eco Changes — for a greener tomorrow

MITSUBISHI ELECTRIC
Changes for the Better

Nov. 2016

FACTORY AUTOMATION

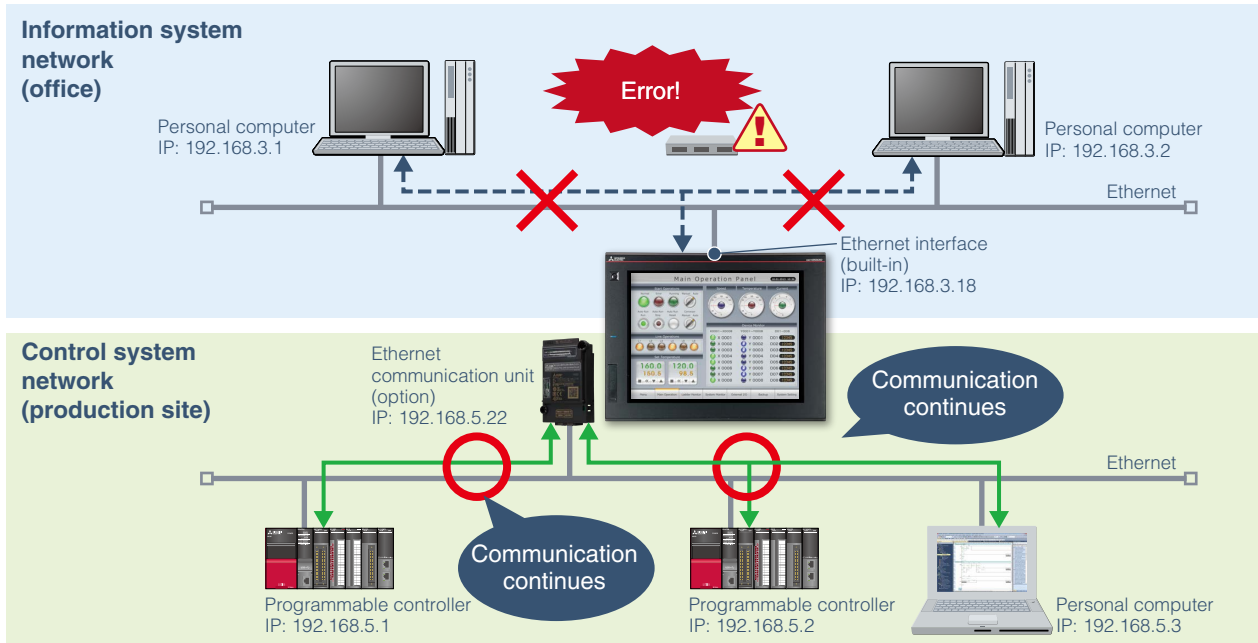e-F@ctory

GOT2000 Series

Ethernet communication unit

Discover new possibilities with two Ethernet ports

- Design safe and secure network configuration
- Prevent unauthorized access with two physically separate networks
- Reduce the overall communication load in the network
- Enable visualization at production site

Discover new possibilities with two Ethernet ports

1) Design safe and secure network configuration

The information system network in the office is separated from control system network at the production site; therefore the network architecture is safer and more secure. If a network error occurs in the office by a faulty network device, production site is not affected.

Information system network (office)

Personal computer
IP: 192.168.3.1

Error!

Personal computer
IP: 192.168.3.2

Ethernet

Ethernet interface (built-in)
IP: 192.168.3.18

Control system network (production site)

Ethernet communication unit (option)
IP: 192.168.5.22

Communication continues

Ethernet

Communication continues

Programmable controller
IP: 192.168.5.1

Programmable controller
IP: 192.168.5.2

Personal computer
IP: 192.168.5.3

2) Prevent unauthorized access with two physically separate networks

Access to the devices in the control system network is not allowed via GOT from the personal computer in the information system network*. Therefore, even in the unusual event of unauthorized access to the information system network, you can reduce the risk of illegal copy or alteration of the data in the control system network.

* Access is allowed from the engineering software (MELSOFT GX Works3, etc.) using the FA transparent function (to be supported soon) and from GT SoftGOT using the SoftGOT-GOT link function. When using the FA transparent function and the SoftGOT-GOT link function, it is recommended to use them with the IP filter function or set passwords to various project data to enhance security.

Information system network (office)

Personal computer
IP: 192.168.3.1

Access allowed between personal computer and GOT

Ethernet

Ethernet interface (built-in)
IP: 192.168.3.18

Control system network (production site)

Access to other networks not allowed

Ethernet communication unit (option)
IP: 192.168.5.22

Ethernet

Access allowed between GOT and programmable controller

Programmable controller
IP: 192.168.5.1

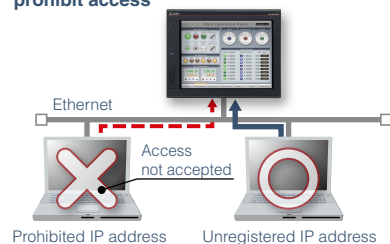**Prevent unauthorized access by registering IP addresses in advance [IP filter function]**
Registering the IP address of the device which is allowed to access the GOT can prevent the access from unauthorized devices.
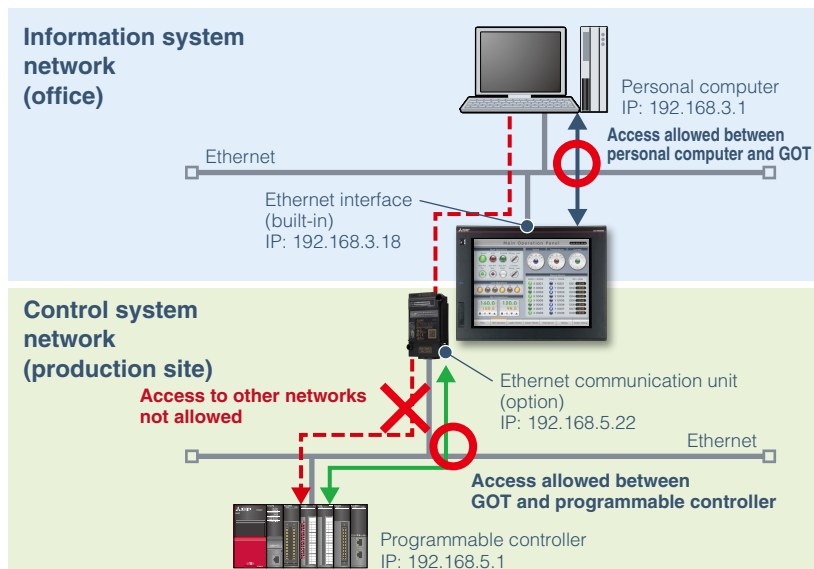
Register the IP address of the device to allow access

Ethernet

Access not accepted

Allowed IP address

Unregistered IP address
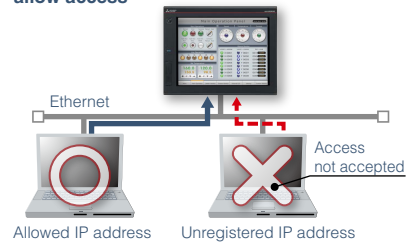
Register the IP address of the device to prohibit access

Ethernet

Access not accepted

Prohibited IP address

Unregistered IP address

3) Reduce the overall communication load in the network

By separating the network, you can reduce the overall communication load in the network and avoid communication performance deterioration.

System with one network
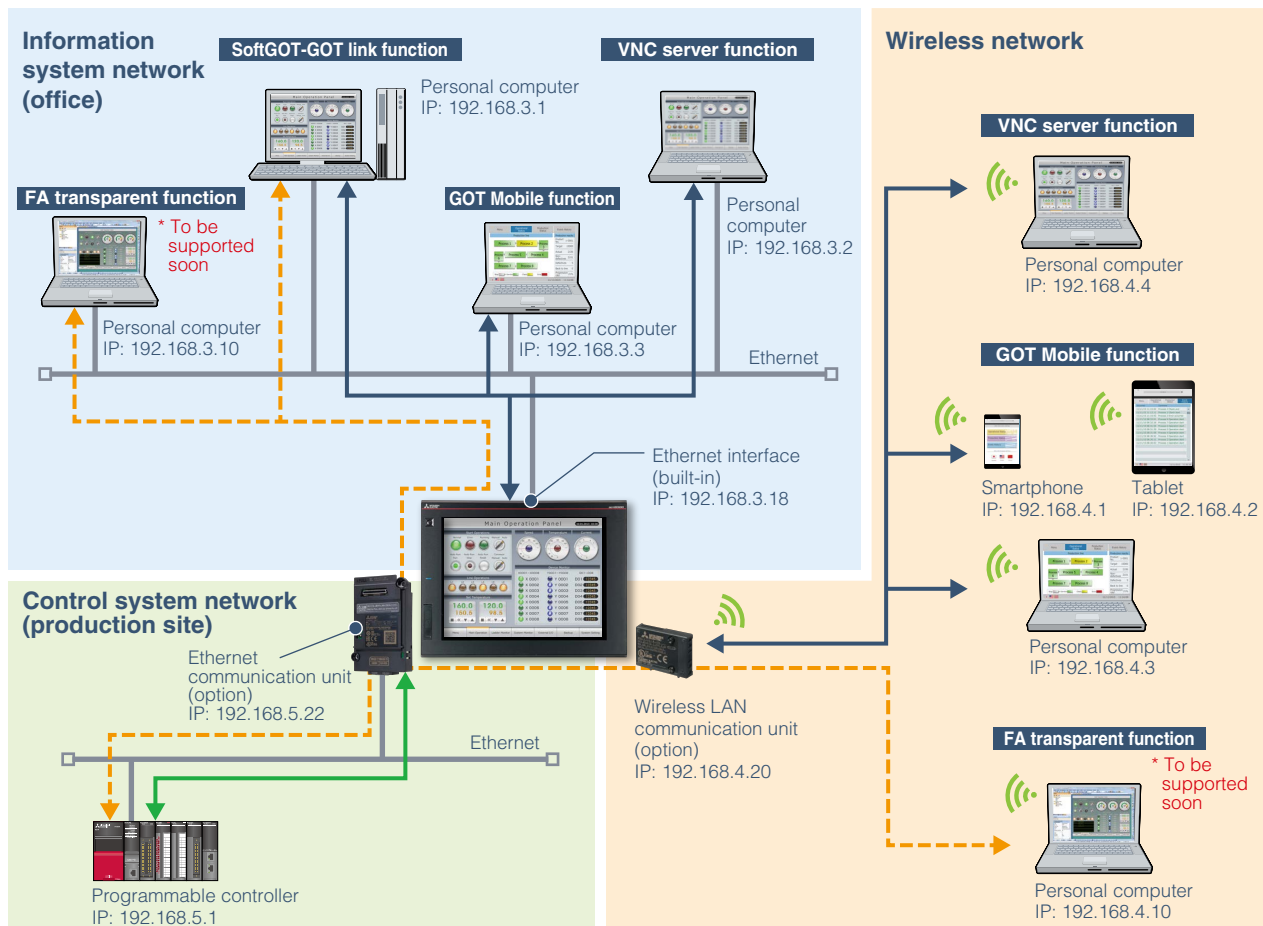
One network

Heavy communication load!

busy   busy   busy   Ethernet
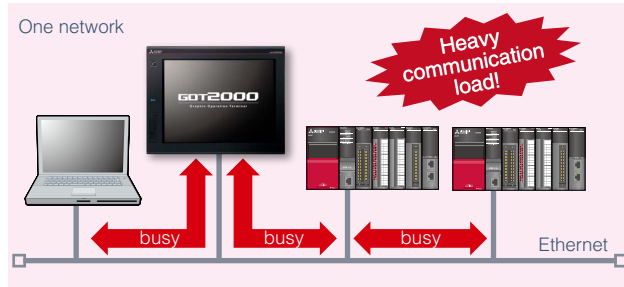
System with two networks

Network 1
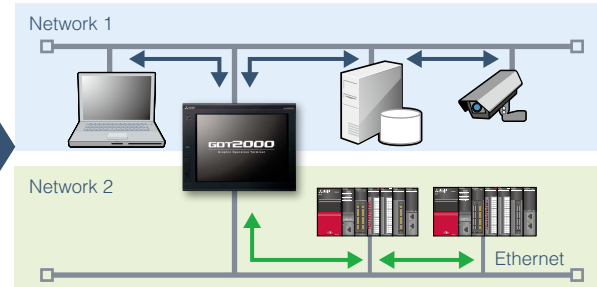
Network 2

Ethernet

4) Enable visualization at production site

Using two Ethernet ports and the wireless network can offer a wide range of remote solutions for various applications! The GOT remote solutions increase work efficiency from startup, adjustment, to maintenance with various remote monitoring and operation functions that use mobile devices and personal computers.

Information system network (office)

SoftGOT-GOT link function

VNC server function

Personal computer
IP: 192.168.3.1

Wireless network

VNC server function

Personal computer
IP: 192.168.4.4

FA transparent function

* To be supported soon

GOT Mobile function

Personal computer
IP: 192.168.3.2

Personal computer
IP: 192.168.3.10

Personal computer
IP: 192.168.3.3

Ethernet

GOT Mobile function

Smartphone
IP: 192.168.4.1

Tablet
IP: 192.168.4.2

Ethernet interface (built-in)
IP: 192.168.3.18

Personal computer
IP: 192.168.4.3

Control system network (production site)

Ethernet communication unit (option)
IP: 192.168.5.22

Wireless LAN communication unit (option)
IP: 192.168.4.20

FA transparent function

* To be supported soon

Ethernet

Personal computer
IP: 192.168.4.10

Programmable controller
IP: 192.168.5.1

* To use the GOT Mobile function, the GOT Mobile function license (GT25-WEBSKEY) is required separately. The wireless LAN communication unit (GT25-WLAN) of the GOT can be used as an access point.
* To use the VNC server function, the license (GT25-VNCSKEY) is required separately.
* To use the SoftGOT-GOT link function, the license key (GT27-SGTKEY-U) is required separately.

← Data flow of remote monitoring and operation functions
← Data flow of FA transparent function and SoftGOT-GOT link function
← Data flow of the control system network

For the devices that can be connected with GOT when using the Ethernet interface (built-in), the Ethernet communication unit (option), or the wireless LAN communication unit (option), please refer to the "Connectable device list" on the back cover. For the details of remote monitoring and operation functions, please refer to the Mitsubishi Graphic Operation Terminal GOT2000 Series Catalog (L(NA)08270ENG).

[Safety precautions]
If remote monitoring and operation functions are used to perform remote control of control equipment, the field operator may not notice the remote control, possibly leading to an accident. In addition, a communication delay or interruption may occur depending on the network environment, and remote control of control equipment cannot be performed normally in some cases. Before using the functions to perform remote control, fully grasp the circumstances of the field site and ensure safety.

# Specifications of Ethernet communication unit

Performance specifications

The performance specifications of the Ethernet communication unit are indicated below. The general specifications of the Ethernet communication unit are the same as those of the GOT. For the general specifications of the GOT, please refer to the GOT2000 Series User's Manual (Hardware).

Item		Specifications	
Transmission specifications	Data transfer method	100BASE-TX	10BASE-T
	Transmission method	Base band	Base band
	Maximum node to node distance	200m	200m
	Maximum segment length	100m	100m
	Maximum number of cascade connection*1	2 steps	4 steps
Number of units mounted to GOT		Only 1 unit can be mounted to the extension unit interface.	
Connection conditions	Number of connectable equipment	128 (recommend 16 or less)*2*3	
	Installation distance	100m*2	
Internal current consumption (5 V DC)		0.14A	
Weight		0.07 kg (0.15 lb)	

*1 Indicates the maximum number of connectable nodes when using repeater hubs. For the maximum number of cascades when using switching hubs, contact the switching hub manufacturer.

*2 This depends on the specifications of the Ethernet network system to which the GOT is connected. For the details, refer to the manual of Ethernet module of connected programmable controller.

*3 If multiple pieces of network equipment (including GOT) are connected within a segment, the network load would increase. In such condition, the communication performance between GOT and programmable controller may be declined. The communication performance may be improved by the following measures.
•Using switching hubs
•Reducing the number of monitoring points on the GOT

External dimensions

Unit: mm (inch)

Connectable device list
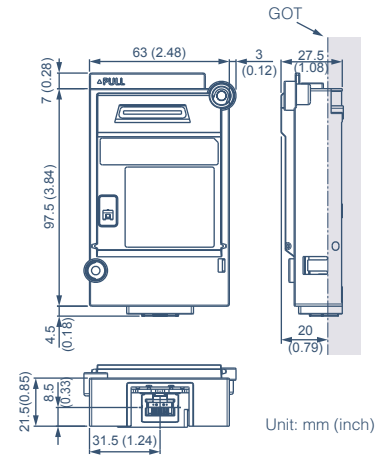
○ Connectable
× Not connectable
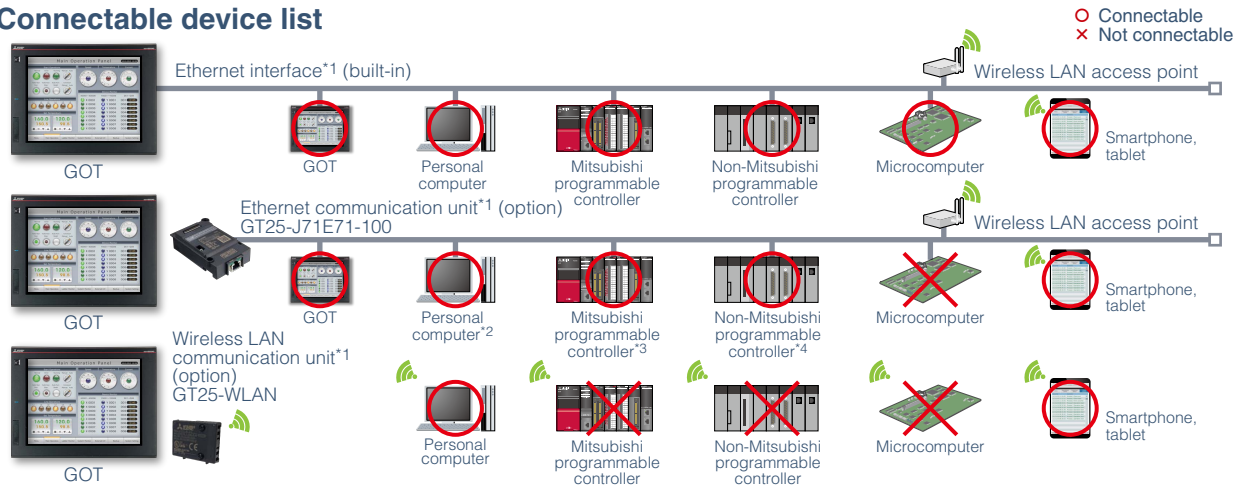
*1 The FA transparent function will be supported soon for the configuration using Ethernet connection between GOT and a personal computer and Ethernet connection between GOT and a programmable controller.
*2 The following functions will be supported soon: data transfer from GT Designer3 to GOT, the FA transparent function from engineering software (MELSOFT GX Works3, etc.), the SoftGOT-GOT link function from GT SoftGOT.
*3 Data transfer cannot be performed from a personal computer that is connected to the programmable controller.
*4 TOSHIBA Unified Controller nv Series cannot be connected.

Product list

Product name	Model	Specifications	Supported model			
			GT27	GT25	GT23	GT21
Ethernet communication unit	GT25-J71E71-100	Data transfer method: 100BASE-TX, 10BASE-T Compatible software: GT Works3 Ver.1.160S or later	○	○	–	–

* BootOS version Z or higher is required to use the Ethernet communication unit.
* For the conformed standards of the product, please contact your local sales office.

⚠ **Precautions for safe use**

To use the products given in this publication properly, always read the relevant manuals before beginning operation.

Precautions for safe use

ETHERNET is a registered trademark of Xerox Corp.
Other product and company names are either trademarks or registered trademarks of their respective owners.

The release date varies depending on the product and your region. For details, please contact your local sales office.

The actual color may differ slightly from the pictures in this catalog. The actual display may differ from what are shown on GOT screen images.

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