for a greener tomorrow

MITSUBISHI ELECTRIC
Changes for the Better

FACTORY AUTOMATION

e-F@ctory

Graphic Operation Terminal
GOT2000 Drive Control (Inverter)
Interactive Solutions

GOT Drive

MITSUBISHI GRAPHIC OPERATION TERMINAL

GOT2000 + INVERTER

GOT Drive

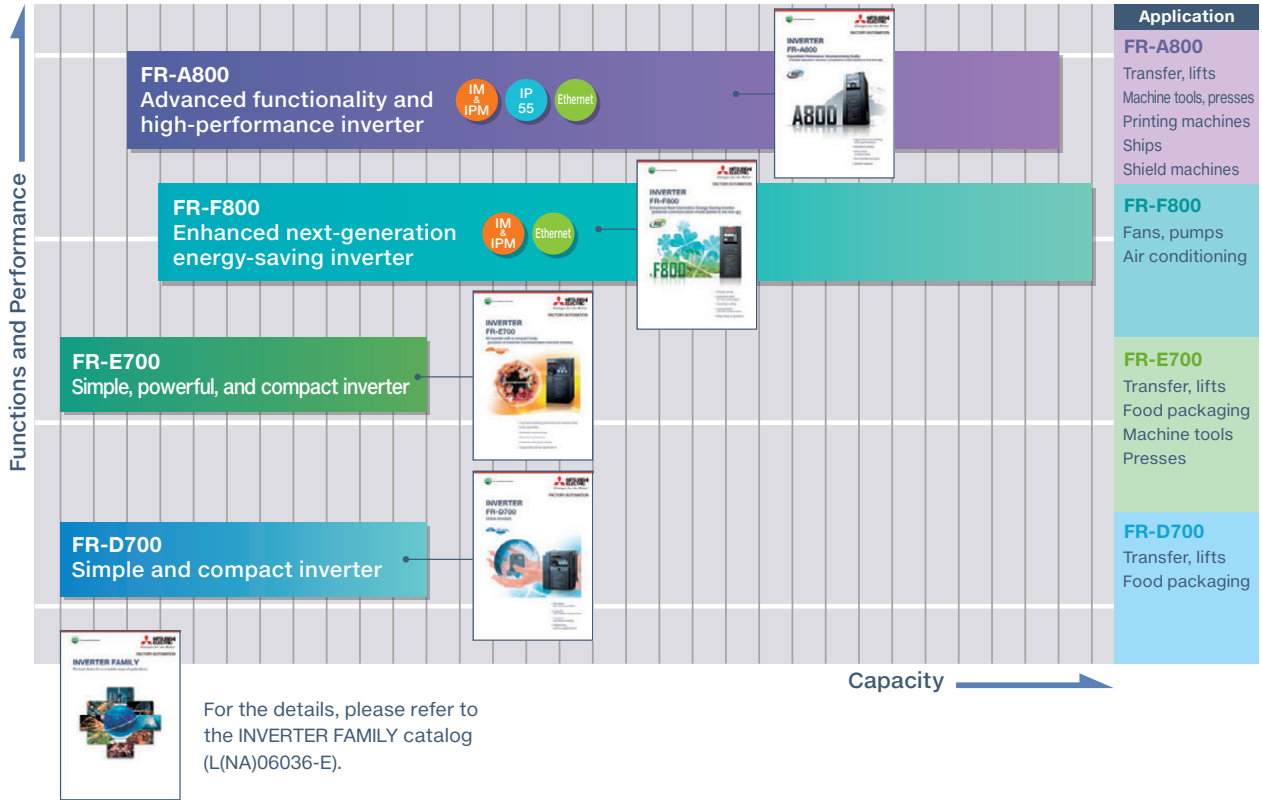
MITSUBISHI GRAPHIC OPERATION TERMINAL

GOT2000 + INVERTER

Challenges that cannot be resolved just with the inverter can now be resolved with GOT2000 and inverter interactive functions.

The GOT2000 provides advanced functionality and improves connectivity with Mitsubishi Electric inverter systems. It provides some functions of FR Configurator2.
The GOT Drive enhanced functionality is designed to eliminate need for additional hardware, software and suits customer's applications to realize central monitoring, speed up system startup, improve predictive maintenance and troubleshooting.

Lineup of inverters compatible with interactive functions

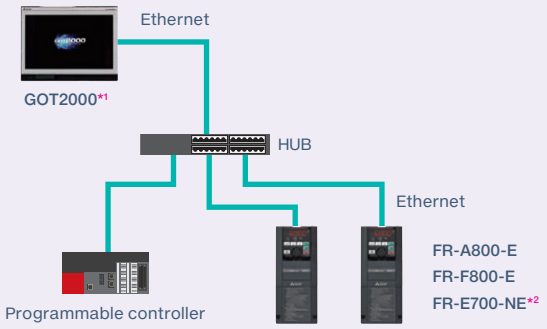


For the details, please refer to the INVERTER FAMILY catalog (L(NA)06036-E).

GOT and inverter system configurations

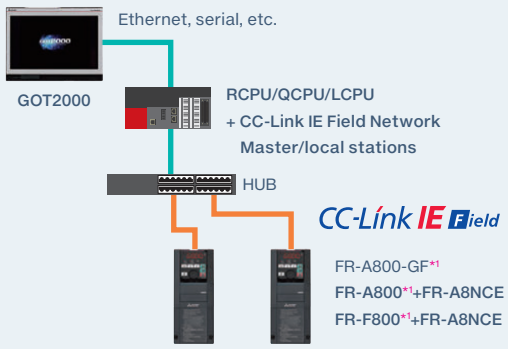
Select the required connection type to match your system configuration. Multiple inverters can be monitored with one GOT by switching the target station number.

CASE 1 Direct connection with Ethernet



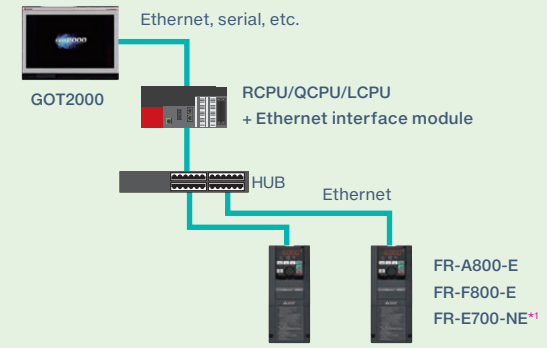
*1 The models with an Ethernet port are supported among GT21 models.
*2 The models with SERIAL "□88******" or later on the rating plate are supported.

CASE 2 CC-Link IE Field Network connection via programmable controller



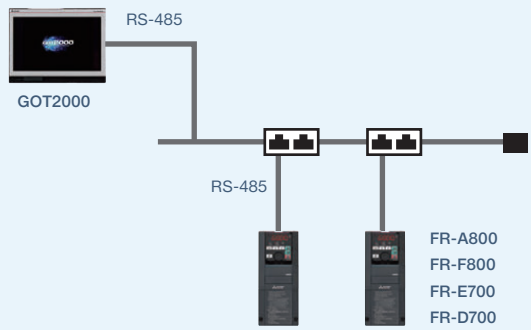
*1 The models with SERIAL "□83******" or later on the rating plate are supported.

CASE 3 Ethernet connection via programmable controller



*1 The models with SERIAL "□88******" or later (for FR-E700-SC-NNE and FR-E700-SC-ENE, "□89******" or later) on the rating plate are supported.

CASE 4 Direct connection with RS-485



Drive control interactive functions and supported inverter models

○: Supported ×: Not supported △: Only monitorable parameters are supported —: Not applicable ●: Sample screen available

Function	CASE 1				CASE 2		CASE 3				CASE 4			
	FR-A800-E/ FR-F800-E		FR-E700-NE		FR-A800-GF/ FR-A800+FR-A8NCE/ FR-F800+FR-A8NCE		FR-A800-E/ FR-F800-E		FR-E700-NE		FR-A800/ FR-F800		FR-E700/ FR-D700	
	Function usability	Sample screen*1*3	Function usability	Sample screen*1*3	Function usability	Sample screen*1*3	Function usability	Sample screen*1*3	Function usability	Sample screen*1*3	Function usability	Sample screen*1*3	Function usability	Sample screen*1*3
Parameter setting (simple mode)	○	●	○	×	○	●*2	○	●*2	○	×	○	●	○	●
Parameter recipe (simple backup/restoration)	○	●	○	×	○	●*2	○	●*2	○	×	○	×	○	×
FA transparent	○	—	○	—	○	—	○	—	○	—	○*4	—	○*4	—
Batch monitor	○	●	○	×	○	●*2	○	●*2	○	×	○	●	△	●
Operation command	○	●	○	×	○	●*2*5	○	●*2	○	×	○	●	○	●
Machine diagnosis (load characteristics measurement)	○	●	×	×	○	●*2*5	○	●*2	×	×	○	×	×	×
Inverter life diagnosis	○	●	○	×	○	●*2	○	●*2	○	×	○	●	△	●
Backup/restoration	×	—	×	—	○	—	×	—	×	—	×	—	×	—
Alarm display	○	●	○	×	○	●*2	○	●*2	○	×	○	●	△	●
Document display	○	●	○	×	○	●*2	○	●*2	○	×	○	●	○	●

*1 The sample screen is the project data that is included with GT Works3 (Ver.1.205P or later). Sample screens are not supported by GT23 and GT21.
*2 The sample screen for CASE 1 can be used by changing the controller setting into the one for the system configuration to be used.
*3 If the sample screen of the required inverter is not available, monitoring is possible by creating a project and setting the inverter parameters and devices in the numerical displays and lamps on the user's screen. For the details, please refer to page 10.
*4 The function can be used when GOT and personal computer are connected with USB.
*5 Settings need to be changed so that the CPU devices assigned to RY link devices can be controlled directly from GOT.

Reasons why drive control interactive solutions are chosen

Easy startup

☑ CASE 1 ☑ CASE 2 ☑ CASE 3 ☑ CASE 4

GT27 | GT25 | GT23*3 | GT21*3

Challenge

We want to efficiently start up the system!

Programming and settings are a hassle...

GOT Drive solves your problems

3-step simple startup

There are various sample screens that can be used with the GOT2000 for inverter parameter setting, batch monitoring, and machine diagnosis (load characteristics measurement), etc. Use the sample screens for easy system startup.

STEP 1 >>>

Select and connect the GOT and inverter.

Connect with your preferred connection type

GOT2000 — Inverter

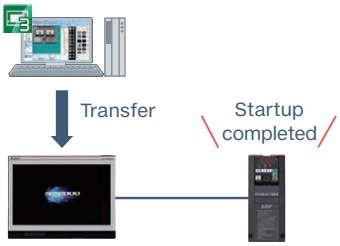
STEP 2 >>>

Sample screens*1 matching the connection type can be used for the user's project data.

Sample screen

STEP 3 >>>

Transfer the project data to the GOT.



GOT2000 — Inverter

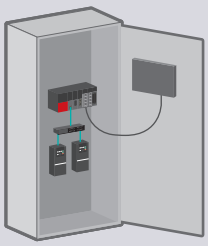
Parameter settings (simple mode)

☑ CASE 1 ☑ CASE 2 ☑ CASE 3 ☑ CASE 4

GT27 | GT25 | GT23*3 | GT21*3

Challenge

We want to set the parameters without opening the control panel!



Opening and closing the control panel is a hassle...

GOT Drive solves your problems

Easily adjust parameters with the GOT

Use the GOT on the front of the control panel to adjust the inverter's simple mode parameters. The parameter names can be confirmed on a list, so the required parameters can be easily found and set.

Parameter Setting screen*2

Back up (save) or restore (write) parameters as a recipe file when necessary.
For the details, please refer to "Parameter recipe" on page 5

*1 Sample screens are included with GT Works3 (Ver.1.205P or later). For the details, please contact your local sales office.
*2 Sample screens (VGA) are available. The screen image is the sample screen of FR-A800-E for CASE 1. The screen image differs from the one for CASE 4.
*3 Sample screens are not supported by GT23 and GT21.

Parameter recipe (simple backup/restoration)

☑ CASE 1 ☑ CASE 2 ☑ CASE 3 ☑ CASE 4

GT27 GT25 GT23*2 GT21*2

Challenge

We want to return the parameters to the pre-adjustment values!

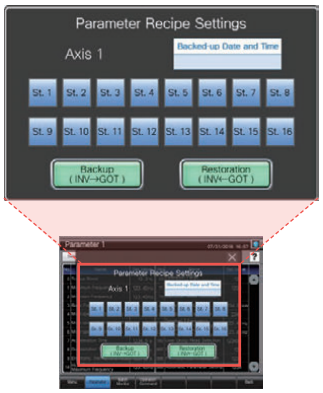
Parameter Setting screen

What were the pre-adjustment parameter values...

GOT Drive solves your problems

Back up/restore the pre-adjustment parameters with the GOT

The current inverter parameters can be backed up (saved) as a recipe file using the GOT. To return the parameters to the pre-adjustment state while starting up and adjusting the inverter, just restore (write) the parameters that were previously backed up (saved).



Parameter Setting screen*1

▶ How to return parameters to pre-adjustment values

(1) Back up the current parameters as a recipe file before adjustment

(2) Restore parameters that were previously backed up

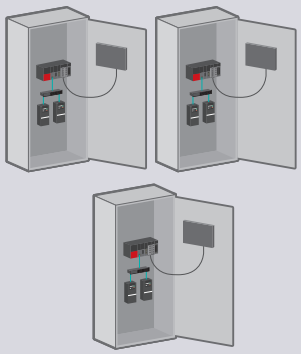
FA transparent

☑ CASE 1 ☑ CASE 2 ☑ CASE 3 ☑ CASE 4

GT27 GT25 GT23 GT21

Challenge

We want to perform debugging smoothly!

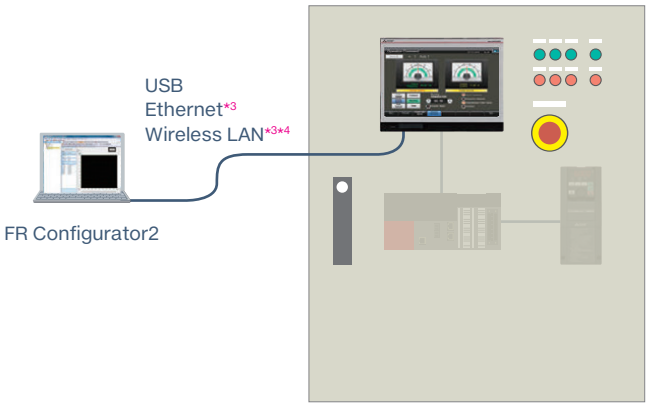


There are so many control panels, opening, closing or adjusting them is a hassle...

GOT Drive solves your problems

Debugging via GOT without opening the control panel

By connecting a personal computer with the GOT's USB interface, the inverter can be programmed, started up, and adjusted via GOT. There is no need to open the control panel and change the cable.



*1 Sample screens (VGA) are available. The screen image is the sample screen of FR-A800-E for CASE 1. The sample screen of this function for CASE 4 is not available.

*2 Sample screens are not supported by GT23 and GT21.

*3 Not supported by CASE 4.

*4 The wireless LAN communication unit (GT25-WLAN) needs to be installed on GOT. The unit cannot be used with GT2505, GT25 handy, GT23, and GT21 models. For the countries where the unit can be used and other details, please refer to the Graphic Operation Terminal GOT2000 Series catalog.

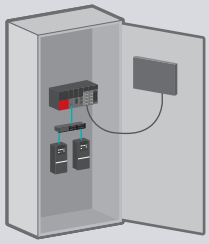
Batch monitor

☑ CASE 1 ☑ CASE 2 ☑ CASE 3 ☑ CASE 4*1

GT27 GT25 GT23*3 GT21*3

Challenge

We want to monitor the inverter status without opening the control panel!



Opening and closing the control panel is a hassle...

GOT Drive solves your problems

Perform batch monitor of the inverter with the GOT

The inverter's current values such as the output frequency, output current, and output voltage can be monitored with the GOT without preparing the personal computer or directly confirming the inverter.

Batch Monitor screen*2

Operation command

☑ CASE 1 ☑ CASE 2 ☑ CASE 3 ☑ CASE 4

GT27 GT25 GT23*3 GT21*3

Challenge

We want to start up the system while confirming the inverter's operation!

If only there was a way to easily test the inverter operation...

GOT Drive solves your problems

Issue operation commands to the inverter from the GOT

The inverter operation commands can be issued from the GOT. Since the system operation can be confirmed while monitoring the inverter's output frequency and output current values, the startup work efficiency can be increased.

Operation Command screen*2

*1 Only monitorable parameters are supported for FR-E700 and FR-D700.
*2 Sample screens (VGA) are available. The screen image is the sample screen of FR-A800-E for CASE 1. The screen image differs from the one for CASE 4.
*3 Sample screens are not supported by GT23 and GT21.

Machine diagnosis (load characteristics measurement)

☑ CASE 1*1 ☑ CASE 2 ☑ CASE 3*1 ☑ CASE 4*1

GT27 GT25 GT23*3 GT21*3

Challenge

We want to detect clogged filters and clogged pipes!

What is the cause of the system error...

GOT Drive solves your problems

Detect system errors with the inverter, and display them on the GOT

The relation of output frequency and torque in the normal state can be saved in the inverter, and used to check whether the operation is taking place with a normal load. If the result is out of the normal range, an error or warning is output so that it is useful to detect system errors and perform maintenance work.

STEP 1 >>>

Set/display the range of frequency to detect load characteristics error.

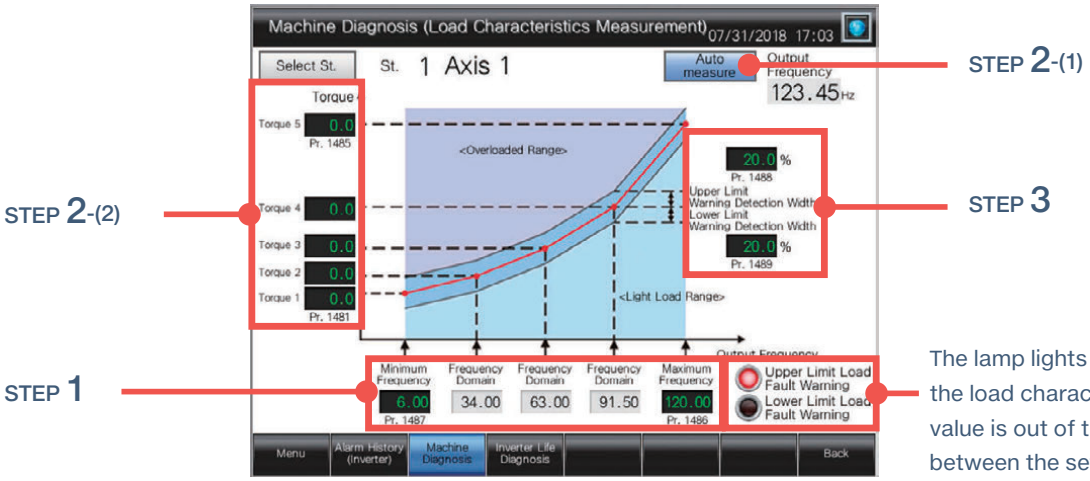
STEP 2 >>>

(1) The inverter automatically measures the relation of the output frequency and torque in the normal state, and calculates the load characteristics reference value.

(2) The load characteristics reference value calculated in the above (1) is displayed. To finely adjust this value, change the value manually.

STEP 3 >>>

Set the upper and lower limit warning detection width (threshold value) against the load characteristics reference value. The initial value is 20%.



Machine Diagnosis (Load Characteristics Measurement) screen*2

The lamp lights while the load characteristics value is out of the range between the set upper and lower limit alarm detection width values.

<Possible error causes>

- In overload range: clogged filter, clogged pipe, etc.
- In light load range: broken belt, broken blade, idle run, etc.

*1 FR-E700-NE, FR-E700, and FR-D700 are not supported by machine diagnosis (load characteristics measurement).

*2 Sample screens (VGA) are available. The screen image is the sample screen of FR-A800-E for CASE 1. The sample screen of this function for CASE 4 is not available.

*3 Sample screens are not supported by GT23 and GT21.

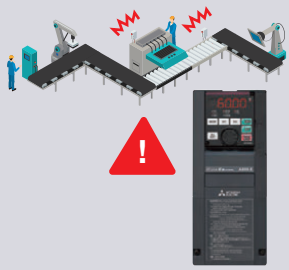
Inverter life diagnosis

☑ CASE 1 ☑ CASE 2 ☑ CASE 3 ☑ CASE 4*1

GT27 | GT25 | GT23*3 | GT21*3

Challenge

We want to know the inverter replacement timing!

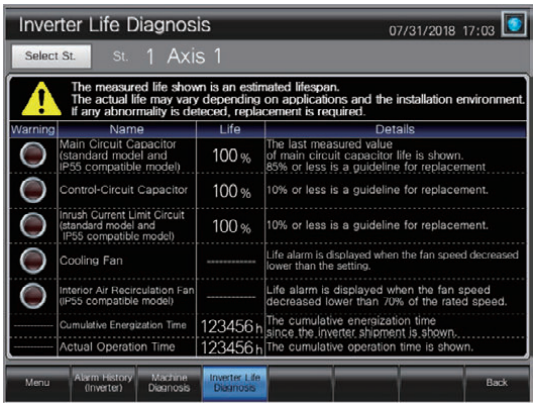


The inverter has failed...

GOT Drive solves your problems

Replacement timing of inverter components can be displayed on the GOT

GOT can be used to monitor the operation status of the inverter's components (main circuit capacitor, control circuit capacitor, cooling fan, etc.) and confirm the replacement timing. Perform predictive maintenance by replacing parts before the inverter fails.



Inverter Life Diagnosis screen*2

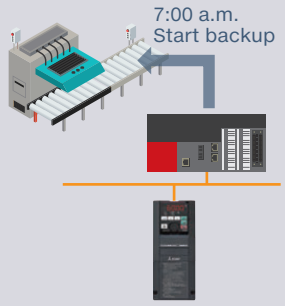
Backup/restoration

☐ CASE 1 ☑ CASE 2 ☐ CASE 3 ☐ CASE 4

GT27 | GT25 | GT23

Challenge

We want to periodically back up the inverter parameters!



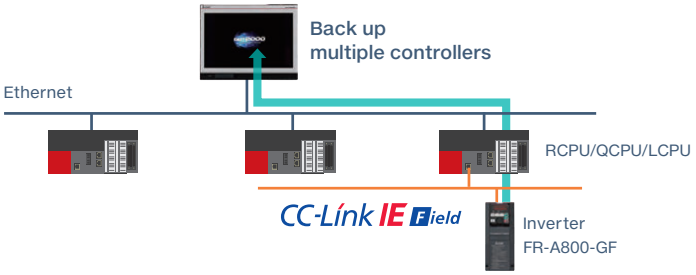
If only parameters can be automatically backed up periodically...

GOT Drive solves your problems

Automatically back up the inverter parameters with the GOT

In addition to the parameters, sequence programs for the inverter can be backed up and restored to or from the GOT's SD memory card or USB memory. The inverter can be replaced and restored with just the GOT without a personal computer. You can specify a trigger device, a day of the week, and time for automatic backup. The function makes it easier to backup data at the end of the day, before the weekend, or before the holiday.

▶ **System configuration compatible with the backup/restoration function**



This function cannot be used when using the CC-Link IE Field Network Ethernet adapter unit.

*1 Only monitorable parameters are supported for FR-E700 and FR-D700.
*2 Sample screens (VGA) are available. The screen image is the sample screen of FR-A800-E for CASE 1. The screen image differs from the one for CASE 4.
*3 Sample screens are not supported by GT23 and GT21.

Alarm display

☑ CASE 1 ☑ CASE 2 ☑ CASE 3 ☑ CASE 4*1

GT27 GT25 GT23*3 GT21*3

Challenge

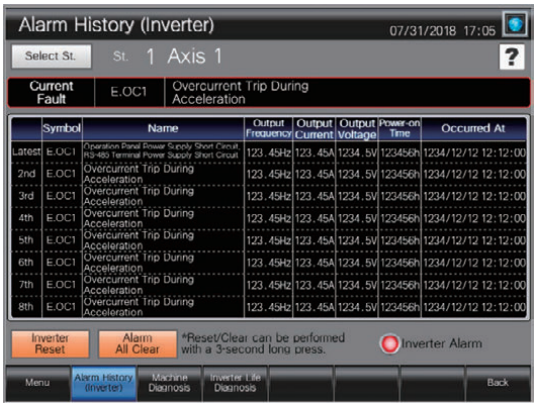
We want to easily confirm the details of current alarms!

What are the details of the inverter error codes...

GOT Drive solves your problems

Display details of the inverter alarms on the GOT

The error codes and details of alarms occurring in the inverter can be confirmed with the GOT. If a problem occurs, you can quickly identify the problem cause and reduce downtime.



Alarm History (Inverter) screen*2

Document display

☑ CASE 1 ☑ CASE 2 ☑ CASE 3 ☑ CASE 4

GT27 GT25

Challenge

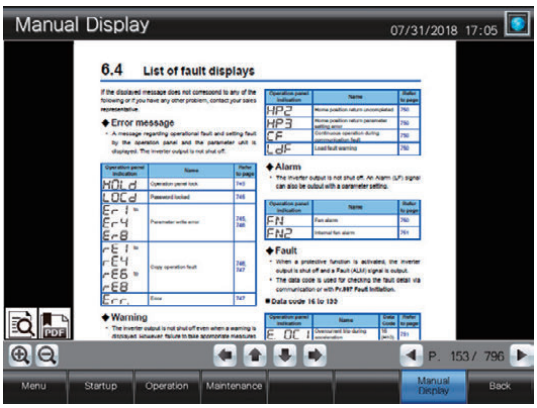
We want to confirm the actions for current alarms!

How can we handle the alarms...

GOT Drive solves your problems

Display the inverter manual on the GOT

Manuals can be displayed on the GOT. When an alarm occurs, corrective actions can be taken while checking the recovery methods in the troubleshooting manual. Therefore, the system can be restored quickly without relying on operator experience.



Manual Display screen*2

*1 Only monitorable parameters are supported for FR-E700 and FR-D700.
*2 Sample screens (VGA) are available. The screen image is the sample screen of FR-A800-E for CASE 1. The screen image differs from the one for CASE 4.
*3 Sample screens are not supported by GT23 and GT21.

Sample screen

GT27 GT25

Challenge

We want to create screens easily!

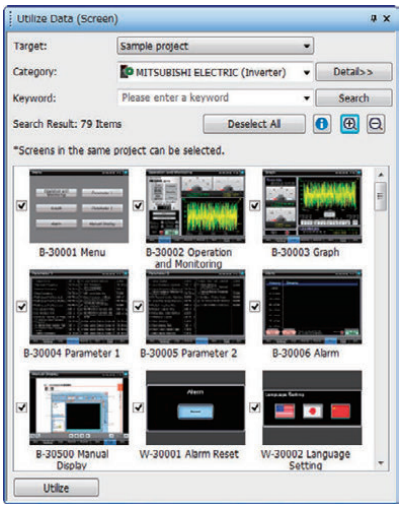
It's a hassle to create screens from scratch...

MELSOFT GT Works3 solves your problems

Support screen creation with sample screens

GOT2000 has sample screens that can be used to set the inverter parameters and perform machine diagnosis (load characteristics measurement). Sample screens can be used by choosing the project or by choosing individual screens. The sample screens are included with GT Works3 (Ver.1.205P or later).

To reuse individual screens, select [Screen] → [Utilize Data] from the GT Works3 menu.



Screen specifications

GOT type: GT27**-V (640×480)

* The GOT type can be changed, and used for a GOT with different resolution. GT23 and GT21 are not supported.

Compatible languages

Japanese, English, Chinese (Simplified Chinese)

How to obtain the latest sample screens

For how to obtain the latest sample screens, please contact your local sales office.

Easy-to-use screen design software

GT27 GT25 GT23 GT21

Challenge

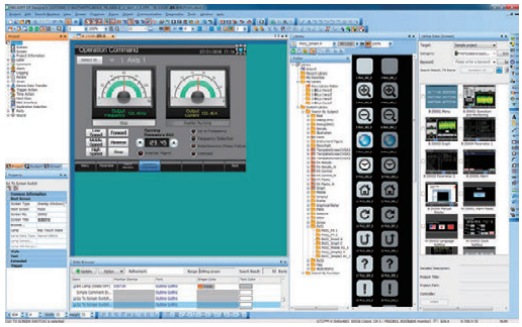
We want to freely create screens!

Necessary items are not provided in the sample screens...

MELSOFT GT Works3 solves your problems

Freely create monitor screens

The sample screens can be customized and the data to be displayed can be freely set on the user-created screen. If there is no sample screen for the inverter you wish to use, or if you want to monitor the inverter with GT23 or GT21, monitoring is possible by creating an original project, and setting the inverter parameters and devices in the numerical displays and lamps.



Freely create screens with GT Works3

Sample screens (VGA) customized for wide screens (WVGA)

GOT2000

GOT2000
Graphic Operation Terminal

Designed to meet your
industrial automation needs

The Mitsubishi Electric Graphic Operation Terminal GOT2000 Series continues to impress with solutions that fulfill all demands

The GOT2000 boasts advanced functionality, acts as a seamless gateway to other industrial automation devices, all while increasing productivity and efficiency. The high quality display is designed to optimize operator control and monitoring of device and line statuses. If you are looking for an intuitive operation terminal, the new tablet-like operability and the higher functionality of operation terminal makes the GOT2000 the ideal choice.

For the details about the GOT2000 Series, please refer to the Graphic Operation Terminal GOT2000 Series catalog (L(NA)08270ENG).

Inverter

FR-A800

Unparalleled Performance. Uncompromising Quality. Mitsubishi Electric Inverter FR-A800

What is required of inverters in this constantly changing world?
At Mitsubishi Electric, we have pursued the answer to this question through constant innovation and evolution. Introducing our extensive range of high-value, next-generation inverters delivering outstanding drive performance in any environment, and a wealth of functionality covering startup to maintenance. We utilized the traditional Mitsubishi Electric philosophy to further perfect our inverters.

For the details about FR-A800, please refer to the INVERTER FR-A800 catalog (L(NA)06075ENG).

How to read marks of supported system configurations and GOT models

- System configurations with ✓ are supported.
  ☑ CASE 1 ☑ CASE 2 ☑ CASE 3 ☑ CASE 4
- The indicated GOTs are supported.
  GT27 GT25 GT23 GT21

Global Partner. Local Friend.

MITSUBISHI GRAPHIC OPERATION TERMINAL

GOT2000 + INVERTER

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.

⚠ Precautions for safe use

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

Trademarks and registered trademarks

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