

# **mitsubishi**

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## **MODEL GT15V-75ROUT**

### **RGB Output Unit**

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## User's Manual

Thank you for purchasing the GOT1000 Series.

Prior to use, please read both this manual and detailed manual thoroughly to fully understand the product.

|                           |                |
|---------------------------|----------------|
| MODEL                     | GT15V-75ROUT-U |
| MODEL<br>CODE             | 1D7M55         |
| IB(NA)-0800349-G(1202)MEE |                |

GRAPHIC OPERATION TERMINAL

# **GOT1000**

## ●SAFETY PRECAUTIONS●

(Always read these precautions 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 precautions given in this manual are concerned with this product.

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




**DANGER**

Indicates that incorrect handling may cause hazardous conditions, resulting in death or severe injury.



**CAUTION**

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

Note that the  caution level may lead to a serious accident 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]

### CAUTION

- Do not bunch the control wires or communication cables with the main circuit or power wires, or lay them close to each other.  
As a guide, separate the lines by a distance of at least 100mm (3.94 inches) otherwise malfunctions may occur due to noise.

## [MOUNTING PRECAUTIONS]

### DANGER

- Be sure to shut off all phases of the external power supply used by the system before mounting or removing this unit onto/from the GOT.  
Not doing so can cause the unit to fail or malfunction.

### CAUTION

- Use this unit in the environment that satisfies the general specifications described in the User's Manual for the GOT used.  
Not doing so can cause an electric shock, fire, malfunction or product damage or deterioration.
- Tighten the mounting screws within 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.
- Do not touch the conductive and electronic parts of the unit directly.  
Doing so can cause a unit malfunction or failure.

## [WIRING PRECAUTIONS]

### **DANGER**

- 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 or malfunctions.

### **CAUTION**

- 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.
- Make sure to securely connect the cable to the connector of unit.  
Incorrect connection may cause malfunctions.
- Do not hold the cable by hand and pull it out from the unit.  
When removing the cable from the unit, make sure to hold the connector by hand and pull it.  
Failure to do so may cause malfunctions or damage to the unit or cable.

## [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, always shut off GOT power externally in all phases.  
Not doing so 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.

### **CAUTION**

- Do not disassemble or modify the unit.  
Doing so can cause a failure, malfunction, injury or fire.
- Do not drop the module or subject it to strong shock.  
A module damage may result.
- Before touching the unit, always touch grounded metal, etc. to discharge static electricity from human body, etc.  
Not doing so can cause the unit to fail or malfunction.

## [DISPOSAL PRECAUTIONS]

### **CAUTION**

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

## [TRANSPORTATION PRECAUTIONS]

### **CAUTION**

- Make sure to transport the GOT main unit and/or relevant unit(s) in the manner they will not be exposed to the impact exceeding the impact resistance described in the general specifications of the User's Manual for the GOT used, as they are precision devices.  
Failure to do so may cause the unit to fail.  
Check if the unit operates correctly after transportation.

## REVISIONS

\* The manual number is noted at the lower right of the top cover.

| Print Date | *Manual Number   | Revision  |
|------------|------------------|---|
| Mar., 2006 | IB(NA)-0800349-A | First edition   |
| Feb., 2007 | IB(NA)-0800349-B | <p>Partial addition</p> Chapter 1<br><p>Addition</p> Compliance with the EMC and Low Voltage Directives |
| Jul., 2007 | IB(NA)-0800349-C | <p>Partial corrections</p> Compliance with the EMC and Low Voltage Directives, Chapter 2, 3, 4          |
| Jun., 2009 | IB(NA)-0800349-D | <p>Partial corrections</p> Compliance with the EMC and Low Voltage Directives                           |
| Jun., 2011 | IB(NA)-0800349-E | <p>Addition</p> Compliance with the Radio Waves Act (South Korea)                                       |
| Nov., 2011 | IB(NA)-0800349-F | <p>Partial corrections</p> Chapter 2  |
| Feb., 2012 | IB(NA)-0800349-G | <p>Partial corrections</p> Chapter 2  |
|            |                  |   |

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## **Manuals**

The following shows manuals relevant to this product.

### Detailed Manual

| Manual name  | Manual number<br>(Model code) |
|--|-------------------------------|
| GT15 User's Manual<br>(Sold separately)  | SH-080528ENG<br>(1D7M23)      |
| GOT1000 Series Connection Manual (Microcomputer,<br>MODBUS Products, Peripherals) for GT Works3<br>(Sold separately) | SH-080871ENG<br>(1D7MC5)      |

### Relevant Manuals

For relevant manuals, refer to the PDF manuals stored in the CD-ROM for the drawing software used.

## **Packing List**

The following items are included.

| Model        | Product                                   | Quantity |
|--------------|---|----------|
| GT15V-75ROUT | RGB output unit                           | 1        |
|              | Mounting screw set (2 screws, 2 stickers) | 2        |
|              | Extend interface relay board              | 1        |

## **Compliance with the EMC and Low Voltage Directives**

To configure a system meeting the requirements of the EMC and Low Voltage Directives when incorporating the Mitsubishi GOT (EMC and Low Voltage Directives compliant) into other machinery or equipment, refer to "EMC AND LOW VOLTAGE DIRECTIVES" of the General Description included with the GOT used.

The CE mark, indicating compliance with the EMC and Low Voltage Directives, is printed on the rating plate of the GOT.

## **Compliance with the Radio Waves Act (South Korea)**

This product complies with the Radio Waves Act (South Korea).

Note the following when using the product in South Korea.

이 기기는 업무용 (A 급) 전자파적합기기로서 판매자 또는 사용자는 이 점을 주의하시기 바라며, 가정외의 지역에서 사용하는 것을 목적으로 합니다.

(The product is for business use (Class A) and meets the electromagnetic compatibility requirements.

The seller and the user must note the above point, and use the product in a place except for home.)



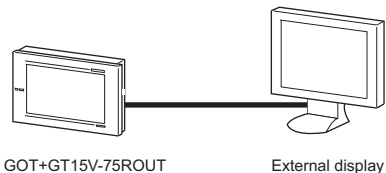
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## 1. OVERVIEW

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This User's Manual describes the GT15V-75ROUT RGB output unit (hereinafter referred to as the RGB output unit).

When mounting RGB output unit with GT1585V-STBA and GT1575V-STBA, (hereinafter collectively referred to as the GOT), the RGB output unit can external display screens on GOT.



To use the RGB output unit, make the Communication Settings.

For setting details, refer to GOT1000 Series Connection Manual (Microcomputer, MODBUS Products, Peripherals) for GT Works3.

|   |
|---|
| For details of system configuration, refer to GOT1000 Series Connection Manual (Microcomputer, MODBUS Products, Peripherals) for GT Works3. |
|---|

## 2. SPECIFICATIONS

### 2.1 RGB output unit

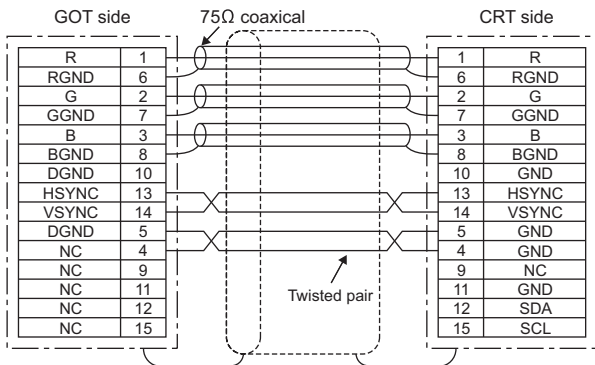
| Item                                | Specifications  |                                     |  |
|-------------------------------------|---|-------------------------------------|--|
| RGB output method (dot's)           | Analog RGB(SVGA; 800x600)   |                                     |  |
| Number of RGB output channels       | 1 channel   |                                     |  |
| Dot clock                           | 38.362 MHz  |                                     |  |
| Horizontal scanning frequency       | 37.87 kHz   |                                     |  |
| Vertical scanning frequency         | 60.30 Hz  |                                     |  |
| RGB input section                   | Horizontal synchronizing timing   | Vertical synchronizing timing       |  |
|                                     | <p>The timing chart illustrates the synchronization signals for the RGB input section. It is divided into two parts: horizontal and vertical synchronizing timing. In the horizontal section, the RGB analog signal (0.7Vp-p) is shown with a video signal width of 20.854 μs. The horizontal sync width is 3.206 μs, and the horizontal sync period is 26.406 μs. In the vertical section, the RGB analog signal (0.7Vp-p) is shown with a video signal width of 15.844ms. The vertical sync width is 0.106ms, and the vertical sync period is 16.583ms.</p> |                                     |  |
|                                     | RGB external connection method  | D-Sub15 pin                         |  |
|                                     | Applicable wire size  | 9-core combined cable (recommended) |  |
| Internal current consumption (5VDC) | 0.11 A  |                                     |  |
| Weight                              | 0.16 kg (0.35 lb)   |                                     |  |

## 2.2 Specifications of the cables (9-core combined cables) used when connecting the external display

### (1) Cable specifications

| Item                 | Specifications             |
|----------------------|----------------------------|
| Applicable connector | 15-pin D-sub for both ends |

### (2) Connection diagram

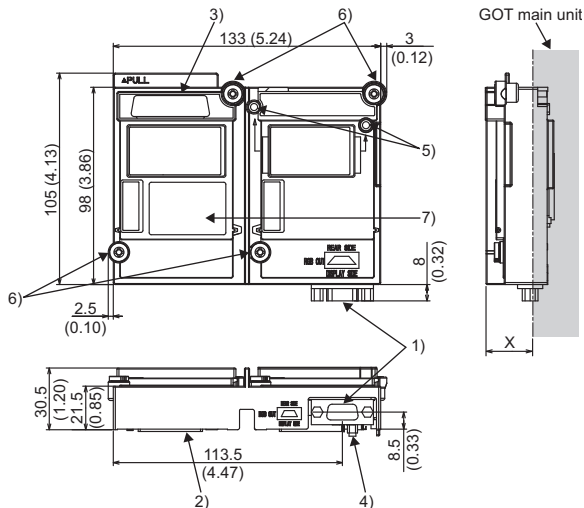


### (3) Connector

- GOT connector  
Use the connector matching the following model for the GOT.  
15-pin D-sub (female) inch screw type  
Manufactured by DDK  
17HE-R13150-73MC2
- Connector at the display  
Use the connector applicable to the display.

### 3. PART NAMES AND EXTERNAL DIMENSIONS

#### (1) Part names and external dimensions of the RGB output unit



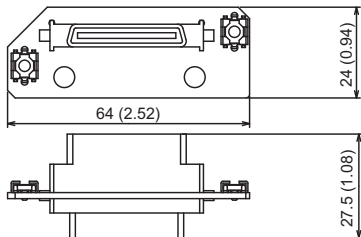
Dimensions of X when the RGB output unit is mounted to the GOT.

|       |           |
|-------|-----------|
| 12.1" | 18 (0.71) |
| 10.4" | 21 (0.83) |

Unit: mm (inch)

| No. | Name                               | Description  |
|-----|------------------------------------|--|
| 1)  | Connector for RGB output           | Connector for connecting a 9-core combined cable         |
| 2)  | Interface connector                | Connector mounted to the GOT                             |
| 3)  | Extension connector                | Connector to which a back extension unit is installed    |
| 4)  | Connector for video/RGB connection | Connector connecting with the video/RGB interface of GOT |
| 5)  | Board fixing screw                 | Screw for fixing the extend interface relay board        |
| 6)  | Mounting screw                     | Mounting screws for fixing the unit to the GOT           |
| 7)  | Rating plate                       | -  |

(2) Extend interface relay board



Unit: mm (inch)

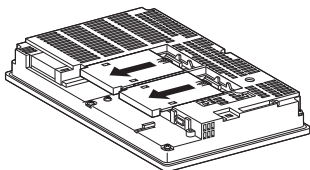
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## 4. INSTALLATION PROCEDURE

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The installation procedure for the RGB output unit is explained using the GT1575.

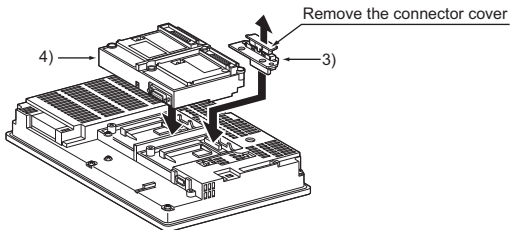
- (1) Power off the GOT.
- (2) Remove two extension unit covers of the GOT.



- (3) Attach the extend interface relay board to the extend I/F-2 side on the GOT.

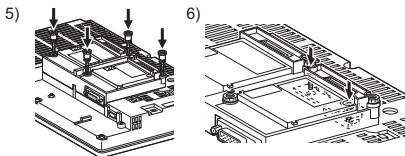
After the installation, detach the connector cover from the extend interface relay board.

- (4) Fit the RGB output unit in the GOT case.

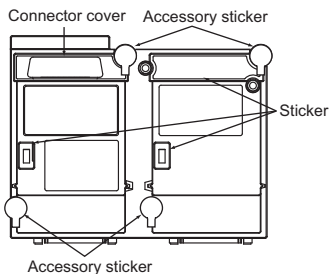


- (5) Fasten the RGB output unit by tightening its mounting screws (4 places) with tightening torque 0.36 to 0.48 N·m.

- (6) Fasten the bus connection unit by tightening the board fixing screws (2 places) with the tightening torque of 0.36 to 0.48 N•m.



- (7) When installing an extension unit on the unit that has been installed, remove the connector cover and the sticker. When not installing an extension unit on the unit that has been installed, in order to avoid receiving electrostatic, stick accessory stickers to cover the top of mounting screws (4 places). Keep the connector cover fixed. Keep the sticker stuck as it is.



|   |
|---|
| Point   |
| Remove the screws that fixes the extend interface relay board before removing the unit.(Above 6)) |

## Warranty

Mitsubishi will not be held liable for damage caused by factors found not to be the cause of Mitsubishi; machine damage or lost profits caused by faults in the Mitsubishi products; damage, secondary damage, accident compensation caused by special factors unpredictable by Mitsubishi; damages to products other than Mitsubishi products; and to other duties.

### 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.
- 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.

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