



CONNECTOR CONVERSION BOX GT16H-CNB-42S

User's Manual

Manual Number Date Sep. 2021

This manual describes the part names, dimensions, mounting, and specifications of the product. Before use read this manual and manuals of relevant products fully to acquire proficiency in handling and operating the product. Make sure to learn all the product information safety information and precautions And, store this manual in a safe place so that you can take it out and read it

whenever necessary Always forward it to the end user Registration

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Effective: Sen 2021

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Safety Precaution (Read these precautions before using.)

Before using this product, please read this manual and the relevant manuals introduced in this manual carefully and pay full attention to safety to handle the product correctly The precautions given in this manual are concerned with this product

In this manual, the safety precautions are ranked as AWARNING and CAUTION

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.

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

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

DESIGN PRECAUTIONS **WARNING**

- Some failures of the GOT or cable may keep the outputs on or off. An external monitoring circuit should be provided to check for output signal 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 inonerative 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

Do not bundle the control and communication cables with main-circuit, powe or other wiring. Run the above cables separately from such wiring and keep them a minimum of 100mm (3.94in.) apart.Not doing so noise can cause malfunction

MOUNTING PRECAUTIONS A WARNING

Make sure to turn off the Connector Conversion Box's power before attaching or detaching it to/from the COT

Failure to do so may cause unit failure or malfunctions

MOUNTING PRECAUTIONS A CAUTION

Use the Connector Conversion Box within the generic environment specification described in this manual. If the product is used in such conditions, electric shock fire malfunctions deterioration or damage may occur

WIRING PRECAUTIONS **WARNING**

- Be sure to shut off all phases of the external power supply used by the system before wiring. Failure to do so may result in an electric shock, product damage o malfunctions
- Please make sure to ground EG terminal of the Connector Conversion Box nowe supply section by applying 100 or less which is used exclusively for the GOT. Not doing so may cause an electric shock or malfunction.
- Correctly wire the Connector Conversion Box power supply section after confirming the rated voltage and terminal arrangement of the GOT Not doing so can cause a fire or failure
- Exercise care to avoid foreign matter such as chips and wire offcuts entering the COT Not doing so can cause a fire failure or malfunction

VIRING PRECAUTIONS **ACAUTION**

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

TEST ODED ATION **WARNING** DECAUTIONS

Before performing the test operations of the user creation monitor screen (such as turning ON or OFF bit device, changing the word device current value, changing the settings or current values of the timer or counter, and changing the buffe memory current value), read through the manual carefully and make yoursel familiar with the operation method. 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 **WARNING** RECAUTIONS

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

STARTUP/MAINTENANCE RECAUTIONS

- 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.
- 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

DISPOSAL PRECAUTIONS

When disposing of the product, handle it as industrial waste

RANSPORTATION PRECAUTIONS

The Connector Conversion Box is a precision instrument. During transportation avoid impacts larger than those specified in this manual. Failure to do so may cause failures in the unit. After transportation, verify the operations of the unit.

Certification of UL. cUL standards

UL, cUL Standards are recognized in use by the following combination.

- GT2506HS V/TBD GT2505HS-VTBD
- GT1665HS-VTBD (Hardware version E or later) CT1455HS OTBDE (Hardware version B or later)
- GT1150HS_OMBDE (Hardware version B or later)
- GT16H-CNB-42S (Hardware version D or later)
- External cable (GT16H-C30-42P, GT16H-C60-42P, GT16H-C100-42P)
- External cable (GT14H-C30-42P, GT14H-C60-42P, GT14H-C100-42P)*1

*1 Version B or later General notes on power supply

This equipment must be supplied by a UL Listed or Recognized 24 V dc rated power supply and UL Listed or Recognized fuse rated not higher than 4A, or a UL Listed Class 2 power supply

Compliance with EC directive (CE Marking)

This note does not guarantee that an entire mechanical module produced in accordance with the contents of this note will comply with the following standards. Compliance to EMC directive for the entire mechanical module should be checked by the user/manufacturer. For more details please contact the local Mitsubishi Electric coloc cito

Attention

This product is designed for use in industrial applications.

Requirement for Compliance with EMC directive

The following products have shown compliance through direct testing (to the identified standards) and design analysis (forming a technical construction file) to the European Directive for Electromagnetic Compatibility when used as directed by the appropriate documentation

This product is designed for use in industrial applications

- Type: Graphic opreation terminal

 Models: GOT2000 series 			
Standard		Remark	
EN61131-2 : 2007	EMI	Compliance with all relevant aspects of the standard. (Radiated Emissions)	
Programmable controllers- Equipment, requirement and tests	EMS	Compliance with all relevant aspects of the standard. (ESD, RF electromagnetic field, EFTB, Surge, RF conducted disturbances and Power frequency magnetic field)	

For more details please contact the local Mitsubishi Electric sales site

For details of CE marking, refer to the following. →GOT2000 Series User's Manual (Hardware)

Compliant with the UKCA marking

Requirements for compliance with the UKCA marking are the same with the EC Directives (CE marking).

Notes for compliance to EMC regulation

General notes on the control panel Make sure to combine the GT16 Handy GOT with the Connector Conversion

Box to comply with the EMC directive. The Connector Conversion Box is an open type device (device installed to another device) and must be installed in a conductive control panel 2) General notes on the use of communication cables

• External cable (GT16H-C30-42P, GT16H-C60-42P, GT16H-C100-42P)

Direct connection cable

Existing Cables	User Made Cables
GT01-C30R4-8P GT11H-C30R2-6P	The cable need to be independently tested by the user to demonstrate EMC compatibility when they are used with the GOT, the PLC of MELSEC-Q series, MELSEC-L series, MELSEC-QnA, MELSEC-A series and MELSEC-FX series.

Ethernet connection cable (Shielded twisted pair cable (STP))

- PLC (manufactured by other company), microcomputer, temperature controller, inverter, servo amplifier, CNC, MODBUS(R)/RTU or MODBUS(R)/ TCP connection
- Produce the cable (RS-232 cable, RS-422 / 485 cable) for connecting the GOT to a controller with reference to the following manual. \rightarrow GOT2000/GOT1000 Series Connection Manual for GT Works3 and a
- controller used

TDK

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Up to 75mm

(2.95inch)

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3) General notes on Power supply

The Connector Conversion Box requires an additional ferrite filter to be attached to the 24V DC power supply cables. The filter should be attached in a similar manner as shown in the figure opposite, i.e. the power cables are wrapped around the filter. However, as with all EMC situations the more correctly applied precautions the better the systems Electro-magnetic Compatibility. The ferrite recommended is a TDK ZCAT3035-1330 or similar. The ferrite should be placed as near to the 24V DC terminals of the Connector Conversion Box as possible (which should be within 75mm of the GOT terminal).



The following manuals are relevant to this product. When these loose manuals are required, please consult with our local distributor.

Manual name	Contents	Manual Number (Model Code)
GOT2000 Series User's Manual (Hardware)	Describes the GOT hardware relevant content such as part names, external dimensions, mounting, power supply wiring, specifications, and introduction to option devices	SH-081194ENG (1D7MJ5)
GOT2000 Series Handy GOT Connection Manual For GT Works3 Version1	Describes system configurations of the connection method applicable to GOT2000 Series Handy GOT and cable creation method	SH-081867ENG (1D7MS9)
GT16 Handy GOT User's Manual (Hardware/Utility, Connection) 1/2, 2/2 (sold separately)	Describes the Handy GOT hardware- relevant content such as part names, external dimensions, mounting, power supply wiring, specifications, and introduction to option devices	JY997D41201 JY997D41202 (09R821)
GT14 Handy GOT User's Manual (Hardware/Utility, Connection) 1/2, 2/2 (sold separately)	Describes the Handy GOT hardware- relevant content such as part names, external dimensions, mounting, power supply wiring, specifications, and introduction to option devices	JY997D50201 JY997D50202 (09R825)

For details of a PLC to be connected, refer to the PLC user's manual respectively. Referenced Standard: GB/T15969.2 (Requirement of Chinese standardized law)

Bundled Items

Bundled item	Quantity
GT16H-CNB-42S Connector conversion box	1
Packing for panel installation	1
Flange for GT10-9PT5S	1
Screws for flange installation (M3×8)	2
CONNECTOR CONVERSION BOX GT16H-CNB-42S User's Manual (This manual)	1

1. Features

2. Specifications

to 55°C

-20 to 70°C

When

installing

DIN rai

General Specifications

Item

Operating

temperature

temperature

ambient

Storage

ambient

Vibration

resistance

Operating

atmosphere

The Connector Conversion Box relays the GOT's external 42-pin connector to the power supply/switch and the PLC's connector and terminal block, while enabling users to operate the Handy GOT outside the enclosure



Specifications

Acceleratio

4.9m/s²

Must be free of lamp black, corrosive gas, flammable gas, or

excessive amount of electroconductive dust particles and must be no

Half-

amplitude

1.75mm

Sweep

Count

10 times

each in X. Y

and Z

directions

Other specifications are the same as the Handy GOT main unit.

Frequency

5 to 9Hz

9 to 150Hz

direct sunlight. (Same as for saving)

Power Supply Specifications

	ltem	Specifications
Input power supply voltage		24VDC (+10% -15%)
Power consumption		13.7W or less (570mA/24VDC) (When including the consumption current of Handy GOT)
Connector Conversion Box only		2.2W (90mA/24V) (When excluding the consumption current of Handy GOT)
Inrush current		25A or less (at max. load), 2ms
Permissible instantaneous power failure time		Within 5ms
Applicable GOTs		
Ab	previations	Model name
GOT 2000 GT25 Handy GOT		GT2506HS-VTBD_GT2505HS-VTBD

GOT 1000 GT16 Handy GOT GT1655HS-VTBD GT14 Handy GOT GT145□HS-Q□BDE	G	01 2000	G125 Handy GO1	G12506HS-V1BD, G12505HS-V1BD
GT14 Handy GOT GT145-IHS-Q_BDE	GOT 1000	GT16 Handy GOT	GT1655HS-VTBD	
		01 1000	GT14 Handy GOT	GT145 HS-Q BDE

Internal Relay Contact Specifications

Item	Contact rating	Specifications
Operation switch SW1 to SW6	10mA/24VDC (resistance load only)	Each contact coordinates the operation switch status of Pressed (close)/Not pressed (open). When the external cable is not connected, contacts are always open regardless of the switch status.
Emergency stop switch ES1A to ES3A	1A/24VDC (resistance load) 0.3A/24VDC (induction load)	Each contact coordinates the emergency stop switch status of Pushed (open)/Return (close). When the external cable is not connected, contacts are always open regardless of the emergency stop switch status. Causing a short circuit of the ESDA terminal which is close to the ESDA terminal by a short pin (prepared by user) enables to set each contact in the close status even if the external connection cable is not connected. ¹¹ →GOT2000 Series User's Manual(Hardware), GT16 Handy GOT User's Manual, GT14 Handy GOT User's Manual When using the short-circuited ESDB terminal which is close to the ESDA terminal • Contacts are normally operated in the close status. When pushing the emergency stop switch, the contacts become open. • In the following situations, contacts are closed regardless of the status of the emergency stop switch and the external cable. • When GT16H-CNB-42S is turned OFF. • When GT16H-CNB-42S is not supplied with the power supply (DC24V).
Grip switch DSW1, DSW2	1A/24VDC (resistance load) 0.3A/24VDC (induction load)	Each contact coordinates the grip switch status of Pressed (close)/Not pressed (open). When the external cable is not connected, contacts are always open regardless of the grip switch status.
Keylock switch (2-position switch) KSWC, KSW1, KSW2	1A/24VDC (resistance load) 0.3A/24VDC (induction load)	Each contact coordinates the position of the keylock switch. • When the key is on the left: KSW1 and KSWC are short-circuited. • When the key is on the right: KSW2 and KSWC are short-circuited. When the external cable is not connected, contacts are always open regardless of the keylock switch.

*1 The system may not match the safety standards. Before using the system, please check the safety standards which are required.

3. Part Names and External Dimensions

5)

Packing attachment chase



Used when mounting the panel

No.	Name	Specifications
6)	Hook for DIN rail	Used for fixing the Connector Conversion Box when mounting DIN rail (35mm).
7)	Hole for the screw installation	Used for fixing on the board, etc. For M4 screw
8)	Terminal block 1	Connects the GT16H-CNB-42S, the 24VDC power supply of Handy GOT and the emergency stop switch (ES-1 to 3) with M3 terminal screw and the cover.
9)	Terminal block 2	Connects the operation switch of the Handy GOT (SW1 to 6), the grip switch (DSW-1, 2) and the keylock switch (KSW-1, 2) with M3 terminal and the cover.
10)	External connection device communication connector (RS-232: D-Sub, 9-pin, male)	Connects to the external connection device via a GOT2000/GOT1000 series cable. RS-422/485 connector and RS-232
11)	External connection device communication connector (RS-422/485: D-Sub, 9-pin, female)	connector cannot be used at the same time. These connectors cannot be used in combination with GT2505HS-VTBD and GT145□HS-Q□BDE.
12)	External connection device communication connector (Ethernet: RJ-45 module jack)	Connects the external connection device via Ethernet with using a LAN cable.
13)	Rotary switch (U)	Sets the ID number of GT16-CNB-42S.
14)	Rotary switch (L)	switches (U) and (L).
15)	ID number valid/invalid selection switch	Enables the recognition function of ID number ($ON=Valid$, $OFF=Invalid$). When connecting the external connection device with using 10) and 11), set OFF (invalid).
16)	Hole for the flange installation	Used for fixing the flange when using the connector conversion adapter.

4. Installation

The Connector Conversion Box can be installed on the panel face directly or on the DIN rail.

4.1 Mounting on the panel face

(When setting the connector for Handy GOT connection and the power supply switch on the panel surface)

1) Direct mounting on the panel face Drill a mounting slot of the following size on the panel face







2) Installation of the packing

3) Mounting on the panel face

Fit the Connector Conversion Box from the back side of the panel face, and fix it with four M4 screws (prepared by user).

In the Connector Conversion Box, thread of M4, 6mm (0.23") in deth is cut in each mounting hole. Prepare four M4 mounting screws separately while considering the thickness of the panel face. (Tightening torque: 0.69 to 0.88 N•m)

Make sure that interfering objects are not located within 65mm (2.56") from the rear face so that the connector of a PLC cable is not hindered. To wire the terminal block, keep a space of 25mm (0.98") or more on both sides of the Connector Conversion Box.



4.2 Mounting on the panel face (When installing the Connector Conversion Box on the panel surface)

1) Mounting on the nanel face

Install the Connector Conversion Box on the panel face (mounting surface). Drill screw holes on the panel face as follows. Tighten the mounting screw with the specified torque. Tightening screws too much may cause damage. (Tightening torque: 0.69 to 0.88 N•m)



4.3 Installed on the DIN rail

DIN rail

Install the Connector Conversion Box on the DIN rail DIN rail denth with using its DIN rail hook. more than 10mm (0.4"inch) (Applicable DIN rail DIN46277 (width: 35mm (1.37")) The clearance between screws for install the DIN rail should be 150mm (5.9") or less.

1) Pull out the hook for 2) Adapt the upper side of 3) Lock the hook for DIN rail the DIN rail installation while forcing the product on the DIN rail slot to the DIN rail When installing the DIN rail, please fix the cables Otherwise, the hook for DIN





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

Warranty

Exclusion of loss in opportunity and secondary loss from warranty liability Regardless of the gratis warranty term, Mitsubishi shall not be liable for compensation to:

- (1) Damages caused by any cause found not to be the responsibility of Mitsuhishi
- (2) 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.
- (4) Replacement by the user, maintenance of on-site equipment, start-up test run and other tasks

For safe use

• This product has been manufactured as a general-purpose part for general industries, and has not been designed or manufactured to be incorporated in a device or system used in purposes related to human life.

- Before using the product for special purposes such as nuclear power, electric power, aerospace, medicine or passenger movement vehicles, consult with Mitsubishi Electric
- This product has been manufactured under strict quality control. However when installing the product where major accidents or losses could occur if the product fails, install appropriate backup or failsafe functions in the system.

MITSUBISHI ELECTRIC CORPORATION

HEAD OFFICE : TOKYO BUILDING, 2-7-3 MARUNOUCHI, CHIYODA-KU, TOKYO 100-8310, JAPAN



Side A JAPANESE

CONNECTOR CONVERSION BOX GT16H-CNB-42S

User's Manual

B ENGLISH

Manual Number JY997D40401J Date Sep. 2021

This manual describes the part names, dimensions, mounting, and specifications of the product. Before use, read this manual and manuals of relevant products fully to acquire proficiency in handling and operating the product. Make sure to learn all the product information, safety information, and precautions. And, store this manual in a safe place so that you can take it out and read it whenever necessary. Always forward it to the end user.

Registration Ethernet is a registered trademark of Xerox Corporation in the United States MODBLIS is a trademark of Schneider Electric SA. The company name and the product name to be described in this manual are the registered trademarks or trademarks of each company.

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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

Depending on circumstances, procedures indicated by ACAUTION may also be linked to serious results. In any case, it is important to follow the directions for usage.

- Some failures of the GOT 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
- monitoring on the GOT, communication between the GOT and PLC CPU is suspended and 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.

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WIRING PRECAUTIONS	
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Exercise care to avoid foreigned GOT. Not doing so can cause	gn matter such as chips and wire offcuts entering the se a fire, failure or malfunction.
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PRECAUTIONS	
 Before performing the test o turning ON or OFF bit devic the settings or current value, memory current value), rec familiar with the operation n of the devices which are u False output or malfunction 	perations of the user creation monitor screen (such as ia, changing the word device current value, changing tes of the timer or counter, and changing the buffer ad through the manual carefully and make yourself nethod. During test operation, never change the data sed to perform significant operation for the system. can cause an accident.
STARTUP/MAINTENANCE	۸ ····· -
PRECAUTIONS	<u>/!</u> \WARNING
 When power is on, do not to Doing so can cause an elect Before starting cleaning or power externally in all phase a unit failure or malfuncti malfunction. Overtightening damage of the screws or un 	such the terminals. tric shock or malfunction. terminal scew retightening, always switch off the ss. Not switching the power off in all phases can cause on. Undertightening can cause a short circuit or can cause a short circuit or malfunction due to the it.
STARTUP/MAINTENANCE PRECAUTIONS	
 Do not disassemble or modi Doing so can cause a failure 	fy the unit. a malfunction injury or fire
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MOUNTING PRECAUTIONS MARNING

MOUNTING PRECAUTIONS ACAUTION

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Use the Connector Conversion Box within the generic environment specification described in this manual. If the product is used in such conditions, electric shoc fire, malfunctions, deterioration or damage may occur.

portion. Doing so can cause the unit or cable to be damaged or can cause a malfunction due to a cable connection fault.

RANSPORTATION RECAUTIONS

The Connector Conversion Box is a precision instrument. During transportation avoid impacts larger than those specified in this manual. Failure to do so ma cause failures in the unit. After transportation, verify the operations of the unit.

Power Supply Speci	fications			
Item				Specifications
Input power supply	voltage			24VDC (+10% -15%)
Power consumption	1			13.7W or less (570mA/24VDC) (When including the consumption current of Handy GOT)
	'	Conne	ctor Conversion Box only	2.2W (90mA/24V) (When excluding the consumption current of Handy GOT)
Inrush current				25A or less (at max. load), 2ms
Permissible instanta	aneous power failu	ure time	Э	Within 5ms
Applicable GOTs				
	Abbrevi	ations		Model name
GOT 2000	1	GT25 H	Handy GOT	GT2506HS-VTBD, GT2505HS-VTBD
GOT 1000	1	GT16 H	Handy GOT	GT1655HS-VTBD
001 1000	1	GT14 H	Handy GOT	GT145=HS-Q=BDE
Internal Relay Conta	ect Specifications			
Item	Contact rati	ing	Specifications	
Operation switch SW1 to SW6	10mA/24VDC (resistance load	only)	Each contact coordinates the operation switch status of Pressed (close)/Not pressed (open). When the external cable is not connected, contacts are always open regardless of the switch status.	
Emergency stop switch ES1A to ES3A	1A/24VDC (resistance load 0.3A/24VDC (induction load))	Each contact coordinates th connected, contacts are al- terminal which is close to th even if the external connect GOT2000 Series User's N When using the short-circuit • Contacts are normally op • In the following situations - When GT16H-CNB-42 • When GT16H-CNB-42	the emergency stop switch status of Pushed (open)/Return (close). When the external cable is not ways open regardless of the emergency stop switch status. Causing a short circuit of the BSDB the ESDA terminal by a short pin (prepared by user) enables to set each contact in the close status ion cable is not connected. ¹¹ Anaual(Hardware), GT16 Handy GOT User's Manual, GT14 Handy GOT User's Manual ded ESDB terminal which is close to the ESDA terminal perated in the close status. When pushing the emergency stop switch, the contacts become open. s, contacts are closed regardless of the status of the emergency stop switch and the external cable. 25 is turned OFF. 25 is not supplied with the power supply (DC24V).
Grip switch DSW1, DSW2	1A/24VDC (resistance load) 0.3A/24VDC)	Each contact coordinates th When the external cable is r	e grip switch status of Pressed (close)/Not pressed (open). not connected, contacts are always open regardless of the grip switch status.

Certification of UL, cUL standards

 UL, cUL Standards are
 GT2506HS-VTBD ed in use by the following combination

- GT2505HS-VTBD
- GT1665HS-VTBD (Hardware version F or later) GT1455HS-QTBDE (Hardware version B or later

 GT1450HS-QMBDE (Hardware version B or later)
 GT16H-CNB-42S (Hardware version D or later)
 External cable (GT16H-C30-42P, GT16H-C60-42P, GT16H-C100-42P) External cable (GT14H-C30-42P_GT14H-C60-42P_GT14H-C100-42P)^{*1}

Version B or later

General notes on power supply This equipment must be supplied by a UL Listed or Recognized 24 V dc rated power supply and UL Listed or Recognized fuse rated not higher than 4A, or a UL Listed Class 2 power supply. Compliance with EC directive (CE Marking) This note does not guarantee that an entire mechanical module produced in accordance with the contents of this note will comply with the following standards. Compliance to EMC directive for the entire mechanical module should be checked by the user/manufacturer. For more details please contact the local Mitsubishi Electric sales site.

Attention

This product is designed for use in industrial approach

The following products have shown compliance through direct testing (to the identified standards) and design analysis (forming a technical construction file) to the European Directive or Electromagnetic Compatibility when used as directed by the appropriate documentation.

 This product is designed for use in industrial applications Type: Graphic opreation terminal

- Models: GOT2000 series

Standard		Remark	
EN61131-2 : 2007	EMI	Compliance with all relevant aspects of the standard. (Radiated Emissions)	
Programmable controllers- Equipment, equirement and tests	EMS	Compliance with all relevant aspects of the standard. (ESD, RF electromagnetic field, EFTB, Surge, RF conducted disturbances and Power frequency magnetic field)	

For more details please contact the local Mitsubishi Electric sales site For details of CE marking, refer to the following. →GOT2000 Series User's Manual (Hardware)

Compliant with the UKCA marking

Requirements for compliance with the UKCA marking are the same with the EC Directives (CE marking).

Notes for compliance to EMC regulation

- 1) General notes on the control panel Make sure to combine the GT16 Handy GOT with the Connector Conversion Box to comply with the EMC directive. The Connector Conversion Box is an open type device (device installed to another device) and must be installed in a conductive control panel.
- 2) General notes on the use of communication cables • External cable (GT16H-C30-42P, GT16H-C60-42P, GT16H-C100-42P)

· Direct connection cable

User Made Cables The cable need to be independently tested by the user to demonstrate EMC compatibility when they are used with the GOT, the PLC of MELSEC-Q series, MELSEC-L series, MELSEC-QnA, MELSEC-A series and MELSEC-FX series.

- PLC (manufactured by other company), microcomputer, temperature controller, inverter, servo amplifier, CNC, MODBUS(R)/RTU or MODBUS(R)/

The Connector Conversion Box can be installed on the panel face directly or on the DIN rail.

3) General notes on Power supply The Connector Conversion Box requires an additional ferrite filter to be attached to the 24V DC power supply cables. The filter should be attached in a similar manner as shown in the figure opposite, i.e. the power cables are wrapped around the filter. However, as with all EMC situations the more correctly capiled recounting the batter the statement of the situation of the situations. However, as with all EMC situations the more correctly applied precautions the better the systems Electro-magnetic Compatibility. The ferrite recommended is a TDK ZCAT3035-1330 or similar. The ferrite should be placed as near to the 24V DC terminals of the Connector Conversion Box as possible (which should be within 75mm of the GOT terminal).

Associated Manuals

The following manuals are relevant to this product. When these loose manuals are required, please consult with our local distributor.

Manual name	Contents	Manual Number (Model Code)	
GOT2000 Series User's Manual (Hardware)	Describes the GOT hardware relevant content such as part names, external dimensions, mounting, power supply wiring, specifications, and introduction to option devices	SH-081194ENG (1D7MJ5)	
GOT2000 Series Handy GOT Connection Manual For GT Works3 Version1	Describes system configurations of the connection method applicable to GOT2000 Series Handy GOT and cable creation method	SH-081867ENG (1D7MS9)	
GT16 Handy GOT User's Manual (Hardware/Utility, Connection) 1/2, 2/2 (sold separately)	Describes the Handy GOT hardware- relevant content such as part names, external dimensions, mounting, power supply wiring, specifications, and introduction to option devices	JY997D41201 JY997D41202 (09R821)	
GT14 Handy GOT User's Manual (Hardware/Utility, Connection) 1/2, 2/2 (sold separately)	Describes the Handy GOT hardware- relevant content such as part names, external dimensions, mounting, power supply wiring, specifications, and introduction to option devices	JY997D50201 JY997D50202 (09R825)	

Referenced Standard: GB/T15969.2 (Requirement of Chinese standardized law)

Bundled Items

Bundled item	Quantity
GT16H-CNB-42S Connector conversion box	1
Packing for panel installation	1
Flange for GT10-9PT5S	1
Screws for flange installation (M3×8)	2
CONNECTOR CONVERSION BOX GT16H-CNB-42S User's Manual (This manual)	1

1. Features

connector Conversion Box relays the GOT's external 42-pin connector to the supply/switch and the PLC's connector and terminal block, while enabling to operate the Handy GOT outside the enclosure. The Co



2. Specifications

2) Installation of the packing

General Specifications Other specifications are the same as the Handy GOT main unit



Install the accessory packing to the packing attachment chase of the Connector Conversion Box. Be sure to install the packing.

Elevation view

01

Packing attachment chase

(When setting the connector for Handy GOT connection and the power supply switch on the panel surface) 1) Direct mounting on the panel face Drill a mounting slot of the following size on the panel face. 77±0.5 (3.04"±0.02") Drill 4- \$\phi 5\pm 0.5 (0.2"\pm 0.02") .02") 1,-0 (3.43"+0.04", (Panel opening) 15"±0.

Panel cut area 4-R3 max (Panel opening) 61+1,-0 (2.41"+0.04",-0) Unit: mm (inch (Panel opening)

3) Mounting on the panel face Fit the Connector Conversion Box from the back side of the panel face, and fix it with four M4 screws (prepared by user). In the Connector Conversion Box, thread of M4, 6mm (0.23") in depth is cut in each mounting hole. Prepare four M4 mounting screws separately while considering the thickness of the panel face. (Tightening torque: 0.69 to 0.88 N·m) Make sure that interfering objects are not located within 65mm (2.56") from the rear face so that the connector of a PLC cable is not hindered. To wire the terminal block, keep a space of 25mm (0.98") or more on both sides of the Connector Conversion Box.



4.2 Mounting on the panel face (When installing the Connector Conversion Box on the panel surface)

9

1) Mounting on the panel face Install the Connector Conve tor Conv ersion Box on the panel face (mounting surface). Drill screw holes on the panel face as follows. Tighten the mounting screw with the sp oo much may cause damage. (Tightening torque: 0.69 to 0.88 N•m)

DISPOSAL PRECAUTIONS When disposing of the product, handle it as industrial waste

Existing Cables GT01-C30R4-8P GT11H-C30R2-6P

Ethernet connection cable (Shielded twisted pair cable (STP))

controller, inverter, servo ampiliter, UNO, incourse (1997) TCP connection Produce the cable (RS-232 cable, RS-422 (485 cable) for connecting the GOT to a controller with reference to the following manual. → GOT2000/GOT1000 Series Connection Manual for GT Works3 and a controller used



4. Installation

4.1 Mounting on the panel face

Specifications

35±0.5 (3.3

not match the safet check the safety standards which are required

Each contact coordinates the position of the keylock switch

When the key is on the left: KSW1 and KSWC are short-circuited.

When the key is on the relict KSW2 are and KSWC are short-circuited. hen the external cable is not connected, contacts are always open regardless of the keylock switch.

Name

No.

3. Part Names and External Dimensions

0.3A/24VDC (induction load)

1A/24VDC

0.3A/24VDC (induction los

heol r

resista ice load

Keylock switch

. kswc, ksw1,

KSW2

(2-nosition switch)

ons of each part of the Connector Conversion and the external dime

 External cable cover opened Terminal block cover opened Box when mounting DIV an (softm). Box when mounting the panel. Hole for the screw installation Used for fixing on the board, etc. For M4 screw Used for fixing on the board, etc. For M4 screw Box ment mounting DIV an (softm). Hole for the screw installation Used for fixing on the board, etc. For M4 screw Box ment mounting DIV an (softm). Hole for the screw installation Used for fixing on the board, etc. For M4 screw Box ment mounting DIV an (softm). Hole for the screw installation Used for fixing on the board, etc. For M4 screw Box ment mounting DIV an (softm). Connects the GT16H-CNB-42S, the 24VDC power supply of Handy GOT and the Apody Soft (SW1 to 6), the grip switch (SW-1, 2) with M3 terminal and the cover. Terminal block 2 Connects to the external connection device for munication connector (RS-422/485: D-Sub, 9-pin, female) Supplies the power to the Handy GOT. Connects a Handy GOT Connects a Handy GOT. Connects the On the power is to to the power is supplied. Turn of the power is to to N, the power is supplied. Turn of the power is to to N, the power is sorted the store of the screw in stupplied. No more the panel installation diver is over the store is correctly supplied. Not lit: Power is not supplied. Power switch Power switch Hole for the fiange installation Used when mounting the panel. For M4 science to the fiange installation Hole for the fiange installation Used when mounting the panel. Hole for the fiange installation Used when m	Box are described below.			6)	Hook for DIN rail	Used for fixing the Connector Conversion	
2) 3) 4) 10 (4.34') 10 (4.34') 10 (4.34') 110 (4.34') 10 (4.34') 110 (4.34') 10 (4.34') 110 (4.34') 4) 110 (4.34') 10 (4.34') 110 (4.34') 10 (4.34') 110 (4.34') 10 (4.34') 110 (4.34') 10 (4.34') 110 (4.34') 10 (4.34') 110 (4.34') 10 (4.34') 110 (4.34') 10 (4.34') 111 (4.34') 10 (4.34') 111 (4.34') 10 (4.34') 111 (4.34') 10 (4.34') 111 (4.34') 10 (4.34') 111 (55 (2.56') 10 (5 (2.56')) 111 (55 (2.56') 10 (5 (2.56')) 112 (5 (2.56') 10 (5 (2.7')) 112 (2 (2 (2 (2 (2 (2 (2 (2 (2 (2 (2 (2 (2		External connecte	able • Terminal block			Box when mounting Div rail (35mm).	
No. Name Specifications 1) Connects required for connecting the sabel Unit: mm (inch) Weight: about 0.5kg Connects the GT16H-CNB-42S, the 24VDC power supply of Handy GOT and the emergency stop switch (ES-1 to 3) with M3 terminal screw and the cover. 9) Terminal block 1 Connects the operation switch of the Handy GOT (SW1 to 6), the grip switch (DSW-1, 2) and the keylock switch (KSW-1, 2) with M3 terminal and the cover. 10) Name Specifications 11) Connects required for connecting the sabel Unit: mm (inch) Weight: about 0.5kg External connection device communication connector (RS-422/485: D-Sub, 9-pin, male) Connects the external connection device communication connector (RS-422/485: D-Sub, 9-pin, male) Connects the external connection device communication connector (RS-422/485: D-Sub, 9-pin, male) 2) Power switch Supplies the power to the Handy GOT. When this switch is set to ON, the power is supplied. Turn off the power when attaching or detaching the Handy GOT. External connection device communication connector (Ethermet: R-145 module jack) 3) POWER LED Lit in green: Power is correctly supplied. Not it: Power is not supplied. Sets the ID number of GT16-CN8-42S. Sets one ID number (ON-Vaid) OFF-Invaid). 4) Hole for the panel installation Used when mounting the panel. For M4 is selection switch Ib 5) Packing attachment chase Used when mounting the panel. Ib	2	(2.21") 56 (2.21") 5	5 (2.17") 110 (4.34")	7)	Hole for the screw installation	Used for fixing on the board, etc. For M4 screw	
9) Terminal block 2 Connects the operation switch of the Handy GOT (SW1 to 0); the grip switch (ISW-1, 2) with M3 terminal and the cover. 9) Terminal block 2 Connects the operation switch of the Handy GOT (SW1 to 0); the grip switch (ISW-1, 2) with M3 terminal and the cover. 10) Space required for connecting the cable Unit: mm (inch) Weight about 0.5kg External connection device communication connector (RS-232: D-Sub, 9-pin, male) Connects the external connection device communication connector (RS-242/485: connector cannot be used at the same time. These connectors cannot be used at the same time. These connectors cannot be used at the same time. These connectors cannot be used in combination with GT2505HS-VTBD and GT145DHS-QDBDE. 10) Connects of Handy GOT (Connects a Handy GOT through an external connection cable. Connects the external connector device communication connector (RS-422/485: CD-Sub, 9-pin, male) Connects the external connector and the same time. These connectors cannot be used at the same time. These connectors cannot be used in combination with GT2505HS-VTBD and GT145DHS-QDBDE. 10) Connects the operation switch Supplies the power to the Handy GOT. When this switch is set to ON, the power is supplied. Turn off the power when attaching or detaching the Handy GOT. Sets the ID number of GT16-CNB-42S. Sets one ID number (ON=Valid, OFF=Invalid). 3) POWER LED Lit in green: Power is correctly supplied. Not lit: Power is not supplied. Iii) ID number valid/invalid Enables the recognition function of ID number (ON=Valid, OFF=Invalid).			8) 1 1 1 1 1 1 1 1	8)	Terminal block 1	Connects the GT16H-CNB-42S, the 24VDC power supply of Handy GOT and the emergency stop switch (ES-1 to 3) with M3 terminal screw and the cover.	
1 (6) \vec{r}_1 1 16) \vec{r}_2 5 \vec{r}_2 <td></td> <td></td> <td>11)</td> <td>9)</td> <td>Terminal block 2</td> <td>Connects the operation switch of the Handy GOT (SW1 to 6), the grip switch (DSW-1, 2) and the keylock switch (KSW-1, 2) with M3 terminal and the cover.</td>			11)	9)	Terminal block 2	Connects the operation switch of the Handy GOT (SW1 to 6), the grip switch (DSW-1, 2) and the keylock switch (KSW-1, 2) with M3 terminal and the cover.	
Image: Space required for connecting the cable Unit: mm (inch) Weight: about 0.5kg External connection device communication connector (RS-422/485: D-Sub, 9-pin, female) Connector for Handy GOT Connects a Handy GOT through an external connection cable. These connectors cannot be used at the same time. 2) Connects for Handy GOT Connects the same time. The power with using to connector on the same time. These connectors cannot be used at the same time. These connectors cannot be used at the same time. These connectors cannot be used at the same time. The power is the tandy GOT. 3) Power s	5)		6) 7)'''16) { 9) about 130 (5.12")*	10)	External connection device communication connector (RS-232: D-Sub, 9-pin, male)	Connects to the external connection device via a GOT2000/GOT1000 series cable. RS-422/485 connector and RS-232	
No. Name Specifications 1) Connector for Handy GOT (42-pin, female) Connects a Handy GOT through an external connection cable. 12) External connection device communication connector communication connector Connects the external connection device via Ethernet RJ45 module jack) 2) Power switch Supplies the power to the Handy GOT. When this switch is set to ON, the power is supplied. Turn off the power when attaching or detaching the Handy GOT. 13) Rotary switch (U) Sets the ID number of GT16-CNB-42S. Sets one ID number of GT16-CNB-42S. 3) POWER LED Lit in green: Power is correctly supplied. Not lit: Power is not supplied. 14) Rotary switch (L) Enables the recognition function of ID number (ON=Vaild, OFF=Invaild). 4) Hole for the panel installation Used when mounting the panel. For M4 screw, depth 6mm 16) Hole for the flange installation Used for fixing the flange when using the connector conversion adapter.		*Space required for connecting the cable Unit: mm (inch) Weight: about 0.5kg			External connection device communication connector (RS-422/485: D-Sub, 9-pin, female)	connector cannot be used at the same time. These connectors cannot be used in combination with GT2505HS-VTBD and GT145□HS-Q□BDE.	
1) Connector for Handy GOT (d2-pin, female) Connects a Handy GOT through an external connection cable. Connects a Handy GOT through an external connection cable. Ethernet with using a LAN cable. 2) Power switch Supplies the power to the Handy GOT. When this switch is set to ON, the power is supplied. Turn off the power when attaching or detaching the Handy GOT. 13) Rotary switch (L) Sets the ID number of GT16-CNB-42S. Sets one ID number with using both rotary switches (U) and (L). 3) POWER LED Lit in green: Power is correctly supplied. Not lit: Power is not supplied. ID number valid/invalid selection switch Enables the recognition function of ID number (ON=Valid, OFF=Invalid). 4) Hole for the panel installation Used when mounting the panel. For M4 screw, depth 6mm 16) Hole for the flange installation Used for fixing the flange when using the connector conversion adapter.			-			Connects the external connection device via	
1 (42-pin, ternale) Connection cable. 2) Power switch Supplies the power to the Handy GOT. When this switch is set to ON, the power is supplied. Turn off the power when attaching or detaching the Handy GOT. 13) Rotary switch (U) Sets the ID number of GT16-CNB-42S. Sets one ID number with using both rotary switches (U) and (L). 3) POWER LED Lit in green: Power is correctly supplied. Not lit: Power is not supplied. 14) Rotary switch (L) Sets the ID number of GT16-CNB-42S. Sets one ID number with using both rotary switches (U) and (L). 4) Hole for the panel installation Used when mounting the panel. For M4 screw, depth 6mm 15) ID number valid/invalid device with using 10) and 11), set OFF (invalid). 5) Packing attachment chase Used when mounting the panel. 16) Hole for the flange installation Used for fixing the flange when using the connector conversion adapter.	No.	Name	Specifications	12)	External connection device	Connects the external connection device via	
2) Power switch Supplies the power to the Handy GOT. Sets one ID number with using both rotary switch (L) 2) Power switch When this switch is set to ON, the power is supplied. Turn off the power when attaching or detaching the Handy GOT. 14) Rotary switch (L) Sets one ID number with using both rotary switches (U) and (L). 3) POWER LED Lit in green: Power is correctly supplied. Not lit: Power is not supplied. 15) ID number valid/invalid device with using 10) and 11), set OFF (invalid). 4) Hole for the panel installation Used when mounting the panel. For M4 screw, depth 6mm 16) Hole for the flange installation Used when mounting the panel.	No.	Name	Specifications Connects a Handy GOT through an externa	12)	External connection device communication connector (Ethernet: RJ-45 module jack)	Connects the external connection device via Ethernet with using a LAN cable.	
3) POWER LED Lit in green: Power is correctly supplied. Not lit: Power is not supplied. 10) ID number valid/invalid, OFF=Invalid). When connecting the external connection device with using 10) and 11), set OFF 4) Hole for the panel installation Used when mounting the panel. For M4 screw, depth 6mm 5) Packing attachment chase Used when mounting the panel. 16) Hole for the flange installation Used for fixing the flange when using the connector onversion adapter.	No. 1)	Name Connector for Handy GOT (42-pin, female)	Specifications Connects a Handy GOT through an externa connection cable.	12) 13)	External connection device communication connector (Ethernet: RJ-45 module jack) Rotary switch (U)	Connects the external connection device via Ethernet with using a LAN cable. Sets the ID number of GT16-CNB-42S.	
3) POWER LED Lit in green: Power is correctly supplied. Not lit: Power is not supplied. 15) ID number valid/invalid, UF-Envalid, When connecting the external connection device with using 10) and 11), set OFF (invalid). 4) Hole for the panel installation Used when mounting the panel. For M4 screw, depth 6mm 16) Hole for the flange installation Used when mounting the panel. 5) Packing attachment chase Used when mounting the panel. 16) Hole for the flange installation Used for fixing the flange when using the connector onversion adapter.	No. 1) 2)	Name Connector for Handy GOT (42-pin, female) Power switch	Specifications Connects a Handy GOT through an externa connection cable. Supplies the power to the Handy GOT. When this switch is set to ON, the power is unrelied. Turn of the power when extending	12) 13) 14)	External connection device communication connector (Ethernet: RJ-45 module jack) Rotary switch (U) Rotary switch (L)	Connects the external connection device via Ethernet with using a LAN cable. Sets the ID number of GT16-CNB-42S. Sets one ID number with using both rotary switches (U) and (L).	
4) Hole for the panel installation Used when mounting the panel. For M4 screw, depth 6mm (Invalue). 5) Packing attachment chase Used when mounting the panel. 16) Hole for the flange installation connector conversion adapter.	No. 1) 2)	Name Connector for Handy GOT (42-pin, female) Power switch	Specifications Connects a Handy GOT through an externa connection cable. Supplies the power to the Handy GOT. When this switch is set to ON, the power is supplied. Turn off the power when attachin or detaching the Handy GOT.	12) 13) 14)	External connection device communication connector (Ethernet: RJ-45 module jack) Rotary switch (U) Rotary switch (L)	Connects the external connection device via Ethernet with using a LAN cable. Sets the ID number of GT16-CNB-42S. Sets one ID number with using both rotary switches (U) and (L). Enables the recognition function of ID	
5) Packing attachment chase Used when mounting the panel.	No. 1) 2) 3)	Name Connector for Handy GOT (42-pin, female) Power switch POWER LED	Specifications Connects a Handy GOT through an extern connection cable. Supplies the power to the Handy GOT. When this switch is set to ON, the power is supplied. Turn off the power when attachin or detaching the Handy GOT. Lit in green: Power is correctly supplied. N lit: Power is not supplied.	12) 13) 14) 14) 15)	External connection device communication connector (Ethernet: RJ-45 module jack) Rotary switch (U) Rotary switch (L) ID number valid/invalid selection switch	Connects the external connection device via Ethernet with using a LAN cable. Sets the ID number of GT16-CNB-42S. Sets one ID number with using both rotary switches (U) and (L). Enables the recognition function of ID number (ON=Valid, OFF=Invalid). When connecting the external connection device with using 10) and 11), set OFF (invalid)	
	No. 1) 2) 3) 4)	Name Connector for Handy GOT (42-pin, female) Power switch POWER LED Hole for the panel installation	Specifications Connects a Handy GOT through an extern connection cable. Supplies the power to the Handy GOT. When this switch is set to ON, the power is supplied. Turn off the power when attachin or detaching the Handy GOT. Lit in green: Power is correctly supplied. N lit: Power is not supplied. Used when mounting the panel. For M screw, depth 6mm	12) 13) 14) 14) 14) 15) 4 15)	External connection device communication connector (Ethernet: RJ-45 module jack) Rotary switch (U) Rotary switch (L) ID number valid/invalid selection switch	Connects the external connection device via Ethernet with using a LAN cable. Sets the ID number of GT16-CNB-42S. Sets one ID number with using both rotary switches (U) and (L). Enables the recognition function of ID number (ON=Valid, OFF=Invalid). When connecting the external connection device with using 10) and 11), set OFF (invalid). Used for fixing the flange when using the	





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Warranty

warranty Exclusion of loss in opportunity and secondary loss from warranty liability Regardless of the gratis warranty term, Mitsubishi shall not be liable for compensation to:

- compensation to: (1) 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 (3) Special of
- products. Special damages and secondary damages whether foreseeable or not, compensation for accidents, and compensation for damages to products other than Mitsubishi products.
- (4) Replacement by the user, maintenance of on-site equipment, start-up test run and other tasks

A For safe use

This product has been manufactured as a general-purpose part for general industries, and has not been designed or manufactured to be incorporated in a device or system used in purposes related to human life.

Before using the product for special purposes such as nuclear power, electric power, aerospace, medicine or passenger movement vehicles, consult with Mitsubishi Electric.

This product has been manufactured under strict quality control. However when installing the product where major accidents or losses could occur if the product fails, install appropriate backup or failsafe functions in the system

MITSUBISHI ELECTRIC CORPORATION