voltage Directive compliant product           APROGOT-IBA-EU         28cm (10inch), STN monochrome liquid crystal, 24VDC           APROGOT-EMA-EU         28cm (10inch), STN monochrome liquid crystal, 100 to 240VAC, EMC Directive and Low Voltage Directive compliant product           APROGOT-EMA-EU         23cm (10inch), 2 color display, EL, 100 to 240VAC, EMC Directive and Low Voltage Directive compliant product           Bus connection unit         A9GT-QBUSS         For bus connection, small connector type (For QCPU (Q mode))           AGT-QBUSS         For bus connection, small connector type (For A/QnA/Molion controller CPU)           Multidrop bus connection unit         A9GT-QBUSS         For multidrop bus connection, small connector type (For A/QnA/Molion controller CPU)           Agtr-QBUSS         For multidrop bus connection to CPU/Computer link connection/Microcomputer connection and RS-422 connection (Without clock function)           Agtr-RBUSSU         For Direct connection to CPU/Computer link connection/full           Agtr-RS1         For MELSECNET/10 optical link connection/fullerocomputer connection and RS-422 connection (Without clock fun			26cm (10inch), 16 color display, TFT color liquid crystal, 100 to 240VAC,		
A970GOT         Fibre Color display, D-STN color liquid crystal, 100 to 240VAC           A970GOT-SBA         28cm (10inch), 8 color display, D-STN color liquid crystal, 100 to 240VAC           A970GOT-SBA.EU         28cm (10inch), 8 color display, D-STN color liquid crystal, 100 to 240VAC           A970GOT-SBA.EU         28cm (10inch), STN monochrome liquid crystal, 100 to 240VAC           A970GOT-BA         28cm (10inch), STN monochrome liquid crystal, 100 to 240VAC           A970GOT-BA         28cm (10inch), STN monochrome liquid crystal, 100 to 240VAC           A970GOT-BA         28cm (10inch), STN monochrome liquid crystal, 100 to 240VAC,           A970GOT-BA         23cm (10inch), S color display, EL, 100 to 240VAC,           A980GOT-BA         23cm (10inch), 2 color display, EL, 100 to 240VAC,           A980GOT-BA         23cm (10inch), 2 color display, EL, 100 to 240VAC,           Bus connection         A9GT-BUSS         For bus connection, small connector type (For ACPU (0 mode))           A960COT-BA         23cm (10inch), 2 color display, EL, 100 to 240VAC,           Exercision         A9GT-BUSS         For bus connection, small connector type (For ACQnA/Motion controller CPU)           A9GT-BUSS         For multidrop bus connection, small connector type (For A/QnA/Motion controller CPU)           A9GT-BUSS         For Direct connection to CPU/Computer link connection/Microcomputer connection and RS-422 connection (Without cock function) <td< td=""><td></td><td>A970GOT-TBA-EU</td><td>EMC Directive and Low Voltage Directive compliant product</td></td<>		A970GOT-TBA-EU	EMC Directive and Low Voltage Directive compliant product		
APROSCI         APPROGCT-SBD         28cm (10mch), 8 color display, D-STN color liquid crystal, 24VDC           APROGCT-SBA-EU         28cm (10mch), 8 color display, D-STN color liquid crystal, 100 to 240VAC,           APROGCT-SBA         28cm (10mch), STN monochrome liquid crystal, 100 to 240VAC,           APROGCT-LBA         28cm (10mch), STN monochrome liquid crystal, 100 to 240VAC,           APROGCT-BA-EU         28cm (10mch), STN monochrome liquid crystal, 100 to 240VAC,           APROGCT-BA-EU         28cm (10mch), STN monochrome liquid crystal, 24VDC           APROGCT-BA-EU         28cm (10mch), 2 color display, EL, 24VDC           APROGCT-BA         28cm (10mch), 2 color display, EL, 100 to 240VAC,           APROGCT-BA         28cm (10mch), 2 color display, EL, 100 to 240VAC,           APROGCT-BA         28cm (10mch), 2 color display, EL, 24VDC           APROGCT-BA         28cm (10mch), 2 color display, EL, 100 to 240VAC,           APROGCT-BA         28cm (10mch), 2 color display, EL, 100 to 240VAC,           APROGCT-BA         28cm (10mch), 2 color display, EL, 100 to 240VAC,           APROGCT-BA         28cm (10mch), 2 color display, EL, 100 to 240VAC,           APROGCT-BA         28cm (10mch), 2 color display, EL, 100 to 240VAC,           APROGCT-BA         28cm (10mch), 2 color display, EL, 100 to 240VAC,           APROGCT-BA         APROGCT-BUSS           Bus connection	A070COT	A970GOT-SBA	26cm (10inch), 8 color display, D-STN color liquid crystal, 100 to 240VAC		
A970GOT-SBA-EU         Secm (10inch), 8 color display, D-STN color liquid crystal, 100 to 240VAC, EMC 001age Directive and Low Voltage Directive compliant product           A970GOT-LBA         28cm (10inch), STN monochrome liquid crystal, 100 to 240VAC, A970GOT-LBA           A970GOT-LBA         28cm (10inch), STN monochrome liquid crystal, 100 to 240VAC, A970GOT-LBA           A980GOT-BA         28cm (10inch), STN monochrome liquid crystal, 100 to 240VAC, A970GOT-LBA           A980GOT-BD         28cm (10inch), Z color display, EL, 100 to 240VAC, A980GOT-BD           A980GOT-BD         28cm (10inch), Z color display, EL, 100 to 240VAC, A980GOT-BD           A980GOT-BD         28cm (10inch), Z color display, EL, 100 to 240VAC, EMC Directive and Low Voltage Directive compliant product           Bus connection         A9GT-BUSS         For bus connection, small connector type (For QCPU (Q mode))           Bus connection         A9GT-BUSS2         For multidrop bus connection, small connector type (For A/QnA/Motion controller CPU)           Multidrop bus connection until         A9GT-BUS2S         For multidrop bus connection, small connector type (For A/QnA/Motion controller CPU)           Serial communication board         A9GT-RS2         For Direct connection to CPU/Computer link connection/Microcomputer connection and RS-432C connection (fucorporating clock function)           A9GT-RS2         For MiLSECNET(10 optical link connection, for use as local station           A7GT-J71A23B         For MELSECNET(10 optical lon petwork connecti	ASTUGUT	A970GOT-SBD	26cm (10inch), 8 color display, D-STN color liquid crystal, 24VDC		
ABGO Notice EMC Directive and Low Voltage Directive compliant product           AB70GOT-LBA         28cm (10inch), STN monochrome liquid crystal, 100 to 240VAC,           AB70GOT-LBA-EU         28cm (10inch), STN monochrome liquid crystal, 100 to 240VAC,           AB60GOT         AB60GOT-EBA         28cm (10inch), STN monochrome liquid crystal, 100 to 240VAC,           AB60GOT         AB60GOT-EBA         28cm (10inch), Z outor display, EL, 24VDC           AB60GOT         AB60GOT-EBA         28cm (10inch), Z outor display, EL, 24VDC           Bus connection         A9GT-BUSS         For bus connection read Low Voltage Directive compliant product           Bus connection         A9GT-BUSS         For bus connection, small connector type (For ACPU (Q mode))           Multidrop bus connection and RS-422         For multidrop bus connection for CPU/Computer link connection/Microcomputer connection and RS-422 connection           Multidrop bus connection to CPU/Computer link connection/Microcomputer connection and RS-422 connection         For Direct connection to CPU/Computer link connection/Microcomputer connection and RS-422 connection           AgGT-RS2         For Direct connection to CPU/Computer link connection/Microcomputer connection and RS-422 connection		A970GOT-SBA-EU	26cm (10inch), 8 color display, D-STN color liquid crystal, 100 to 240VAC,		
A970GOT-LBA         28cm (10inch), STN monochrome liquid crystal, 100 to 240VAC           A970GOT-LBA         28cm (10inch), STN monochrome liquid crystal, 100 to 240VAC,           A970GOT-LBA-EU         28cm (10inch), STN monochrome liquid crystal, 100 to 240VAC,           A960GOT         23cm (9inch), 2 color display, EL, 100 to 240VAC,           A960GOT-EBA         23cm (9inch), 2 color display, EL, 100 to 240VAC,           A960GOT-EBA         23cm (9inch), 2 color display, EL, 100 to 240VAC,           A960GOT-EBA         23cm (9inch), 2 color display, EL, 100 to 240VAC,           Bus connection         A9GT-BUSS           A961F-BUSS         For bus connection, small connector type (For A/CnA/Motion controller CPU)           Willidrop bus         A9GT-BUSS2           Connection unit         A9GT-BUSS2           Multidrop bus         For multidrop bus connection, small connector type (For A/OnA/Motion controller CPU)           Multidrop bus         A9GT-RS2           Connection unit         A9GT-RS2           A9GT-RS2         For multidrop bus connection to CPU/Computer link connection/Microcomputer connection and RS-422 connection           Multidrop bus         A9GT-RS2           Connection unit         A9GT-RS2           A9GT-RS2         For Direct connection to CPU/Computer link connection/Microcomputer connection and RS-232C connection           Multidrop bus		A970GOT-SBA-LU	EMC Directive and Low Voltage Directive compliant product		
A970GOT-LBD         28cm (10inch), STN monochrome liquid crystal, 24VDC           A970GOT-LBA-EU         28cm (10inch), STN monochrome liquid crystal, 24VDC           A980GOT         A960GOT-EBA         23cm (9inch), 2 color display, EL, 100 to 240VAC           A960GOT         A960GOT-EBA         23cm (9inch), 2 color display, EL, 24VDC           A960GOT-EBA         23cm (9inch), 2 color display, EL, 24VDC           A960GOT-EBA-EU         EMC Directive and Low Voltage Directive compliant product           Bus connection         A9GT-QBUSS         For bus connector, small connector type (For ACPU (Q mode))           A9GT-BUSSU         For bus connection, small connector type (For A/QnA/Motion controller CPU)           Multidrop bus         A9GT-BUSS2         For multidrop bus connection, small connector type (For A/QnA/Motion controller CPU)           Multidrop bus         A9GT-BUSS2         For multidrop bus connection to CPU/Computer link connection/Microcomputer connection and RS-422 connection (Without clock function)           Serial         A9GT-RS4         For Direct connection to CPU/Computer link connection/Microcomputer connection and RS-422 connection (Without clock function)           A9GT-RS2         For MELSECNET(10 optical link connection, for use as local station           A9GT-RS4         For Direct connection to CPU/Computer link connection, for use as normal station*1           A9GT-QT11P23         For MELSECNET(10 optical link connection, for use as normal stati		A970GOT-LBA	26cm (10inch), STN monochrome liquid crystal, 100 to 240VAC		
A970GOT-LBA-EU         28cm (10inch), STN monochrome liquid crystal, 100 to 240VAC, EMC Voreque and Low Voltage Directive compliant product           A960GOT         A660GOT-EBA         23cm (9inch), 2 color display, EL, 24VDC           A960GOT-EBA-EU         23cm (9inch), 2 color display, EL, 100 to 240VAC, EMC Directive and Low Voltage Directive compliant product           Bus connection         A9GT-GBUSS         For bus connection, small connector type (For QCPU (Q mode))           AvgT-BUSS         For bus connection, small connector type (For A/QnA/Motion controller CPU) unit           Multidrop bus connection badrd         A9GT-BUSSU         For multidrop bus connection, small connector type (For A/QnA/Motion controller CPU)           Multidrop bus connection unit         A9GT-BUSSU         For multidrop bus connection, small connector type (For A/QnA/Motion controller CPU)           Serial communication board         A9GT-RS2         For multidrop bus connection to CPU/Computer link connection/Microcomputer connection and RS-422 connection (Without clock function)           A9GT-RS2         For Direct connection to CPU/Computer link connection/Microcomputer connection and RS-232C connection (Without clock function)           A9GT-RS2         For MELSECNET(10 optical link connection, for use as local station (ArGT-J71AF23           A9GT-QJ71BR13         For MELSECNET(10 optical link connection, for use as normal station*1 A7GT-J71AF23           A9GT-QJ71BR13         For MELSECNET(10 coaxial bus network connection, for use as normal station*1 A7GT-J71B		A970GOT-LBD	26cm (10inch), STN monochrome liquid crystal, 24VDC		
Asebcorr         EMC Directive and Low Voltage Directive compliant product           Asebcorr         Asebcorr         Asebcorr         Asebcorr         Asebcorr         Asebcorr         Asebcorr         Asebcorr         Directive and Low Voltage Directive compliant product           Asebcorr         Asebcorr         Asebcorr         Directive and Low Voltage Directive compliant product           Bus connection         AsGT-QBUSS         For bus connection, small connector type (For QCPU (Q mode))           AsGT-BUSS         For bus connection, small connector type (For A/QnA/Motion controller CPU)           Multidrop bus connection and RS-BUSSU         For multidrop bus connection, small connector type (For A/QnA/Motion controller CPU)           AsGT-BUSS         For multidrop bus connection, small connector type (For A/QnA/Motion controller CPU)           AsGT-BUSSU         For multidrop bus connection to CPU/Computer link connection/Microcomputer connection and RS-422 connection (Without clock function)           Connection unit         AsGT-RS2         For Direct connection to CPU/Computer link connection/Microcomputer connection and RS-232C connection (Without clock function)           AsgT-RS2         For MELSECNET(II) optical link connection, for use as local station           ArGT-TJ71AP23         For MELSECNET(II) optical link connection, for use as normal station*1           ArGT-J71HP23         For MELSECNET/10 optical loop network connection, for use as normal station*1		A970GOT-I BA-EU	26cm (10inch), STN monochrome liquid crystal, 100 to 240VAC,		
A960GOT         A960GOT-EBA         23cm (9inch), 2 color display, EL, 100 to 240VAC           A960GOT-EDD         23cm (9inch), 2 color display, EL, 24VCC         A960GOT-EDA-EU         23cm (9inch), 2 color display, EL, 100 to 240VAC, EMC Directive and Low Voltage Directive compliant product           Bus connection board         A9GT-BUSS         For bus connection, small connector type (For A/QnA/Motion controller CPU)           Multidrop bus connection unit         A9GT-BUSS         For bus connection, small connector type (For A/QnA/Motion controller CPU)           Multidrop bus connection unit         A9GT-BUSS         For multidrop bus connection, small connector type (For A/QnA/Motion controller CPU)           Multidrop bus connection unit         A9GT-RS2         For multidrop bus connection to CPU/Computer link connection/Microcomputer connection and RS-422 connection (Without clock function)           Serial commination board         A9GT-RS2         For Direct connection to CPU/Computer link connection/Microcomputer connection and RS-232C connection (Without clock function)           A9GT-RS2         For MELSECNET(II) optical link connection, for use as local station           A7GT-J71AP23         For MELSECNET(II) optical link connection, for use as normal station*1           A7GT-QT14P23         For MELSECNET/IO optical loop network connection, for use as normal station*1           A7GT-J71AP23         For MELSECNET/IO optical loop network connection, for use as normal station*1           A7GT-J71AP33         For MEL			EMC Directive and Low Voltage Directive compliant product		
A960GOT         A960GOT-EBD         23cm (Binch), 2 color display, EL, 24/DC           A960GOT         A960GOT-EBA-EU         Zam (Binch), 2 color display, EL, 100 to 240VAC, EMC Directive and Low Voltage Directive compliant product           Bus connection         A9GT-QBUSS         For bus connection, small connector type (For QCPU (Q mode))           Multidrop bus connection         A9GT-BUSSE         For bus connection, small connector type (For A/QnA/Motion controller CPU)           Multidrop bus connection unit         A9GT-BUSSE         For multidrop bus connection, small connector type (For A/QnA/Motion controller CPU)           Multidrop bus connection unit         A9GT-BUSSE         For multidrop bus connection, small connector type (For A/QnA/Motion controller CPU)           Connection unit         A9GT-BUSSE         For multidrop bus connection to CPU/Computer link connection/Microcomputer connection and RS-422 connection (Without clock function)           Octimation and board         A9GT-RS2         For Direct connection to CPU/Computer link connection/Microcomputer connection and RS-232C connection (Mithout clock function)           A9GT-RS2         For MELSECNET/I(I) optical link connection, for use as local station           A7GT-J71AP23         For MELSECNET/I0 coaxial luik nonnection, for use as normal station*1           A7GT-J71LP23         For MELSECNET/I0 optical loop network connection, for use as normal station*1           A9GT-GUT1P33         For MELSECNET/I0 optical loop network connection, for use as nor		A960GOT-EBA	23cm (9inch), 2 color display, EL, 100 to 240VAC		
A960GOT-EBA-EU         23cm (Binch), 2 color display, EL, 100 D 240/AC, EMC Directive and Low Voltage Directive compliant product           Bus connection         A9GT-QBUSS         For bus connection, small connector type (For QCPU (Q mode))           A9GT-BUSS         For bus connection, small connector type (For A/QnA/Motion controller CPU)           Multidrop bus connection         A9GT-BUSS         For bus connection, small connector type (For QCPU (Q mode))           A9GT-BUSS         For multidrop bus connection, small connector type (For A/QnA/Motion controller CPU)           Multidrop bus connection unit         A9GT-BUS2S         For multidrop bus connection to CPU/Computer link connection/Microcomputer connection and RS-422 connection (Without clock function)           Serial communication board         A9GT-RS4         For Direct connection to CPU/Computer link connection/Microcomputer connection and RS-232C connection (Without clock function)           A9GT-RS2         For MELSECNET/I(I) optical link connection, for use as local station           A7GT-J71AP23         For MELSECNET/I0 coaxial lux network connection, for use as normal station*1           A7GT-J711P23         For MELSECNET/I0 optical loop network connection, for use as normal station*1           A7GT-J711P23         For MELSECNET/I0 optical loop network connection, for use as normal station*1           A7GT-J711P33         For MELSECNET/I0 optical loop network connection, for use as normal station*1           A7GT-J711P33         For MELSECNET/I0 optical l	A960GOT	A960GOT-EBD	23cm (9inch), 2 color display, EL, 24VDC		
Bus connection board         A9GT-QBUSS         For bus connection, small connector type (For QCPU (Q mode))           Bus connection board         A9GT-BUSS         For bus connection, small connector type (For QCPU (Q mode))           Bus connection board         A9GT-QBUS2S         For multidrop bus connection, small connector type (For QCPU (Q mode))           A9GT-BUS2S         For multidrop bus connection, small connector type (For A/QnA/Motion controller CPU)           A9GT-BUS2S         For multidrop bus connection, small connector type (For A/QnA/Motion controller CPU)           A9GT-BUS2S         For multidrop bus connection to CPU/Computer link connection/Microcomputer connection and RS-422 connection (Without clock function)           Serial communication board         A9GT-RS2         For Direct connection to CPU/Computer link connection/Microcomputer connection and RS-232C connection (Without clock function)           A9GT-RS2         For Direct connection to CPU/Computer link connection/Microcomputer connection and RS-232C connection (Incorporating clock function)           Data link unit         A7GT-J71AP23         For MELSECNET(II) optical link connection, for use as local station           A7GT-J71AP23         For MELSECNET/II conaxial link connection, for use as normal station*1           A7GT-J71AP23         For MELSECNET/I0 optical loop network connection, for use as normal station*1           A7GT-J71BR13         For MELSECNET/I0 coaxial bus network connection, for use as normal station*1           A7GT-J71BR1		A960GOT-EBA-EU	23cm (9inch), 2 color display, EL, 100 to 240VAC,		
Bus connection         AgG1-QBUSS         For bus connection, small connector type (For QCPU (Q mode))           board         AgG1-BUSS         For bus connection, small connector type (For A/QnA/Motion controller CPU)           Multidrop bus connection         AgG1-BUSS         For multidrop bus connection, small connector type (For A/QnA/Motion controller CPU)           Multidrop bus connection unit         AgG1-BUSSS         For multidrop bus connection, small connector type (For A/QnA/Motion controller CPU)           Multidrop bus connection unit         AgG1-RS2         For multidrop bus connection to CPU/Computer link connection/Microcomputer connection and RS-422 connection (Without clock function)           Serial communication         AgG1-RS2         For Direct connection to CPU/Computer link connection/Microcomputer connection and RS-232C connection (Without clock function)           AgG1-RS2         For MELSECNET(II) optical link connection, for use as local station           ArG1-J71AP23         For MELSECNET(II) optical link connection, for use as local station           ArG1-J71AP23         For MELSECNET(II) coaxial link connection, for use as normal station*1           AgG1-QL71IP23         For MELSECNET/10 optical loop network connection, for use as normal station*1           AgG1-J71BR13         For MELSECNET/10 optical loop network connection, for use as normal station*1           AG1-J71BR13         For C-Link connection, for use as normal station*1           AgG1-J71E71-T         For ElseCNET/					
basid         AgGT-BUSS           Bus connection unit         AgGT-BUSSU         For bus connection, small connector type (For A/QnA/Motion controller CPU)           Multitorp bus connection board         AgGT-QBUS2S         For multidrop bus connection, small connector type (For A/QnA/Motion controller CPU)           AgGT-BUS2S         For multidrop bus connection, small connector type (For A/QnA/Motion controller CPU)           AgGT-RS4         For Direct connection to CPU/Computer link connection/Microcomputer connection and RS-422 connection (Without clock function)           AgGT-RS2         For Direct connection to CPU/Computer link connection/Microcomputer connection and RS-232C connection (Without clock function)           AgGT-RS2         For Direct connection to CPU/Computer link connection/Microcomputer connection and RS-232C connection (Without clock function)           AgGT-RS2         For Direct connection to CPU/Computer link connection/Microcomputer connection and RS-232C connection (Without clock function)           AgGT-RS2         For MELSECNET(II) optical link connection, for use as local station           ArGT-J71AP23         For MELSECNET(II) coaxial link connection, for use as normal station*1           AgGT-QJ71LP23         For MELSECNET/10 optical loop network connection, for use as normal station*1           AgGT-QJ71BR13         For MELSECNET/10 optical loop network connection, for use as normal station*1           AgGT-J71LP23         For MELSECNET/10 optical loop network connection, for use as normal station*1 </td <td>Bus connection</td> <td>A9GT-QBUSS</td> <td>For bus connection, small connector type (For QCPU (Q mode))</td>	Bus connection	A9GT-QBUSS	For bus connection, small connector type (For QCPU (Q mode))		
Bus connection unit         A9GT-BUSSU         For bus connection, small connector type (For A/QnA/Motion controller CPU)           Multidrop bus connection board         A9GT-BUS2S         For multidrop bus connection, small connector type (For QCPU (Q mode))           Multidrop bus connection unit         A9GT-BUS2S         For multidrop bus connection, small connector type (For A/QnA/Motion controller CPU)           Multidrop bus connection unit         A9GT-BUS2SU         For multidrop bus connection, small connector type (For A/QnA/Motion controller CPU)           Serial communication         A9GT-RS2         For Direct connection to CPU/Computer link connection/Microcomputer connection and RS-422 connection (Without clock function)           A9GT-RS2         For Direct connection to CPU/Computer link connection/Microcomputer connection and RS-232C connection (Incorporating clock function)           A9GT-RS2T         For MELSECNET(II) optical link connection, for use as local station           A7GT-J71AP23         For MELSECNET(II) coaxial link connection, for use as local station           A7GT-J71AP23         For MELSECNET/10 optical loop network connection, for use as normal station*1           A7GT-J71AP23         For MELSECNET/10 optical loop network connection, for use as normal station*1           A7GT-J71AP23         For MELSECNET/10 optical loop network connection, for use as normal station*1           A7GT-J71AP23         For MELSECNET/10 optical loop network connection, for use as normal station*1           A9GT-A071	board	A9GT-BUSS			
Multidrop bus connection         A9GT-QBUS2S         For multidrop bus connection, small connector type (For QCPU (Q mode))           AgGT-BUS2S         A         For multidrop bus connection, small connector type (For A/QnA/Motion controller CPU)           Multidrop bus connection unit         A9GT-BUS2SU         For Direct connection to CPU/Computer link connection/Microcomputer connection and RS-422 connection (Without clock function)           Serial communication board         A9GT-RS4         For Direct connection to CPU/Computer link connection/Microcomputer connection and RS-232C connection (Without clock function)           A9GT-RS2         For Direct connection to CPU/Computer link connection/Microcomputer connection and RS-232C connection (Incorporating clock function)           Data link unit         A7GT-J71AP23         For MELSECNET(II) optical link connection, for use as local station A7GT-J71AP23           Por MELSECNET/ID optical link connection, for use as normal station*1         A7GT-J71AP23           A9GT-QJ71LP23         For MELSECNET/IO optical loop network connection, for use as normal station*1           A7GT-J71AP13         For MELSECNET/IO coaxial bus network connection, for use as normal station*1           A9GT-QJ71LP23         For MELSECNET/IO coaxial bus network connection, for use as normal station*1           AGT-J71AP1         For MELSECNET/IO coaxial bus network connection, for use as normal station*1           AGT-J71AP1         For MELSECNET/IO coaxial bus network connection, for use as normal station*1	Bus connection unit	A9GT-BUSSU	For bus connection, small connector type (For A/QnA/Motion controller CPU)		
connection board         A9GT-BUS2S           Multidrop bus connection unit         A9GT-BUS2SU           For multidrop bus connection unit         A9GT-RS4           A9GT-RS2         For Direct connection to CPU/Computer link connection/Microcomputer connection and RS-422 connection (Without clock function)           Serial communication board         A9GT-RS2           A9GT-RS2         For Direct connection to CPU/Computer link connection/Microcomputer connection and RS-232C connection (Without clock function)           A9GT-RS2T         For Direct connection to CPU/Computer link connection/Microcomputer connection and RS-232C connection (Incorporating clock function)           Data link unit         A7GT-J71AP23           A7GT-J71AP23         For MELSECNET(II) optical link connection, for use as local station           A7GT-J71AP23         For MELSECNET(II) coaxial link connection, for use as normal station*1           A7GT-J71AP23         For MELSECNET(II) coaxial bus network connection, for use as normal station*1           A9GT-Q711LP23         For MELSECNET/10 optical loop network connection, for use as normal station*1           A7GT-J71AR13         For MELSECNET/10 coaxial bus network connection, for use as normal station*1           A7GT-J71BR13         For MELSECNET/10 coaxial bus network connection, for use as normal station*1           A7GT-J71BR13         For C-Link connection, for use as normal station*1           A7GT-J71BR13         For C-Link conn	Multidrop bus	A9GT-QBUS2S	For multidrop bus connection, small connector type (For QCPU (Q mode))		
Data         Instruction         For multidrop bus connection unit         For multidrop bus connection unit           Multidrop bus connection unit         A9GT-BUS2SU         For Direct connection to CPU/Computer link connection/Microcomputer connection and RS-422 connection (Without clock function)           Serial communication board         A9GT-RS2         For Direct connection to CPU/Computer link connection/Microcomputer connection and RS-232C connection (Without clock function)           A9GT-RS2         For Direct connection to CPU/Computer link connection/Microcomputer connection and RS-232C connection (Incorporating clock function)           Data link unit         A7GT-J71AP23         For MELSECNET(II) optical link connection, for use as local station A7GT-J71AP23           Por MELSECNET/I0 optical loop network connection, for use as normal station*1         For MELSECNET/10 optical loop network connection, for use as normal station*1           Network unit         A7GT-J71BR13         For MELSECNET/10 optical loop network connection, for use as normal station*1           A7GT-J71BR13         For MELSECNET/10 optical loop network connection, for use as normal station*1           A7GT-J71BR13         For MELSECNET/10 optical loop network connection, for use as normal station*1           A7GT-J71BR13         For CC-Link connection, for use as intelligent device station           communication unit         A9GT-J71E71-T         For Ethernet connection for use as remote device station           communication unit         A9GT-BOPSC<	connection	A9GT-BUS2S			
Nutliding bus connection unit         A9GT-BUS2SU         For Direct connection to CPU/Computer link connection/Microcomputer connection and RS-422 connection (Without clock function)           Serial communication board         A9GT-RS4         For Direct connection to CPU/Computer link connection/Microcomputer connection and RS-232C connection (Without clock function)           A9GT-RS2         For Direct connection to CPU/Computer link connection/Microcomputer connection and RS-232C connection (Mithout clock function)           Data link unit         A7GT-J71AP23         For MELSECNET(II) optical link connection, for use as local station           A7GT-J71AP23         For MELSECNET(II) optical link connection, for use as local station           A7GT-J71AP23         For MELSECNET(II) optical loop network connection, for use as normal station*1           A9GT-QJ71LP23         For MELSECNET/10 optical loop network connection, for use as normal station*1           A9GT-QJ71BR13         For MELSECNET/10 optical loop network connection, for use as normal station*1           A7GT-J71BR13         For MELSECNET/10 optical loop network connection, for use as normal station*1           A7GT-J71BR13         For MELSECNET/10 optical loop network connection, for use as normal station*1           A7GT-J71BR13         For CC-Link connection, for use as intelligent device station           communication unit         A8GT-J61BT15         For CC-Link connection, for use as remote device station           CC-Link communication unit         A9GT-J71E	Disou	1001 20020	For multidrop bus connection, small connector type (For A/QnA/Motion controller CPU)		
Connection duit         A9GT-RS4         For Direct connection to CPU/Computer link connection/Microcomputer connection and RS-422 connection (Without clock function)           Serial communication board         A9GT-RS2         For Direct connection to CPU/Computer link connection/Microcomputer connection and RS-232C connection (Without clock function)           A9GT-RS2T         For Direct connection to CPU/Computer link connection/Microcomputer connection and RS-232C connection (Incorporating clock function)           Data link unit         A7GT-J71AP23         For MELSECNET(II) optical link connection, for use as local station           A7GT-J71AP23         For MELSECNET(II) coaxial link connection, for use as local station           A7GT-J71AP23         For MELSECNET(II) coaxial link connection, for use as normal station*1           A7GT-J71AP23         For MELSECNET/IO optical loop network connection, for use as normal station*1           Network unit         A9GT-QJ71BP13         For MELSECNET/IO optical loop network connection, for use as normal station*1           A9GT-J71BP13         For MELSECNET/IO optical loop network connection, for use as normal station*1           A7GT-J71BP13         For MELSECNET/IO coaxial bus network connection, for use as normal station*1           A7GT-J71BP13         For MELSECNET/IO coaxial bus network connection, for use as normal station*1           A7GT-J71BP13         For CC-Link connection, for use as normal station*1           CC-Link         A9GT-J71E71         For Ethernet co	Multidrop bus	A9GT-BUS2SU			
Serial communication board         A9GT-RS2         (Without clock function) For Direct connection to CPU/Computer link connection/Microcomputer connection and RS-232C connection (Without clock function)           A9GT-RS2         For Direct connection to CPU/Computer link connection/Microcomputer connection and RS-232C connection (Incorporating clock function)           Data link unit         A7GT-J71AP23         For MELSECNET(II) optical link connection, for use as local station           A7GT-J71AP23         For MELSECNET(II) coaxial link connection, for use as local station           A7GT-J71AP23         For MELSECNET(II) coaxial link connection, for use as local station           A7GT-J71AP23         For MELSECNET/10 optical loop network connection, for use as normal station*1           A9GT-QJ71BP13         For MELSECNET/10 optical loop network connection, for use as normal station*1           A9GT-J71BP13         For MELSECNET/10 optical loop network connection, for use as normal station*1           A7GT-J71BP13         For MELSECNET/10 coaxial bus network connection, for use as normal station*1           A7GT-J71BP13         For MELSECNET/10 coaxial bus network connection, for use as normal station*1           A7GT-J71BP13         For MELSECNET/10 coaxial bus network connection, for use as normal station*1           A7GT-J71BP13         For C-Link connection, for use as remote device station           communication unit         A8GT-J61BT15         For C-Link connection, for use as remote device station		A9GT-RS4	For Direct connection to CPU/Computer link connection/Microcomputer connection and RS-422 connection		
communication boardA9GT-RS2For Direct connection to CPU/Computer link connection/Microcomputer connection and RS-232C connection (Without clock function)A9GT-RS2TFor Direct connection to CPU/Computer link connection/Microcomputer connection and RS-232C connection (Incorporating clock function)Data link unitA7GT-J71AP23For MELSECNET(II) optical link connection, for use as local station A7GT-J71AP23Network unitA9GT-QJ71BR13For MELSECNET/I0 coaxial link connection, for use as local station A7GT-J71BR13Network unitA9GT-QJ71BR13For MELSECNET/I0 coaxial bus network connection, for use as normal station*1 A7GT-J71LP23CC-Link communication unitA8GT-J61BT13For CC-Link connection, for use as intelligent device station A8GT-J61BT15CC-Link communication unitA9GT-J71E71-TFor CC-Link connection, for use as remote device stationProtective sheetA9GT-J71E71-TFor Ethernet connection For Ctrus sheet for A985GOT(-V), MITSUBISHI logotype can be removed. A9GT-OPSCProtective sheet for A960GOT, MITSUBISHI logotype can be removed.A9GT-OPSC	Serial		(Without clock function)		
board         (Without clock function)           A9GT-RS2T         For Direct connection to CPU/Computer link connection/Microcomputer connection and RS-232C connection (Incorporating clock function)           Data link unit         A7GT-J71AP23         For MELSECNET(II) optical link connection, for use as local station           A7GT-J71AP23         For MELSECNET(II) coaxial link connection, for use as local station           A7GT-J71AP23         For MELSECNET/IB connection, for use as local station           A7GT-J71AP23         For MELSECNET/ID coaxial link connection, for use as normal station*1           A9GT-QJ71LP23         For MELSECNET/IO optical loop network connection, for use as normal station*1           A9GT-J71AP23         For MELSECNET/IO coaxial bus network connection, for use as normal station*1           A9GT-J71BR13         For MELSECNET/IO coaxial bus network connection, for use as normal station*1           A7GT-J71BR13         For MELSECNET/IO coaxial bus network connection, for use as normal station*1           A7GT-J71BR13         For CC-Link connection, for use as intelligent device station           CC-Link communication unit         A8GT-J61BT15         For CC-Link connection, for use as remote device station           CC-Link communication unit         A9GT-J71E71-T         For Ethernet connection           unit         A9GT-J71E71-T         For Ethernet connection           Protective sheet         A9GT-30PSC         Transpar	communication	A9GT-RS2	For Direct connection to CPU/Computer link connection/Microcomputer connection and RS-232C connection		
A9GT-RS2TFor Direct diffection to CP of one computer with commercial match RS-232C commercial in the commercial match RS-232C commercial match	board		(Williout Clock fullcion)		
ArGT-J71AP23         For MELSECNET(II) optical link connection, for use as local station           Data link unit         ArGT-J71AP23         For MELSECNET(II) coaxial link connection, for use as local station           ArGT-J71AP23         For MELSECNET(II) coaxial link connection, for use as local station           ArGT-J71AP23         For MELSECNET/I0 coaxial link connection, for use as local station           ArGT-J71AP23         For MELSECNET/I0 optical loop network connection, for use as normal station*1           A9GT-QJ71BR13         For MELSECNET/10 coaxial bus network connection, for use as normal station*1           ArGT-J71BR13         For MELSECNET/10 optical loop network connection, for use as normal station*1           ArGT-J71BR13         For MELSECNET/10 coaxial bus network connection, for use as normal station*1           CC-Link         ArGT-J61BT13         For CC-Link connection, for use as intelligent device station           unit         A8GT-J61BT15         For CC-Link connection, for use as remote device station           ethernet         A9GT-J71E71-T         For Ethernet connection           unit         A9GT-S0PSC         Transparent protective sheet for A985GOT(-V), MITSUBISHI logotype can be removed.           Protective sheet         A9GT-F0PSC         Transparent protective sheet for A985GOT(-V), MITSUBISHI logotype can be removed.		A9GT-RS2T	(Incorporating clock function)		
Data link unit         ArGT-J71AR23         For MELSECNET(I) coaxial link connection, for use as local station           A7GT-J71AR23         For MELSECNET/ID coaxial link connection, for use as local station           A7GT-J71AR23         For MELSECNET/ID coaxial link connection, for use as normal station*1           A9GT-QJ71LP23         For MELSECNET/10 optical loop network connection, for use as normal station*1           A9GT-QJ71BR13         For MELSECNET/10 coaxial bus network connection, for use as normal station*1           A7GT-J71LP23         For MELSECNET/10 coaxial bus network connection, for use as normal station*1           A7GT-J71LP23         For MELSECNET/10 coaxial bus network connection, for use as normal station*1           A7GT-J71BR13         For MELSECNET/10 coaxial bus network connection, for use as normal station*1           A7GT-J71BR13         For CC-Link connection, for use as intelligent device station           CC-Link         A8GT-J61BT15         For CC-Link connection, for use as remote device station           entimet         A8GT-J71E71-T         For Ethernet connection           unit         A9GT-80PSC         Transparent protective sheet for A985GOT(-V), MITSUBISHI logotype can be removed.           A9GT-60PSC         Transparent protective sheet for A960GOT, MITSUBISHI logotype can be removed.		A7GT-J71AP23	For MELSECNET(II) ontical link connection for use as local station		
A7GT-J71AT23B         For MELSECNET/B connection, for use as local station           A9GT-QJ71LP23         For MELSECNET/10 optical loop network connection, for use as normal station*1           A9GT-QJ71LP23         For MELSECNET/10 coaxial bus network connection, for use as normal station*1           A7GT-J71LP23         For MELSECNET/10 coaxial bus network connection, for use as normal station*1           A7GT-J71LP23         For MELSECNET/10 coaxial bus network connection, for use as normal station*1           A7GT-J71BR13         For MELSECNET/10 coaxial bus network connection, for use as normal station*1           A7GT-J71BR13         For MELSECNET/10 coaxial bus network connection, for use as normal station*1           CC-Link         A8GT-J61BT13         For CC-Link connection, for use as intelligent device station           unit         A8GT-J61BT15         For CC-Link connection, for use as remote device station           Ethernet         A9GT-J71E71-T         For Ethernet connection           unit         A9GT-80PSC         Transparent protective sheet for A985GOT(-V), MITSUBISHI logotype can be removed.           A9GT-70PSC         Transparent protective sheet for A975/970GOT, MITSUBISHI logotype can be removed.           A9GT-60PSC         Transparent protective sheet for A960GOT, MITSUBISHI logotype can be removed.	Data link unit	A7GT-J71AR23	For MELSECNET(II) coaxial link connection, for use as local station		
Network unit         A9GT-QJ71LP23         For MELSECNET/10 optical loop network connection, for use as normal station*1           A9GT-QJ71BR13         For MELSECNET/10 coaxial bus network connection, for use as normal station*1           A7GT-J71LP23         For MELSECNET/10 optical loop network connection, for use as normal station*1           A7GT-J71LP23         For MELSECNET/10 optical loop network connection, for use as normal station*1           A7GT-J71BR13         For MELSECNET/10 coaxial bus network connection, for use as normal station*1           CC-Link         A8GT-J61BT13         For CC-Link connection, for use as intelligent device station           unit         A8GT-J61BT15         For CC-Link connection, for use as remote device station           Ethernet         A9GT-J71E71-T         For Ethernet connection           ommunication         A9GT-S0PSC         Transparent protective sheet for A985GOT(-V), MITSUBISHI logotype can be removed.           Protective sheet         A9GT-60PSC         Transparent protective sheet for A975/970GOT, MITSUBISHI logotype can be removed.		A7GT-J71AT23B	For MELSECNET/B connection, for use as local station		
Network unit       A9GT-QJ71BR13       For MELSECNET/10 optical loop network connection, for use as normal station*1         A7GT-J71LP23       For MELSECNET/10 optical loop network connection, for use as normal station*1         A7GT-J71LP23       For MELSECNET/10 coaxial bus network connection, for use as normal station*1         A7GT-J71BR13       For MELSECNET/10 coaxial bus network connection, for use as normal station*1         CC-Link       A8GT-J61BT13       For CC-Link connection, for use as intelligent device station         unit       A8GT-J61BT15       For CC-Link connection, for use as remote device station         Ethernet       A9GT-J71E71-T       For Ethernet connection         unit       A9GT-80PSC       Transparent protective sheet for A985GOT(-V), MITSUBISHI logotype can be removed.         Protective sheet       A9GT-70PSC       Transparent protective sheet for A960GOT, MITSUBISHI logotype can be removed.         A9GT-60PSC       Transparent protective sheet for A960GOT, MITSUBISHI logotype can be removed.		A9GT-0.1711 P23	For MELSECNET/10 optical loop network connection for use as normal station*1		
Network unit         AsG1-0377BK13         For MELSECNET/10 coaxial bus fietwork connection, for use as normal station*           A7GT-J71LP23         For MELSECNET/10 optical loop network connection, for use as normal station*1           A7GT-J71BR13         For MELSECNET/10 coaxial bus network connection, for use as normal station*1           CC-Link         A8GT-J61BT13         For CC-Link connection, for use as intelligent device station           unit         A8GT-J61BT15         For CC-Link connection, for use as remote device station           Ethernet         A9GT-J71E71-T         For Ethernet connection           unit         A9GT-80PSC         Transparent protective sheet for A985GOT(-V), MITSUBISHI logotype can be removed.           Protective sheet         A9GT-70PSC         Transparent protective sheet for A960GOT, MITSUBISHI logotype can be removed.           A9GT-60PSC         Transparent protective sheet for A960GOT, MITSUBISHI logotype can be removed.			For MELCECNET/10 oppidal hop network connection, for use as normal station*		
A7GI-J71EP23       For MELSECNE 1/10 optical loop network connection, for use as normal station*1         A7GT-J71BR13       For MELSECNET/10 coaxial bus network connection, for use as normal station*1         CC-Link communication unit       A8GT-J61BT13       For CC-Link connection, for use as intelligent device station         A8GT-J61BT15       For CC-Link connection, for use as remote device station         Ethernet communication unit       A9GT-J71E71-T       For Ethernet connection         Protective sheet       A9GT-80PSC       Transparent protective sheet for A985GOT(-V), MITSUBISHI logotype can be removed.         A9GT-60PSC       Transparent protective sheet for A960GOT, MITSUBISHI logotype can be removed.	Network unit				
A7GT-J71BR13       For MELSECNET/10 coaxial bus network connection, for use as normal station*1         CC-Link communication unit       A8GT-J61BT13       For CC-Link connection, for use as intelligent device station         A8GT-J61BT15       For CC-Link connection, for use as remote device station         Ethernet communication unit       A9GT-J71E71-T       For Ethernet connection         A9GT-80PSC       Transparent protective sheet for A985GOT(-V), MITSUBISHI logotype can be removed.         A9GT-70PSC       Transparent protective sheet for A975/970GOT, MITSUBISHI logotype can be removed.         A9GT-60PSC       Transparent protective sheet for A960GOT, MITSUBISHI logotype can be removed.		A/GI-J/1LP23	For MELSECNE 1/10 optical loop network connection, for use as normal station*		
CC-Link communication unit       A8GT-J61BT13       For CC-Link connection, for use as intelligent device station         Init       A8GT-J61BT15       For CC-Link connection, for use as remote device station         Ethernet communication unit       A9GT-J71E71-T       For Ethernet connection         A9GT-80PSC       Transparent protective sheet for A985GOT(-V), MITSUBISHI logotype can be removed.         Protective sheet       A9GT-70PSC       Transparent protective sheet for A975/970GOT, MITSUBISHI logotype can be removed.         A9GT-60PSC       Transparent protective sheet for A960GOT, MITSUBISHI logotype can be removed.		A7GT-J71BR13	For MELSECNET/10 coaxial bus network connection, for use as normal station*1		
AsgT-J61BT15         For CC-Link connection, for use as remote device station           Ethernet communication unit         A9GT-J71E71-T         For Ethernet connection           And         A9GT-80PSC         Transparent protective sheet for A985GOT(-V), MITSUBISHI logotype can be removed.           Protective sheet         A9GT-70PSC         Transparent protective sheet for A975/970GOT, MITSUBISHI logotype can be removed.           A9GT-60PSC         Transparent protective sheet for A960GOT, MITSUBISHI logotype can be removed.	CC-Link	A8GT-J61BT13	For CC-Link connection, for use as intelligent device station		
Ethernet communication unit         A9GT-J71E71-T         For Ethernet connection           A9GT-80PSC         Transparent protective sheet for A985GOT(-V), MITSUBISHI logotype can be removed.           Protective sheet         A9GT-70PSC         Transparent protective sheet for A975/970GOT, MITSUBISHI logotype can be removed.           A9GT-60PSC         Transparent protective sheet for A960GOT, MITSUBISHI logotype can be removed.	unit	A8GT-J61BT15	For CC-Link connection, for use as remote device station		
unit         A9GT-80PSC         Transparent protective sheet for A985GOT(-V), MITSUBISHI logotype can be removed.           Protective sheet         A9GT-70PSC         Transparent protective sheet for A975/970GOT, MITSUBISHI logotype can be removed.           A9GT-60PSC         Transparent protective sheet for A960GOT, MITSUBISHI logotype can be removed.	Ethernet communication	A9GT-J71E71-T	For Ethernet connection		
A9GT-80PSC         Transparent protective sheet for A985GOT(-V), MITSUBISHI logotype can be removed.           Protective sheet         A9GT-70PSC         Transparent protective sheet for A975/970GOT, MITSUBISHI logotype can be removed.           A9GT-60PSC         Transparent protective sheet for A960GOT, MITSUBISHI logotype can be removed.	unit				
Protective sheet         A9GT-70PSC         Transparent protective sheet for A975/970GOT, MITSUBISHI logotype can be removed.           A9GT-60PSC         Transparent protective sheet for A960GOT, MITSUBISHI logotype can be removed.		A9GT-80PSC	Transparent protective sheet for A985GOT(-V), MITSUBISHI logotype can be removed.		
A9GT-60PSC Transparent protective sheet for A960GOT, MITSUBISHI logotype can be removed.	Protective sheet	A9GT-70PSC	Transparent protective sheet for A975/970GOT, MITSUBISHI logotype can be removed.		
		A9GT-60PSC	Transparent protective sheet for A960GOT, MITSUBISHI logotype can be removed.		

Component	Туре	Description		1			
· ·	A9GT-80LLT						
	A9GT-80LTTA	Backlight for A985GOT(-V)*2					
	A9GT-70LTT						
Backlight	A9GT-70LTTB	Backlight for A975/970GOT TFT color liquid crystal type*2		-			
	A9GT-70LTTBW			N E			
	A9GT-70LTS	Backlight for A970GOT D-STN color/monochrome liquid crystal typ	e	RV			
Dobug stand	A9GT-80STAND	Debug stand for A985GOT(-V)					
Debug stand	A9GT-70STAND	Debug stand for A975/970/960GOT					
	A77GT-96ATT	Attachment used for replacement from A77GOT to A960GOT		2			
Attachment	A87GT-96ATT	Attachment used for replacement from A870GOT to A960GOT					
	A87GT-97ATT	Attachment used for replacement from A870GOT to A975/970GOT		NO			
External I/O	AOCT TOKRE	For external I/O equipment connection		ATIO			
interface unit	A9GI-7UNDF			JR.4			
Video/RGB				EM			
hybrid interface	A9GT-80V4R1	For video camera/personal computer connection		ST			
unit				sY			
Video input				3			
interface unit	A9GT-80V4	For video camera connection					
RGB input							
interface unit	A9GT-80R1	For personal computer connection		Щ			
Numorio				AN			
	A8GT-TK	Data entry Numeric Keypad Panel		RM			
keypad panel			9 01 X	FO			
	A9G1-FNB	Exclusively used for optional OS storage (MELSEC-A/FX Ladder m	ionitor-compatible)	ER .			
	A9GT-FNB2M	For optional function OS storage + built-in memory extension, 2M b	bytes	L.			
		(MELSEC-A/FX Ladder monitor-compatible)		4			
	A9GT-FNB4M	For optional function OS storage + built-in memory extension, 4M b	bytes				
		(MELSEC-A/FX Ladder monitor-compatible)		QN			
Memory board		For optional function OS storage + built-in memory extension, 8M bytes					
Memory board		(MELSEC-A/FX Ladder monitor-compatible)					
	A9GT-QFNB	Exclusively used for optional OS storage (MELSEC-Q/QnA/A/FX La	adder monitor-compatible)	NG			
		For optional function OS storage + built-in memory extension, 4M bytes					
		(MELSEC-Q/QnA/A/FX Ladder monitor-compatible)					
		For optional function OS storage + built-in memory extension, 8M b	ytes	5			
	A9G1-QFNB8M	(MELSEC-Q/QnA/A/FX Ladder monitor-compatible)					
		Commercially available SRAM type PC card (based on JEIDA	2	유명			
	—	Ver4.2 (based on PCMCIA2.1))	*3 Refer to the relevant document.	E D L			
		Commercially available flash PC card (based on Compact FlashTM	)	Щ. Ш. Ш. Ш. С. С.			
PC card/	—	(* Compact FlashTM is a trademark of Sun Disk)	,	PR(			
memory card	A9GTMEM-10ME	For COT Momony 16M bytes, (bardware version D or later) flag	For GOT, Memory 16M bytes, (hardware version D or later) flash PC card, formatted*4				
		For GOT, Memory 16M bytes, (nardware version D or later) flash PC card, formatted					
	A9GTMEM-20MF	For GOT, Memory 32M bytes, (hardware version D or later) flas	sh PC card, formatted**				
	A9GTMEM-40MF	For GOT, Memory 128M bytes, (hardware version P or later) fla	ash PC card, formatted*4	6			
		NEC-MITSUBISHI ELECTRIC VISUAL SYSTEMS CORPORA-					
		TION make, 15inch, 1280 x 1024dots					
		NEC-MITSUBISHI ELECTRIC VISUAL SYSTEMS CORPORA-					
	RD17MX	TION make, 17inch, 1280 × 1024dots		U			
CRT display		NEC-MITSUBISHI ELECTRIC VISUAL SYSTEMS CORPORA-					
	RDF19X	TION make, 19inch, 1600 x 1200dots	-	QN N			
		NEC-MITSUBISHI ELECTRIC VISUAL SYSTEMS CORPORA-	* <sup>5</sup> Introduced products	Η			
	RD19NF	TION make 19inch 1600 x 1200dots		7			
		NEC-MITSUBISHI ELECTRIC VISUAL SYSTEMS CORPORA-					
	RDT150S	TION make 15inch $1280 \times 768$ dots		Q			
TFT display				ЕA			
	RDT180S			NC			
		110N make, 18.1inch, 1280 x 1024dots	2	TIC			
Bar code reader	—	Commercially available bar code reader	* <sup>3</sup> Refer to the relevant document.	Ë			
Printer	_	Printer compliant with ESC/P24-J84 (ESC/P command compatible)	*6	NSF			
		Hewlett Packard printers (PLC command compatible)		2 =			
Speech output				8			
device	_	Stereo mini-jack compatible speaker (built-in amplifier)		Ωs			
Bus extension				ANGE			
connector box	A9GT-QCNB	Used for connection of the QCPU (Q mode) long-distance bus		ES SA			
Bus connector		For conversion from large type connector to small type connector		Les Les			
conversion box	A7GT-CNB	(I lsed for long-distance bus connection)		R R 0 ≥			
				RO			
				ER ER			

Component	Туре	Description			
	QC06B	Cable length 0.6m			
	QC12B	Cable length 1.2m	For connection between Q base unit and		
	QC30B	Cable length 3.0m	GOT		
	QC50B	Cable length 5.0m	For connection between GOT and GOT		
Bus connection	QC100B	Cable length 10.0m			
cable QCPU	A9GT-QC150BS	Cable length 15.0m	For connection between Q base unit and		
(Q mode)	A9GT-QC200BS	Cable length 20.0m	GOT		
	A9GT-QC250BS	Cable length 25.0m	For connection between GOT and GOT		
	A9GT-QC300BS	Cable length 30.0m	*These cable are Mitsubishi Electric svs-		
	A9GT-QC350BS	Cable length 35 0m	tem Service Co. Ltd. products		
	AC06B	Cable length 0.6m	tem Service Co., Ltd. products.		
	AC12B	Cable length 1.2m			
	AC30B	Cable length 3.0m	For connection between large type base		
	AC50B	Cable length 5.0m	For connection between large type base		
	AC12B-R	Right angle, cable length 1.2m	unit and A7GT-CNB		
	AC30B-R	Right angle, cable length 3.0m			
	AC50B-R	Right angle, cable length 5.0m			
	A1SC07B	Cable length 0.7m	For connection between small type base		
	A1SC12B	Cable length 1.2m			
	A1SC30B	Cable length 3.0m			
	A1SC50B	Cable length 5.0m	For connection between GOT and GOT		
	A1SC05NB	Cable length 0.5m			
	A1SC07NB	Cable length 0.7m	For connection between small type base		
Bus	A1SC30NB	Cable length 3.0m	unit and A7GT-CNB		
connection	A1SC50NB	Cable length 5.0m			
aabla	A8GT-C12NB	Cable length 1.2m	For connection between large type base		
cable	A8GT-C30NB	Cable length 3.0m			
	A8GT-C50NB	Cable length 5.0m			
	A8GT-C100EXSS	Cable length 10.0m	For connection between small type base		
	A8GT-C200EXSS	Cable length 20.0m	unit/A7GT-CNB and GOT		
	A8GT-C300EXSS	Cable length 30.0m			
	A8GT-C100BS	Cable length 10.0m	For long-distance connection between		
	A8GT-C200BS	Cable length 20.0m	007-		
	A8GT-C300BS	Cable length 30.0m	GOIS		
	A370C12B	Cable length 1.2m	For connection between multi-axis con-		
	A370C25B	Cable length 2.5m	trol and GOT		
	A9GT-J2C10B	Cable length 1 0m	For connection between A0J2HCPU and		
			GOT		
	AC30R4-25P	Cable length 3m (D-sub 25-pin at both ends)	For connection between GOT and PLC		
			CPU		
	AC100R4-25P	Cable length 10m (D sub 25 pin at both onds)	For connection between GOT and serial		
RS-422 cable		Cable length form (D-sub 25-pin at both ends)	communication module		
			For connection between GOT and		
	AC300R4-25P	Cable length 30m (D-sub 25-pin at both ends)			
		7	FXCPU		
	—	For connection between GOT and computer link module */	1		
	QC30R2	Cable length 3m	For connection between GOT and QCPU		
		Ochle leasth Ore (Devils Orein, Devils Of sig)	For connection between GOT and		
	AC30RZ-9P	Cable length 3m (D-sub 9-pin, D-sub 25-pin)	computer link module		
RS-232C cable			For connection between GOT and		
	AC30R2-9SS	Cable length 3m (D-sub 9-pin at both ends)			
			personal computer for data transfer*8		
	AC30R2	Cable length 3m (D-sub 25-pin at both ends)	For connection between GOT and		
	AC30N2A	Cable length 3m (D-sub 25-pin at both ends)	personal computer for data transfer		
		Ear connecting the COT with the new symply unit of the bar	(9-pin conversion connector required)		
<u> </u>		For connecting the GOT with the power supply unit of the bar of			
Printer cable <sup>9</sup>	AC30PIO-20P	Cable length 3m	For connection between GOT and printer		
CRT cable <sup>*9</sup>	AC50VG	Cable length 30m	For connection between GOT and CRT		
GT Designer			<u> </u>		
GT Designer2	_	Screen creation software for GOT900 Series			
	1	1			

- \*1 When using the A9GT-QJ71LP23 or A9GT-QJ71BR13, the device range (QCPU, QnACPU, ACPU) that can be monitored varies with the communication driver installed in the GOT. When using the A7GT-QJ71LP23 or A7GT-QJ71BR13, only the AnA device range can be monitored. For details, refer to GOT-A900 series User's Manual (Connection System Manual).
- \*2 The applicable backlight varies with the GOT version (hardware version, function version). For details, refer to Section 7.4.
- \*3 Relevant documentSome devices have been concluded to be applicable for GOT900 series by Mitsubishi. For details of the devices, refer to the relevant document "List of valid devices applicable for GOT900 series" (Technical bulletin T10-0028).

Please contact your local Mitsubishi representative for the document, if necessary. The GOT may not operate correctly if a device other than described in the document is used.

- \*4 Memory capacity differs according to the hardware versions of flash PC card. It can be checked on the rated plate of flash card.
- \*5 Introduced productsProducts which have been verified to have the specifications (standards) connectable to our modules. Use the introduced products in compliance with the specifications (standards) of the products.
- \*6 The printer of ESC/P raster specifications such as the PM series cannot be connected and used with the GOT.
- \*7 The RS-422 cable for use between GOT and computer link module should be fabricated by the user with reference to the GOT-A900 Series User's Manual (Connection System Manual).
- \*8 The RS-232C cable may be modified by the user.
  - For details of cable specifications, refer to the following manuals.
  - For GT Designer : GT Works Version □/GT Designer Version □ Reference Manual
  - For GT Designer2: GT Designer2 Version □ Operating Manual
- \*9 The printer cable and the CRT cable may be fabricated by the user. Refer to [Chapter 3] for full information on the specifications needed to fabricate the cable.

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# 2.3 Cautions on use of EMC command-and low voltage command-compliant products

The information of the EMC Directive-compliant models is obtained from MELFANSweb homepage (http:// www.nagoya.melco.co.jp/english/).

#### 2.3.1 Cautions when using PC card/Flash PC card

Some GOT models may be incompliant with the EMC Directive when a PC card or flash PC card is used. The following table shows if they will be compliant with the EMC Directive or not for each PC card type. O: Compliant with EMC Directive × : Incompliant with EMC Directive

		PC card	
GOT model	Commercially available PC card (SRAM type)	Flash PC card (A9GTMEM-*MF)	Commercially available flash PC card
A985GOT-TBA-EU	0	× *1	N/A
A975GOT-TBA-EU	0	0	O <sup>*2</sup>
A970GOT-TBA-EU	0	0	O <sup>*2</sup>
A970GOT-SBA-EU	0	0	O <sup>*2</sup>
A970GOT-LBA-EU	0	0	O <sup>*2</sup>
A960GOT-EBA-EU	0	0	O <sup>*2</sup>

\*1 This model can work as a flash PC card, although incompliant with the EMC Directive.

\*2 Commercially available flash PC cards are applicable for the GOTs of function version A or later.

The GOT function version is located on the rating plate at the rear of the GOT.



### 2.3.2 EMC Directive-incompliant communication boards/units

The GOT is incompliant with the EMC Directive when any of the following communication boards/units is used.

Item	Туре
Bus connection board	A9GT-QBUSS, A9GT-QBUS2S
Bus connection unit	A9GT-BUSSU, A9GT-BUS2SU
Data link unit	A7GT-J71AP23, A7GT-J71AR23, A7GT-J71AT23B
Network unit	A9GT-QJ71LP23, A9GT-QJ71BR13, A7GT-J71LP23, A7GT-J71BR13
CC-Link communication unit	A8GT-J61BT15
External I/O unit	A9GT-70KBF

### 2.3.3 Connection Method

Connection method		A985GOT- TBA-EU	A975GOT- TBA-EU	A970GOT- TBA-EU	A970GOT- SBA-EU	A970GOT-LBA- EU	A960GOT- EBA-EU
Bue Connection	QCPU	×	×	×	×	×	×
Bus Connection	QnA/ACPU	А	А	А	А	А	А
CPU direct	QCPU (RS-232C)	×	T(0105)	T(0105)	E(0105)	A	L(0105)
connection	QnA/ACPU (RS-422)	А	A	А	A	А	А
Computer link	RS-232C	×	T(0105)	T(0105)	E(0105)	А	L(0105)
connection	RS-422	×	А	А	А	А	А
MELSECNET connection		×	×	×	×	×	×
CC Link	Intelligent device	×	T(0105)	T(0105)	E(0105)	А	L(0105)
connection	Remote device station	×	×	×	×	×	×
Ethernet connection		×	Y(0203)	Y(0203)	M(0203)	E(0203)	Q(0203)
Microcomputer connection	RS-232C	×	T(0105)	T(0105)	E(0105)	A	L(0105)
Other PLC connection	RS-232C	×	T(0105)	T(0105)	E(0105)	А	L(0105)
	RS-422	×	А	А	А	А	А

#### Use the following methods to connect with the GOT to ensure compliance with the EMC Directive.

<How to read the table>

The above table shows the GOT hardware version and compatibility date for each connection method. (The compatibility date for hardware version A is not shown.) Please use the recommended GOT hardware version or later.



 $\times$  indicates the product is incompliant with the EMC Directive.

\*1 For details about each connection method, refer to the GOT-A900 Series User's Manual (Connection System Manual).

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#### (1) Hardware version

The GOT hardware version is located on the rating plate at the rear of the GOT. (The products including a CE mark logo on the rating plate and packing boxes are compliant with EMC Directive.)



(2) Connected devices

If connecting to the PLC or microcomputer other than Mitsubishi products (MELSEC-Q series, MELSEC-QnA series or MELSEC-A series) please refer to the EMC Directive compliance manual for that specific device.

#### 2.3.4 When the communication unit/board is used

Use the following communication boards/units with the GOT to ensure compliance with the EMC Directive. (Available October, 2003).

The GOT	does not	comply y	vith the E	EMC Direc	tive when	connected	with oth	er than	followings.
		•••••••••••••••••••••••••••••••••••••••							

Connec	tion format	Communication unit/board
Bus connection		A9GT-BUSS (Hardware version C or later) A9GT-BUS2S (Hardware version C or later)
CPU direct connection	RS-232C communication	A9GT-RS2 (Hardware version B or later) A9GT-RS2T (Hardware version C or later)
	RS-422 communication	A9GT-RS4 (Hardware version B or later)
Computer link connection	RS-232C communication	A9GT-RS2 (Hardware version B or later) A9GT-RS2T (Hardware version C or later)
	RS-422 communication	A9GT-RS4 (Hardware version B or later)
CC-Link connection		A8GT-J61BT13 (Hardware version E or later)
Ethernet connection		A9GT-J71E71-T (Hardware version C or later)
Microcomputer connection	RS-232C communication	A9GT-RS2 (Hardware version B or later) A9GT-RS2T (Hardware version C or later)
Other PLC connection	RS-232C communication	A9GT-RS2 (Hardware version B or later) A9GT-RS2T (Hardware version C or later)
	RS-422 communication	A9GT-RS4 (Hardware version B or later)

### 2.3.5 About the Cable Used

If making the GOT applicable to the EMC directive, be sure to use the cables shown below.

O: Compliant with EMC directive  $\times$ : In compliant with EMC directive

Conne	ction method	Cable	EMC Directive
Bus connection	A/QnACPU	AC06/12/30/50B, AC12/30/50B-R, A1SC07/12/30/50B, A1SC05/07/30/50NB, A8GT-C12/30/50NB, A370C12/25B, A9GT-J2C10B, A8GT-C100/200/300EXSS, A8GT-C100/200/300BS	0
	QCPU (Q mode)	QC06/12/30/50/100B, A9GT-QC150/200/250/300/350BS	×
CPU direct	RS-232C communication	QC30R2	0
connection	RS-422 communication	AC30/100/300R4-25P	0
Computer link	RS-232C communication	User created cable	0
connection	RS-422 communication	AC30/100/300R4-25P, User created cable	0
CC-Link connection		CC-Link dedicated cable.	0
Ethernet connection		Category 5 Twisted pair shielded cable. (10 BASE-T)	0
Microcomputer connection	RS-232C communication	User created cable	0
Other PLC	RS-232C communication	User created cable	0
connection	RS-422 communication		Ŭ

Point

Modify the cables (including user-produced cable) to ensure compliance with the EMC Directive.

For details, refer to Section 6.1.4.

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# 2.4 Software packages to be used

When a GOT is used, a software package of the applicable version or later is required. The versions of the software packages required for each GOT are shown below. (GT Works2 and GT Designer2 are supported from the first version (Version 1.00A).)

Туре	Compatible software package	
A985GOT-TBA-V, A985GOT-TBD-V	SW5D5C-GTWORKS-E Version F or later, SW5D5C-GOTR-PACKE Version F or later	
A985GOT-TBA (-EU), A985GOT-TBD	SW0D5C-GTWORKS-E Version A or later, SW1D5C-GOTRE-PACK Version C or later	
A975GOT-TBA (-B) (-EU), A975GOT-TBD (-B)	SW0D5C-GTWORKS-E Version A or later, SW1D5C-GOTRE-PACK Version A or later	
A970GOT-TBA (-B) (-EU), A970GOT-TBD (-B)	(The brightness of the high density model can be adjusted in increments of 8 steps for version C or later.)	
A970GOT-LBA, A970GOT-LBD	SW0D5C-GTWORKS-E Version A or later, SW1D5C-GOTRE-PACK Version J or later	
A970GOT-SBA (-EU), A970GOT-SBD	SW0D5C CTWORKS E Version & or later SW1D5C COTPE DACK Version & or later	
A960GOT-EBA (-EU), A960GOT-EBA	SWUDSC-GTWORKS-E VEISION A OF IALER, SWIDSC-GOTRE-PACK VEISION A OF IALER	

# 2.5 Unusable Conventional Products

The following conventional products cannot be used with this GOT.

Component	Туре
Bus connection unit	A7GT-BUS, A7GT-BUS2, A7GT-BUSS, A7GT-BUS2S
Serial communication unit	A8GT-RS4, A8GT-RS2
Backlight	A8GT-70LTS, A8GT-70LTT, A8GT-50LT
Ladder monitoring cassette	A8GT-MCAM
Extension memory cassette	A8GT-MCA1MFDW, A8GT-MCA2MFDW, A8GT-MCA3MFDW
Protective sheet	A8GT-70PSCE, A8GT-70PSNE, A8GT-70PSCS, A8GT-70PSNS, A8GT-50PSC, A8GT-50PSN
Printer unit	A8GT-70PRF, A8GT-50PRF
External I/O interface unit	A8GT-70KBF, A8GT-50KBF
Debug stand	A8GT-70STAND, A8GT-50STAND
Option unit mounting fixture	A8GT-50STE
# 2.6 Notes on Q4ARCPU Duplex System

This section describes the notes on the connecting of the Q4ARCPU with the GOT, as follows:

- (1) Notes on the additional base for duplex system at the final stage: To connect the duplex system with the GOT via the bus, connect the GOT with the additional base for duplex system (A68RB) that is provided at the final stage of the duplex system. To use the additional base for duplex system, please apply that of the Version B or after.
  - In the following configurations the GOT will not operate normally as specified.
    - (a) The configuration in which the GOT is connected with the fundamental base for the duplex system (A32RB, A33RB) is connected via the bus.
    - (b) The configuration in which the GOT is connected with the additional base (A68RB) for duplex system of Version A is connected via the bus.
  - To check and confirm the version of the additional base for duplex system, please refer to the DATE column on the rating plate that is adhered to the part as shown in the illustration below.



(2) Notes on 5V DC supply for the additional base (A68RB) for duplex system at the final stage: 220mA of current to be consumed will be supplied from the additional base for duplex system at the final stage to the GOT bus interface, if the GOT power supply is off and the power supply for the power supply module mounted on the additional base for duplex system at the final stage is on. Therefore, please make sure that the 5V DC consumption (8A) of the power supply module will not be exceeded by the sum of the value of the current consumption of the input/output module and special function module that are mounted on the additional base for duplex system at the final stage and the value of the current consumption (220mA) of the GOT bus interface.

Point 🄑

Power on the GOT-A900 series and Q4ARCPU duplex system in the following order.

- (1) Power on the GOT-A900 series.
- (2) 1 to 2 seconds after power-on of the GOT-A900 series, power on the Q4ARCPU duplex system.



It is recommended to switch power on with an external circuit configured. If power is not switched on in the order as specified in the restriction, the Q4ARCPU duplex system will not start up in system A but will start up in system B before it starts control. OVERVIEW

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# 3.1 General Specifications

### The general specifications of the GOT are indicated below.

Item				Specifi	cations		
Operating ambient	Display sec	tion			0 to 40°C	*1	
temperature	Other than display section				0 to 55°0	>	
Storage ambient temperature		-20 to 60°C					
Operating ambient humidity				10 to 90 % RH,	non-condensing		
Storage ambient humidity		10 to 90 % RH, non-condensing					
				Frequency	Acceleration	Amplitude	Sweep Count
	Conforms to JIS B3501 and IEC 61131-2	Under		10 to 57 Hz	_	0.075 mm	
Vibration resistance		vibratio	on	57 to 150 Hz	9.8 m/s <sup>2</sup>	_	10 times each in X, Y and Z
		Under		10 to 57 Hz	_	0.035 mm	directions (for 80
		vibratio	on	57 to 150 Hz	4.9 m/s <sup>2</sup>	_	- minutes)
Shock resistance	Со	nforms to JIS	S B350	1, IEC 61131-2 (147	m/s <sup>2</sup> , 3 times each ir	n X, Y and Z directi	ons)
Operating atmosphere		No corrosive gas					
Operating altitude *4		2000 m (6562 ft) max.					
Installation location	Inside control panel						
Overvoltage category *2				ll or	less		
Pollution degree *3				2 or	less		

\*1 For A975GOT-TBA/TBD (-B) and A970GOT-TBA/TBD (-B), it becomes 0 to 55°C.

\*2 This indicates the section of the power supply to which the equipment is assumed to be connected between the public electrical power distribution network and the machinery within the premises. Category II applies to equipment for which electrical power is supplied from fixed facilities. The surge voltage withstand level for up to the raged voltage of 300 V is 2500 V.

\*3 This index indicates the degree to which conductive material is generated in the environment where the equipment is used.

In pollution degree 2, only non-conductive pollution occurs but temporary conductivity may be produced due to condensation.

\*4 Do not use or store the GOT under pressure higher than the atmospheric pressure of altitude 0m (0ft.). Failure to observe this instruction may cause a malfunction.

# 3.2 Performance specifications

## 3.2.1 Performance specifications of the A985GOT(-V)

Item         ABBSCOTTBA.Y. ABBSCOTTBA.Y. ABBSCOTTBA.Y.         ABBSCOTTBA.A. ABBSCOTTBA.Y.           Image: Construction of the second of the sec		Itom	Sp	ecifications				
Image         Image for the section         High-luminance TFT color liquid crystal (Brightness: 300 cdm <sup>2</sup> (drightness of LC itself))           Display size         246 (3.69) (W) × 194 5 (7.29) (H) mm (inch)           Display color         286 color           Immage display color         286 color           Immage display color         65536 color           Immage display color         665536 color           Immage display color         66556 color           Immage display color         66567 (Gr) (H) and (H, 4) (Gr) (Gr) (Gr) (Gr) (Gr) (Gr) (Gr) (Gr		litem	A985GOT-TBA-V, A985GOT-TBD-V	A985GOT-TBA, A985GOT-TBD, A985GOT-TBA-EU				
Display         Resolution         800 x 600 dots           Display size         246 (9.89) (W) x 184 5 (7.30) (H) mm (inch)           Display color         256 color           Intensity         350cd/m² (Average intensity of liquid crystal only)           Display angle         66538 color           Backlight         Cold cathod functionation (K) to degrees (up), 50 degrees (up).           Touch         Kays           Aumber of touch         (Backlight OFF / Screen saving time / Operator detect sensor setting allowed)           Touch         Kays izz           Average function         No           Papeat function         No           Average function         No           Detection range         80°C in both horizontal and vertical directions           Benny         Average and starting for OS storage           *1         Capacity         11M byte built-in (user area), max. 8M bytes increasable           Communication bard silor <sup>2</sup> For communication outri loading, 1 slot           Communication bard silor <sup>2</sup> For communication bard soling and		Туре	High-luminance TFT color liquid crystal	(Brightness: 350 cd/m <sup>2</sup> (brightness of LC itself))				
Display size         246 (0.69) (W) x 184.5 (7.26) (H) mm (Inch)           Section         Image display color         255 color           Image display color         6555 color         —           Inservity         350.0d/m <sup>2</sup> (Average Intensity of Equid crystal only)		Resolution	800	× 600 dots				
Section         Display color         256 color           Intensity         350cd/m² (Average intensity of liquid crystal only)           Display angle         60 degrees (right and light, 0 degrees (orght and light, 0 degrees (orght, 0 degrees (orght, 0 degrees)))))))))))))))))))))	Display	Display size	246 (9.69) (W) × 2	184.5 (7.26) (H) mm (inch)				
Image display color         bits bits	section	Display color	2	256 color				
Intensity         350cd/m <sup>2</sup> (Average intensity of liquid crystal only)           Display angle         00 degrees (right and left), a0 degrees (up), 50 degrees (down)           Backlight         Cold cathode fluorescent tube backlight           Backlight         Number of touch           Touch         keys           Panel         Key size           Repeat function         No           Detection range         0 to 4 s           Detection range         0 to 4 s           Memory         Type           1/1         Capacity           Application         For monitor screen data storage, for OS storage           communication board slot <sup>22</sup> For communication board loading, 1 slot           Communication unit interface         For video/RGB hybrid interface unit, RGB input interface unit, loading, 1           Option unit interface         For communication board loading, 1 slot           Communication board slot         For connection of personal computer, for barco connection, 1 channel           Private interface         For connection of personal computer, for barco connection, 1 channel           Pion unit interface         For connection of personal computer, for barco connection, 1 channel           Pioner interface*         For connection of personal computer, for barco connection, 1 channel           Repacity		Image display color	65536 color					
Display angle         60 degrees (righ) and left), 40 degrees (up), 50 degrees (down)           Backlight         Cold cathode fluorescent tube backlight           Backlight         Number of touch keys         1900 points (38 lines x. 50 columns)           Touch         keys         Minimum 16 x 16 dots (per key) (8 x 16 dots only for bottom line)           Repeart function         No           Detection length         1 (39.37) m (inch)           Human         Detection range         80°C in both horizontal and vertical directions           sensor         Detection range         80°C in both horizontal and vertical directions           esnort         Application         For monitor screen data storage, for OS storage           *1         Capacity         11 M byte built-in (user area), max. 8M bytes increasable           Communication outi interface         For ordeo/RGB hybrid interface unit loading, 1 stot           Communication outi interface         For ordeo/RGB hybrid interface unit loading, 1 channel           PC card interface         For connection of personal computer, for bar-code reader connection, 1 channel           Printer interface*3         For connection of personal computer, for bar-code reader connection, 1 channel           Printer interface*4         —         For connection, for bar-code reader connection, 1 channel           Restadgrt d <sup>4,0</sup> Soloon h (Operating ambient		Intensity	350cd/ m <sup>2</sup> (Average i	intensity of liquid crystal only)				
Backlight         Interface         Cold cathode fluorescent tube backlight (Backlight OF / Screen saving time / Operator detect sensor setting allowed)           Touch panel         Number of touch keys         1900 points (38 lines x 50 columns)           Repeat function         No           Detection length         1(30.37) m (inch)           Human         Detection range         80°C in both horizontal and vertical directions           sensor         Detection range         80°C in both horizontal and vertical directions           sensor         Application         For molifor soreed data storage, for OS storage           *1         Type         For molifor soreed data storage, for OS storage           *1         Capacity         TM byte built-in (user area), max. 8M bytes increasable           Communication board slot <sup>22</sup> For communication board loading, 1 slot           Communication unit interface         For video/RGB hybrid interface unit, video input interface         For External VO interface unit loading, 1 channel           PC card interface         For connection of personal computer, for bar-code reader connection, 1 channel         For external speaker connection, 1 channel           PC card interface         For connection (3W + 3W or higher recommended) (stereo mini-jack), 1 channel each for L/R (Svp.p. 0.4mW (for rated load 10xQ)), replayable speech file: Windows WA format, 8.000kHz, 16-bit monaural (8 s/speech file)           Built-In		Display angle	60 degrees (right and left), 4	40 degrees (up), 50 degrees (down)				
Number of touch keys         Image: Number of touch Number of touch Number of touch Number of touch         Image: Number of touch Number of	Backlight		Cold cathode fluorescent tube backlight					
Touch panel         Number of bodch Key siz         1900 points (38 lines x 50 columns)           panel         Key siz         Minimum 16 x 16 dots (per key) (8 x 16 dots only for bottom line) Repeat function           No         No         No           Petection range         80°C in both horizontal and vertical directions           Detection range         80°C in both horizontal and vertical directions           Detection range         0 to 4 s           Memory         Type           Application         For monitor screen data storage, for OS storage           *1         Application           Capacity         The per monitor screen data storage, for OS storage           Communication board slot <sup>2</sup> For communication board loading, 1 slot           Communication unit interface* <sup>22</sup> For communication unit loading, 1 channel           PC card interface         For video/RGB hybrid interface unit diading, 1           Res232C interface         For connection of personal computer, for barcode reader connection, 1 channel           Primer interface*         For connection of personal computer, for barcode reader sconnection, 1 channel           Res232C interface         For connection (3W + 3W or higher recommended) (stereo mini-jack), 1 channel each for U/R           Res232C interface         For external speaker connection (3W + 3W or higher recommended) (stereo mini-jack), 1 channel each fo		Number of touch	(Backlight OFF / Screen saving tim	e / Operator detect sensor setting allowed)				
Notion         Keys         Image: Control of the state	Touch		1900 points (3	8 lines × 50 columns)				
Partiel         Tell size         Imminum To X To Guis (perker) (0X A To Guis (perker))           Repeat function         No           Detection length         1(39.37) m (inch)           Human         Detection range         80°C in both horizontal and vertical directions           Beensor         Detection range         80°C in both horizontal and vertical directions           Memory         Type         Flash ROM           Application         For monitor screen data storage, for OS storage           1         Capacity         11M byte built-in (user area), max. 8M bytes increasable           Communication board slot*2         For communication unit loading, 1 slot           Communication unit interface         For video/RGB hybrid interface unit, video input interface         For video/RGB hybrid interface unit, video input interface           PC card interface         For video/RGB hybrid interface unit, video input interface         For external loading, 1 channel           PC card interface         For connection of personal computer, for bar-code reader connection, 1 channel           RS-232C interface         For external speaker connection (3W + 3W or higher recommended) (stereo min-jack), 1 channel           Rrine face*4         —         For external speaker connection, 3W + 3W or higher recommended) (stereo min-jack), 1 channel           Rypech output terminal         (2Vp-p, 0.4mW (for rated load 10kQ)), replayable	nanel	Keys Keysize	Minimum 16 × 16 dots (per k	$(8 \times 16 dots only for bottom line)$				
Image: Production in a constraint of the section in a constraint of the sectin a constraint of the sectin in the section isectin a c	panei	Repeat function		No				
Human sensor         Detection range         80°C in both horizontal and vertical directions           Betection delay time         0 to 4 s           Memory 1         Type         Flash ROM           Application         For monitor screen data storage, for OS storage           Capacity         11M byte built-in (user area), max. 8M bytes increasable           Communication board slot <sup>-2</sup> For communication board loading, 1 slot           Communication unit interface <sup>+2</sup> For communication board loading, 1 channel           PC card interface         For video/RGB hybrid interface unit, video input interface unit, RGB input interface unit loading, 1 channel           PC card interface         For connection of personal computer, for bar-code reader connection, 1 channel           Remory board slot         For external speaker connection of personal computer, for bar-code reader connection, 1 channel           Printer interface <sup>+4</sup> —         For external speaker connection (3W + 3W or higher recommended) (stereo mini-jack), 1 channel each for L/R (2Vp-p, 0.4m W (for rated load 10kQ)), replayable speech file.           Buzzer output         Single tone (fore length adjustable)         (8 s/speech file)           Built-In memory         Single tone (fore length adjustable)         (Time when display luminance reaches 50% at the operating ambient temperature 25°C)           Bucklight <sup>6.0</sup> /T         Gould tone (D) x 238 (630) (M) x 238 (630) (M) x 238 (630) (M) x 238 (630)		Detection length	1 (39	.37) m (inch)				
Detection delay time         Ote of NourMolecture during 0 to 4 s           Memory *1         Type         Flash ROM           Capacity         File and a storage, for OS storage         Capacity           Communication board slot*2         For communication board loading, 1 slot           Communication unit interface*2         For communication unit loading, 1 slot           Communication unit interface         For video/RGB hybrid interface unit, video input interface unit, RGB input interface unit, video input interface         For PC card loading, 1 channel           PC card interface         For connection of personal computer, for bar-code reader connection, 1 channel         For connection of personal computer, for bar-code reader connection, 1 channel           Printer interface*3         For external speaker connection (3W + 3W or higher recommended) (steroe mini-jack), 1 channel each for L/R (2Vp-p, 0.4mW (for rated load 10kQ)), replayable speech file:         Video/RCR hold to bar.           Speech output terminal         Evideo**         Single tone (tone length adjustable)           Life*5         Backlight* <sup>64,9</sup> (Time when display luminance reaches 50% at the operating ambient temperature of 25°C)           Touch key         1         For steres 50% at the operating force 0.880 max.)           Built-In memory         Number of write times: 100,000 times           Environmental protective struc- ture         For steres 50% at the operating force 0.980 max.)	Human	Detection range	80°C in both borize	notal and vertical directions				
Backborn         Display         0 to 4 s           Memory +1         Type         Flash ROM           Application         For monitor screen data storage, for OS storage           Capacity         1M byte built-in (use area), max. BM bytes increasable           Communication unit interface*2         For communication unit loading, 1 slot           Communication unit interface*2         For communication unit loading, 1 channel           Option unit interface         For video/RGB hybrid interface unit, video input interface unit, RGB input interface unit loading, 1 channel         For External I/O interface unit loading, 1 channel           PC card interface         For connection of personal computer, for bar-code reader connection, 1 channel         For printer connection, 1 channel           RS-232C Interface         For connection of personal computer, for bar-code reader connection, 1 channel           Printer interface*4         —         —           For external speaker connection (3W + 3W or higher recommended) (stereo mini-jack), 1 channel each for L/R         Speech output terminal           (2Vp-p, 0.4mW (for rated load 10kQ)), replayable speech file: Windows WAV format, 8.000KHz, 16-bit monaural (8 s/speech file)         Built-in menory           Buzzer output         Single tone (tone length adjustable)	sensor	Detection delay						
Memory 1         Flash ROM           Application         For monitor screen data storage, for OS storage, Capacity         IM byte built-in (user area), max. 8M bytes increasable           Communication board slot <sup>+2</sup> For communication board loading, 1 slot           Communication unit interface* <sup>2</sup> For communication unit loading, 1 channel           Option unit interface         For video/RGB hybrid interface unit, video input interface unit, RGB input interface unit loading, 1 channel         For External I/O interface unit loading, 1 channel           PC card interface         For conneurication board loading, 1 channel         For External I/O interface unit loading, 1 channel           Memory board slot         For conneurication for PEC card loading, 1 channel         For External I/O interface unit loading, 1 channel           PC card interface         For connection of personal computer, for bar-code reader connection, 1 channel         Res232C interface           Printer interface* <sup>3</sup> For external speaker connection (3W + 3W or higher recommended) (stereo mini-jack), 1 channel each for L/R Speech output terminal         For external speaker connection (3W + 3W or higher recommended) (stereo mini-jack), 1 channel each for L/R Speech file)           Buzzer output         Single tone (tone length adjustable)         Single tone (tone length adjustable)           Ibipaly section* <sup>6-6-7</sup> So(000 h (Operating ambient temperature of 25°C)         Touch key           Touch key         1 million times	0011001	time		0 to 4 s				
Mention         Application         For monitor screen data storage, for OS storage           *1         Capacity         1M byte built-in (user area), max. 8M bytes increasable           Communication board slot*2         For communication unit interface*2           Communication unit interface*2         For communication unit loading, 1 slot           Option unit interface         For video/RGB hybrid Interface unit loading, 1           PC card interface         For video/RGB hybrid Interface unit loading, 1           PC card interface         For connection of personal computer, for bar-code reader connection, 1 channel           Memory board slot         For external speaker connection of personal computer, for bar-code reader connection, 1 channel           Printer interface*4         —         For printer connection, 1 channel           Printer interface*4         —         For external speaker connection (3W + 3W or higher recommended) (stereo mini-jack), 1 channel each for L/R           Speech output         Single tone (tone length adjustable)         [8 s/speech file]           Buzzer output         Single tone (tone length adjustable)         [10 shiftshiftshiftshiftshiftshiftshiftshift	Maman	Туре	F	ash ROM				
*1         Capacity         1M byte built-in (user area), max. 8M bytes increasable           Communication board slot*2         For communication board loading, 1 slot           Communication unit interface*2         For communication unit loading, 1 slot           Option unit interface         For video/RGB hybrid Interface unit, video input interface unit, RGB input interface unit loading, 1 channel         For External I/O interface unit loading, 1 channel           PC card interface         For connection of personal computer, for bar-code reader connection, 1 channel         For printer connection, 1 channel           Printer interface*3         For printer connection, 1 channel         For cRT connection, SVGA 1 channel           CYp-p, 0.4mW (for rated load 10kQ)), replayable speech file;         Windows WAV format, 8.000kHz, 16-bit monaural (8 s/speech file)           Buzzer output         Single tone (tone length adjustable)         Single tone (tone length adjustable)           Iterf*5         Backlight* <sup>6-9</sup> Built-in memory         Time when display luminance reaches 50% at the operating force 0.98N max.)           Built-in memory         Number of write times: 100,000 times           Environmental protective struc- ture         For class (8.98) (H) mm (inch)           Panel inside:         11.891 (W) × 228 (8.93) (H) mm (inch)           Panel unitid:         SW5D5C-GTWORKS-E Version F or later	wemory	Application	For monitor screen of	data storage, for OS storage				
Communication board slot*2         For communication board loading, 1 slot           Communication unit interface*2         For communication unit loading, 1 channel           Option unit interface         For video/RGB hybrid interface unit, video input interface unit, RGB input interface unit loading, 1 channel         For External I/O interface unit loading, 1 channel           PC card interface         For communication unit loading, 1 channel         For External I/O interface unit loading, 1 slot           RS-232C Interface         For connection of personal computer, for bar-code reader connection, 1 channel           Printer interface* <sup>3</sup> For printer connection, 1 channel           RS-232C Interface         For external speaker connection (3W + 3W or higher recommended) (stereo mini-jack), 1 channel each for L/R (2Vp-p, 0.4mW (for rated load 10kQ)), replayable speech file           Speech output         Single tone (tone length adjustable)           Buzzer output         Single tone (tone length adjustable)           Buszer output         Single tone (tone length adjustable)           Buszer         (Time when display luminance reaches 50% at the operating ambient temperature of 25°C)           Touch key         1 million times or more (operating force 0.98N max.)           Built-In memory         Number of write times: 100,000 times           Environmental proteive struc- ture         For Class (9.37) (H) × 49 (1.93) (D) mm (inch)           Panel inside: IP2X         <	*1	Capacity	1M byte built-in (user ar	rea), max. 8M bytes increasable				
Communication unit interface*2         For communication unit loading, 1 channel           Option unit interface         For video/RGB hybrid interface unit, video input interface unit, RGB input interface unit loading, 1 channel         For External I/O interface unit loading, 1 channel           PC card interface         For connection of personal computer, for bar-code reader connection, 1 channel         For external I/O interface unit loading, 1 slot           RS-232C Interface         For connection of personal computer, for bar-code reader connection, 1 channel         For printer connection, 1 channel           Printer interface*3         For external speaker connection (3W + 3W or higher recommended) (stereo mini-jack), 1 channel each for L/R           Speech output terminal         For external speaker connection (3W + 3W or higher recommended) (stereo mini-jack), 1 channel each for L/R           Buzzer output         Single tone (tone length adjustable)           Buzzer output         Single tone (tone length adjustable)           Built-in memory         South (or rated load 10k Q)), replayable speech file: Windows WAV format, 8.000kHz, 16-bit monaural (8 s/speech file)           Built-in memory         Mumber of write times: 100,000 to 50,000 h           Backlight*6*9         40,000 to 50,000 h           Touch key         1 million times or more (operating force 0.98N max.)           Built-in memory         Number of write times: 100,000 times           Environmental protective struc- ture         <	Communica	ation board slot*2	For communicat	For communication board loading, 1 slot				
Option unit interface         For video/RGB hybrid interface unit, video input interface unit, RGB input interface unit loading, 1 channel         For External I/O interface unit loading, 1 channel           PC card interface         For PC card loading, 1 channel         For External I/O interface unit loading, 1 channel           Memory board slot         For memory board loading, 1 slot         For memory board loading, 1 slot           RS-232C Interface         For connection of personal computer, for bar-code reader connection, 1 channel           Printer interface*3         For printer connection, 1 channel           CRT interface*4         —         For CRT connection, SVGA 1 channel           CRT interface*4         —         For external speaker connection (3W + 3W or higher recommended) (stereo mini-jack), 1 channel each for L/R (2Vp-p, 0.4mW (for rated load 10kQ)), replayable speech file: Windows WAV format, 8.000kHz, 16-bit monaural (8 s/speech file)           Buzzer output         Single tone (tone length adjustable)           Viefe*5         Display section*6*7         50,000 h (Operating ambient temperature: 25°C)           Touch key         1 million times or more (operating force 0.98N max.)           Built-in memory         Number of write times: 100,000 times           Environmental protective struc- ture         Front section: Equivalent to IP67/NEMA4           Weight         2.4 (5.3) kg (Ib)           Compatible software package*8         SW5D5C-GTWORKS-E Ver	Communica	ation unit interface*2	For communication	on unit loading, 1 channel				
Option unit interface         interface unit, RGB input interface unit loading, 1 channel         For External I/O interface unit loading, 1 channel           PC card interface         For PC card loading, 1 channel         Memory board loading, 1 slot           Memory board slot         For connection of personal computer, for bar-code reader connection, 1 channel           Printer interface         For connection of personal computer, for bar-code reader connection, 1 channel           Printer interface* <sup>4</sup> —         For CRT connection, SVGA 1 channel           CRT interface* <sup>4</sup> —         For CRT connection, SVGA 1 channel           Speech output         For external speaker connection (3W + 3W or higher recommended) (stereo mini-jack), 1 channel each for L/R (2Vp-p, 0.4mW (for rated load 10kQ)), replayable speech file: Windows WAV format, 8.000kHz, 16-bit monaural (8 s/speech file)           Buzzer output         For external speaker connection (3W + 3W or higher recommended) (stereo mini-jack), 1 channel each for L/R (2Vp-p, 0.4mW (for rated load 10kQ)), replayable speech file: Windows WAV format, 8.000kHz, 16-bit monaural (8 s/speech file)           Buzzer output         Image: Single tone (tone length adjustable)           Image: Section* <sup>6a,7</sup> S0,000 h (Operating ambient temperature: 25°C)           section* <sup>6a,7</sup> S0,000 h (Operating ambient temperature of 25°C)           Touch key         1 million times or more (operating ambient temperature of 25°C)           Built-in memory         Number			For video/RGB hybrid interface unit, video input					
Channel         Channel           PC card interface         For PC card loading, 1 channel           Memory board slot         For memory board loading, 1 slot           RS-232C interface         For connection of personal computer, for bar-code reader connection, 1 channel           Printer interface*3         For printer connection, 1 channel           CRT interface*4         —           CRT interface*4         For external speaker connection (3W + 3W or higher recommended) (stereo mini-jack), 1 channel each for L/R           Speech output terminal         (2Vp-p, 0.4mW (for rated load 10kQ)), replayable speech file: Windows WAV format, 8.000kHz, 16-bit monaural (8 s/speech file)           Buzzer output         Single tone (tone length adjustable)           Exection*6*7         S0,000 h (Operating ambient temperature: 25°C)           Section*6*7         (Time when display luminance reaches 50% at the operating ambient temperature of 25°C)           Touch key         1 million times or more (operating force 0.98M max.)           Built-in memory         Number of write times: 100.000 times           Environmental protective structure         For section: Equivalent to IP67/NEMA4           Ver         Sigle Compatibile (12.28) (W) × 238 (9.37) (H) × 49 (1.93) (D) mm (inch)           Panel cutting dimensions         312 (12.28) (W) × 238 (9.37) (H) × 49 (1.93) (D) mm (inch)           Panel cutting dimensions         SW5D5C-GTWORKS-E	Option unit	interface	interface unit, RGB input interface unit loading, 1	For External I/O interface unit loading, 1 channel				
PC card interface         For PC card loading, 1 channel           Memory board slot         For memory board loading, 1 slot           RS-232C interface         For connection of personal computer, for bar-code reader connection, 1 channel           Printer interface*3         For printer connection, 1 channel           CRT interface*4         —           Speech output terminal         For external speaker connection (3W + 3W or higher recommended) (stereo mini-jack), 1 channel each for L/R (2Vp-p, 0.4mW (for rated load 10kΩ)), replayable speech file:           Buzzer output         Single tone (tone length adjustable)           Buzzer output         Single tone (tone length adjustable)           Life*5         Display section* <sup>6</sup> *7           Backlight* <sup>6,6,9</sup> (Time when display luminance reaches 50% at the operating ambient temperature of 25°C)           Touch key         1 million times or more (operating force 0.98N max.)           Built-in memory         Number of write times: 100,000 times           Environmental protective struc-         Front section: Equivalent to IP67/NEMA4           ture         312 (12.28) (W) × 238 (9.37) (H) × 49 (1.93) (D) mm (inch)           Panel inside:         2.4 (5.3) kg (lb)           Weight         2.4 (5.3) kg (lb)			channel					
Memory board slot         For memory board loading, 1 slot           RS-232C interface         For connection of personal computer, for bar-code reader connection, 1 channel           Printer interface*3         For printer connection, 1 channel           CRT interface*4         —         For cRT connection, SVGA 1 channel           CRT interface*4         —         For cRT connection, SVGA 1 channel           Speech output terminal         For external speaker connection (3W + 3W or higher recommended) (stereo mini-jack), 1 channel each for L/R           Speech output         (2Vp-p, 0.4mW (for rated load 10kΩ)), replayable speech file: Windows WAV format, 8.000kHz, 16-bit monaural (8 s/speech file)           Buzzer output         Single tone (tone length adjustable)           ketcion* <sup>6+7</sup> 50,000 h (Operating ambient temperature: 25°C)           section* <sup>6+7</sup> 50,000 h (Operating ambient temperature: 25°C)           Touch key         1 million times or more (operating force 0.98N max.)           Built-in memory         Number of write times: 100,000 times           Environmental protective struc-         For the secon: Equivalent to 1P67/NEMA4           ture         Panel inside: IP2X           External dimensions         312 (12.28) (W) × 228 (9.37) (H) × 49 (1.93) (D) mm (inch)           Panel cutting dimensions         302 (11.89) (W) × 228 (8.98) (H) mm (inch)           Weight         2.4 (5	PC card inte	erface	For PC card	l loading, 1 channel				
RS-232C interface       For connection of personal computer, for bar-code reader connection, 1 channel         Printer interface*3       For printer connection, 1 channel         CRT interface*4       —       For CRT connection, SVGA 1 channel         Speech output terminal       For external speaker connection (3W + 3W or higher recommended) (stereo mini-jack), 1 channel each for L/R (2Vp-p, 0.4mW (for rated load 10kQ)), replayable speech file: Windows WAV format, 8.000kHz, 16-bit monaural (8 s/speech file)         Buzzer output       Single tone (tone length adjustable)         Kife*5       Display section*6*7         section*6*7       50,000 h (Operating ambient temperature: 25°C)         Backlight*6*9       (Time when display luminance reaches 50% at the operating ambient temperature of 25°C)         Touch key       1 million times or more (operating force 0.98N max.)         Built-in memory       Number of write times: 100,000 times         Environmental protective structure       For section: Equivalent to IP67/NEMA4         ture       Panel unside: IP2X         External dimensions       312 (12.28) (W) × 228 (9.37) (H) × 49 (1.93) (D) mm (inch)         Panel cutting dimensions       302 (11.89) (W) × 228 (0.98) (H) mm (inch)         Weight       2.4 (5.3) kg (lb)         Compatible software package*8       SW5D5C-GTWORKS-E Version F or later         SW5D5C-GOTR-PACKE Version F or later       SW1D5C-GOTRE-P	Memory boa	ard slot	For memory	board loading, 1 slot				
Printer interface*3         For printer connection, 1 channel           CRT interface*4         —         For CRT connection, SVGA 1 channel           CRT interface*4         For external speaker connection (3W + 3W or higher recommended) (stereo mini-jack), 1 channel each for L/R           Speech output terminal         For external speaker connection (3W + 3W or higher recommended) (stereo mini-jack), 1 channel each for L/R           Buzzer output         (2Vp-p, 0.4mW (for rated load 10kQ)), replayable speech file: Windows WAV format, 8.000kHz, 16-bit monaural (8 s/speech file)           Buzzer output         Image: Speech file           Buzzer output         Single tone (tone length adjustable)           Speech file         Single tone (tone length adjustable)           Buckinght*6+7         Stoppon (Operating ambient temperature: 25°C)           section*6+7         (Time when display luminance reaches 50% at the operating ambient temperature of 25°C)           Touch key         1 million times or more (operating force 0.98N max.)           Built-in memory         Number of write times: 100,000 times           Environmental protective struc-         Front section: Equivalent to IP67/NEMA4           ture         Sigle 12.28) (W) × 238 (9.37) (H) × 49 (1.93) (D) mm (inch)           Panel inside: IP2X         External dimensions           Sw5D5C-GTWORKS-E Version F or later         SW0D5C-GTWORKS-E Version A or later           S	RS-232C in	terface	For connection of personal computer, for bar-code reader connection, 1 channel					
CRT interface*4         —         For CRT connection, SVGA 1 channel           Speech output terminal         For external speaker connection (3W + 3W or higher recommended) (stereo mini-jack), 1 channel each for L/R           Speech output terminal         (2Vp-p, 0.4mW (for rated load 10kQ)), replayable speech file: Windows WAV format, 8.000kHz, 16-bit monaural (8 s/speech file)           Buzzer output         Display           section* <sup>6</sup> *7         50,000 h (Operating ambient temperature: 25°C)           Backlight* <sup>6</sup> *9         40,000 to 50,000 h           Touch key         1 million times or more (operating force 0.98N max.)           Built-in memory         Number of write times: 100,000 times           Environmental protective structure         Front section: Equivalent to IP67/NEMA4           ture         Panel inside: IP2X           External dimensions         312 (12.28) (W) × 238 (9.37) (H) × 49 (1.93) (D) mm (inch)           Panel cutting dimensions         302 (11.89) (W) × 228 (8.98) (H) mm (inch)           Weight         2.4 (5.3) kg (lb)           Compatible software package*8         SW5D5C-GOTR-PACKE Version F or later SW1D5C-GOTRE-PACK Version C or later	Printer inter	face* <sup>3</sup>	For printer co	onnection, 1 channel				
Speech output terminal         For external speaker connection (3W + 3W or higher recommended) (stereo mini-jack), 1 channel each for L/R (2Vp-p, 0.4mW (for rated load 10kΩ)), replayable speech file: Windows WAV format, 8.000kHz, 16-bit monaural (8 s/speech file)           Buzzer output         Display section* <sup>6*7</sup> Single tone (tone length adjustable)           Life*5         Display section* <sup>6*7</sup> Stoppe (tone)         Stoppe (tone)           Backlight* <sup>6*9</sup> Citime when display luminance reaches 50% at the operating ambient temperature of 25°C)           Touch key         1 million times or more (operating force 0.98N max.)           Built-in memory         Number of write times: 100,000 times           Environmental protective struc- ture         Front section: Equivalent to IP67/NEMA4           Panel cutting dimensions         312 (12.28) (W) × 238 (9.37) (H) × 49 (1.93) (D) mm (inch)           Panel cutting dimensions         SW5D5C-GTWORKS-E Version F or later SW5D5C-GOTR-PACKE Version F or later         SW0D5C-GTWORKS-E Version A or later	CRT interfa	ce* <sup>4</sup>	—	For CRT connection, SVGA 1 channel				
Speech output terminal         (2Vp-p, 0.4mW (for rated load 10kΩ)), replayable speech file: Windows WAV format, 8.000kHz, 16-bit monaural (8 s/speech file)           Buzzer output         Single tone (tone length adjustable)           Buzzer output         Single tone (tone length adjustable)           section* <sup>6</sup> * <sup>7</sup> 50,000 h (Operating ambient temperature: 25°C)           Backlight* <sup>6</sup> * <sup>9</sup> (Time when display luminance reaches 50% at the operating ambient temperature of 25°C)           Touch key         1 million times or more (operating force 0.98N max.)           Built-in memory         Number of write times: 100,000 times           Environmental protective struc- ture         Front section: Equivalent to IP67/NEMA4           Panel cutting dimensions         312 (12.28) (W) × 238 (9.37) (H) × 49 (1.93) (D) mm (inch)           Panel cutting dimensions         SW5D5C-GTWORKS-E Version F or later           Compatible software package* <sup>8</sup> SW5D5C-GTWORKS-E Version F or later			For external speaker connection (3W + 3W or higher	er recommended) (stereo mini-jack), 1 channel each for L/R				
(8 s/speech file)           Buzzer output         Single tone (tone length adjustable)           Life*5         Display section* <sup>6</sup> *7         50,000 h (Operating ambient temperature: 25°C)           Backlight* <sup>6</sup> *9         40,000 to 50,000 h           Touch key         (Time when display luminance reaches 50% at the operating ambient temperature of 25°C)           Touch key         1 million times or more (operating force 0.98N max.)           Built-in memory         Number of write times: 100,000 times           Environmental protective struc- ture         Front section: Equivalent to IP67/NEMA4           External dimensions         312 (12.28) (W) x 238 (9.37) (H) x 49 (1.93) (D) mm (inch)           Panel cutting dimensions         302 (11.89) (W) x 228 (8.98) (H) mm (inch)           Weight         2.4 (5.3) kg (lb)           Compatible software package* <sup>x8</sup> SW5D5C-GTWORKS-E Version F or later SW5D5C-GOTR-PACKE Version F or later         SW1D5C-GOTRE-PACK Version C or later	Speech out	put terminal	(2Vp-p, 0.4mW (for rated load $10k_{\Omega}$ )), replayable sp	eech file: Windows WAV format, 8.000kHz, 16-bit monaural				
Buzzer output       Single tone (tone length adjustable)         Life*5       Display section*6*7       50,000 h (Operating ambient temperature: 25°C)         Backlight*6*9       40,000 to 50,000 h         Touch key       (Time when display luminance reaches 50% at the operating ambient temperature of 25°C)         Touch key       1 million times or more (operating force 0.98N max.)         Built-in memory       Number of write times: 100,000 times         Environmental protective structure       Front section: Equivalent to IP67/NEMA4         ture       238 (9.37) (H) × 49 (1.93) (D) mm (inch)         Panel cutting dimensions       312 (12.28) (W) × 238 (9.37) (H) × 49 (1.93) (D) mm (inch)         Weight       2.4 (5.3) kg (lb)         Compatible software package* <sup>8</sup> SW5D5C-GTWORKS-E Version F or later SW5D5C-GOTR-PACKE Version F or later       SW1D5C-GOTRE-PACK Version C or later			(8 s/	/speech file)				
Life*5Display section*6*750,000 h (Operating ambient temperature: 25°C)Backlight*6*940,000 to 50,000 hTouch key(Time when display luminance reaches 50% at the operating ambient temperature of 25°C)Touch key1 million times or more (operating force 0.98N max.)Built-in memoryNumber of write times: 100,000 timesEnvironmental protective struc- tureFront section: Equivalent to IP67/NEMA4External dimensions312 (12.28) (W) × 238 (9.37) (H) × 49 (1.93) (D) mm (inch)Panel cutting dimensions302 (11.89) (W) × 228 (8.98) (H) mm (inch)Weight2.4 (5.3) kg (lb)Compatible software package*8SW5D5C-GTWORKS-E Version F or later SW5D5C-GOTR-PACKE Version F or later SW5D5C-GOTR-PACKE Version F or later	Buzzer outp	out	Single tone (to	one length adjustable)				
Life*5         section*6*7         50,000 h (Operating ambient temperature: 25°C)           Backlight*6*9         40,000 to 50,000 h           Touch key         (Time when display luminance reaches 50% at the operating ambient temperature of 25°C)           Touch key         1 million times or more (operating force 0.98N max.)           Built-in memory         Number of write times: 100,000 times           Environmental protective struc- ture         Front section: Equivalent to IP67/NEMA4           External dimensions         312 (12.28) (W) × 238 (9.37) (H) × 49 (1.93) (D) mm (inch)           Panel cutting dimensions         302 (11.89) (W) × 228 (8.98) (H) mm (inch)           Weight         2.4 (5.3) kg (lb)           Compatible software package* <sup>8</sup> SW5D5C-GOTR-PACKE Version F or later SW5D5C-GOTR-PACKE Version F or later         SW1D5C-GOTRE-PACK Version C or later		Display						
Life*5       Backlight*6*9       40,000 to 50,000 h         Touch key       (Time when display luminance reaches 50% at the operating ambient temperature of 25°C)         Touch key       1 million times or more (operating force 0.98N max.)         Built-in memory       Number of write times: 100,000 times         Environmental protective struc- ture       Front section: Equivalent to IP67/NEMA4         External dimensions       312 (12.28) (W) × 238 (9.37) (H) × 49 (1.93) (D) mm (inch)         Panel cutting dimensions       302 (11.89) (W) × 228 (8.98) (H) mm (inch)         Weight       2.4 (5.3) kg (lb)         Compatible software package*8       SW5D5C-GOTR-PACKE Version F or later SW5D5C-GOTR-PACKE Version F or later       SW1D5C-GOTRE-PACK Version C or later		section*6*7	50,000 h (Operating	ambient temperature: 25°C)				
Backlight*6x9         (Time when display luminance reaches 50% at the operating ambient temperature of 25°C)           Touch key         1 million times or more (operating force 0.98N max.)           Built-in memory         Number of write times: 100,000 times           Environmental protective struc- ture         Front section: Equivalent to IP67/NEMA4           External dimensions         312 (12.28) (W) × 238 (9.37) (H) × 49 (1.93) (D) mm (inch)           Panel cutting dimensions         302 (11.89) (W) × 228 (8.98) (H) mm (inch)           Weight         2.4 (5.3) kg (lb)           Compatible software package* <sup>8</sup> SW5D5C-GOTR-PACKE Version F or later SW5D5C-GOTR-PACKE Version F or later         SW1D5C-GOTRE-PACK Version C or later	1:4-*5		40,00	0 to 50,000 h				
Touch key         1 million times or more (operating force 0.98N max.)           Built-in memory         Number of write times: 100,000 times           Environmental protective structure         Front section: Equivalent to IP67/NEMA4           ture         Panel inside: IP2X           External dimensions         312 (12.28) (W) × 238 (9.37) (H) × 49 (1.93) (D) mm (inch)           Panel cutting dimensions         302 (11.89) (W) × 228 (8.98) (H) mm (inch)           Weight         2.4 (5.3) kg (Ib)           Compatible software package* <sup>8</sup> SW5D5C-GTWORKS-E Version F or later SW5D5C-GOTR-PACKE Version F or later         SW1D5C-GOTRE-PACK Version C or later	Life	Backlight* <sup>6*9</sup>	(Time when display luminance reaches 50	$0\%$ at the operating ambient temperature of $25^{\circ}C$ )				
Built-in memory         Number of write times: 100,000 times           Environmental protective struc- ture         Front section: Equivalent to IP67/NEMA4           External dimensions         312 (12.28) (W) × 238 (9.37) (H) × 49 (1.93) (D) mm (inch)           Panel cutting dimensions         302 (11.89) (W) × 228 (8.98) (H) mm (inch)           Weight         2.4 (5.3) kg (Ib)           Compatible software package* <sup>8</sup> SW5D5C-GTWORKS-E Version F or later SW5D5C-GOTR-PACKE Version F or later	Touch key		1 million times or more	e (operating force 0.98N max.)				
Environmental protective structure       Front section: Equivalent to IP67/NEMA4         ture       Panel inside: IP2X         External dimensions       312 (12.28) (W) × 238 (9.37) (H) × 49 (1.93) (D) mm (inch)         Panel cutting dimensions       302 (11.89) (W) × 228 (8.98) (H) mm (inch)         Weight       2.4 (5.3) kg (Ib)         Compatible software package* <sup>8</sup> SW5D5C-GTWORKS-E Version F or later SW5D5C-GOTR-PACKE Version F or later		Built-in memory	Number of writ	e times: 100,000 times				
ture         Panel inside: IP2X           External dimensions         312 (12.28) (W) × 238 (9.37) (H) × 49 (1.93) (D) mm (inch)           Panel cutting dimensions         302 (11.89) (W) × 228 (8.98) (H) mm (inch)           Weight         2.4 (5.3) kg (lb)           Compatible software package* <sup>8</sup> SW5D5C-GTWORKS-E Version F or later SW5D5C-GOTR-PACKE Version F or later         SW1D5C-GOTRE-PACK Version C or later	Environmen	tal protective struc-	Front section: Ec	quivalent to IP67/NEMA4				
External dimensions       312 (12.28) (W) × 238 (9.37) (H) × 49 (1.93) (D) mm (inch)         Panel cutting dimensions       302 (11.89) (W) × 228 (8.98) (H) mm (inch)         Weight       2.4 (5.3) kg (lb)         Compatible software package* <sup>8</sup> SW5D5C-GTWORKS-E Version F or later SW5D5C-GOTR-PACKE Version F or later       SW1D5C-GOTRE-PACK Version C or later	ture		Pane	l inside: IP2X				
Panel cutting dimensions       302 (11.89) (W) × 228 (8.98) (H) mm (inch)         Weight       2.4 (5.3) kg (lb)         Compatible software package* <sup>8</sup> SW5D5C-GTWORKS-E Version F or later SW5D5C-GOTR-PACKE Version F or later       SW0D5C-GTWORKS-E Version A or later	External din	nensions	312 (12.28) (W) × 238 (9.	37) (H) × 49 (1.93) (D) mm (inch)				
Weight     2.4 (5.3) kg (lb)       Compatible software package* <sup>8</sup> SW5D5C-GTWORKS-E Version F or later SW5D5C-GOTR-PACKE Version F or later     SW0D5C-GTWORKS-E Version A or later	Panel cuttin	g dimensions	302 (11.89) (W) ×	228 (8.98) (H) mm (inch)				
Compatible software package*8         SW5D5C-GTWORKS-E Version F or later         SW0D5C-GTWORKS-E Version A or later           SW5D5C-GOTR-PACKE Version F or later         SW1D5C-GOTRE-PACK Version C or later	Weight		2.4	(5.3) kg (lb)				
SW5D5C-GOTR-PACKE Version F or later SW1D5C-GOTRE-PACK Version C or later	Compatible	software package*8	SW5D5C-GTWORKS-E Version F or later	SW0D5C-GTWORKS-E Version A or later				
			SW5D5C-GOTR-PACKE Version F or later	SW1D5C-GOTRE-PACK Version C or later				

\*1 The built-in memory is ROM which allows old data to be overwritten by new data. (Data backup power supply is not needed.)

\*2 Note that either of the communication board slot and communication unit interface may only be used.

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### \*3 The following specifications are those of the printer interface.

#### When fabricating the printer cable on the user side, conform to the following specifications.

Item		Specifications								
Compliant Standard			Centronics (See below for the data and control signal timing.)							
Insulation system			Photocoupler insulation							
	Input				V <sub>1H</sub> = 2V	/, V <sub>1L</sub> = 0.8V				
Signal level	Output			١	V <sub>0H</sub> = 2.4	V, V <sub>0L</sub> = 0.5V				
Max. cable length			With	in 3m or with	nin the sp	ecifications of th	ne print	er used		
$\begin{array}{l} \text{DATA1 to 8} \\ (\text{sending side} \rightarrow \text{receiv} \\ \overline{\text{STROBE}} \\ (\text{sending side} \rightarrow \text{receiv} \\ \overline{\text{BUSY}} \\ (\text{sending side} \leftarrow \text{receiv} \\ \overline{\text{ACKNLG}} \\ (\text{sending side} \leftarrow \text{receiv} \\ \end{array}$			ving side) $H = 1$ $ving side$ ) $H = 1$							
		<ul> <li>(Note 1) 1) Minimum 1.0μs</li> <li>2) Minimum 1.0μs, maximum 500 3) Minimum 2μs</li> <li>(Note 2) BUSY rises after fall of STROBE.</li> <li>(Note 3) ACKNLG is sent within 10μs after fall of BUSY.</li> </ul>								
	Туре	GOT connector Cable connector Cable connector cover	: 1022 : 1012 : 1032	:0-52A2JL :0-6000EL(in :0-3210-000	sulation o	lisplacement ty	pe con	nector)	Sumitomo	3M make
			No.	Signal	No.	Signal	No.	Signal	No.	Signal
Connector used (GOT connector)		20 10	1	CHASIS GND	6	NC	11	DATA8	16	DATA3
	Pin-outs		2	ACKNLG	7	INIT	12	DATA7	17	DATA2
			3	DATA6	8	DATA1	13	PE	18	GND
			4	DATA5	9	STROBE	14	SLCT	19	ERROR
			5	DATA4	10	BUSY	15	GND	20	GND
Wiring diagram		() () () () () () () () () ()	GOT HASIS C CKNLG ATA6 ATA5 C C IIT ATA4 C JSY ATA4 IROBE JSY ATA7 C C I C T ND ATA3 ATA2 ND ATA2 ND RROR ND	side SND 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 16 17 18 19 20 -			Pri 17 (2 10 / 7 [ 6 [ 5 [ 36 ] 1 2 [ 1 2 [ 1 2 [ 1 2 ] 9 [ 8 [ 12 ] 8 [ 12 ] 8 [ 12 ] 1 2 [ 9 [ 8 ] 22 ( 4 ] 22 [ 1 3 ] 22 [ 1 3 ] 22 [ 24 ] (2 ] 24 ] (2 ] 24 ] (2 ] 24 ] (2 ] 24 ] (2	Inter side CHASIS GN ACKNLG DATA6 DATA6 DATA4 NC NIT DATA1 DATA1 DATA1 DATA1 DATA1 DATA1 DATA2 DATA2 DATA3 DATA2 DATA2 DATA2 DATA2 DATA3 DATA2 DATA3 DATA2 DATA3 DATA2 SND		

\*4 The following specifications are those of the CRT interface.

When fabricating the CRT cable on the user side, conform to the following specifications. For the CRT side connector, refer to the instruction manual of the CRT used.



3 - 4

### The wiring method used when the CRT is connected is shown below.



- \*5 When parts must be changed, consult your sales representative.
- \*6 The screen saving/back light OFF function of GOT is provide to prevent images from becoming permanently etched on the display and extend the back light life.
- \*7 Bright dots (always lit) and dark dots (unlit) may appear on a liquid crystal display panel. It is impossible to completely avoid this symptom, as the liquid crystal display comprises of a great number of display elements. Please note that these dots appear due to its characteristic and are not caused by product defect.
- \*8 GT Works2 and GT Designer2 are supported from the first version (Version1.00A).
- \*9 The specifications differ depending on the version of GOT (hardware version, function version).

#### (1) Specifications different for each GOT version

The GOT-A900 series differs in specifications according to the function version.

The specifications different for each GOT-A900 series version are indicated below.

(a) Life

Specifications are different in the display section or life according to the GOT function version. For checking GOT function version, refer to Section 7.4.

#### Relevant models

- A985GOT-TBA-V
   A985GOT-TBD-V
- A985GOT-TBA A985GOT-TBD

Item		Specifications					
		No function version, Function version A	Function version B (June, 2004) or later				
1:6-	Deallisht	40,000h	50,000h				
Life	Backlight	(Time when display luminance reaches 50% at the operating ambient temperature of 25 $^\circ$ C)					

### (b) Environmental protective structure

The environmental protection structure (IP rating) differs depending on the hardware version of GOT.

For how to confirm the hardware version of GOT, refer to Section 7.4.

Item		Specification					
		A985GOT-TBA-V A985GOT-TBD-V	A985GOT-TBA	A985GOT-TBD	A985GOT-TBA-EU		
Environmental	Front section: Equivalent to IP65 Panel inside: IP2X		Hardware ver	sion A or later			
protective structure	Front section: Equivalent to IP67/NEMA4 Panel inside: IP2X	Hardware version H (Dec., 2001) or later	Hardware version L (Dec., 2001) or later	Hardware version Q (Dec., 2001) or later	Hardware version G (May., 2001) or later		



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## 3.2.2 Performance specifications of the A975GOT/A970GOT/A960GOT

	Specifications							
	ltem	A975GOT-TBA-B	A970GOT-TBA-B	A970GOT-SBA	A970GOT-LBA	A960GOT-EBA		
	item	A975GOT-TBD-B	A970GOT-TBD-B	A970GOT-SBD	A970GOT-LBD	A960GOT-EBD		
		A975GOT-TBA-EU	A970GOT-TBA-EU	A970GOT-SBA-EU	A970GOT-LBA-EU	A960GOT-EBA-EU		
	Туре	TFT color li	quid crystal	D-STN color liquid crystal	STN monochrome liquid crystal	EL		
	Resolution		640 × 4	180 dots	1	640 × 400 dots		
	Display size		211 (8.31) × 158	(6.23) mm (inch)		192 (7.57) × 120 (4.73) mm (inch)		
Display	Display color	256 color	256 color 16 color 8		2 color * <sup>2</sup> (monochrome)	2 color (yellow orange, black)		
section		-B : 3	80 cd/m <sup>2</sup>					
	Intensity* <sup>1</sup>	-EU:3 (Average intensity o	50 cd/m <sup>2</sup> of liquid crystal only)	250 d (Average intensity d	cd/m <sup>2</sup> of liquid crystal only)	—		
	Display angle* <sup>1</sup>	-B : 85 degrees (rig -EU : 50 degrees (rig 40 degrees (up 45 degrees (do	ght, left, up and down) ght and left), o), own)	50 degrees (righ 45 degrees (up), 30 degrees (dow	_			
Backlight		(Ba	Cold cathode fluore cklight OFF/screen sa	scent tube backlight wing time setting allow	ved)	—		
Touch	Number of touch keys		1200 points (30 lines × 40 columns)					
panel	Key size		Minimum 16 × 16 dots (per key)					
	Repeat function			No				
	Туре			Flash ROM				
Memory*2	Application		For monitor screen data storage, for OS storage					
	Capacity		1M byte built-i	n (user area), max. 8N	1 bytes increasable			
Communica	ation board slot *3		For co	mmunication board loa	ading, 1 slot			
Communica	ation unit interface *3		For com	munication unit loadin	g, 1 channel			
Option unit	interface		For	option unit loading, 1	channel			
PC card inte	erface	For PC card loading, 1 channel						
Memory bo	ard slot	For memory board loading, 1 slot						
RS-232C in	iterface	For connection of personal computer for graphics software, for bar-code reader connection, 1 channel						
Printer inter	face* <sup>4</sup>	For parallel printer connection, 1 channel						
		For external speaker connection (3W + 3W or higher recommended) (stereo mini-iack). 1 channel each for L/R						
Speech out	put terminal	(2Vp-p, 0.4mW (for r	ated load 10kΩ)), com	npatible speech file: W (8 s/speech file)	indows WAV format, 8	.000kHz, 16-bit monaural		
Buzzer outp	out		Sing	le tone (tone length ac	ljustable)			
	Display section	-B : 4: -EU: 4	3,000h 1.000h	50,0	000h	30,000h (Initial		
	*1*6*7	(Operating ambient	temperature : 25 °C )	(Operating ambient	temperature : 25 °C )	luminance 70%, 25°C)		
Life* <sup>5</sup>	Dooldischt*1*7	-B : 4: -EU: 4	3,000h 0,000h	40,0	000h	—		
	Dackingrit	(Time when display	luminance reaches 50 25	% at the operating am $^\circ\!\mathrm{C}$ )	bient temperature of			
	Touch key	1 million times or more (operating f			orce 0.98N max.)			
Built-in memory Number of write times: 100,000 times				000 times				
Environmer structure* <sup>1</sup>	ntal protective		Front s	ection: Equivalent to If Panel inside: IP2X	P67/NEMA4			
structure*'       Outline dimensions       25			11.7) (W) × 208 (8.2) (H) × 46 (1.81) (D) mm (inch)			268 (10.56) (W) × 192 (7.56) (H) × 49 (1.93) (D)mm (inch)		

Specifications								
	ltem	A975GOT-TBA-B	A970GOT-TBA-B	A970GOT-SBA	A970GOT-LBA	A960GOT-EBA		
	item	A975GOT-TBD-B	A970GOT-TBD-B	A970GOT-SBD	A970GOT-LBD	A960GOT-EBD		
		A975GOT-TBA-EU	A970GOT-TBA-EU	A970GOT-SBA-EU	A970GOT-LBA-EU	A960GOT-EBA-EU		
Panel cutting	g dimensions		289 (11.39) (W) × 200	0 (7.88) (H) mm (inch)		258 (10.17) (W) × 183 (7.21) (H) (inch)	RVIEW	
Weight		1.8 (4.0	) kg (lb)	1.9 (4.2	) kg (lb)	1.6 (3.5) kg (lb)	OVE	
				SW0D5C-	SW0D5C-	SW/0D5C	$\overline{\mathbf{a}}$	
		SW0D5C-GTWORKS-E Version A or later,		GTWORKS-E	GTWORKS-E	GTWORK-F		
Compatible	software package* <sup>8</sup>	SW1D5C-GOTRE-PA	CK Version A or later	Version A or later,	Version A or later,	Version A or later,	7	
		(8-step intensity adj	ustment is available	SW1D5C-GOTRE-	SW1D5C-GOTRE-	SW1D5C-GOTRE-	IO	
		Irom version	i C or later.)	Version A or later	Version J or later	PACK Version A or later	JRA	
	*1 Display	specifications vary v	vith the GOT version	(hardware version, fu	unction version). For	details, refer to the	EM E	
	Section	3.2.1 (1) in the follow	ving page.		,	,	INO:	
	*2 The bu	ilt-in memory is ROM	which allows old data	a to be overwritten by	v new data. (Data bao	kup power supply is not	00	
	needeo	l.)					3	
	*3 Note th	at either of the comm	unication board slot	and communication u	unit interface may on	ly be used.		
	*4 Refer to	o the [3.2.1] for detail	s on the specification	is are those of the pri	inter interface.		ICE	
	*5 When p	parts must be change	d, consult your sales	representative.			MAN	
	*6 The sci	een saving/back light	OFF function of GO	T is provide to preven	t images from becon	ning permanently etched	ORI	
	on the	display and extend th	e back light life.				ERF	
	*7 Bright of	lots (always lit) and d	ark dots (unlit) may a	appear on a liquid cry	stal display panel. It	is impossible to	ā	
	comple	tely avoid this sympton	om, as the liquid crys	tal display comprises	of a great number o	f display elements.	4	
	Please	note that these dots	appear due to its cha	racteristic and are no	ot caused by product	defect.		
	*8 GI Wo	rks2 and GT Designe	r2 are supported from	n the first version (Ve	ersion1.00A).		AND	
	^9 A scree	en created with GI De	esigner2 is displayed	with reversing (white	e/black) on GOT.	an COT with [Caturil of	ES	
	The sa	me display image as	a screen created with	n GT Designer2 can i	be set for the display	on GOT with [Setup] of	NAM NGS	
	the utili	ty.	liante la Diach The				TTIN	
	• \\\\	en setting [Reverse t	lisplay] to [fes]. The	usplay is the same a	diaplay of a agroup	or Designer 2.	PA	
		en selling [Reverse ( )esigner? is displayed	iispiay] to [ivo]. The i v		) display of a screen		5	
	Eor hov	w to operate the utility	refer to the GOT-AG	000 Series Operating	Manual (Extended (	option Functions Manual)	<u></u> ш	
	*10 Perfor	mance specifications	of A975GOT-TBA/T	BD and A970GOT-TI	BA/TBD are given in	Appendix 4 1	PEF	
							С Ц С С	
(	1) Specification	s different for ea					PR PRO	
(		eries specificatio	ns are different a	according to the (		dware version	DN F	
	GOT-A900 S					uware version,	ATIC	
		sion.).				i	6	
	Details are g	iven below.						
	(a) Display	section, Life						
	Specific	ations are differe	nt in the display	section or life acc	cording to the GC	DT function version.		
	For che	ckina GOT functi	on version, refer	to Section 7.4.	U		Ű	
		<u>-</u>	,,				DLI	
	Relevant mo	dels					HAN	
	• A975GOT-	TBA-B • A9750	GOT-TBD-B					
	• A970GOT-	TBA-B • A970	GOT-TBD-B					
				Specifications			AND	
	Item No function version Eurotion version A Eurotion version B (January 2004) or later							
			$250 \text{ od/m}^2$		380 cd/	m <sup>2</sup>	TIOI	
	Intensity	(Average inten	sity of liquid crystal on	ly)	(Average intensity of li	quid crystal only)	EC EC	
Display		50 degrees (	right and left)	.,,	, wordge menory of a		NSF	
section	Display angle	40 degrees (	up)		85 degrees (right lef	t up and down)	2	
	Biopidy drigio	45 degrees (	down)				0	
	Display section	41 000h (Oneretie	ambiont tome and	25°C) 42.00	Nh (Operating ambi-	at tomporature: 25°C \	AND	
1.56-				43,00			ES/ SAG	
LITE	Backlight		40,0001		43,000	n	AES AES	
		(Time when	display luminance rea	aches 50% at the oper	ating ambient tempera	ture of 25 °C )	DR N	
							RR	
							шШ	

### (b) Environmental protective structure

The compliant environmental protective structure is different according to the GOT function version.

			Specification						
		A975GOT-TBA-B							
		A975GOT-TBD-B							
		A970GOT-TBA-B	A975GOT-			A960GOT-			
	Item	A970GOT-TBD-B	TBA-EU	A970GOT-	A970GOT-	EBA	A960GOT-		
		A970GOT-SBA	A970GOT-	SBA-EU	LBA-EU	A960GOT-	EBA-EU		
		A970GOT-SBD	TBA-EU			EBD			
		A970GOT-LBA							
		A970GOT-LBD							
	Front section:								
	Equivalent to IP65		Hardware version A or later						
Environmental	Panel inside: IP2X								
protective	Front section:		Hardware	Hardware	Hardware	Hardware	Hardware		
structure	Equivalent to	Hardware version N	version T	version E	version B	version K	version L		
	IP67/NEMA4	(Dec., 2001) or later	(May., 2001)	(May., 2001)	(Dec., 2001)	(Dec., 2001)	(May., 2001)		
	Panel inside: IP2X		or later	or later	or later	or later	or later		

### For checking GOT function version, refer to Section 7.4.

		Specifications				
ltem	A985GOT-TBA-V	A985GOT-TBA(-EU), A975GOT-TBA(-B)(-EU), A970GOT-TBA(-B)(-EU), A970GOT-SBA(-EU), A970GOT-LBA(-EU), A960GOT-EBA(-EU)	A985GOT-TBD (-V), A975GOT-TBD(-B), A970GOT-TBD(-B), A970GOT-SBD, A970GOT-LBD, A960GOT-EBD			
Input power supply voltage	AC100 to 24	0V (+10, -15)	24VDC (+25%, -20%)			
Input frequency	50/60H	$z \pm 3Hz$	_			
	For 100VAC input	For 100VAC input				
	When communication board is used: 59VA or less When communication module is	When communication board is used: 50VA or less When communication module				
Input max. apparent power	For 200VAC input	For 200VAC input	—			
	When communication board is used: 74VA or less When communication module is used: 86VA or less* <sup>1</sup>	When communication board is used: 63VA or less When communication module is used: 75VA or less* <sup>1</sup>				
Input max. power	-		40W			
Inrush current 40A max. (264VAC, max. load)		/AC, max. load)	61A max. (30VDC, max. load)			
Permissible instantaneous power failure time	20ms (100V	1ms				
Noise immunity	By noise simulator of 1,500Vp-p noise v noise frequency	By noise simulator of 500Vp-p noise voltage, 1µs noise width and 25 to 60Hz noise frequency				
Dielectric withstand voltage	1500VAC for 1 minute across AC extern second for EU)	nal terminals and earth (2830VAC for 1	500VAC for 1 minute across DC external terminals and earth			
Insulation resistance	10Ms	$\Omega$ or larger by insulation resistance tester				
External output	Trar	nsistor output, 2 points (RUN, OUTPUT)				
Insulation system		Photocoupler insulation				
Rated load voltage		12/24VDC				
Operating load voltage range		10.2 to 30VDC (Peak voltage 30V)				
Max. load current		0.1A/point, 0.2A/common				
Max. inrush current		0.4A, 10ms max.				
OFF-time leakage current		0.1mA max.				
ON-time max. voltage drop	1.0	VDC (TYP.) 0.1A, 2.5VDC (MAX.) 0.1A				
Response $OFF \rightarrow ON$	10ms max. (resistive load)					
time $ON \rightarrow OFF$		10ms max. (resistive load)				
Surge suppressor		Zener diode				
Applicable wire size	0.75 to 2mm <sup>2</sup>					
Applicable solderless terminal	R	AV1.25-3, V2-S3.3, V2-N3A, FV2-N3A				
Applicable tightening torque (Terminal block terminal screw)		59 to 88N - cm				

\*1 When the communication module for bus connection (A9GT-BUSSU/A9GT-BUS2SU/A9GT-QBUS2SU) is used, the maximum input apparent power is the same as when the communication board is used.



- If an instantaneous power failure occurs in the power supply and continues for more than the permissible period, the GOT will be reset.
- Make sure to power on the unit more than 1 minute after power-off.

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MAINTENANCE AND INSPECTION

ERROR CODES AND ERROR MESSAGES

## 3.3 Power Supply Power Consumed when Communication Board or Communication Unit Is Fitted

### 3.3.1 GOT with AC type input power supply

When the communication board or communication unit is fitted to the GOT whose input power supply is AC type, power consumption is as listed below.

			Power Consumption (Apparent Power)				
Communication Type	Input Voltage	A985GOT- TBA-V	A985GOT- TBA A985GOT- TBA-EU	A975GOT-TBA A975GOT-TBA-B A975GOT-TBA-EU	A970GOT-TBA A970GOT-TBA-B A970GOT-TBA-EU	A970GOT-SBA A970GOT-SBA-EU A970GOT-LBA A970GOT-LBA-EU	A960GOT-EBA A960GOT-EBA-EU
Communication	100VAC	59VA or less			50VA or less	3	
unit	200VAC	74VA or less			63VA or less	3	
Communication	100VAC	69VA or less	60VA or less				
board*1	200VAC	86VA or less	75VA or less				

\*1 When the communication module for bus connection (A9GT-BUSSU/A9GT-BUS2SU/A9GT-QBUS2SU) is used, the maximum input apparent power is the same as when the communication board is used.

## 3.3.2 GOT with DC type input power supply

When the communication board or communication unit is fitted to the GOT whose input power supply is DC type, power consumption is as listed below.

Communication		Power Consumption (Apparent Power)						
Туре	Voltage	A985GOT- TBA-V	A985GOT- TBD	A975GOT-TBD A975GOT-TBD-B	A970GOT-TBD A970GOT-TBD-B	A970GOT-SBD A970GOT-LBD	A960GOT-EBD	
Communication unit	19.2 to 30VDC	31W or less	26W or less	20W or less		17W or less	20W or less	
Communication board* <sup>1</sup>	19.2 to 30VDC	37W or less	32W or less	26W	or less	22W or less	24W or less	

\*1 When the communication module for bus connection (A9GT-BUSSU/A9GT-BUS2SU/A9GT-QBUS2SU) is used, the maximum input apparent power is the same as when the communication board is used.

# 4 PART NAMES AND SETTINGS

## 4.1 Part Names And Settings of the A985GOT(-V)



Number	Name	Description
1)	Display section	Shows the screen
2)	Operator detect sensor	Sensor that detects operators
3)	Reset button	Used to reset the hardware of the GOT
4)	memory card access switch	Used to set the condition of access to the PC card when it is loaded during power-on (Factory-set to OFF) OFF … Access from GOT to PC card inhibited ON … Access from GOT to PC card enabled
5)	memory card LED	Indicates whether the PC card may be loaded/unloaded or not OFF ···· PC card may be loaded/unloaded (When switch 4 is OFF) ON ···· PC card must not be loaded/unloaded (When switch 4 is ON)
6)	Communication unit interface	Interface for loading the communication unit
7)	memory card interface	Interface for loading the PC card
8)	memory card ejection button	Button used to withdraw the PC card

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Number	Name	Description	
9)	Speech output terminal	For external speaker connection	
10)	Slot cover	Fixture to cover the slot	
11)	Printer interface	For printer connection	
12)	CRT interface (for A985GOT only)	For CRT connection	
12)	RS-232C interface (for A985GOT-V only)	For connection of percental computer and her order reader	
13)	RS-232C interface (for A985GOT only)		
14)	Option unit interface	For option unit loading (for future extension)	
15)	Terminal block	For power input and external output	
16)	Communication board slot	Slot for communication board loading	
17)	Memory board slot	Slot for memory board loading	
18)	Screw hole for attaching memory board	Screw hole used to attach the memory board	
19)	Mounting fixture fitting portion	For mounting fixture fitting	
20)	Protective ground terminal	For earthing (For safety, please make sure to ground this terminal.)	
21)	Rating plate	_	

# 4.2 Part Names And Settings of the A975GOT/ A970GOT/A960GOT



Number	Name	Description	
1)	Display section	Shows the screen	
2)	Reset button	Used to reset the hardware of the GOT	
ò		Used to set the condition of access to the PC card when it is loaded during power-on (Fac- tory-set to OFF)	
3)	memory card access switch	OFF ··· Access from GOT to PC card inhibited	
		ON ···· Access from GOT to PC card enabled	
		Indicates whether the PC card may be loaded/unloaded or not	
4)	memory card LED	OFF ··· PC card may be loaded/unloaded (When switch 3 is OFF)	
		ON ···· PC card must not be loaded/unloaded (When switch 3 is ON)	
5)	Communication unit interface	Interface for loading the communication unit	
6)	memory card interface	Interface for loading the PC card	
7)	memory card ejection button	Button used to withdraw the PC card	
8)	Speech output terminal	For external speaker connection	

Number	Name	Description
9)	Slot cover	Fixture to cover the slot
10)	Printer interface	For printer connection
11)	RS-232C interface	For connection of personal computer For connecting the bar code reader
12)	Option unit interface	For option unit loading (for future extension)
13)	Terminal block	For power input and external output
14)	Communication board slot	Slot for communication board loading
15)	Memory board slot	Slot for memory board loading
16)	Screw hole for attaching memory board	Screw hole used to attach the memory board
17)	Mounting fixture fitting portion	For mounting fixture fitting
18)	Protective ground terminal *1	For earthing (For safety, please make sure to ground this terminal.)
19)	Rating plate	—

\*1 Some GOTs may not be equipped with a protective ground terminal. For details on earthing the protective ground terminal, see Section 6.1.3.

# 5 ROUGH PRE-OPERATION PROCEDURE

This chapter gives a rough procedure to be performed before starting the operation of the GOT.



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# 6 HANDLING

This chapter explains how to handle the GOT main unit and components.

## 6.1 GOT Main Unit

### 6.1.1 Handling instructions

This section describes the instructions for handling the GOT main unit and components.

<pre>!&gt;DANGER</pre>	<ul> <li>Before installing or removing the GOT main unit to or from the control panel, always switch off the GOT power externally in all phases. Not doing so can cause a GOT failure or malfunction.</li> <li>Before loading or unloading the communication board, communication unit or memory board to or from the GOT, always switch off the GOT power externally in all phases. Not doing so can cause a unit failure or malfunction.</li> <li>Before starting wiring, always switch off the GOT power externally in all phases. Not doing so may cause an electric shock, product damage or malfunction.</li> </ul>
<b>CAUTION</b>	<ul> <li>The GOT should be used in the environment given in the general specifications of this user's manual.</li> <li>Not doing so can cause an electric shock, fire, malfunction or product damage or deterioration.</li> <li>When mounting the GOT main unit to the control panel, tighten the mounting screws in the specified torque range.</li> <li>Undertightening can cause a drop, short circuit or malfunction.</li> <li>Overtightening can cause a drop, short circuit or malfunction due to the damage of the screws or the GOT.</li> <li>When loading the communication board or communication unit to the GOT, fit it to the connection interface of the GOT and tighten the mounting screws in the specified torque range.</li> <li>Undertightening can cause a drop, failure or malfunction.</li> <li>Overtightening can cause a drop, failure or malfunction.</li> <li>When loading the memory board to the GOT, do not touch the boards and electronic parts directly.</li> <li>Doing so can cause a GOT malfunction.</li> <li>When loading the memory board into the GOT, load it into its corresponding GOT slot and tighten the mounting screws in the specified torque range.</li> <li>Undertightening can cause a malfunction due to a poor contact.</li> <li>Overtightening can cause a malfunction due to the damage of the screws or the GOT.</li> <li>Before loading or unloading the PC card to or from the GOT, set the memory card access switch to the OFF position.</li> <li>Not doing so can cause the PC card data to be corrupted.</li> <li>Please make sure to ground FG terminal, LG terminal, and protective ground terminal of the GOT power supply section on the GOT after confirming the rated voltage and terminal arrangement of the pro</li></ul>

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	Exercise care to avoid foreign matter such as chips and wire offcuts entering the GOT.
	Not doing so can cause a fire, failure or malfunction.
•	Tighten the terminal screws of the GOT power supply section in the specified torque range.
	Undertightening can cause a short circuit or malfunction.
	Overtightening can cause a short circuit or malfunction due to the damage of the screws or the GOT.
•	Plug the bus connection cable by inserting it into the connector of the connected module until it "clicks".
	After plugging, check that it has been inserted snugly.
	Not doing so can cause a malfunction due to a poor contact.
•	Plug the communication cable into the connector of the connected unit and tighten the mounting and terminal screws in the specified torque range.
	Undertightening can cause a short circuit or malfunction.
	Overtightening can cause a short circuit or malfunction due to the damage of the screws or unit.
	Do not touch the conductive and electronic parts of the unit directly.
	Doing so can cause a unit malfunction or failure.

- Do not drop the GOT or give it strong impact.
   Doing so can cause a failure because the display section is made of glass.
- (2) Do not remove the printed circuit board of the GOT from the case. Doing so can cause a failure.
- (3) When mounting the main unit to a control panel or similar, set the display section as shown below.
  When the temperature inside the control panel is 40 to 55°C or less, the mounting angle should be in the range 60 to 105 degrees.



- The GOT will be deteriorated earlier if it is used at the mounting angle other than the above. Therefore, the temperature inside the control panel should be within 40°C.
- (4) Tighten the screws in the following specified range.

Screw Location	Tightening Torque Range	
Protective ground terminal screw (M4 screw)	82 to 110N - cm	
Terminal block terminal screw (M3 screw)	59 to 88N - cm	
Mounting fixture screw (M4 screw)		
Communication unit mounting screw (M3 screw)		
Communication board mounting screw (M3 screw)	36 to 48N - cm	
Option unit mounting screw (M3 screw)		
Case fixing screw (M3 screw)		
SVGA type CRT mounting screw		
Memory board mounting screw (M2.6 screw)	25 to 35N - cm	
RS-232C connector mounting screw (#4-40 UNC (inch screw))	20 to 28N - cm	

### 6.1.2 Installation method

This section provides how to install the GOT.

(1) Mounting panel cutting dimensions

When mounting the GOT on a control panel door, user-made mounting base or similar, the door or mounting base must be cut as indicated below.

Α		Туре	A [mm] (inch)	B [mm] (inch)
	 	A985GOT(-V)	302 (11.89) [+1.0 (0.04), -0 (0)]	228 (8.98) [+1.0 (0.04), -0 (0)]
Paner opening		A975GOT	289 (11.39)	200 (7.88)
	ш	A970GOT	[+1.0 (0.04), -0 (0)]	[+1.0 (0.04), -0 (0)]
		A960GOT	258 (10.17) [+1.0 (0.04), -0 (0)]	183 (7.21) [+1.0 (0.04), -0 (0)]

### (2) Mounting position

When mounting the GOT, the following clearances must be left from the other device.



Part A size: Because the connection cable of the GOT is pulled downward, the following space is required according to its radius of curvature.

Туре	A [mm] (inch)
A97*GOT+Communication board	130 (5.12) or more
A985GOT(-V)/A960GOT+Communication board	140 (5.51) or more
A97*GOT+A9GT-BUSSU/BUS2SU	15 (0.59) or more
A985GOT(-V)/A960GOT+A9GT-BUSSU/BUS2SU	30 (1.18) or more

When using a cable prepared by user, please consider the connector cover to be used and the bending radius of the cable.

When using a bar code reader, please consider the dimensions of the connector to be used and the bending radius of the cable.

Part B size: When using a PC card or an speech output device (for a connected cable connector and a wire), a clearance of 100mm (3.94inch) or more is required.

When removing a PC card by opening a cover of the memory card interface part, a clearance of 50mm (1.97inch) is required.

(A clearance of 50mm (1.97inch) or more is required when an audio speech device or a memory card is not used.)

Part C size: Please allow a gap 80mm (3.15inch) or more from the structure and other equipment in the upper part of the unit to often allow good ventilation.

Part D size: When installing devices that generate radiated noise (such as a contactor) or a device that generate heat near the GOT, always leave a clearance of 100mm (3.94inch) or more to the back and 50mm (1.97inch) or more to the left and right to avoid the effects of the noise and heat.

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### (3) Mounting method

- (a) Put the GOT into the panel opening, with its front face first.
- (b) Mount the GOT in the following four locations at its top and bottom.



(c) How to mount and fix the mounting fixture is given below.



 Insert the mounting fixture into the fixture fitting portion of the GOT.
 Tighten and fix the mounting screw in the specified torque range. (Overtightening may distort the panel and crimp the protective sheet.)



Do not paint at the sections where the mounting fixture and control panel contact. Instead provide a conductivity between the mounting fixture and control panel.

() DANGER	• Completely turn off the externally supplied power used in the system when installing or placing wiring. Not completely turning off all power could result in electric shock, damage to the product.	
AUTION	<ul> <li>Be sure to ground the FG terminal and LG terminal of the GOT power supply section to the protective ground conductor. Not doing so could result in electric shock or erroneous operation.</li> <li>When wiring in the GOT power section, be sure that it is done correctly by checking the product's rated voltage and the terminal layout. Connecting a power supply that is different from the rating or incorrectly wiring the product could result in fire or erroneous operation.</li> <li>Tighten the terminal screws of the GOT power supply section within the specified torque range.</li> <li>If the terminal screws are loose, it could result in short circuits, erroneous operation or erroneous operation.</li> <li>Tightening the terminal screws too far may cause damages to the screws and/or the module, resulting in fallout, short circuits, or erroneous operation.</li> <li>Be sure there are no foreign substances such as sawdust or wiring debris inside the GOT main unit.</li> </ul>	RT NAMES AND SYSTEM
Bomark	General view of noise countermeasures	PA PA

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eneral view of noise countermeasures

There are two types of noise: radiated noise, which is transmitted through the air, and conducted noise, which is transmitted through a connection wire. In noise countermeasures, the both two types of noise should be taken into account. As the noise countermeasures, there are the following three methods.

- (1) Block noise
  - (a) Keep signal wires away from a possible noise source as power wires or highpower driving circuits.
  - (b) Shield signal wires.
- (2) Reduce generated noise
  - (a) Reduce the noise generated from high-power motor drive circuits.
- (3) Ground noise without fail
  - (a) Earth the grounding wire to the ground without fail.
  - (b) Use a grounding wire as thick and short as possible to ensure low grounding impedance.
  - (c) Separate the grounding between power and control systems.

6.1 GOT Main Unit

6.1.3 Wiring method

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- (1) Power supply wiring
  - Separate the GOT's power supply line from the lines for I/O devices and power devices as shown below.

When there is much noise, connect an insulation transformer.

Power supply wiring diagram



• 100VAC, 200VAC and 24VDC wires should be twisted as dense as possible. Connect the modules with the shortest distance.

Also, to reduce the voltage drop to the minimum, use the thickest wires possible (0.75 to 2mm<sup>2</sup>). Use a solderless terminal for M3 screw. Also, be sure to tighten the M3 screw within tightening torque 0.55 to 0.88 N m in order not to cause trouble.

- Do not bundle the 100VAC, 200VAC and 24VDC wires with, or run them close to, the main circuit (high voltage, large current) and I/O signal lines. Reserve a distance of at least 100 mm from adjacent wires.
- As a countermeasure to power surge due to lightening, connect a surge absorber for lightening as shown below.

Lightening surge absorber connection diagram





- (1) Separate the ground of the surge absorber for lightening (E1) from that of the GOT (E2).
- (2) Select a surge absorber for lightening whose power supply voltage does no exceed the maximum allowable circuit voltage even at the time of maximum power supply voltage elevation.

### (2) Connection Cable Wiring

- Do not bind connection cables with the main circuit (high voltage, heavy current) or I/O signal cables, or lay them close to each other.
- When using A8GT-C□EXSS-1 or A8GT-C□BS, ground wires as below.
- (1) When using A8GT-C□EXSS-1 cable



- 1) Connect the LG and FG terminals of GOT unit power to the ground through the terminal block with one wire.
- 2) Use FG wires of 28 cm or less for the A8GT-C□BS cable.
- 3) Do not connect the FG grounding wire of A8GT-EXCNB cable.
- 4) Connect the A8GT-C□BS cable's FG wire to FG of the GOT unit power terminal block.
- 5) Connect the A8GT-C□BS cable's FG wire on the PLC side to FG of the PLC power supply module.
- 6) Connect the LG and FG terminals of the terminal block on the PLC to ground with one wire.(2) When using A8GT-C□BS cable
  - Connect the A8GT-C□BS cable's FG wires on the both sides to the FG terminals on the power terminal block of the both side GOTs.

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### (3) Grounding

- For grounding, perform the following:
- Use a dedicated grounding wire as far as possible. (Grounding resistance of  $100^{\Omega}$  or less.)
- When a dedicated grounding cannot be performed, use (2) Common Grounding shown below. Also, be sure to take noise countermeasures other than grounding.



- For grounding a cable, use the cable of 2 mm<sup>2</sup> or more. Position the ground-contact point as closely to the sequencer as possible, and reduce the length of the grounding cable as much as possible.
- (a) An example of independent grounding



\*For control system grounding, apply single-point grounding for one system. Especially for the devices communicating each other, be sure to earth the grounding wire at one point.

(b) An example of common grounding



\*Apply single-point grounding for one system.

### (c) Recommended terminal shapes



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(4) Connecting to the GOT Power Section

The following diagram shows the wiring example of power lines, grounding lines, etc. to the GOT power section.



- Use the thickest possible (max. 2 mm<sup>2</sup> (14 AWG)) wires for the 100/200 VAC and 24 VDC power cables. Be sure to twist these wires starting at the connection terminals. To prevent a short-circuit should any screws loosen, use solderless terminals with insulation sleeves.
- (2) When the LG terminals and FG terminals are connected, be sure to ground the wires. Do not connect the LG terminals and FG terminals to anything other than ground. If LG terminals and FG terminals are connected without grounding the wires, the PLC may be susceptible to noise.

In addition, since the LG terminals have potential, the operator may receive an electric shock when touching metal parts.

How to wire the GOT power supply section is explained below.

(a) Wiring diagram



\*1 The GOTs of the following hardware versions are not equipped with protective ground terminals because they do not require earthing.

Item	Туре	Hardware version	
	A975GOT-TBA(-B)	Version L (June, 2001) or later	
A975GOT	A975GOT-TBD(-B)		
	A975GOT-TBA-EU	Version E (July, 2003) or later	
	A970GOT-TBA(-B)		
	A970GOT-TBD(-B)		
	A970GOT-SBA	Version L (June, 2001) or later	
	A970GOT-SBD		
A970GOT	A970GOT-LBA		
	A970GOT-LBD		
	A970GOT-TBA-EU	Version E (July, 2003) or later	
	A970GOT-SBA-EU	Version S (July, 2003) or later	
	A970GOT-LBA-EU	Version L (July, 2003) or later	
	A960GOT-EBA	Version H (June, 2001) or later	
A960GOT	A960GOT-EBD		
	A960GOT-EBA-EU	Version V (August, 2002) or later	

The protective ground terminal is not provided because this product does not require earthing.

\*2 When the conventional GOT's protective ground terminal has the wire fixed, remove or insulate the wire.

### (b) How to use the external outputs

### 1) RUN

Outputs whether the GOT operation is normal or abnormal. Use this output when it is desired to monitor the GOT operation on the PLC CPU, for

example. Import this output to the input module and check it in the sequence program. ON: Normal operation, OFF: Abnormal operation

2) OUTPUT

External outputs can be provided (lamp is lit, buzzer beeps) by switching on the bit device GB1 in the GOT with the status monitoring function and touch switch (bit) function.

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### 6.1.4 Precautions on wiring the part which matches the EMC Directives

Connect and wire GOT-A900 series equipment as instructed below.

If the GOT-A900 series equipment is configured in a way that differs from the following instructions, the system will not comply with EMC directives.

The GOT case is made of different material depending on the hardware version.

Make sure to confirm the hardware version of the GOT used, as the wiring or connection method varies with the case material.

The following table shows the GOT hardware version and the corresponding case material.

Tupo	Material		
туре	Conductive material case	Non-conductive mold (resin) case	
A985GOT-TBA-EU	A or later		
A975GOT-TBA-EU	A or later	E or later (July, 2003)	
A970GOT-TBA-EU	A or later	E or later (July, 2003)	
A970GOT-SBA-EU	A or later	S or later (July, 2003)	
A970GOT-LBA-EU	A or later	L or later (July, 2003)	
A960GOT-EBA-EU	A or later	V or later (August, 2003)	

(1) Method to connect the power wire, ground wire and protective ground terminal

(a) Method to connect the power wire and ground wire
 Connect the power wire and connection cable as shown in the illustration, and be sure to attach a ferrite core (TDK type ZCAT3035-1330) within the range shown below.
 Lead the power wire and ground wire as shown in Section 1.2.2 (2).
 Always ground the LG and FG wires.



\*1 Wrap the FG and LG wire around the ferrite core.

- (b) Method to ground the protective ground terminal
  - 1) For GOT with conductive metal case

Be sure to ground the protective ground terminal of the GOT to the control panel. At this time, keep the length of the ground wire grounding the control panel to within 120mm (4.72inch).

Moreover, be sure to install the ferrite core (TDK brand ZCAT3035-1330) within 70mm from the protective ground terminal.

### (The ferrite core is not used when using the A985GOT RS-422 connection.)



2) For GOT with non-conductive mold (resin) case

This GOT does not include the protective ground terminal, as it does not require grounding.

### (c) For CC-Link connection

Use the grounding wire (300mm or less) to connect the FG terminal of the CC-Link communication unit to that of the GOT power supply section.

Then, attach the ferrite core (ZCAT3035-1330) within 70mm of the FG terminal of A8GT-J61BT13.



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Produce the cable for the GOT with the following method.

When producing the cable, a ferrite core, cable clamp and cable shielding material are required. The cable clamp used by Mitsubishi Electric for the EMC specification compatibility test is shown below.

- TDK brand ZCAT3035-1330 Ferrite Core
- TDK brand ZCAT2436-1330 Ferrite Core
- Mitsubishi Electric Model AD75CK cable clamp
- Japan Zipper Tubing Co., Ltd. Zipper tube SHNJ type
- (a) BUS connection cable
  - 1) For A8GT-C100/200/300EXSS, A8GT-C100/200/300BS.
    - Cut the connection wire protruding from both ends of the cable to the lengths shown below.
    - Peel the sheath (with the length shown below) at both ends of the cable, and expose the shield braided wire for grounding.

(for grounding with cable clamps (refer to Section (3))



- 2) For other cables between GOT and base unit
  - Wind cable shield material around the cable, and pull out the grounding braided wire of the cable shield material with the length shown below.
  - Pass the grounding braided wire on the programmable logic controller side through the core.



- 3) For other cables between GOTs
  - · Wind cable shield material around the cable, and pull out the grounding braided wire of the cable shield material with the length shown below.
  - Do not pass the grounding braided wire on the programmable logic controller through the core.



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### For A97\*/960GOT

- Wind cable shield material around the cable, and pull out the grounding braided wire of the cable shield material with the length shown below.
- Pass the grounding braided wire on the programmable logic controller side through the core.



- (c) Computer link connection
  - 1) For RS-232C cable

The RS-232C cable used to connect the GOT, the computer link module and PLC CPU with computer link function must be prepared by the user.

The RS-232C cable connection diagram and the connector are as follows.

Connection diagram

• If D-sub 9-pin is used for the connector of the computer link module.

(A1SJ71QC24(-R2), A1SJ71UC24-R2, A1SJ71C24-R2,

A1SCPUC24-R2, A2CCPUC24, QJ71C24(-R2))



# • If D-sub 25-pin is used for the connector of the computer link module. (AJ71QC24(-R2), AJ71UC24)



Precautions for producing cable

- · Make a twisted pair for each signal and SG.
- · Connect the braided shield to the connector shell (both ends).
- The cable used for the Mitsubishi EMC Directive compatibility test had the following specifications.

Item	Specification
Cable type	Twisted pair shield cable
Conductor section area (mm <sup>2</sup> )	0.2

Connector and connector cover

GOT connector

Use the connector matching the following model for the GOT.

9-pin D-sub (male) inch screw type

manufactured by DDK

17JE-23090-27 (D3CC)

Connector of computer link module

Refer to the user's manual of the computer link module.

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Cable production method

- Peel the sheath (with the length shown below) at both ends of the cable, and expose the shield braided wire for grounding.
- The cable must be 15m or shorter.



- 2) For RS-422 cable (AC30/100/300R4-25P) Refer to (2) (b) 1)
- 3) For RS-422 cable (User created cable)

Refer to the GOT-A900 series User's Manual (Connection System Manual) for information about the cable creation method.

- Wind cable shield material around the cable, and pull out the grounding braided wire of the cable shield material with the length shown below.
- Pass the grounding braided wire on the programmable logic controller side through the core.




- (e) Ethernet Connection (Shielded twisted pair shielded cable (10BASE-T))
  - Strip the outer insulation layer at both ends of the cable by the length below to expose the braided shield for grounding.





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(f) PLC and microcomputer (manufactured by other company) connection Produce the cable (RS-232C cable and RS-422 cable) for connecting the GOT to a PLC or microcomputer (manufactured by other company) with reference to the GOT-A900 Series User's Manual (Connection System Manual).

# Point 🎤

Configure the system to meet the EMC Directive specifications for the connected device when connecting the GOT with the PLC or microcomputer (manufactured by other company).

This section gives the instructions to comply with the EMC Directive. The manufacturer should finally decide the EMC Directive compliance method or judge if the configured system is compliant with the EMC Directive.

#### 1) For RS-422 cable

• Each signal wire (excluding SG and FG) should be made into a two power wires and connected, then twisted.



· Make the SG wire more than two wires and connect.

#### For A985GOT

- Wind cable shield material around the cable, and pull out the grounding braided wire of the cable shield material by the length shown below.
- Do not pass the braided wire for grounding through the ZCAT2436-1330 ferrite core.



#### For A97\*/960GOT

- · Wind cable shield material around the cable, and pull out the grounding braided wire of the cable shield material by the length shown below.
- · Pass the grounding braided wire on the programmable logic controller side through the core.



- 2) For RS-232C cable
  - Use a twisted pair style for each signal wire (except SG, FG) with SG.



 Strip the outer insulation layer at both ends of the cable by the length shown below to expose the braided shield for grounding.

(for grounding with cable clamps (refer to Section (3))



#### (g) Printer cable

· Wind cable shield material around the cable, and pull out the grounding braided wire of the cable shield material by the length shown below.



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- (h) CRT cable (CRT cable enclosed with CRT)
  - Wind cable shield material around the cable, and pull out the grounding braided wire of the cable shield material by the length shown below.
  - The cable length must be within 1.5m.



(3) Grounding the cable Ground the cable and grounding wire to the control panel where the GOT and base unit are grounded.



- (a) GOT with conductive metal case
  - For bus connection cable (For A8GT-C100/C200/ 300EXSS, A8GT-C100/200/300BS), ground the braided shield and grounding wire on to the panel with the cable clamp (AD75CK).
  - For RS-232C cable, CC-Link dedicated cable and shielded twisted pair cable, ground the braided shield onto the panel with the cable clamp(AD75CK) panel.
  - For RS-422 cable and printer cable ground the grounding braided wire on to the panel with a screw.

(b) GOT with non-conductive mold (resin) case



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- For the A8GT-C100/200/300EXSS or A8GT-C100/200/ 300BS bus connection cable, ground the braided shield onto the panel with the cable clamp (AD75CK).
   Ground the grounding wire to the FG terminal, which is situated on the GOT power supply section.
- For RS-232C cable, CC-Link dedicated cable and shield twisted pair cable, ground the braided shield onto the panel with the cable clamp (AD75CK).
- For other bus cable, RS-422 cable and printer cable ground the grounding braided wire to the panel with a screw.

## 6.1.5 Human sensor (specific to A985GOT (-V))

(1) Features of the human sensor.

The human sensor mounted in the A985GOT, can detect operators in the sensor detection area and turn the backlight ON and OFF automatically.

Refer to the GOT-A900 Series Operating Manual (Extended Option Functions Manual) for details on setting the human sensor.

#### (2) Detection range

The performance of the human sensor is shown below.

Item		Description	Conditions
Detection length [m] (inch)		1 (39.37)	1. The temperature difference from
Detection	Up/down	80°	the background must be 3±1°C
range	Left/right	80°	2. The movement speed is 0.3 to
Detection delay time [sec.]		0 to 4	2.0m/s.

\* Note that the human sensor may react even under conditions other than above.

The details of the detection range are as shown below.



- (3) Cautions when using human sensor
  - \* If there is a transparent material such as glass or acrylic in the sensor detection area, the human sensor cannot detect a human through it.
  - \* The human sensor may not function correctly in places where sudden temperature changes occur such as near the blow-off port of air conditioners.
  - \* The human sensor may not function correctly in places where the sensor section is subject to direct sun rays.

ERROR CODES AND ERROR MESSAGES By mounting a video/RGB hybrid interface unit (A9GT-80V4R1) or video input interface unit (A9GT-80V4) to the A985GOT-V, images taken by video cameras can be displayed on the video window of the A985GOT-V. It is possible to use the A985GOT-V as a vision sensor monitor.

For details of the video window, refer to the following manual.

- For GT Designer : GT Works Version □/GT Designer Version □ Reference Manual
- For GT Designer2 : GT Designer2 Version ☐ Reference Manual
- For details of the system configuration, refer to the following manual.
- GOT-A900 Series User's Manual (Connection System Manual)



Vision sensor (AS50VS or other)

 $\ast$  The camera power pack may be necessary depending on the vision sensor used.

## 6.1.7 RGB input function (specific to A985GOT-V)

By mounting a video/RGB hybrid interface unit (A9GT-80V4R1) or RGB input interface unit (A9GT-80R1) to the A985GOT-V, a personal computer display can be shown on the GOT as an RGB screen. Also, by using a RGB output type vision sensor, images taken with a video camera can be displayed on the A985GOT-V.

For details of the RGB screen, refer to the following manual.

- For GT Designer : GT Works Version /GT Designer Version Reference Manual
- For GT Designer2 : GT Designer2 Version □ Reference Manual

For details of the system configuration, refer to the following manual.

• GOT-A900 Series User's Manual (Connection System Manual)

When connecting to a personal computer



\* You cannot show the computer's display on the computer monitor and the A985GOT-V at the same time.

When using the RGB output type vision sensor and connecting to a video camera



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# 6.2 Slot Cover

Use the slot cover to protect the communication board slot and memory board slot of the GOT.

#### 6.2.1 Mounting and dismounting procedures

(1) Dismounting

Before mounting the communication board and memory board, the slot cover must be removed. When using the communication unit, the slot cover need not be removed.



1) Loosen the mounting screws (2 pcs.) which secure the slot cover.



2) Remove the slot cover. Save the removed slot cover.

(2) Mounting

After loading the memory board, the slot removed must be mounted again.



1) Insert the convex portion of the slot cover into the concave portion of the GOT.



2) Securely push the slot cover and tighten and fix the mounting screws (2 pcs.) in the specified torque range.

# 6.3 Protective Sheet

The protective sheet is used to protect the operation surface from scratches and contamination which may take place when the touch keys of the GOT display section are operated.

#### 6.3.1 Protective sheet types

Choose any of the following types according to the GOT used.

Туре	Description
A9GT-80PSC	Transparent protective sheet for A985GOT(-V), MITSUBISHI logotype can be removed.
A9GT-70PSC	Transparent protective sheet for A975/970GOT, MITSUBISHI logotype can be removed.
A9GT-60PSC	Transparent protective sheet for A960GOT, MITSUBISHI logotype can be removed.

#### 6.3.2 Mounting procedure



1) From the display section of the GOT, peel off the sheet applied before shipment from the factory or the old protective sheet.



2) Peel off the release film of the new protective sheet and apply its adhesive surface to the display section of the GOT. When applying the protective sheet, exercise care not to make it loose and not to make gaps on the adhesive surface.

# 6.4 Memory Board

The memory board is used to store the optional function OS program (ladder monitoring function, recipe function, speech output function, etc.) and to increase the built-in memory capacity.

#### 6.4.1 Memory board types

The following memory board types are available.

Туре	Description		
A9GT-QFNB	Exclusively used for optional function OS storage		
A9GT-QFNB4M	For optional function OS storage + built-in memory extension, 4M bytes		
A9GT-QFNB8M	For optional function OS storage + built-in memory extension, 8M bytes		
A9GT-FNB	Exclusively used for optional function OS storage		
A9GT-FNB1M	For optional function OS storage + built-in memory extension, 1M bytes		
A9GT-FNB2M	For optional function OS storage + built-in memory extension, 2M bytes		
A9GT-FNB4M	For optional function OS storage + built-in memory extension, 4M bytes		
A9GT-FNB8M	For optional function OS storage + built-in memory extension, 8M bytes		

## 6.4.2 Mounting procedure



1) Refer to [Section 6.2] and remove the slot cover.

2) Load the memory board into the memory board loading slot.



- 3) Tighten and fix the memory board mounting screws in the specified torque range.
- 4) Refer to [Section 6.2] and install the slot cover.

#### • When the memory board is used, the following ROM\_BIOS version is required.

			Software including ROM_BIOS	
Туре	Hardware Version	ROM_BIOS version of GOT	GT Works2 GT Designer2	GT Works GT Designer
	A	Version H or later		SW5D5C-GTWORKS-E version A or later SW1D5C-GOTRE-PACK version J or later
A9G1-QFNB	Version B or later (March, 2002)* <sup>1</sup>	Version M or later		SW5D5C-GTWORKS-E version A or later SW5D5C-GOTR-PACKE version A or later
A9GT-QFNB4M	A	Version H or later	SW1D5C-GTWK2-E	SW5D5C-GTWORKS-E version A or later SW1D5C-GOTRE-PACK version J or later
A9GT-QFNB8M	A	Version J or later	version A or later SW1D5C-GTD2-E	
A9GT-FNB	A	Version A or later		
	A	Version A or later	Version A of later	
A9GT-FNB1M	Version B or later (June, 2002)* <sup>1</sup>	Version M or later		SW5D5C-GTWORKS-E
	A	Version A or later		version A or later
A9GT-FNB2M	Version B or later (June, 2002)* <sup>1</sup>	Version M or later		SW3D5C-GOTRE-PACK version A or later
	A	Version A or later		
A9GT-FNB4M	Version B or later (February,2002)* <sup>1</sup>	Version M or later		
A9GT-FNB8M	A	Version J or later	1	
*1 The A9GT-QFNB or A9GT-FNB1M/2M/4M of hardware version B cannot be used with the ROM_BIOS of version L or earlier. When using it, install the ROM_BIOS of version M or later.				

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#### (1) Mounting screws

• Be sure to tighten the mounting screws in the specified torque range. Otherwise, the following message may appear.

When the following message appears, tighten the mounting screws in the specified torque range again.



Message displayed on the GOT

- (2) Memory board
  - The memory board hardware version is shown on the rating plate of the product.



 If a memory board of hardware version B or later is mounted in a GOT installed with ROM\_BIOS version L or earlier, the above message will appear and the GOT will stop.

If the above message appears, upgrade the ROM\_BIOS version by reference to the following manual.

- For GT Designer : GT Works Version□/GT Designer Version□ Reference
  Manual
- For GT Designer2 : GT Designer2 Version□ Operating Manual

# 6.5 PC Card

Use PC cards for transferring OS and monitor screen data, and storing data with object functions such as alarm history function and recipe function.

For details of the OS and monitor screen data transmission, refer to the following manual.

- For GT Designer: GT Works Version□/GT Designer Version□ Reference Manual
- For GT Designer2: GT Designer2 Version□ Operating Manual

For details of the alarm history function and recipe function, refer to the following manual.

- For GT Designer: GT Designer help function
- For GT Designer2: GT Designer2 Version
   Reference Manual

#### 6.5.1 PC card types

Compatible PC cards are shown below.

Type name	Remark		
	Commercially available SRAM type PC card (based on JEIDA Ver4.2 (based on PCMCIA2.1))		
_	Commercially available flash PC card (based on Compact flashTM* <sup>1</sup> ) (* <sup>1</sup> Compact flashTM is a trademark of Sun Disk)	*2 *3	
A9GTMEM-10MF	Memory 16 M bytes (hardware version D or later), flash PC card formatted	*4	
A9GTMEM-20MF	Memory 32 M bytes (hardware version D or later), flash PC card formatted	*6	
A9GTMEM-40MF	Memory 128 M bytes (hardware version P or later), flash PC card formatted	*4 *5 *6	

\*2: When using the compact flash PC card in the GOT, you need to fit a conversion adapter (compact flash ↔ Type II conversion adapter) to the compact flash PC card.

\*3 The commercially available flash PC card can be used only when the following conditions are satisfied. (A985 GOT-TBA-EU is incompatible with commercially available flash PC cards. A985GOT-V is compatible with commercially available flash PC cards, irrespective of the following conditions.)

Condition 1: Any of the following GOTs is used.

	A985GOT-TBA,	A985GOT-TBD,
	A975GOT-TBA(-B)(-EU),	A975GOT-TBD(-B),
	A970GOT-TBA(-B)(-EU),	A970GOT-TBD(-B),
	A970GOT-SBA(-EU),	A970GOT-SBD,
	A970GOT-LBA(-EU),	A970GOT-LBD,
	A960GOT-EBA(-EU),	A960GOT-EBD
andition 2.	The function version of th	

Condition 2: The function version of the GOT used is version A or later. Confirm the GOT function version on the rating plate at the rear of the GOT.

GRAPHIC OPERATION TERMINAL
MODEL A970GOT-TBA-B
IN 100-240VAC 50/60Hz
POWER MAX 115VA DATE 0406 WX
[]
MITSUBISHI ELECTRIC CORPORATION MADE IN JAPAN BD992C189H02
BACKLIGHT A9GT-70LTTBW

Function version

The commercially available flash PC card cannot be used with the relevant models that do not include a function version.

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\*4 The flash PC card (A9GTMEM-10MF/20MF/40MF (Hardware version N or earlier)) can be used only when the following conditions are satisfied. (A985GOT-TBA-EU can work as a flash PC card, although incompliant with the EMC Directive.)

	Hardware version A or late	er of	
	A985GOT-TBA(-V)(-EU),	A985GOT-TBD(-V),	
	A975GOT-TBA-B,	A975GOT-TBD-B,	A975GOT-TBA-EU
	A970GOT-TBA-B,	A970GOT-TBD-B,	A970GOT-TBA-EU,
	A970GOT-SBA-EU,		
	A970GOT-LBA(-EU),	A970GOT-LBD,	A960GOT-EBA-EU
	Hardware version E or late	er of	
	A975GOT-TBA, A975GO	T-TBD, A970GOT-TBA	, A970GOT-TBD,
	A970GOT-SBA, A970GO	T-SBD, A960GOT-EBA	, A960GOT-EBD
Condition 2:	The ROM BIOS version	F or later of the GOT to	o be used.

\*5 The flash PC card (A9GTMEM-40MF (Hardware version P or later)) can be used only when the following conditions are satisfied. (A985 GOT-TBA-EU is incompatible with A9GTMEM-40MF (Hardware version P or later). A985GOT-V is compatible with A9GTMEM-40MF (Hardware version P or later), irrespective of the following conditions.)

Condition 1: Any of the following GOTs is used.

A985GOT-TBA,	A985GOT-TBD,
A975GOT-TBA(-B)(-EU),	A975GOT-TBD(-B),
A970GOT-TBA(-B)(-EU),	A970GOT-TBD(-B),
A970GOT-SBA(-EU),	A970GOT-SBD,
A970GOT-LBA(-EU),	A970GOT-LBD,
A960GOT-EBA(-EU),	A960GOT-EBD

Condition 2: The function version of the GOT used is version A or later. Confirm the GOT function version on the rating plate at the rear of the GOT.



\*6 Memory capacity differs according to the hardware versions of flash PC card. It can be checked on the rated plate of flash card.

Point

For PC cards other than above, refer to the relevant document "List of valid devices applicable for GOT900 series" (Technical bulletin T10-0028).

Please contact your local Mitsubishi representative for the document, if necessary.

The GOT may not operate correctly if a PC card other than described in the document is used.

The document can be referred to from Mitsubishi Electric FA Network Service On World Wide, MELFANSweb homepage (http://www.nagoya.melco.co.jp/english/)

#### 6.5.2 Battery replacement timing and method

This section provides a battery replacement method when the PC card used is the SRAM type.

(1) How to check for battery low

The GOT checks for a battery low of the memory card loaded. (Only when the memory card access switch is ON)

The battery low checking methods are given below.

1) Using the self-diagnostic function

When a battery low occurs, the corresponding message appears on the self-diagnostic screen. For the details, refer to the GOT-A900 Series Operating Manual (Extended Option Functions Manual).

2) Using the alarm list display (system alarm) function

When a battery low occurs, the error warning message and battery low error code appear on the monitor screen.

For the details, refer to the following Manual.

- For GT Designer: GT Designer help function
- For GT Designer2: GT Designer2 Version Reference Manual
- (2) Battery life For the PC card backup time, refer to the instruction manual attached to the memory card used.
- (3) Battery replacement For the PC card battery replacement method, refer to the instruction manual attached to the memory card used.



This section does not apply to the flash PC card as it has no battery.

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#### 6.5.3 Loading and unloading procedures

PC card top face

Before loading/unloading a PC card while power is on, use the following procedure to enable loading/unloading of the PC card.

#### (1) Mounting



- Set the memory card access switch of the GOT to "OFF" and make sure that the memory card LED goes off.
   When the memory card LED goes off, the PC card can be loaded/ unloaded while power is on.
- 2) When loading the PC card into the GOT, insert and load it into the memory card interface with its top face up.

#### (2) Dismounting





- Set the memory card access switch of the GOT to "OFF" and make sure that the memory card LED goes off.
   When the PC card LED goes off, the memory card can be loaded/ unloaded while power is on.
- 2) Remove the PC card after fully pushing the memory card ejection button of the GOT to eject the PC card.

The following hardware versions have been improved so that less space is necessary for inserting/removing a memory card.

Item	Туре	Hardware version	
	A975GOT-TBA(-B)	Version L (June 2001) or later	
A975GOT	A975GOT-TBD(-B)		
	A975GOT-TBA-EU	Version E (July, 2003) or later	
	A970GOT-TBA(-B)		
	A970GOT-TBD(-B)		
	A970GOT-SBA	Version L (June, 2001) or later	
	A970GOT-SBD		
A970GOT	A970GOT-LBA		
	A970GOT-LBD		
	A970GOT-TBA-EU	Version E (July, 2003) or later	
	A970GOT-SBA-EU	Version S (July, 2003) or later	
	A970GOT-LBA-EU	Version L (July, 2003) or later	
	A960GOT-EBA	Version H (June, 2001) or later	
A960GOT	A960GOT-EBD		
	A960GOT-EBA-EU	Version V (August, 2002) or later	

You can now open a cover of the memory card interface section to insert/remove it.

#### (1) Mounting



1) Set the memory card access switch of the GOT to "OFF" and make sure that the memory card LED goes off.

When the PC card LED goes off, the memory card can be loaded/ unloaded while power is on.



2) Open the memory card interface cover.

3) Insert the PC card into the memory card interface with the PC card facing up.

(Place a PC card on the memory card interface section of the GOT, and slide it in place.)

(2) Dismounting



1) Set the memory card access switch of the GOT to "OFF" and make sure that the memory card LED goes off. When the PC card LED goes off the memory card can be loaded/

When the PC card LED goes off, the memory card can be loaded/ unloaded while power is on.



- 2) Open the memory card interface cover.
- Remove the PC card after fully pushing the memory card ejection button of the GOT to eject the PC card.

The PC card may pop out when it is being removed, depending on the type of the PC card used. Be sure to support the card with your hand when removing it.

\* You cannot open the cover of the memory card interface section when a communication unit is mounted on the GOT.

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# 6.6 Communication Board

The communication board is used to make the GOT interface compatible with the system to be connected to. For the details of the connection form, refer to the GOT-A900 Series User's Manual (Connection System Manual).

#### 6.6.1 Connection board types

The following connection board types are available.

Туре	Description	
A9GT-QBUSS	For bus connection, small connector type (For QCPU (Q mode))	
A9GT-QBUS2S	For multidrop bus connection, small connector type (For QCPU (Q mode))	
A9GT-BUSS	For bus connection, small connector type (For A/QnA/Motion controller CPU)	
A9GT-BUS2S	For multidrop bus connection, small connector type (For A/QnA/Motion controller CPU)	
A9GT-RS4	For Direct connection to CPU/Computer link connection/Microcomputer connection and RS-422 connection (Without clock function)	
A9GT-RS2	For Direct connection to CPU/Computer link connection/Microcomputer connection and RS-232C connection (Without clock function)	
A9GT-RS2T	For Direct connection to CPU/Computer link connection/Microcomputer connection and RS-232C connection (Incorporating clock function)	

## 6.6.2 Mounting procedure



- 1) Refer to [Section 6.2] and remove the slot cover.
- 2) Insert the convex portion of the communication board into the concave portion of the GOT.



3) Securely press the communication board against the GOT.



4) Tighten and fix the mounting screws (M3  $\times$  10: 1 pcs., M3  $\times$  6: 1 pcs.) included with the communication board in the specified torque range.

Point

When A9GT-RS2, A9GT-RS2T, A9GT-RS4, A9GT-QBUSS, or A9GT-QBUS2S is used, the mounting fixture of the GOT interferes with the connector due to the shape of the communication cable connector.

Please substitute for the mounting fixture included in this product and use the mounting fixture as shown in diagram below.



• When the communication board is used, the following software package is required.

	Compatible software package			
Туре	GT Works2 GT Designer2	GT Works GT Designer		
A9GT-QBUSS		SW5D5C-GTWORKS-E version A or later		
A9GT-QBUS2S		SW3D5C-GOTRE-PACK version C or later		
A9GT-BUSS				
A9GT-BUS2S	SW1D5C-GTWK2-E version A or later	SW5D5C-GTWORKS-E version A or later		
A9GT-RS4	SW1D5C-GTD2-E version A or later	SW1D5C-GOTRE-PACK version A or later		
A9GT-RS2				
A9GT-RS2T		SW5D5C-GTWORKS-E version A or later SW1D5C-GOTRE-PACK version J or later		

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# 6.7 Communication Unit

The communication unit is used to make the GOT interface compatible with the system to be connected to. For the details of the connection form, refer to the GOT-A900 Series User's Manual (Connection System Manual).

#### 6.7.1 Connection unit types

The following connection unit types are available.

Туре	Description
A9GT-BUSSU	For bus connection, small connector type (For A/QnA/Motion controller CPU)
A9GT-BUS2SU	For multidrop bus connection, small connector type (For A/QnA/Motion controller CPU)
A7GT-J71AP23	For MELSECNET(II) optical link connection, for use as local station
A7GT-J71AR23	For MELSECNET(II) coaxial link connection, for use as local station
A7GT-J71AT23B	For MELSECNET/B connection, for use as local station
A9GT-QJ71LP23	For MELSECNET/10 optical loop network connection, for use as normal station*1
A9GT-QJ71BR13	For MELSECNET/10 coaxial bus network connection, for use as normal station*1
A7GT-J71LP23	For MELSECNET/10 optical loop network connection, for use as ordinary station*1
A7GT-J71BR13	For MELSECNET/10 coaxial bus network connection, for use as ordinary station* <sup>1</sup>
A8GT-J61BT13	For CC-Link connection, for use as intelligent device station
A8GT-J61BT15	For CC-Link connection, for use as remote device station
A9GT-J71E71-T	For Ethernet connection

\*1 When using the A9GT-QJ71LP23 or A9GT-QJ71BR13, the device range (QCPU, QnACPU, ACPU) that can be monitored varies with the communication driver installed in the GOT. When using the A7GT-QJ71LP23 or A7GT-QJ71BR13, only the AnA device range can be monitored. For details, refer to GOT-A900 series User's Manual (Connection System Manual).

#### 6.7.2 Mounting procedure



1) Fit the communication unit securing fixtures in the GOT.



2) Mount the communication unit on the GOT interface.



3) Tighten and fix the mounting screws (3 pcs.) of the communication unit in the specified torque range.

• When the communication unit is used, the following software package is required.

	Compatible software package		
Туре	GT Works2	GT Works	
	GT Designer2	GT Designer	/IEW
A9GT-BUSSU			/ER\
A9GT-BUS2SU			б
A7GT-J71AP23	SW1D5C-GTWK2-E version A or later	SW5D5C-GTWORKS-E version A or later	2
A7GT-J71AR23			z
A7GT-J71AT23B			ATIO
A9GT-QJ71LP23	SW1D5C-GTWK2-E version K or later		EM GUR
A9GT-QJ71BR13	SW1D5C-GTD2-E version K or later		YSTE
A7GT-J71LP23			S C C
A7GT-J71BR13		SW5D5C-GTWORKS-E version A or later	J
A8GT-J61BT13	SW1D5C-GTWK2-E version A or later	SW1D5C-GOTRE-PACK version A or later	ш
A8GT-J61BT15	SW1D5C-GTD2-E version A or later		ANCI
	Ť	SW5D5C-GTWORKS-E version P or later *	ORM
A9G1-J71E71-1		SW5D5C-GOTR-PACKE version P or later *	PERF

\* When using the A9GT-J71E71-T of hardware version E or later, select the package of version 26C or later. (Version P to Y is not applicable.) 4

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## 6.8 Printer

The printer is used to print the data and others of the alarm history and hard copy functions.

- For details of the function, refer to the following manual.
- For GT Designer : GT Designer help function
- For GT Designer2 : GT Designer2 Version□ Reference Manual

#### 6.8.1 Printer types

The printers having the following specifications (standard) have been concluded by Mitsubishi to be applicable for the GOT.

- ESC/P24-J84-compliant printer (ESC/P command-compatible, color-compatible)
- Hewlett Packard printers (PLC command compatible)

#### 6.8.2 Connection procedure



1) Plug the GOT side connector of the printer cable to the printer interface at the bottom of the GOT.

2) Connect the GOT and printer by the printer cable.

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# 6.9 Speech Output Device

The speech output device is used to output voices with the speech output function.

- For details of the sound function, refer to the following manual.
- For GT Designer : GT Designer help function
- For GT Designer2 : GT Designer2 Version□ Reference Manual

## 6.9.1 Speech output device type

A commercially available speaker compatible with the stereo mini-jack can be used as the speech output device.

The compatible file format is the Windows WAV file format (8.000kHz, 16 bit-monaural) and speech output is up to 8 seconds per file. (Speech output over 8 seconds is cut.)

## 6.9.2 Connection procedure



1) Insert and connect the stereo mini-jack of the commercially available speaker into the speech output terminal of the GOT.

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# 6.10 Debug Stand

The debug stand is used to secure the GOT in a standing position so that the monitor screen data may be debugged easily.

#### 6.10.1 Debug stand types

The following debug stand types are available.

Туре	Description	
A9GT-80STAND	Debug stand for A985GOT(-V)	
A9GT-70STAND	Debug stand for A975/970/960GOT	

## 6.10.2 Mounting procedure



- Set the debug stand so that the GOT mounting surface will face the front. For the A9GT-70STAND,the applicable mounting surface changes with the GOT mounted. (The figure on the left shows that the A975/970GOT is mounted)
   Adjust the GOT mounting angle with the angle adjusting screw of the debug stand.
   Put the GOT into the front face of the debug stand and mount it on
- 3) Put the GOT into the front face of the debug stand and mount it of the debug stand with the mounting fixtures of the GOT. Refer to [Section 6.1.2] for the installation method using the mounting fixtures of the GOT.

# 6.11 Bar Code Reader

The bar code reader is used to read and write data into the programmable controller CPU. For details of the bar code function, refer to the following manual.

- For GT Designer : GT Designer help function
- For GT Designer2 : GT Designer2 Version Reference Manual

#### 6.11.1 Bar code reader types

The following bar code readers have been concluded by Mitsubishi to be applicable for the GOT: For bar code readers other than above, refer to the relevant document "List of valid devices applicable for GOT900 series" (Technical bulletin T10-0028).

Please contact your local Mitsubishi representative for the document, if necessary.

The GOT may not operate correctly if a bar code reader other than described in the document is used. The document can be referred to from Mitsubishi Electric FA Network Service On World Wide, MELFAN-Sweb homepage (http://www.nagoya.melco.co.jp/english/)

#### 6.11.2 Connecting procedure



 To the RS-232C interface that is provided on the lower part of the GOT, choose and connect one from the following: the connector for the bar code reader; the connector for the power supply module; and the connector on the GOT for the RS-232C cable. (The connecting method differs depending on the bar code reader used.)

- Please note that the bar code reader cannot be used if the GOT is connected to the MELSECNET/B or MELSECNET II.
- The power supply (5V DC) needs to be supplied from an AC-DC adapter or a corresponding power supply module to the bar code reader.
- The RS-232C cable needs to be prepared by the user. For details of preparations of the cable, please refer to the List of valid devices applicable for GOT900 series. (T10-0028)

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# 6.12 External I/O Interface unit

The external I/O Interface unit is connected with the ten-key panel (A8GT-TK) or keyboard to receive up to 8/ 64 points of inputs or provide up to 16 points of outputs.

#### 6.12.1 External I/O Interface unit type

The following external I/O Interface unit is available.

Туре	Description
A9GT-70KBF	External I/O Interface unit

## 6.12.2 Mounting procedure



1) Mount the external I/O Interface unit on the option Interface unit interface.



2) Tighten and fix the mounting screws (2 pcs.) of the external I/O Interface unit in the specified torque range.

• When the external I/O Interface unit is used, the following software package is required.

	Compatible software package		
Туре	GT Works2	GT Works	
	GT Designer2	GT Designer	
	SW1D5C-GTWK2-E version A or later	SW5D5C-GTWORKS-E version A or later	
A9G1-70KBF	SW1D5C-GTD2-E version A or later	SW1D5C-GOTRE-PACK version C or later	

• For details of the external I/O function, refer to the [A9GT-70KBF External I/O Module User's manual].

• For details of the operation panel function, refer to the following manual. For GT Designer: GT Designer help function

For GT Designer2: GT Designer2 Version□ Reference Manual

# 6.13 CRT Display, TFT Display (specific to A985GOT)

The CRT and TFT displays are connected with the A985GOT to show the monitor screen in any size.

## 6.13.1 CRT Display, TFT Display types

The following	products	of CRT	and TFT	displays a	are available.
---------------	----------	--------	---------	------------	----------------

Туре		Description	
CRT display	RD15M II	NEC-MITSUBISHI ELECTRIC VISUAL SYSTEMS CORPORATION, 15inch 1280 × 1024	
	RD17MX	NEC-MITSUBISHI ELECTRIC VISUAL SYSTEMS CORPORATION, 17inch 1280 × 1024	
	RDF19X	NEC-MITSUBISHI ELECTRIC VISUAL SYSTEMS CORPORATION, 19inch 1600 $\times$ 1200	
	RD19NF	NEC-MITSUBISHI ELECTRIC VISUAL SYSTEMS CORPORATION, 19inch 1600 × 1200	
TFT display	RDT150S	NEC-MITSUBISHI ELECTRIC VISUAL SYSTEMS CORPORATION, 15inch 1024 × 768	
	RDT180S	NEC-MITSUBISHI ELECTRIC VISUAL SYSTEMS CORPORATION, 18.1inch 1280 × 1024	

## 6.13.2 Connecting procedure



1) Plug the GOT side connector of the CRT cable into the SVGA interface at the GOT bottom.

• The CRT cable may be fabricated by the user. Refer to the [3.2.1] for more information on the fabrication method.

## 6.14 Attachment

The attachment is used to upgrade from the A77GOT, GOT800 Series to the GOT-A900 Series. Use of the attachment eliminates the necessity of additional machining to the installation hole in the control panel of the A77GOT, GOT800 Series.

#### 6.14.1 Attachment types

Туре	Model in use	Applicable model	
A 77 OT OC ATT	A77GOT-L, A77GOT-L-S3, A77GOT-L-S5,	A060COT	
ATTGI-90ATT	A77GOT-CL, A77GOT-CL-S3, A77GOT-CL-S5	ABOUGUT	
A87GT-96ATT	A77GOT-EL, A77GOT-EL-S3, A77GOT-EL-S5,		
	A870GOT-EWS, A8GT-70GOT-EW, A8GT-70GOT-EB	A900GOT	
A87GT-97ATT	A870GOT-SWS, A8GT-70GOT-SW, A8GT-70GOT-SB,	A075/07000T	
	A870GOT-TWS, A8GT-70GOT-TW, A8GT-70GOT-TB	A975/970GOT	

The following Attachment types are available.

#### 6.14.2 Mounting procedure



1) Peel off the two-sided tape from the rear surface of the attachment.







3) Put the GOT in the attachment, and secure it within the specified torque using the mounting screws included with the GOT.

• The attachment is applicable for the installation panel with the plate thickness of 1.2 (0.05) to 3 mm (0.12 in).

When the plate thickness exceeds 3 mm (0.12 in), the attachment is inapplicable for the GOT.

• When the attachment is used to replace the GOT, the GOT does not meet the requirements specified in the standards for water and dust resistance IP65f, IP67f and NEMA4.

# 6.15 Video/RGB Input Interface Unit (specific to A985GOT-V)

- Video/RGB hybrid interface unit The images taken by video cameras and the PC display can be displayed on the A985GOT-V.
- Video input interface unit The images taken by video cameras can be displayed on the A985GOT-V.
- RGB input interface unit The PC display can be displayed on the A985GOT-V.

## 6.15.1 Video/RGB input interface unit types

The following Video/RGB interface units are available.

Туре	Description
A9GT-80V4R1	Video/RGB hybrid interface module unit
A9GT-80V4	Video input interface module unit
A9GT-80R1	RGB input interface module unit

## 6.15.2 Mounting procedure



1) Mount Video/RGB hybrid interface unit or the video/RGB interface unit on the option unit interface.

- GOT
  - Tighten and fix the mounting screws (2 pcs.) of Video/RGB hybrid interface unit or the video/RGB input interface unit in the specified torque range.

• When the Video/RGB input interface unit is used, the following software package is required.

Туре		Compatible software package		
		GT Works2	GT Works	
		GT Designer2	GT Designer	
A9GT-80V4R1			SW5D5C-GTWORKS-E version 26C or later	
			SW5D5C-GOTR-PACKE version 26C or later	
A9GT-80V4			SW5D5C-GTWORKS-E version F or later	
		SW1D5C-GTWK2-E version A or later	SW5D5C-GOTR-PACKE version F or later	
	Hardware version E or earlier	SW1D5C-GTD2-E version A or later	SW5D5C-GTWORKS-E version J or later	
A9GT-80R1	(December, 2004)		SW5D5C-GOTR-PACKE version J or later	
	Hardware version F or later		SW5D5C-GTWORKS-E version 26C or later	
	(April, 2005)		SW5D5C-GOTR-PACKE version 26C or later	

• For details of the video input function and RGB input function, refer to the following manual. For GT Designer : GT Works Version□/GT Designer Version□ Reference Manual For GT Designer2 : GT Designer2 Version□ Reference Manual

• When using the A9GT-80V4R1 with the A985GOT-TBA-V, use the A985GOT-TBA-V of hardware version L (January, 2002) or later.

## MAINTENANCE AND INSPECTION 7

This chapter explains the items which should be performed daily or periodically to use the GOT to its optimum.

#### 7.1 Instructions for Maintenance and Inspection

The following instructions should be observed for maintenance and inspection.

() DANGER	<ul> <li>When power is on, do not touch the terminals.</li> <li>Doing so can cause an electric shock or malfunction.</li> <li>Before starting cleaning or terminal screw retightening, always switch off the power externally in all phases.</li> <li>Not switching the power off in all phases can cause a unit failure or malfunction.</li> <li>Undertightening can cause a short circuit or malfunction.</li> <li>Overtightening can cause a short circuit or malfunction due to the damage of the screws or unit.</li> <li>Before changing the backlight, always switch off the GOT power externally in all phases (when the GOT is connected to the bus, the PLC CPU power must also be switched off externally in all phases) and remove the GOT from the control panel. Not switching the power off in all phases may cause an electric shock.</li> <li>Not removing the unit from the control panel can cause injury due to a drop.</li> </ul>	TINGS AND A PERFORMANCE CONF
CAUTION	<ul> <li>Do not disassemble or modify the unit.</li> <li>Doing so can cause a failure, malfunction, injury or fire.</li> <li>Do not touch the conductive and electronic parts of the unit directly.</li> <li>Doing so can cause a unit malfunction or failure.</li> <li>The cables connected to the unit must be run in ducts or clamped.</li> <li>Not doing so can cause the unit or cable to be damaged due to the dangling, motion or accidental pulling of the cables or can cause a malfunction due to a cable connection fault.</li> <li>When unplugging the cable connected to the unit, do not hold and pull the cable portion.</li> <li>Doing so can cause the unit or cable to be damaged or can cause a malfunction due to a cable connection fault.</li> <li>When disposing of the product, handle it as industrial waste.</li> <li>While changing the backlight, do not touch the circuit boards and electronic parts of the GOT.</li> <li>Doing so can cause a failure or malfunction.</li> <li>When replacing the backlight, use the gloves.</li> <li>Otherwise, it may cause you to be injured.</li> <li>If you should directly touch the plated area of the main unit case with hand, be sure to wipe off the fingerprint and so on, and install the main unit case.</li> <li>Otherwise, it may cause a trouble or malfunction.</li> <li>Start changing the backlight more than 5 minutes after switching the GOT power off.</li> <li>Not doing so can cause a burn due to the heat of the backlight.</li> </ul>	SODES AND MAINTENANCE AND HANDLING OF ATTON PROCEDURE OF BAI

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# 7.2 Daily Inspection

Number	Inspection Item		Inspection Method	Criterion	Action
1	Unit mounting status		Check for loose mounting screws and disconnected cover	Securely mounted	Retighten screws
2	Connection status	Loose terminal screws	Retighten screws with screwdriver	Not loose	Retighten terminal screws
		Proximate solderless terminals	Visual check	Proper intervals	Correct
		Loose connectors	Visual check	Not loose	Retighten connector fixing screws

Daily inspection items are as follows.

# 7.3 Periodic Inspection

Inspection items to be checked once or twice in six months or one year are as follows. The following inspection should also be performed when equipment has been moved or modified or the wir-

ing changed.

Number	Inspection Item Inspection Method Criterion		Action			
1	Surrounding environment	Ambient	Ambient emperature Make measurement with Ambient numidity Measure corrosive gas	Display section	0 to 40°C	For use in control panel,
		temperature		Other portions	0 to 55°C	
		Ambient humidity		10 to 90%RH		temperature inside control panel is ambient temperature
_		Atmosphere		No corrosive gas		
2	Power supply voltage check		100 to 240VAC Measure voltage across terminals.	85AC to 242V		Change supply power
			24VDC Measure voltage across terminals	15.6DC to 31.2V		
	3 Mounting status Dirt, foreign matter	Looseness	Move module	Should be mounted firmly		Retighten screws
3		Dirt, foreign matter	Visual check	No dirt, foreign matter sticking		Remove, clean
4	Connection status	Loose terminal screws	Retighten screws with screwdriver	Not loose		Retighten terminal screws
		Proximate solderless terminals	Visual check	Proper intervals		Correct
		Loose connectors	Visual check	Not loose		Retighten connector fixing screws

# 7.4 Backlight for Liquid Crystal

The GOT uses a backlight for the liquid crystal of the display section.

The luminance of the back light lowers as it is used.

Change the backlight if the screen of the display section has become difficult to look at due to the reduced luminance of the backlight. (The screen save and back light OFF functions of the GOT are used to prolong the service life of the back light. For details, refer to the GOT-A900 Series Operating Manual (Extended Option Functions Manual).)

The replacement backlight changes with the GOT type.

The backlights that may be used with the GOTs are as follows.

Model	Version	Available backlight	Life span
	Function version B (June, 2004) or later	A9GT-80LTTA	50,000h
A903GO1-1BA-V	Function version None	Available backlightA9GT-80LTTAA9GT-80LTTA, A9GT-80LTTA9GT-80LTTAA9GT-80LTTA, A9GT-80LTTA9GT-80LTTAA9GT-80LTTA, A9GT-80LTTA9GT-80LTTA, A9GT-80LTTA9GT-80LTTA, A9GT-80LTTA9GT-80LTTA, A9GT-80LTTA9GT-80LTTA, A9GT-80LTT	40,000h
	Function version B (June, 2004) or later	A9GT-80LTTA	50,000h
A905GO1-1BD-V	Function version None	A9GT-80LTTA         A9GT-80LTTA, A9GT-80LTT         A9GT-80LTTA         A9GT-80LTTA, A9GT-80LTT         A9GT-80LTTA, A9GT-80LTT         A9GT-80LTTA, A9GT-80LTT         A9GT-80LTTA, A9GT-80LTT	40,000h
	Function version B (June, 2004) or later	A9GT-80LTTA	50,000h
A905GOT-TBA	Function version A (June, 2004) or earlier	A9GT-80LTTA, A9GT-80LTT	40,000h
	Function version B (June, 2004) or later	Available backlightA9GT-80LTTAA9GT-80LTTA, A9GT-80LTTA9GT-80LTTAA9GT-80LTTA, A9GT-80LTTA9GT-80LTTAA9GT-80LTTAA9GT-80LTTA, A9GT-80LTTA9GT-80LTTA, A9GT-80LTTA9GT-80LTTA, A9GT-80LTTA9GT-80LTTA, A9GT-80LTTA9GT-80LTTA, A9GT-80LTT	50,000h
A905GO1-1BD	Function version A (June, 2004) or earlier		40,000h
A985GOT-TBA-EU	No restrictions on version	A9GT-80LTT	40,000h

#### (1) Backlight applicable for A985GOT(-V)

#### (2) Backlight applicable for A975GOT

Model	Version	Available backlight *	Life span
	Hardware version D (December, 1998) or later	Available backlight *       A9GT-70LTTB       A9GT-70LTT       A9GT-70LTTB       A9GT-70LTTB       A9GT-70LTTBW       A9GT-70LTTB       A9GT-70LTTB       A9GT-70LTTB       A9GT-70LTTB	
A975GOT-TBA	Hardware version C (December, 1998) or earlier		- 40,000h
A975GOT-TBD Hardware version B (Decent Hardware version A Function version B (January	Hardware version B (December, 1998) or later	A9GT-70LTTB	
	Hardware version A	A9GT-70LTT	
	Function version B (January, 2004) or later	A9GT-70LTTBW	43,000h
A975GOT-TBA-B	Function version A (October, 2000)		40.000b
	BA-B     Function version A (October, 2000)     A9GT-70LTTB       Function version None     Function version None	40,0000	
	Function version B (January, 2004) or later	A9GT-70LTTBW	43,000h
A975GOT-TBD-B	Function version A (October, 2000)	ction version A (October, 2000)	
	Function version None	A9GT-70LTTB	40,000h
A975GOT-TBA-EU	No restrictions on version		

\* The above backlights are not interchangeable with each other. Therefore, select the backlight applicable for the GOT.

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Model	Version	Available backlight *	Life span	
	Hardware version D (December, 1998) or later	A9GT-70LTTB	40,000h	
A970GOT-TBA	Hardware version C (December, 1998) or earlier	A9GT-70LTT		
A970GOT-TBD	Hardware version B (December, 1998) or later	A9GT-70LTTB		
A970GOT-TBD	Hardware version A A9GT-70LTT		1	
	Function version B (January, 2004) or later	A9GT-70LTTBW	43,000h	
A970GOT-TBA-B	Function version A (October, 2000)	ion A (October, 2000)		
	Function version None	A9GI-70LITB	40,00011	
	Function version B (January, 2004) or later	A9GT-70LTTBW	43,000h	
A970GOT-TBD-B	Function version A (October, 2000)	A9GT-70LTTB	40,000h	
	Function version None			
A970GOT-TBA-EU				
A970GOT-SBA				
A970GOT-SBD			40,000h	
A970GOT-SBA-EU	No restrictions on version			
A970GOT-LBA		AUGI-TULIO		
A970GOT-LBD				
A975GOT-LBA-EU				

#### (3) Backlight applicable for A970GOT

\* The above backlights are not interchangeable with each other. Therefore, select the backlight applicable for the GOT.

Point P

 The GOT hardware version, function version and applicable backlight model can be checked from the rating plate, which is situated on the backside of the GOT.
 <Example> A970GOT-TBA-B



- Rating plate
- The A9GT-80LTTA/A9GT-70LTTBW backlight has the product model on it as shown below. Therefore, the model number can be checked easily from the top of the backlight.



## 7.4.1 How to change the backlight for liquid crystal

The backlight changing method changes depending on the hardware version of the GOT. Change the backlight after confirming the hardware version of the used GOT.

Туре	Hardware Version	Changing Method Reference Destination	
A985GOT(-V)	Changing method is irrelevant to the hardware version		
A97⊟GOT-TBA(-B)	Version K (May, 2001) or earlier, Version R (May, 2002) or later	(1)	
A97⊟GOT-TBD(-B)	Version K (May, 2001) or earlier, Version Q (May, 2002) or later		
A97⊟GOT-TBA(-B)	Version L (June, 2001) to Version Q (April, 2002)	(2)	
A97⊡GOT-TBD(-B)	Version L (June, 2001) to Version P (April, 2002)		
A970GOT-SBA/LBA	Version K (May, 2001) or earlier, Version S (May, 2002) or later	(1)	
A970GOT-SBD/LBD	Version K (May, 2001) or earlier, Version R (May, 2002) or later	1 (1)	
A970GOT-SBA/LBA	Version L (June, 2001) to Version R (April, 2002)	(2)	
A970GOT-SBA/LBD	Version L (June, 2001) to Version Q (April, 2002)		



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(1) Backlight replacement procedure 1



- Turn the GOT's power off. Remove the wire from the power supply terminal and also remove the communications cable.
- 2) After loosening the mounting fixtures of the GOT, remove the GOT from the control panel.
- 3) Remove the fixing screws (4 pcs.) in the back of the GOT with a screwdriver. (When the GOT used is the A985GOT(-V), remove 6 fixing screws.)



4) After removing the fixing screws, hold down the fixing catches (4 places at top, bottom, right and left) and remove the display cover from the GOT when the GOT used is the A975GOT/ A970GOT.

Remove the display cover when the GOT used is the A985GOT(-V), as it has no fixing catches.

At this time, remove the operator detect sensor junction connector in the GOT bottom.


### [Disposal Instructions]

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To dispose of, please treat the back light as an industrial waste.

5) Set the GOT front up and unplug the cable

(2) Backlight replacement procedure 2

The screws, which are to be removed during backlight replacement, are different in size according to the mounting positions.

Be sure to store the screws by size after removing them.







- Remove the connector cover for RS-232C interface, printer interface or communication unit, if it has been mounted to the GOT. Also, remove the wires connecting cable, various units or terminal block to the GOT, if the wiring has been installed.
- 2) Unscrew four fixing screws on the GOT rear side with a driver. (They cannot be completely removed.)
  (Tightening torque range: 36 to 48N cm)
- Remove the display cover from the GOT while pressing four fixing tabs, which are situated on top/bottom/right/left sides of the GOT.

A flat cable is attached under the fixing tab on the top side of the GOT.

Take care not to apply excessive force on the fixing tabs while pressing them with a driver or similar device. Failure to observe this instruction may damage them.

Be sure not to apply excessive pressure on the GOT case, which is made of resin. Failure to observe this instruction may also damage them.

- Put the GOT with the liquid crystal display side down. Keep the liquid crystal display away from scratch or dirt by laying a sheet on the work table in advance.
- 5) Remove two screws from the rear side. ((M2.6 screw)10 to 13N - cm)
- 6) Remove two screws from the rear side.
  ((M3 screw)18 to 24N cm)
  Please note that the screws are different in size.



 Put the GOT with the liquid crystal display side up and then remove the cable connector for backlight.

For A97 GOT-TB (-B): Remove one connector on the top side. For A970GOT-SB, A970GOT-LB: Remove two connectors on the top and bottom sides.



8) Remove four screws (chassis mounting screw) on the outmost side.

(Tightening torque range: 36 to 48N - cm)

9) Remove the liquid crystal display and circuit board from the rear case by holding up the top side.

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10) Remove the backlights keeping the liquid crystal display up.Keep the liquid crystal display away from scratch or dirt by laying a sheet on the work table in advance.

### For A97□GOT-TB□ (-B) : Remove one backlight on the top side. For A970GOT-SB□, A970GOT-LB□ : Remove two backlights on the top and bottom sides.

11) Mount new backlight(s) in the reverse order to the removal procedures. Then, mount the liquid crystal display, circuit board and display cover in a reverse

order as well.\*1

Be sure to securely mount the liquid crystal display, circuit board and display cover, and tighten the fixing screws within the specified torque range.

\*1 Pay full attention to the followings while mounting the liquid crystal, circuit board and display cover.

- Insert the GOT connectors and terminals into the corresponding holes on the rear case when mounting liquid crystal and circuit board onto it.
- Be sure to gently tighten the screws mentioned in 8) and 2), and then retighten them within the specified torque range.
- Insert the cable connectors for backlights completely, making sure that it is correctly mounted.
- Attach the display cover taking care that the flat cable is not wedged between the GOT and display cover.
- Remove the dust from the liquid crystal display or inside of the front panel.

### [Disposal Instructions]

• To dispose of, please treat the back light as an industrial waste.

# 8 ERROR CODES AND ERROR MESSAGES

This chapter explains the error codes and error messages displayed by the alarm list (system alarm) display function of the monitoring functions.

The error codes may also be confirmed in the error code storage area of the system information function. For details of the alarm list (system alarm) function and system information function, refer to the following manual.

- For GT Designer: GT Designer help function
- For GT Designer2: GT Designer2 Version□ Reference Manual

### 8.1 Definition of the Error Codes and Messages Displayed

This section describes the definition of the error codes and error messages displayed on the monitor screen by the alarm list (system alarm) display function and the manuals to refer to.

(1) Display format on the monitor screen ... Displayed in the user-set position



Source of Error Occurrence	Error Code	Reference	
ACPU	0 to 199	[User's Manual of ACPU where GOT is connected]	
	(Value of D9008)		
MNET/B, MNET(II)	200 to 299	[Data Link System Reference Manual of MNET(II), MNET/B] *1	
GOT	300 to 499	[Section 8.2]	
MNET/10	500 to 799	[Network System Reference Manual of MNET/10] *2	
CC-Link	800 to 999	[CC-Link System Master · Local Module User's Manual] * <sup>3</sup>	
QnACPU	1000 to 9999 (Value of SD0)	[User's Manual of QnACPU where GOT is connected]	

#### (2) Error codes and manuals to refer to

\*1 Take action with reference to the section explaining the link special relay of the (error code)+9000. For example, when the error of error code (210) has occurred, 210 + 9000 = 9210 and refer to the explanation of M9210 and take the corrective action.

\*2 Take action with reference to the section explaining the link special relay of the (error code) -500. For example, when the error of error code (510) has occurred, 510 - 500 = 10 and refer to the explanation of SB000A and take the corrective action.

(Since the link special relay is in hexadecimal, replace a decimal by a hexadecimal.)

\*3 Take action with reference to the section explaining the link special relay of the (error code)-800.

For example, when the error of error code (910) has occurred, 910-800=110 and refer to the explanation of SB006E and take the corrective action.

(Since the link special relay is in hexadecimal, replace a decimal by a hexadecimal.)

\*4 The FXCPU has error codes 100 to 109 and displays the states of M8060 to M8069 with the error codes. For example, when the error of error code (100) has occurred, refer to the explanation of M8060 and take the corrective action. OVERVIEW

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Error Message	Definition	Action	
Check communication line. (Cable, driver, module)	The cable, installed communication driver or com- munication board/communication unit is faulty.	<ol> <li>Check for any disconnected cable or improperly fitted communication board/ communication unit.</li> <li>Check the installed communication driver.</li> </ol>	
Check memory data. Unauthorized combination of OS program versions installed.		Confirm the versions of the OS programs installed.	
F-ROM abnormal	<ol> <li>The memory board is not mounted correctly.</li> <li>The versions of the memory board and ROM_BIOS are not matched.</li> </ol>	<ol> <li>Check the memory board mounting status and mounting screw tightening status.</li> <li>Check hardware version of the memory board and version of the ROM_BIOS. (Refer to 6.4.2 Mounting procedure.)</li> </ol>	

### (1) Error messages displayed before execution of monitoring

### (2) Error codes and messages displayed during execution of monitoring The error codes and messages detected by the GOT are indicated below.

Error Code	Error Message	Definition	Action	
303	Too many monitor points specified	The number of objects set to the screen to be		
304	Too many trigger points specified	the system	Reduce the number of objects	
305	Too many print-out points specified	The number of objects set to the screen for print-out by the hard copy function is too many to reserve the work area of the system		
306	No monitor data	Screen data has not been downloaded to the built-in memory	Download the screen data to the built-in memory	
307	No monitor device setting	Object monitoring devices not determined	Determine object monitoring devices	
308	Specified comment not found or outside range	The comment number set for comment display does not exist or the comment file does not exist	Create the comment file and download it to the GOT	
309	Device read error	Device data read caused an error	Correct device	
310	Specified monitor data not found or outside range	<ol> <li>The specified base screen/window screen does not exist in the project data.</li> <li>The specified base screen/window screen is outside the permissible range.</li> </ol>	<ol> <li>Specify the existing base screen/window screen.</li> <li>Specify the existing base screen/window screen.</li> </ol>	
311	More than 1024 alarms in alarm history	The alarms in the history has exceeded the largest number of points (1024 points) which the alarm history display function can monitor	Reduce the alarms in the alarm history (Remove the history recovered)	
312	The collected time has exceeded upper limit	The collected time exceeded the upper limit when the following setting had been made for the scattered chart. "Store memory" "Accumulate/Average"	<ol> <li>Establish "Clear trigger" set for the scattered chart.</li> <li>Set "Operation at frequency over time" of the scattered chart for "Initialize and continue".</li> </ol>	
315	Device write error	Data write to device caused an error	Correct device	
316	Operation result value cannot be displayed/entered	The data operation result has exceeded the range which can be represented by the device type	Reconsider the data operation formula so that the operation result does exceeded the range which can be represented by the device type	
320	Specified part not found or outside range	The part number set for part display does not exist.	Confirm the part number specified for the part display in the screen data	

Error Code	Error Message	Definition	Action	
321	Unauthorized station number specified for monitor device	The station number specified as a monitor destination does not exist or is not the station to be monitored	Confirm the monitor destination station number in the screen data	
322	Specified device outside range	The device number to be menitored is suitaide the	Set the maniferred DLC CDLL and personators to get	
323	Specified file register outside range	permissible range of the corresponding PLC CPU	the device in the monitorable range	
324	AD51H-dedicated device used without AD51H	The AD51H-dedicated device was monitored in the system which does not use the AD51H	Incorporate the AD51H into the system or stop monitoring of the AD51H-dedicated device	
325	Specified special module not loaded	The specified special module is not loaded	Check the loading status of the specified special module	
330	PC card capacity short	The PC card does not have enough capacity	Check the capacity	
331	PC card not loaded or memory card access switch OFF	The PC card is not loaded or the memory card access switch is OFF	<ol> <li>Load the PC card</li> <li>Turn ON the access switch</li> </ol>	
332	Format error	The PC card is not formatted	Format the PC card	
333	PC card write-protected to disable write	The PC card is write-protected	Make the PC card write-enabled	
334	PC card fault	PC card failure	Change the PC card	
335	PC card battery voltage low	The battery voltage of the PC card is low	Change the battery of the PC card	
340	Printer in error or power off		1. Check the printer	
341	Printer fault	The printer is faulty or its power is not on	2. The Printer switch it on	
342	The fuse of KBF module was blown	A fault occurred in the external I/O interface unit.	<ol> <li>If external power (24VDC) is not supplied, supply external power.</li> <li>If external power is supplied, change the external I/O interface unit.</li> </ol>	
343	KBF module status is abnormal	The external I/O interface unit is not mounted properly.	Mount the external I/O interface unit properly.	
345	BCD/BIN conversion error	It has been attempted to display/enter a value that cannot be BCD/BIN converted	<ol> <li>Change the device data to be displayed into a BCD value</li> <li>Enter the value of 4-digit integer</li> </ol>	
350	RS-232C communication error	The cable used to connect the GOT and personal computer is faulty	<ol> <li>Check for an unplugged communication cable connector</li> <li>check the cables used</li> </ol>	
351	Recipe file abnormal	Recipe file data are not normal	<ol> <li>Check recipe file data in PC card</li> <li>Start GOT after deleting recipe file in PC card</li> </ol>	
352	Recipe file generation error	Recipe file generation failed	Start GOT after loading PC card	
353	Recipe file write disabled	Data write to recipe file failed	<ol> <li>Check write protect of PC card</li> <li>Check PC card capacity</li> <li>Do not unload PC card during recipe operation</li> </ol>	
354	Error during recipe file write	Error occurred during recipe file write	Do not unload PC card during recipe operation	
355	Error during recipe file read	Error occurred during recipe file read	<ol> <li>Do not unload PC card during recipe operation</li> <li>Check recipe file data (device values) in PC card</li> </ol>	
356	File system error occurred in the PLC	When the file register name is designated and then the recipe function is operated, an error occurs in the designated file register.	<ol> <li>Check the file register name, and then operate the recipe function again.</li> <li>Apply Format PLC memory to the designated PLC drive with the GX Developer, and then operate the recipe function again.</li> </ol>	

Error Code	Error Message	Definition	Action
357	The specified drive of PLC is abnormal	When the file register name is designated and then the recipe function is operated, there is a fault in the PLC drive.	<ol> <li>Check the designated PLC drive, and then operate the recipe function again.</li> <li>Apply Format PLC memory to the designated PLC drive with the GX Developer, and then operate the recipe function again.</li> </ol>
358	File of PLC access failure	When the file register name is designated and then the recipe function is operated, the PLC file register could not be accessed.	<ol> <li>Check the designated PLC drive/ file register name, and then operate the recipe function again (If drive 0 was designated, change to a different drive, and then operate the recipe func- tion again).</li> <li>Check whether the memory card is write- protected, and then operate the recipe function again.</li> </ol>
359	Processing is from another peripheral device	When the file register name is designated and then the recipe function is operated, other peripheral devices begin processing for the file register.	Wait until the peripheral devices finish operating, and then operate the recipe function again.
360	Division error due to divisor of 0	Divisor 0 occurred in the data operation formula	Reconsider the data operation formula to avoid the divisor of 0
370	Contradiction in magnitude relationship of upper and lower limit values	Upper and lower limit values have been set as [upper limit ≤ lower limit]	Check the upper and lower limit value setting and correct them to be [upper limit $\geq$ lower limit]
402	Communication time-out	Time-out error occurred during communication	<ol> <li>Check for any disconnected cable or improperly fitted communication board/communication unit</li> <li>This may occur if the programmable logic controller load is increased while accessing another station. In this case, move the other station's data to the local station's programmable logic controller, and monitor with the local station.</li> <li>If the sequence scan is long, insert a COM command.</li> </ol>
403	SIO request status error	At the time of receive during RS-422/RS-232C communication, any of overrun error, parity bit error and framing error occurred.	Check the cable connection status, the communication board/communication unit mounting status, the PLC status, and the communication link transmission speed.
406	Specified station doesn't access for out of range	<ol> <li>The station number specified for CC-Link connection (via G4) is other than that of the master/local station.</li> <li>Access was made to the CPU other than the QCPU.</li> </ol>	Check the station number of the monitor screen data.
407	Other network accessed by MNET10 module	Access was made to the other network at the time of MELSECNET connection (network system)	Check the network number in the screen data to avoid access to the other network.
421	The specification of E71 cannot be written	The Ethernet module on the PLC side has been set for write disable.	Set the PLC side Ethernet module for write enable.
422	It is not communicate between the CPU and E71	The CPU is faulty or communication cannot be made between the CPU and PLC side Ethernet module.	Check the CPU for any fault using GX Developer or like. (Check the buffer memory.)
423	Information is insufficient in network table	The station number set as the screen data does not exist in the Ethernet setting of GT Designer.	Add the station number set as the screen data to the Ethernet setting of GT Designer. (Use the station number of the PLC side Ethernet module set in the parameter setting of GX Developer.)

Error Code	Error Message	Definition	Action	1
424	The same bureau is set by GOT and monitor data.	The station number set on the utility screen of the GOT is the same as the station number set in the Ethernet setting of GT Designer (station number of the PLC side Ethernet module) or the station number set as the screen data.	<ul> <li>Check the following data and do not use the same station number.</li> <li>1. Check the station number of the GOT on the utility screen of the GOT.</li> <li>2. Check the station number set as the screen data.</li> <li>3. Check the station number set in the Ethernet setting.</li> <li>(Use the station number of the PLC side Ethernet module set in the parameter setting of GX Developer.)</li> </ul>	TEM JFIGURATION C OVERVIEW
448	Devices outside file register and other ranges included	Devices specified are outside file register or buffer memory range of QnACPU	Set PLC file registers. Also correct monitor devices	SYS CON
470	Communication destination faulty	During monitoring of the other station via MELSECNET/10, a fault occurred in the corresponding communication station	Check whether the corresponding communication station has been set correctly in the management station (reconsider the parameters, switch setting, etc.)	RMANCE
499	CPU communication error	Other communication error	Check for any disconnected cable or improperly fitted communication unit	PERFOF

### 8.3 Precautions for use of flash PC card

Take the following action if any of the following errors takes place during use of the flash PC card (A9GTMEM-10/20/40MF).

Туре	Description
	332 Format error
	334 PC card fault
	351 Recipe fail abnormal
PLC error number	352 Recipe fail generation error
	353 Recipe fail write disabled
	354 Error during recipe fail write
	355 Error during recipe file read
Utility/screen copy in execution	Data transfer error

- (1) Take the action corresponding to the error. (Refer to Section 8.2.)
- (2) Choose "UTILITY MENU"-"SELF CHECK"-"MEMCARD CHECK" on the GOT. If the error is detected, the following dialog box appears. For full information on the utility menu, refer to GOT-A900 Series Operating Manual (Extended Option Functions Manual).

MEMORY CARD WRITE/READ CHECK				
File access error generation.				
Check the card on the scanning disk.				
[OK]				

(3) When the above dialog box has appeared, perform scan disk on the personal computer.



Independently of whether the above error message is displayed or not, perform scan disk on the personal computer wherever possible.

#### Precautions for installation of ROM BIOS 8.4

If the version of ROM BIOS installed in the GOT is E or later at the time of product shipment, you need not install the older version of ROM BIOS (ROM BIOS version B, C or D). (The functions of the older versions are all reflected on the newer versions.)

Should you restart the GOT in which the older version of ROM BIOS has been installed, the following message appears and the GOT stops. (ROM\_BIOS cannot be rewritten.)

> ROM BIOS setup Ver1. 1. 0 [B] ▲ 注意:電源を切らないで下さい。 リセットボタンを押さないで下さい。 Don't turn off the power supply Don't push the reset button. ROM BIOS Not Rewritarble. GOT stopped Please install operating system.

> > If the above message has appeared, install the basic functions, PC communication driver, etc. with the above screen being shown.

Point

To confirm the version of ROM\_BIOS installed in the GOT at the time of product shipment, look at the rating plate on the back of the GOT.



Rating plate

ROM\_BIOS Version

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### 8.5 Troubleshooting in bus connection

If a cause cannot be located by the troubleshooting procedures specified in section 8.2 when the GOT is bus-connected to the PLC CPU, troubleshoot the cause as follows.

### 8.5.1 Locating error positions

- (1) How to locate error positions:
  - (a) Use of peripheral devices

Using the peripheral devices such as GX Developer, check what type of the error occurs on the PLC CPU and, based on the error message on the PLC CPU and the check points (See item (2) below), check each module and cable for installation and earthing statuses.

(b) Error timing

Check the timing of errors.

1) An error occurs when the power is turned on or immediately after the PLC is reset: The error may be detected by the initial processing of the PLC CPU.

In this case, because the faulty module may not be identified, <u>use only an END instruction</u> for the sequence program and remove the modules one by one until the error does not occur.

When the error is eliminated after a specific module has been removed, the module may be causing the error.

2) An error occurs after a specific operation or several seconds:

The error may occur in the sequence program. Check the error step where the error may occur and the sequence program in that step.

The sequence program can be diagnosed throughout by merely <u>using an END instruction for</u> <u>the sequence program</u>.

3) An error occurs when a specific device operates:

The mis-operation may be caused by noise.

Check that any signal line such as bus cable is not laid out too close to the operating device. If the line is too close to the device, separate the line 100 mm or more from the device.

 (c) Locating the module where an error occurs: Based on the PLC CPU error codes and special resister information (See item (2)), locate a specific module where an error occurs.

By the method stated above, correct the sequence program or replace the faulty module with a new one, and check whether the error occurs.

If the error continues to occur, it may have another cause. Referring to section 8.5.2, locate the error position further.

### (2) Error messages appearing due to faulty ACPU bus connection and measure against errors

Error	Error		Cause and check point			
Code	Messages	Check Timing	Error detail	Remedy	Corresponding CPU	
22	WDT ERR.	When an End instruction is executed	<ol> <li>The scanning time exceeds the calculation congestion monitoring time.</li> <li>The scanning time may be extended by waiting for a response from an SP module that is down, and errors may occur simultaneously.</li> </ol>	<ol> <li>Use the error history to check whether simultaneous occurrence errors are present.</li> <li>Refer to the SP module down check points.</li> </ol>		
31	UNIT VER- IFY ERR.	When an End instruction is executed	The information stored in the cards of the module installed in the base unit and the communication unit of the GOT is different from that read at the initial time. (If an error occurs on a module (vacant) other than that installed in the base unit, the mis-operation may be caused by noise.)	<ul> <li>Check the faulty module at special resisters D9116 to D9123.</li> <li>(1) Check that the module and the cables are connected correctly.</li> <li>(2) Check that the PLC and the GOT are earthed correctly.</li> </ul>		
		During execution of FROM/TO instruction set	When the FROM/TO instruction is executed, an imprecise response is returned from the special function module (including the GOT).	<ul> <li>Check the faulty module from the error step.</li> <li>(1) Check that the module and the cables are connected correctly.</li> <li>(2) Replace the faulty module with a new one.</li> <li>(3) Check that the PLC and the GOT are earthed correctly.</li> </ul>		
40	CONTROL _BUS ERR.	At CPU power ON/ At reset	At the time of initial communication, an imprecise response is returned from the special function module (including the GOT).	<ol> <li>Check that the module and the cables are connected correctly.</li> <li>Because a faulty module cannot be located, remove the modules one by one until no CONTROL_BUS ERR. message appears to indicate the module where the error occurs.</li> <li>(Because the modules are removed, SP. UNIT ERR. message may appear. Stop transmitting the FROM/TO instruction to the applicable module.)</li> </ol>	ACPU	
41	SP. UNIT DOWN	During execution of FROM/TO instruction set	The special function module was accessed during the execution of a FROM/TO instruction set, but there was no response.	<ul> <li>Check the faulty module from the error step.</li> <li>(1) Check that the module and the cables are connected correctly.</li> <li>(2) Replace the faulty module with a new one.</li> <li>(3) Check that the PLC and the GOT are earthed correctly.</li> </ul>		
		At CPU power ON/ At reset	At the time of initial communication, a response is not returned from the special function module (including the GOT).	<ol> <li>Check that the module and the cables are connected correctly.</li> <li>Replace the faulty module with a new one.</li> </ol>		
43	I/O INT ERR.	During interrupt	An imprecise interrupt occurs to the PLC CPU.	(3) Check that the PLC and the GOT are earthed correctly.		
44	SP. UNIT LAY ERR.	At CPU power ON/ At reset	Too many modules are installed (see the PLC CPU specification).	<ol> <li>Check the number of installed modules.</li> <li>Check the number of extension stages and the I/O slot numbers.</li> </ol>		
46	SP. UNIT ERR.	During execution of FROM/TO instruction set	The FROM/TO instruction is executed to any module other than the special function module.	<ol> <li>Review the sequence program.</li> <li>Check the number of extension stages and the I/O slot numbers.</li> </ol>		

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CODES AND MESSAGES

ERROR C ERROR N

Error	Error		Cause and check point			
Code	Messages	Check Timing	Error detail	Remedy	Corresponding CPU	
1310	I/O INT ERROR.	During interrupt	An imprecise interrupt occurs to the PLC CPU.		QCPU QnACPU	
1401		At CPU power ON/ At reset/When intelligent function module is accessed.	<ul> <li>There was no response from the intelligent function module during initial communications stage.</li> <li>The size of the buffer memory of the intelligent function module is abnormal.</li> </ul>		QCPU	
		At CPU power ON/ At reset	At the time of initial communication, a response is not returned from the special function module (including the GOT).	<ul><li>(1) Check that the module and the cables are connected correctly.</li><li>(2) Replace the faulty module and</li></ul>	QnACPU	
1402	SP. UNIT DOWN	When an intelligent function module access instruction is executed.	The intelligent function module was accessed in the program, but there was no response.	<ul><li>the cables with new ones.</li><li>(3) Check that the PLC and the GOT are earthed correctly.</li><li>(4) Check the number of extension</li></ul>	QCPU	
1402		During execution of FROM/TO instruction set	The special function module was accessed during the execution of a FROM/TO instruction set, but there was no response.	stages and the I/O slot numbers.	QnACPU	
1403		When an End instruction is executed	There was no response from the intelligent function module when the END instruction is executed.		QCPU	
			function module.			
1411	CONTROL _BUS ERR.	At CPU power ON	At the time of initial communication, an imprecise response is returned from the special function module (including the GOT).	<ol> <li>Check that the module and the cables are connected correctly.</li> <li>Because a faulty module cannot be located, remove the modules one by one until no CONTROL_BUS ERR. message appears to indicate the module where the error occurs.</li> <li>(Because the modules are removed, SP. UNIT ERR. message may appear. Stop transmitting the FROM/TO instruction to the applicable module.)</li> </ol>	QCPU QnACPU	
1412		During execution of FROM/TO instruction set	When the FROM/TO instruction is executed, an imprecise response is returned from the special function module (including the GOT).	<ul> <li>Check the faulty module from the error step.</li> <li>(1) Check that the module and the cables are connected correctly.</li> <li>(2) Replace the faulty module with a new one.</li> <li>(3) Check that the PLC and the GOT are earthed correctly.</li> </ul>		
2000	UNIT VERIFY ERR.	When an End instruction is executed	The information stored in the cards of the module installed in the base unit and the communication unit of the GOT is different from that read at the initial time. (If an error occurs on a module (vacant) other than that installed in the base module, the mis-operation may be caused by noise.)	<ul> <li>Check the faulty module at special resisters SD1400 to SD1431.</li> <li>(1) Check that the module and the cables are connected correctly.</li> <li>(2) Check that the PLC and the GOT are earthed correctly.</li> </ul>	QCPU QnACPU	

### (3) Error messages appearing due to faulty Q/QnACPU bus connection and measure against errors

Error	Error		C	ause and check point	
Code	Messages	Check Timing	Error detail	Remedy	Corresponding CPU
2100			<ol> <li>In the parameter I/O allocation settings, an intelligent function module was allocated to a location reserved for an I/O module. Or, the opposite has happened.</li> <li>In the parameter I/O allocation settings, a module other than CPU (or nothing) was allocated to a location reserved for a CPU module. Or, the opposite has happened.</li> <li>A general-purpose switch was set to the module with no general-purpose switches.</li> </ol>	<ol> <li>Reset the parameter I/O allocation according to the status of installation of the intelligent function module.</li> <li>Reset the parameter I/O allocation according to the status of installation of the CPU module.</li> <li>Reset the general-purpose switch settings.</li> <li>Check the number of extension stages and the I/O slot numbers.</li> </ol>	QCPU
			In parameter I/O allocation settings, a special function module was allocated to a location reserved for an I/O module. Or, the opposite has happened.	<ol> <li>(1) Reset the parameter I/O allocation setting to conform with the actual status of the special function modules.</li> <li>(2) Check the number of extension stages and the I/O slot numbers.</li> </ol>	QnACPU
2101 to 2103			The modules more than those specified in the PLC CPU specification are installed.	<ol> <li>Check the number of installed modules.</li> <li>Check the number of extension stages and the I/O slot numbers.</li> </ol>	QCPU QnACPU
2104			At the MELSECNET/MINI auto refresh parameter settings, the module alloca- tion that was set is different from the actual module models at the station numbers in the link system.	Reset the parameter MELSECNET/ MINI auto refresh unit module allocation setting so that it conforms to the station number of the module that is actually linked.	QnACPU
2105	SP. UNIT LAY ERR.	At CPU power ON/ At reset	There are too many special function modules that can use dedicated instructions allocated (number of mod- ules installed).	Reduce the number of special function modules installed.	
2106			<ol> <li>5 or more QJ71LP21/BR11 have been installed.</li> <li>5 or more QJ71E71 (-B2) have been installed.</li> <li>Identical network numbers or station numbers exist in the MELSECNET/10 network system.</li> </ol>	<ol> <li>Keep the number to 4 or fewer.</li> <li>Keep the number to 4 or fewer.</li> <li>Check the network numbers and station numbers.</li> </ol>	QCPU
2107			Head X/Y set at the parameter I/O allocation settings is also the head X/Y for some other module.	<ol> <li>(1) Reset the parameter I/O allocation setting to conform with the actual status of the special function modules.</li> <li>(2) Check the number of extension stages and the I/O slot numbers.</li> </ol>	QCPU QnACPU
2108			<ol> <li>Network module A1SJ71LP21, A1SJ71BR11, A1SJ71AP21*, A1SJ71AR21, or A1SJ71AT2*B dedicated for the A2USCPU has been installed.</li> <li>Network module A1SJ71QLP21 or A1SJ71QBR11 dedicated for the Q2AS has been installed. Change the network module to QJ71LP21 or QJ71BR11.</li> </ol>	Change network module to QJ71LP21 or QJ71BR11.	QCPU
			AJ71LP21 or AJ71BR11 for use with the AnUCPU network module has been installed.	Change network module to AJ71QLP21 or AJ71QBR11.	QnACPU
2109			The control system and standby system module configurations are different when a redundant system is in the backup mode.	Check the module configuration of the standby system.	Q4ARCPU

Error	Error		Cause and check point			
Code	Messages	Check Timing	Error detail	Remedy	Corresponding CPU	
2110		When instruction	The FROM/TO instruction is executed to any module other than the special function module.	<ul><li>(1) Review the sequence program.</li><li>(2) Replace the faulty module with a</li></ul>		
2111			The location designated by link direct device $(J \Box \setminus \Box)$ is not a network module.	new one.		
2112	SP. UNIT ERROR.	When instruction executed/	<ol> <li>The location designated by a special function module dedicated instruction is not a special function module.</li> <li>Alternatively, it is not the relevant special function module.</li> </ol>	Review the sequence program.	QCPU QnACPU	
2113	STOP	$STOP \rightarrow RUN$	No special function module data for simulation purposes has been set in the simulation data.	Read error individual information, then check and edit the special function module simulation data that corresponds to the numerical value there (program error location).		
2120			The location of $Q \square B$ and $QA1S \square B$ is improper.	Check the location of the base unit.		
2122			QA1S B is installed to the basic base unit.	Install Q∏B as the basic base unit.		
2124	SP. UNIT LAY ERR.	At CPU power ON/ At reset	<ol> <li>A module is installed at 65th or later slot.</li> <li>A module is installed at the slot later than the number of slots specified with base allocation setting.</li> <li>A module is installed at the I/O points later than the 4,096th point.</li> <li>A module installed at the 4,096th point occupies later points.</li> </ol>	<ol> <li>Remove the module installed at 65th or later slot.</li> <li>Remove the module installed at the slot later than the number of slots specified with base allocation setting.</li> <li>Remove the module installed at the I/O points later than the 4,096th point.</li> <li>Change the last module to a module which does not exceed the 4,096th point.</li> </ol>	QCPU	
2125			<ol> <li>A module which the QCPU cannot recognize has been installed.</li> <li>There was no response form the intelligent function module.</li> </ol>	<ol> <li>Install a module which can be used with the QCPU.</li> <li>Replace the faulty module with a new one.</li> </ol>		
5000	WDT	Always	Program scan time for initial execution type program goes over the initial execution WDT time set in the parameter PC RAS settings.	Read the error individual information at a peripheral device, check the		
5001	- ERROR.	ROR.	Program scan time goes over the WDT value set in the parameter PC RAS settings.	shorten scan time if necessary.	QIACEO	

### 8.5.2 Further locating error positions

If the function of the PLC cannot be recovered even when the module on which an error occurs is replaced with a new one, the error may be caused by the effect from another module.

Disconnect the extension cables and bus connection cables in order from the modules starting from the module located furthest from the operating position in the system, and check for the status of occurrence of the error each time the cables are disconnected until the error does not occur.

The module or extension cables/bus-connection cables disconnected immediately before the error does not occur are considered to cause the error.

Examples of the ways of further locating error positions are shown below.



Repeat the examples 1 and 2 above to locate error positions.



- When disconnecting the extension base units in order, use only an END instruction for the sequence program, and any error resulting from the sequence program will not occur, and the status of occurrence of errors will be obtained easily.
- When the frequency of occurrence of an error is low, check the error by taking a rather long time with the modules disconnected.
- The checks stated above are effective to locate a noise invading route when the mis-operation is caused by noise.

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An example of troubleshooting the system which is used when an error occurs on the PLC CPU is shown below.

The following describes the corrective action when the GOT monitoring screen is blank.



- \*1 Refer to GOT-A900 Series Operating Manual (Extended Option Functions Manual), for utility menu.
- \*2 For details of the Forced Screen Saver Enable signal, refer to the following manual.
  - For GT Designer : GT Designer help function
  - For GT Designer2 : GT Designer2 Version□ Reference Manual

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# APPENDICES

### Appendix.1 External Dimensions

### 1) A985GOT(-V)



Unit (mm (inch))

2) A975GOT and A970GOT



Unit (mm (inch))

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### 3) A960GOT



Unit (mm (inch))

### Appendix.2 Depth at the Time of Communication Board/Communication Unit Loading



#### (1) When A9GT-QBUSS/A9GT-BUSS is used

\*1 For the dimensions of A and B, see the panel cut dimensions of each GOT (Section 6.1.2).

### (2) When A9GT-QBUS2S/A9GT-BUS2S is used



\*1 For the dimensions of A and B, see the panel cut dimensions of each GOT (Section 6.1.2).

### (3) When A9GT-RS2/A9GT-RS2T is used



\*1 For the dimensions of A and B, see the panel cut dimensions of each GOT (Section 6.1.2). \*2 Depends on the dimensions of the converter and cable used.

### (4) When A9GT-RS4 is used



\*1 Dimension for use of the AC R4-25P. When the other cable is used, the dimension depends on the converter and cable used.

#### (5) When A7GT-J71AP23/A7GT-J71LP23/A9GT-QJ71LP23 is used



### (6) When A7GT-J71AR23/A7GT-J71BR13/A9GT-QJ71BR13 is used



(7) When A7GT-J71AT23B is used



(8) When A8GT-J61BT13/A8GT-J61BT15 is used



(9) When A9GT-J71E71-T is used





### Appendix.3 External Dimensions of Bus Connection Cables

Туре	Cable thickness (mm (inch))	Connector type	
		GOT side	PLC side
A1SC <u></u> B	9 (0.35)	Fig. 1	Fig. 1
A8GT-C⊟BS* <sup>1</sup>	9 (0.35)	Fig. 6	Fig. 6
A8GT-C⊟EXSS* <sup>1</sup>	8 (0.31)	Fig. 1	Fig. 2
A8GT-C□EXSS-1* <sup>2</sup>	9 (0.35)	Fig. 6	Fig. 6
A8GT-C⊟NB	8 (0.31)	Fig. 1	Fig. 3
A9GT-QC⊟BS	10 (0.39)	Fig. 5	Fig. 5
AC⊟B	17 (0.67)	Fig. 3	Fig. 3
AC⊟B-R	17 (0.67)	Fig. 4	Fig. 4
QC⊟B	10 (0.39)	Fig. 5	Fig. 5
A8GT-EXCNB	9 (0.35)	Fig. 7	Fig. 6

\*1 The A8GT-C EXSS/C BS cable has a ground cable (1m).

Always connect this ground cable to the control panel or other places.

\*2 The A8GT-C EXSS-1 is provided as a set of the A8GT-EXCNB and A8GT-C BS. (Refer to Fig. 8.)





Fig. 3



Fig. 5



58.0 (2.28) (2.28)

49.9

Fig. 4

Fig. 6

Fig. 2







Fig. 8



Unit: mm (inch)

### Appendix.4 Specifications of former models

Specifications of former GOT-A900 series models are given below.

### Appendix.4.1 Performance specifications of the A975GOT-TBA/TBD, A970GOT-TBA/TBD

Item		Specifications		
		A975GOT-TBA, A975GOT-TBD	A970GOT-TBA, A970GOT-TBD	
	Туре	TFT color li	quid crystal	
Resolution		640 × 4	80 dots	
Display	Display size	211 (8.31) × 158	(6.23) mm (inch)	
section*1	Display color	256 color	16 color	
	Intensity	250 cd/m <sup>2</sup> (Average inter	nsity of liquid crystal only)	
	Display angle	Display angle 80 degrees (right, up and down)		
Backlight		Cold cathode fluores	scent tube backlight	
Ducklight		(Backlight OFF/screen sa	ving time setting allowed)	
	Number of touch	1200 points (30 lin	$pes \times 40$ columns)	
Touch	keys			
panel	Key size	Minimum 16 × 1	l6 dots (per key)	
	Repeat function	N	0	
_	Туре	Flash	ROM	
Memory*2	Application	For monitor screen data	storage, for OS storage	
	Capacity	1M byte built-in (user area), max. 8M bytes increasable		
Communica	ation board slot <sup>*3</sup>	For communication board loading, 1 slot		
Communica	ation unit interface <sup>*3</sup>	n unit interface <sup>*3</sup> For communication unit loading, 1 channel		
Option unit	interface	For option unit lo	ading, 1 channel	
PC card inte	PC card interface For PC card loading, 1 channel		iding, 1 channel	
Memory board slot For memory board loading, 1 slot		rd loading, 1 slot		
RS-232C interface For connection of personal computer for graphics software, for bar-code		oftware, for bar-code reader connection, 1 channel		
Printer interface <sup>*4</sup> For parallel printer connection, 1 channel		onnection, 1 channel		
		For external speaker connection (3W + 3W or higher re-	commended) (stereo mini-jack), 1 channel each for L/R	
Speech out	put terminal	$(2Vp-p, 0.4mW \text{ (for rated load } 10k\Omega))$ , compatible speech file: Windows WAV format, 8.000kHz, 16-bit monaural		
		(8 s/spe	ech file)	
Buzzer output Single tone (tone length adjustable)		length adjustable)		
	Display section*6*8	41,000h (Operating amb	pient temperature: 25°C)	
l ife <sup>*5</sup>	Backlight <sup>*6</sup>	40,000h (Time when display luminance reaches 50	0% at the operating ambient temperature of 25°C)	
Life	Touch key	1 million times or more (op	perating force 0.98N max.)	
	Built-in memory	Number of write tin	nes: 100,000 times	
Environment	tal protective	Front section	: Equivalent to IP67/NEMA4	
structure <sup>*8</sup>		Panel inside	: IP2X	
Outline dimensions		297 (11.7) (W) × 208 (8.2) (H	H) × 46 (1.81) (D) mm (inch)	
Panel cutting dimensions		289 (11.39) (W) × 200	D (7.88) (H) mm (inch)	
Weight		1.8 (4.0	) kg (lb)	
Compatible	Compatible software package <sup>*7</sup> SW0D5C-GTWORKS-E Version A or later, SW1D5C-GOTRE-PACK Version A or later		SW1D5C-GOTRE-PACK Version A or later	

\*1 Bright dots (always lit) and dark dots (unlit) may appear on a liquid crystal display panel. It is impossible to completely avoid this symptom, as the liquid crystal display comprises of a great number of display elements. Please note that these dots appear due to its characteristic and are not caused by product defect.

\*2 The built-in memory is ROM which allows old data to be overwritten by new data. (Data backup power supply is not needed.)

\*3 Note that either of the communication board slot and communication unit interface may only be used.

\*4 Refer to the [3.2.1] for details on the specifications are those of the printer interface.

\*5 When parts must be changed, consult your sales representative.

\*6 The screen saving/back light OFF function of GOT is provide to prevent images from becoming permanently etched on the display and extend the back light life.

\*7 GT Works2 and GT Designer2 are supported from the first version (Version1.00A).

\*8 The specifications differ depending on the version of GOT (hardware version, function version).

### (1) Specification differences by the version of GOT

The specifications of the GOT-A900 series differ depending on the version (hardware version, function version).

The following shows specification differences of the GOT-A900 series by version.

### (a) Environmental protective structure

The environmental protective structure (IP rating) differs depending on the hardware version of GOT.

 
 Specification

 Item
 A975GOT-TBA A975GOT-TBA A975GOT-TBD
 A970GOT-TBA A970GOT-TBD

 Environmental protective structure
 Front section: Equivalent to IP65 Panel inside: IP2X
 Hardware version A or later

 Front section: Equivalent to IP67/NEMA4 Panel inside: IP2X
 Hardware version N (Dec., 2001) or later

For how to confirm the hardware version of GOT, refer to Section 7.4.

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### Warranty

Please confirm the following product warranty details before using this product.

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 sales representative or Mitsubishi Service Company.

However, if repairs are required onsite at domestic or overseas location, expenses to send an engineer will be solely at the customer's discretion. Mitsubishi shall not be held responsible for any re-commissioning,

maintenance, or testing on-site that involves replacement of the failed module.

#### [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.
  - 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 not to be the responsibility of Mitsubishi or that admitted not to be so by 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 available 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 loss in opportunity and secondary loss from warranty liability

Regardless of the gratis warranty term, Mitsubishi shall not be liable for compensation of damages caused by any cause found not to be the responsibility of Mitsubishi, loss in opportunity, lost profits incurred to the user by Failures of Mitsubishi products, special damages and secondary damages whether foreseeable or not, compensation for accidents, and compensation for damages to products other than Mitsubishi products, replacement by the user, maintenance of on-site equipment, start-up test run and other tasks.

#### 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 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 Railway companies or Public service purposes shall be excluded from the programmable logic controller applications.

In addition, applications in which human life or property that could be greatly affected, such as in aircraft, medical applications, incineration and fuel devices, manned transportation, equipment for recreation and amusement, and safety devices, shall also be excluded from the programmable logic controller range of applications.

However, in certain cases, some applications may be possible, providing the user consults their local Mitsubishi representative outlining the special requirements of the project, and providing that all parties concerned agree to the special circumstances, solely at the users discretion.

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## A985GOT/A975GOT/A970GOT/A960GOT

## **User's Manual**

MODEL A900GOT-U(SHO)-E

MODEL CODE

1DM099

SH(NA)-4005-P(0611)MEE

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