eco Changes for a greener tomorrow

MITSUBISHI ELECTRIC
Changes for the Better

FACTORY AUTOMATION

HMI-FAMILY

Visualisation Tools

- Multi-Touch/ Gesture Control
- Multimedia
- Backup/Restore
- VNC Remote Access
- MES Integration
- Alarms
- Data Logging
- Operator Authentication

Global impact of Mitsubishi Electric

Through Mitsubishi Electric's vision, "Changes for the Better" are possible for a brighter future.

Changes for the Better

We bring together the best minds to create the best technologies. At Mitsubishi Electric, we understand that technology is the driving force of change in our lives. By bringing greater comfort to daily life, maximising the efficiency of businesses and keeping things running across society, we integrate technology and innovation to bring changes for the better.

Mitsubishi Electric is involved in many areas including the following

Energy and electric systems

A wide range of power and electrical products from generators to large-scale displays.

Electronic devices

A wide portfolio of cutting-edge semiconductor devices for systems and products.

Home appliance

Dependable consumer products like air conditioners and home entertainment systems.

Information and communication systems

Commercial and consumer-centric equipment, products and systems.

Industrial automation systems

Maximising productivity and efficiency with cutting-edge automation technology.

Contents

Perfect vision

Ultra-slim designs occupy less panel space/depth

Advanced screen design software such as GT Designer enable screens to be quickly and efficiently created.

High resolution screens offer bright clear displays that can be viewed from a wide range of angles.

100's of drivers are available for connection to Mitsubishi or other third party products.

Units with high IP ratings ensure easy and carefree cleaning, especially useful for situations that require full wash downs.

More design freedom through flexible connectivity and mounting as many units can be used in portrait or landscape configurations.

Flexible operation allows Mitsubishi HMIs to be used in industrial and commercial applications.

High-speed operation thanks to fast processors.

Innovative handling

Mitsubishi Electric sets high standards with its technologies in human machine communication. Multi-Touch/Gesture Control, as nowadays known from tablets, simplify handling and maintenance significantly.

Remote control

High performance, market leading, operator terminals are the result of intelligent yet carefully planned design. Therefore the data access is possible e.g. via the front panel USB interface or via VNC Remote Access.

Database communication

Direct connection to an Oracle-, SQL- or Access-database through the MES functionality gives users greater access to operational data from across their entire plant – down to the shop floor.

Data logging

Data of contollers or devices for temperature registration can be stored with the data logging function. These data can be displayed as a diagram or a list. Data can also be exported to a computer for further analysis.

Multimedia function

With the multimedia function it is for example possible to connect a camera for observing the production line. In case of a fault 2 minutes before and after the event can be analysed to eliminate the cause and prevent re-occurence.

Troubleshooting

All HMI devices are able to collect data from different FA applications and provide them as graphic or text. Integrated functions for troubleshooting make error diagnostic easy and the effort in time and costs is minimised.

A complete line

Product range of the GOT2000 series

GOT2000

The GOT2000 HMIs are state-of-the-art and offer a seamless interface to the broad portfolio of automation solutions from Mitsubishi Electric. The high value screen unit was directly developed for an optimal handling during controlling and observation of single device operation or of complete production lines. If you are looking for a graphic and intuitive usable HMI with the new tablet-like handling and a unique integration depth to the automation world of Mitsubishi Electric then the GOT2000 is the right choice for you. By using the GOT2000 you will do the essential step enhancing flexibility, productivity and quality.

Product range of the GOT Simple series

GOT Simple

These simple but powerful HMIs were developed for cost-efficient optimisation of handling and observing different automation products from Mitsubishi Electric.

In industrial automation the HMI represents the face of the machine and should show all important process and status information to the operator.

The devices of the GOT series offer an optimal dialogue between human and machine and are completely integrated in the FA philosophy of Mitsubishi Electric. Operations of the system get transparent and by the deep integration with FA products of Mitsubishi Electric they offer e.g. a very fast diagnostic for the removal of problems. This shortens downtimes and increases the added value of production.

Therefore they are the ideal extension for MELSEC PLC systems and other components of Factory Automation.

GOTs can be installed directly to the machine while the connection to other FA products is simple and cost-efficient. Without big efforts it is possible to show all relevant information in graphical form to the operator.

Even under heavy duty conditions the HMIs remain operational due to the protective structure IP65 (and higher).

Central storage and control of FA device information with Mitsubishi Electric HMIs

Integrated software solutions – iQ Works

iQ Works of Mitsubishi Electric offers an automation platform that reduces development costs and makes system planning easier by the integrated components MELSOFT Navigator (project management), GX Works2 (PLC), GT Works3 (HMI) and MT Works2 (Motion). Compatibility problems are eliminated and performance will be increased.

Screen design and screen applications for the GOT2000 series are done with one powerful software package GT Works3. The user has access to libraries with pre-defined functions and graphical components as well as to an intuitive usable and flexible workspace

Industrial PC

Industrial PC are designed for use in demanding applications in industrial environments provide outstanding computer performance based on energy-saving Intel® Processors.

The Panel PCs feature a wide operating and storage temperature range, tough vibration resistance and high IP ratings together with fanless high performance CPUs (Intel® Atom™ / Core™ i5) and SDD drives for use in demanding industrial applications.

The Box PCs offer the same technical specification (Intel® Atom™ / Core™ i5 CPU and SSD drives) as the Panel PCs, but they can be combined with any of the industrial TFT LCD displays from 12.1" up to 21.5" to provide maximum flexibility.

Innovative HMI technology in the GOT series and solutions for every visualisation and programming application with MELSOFT

GOT2000

GOT2000 improves transparency and productivity in your production

Advanced functionality

Mitsubishi Electric has raised the bar for HMIs with the GOT2000 series, designed to optimise operator control and monitoring of device and line status. With vastly increased performance, advanced functions, seamless connectivity to other automation devices and highly intuitive, tablet-like operation* and the highest quality graphics, the GOT2000 series provides a range of models and sizes to meet the needs of the broadest spread of applications.

* Some functions such as Multi-Touch/Gesture Control are only available on certain models.

Multi-touch and gestures for easy operation

With their enhanced functionality, these HMIs extend capabilities beyond monitoring and visualisation, providing additional features that will help to reduce downtime, enable fast recovery from simple errors, increase availability and boost production efficiency. More than simply displaying data, these enhanced HMIs deliver genuine perspective on the automation process and provide a platform to solve the typical production problems that drive down OEE.

The wide range of offered screen sizes from 3.8" to15" is divided in 8 model groups: GOT2000 Wide are Widescreen HMIs to display more information, GOT2000 Handy for HMI functionality in the palm of your hand, GOT2000 Open Frame are Frameless HMIs for maximum flexibilty, GOT2000 Rugged for extreme environments, GT27 for high-end applications, with the highest degree of performance and functionality, GT25 with optimal balance between functionality and costs, GT23 for cost sensitive applications and GT21 as an entrance into the world of GOT2000. In addition, a software HMI version, the GT SoftGOT2000, realises GOT2000 features on a PC or panel computer.

Seamless gateway to many devices

The GOT2000 offers seamless connectivity to Mitsubishi Electric automation devices such as PLCs, variable speed drives, servo drives and robots, simplifying automation system set up. Inbuilt Ethernet communications means users can operate the GOT2000 remotely from a PC (VNC Server) or even from a tablet or portable terminal. An MES interface option enables the GOT2000 to transmit data collected from PLCs and other automation devices directly to higher level system databases, eliminating the need for gateway PCs or complex programming. Further the GOT2000 comes with the "FA transparent" function that enables users to link from a PC through the HMI to any supported connected automation products.

Benefits:

Benchmark performance

High-speed processors deliver responsive HMI operation even during high-load activities such as logging, script, alarm or device data transmission.

Increased memory size

With memory four times greater than the models they replace, GOT2000 HMIs enable flexible screen design without any concerns regarding data capacity. The product data compression technology plus up to 128 MB with the use of a standard SD card make it possible.

Multi-Touch/Gesture Control*

GOT2000 series HMIs deliver tablet-like usability with the introduction of Multi-Touch/Gesture Control, even when wearing gloves. Screen gestures enable users to easily enlarge screens for better visualisation and easy operation of small switches. After enlarging, users can scroll across the display. Object gestures allow specific objects to be enlarged, scrolled or flicked, including historical data lists, alarm displays, trend graphs and documents. GOT2000 screens also allow two-point pressing, for simultaneous operation of two switches on important operations – such as "interlock release" and "start". This eliminates the need for external panel hardware.

*Some functions such as Multi-Touch/Gesture Control are only available on certain models.

Beautiful graphics

GOT2000 HMIs provide 65536 colours, and support a wide range of image formats – including PNG – for clear screens with well defined objects that are crisp even when enlarged or reduced. The HMI also supports a library of outline fonts in different sizes.

Big portfolio of devices with screen sizes from 3.8" to 15"

Advanced communications

All GOT2000 HMIs provide Ethernet, RS232 and RS422/485 communications. SD card and front and rear USB ports deliver increased flexibility. Options include a wireless LAN interface for communication with PCs and tablets, enabling users to download/upload screen data and use the FA Transparent function.

Easy screen design

The GOT2000 screens are programmed by the HMI design software GT Works3, with features such as the ability to use templates and sample projects to greatly reduce the number of steps in the screen creation process. GT Works3 also offers a full suite of common functions, objects and shapes. Help facilities include a "device input assist" function and a search wizard for the GT Works3 manuals.

Backwards compatibility

Providing an advanced solution for today's monitoring and visualisation requirements, the GOT2000 HMIs provide significant improvements on the GOT1000 models that they replace, while ensuring backwards compatibility: panel sizes remain identical whilst existing projects can be easily ported to the HMIs.

GOT2000 at a glance

DISPLAY:
TFT monochrome to TFT with 65536 colours

RESOLUTION:
From 320x128 up to 1280x800

SCREEN SIZES:
From 3.8" to 15"

NETWORKS CAPABILITY:
Ethernet (TCP/IP)*, CC-Link (IE)*, MELSECNET/10/H*

INTERFACE:
RS232C, RS422, RS485, USB

* not available for all units

Horizontal integration

The superior integration capabilities of Mitsubishi Electric factory automation products is demonstrated by functions such as parameter and program back-up/restore for PLCs, inverters and servo drives; GOT transparent mode to connect via the HMI to Mitsubishi Electric devices for programming, monitoring etc; pre-made monitor screens for network diagnostics, etc.

GOT Simple

Easy and flexible HMI solutions minimize downtime and reduce engineering efforts.

Simple but inspired

Mitsubishi Electric completes his successful GOT HMI series with the inexpensive GOT Simple series, which provides excellent cost effectiveness. The GOT Simple series was designed to optimize operator control and monitoring of various factory automation products.

With a good performance level and advanced functions these new HMIs provide features that will help to reduce downtime, enable fast recovery from simple errors, increase availability and boost production efficiency. More than simply displaying data, the GOT Simple series delivers genuine perspective on the automation process and provide a platform to solve typical production demands in an economically way. They are easy to use, highly reliable and provide excellent serviceability.

Perfect interaction with factory automation products

GOT Simple at a glance

DISPLAY:
TFT with 65536 colours

RESOLUTION:
800x480

SCREEN SIZES:
7" and 10"

NETWORKS CAPABILITY:
Ethernet (TCP/IP)

INTERFACE:
Ethernet (TCP/IP), RS232, RS422, SD card

Actually two different models are available: the GS2107 with 7" wide screen display and the GS2110 with 10" wide screen display. The display of both models has a WVGA resolution of 800x480 pixels, an LED backlight and can display up to 65536 colors. 9 MB of internal memory gives the user much room for his applications.

Both GOT provide Ethernet, RS232 and RS422 communications. An SD card and a rear USB device port deliver increased flexibility.

Connectivity to various devices

Each GOT Simple offers high connectivity to Mitsubishi Electric factory automation products like PLCs, frequency inverters or servo drives, to simplify the system set up. Thanks to the Ethernet communication possibility users can access the GOT easily from a PC for programming and monitoring or to connect it to the machine network. The serial interfaces RS232 and RS422 allow the direct connection of bar-code readers or temperature controllers. Further the GOT Simple comes with the "FA transparent" function that enables users to link from a PC through the HMI to any supported connected Mitsubishi Electric automation products.

Industrial PCs

Panel PCs

Nowadays industrial PCs are a inherent part of automation and process control. The series of APPC/IPPC panel PCs provides outstanding computer performance based on energy-saving Intel® Processors. Designed for use in demanding applications in industrial environments, these IPCs feature high quality, fast performance, attractive design and brilliantly legible displays. A wide operating and storage temperature range, tough vibration resistance and high IP ratings mean these IPCs can be used in locations users could never consider before. All IPCs are equipped with a fanless high performance CPU (Intel® Celeron™/Core™ i5) and SSD drives. This reduces the risk of a production stop with all the consequences and cost due to the failure of a moving part.

Industrial PCs provide outstanding performance and high flexibility.

Box PCs and displays

The industrial box PC and display offering is a flexible way to deploy an industrial PC system as it offers the possibility to combine the display and the PC part independently from each other to match the needs of an application perfectly.

All NISE series box PCs offer the same technical features as the panel PCs like a fanless high performance CPU (Intel® Atom™/Core™ i5) and SSD drives.

The high resolution APPD/IPPD series displays ranging from 12,1" to 21,5" are built for use in industrial environments. They are available as 4:3 resistive and 16:9 capacitive touchscreens.

IPCs at a glance

CPUs:
Intel® Celeron™/Core™ i5

DISPLAY:
TFT (APPC/IPPC series)
LCD (APPD/IPPD series)

RESOLUTION:
From 1024x768 up to 1920x1080

SCREEN SIZES:
From 12.1" up to 21.5"

HDD:
64 GB SSD

NETWORKS CAPABILITY*:
Profinet, Profibus, DeviceNet™, EtherNet/IP and EtherCAT

INTERFACE:
RS232, RS422, USB

* not available for all units

MAPS HMI

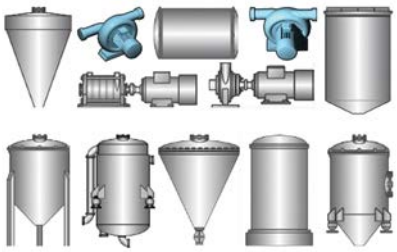
Following market demands Mitsubishi Electric has introduced a reduced functionality, lower cost version of the highly successful MAPS SCADA to the market.

The focus is the OEM/machine builder and more simple HMI requirements that do not require the capabilities of the higher level MAPS software.

However, unlike most competitive standalone solutions, the MAPS HMI software allows users to license up to two remote operators/view clients. This allows the user to have more visibility into the plant or machine being controlled. This feature also allows the user to change the HMI project remotely.

Designing the MAPS HMI solution is made easy with the HMI tools that are available. These include an Excel engineering tool for tag creation, built-in project and navigation templates, wizards, over 300 predrawn dynamic wizards and static shapes and various other tools that are shipped as part of the HMI product.

With licensing options available for 300, 750 or 1500 I/O scan points, MAPS covers most of the requirements in the PC based HMI space.



Library of graphic objects

Sample batching solution on the MAPS demo

In addition, MAPS HMI supports simultaneous connections to over 100 different controllers.

Being based on the MAPS SCADA architecture means that users have access to various agents when configuring the I/O, allowing a more object-oriented approach to configuration.

Users are therefore not limited to simple tag based configuration, but have access to all the power of SCADA, including unlimited alarming, logging, scripting and interaction to the database that allows for a far more flexible and powerful solution.

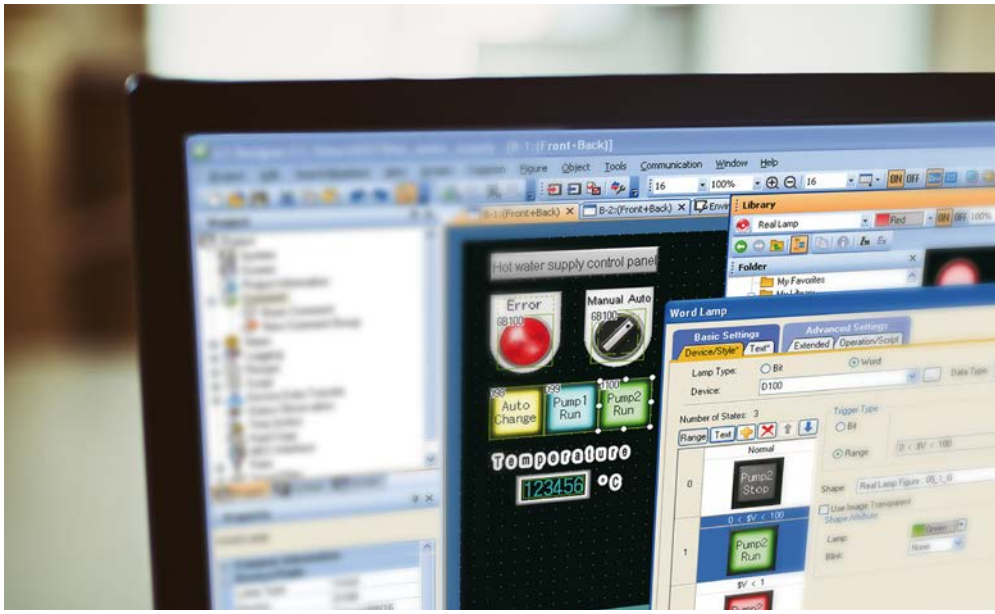
This also means that migrating to the full MAPS SCADA product is a seamless process when more functionality or I/O is required.

MAPS HMI at a glance

- Variety of user-friendly object-based agents
- Scripting supported
- Open HMI solutions
- Unlimited data logging and historian functionality
- Easy upgrade path
- Alarm Management and Analysis feature
- Integrated IPC and OEM bundles
- Library of graphics objects
- Multiple operator/view client connections
- Demo batching and recipe project

GT Works3 – Efficient engineering

GT Designer3 has a comprehensive graphic library.



GT Works3, comprehensive yet flexible

Flexible

Projects can be developed with GT Works3 in a quick and efficient way and can be displayed on a GOT or an IPC.

This flexibility of GT Works3 provides reduced cost of ownership as users only have to learn one software tool. In addition there is a greater re-use of existing projects.

All in one

GT Works3 is a multi tool software solution which include:

GT Designer3

GT Designer3 is the development environment for HMI projects with GOT2000.

GT Simulator3

GT Simulator3 can simulate GOT2000 projects without connected HMI Hardware.

GT SoftGOT2000

GT SoftGOT2000 is an HMI runtime environments for installation on a PC/IPC.

High function, easy to use

GT Works3 offers a comprehensive library of graphical elements that enable users of any skill level to quickly create the screen designs they need. Additionally the user can create its own libraries with self configured objects.

Integrated wizards, user-friendly menus and helpful dialog boxes enable users to set-up projects, complete security settings and change language settings with a minimum of fuss.

Advanced simulation

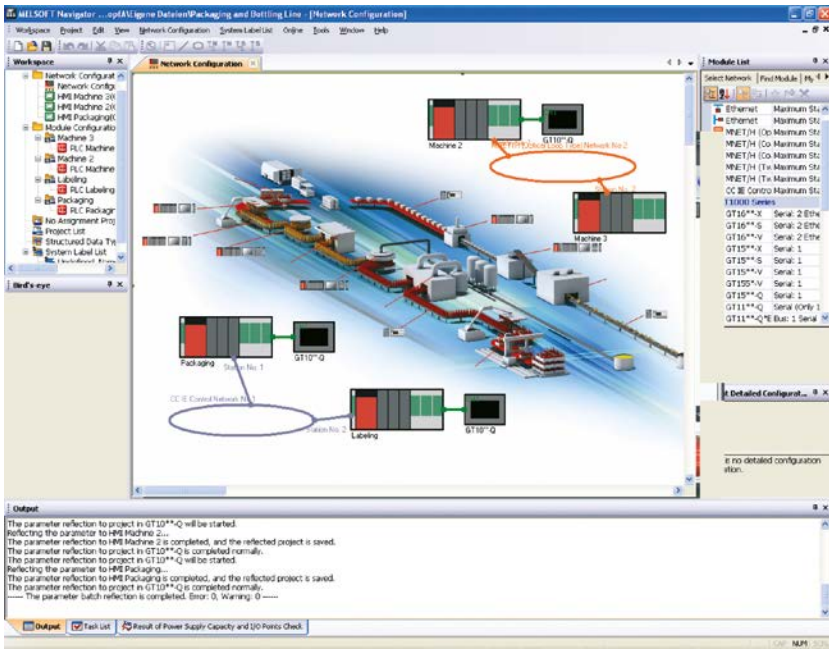
Debugging and commissioning can be an expensive and time consuming activity. However, with GT Works3 the integrated GT Simulator3 allows users to check the function and operation of their screen designs without any additional hardware. This can significantly help reduce costs and development time.

In addition, if GX Works2 and GX Works3 are also used, then the combined PLC and HMI solution can be tested and debugged even before any electrical panels have been purchased or even wired.

iQ Works – Integrated engineering environment

Application centered development

The iQ Automation Platform is an industry leading solution to simplify the challenge of complex, multi-discipline production systems. It offers the capability to combine PLC, motion, robot and CNC control on a single, compact hardware platform, with seamless interaction between the different control types. Hence systems are simpler to design, engineering costs are reduced, compatibility issues are eliminated and performance is increased. A key part of this solution is the ability to handle development and maintenance of this kind of system with a single tool. iQ Works is that tool; a unified engineering environment that covers all aspects of system development and maintenance, and allows it to be carried out from a single location.



iQ Works provides access to all levels of the network hierarchy

From demands to solutions

The challenge for automation engineers is to develop and maintain efficiently advanced production lines over the whole product life cycle. This is why Mitsubishi Electric developed iQ Works. From the integrated simulation tools that help PLC and HMI integration to the PLC version control option, iQ Works brings structure and productivity to any engineering project.

MELSOFT Navigator

It enables the effortless design of entire upper-level systems and seamlessly integrates the other MELSOFT programs included with iQ Works. Functions such as system configuration design, batch parameter setting, system labels and batch read all help to reduce TCO.

GX Works2/GX Works3

Software for programming and maintenance of MELSEC PLCs. Its functionality has been inherited from both GX Developer and GX IEC Developer, with improvements made throughout to increase productivity and drive down engineering costs.

GX Works3 is the software tool for programming the MELSEC PLC generations iQ-R and IQ-F.

GT Works3

A complete HMI programming, screen creation and maintenance program. In order to reduce the labor required to create detailed and impressive applications, the software's functionality has been built around the concepts of ease of use, simplifications (without sacrificing functionality) and elegance (in design and screen graphics).

MT Works2

A comprehensive motion CPU maintenance and program design tool. Its many useful functions, such as intuitive settings, graphical programming and digital oscilloscope, simulator, different Motion OS support, assistance help, to reduce the MT Works2 associated with motion systems.

iQ Platform – The next generation integrated platform

With high speed control and convenience fully assured, controllers compatible with the iQ Platform and the GOT2000 are the keys to higher productivity at lower cost. PLCs, motion controllers, CNCs, robot controllers, and C controllers are integrated into one as controllers compatible with the iQ Platform. The GOT2000 integrates different types of monitor units that were previously connected to each controller.

Reduce engineering costs

The FA integrated software suite, MELSOFT iQ Works, in which the GT Works3 screen design software is included, allows for efficient design of systems and monitor screens for each controller.

Reduce spare parts cost

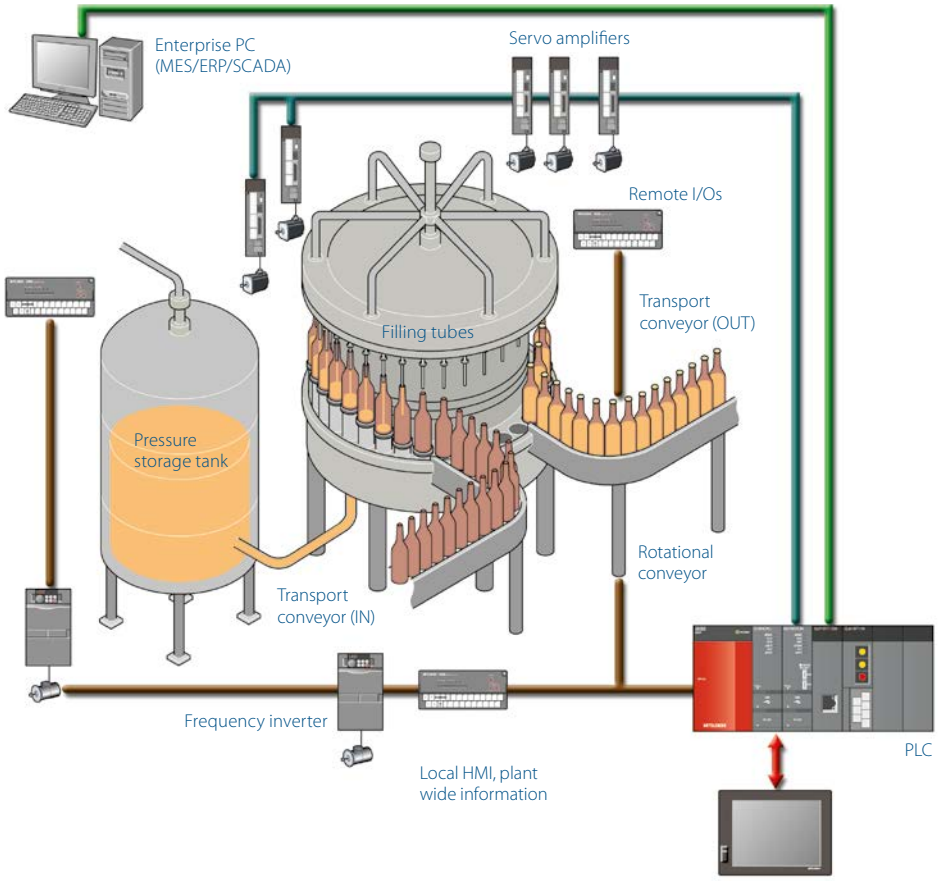
A single GOT2000 can take the place for several types of monitor units, thus greatly reducing costs for spare parts.

Powerful support for maintenance

The GOT2000 has a variety of useful maintenance functions including the "Q motion monitor function" and "CNC monitor function". Use these reliable functions for troubleshooting.

iQ is worldwide the first automation platform combining all important units for automation in one controller.

Visualisation and productivity



HMI technology can easily consolidate information at one point.

The use of HMI technology has been increasing as manufacturers increasingly demand information in realtime. The boundries between "shop floor" data and business operation/process data is fast becoming blurred and places higher demands on visualisation and data processing tools to span the wide range of "new" applications.

New challenges

Using visualisation tools to support maintenance has never been high on the agenda of machine and process engineers, but if system downtime is considered as one of the most costly problems manufacturers face, then why not? HMI screen's can be configured to easily report on all of the critical control aspects of a system aiding efficient problem diagnosis. In fact some HMIs have the ability to report errors remotely, even contacting the maintenance team before the line operators are aware there is a problem. The potential of visualisation tools to improve process "uptime" is enormous.

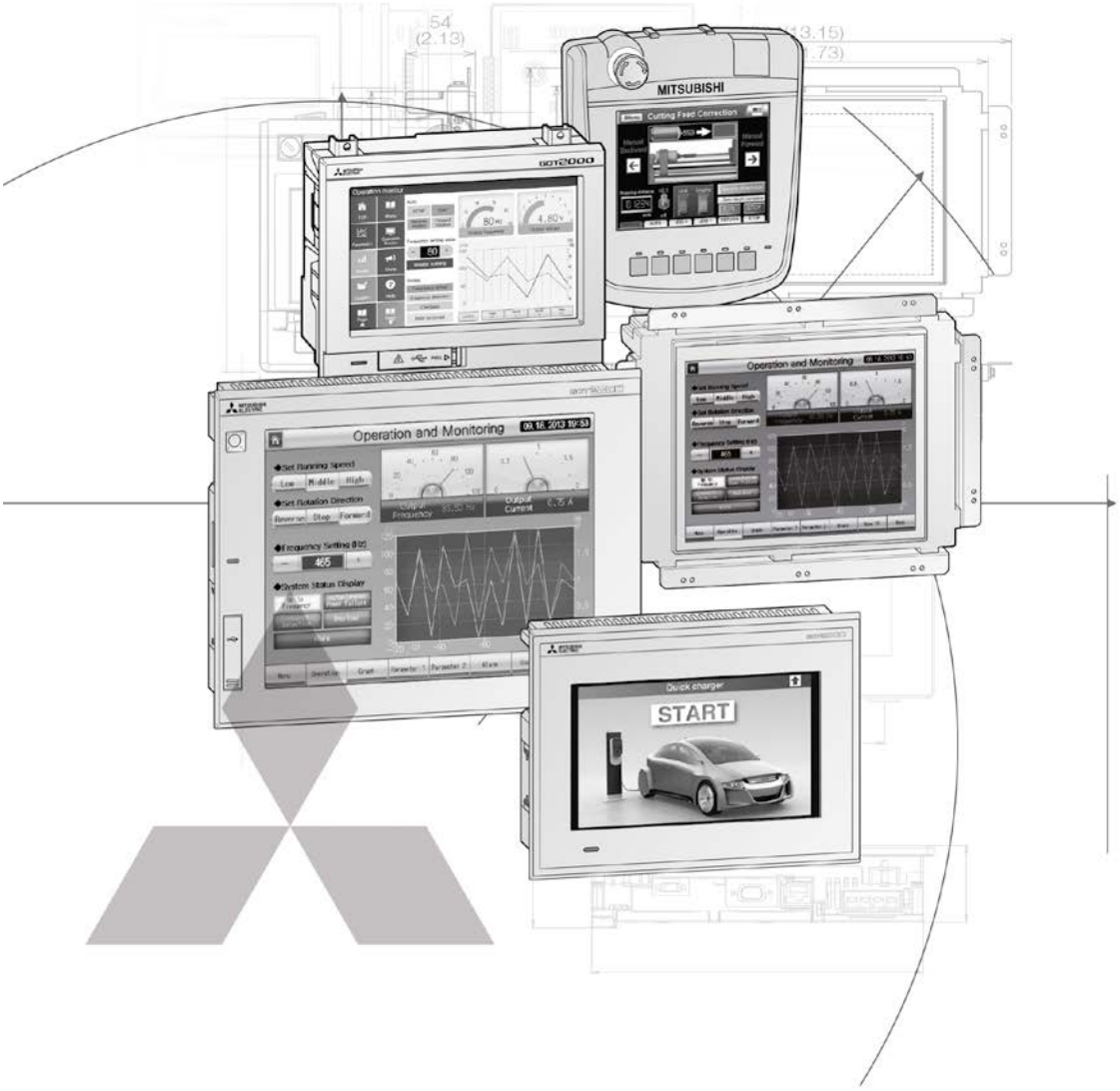
The business cycle

Fast data retrieval, greater transparency require simplier and more efficient control architectures. Because of this the demand for high reliability SCADA and PC based solutions is critical especially when feeding data in to a businesses central MES and ERP systems. Right now the MES function is integrated in many programmable controllers and HMIs. These are big advantages for the manufacturer, i.e.; reducing system complexity by removing a layer of intermedary PCs; increased data security by providing quicker respose and industrialised hardware; localised control points giving increased access to vital information.

e-F@ctory

As a manufacturer and supplier of automation products Mitsubishi Electric has long recognised these key issues and has developed solutions for its own complex production needs. This has resulted in many innovations such as GOT displays that have "built in" maintetance screens as well as the ability to review and monitor PLC programs. Other advances include MES interfaces for direct connection of PLC and HMI technology to MES SQL databases.

Mitsubishi Electric's visualisation solutions are a clear part of today's e-F@ctory helping manufacturers increase productivity in a scalable and reliable way.



Technical Information Section

Further publications within the factory automation range

Brochures

Modular PLC Family

Product catalogues for modular programmable logic controllers and accessories for the MELSEC iQ-R/System Q and L series

Compact PLC Family

Product catalogue for compact programmable logic controllers and accessories for the MELSEC iQ-F- and FX family

FR Family

Product catalogue for frequency inverters and accessories

MR Family

Product catalogue for servo amplifiers and servo motors as well as motion controller and accessories

Robots Family

Product catalogue for industrial robots and accessories

Low Voltage Switchgears

Product catalogue for low voltage switchgears, magnetic contactors and circuit breakers

Automation Book

Overview on all Mitsubishi Electric automation products, like frequency inverters, servo/motion, robots etc.

More information?

This product catalogue is designed to give an overview of the extensive range of operator terminals of the GOT2000 and GOT Simple series and Industrial PCs and Visualization software. If you cannot find the information you require in this catalogue, there are a number of ways you can get further details on configuration and technical issues, pricing and availability.

Our website https://eu3a.mitsubishielectric.com provides a simple and fast way of accessing further technical data and up to the minute details on our products and services. Manuals and catalogues are available in several different languages and can be downloaded for free.

For technical, configuration, pricing and availability issues contact our distributors and partners.

Mitsubishi Electric partners and distributors are only too happy to help answer your technical questions or help with configuration building.
For a list of Mitsubishi Electric partners please see the back of this catalogue or alternatively take a look at the "contact us" section of our website.

About this product catalogue

This catalogue is a guide to the range of products available. For detailed configuration rules, system building, installation and configuration the associated product manuals must be read. You must satisfy yourself that any system you design with the products in this catalogue is fit for purpose, meets your requires and conforms to the product configuration rules as defined in the product manuals.

Specifications are subject to change without notice. All trademarks acknowledged.

The products of Mitsubishi Electric Europe B.V., that are listed and described in this document, are neither subject to approval for export nor subject to the Dual-Use List.

GOT2000

GT21


		3.8" type	4.3" type
Specifications		**GT2103-PMBD GT2103-PMBDS GT2103-PMBLS**	**GT2104-RTBD**
Type		TFT, monochrome, 32 greyscales	TFT, LCD, 65536 colours
Resolution (pixel)		320x128	480x272
Power supply	A types	—	—
	D types	24 V DC, L types: 5 V DC	24 V DC

GT23


		8.4" type	10.4" type
Specifications		**GT2308-VTBA GT2308-VTBD**	**GT2310-VTBA GT2310-VTBD**
Type		TFT, LCD, 65536 colours	
Resolution (pixel)		640x480	640x480
Power supply	A types	100–240 V AC	100–240 V AC
	D types	24 V DC	24 V DC

GT27



		5.7" type	8.4" type		10.4 " type	
Specifications		**GT2705-VTBD GT2705-VTBD-GF** ①	**GT2708-STBA GT2708-STBD GT2708-STBA-GF** ① **GT2708-STBD-GF** ①	**GT2708-VTBA GT2708-VTBD GT2708-VTBA-GF** ① **GT2708-VTBD-GF** ①	**GT2710-STBA GT2710-STBD GT2710-STBA-GF** ① **GT2710-STBD-GF** ①	**GT2710-VTBA GT2710-VTBD GT2710-VTWA GT2710-VTWD GT2710-VTBA-GF** ① **GT2710-VTBD-GF** ① **GT2710-VTWA-GF** ① **GT2710-VTWD-GF** ①
Type		TFT, LCD, 65536 colours				
Resolution (pixel)		640x480	800x600	640x480	800x600	640x480
Power supply	A types	—	100–240 V AC		100–240 V AC	
	D types	24 V DC	24 V DC		24 V DC	

① GOT + CC-Link IE Field Network communication unit set GT15-J71GF13-T2

GT25




5.7" type	8.4" type	10.4" type	12.1" type
GT2505-VTBD	**GT2508-VTBA** **GT2508-VTBD** **GT2508-VTWA** **GT2508-VTWD** **GT2508-VTBA-GF** ① **GT2508-VTBD-GF** ① **GT2508-VTWA-GF** ① **GT2508-VTWD-GF** ①	**GT2510-VTBA** **GT2510-VTBD** **GT2510-VTWA** **GT2510-VTWD** **GT2510-VTBA-GF** ① **GT2510-VTBD-GF** ① **GT2510-VTWA-GF** ① **GT2510-VTWD-GF** ①	**GT2512-STBA** **GT2512-STBD** **GT2512-STBA-GF** ① **GT2512-STBD-GF** ①
TFT, LCD, 65536 colours			
640x480	640x480	640x480	800x600
—	100–240 V AC	100–240 V AC	100–240 V AC
24 V DC	24 V DC	24 V DC	24 V DC

① GOT + CC-Link IE Field Network communication unit set GT15-J71GF13-T2

GT27


12.1" type	15" type
GT2712-STBA **GT2712-STBD** **GT2712-STWA** **GT2712-STWD** **GT2712-STBA-GF** ① **GT2712-STBD-GF** ① **GT2712-STWA-GF** ① **GT2712-STWD-GF** ①	**GT2715-XTBA** **GT2715-XTBD** **GT2715-XTBA-GF** ① **GT2715-XTBD-GF** ①
TFT, LCD, 65536 colours	
800x600	1024x768
100–240 V AC	100–240 V AC
24 V DC	24 V DC

GOT2000 Wide


		7" type		10.1" type
Specifications		**GT2107-WTSD**	**GT2507-WTSD**	**GT2510-WXTSD**
Type		TFT, 65536 colours	TFT, LCD, 65536 colours	
Resolution (pixel)		800x480	800x480	1280x800
Power supply	A types	—	—	—
	D types	24 V DC	24 V DC	24 V DC

GOT2000 Handy


		5.7" type	6.5" type
Specifications		**GT2505HS-VTBD**	**GT2506HS-VTBD**
Type		TFT, LCD, 65536 colours	
Resolution (pixel)		640x480	640x480
Power supply	A types	—	—
	D types	24 V DC	24 V DC

GOT2000 Open frame



		8.4" type	10.4" type	12.1" type
Specifications		**GT2508F-VTNA GT2508F-VTND**	**GT2510F-VTNA GT2510F-VTND**	**GT2512F-STNA GT2512F-STND**
Type			TFT, LCD, 65536 colours	
Resolution (pixel)		640x480	640x480	800x600
Power supply	A types	100–240 V AC	100–240 V AC	100–240 V AC
	D types	24 V DC	24 V DC	24 V DC

GOT2000 Rugged

	7" type
Specifications	**GT2507T-WTSD**
Type	TFT, LCD, 65536 colours
Resolution (pixel)	800x480
Power supply A types	—
Power supply D types	24 V DC

GOTSimple

GS21


		7" type	10" type
Specifications		**GS2107-WTBD**	**GS2110-WTBD**
Type		TFT, LCD, 65536 colours	
Resolution (pixel)		800x480	800x480
Power supply	A types	—	—
	D types	24 V DC	24 V DC

Special functions GOT2000

GOT offers various remote monitoring and operation functions that can be used for various applications depending on your needs. The GOT remote solutions increase efficiency in various applications from startup, adjustment, to maintenance using mobile devices and personal computers. The GOT2000 improves visualization accessibility and reduces total cost of ownership.

■ Multi-touch/gesture control

☑GT27 ☐GT25 ☐GT23 ☐GT21 ☐GS21

Object gestures

Specify an object to be enlarged, scrolled or flicked.

Target objects:

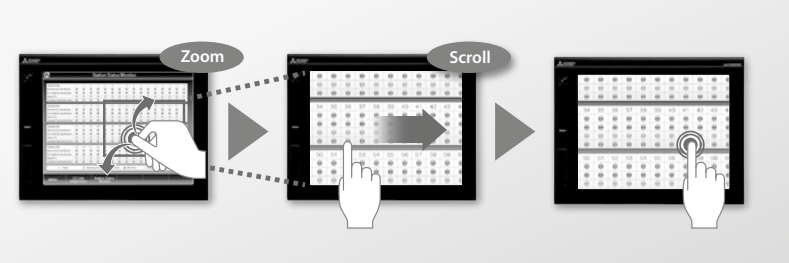
- Historical data list display
- Alarm display (user)
- Alarm display (system)
- Simple alarm display
- Historical trend graph
- Document display

Screen gestures

Use intuitive gestures to zoom in/out and to scroll. Zoom in to easily operate small and hard to reach switches. After zooming in, scroll the display to show the area you want to operate.

2-point press operation prevents incorrect operations

Prevent accidental operations by designating two pressing points for critical operations.

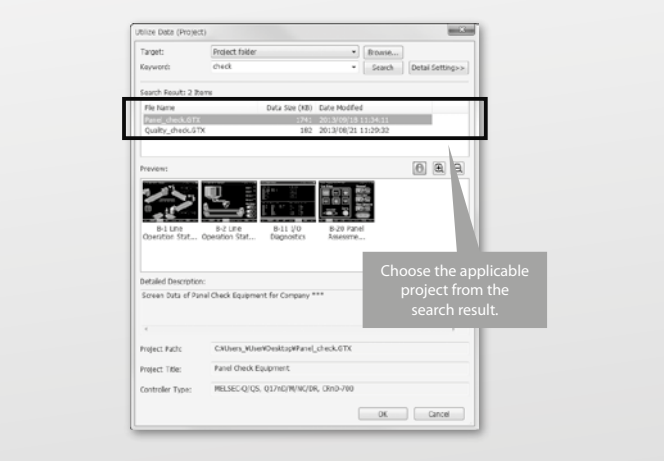


■ Professional designs in just a few clicks

☑GT27 ☑GT25 ☑GT23 ☑GT21 ☐GS21

Reuse previous projects

Use keyword search to find and reuse existing projects or sample projects, minimizing engineering time spent on screen design.



Reuse previous screens

Settings associated with a previous project, such as comment data, logging settings, etc., can be easily applied to a new project.

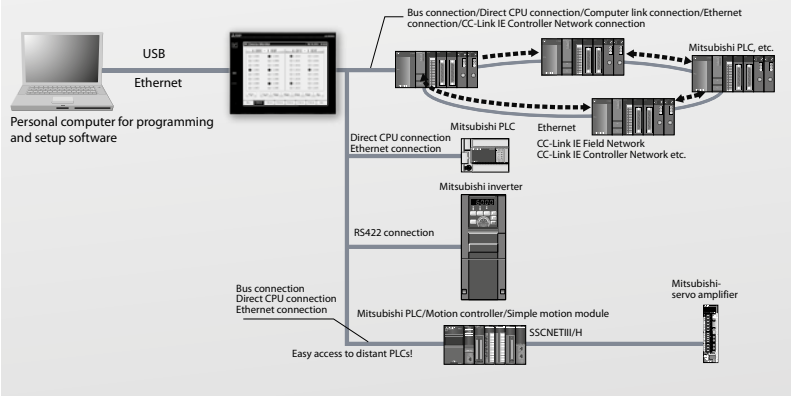
■ Transparent function

☑GT27 ☑GT25 ☑GT23 ☑GT21 ☑GS21

Simplifying startup and debugging

Simplifying the startup process of industrial automation systems.

Connected with a personal computer, the GOT acts as a transparent gateway to enable programming, start up, and adjustment of industrial automation systems. Users do not have to bother with opening the cabinet or changing cable connections.



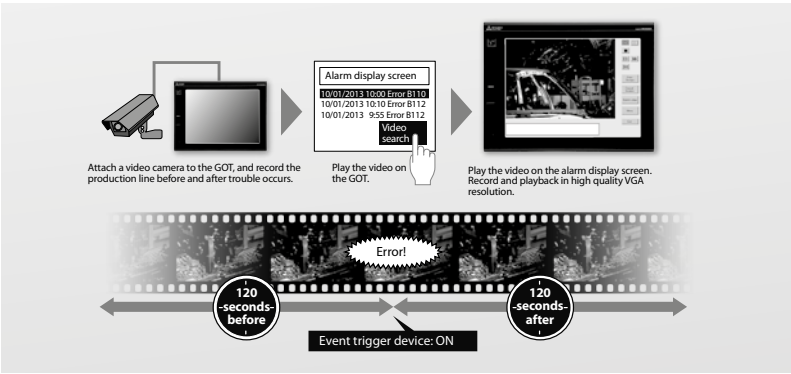
■ Multimedia function

☑GT27 ☐GT25 ☐GT23 ☐GT21 ☐GS21

Record the worksite state

Quickly identify cause of errors by reviewing recordings of the production line.

Connect a camera to the GOT and observe your production line. In case of a fault, 2 minutes before and after the event can be analysed for removing the cause.

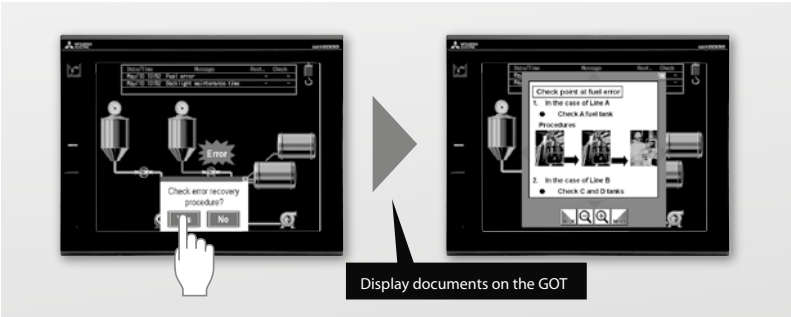


■ Document display function

☑GT27 ☑GT25 ☐GT23 ☐GT21 ☐GS21

Review documents at the production site

When errors occur on-site, a check sheet or manual can be displayed on the GOT with instructions on how to restore the system. This can reduce the downtime.

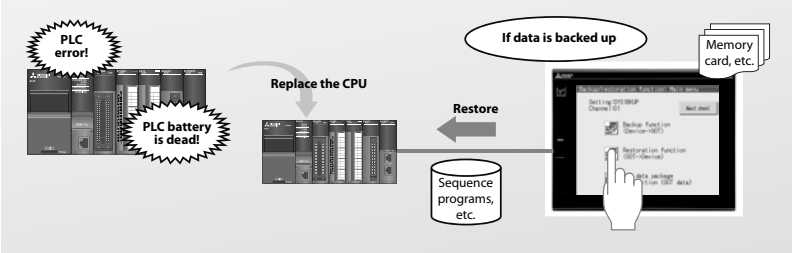


■ Backup/restore function

☑GT27 ☑GT25 ☑GT23 ☑GT21 ☐GS21

Easily backup and restore programs

Data such as the programs and parameters of the programmable controller CPU, motion controller, robot controller and CNC can be backed up onto the GOT's SD card or USB memory. With a backup of data in the GOT, there's no need to use a personal computer when replacing the industrial devices such as the programmable controller CPU. All replacement and restoration can be completed with just the GOT.



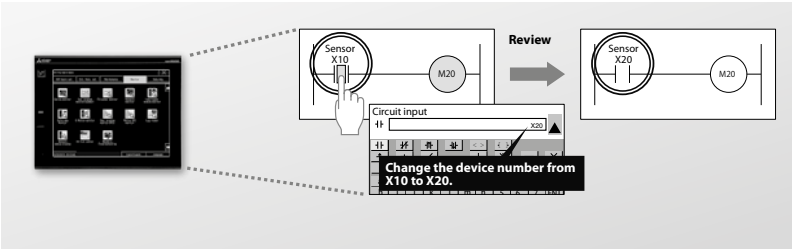
■ Sequence program monitor

☑GT27 ☑GT25 ☐GT23 ☐GT21 ☐GS21

Display and edit PLC programs as ladder diagrams without personal computer and software

When an error occurs, monitor the ladder program and identify the cause of error. There is no need for a personal computer on the production floor.

Just touch the GOT screen and easily edit the ladder program to make simple changes.

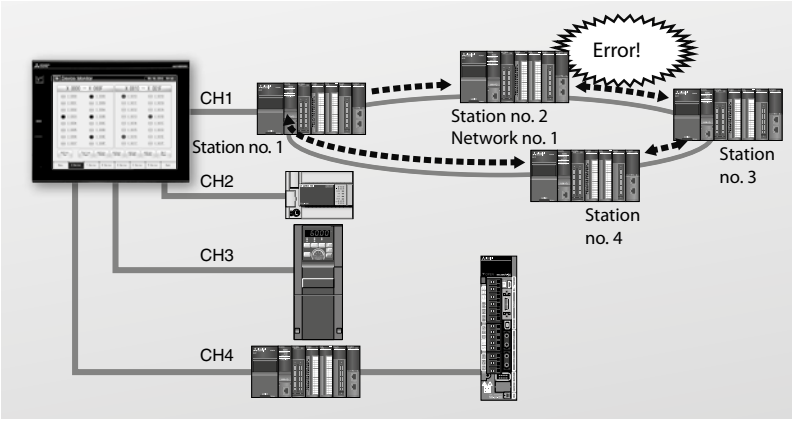


■ System alarms function

☑GT27 ☑GT25 ☑GT23 ☐GT21 ☐GS21

System alarms function

Information such as the channel no., network no., station No., and CPU no., has been added to the system alarm making it possible to identify the abnormal device just by looking at the current alarm. The number of the screen and the ID of the object that caused the alarm are also recorded and displayed, so that operators can easily identify what operations caused an alarm.

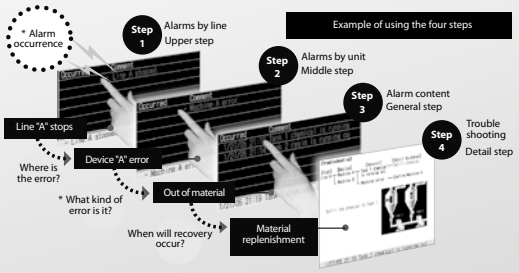


■ Alarm function

☑GT27 ☑GT25 ☑GT23 ☑GT21 ☑GS21

Easily search for causes when alarm occurs

Alarms can be divided into groups and displayed by system or levels, or can be displayed all at the same time. Trouble-shooting multiple alarm occurrences may be complicated in a large system, however, breaking down the alarms leads to effective and fast resolution. The logged alarm data are saved in the GOT in a non-volatile memory.

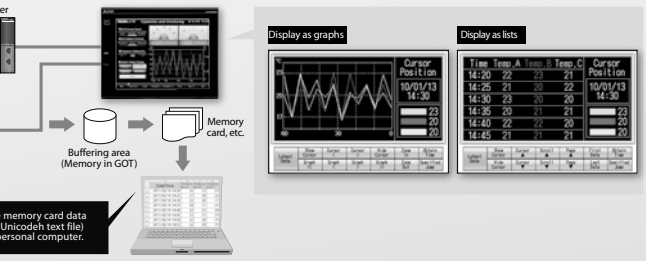


■ Data logging

☑GT27 ☑GT25 ☑GT23 ☑GT21 ☑GS21

Easily collect data

Use the GOT to collect data from the programmable controller and temperature controllers. The data can be displayed in graphs and lists. It can also be exported to a personal computer for further analysis. The logging data are saved in the GOT in a non-volatile memory.

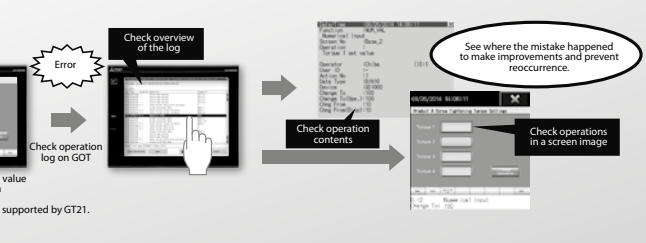


■ Operator authentication & operation log function

☑GT27 ☑GT25 ☑GT23 ☑GT21 ☑GS21

Easily identify the cause from operation history

The operation and display level (authority) can be set for each operator to strengthen security and prevent operation errors from reoccurring. The operation log file saved with the operator information can be viewed to identify causes, and help make improvements and prevent recurrence.



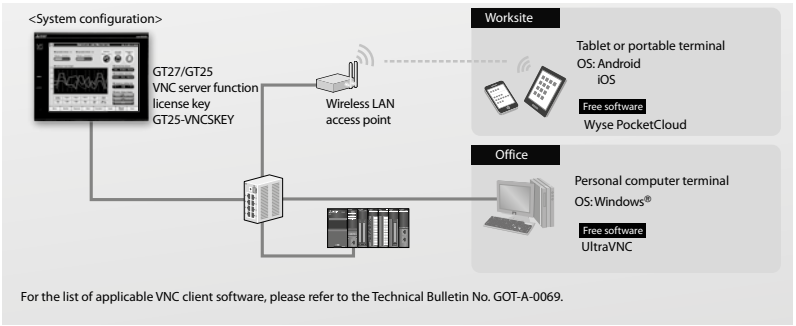
■ VNC server function

☑GT27 ☑GT25 ☐GT23 ☑GT21* ☐GS21

GOT remote operation

Remotely view and operate the GOT screen from a personal computer, tablet, or portable terminal that is connected via Ethernet. Utility functions including the sequence program monitor and the network monitor are also supported.

* VNC server function is supported by GT2107-W.



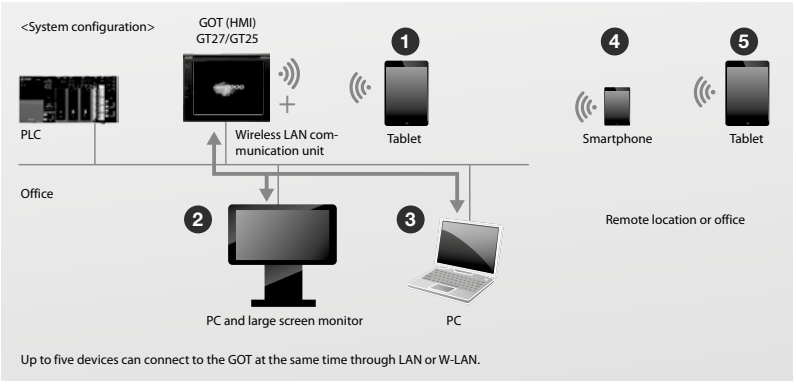
For the list of applicable VNC client software, please refer to the Technical Bulletin No. GOT-A-0069.

■ GOT Mobile function

☑GT27 ☑GT25 ☐GT23 ☐GT21 ☐GS21

Webserver based remote monitoring

The GOT Mobile function allows up to five operators to simultaneously view GOT screens on a mobile device such as a smartphone or tablet or on a PC. The design of the screens is done in GT Designer3 and they are completely independent from the screens that are displayed on the GOT.



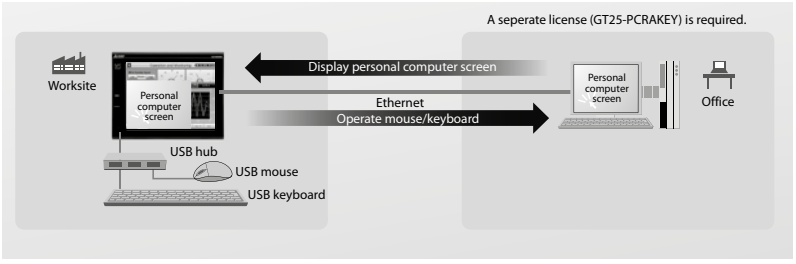
Up to five devices can connect to the GOT at the same time through LAN or W-LAN.

■ Remote personal computer operation (Ethernet) function

☑GT27 ☑GT25 ☐GT23 ☐GT21 ☐GS21

Remote personal computer operation (Ethernet) function

A GOT can remotely operate a personal computer that is connected via Ethernet. Connect a USB mouse and keyboard to the USB interface found in the front or at the back of the GOT. This allows you to open files such as manuals that are stored in the personal computer, view the computer's browser, and use engineering tools.

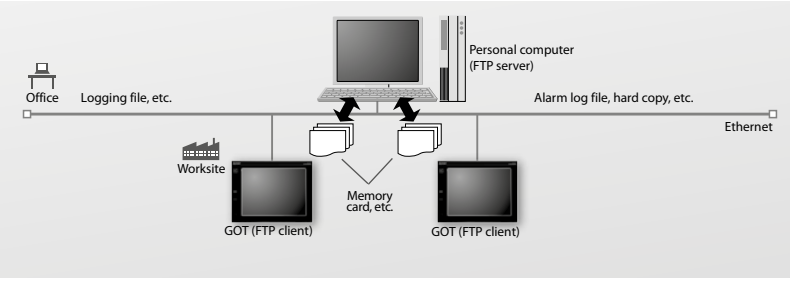


■ File transfer (FTP client) function

☑GT27 ☑GT25 ☑GT23 ☐GT21 ☐GS21

Send and retrieve files between a GOT and personal computer

By using a GOT, files (alarm logs, hard copies, etc.) stored on the GOT's memory card or USB memory can be sent to or received from a personal computer. File names and folder names can be specified indirectly.

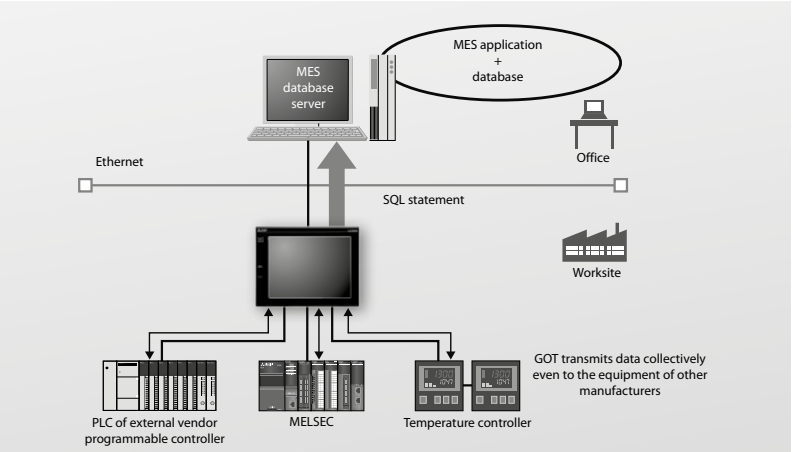


■ MES interface function

☑GT27 ☑GT25 ☐GT23 ☐GT21 ☐GS21

Communicate with databases

The GOT uses SQL statements to directly transmit data from the connected industrial devices to a database server. The communication with the database is configured in GT Works3 without any programming. There is no need for a gateway computer or complex programming to communicate with the MES database server.

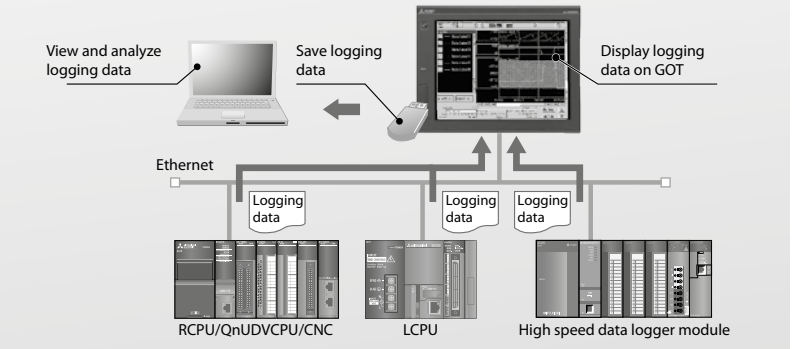


■ Log viewer function

☑GT27 ☑GT25 ☐GT23 ☐GT21 ☐GS21

Visualize logging data

Using a GOT logging data collected by an RCPU, QnUDVCPU, LCPU, QCPU, a high speed data logger module or a CNC C70 can easily be displayed. This data can also be copied to a USB stick connected to the front USB port of the GOT.

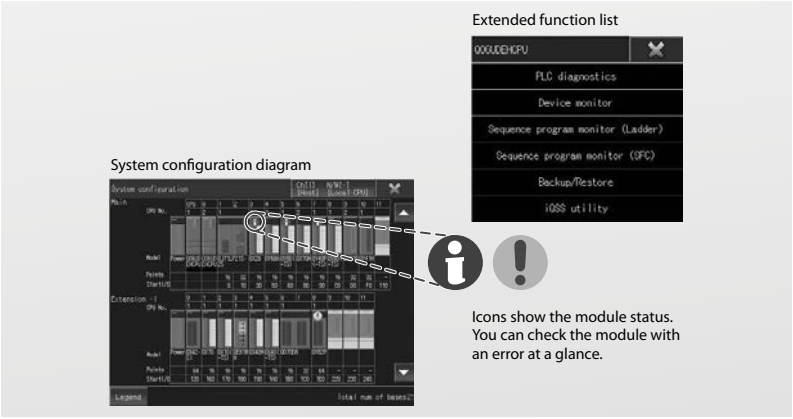


■ System launcher function

☑GT27 ☑GT25 ☐GT23 ☐GT21 ☐GS21

Checking PLC status

The system launcher is a pre-made diagnostic GOT screen to check the status of a connected PLC system. In case of an error on the PLC CPU for example it shows details about the error which helps to solve it more quickly. Also from here it is possible to perform online module changes while the PLC is running and the operator can access several other useful monitor functions like the PLC program monitor and network diagnostics to reduce trouble shooting efforts and production downtime.

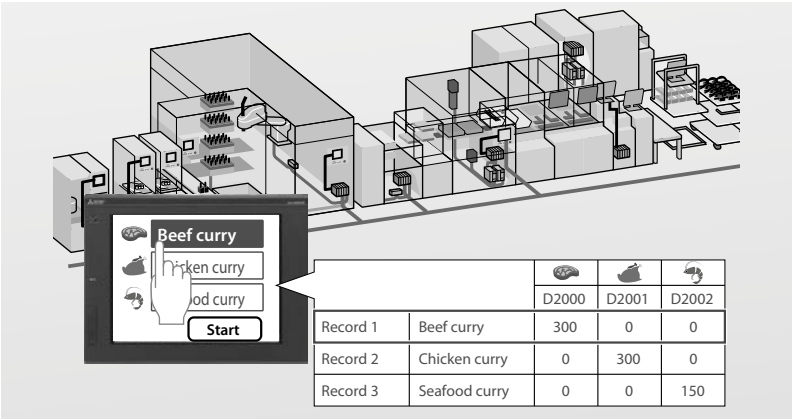


■ Recipe record list

☑GT27 ☑GT25 ☐GT23 ☑GT21 ☑GS21

Advanced recipe management

The recipe record list function allows users to create and use recipes conveniently by just selecting the required items in GT Works3. The style like colors, line styles and borders can be changed as needed. Recipe records can be sorted by record number or record name. Recipe read and write but also changing or deleting of recipe records is made easy with the recipe record list.



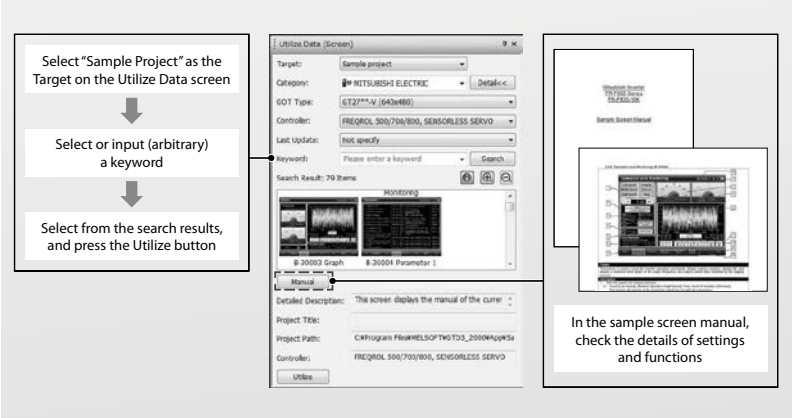
		D2000	D2001	D2002
Record 1	Beef curry	300	0	0
Record 2	Chicken curry	0	300	0
Record 3	Seafood curry	0	0	150

■ GOT Screen templates

☑GT27 ☑GT25 ☑GT23 ☑GT21 ☑GS21

Efficient GOT screen design

GT Designer is supporting the GOT screen design process with a comprehensive and extensive library of pre-made screen templates. There are templates and sample screens available for products like controllers, servos, inverters, robots and for functions like network diagnostics, system monitors, parameter settings, alarms, data logging and trend graphs.



Drive Control Interactive Solutions for Servo Motion

GOT Drive

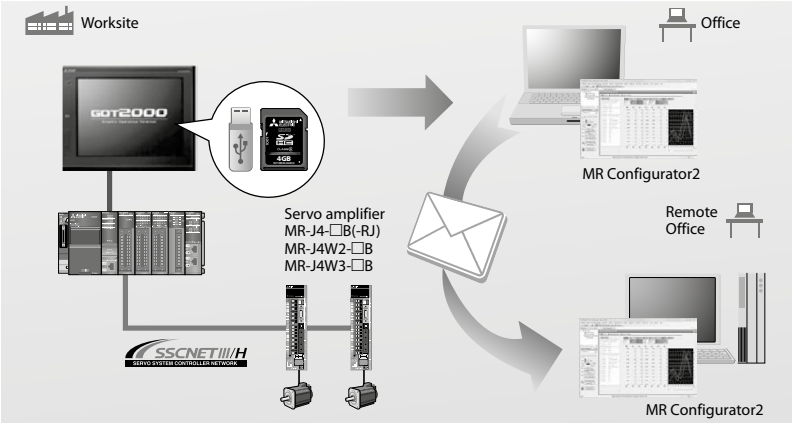
GOT2000 provides advanced drive control connectivity for additional value in your system. GOT Drive functionality is designed to eliminate need for additional hardware, software and suits customers' applications to speed up system startup, improve maintenance and trouble-shooting.

■ Drive recorder function

☑GT27 ☑GT25 ☐GT23 ☐GT21 ☐GS21

Collecting and displaying servo data

Servo data such as motor current and position command before and after an alarm occurrence can be read from the servo amplifier and displayed in a wave or a list form. This data can be stored on the GOTs SD card or a USB stick.

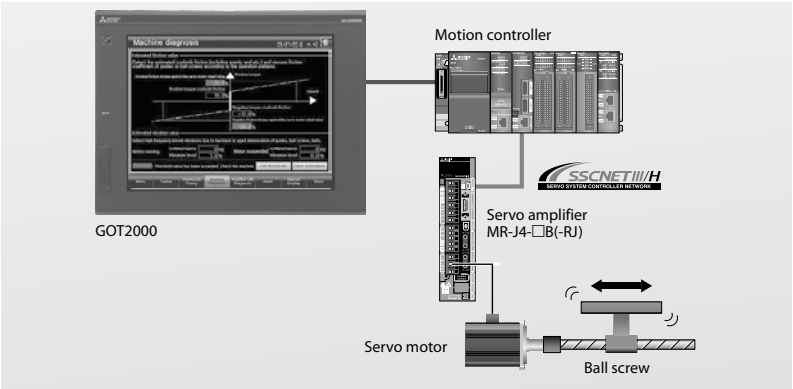


■ Machine diagnosis

☑GT27 ☑GT25 ☐GT23 ☐GT21 ☐GS21

Display of machine status

Without using a personal computer, you can predict the deterioration of the machine for easy preventive maintenance because the GOT displays estimated values collected by the machine diagnosis function of the servo amplifier.

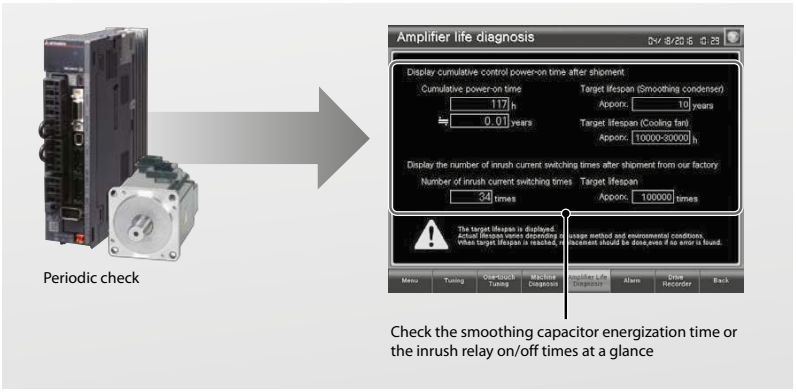


■ Servo amplifier life diagnosis

☑GT27 ☑GT25 ☐GT23 ☐GT21 ☐GS21

Display of servo amplifier status

Similar to machine diagnosis the servo amplifier life diagnosis function checks components of the servo amplifier and displays life and replacement timing on the GOT.

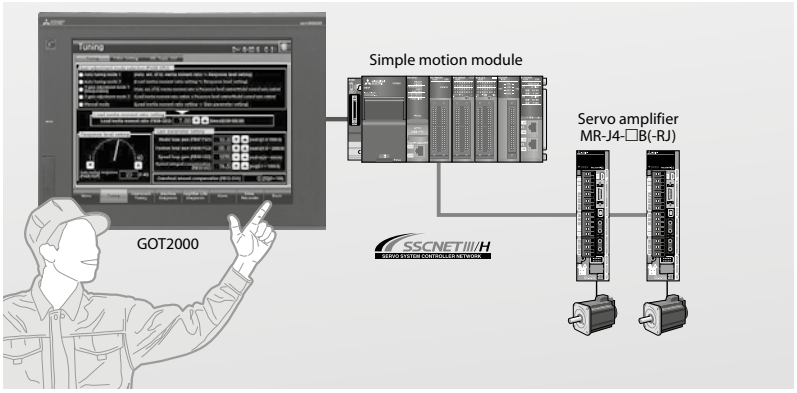


■ One-touch-tuning function

☑GT27 ☑GT25 ☐GT23 ☐GT21 ☐GS21

Easy tuning of servo systems

Tuning of servo systems can be troublesome and time consuming. The one-touch-tuning function of Mitsubishi Electric servo systems is reducing this effort down to just one click on the GOT. For more detailed adjustments the tuning screens of MR Configurator2 are also available on the GOT.

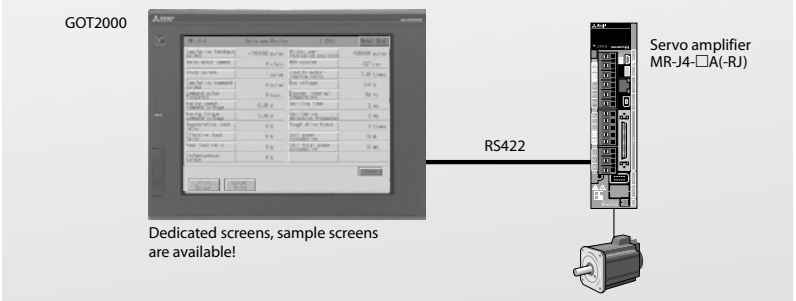


■ Servo amplifier monitor function

☑GT27 ☑GT25 ☐GT23 ☐GT21 ☐GS21

Simple access to servo amplifier

Various monitoring functions, changes of the parameter settings and test operations can be performed via the GOT.

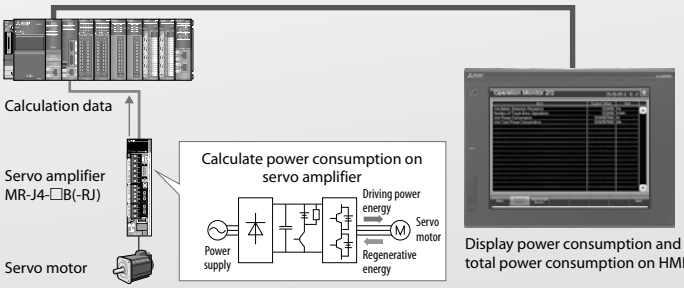


■ Power monitor

☑GT27 ☑GT25 ☐GT23 ☐GT21 ☐GS21

Visualize power consumption

Checking and visualization of the power consumption without using measuring equipment such as power meter or PC van be performed via a GOT.

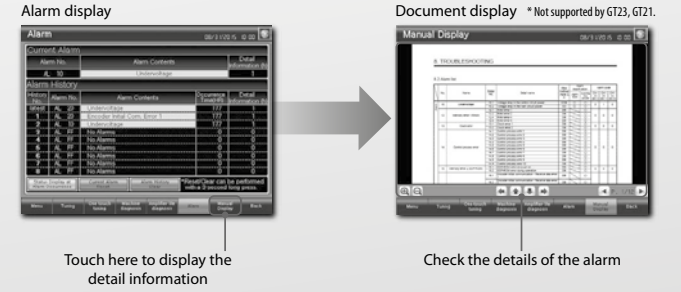


■ Alarm display function

☑GT27 ☑GT25 ☐GT23 ☐GT21 ☐GS21

Check servo amplifier alarms

Alarms that occur on the servo amplifier and their details can be checked on the GOT.

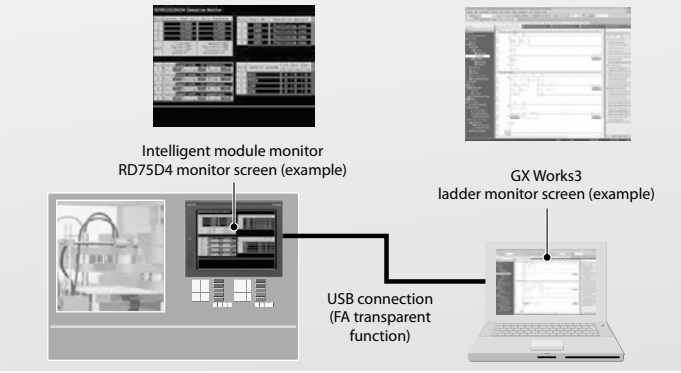


■ Intelligent module monitor function

☑GT27 ☑GT25 ☐GT23 ☐GT21 ☐GS21

Efficient debugging of servo systems

Debugging of positioning systems can be done efficiently by displaying the data such as status, parameters and I/O information of positioning module axes on a GOT while monitoring positioning sequence programs on a personal computer simultaneously.



■ R/Q motion monitor function

☑GT27 ☑GT25 ☐GT23 ☐GT21 ☐GS21

Servo amplifier parameter setting

On dedicated GOT screens it is possible to monitor and set parameters of motion controllers.

R motion monitor screen

Q motion monitor screen

■ Motion SFC monitor function

☑GT27 ☑GT25 ☐GT23 ☐GT21 ☐GS21

Monitoring of motion SFC programs

GOTs can be used to monitor motion SFC programs and device values of a motion controller CPU (Q Series). Viewing the program batch monitor or active step list enables you to check the complete status at a glance.

Program tabs
Touch a tab to display the program.

Step/transition
The active step is highlighted. Touch the step to display the detail program window. The SFC diagram scrolls automatically along with the progress of active steps.

Detail program window
Displays the program and the present value of the calculation control step/ transition.

Drive Control Interactive Solutions for Inverter

GOT Drive

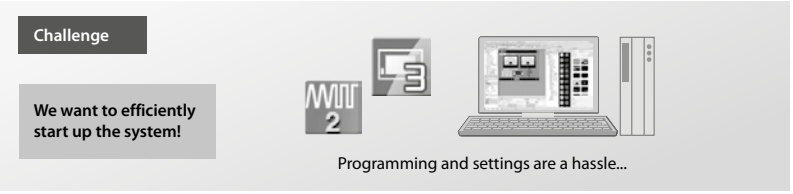
GOT2000 provides advanced drive control connectivity for additional value in your system. GOT Drive functionality is designed to eliminate need for additional hardware, software and suits customer's applications to realize central monitoring, speed up system startup, improve maintenance and troubleshooting.

■ Easy startup

☑GT27 ☑GT25 ☑GT23② ☑GT21②

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

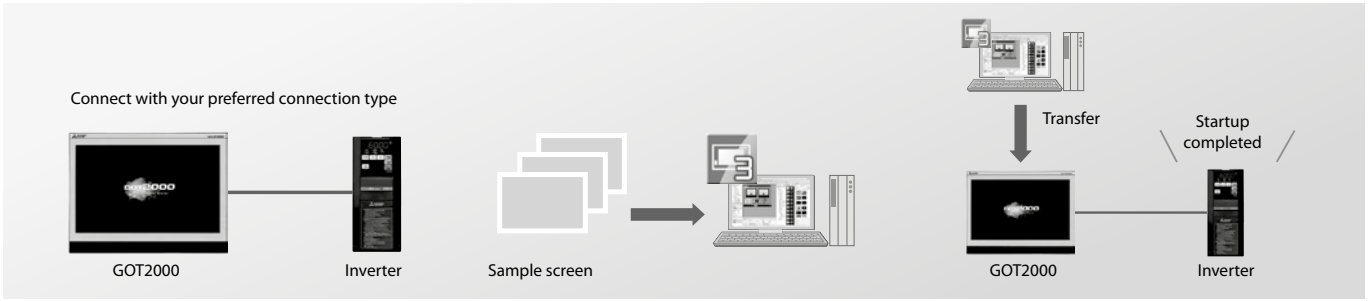
Select and connect the GOT and inverter.

STEP 2

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

STEP 3

Transfer the project data to the GOT.



① Sample screens are included with GT Works3 (Ver.1.200J or later). For the details, please contact your local sales office.
② Sample screens are not supported by GT23 and GT21.

■ Parameter settings (simple mode)

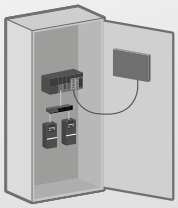
☑GT27 ☑GT25 ☑GT23② ☑GT21②

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.

Challenge

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



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

Back up (save) or restore (write) parameters as a recipe file when necessary.

For the details, please refer to function "Parameter recipe"

Parameter setting screen ①

① Sample screens (VGA) are available.
② Sample screens are not supported by GT23 and GT21.

■ Parameter recipe (simple backup/restoration)

☑GT27 ☑GT25 ☑GT23② ☑GT21②

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

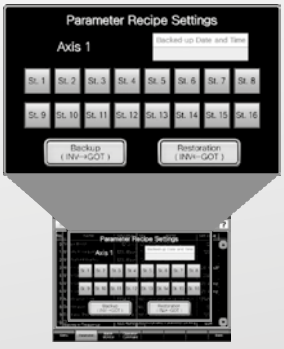
The current inverter parameters can be backed up (saved) as a recipe file using the GOT. To return the parameters to the pre-adjustment state while starting up and adjusting the inverter, just restore (write) the parameters that were previously backed up (saved).

Challenge

We want to return the parameters to the preadjustment values!

What were the pre-adjustment parameter values ...

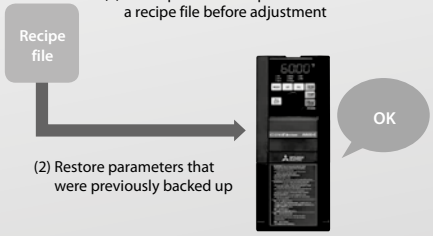
Parameter setting screen



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

① Sample screens (VGA) are available.
② Sample screens are not supported by GT23 and GT21.

■ FA transparent

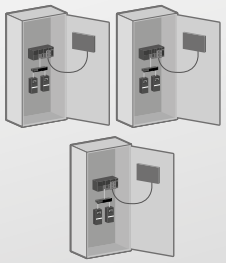
☑GT27 ☑GT25 ☑GT23 ☐GT21

Debugging via GOT without opening the control panel

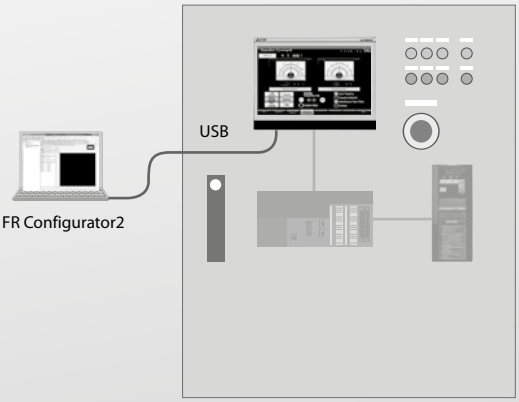
By connecting a personal computer with the GOT's USB interface, the inverter can be programmed, started up, and adjusted via GOT. There is no need to open the control panel and change the cable.

Challenge

We want to perform debugging smoothly!



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



■ Batch monitor

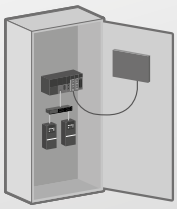
☑GT27 ☑GT25 ☑GT23② ☑GT21②

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.

Challenge

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



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

Batch monitor screen ①

① Sample screens (VGA) are available.
② Sample screens are not supported by GT23 and GT21.

■ Operation command

☑GT27 ☑GT25 ☑GT23② ☑GT21②

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.

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...

Operation command screen ①

① Sample screens (VGA) are available.
② Sample screens are not supported by GT23 and GT21.

■ Inverter life diagnosis

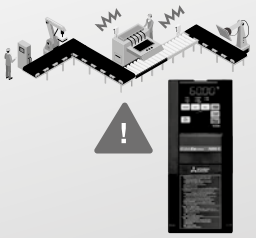
☑GT27 ☑GT25 ☑GT23② ☑GT21②

Replacement timing of inverter components can be displayed on the GOT

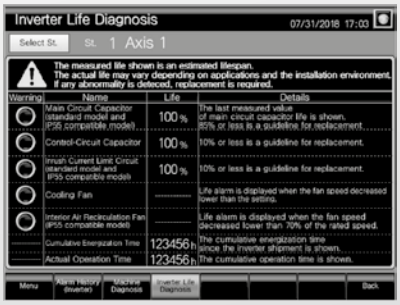
GOT can be used to monitor the operation status of the inverter's components (main circuit capacitor, control circuit capacitor, cooling fan, etc.) and confirm the replacement timing. Perform predictive maintenance by replacing parts before the inverter fails.

Challenge

We want to know the inverter replacement timing!



The inverter has failed...



Inverter life diagnosis screen ①

① Sample screens (VGA) are available.
② Sample screens are not supported by GT23 and GT21.

■ Machine diagnosis (load characteristics measurement)

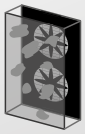
☑GT27 ☑GT25 ☑GT23② ☑GT21②

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.

Challenge

We want to detect clogged filters and clogged pipes!



What is the cause of the system error ...

STEP 1

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

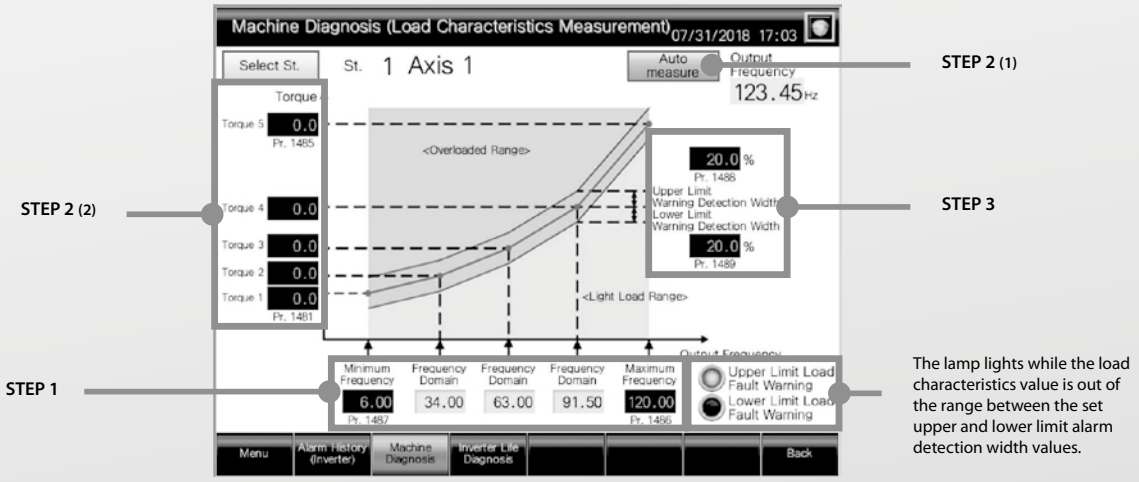
STEP 2

(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 %.



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

Machine diagnosis (load characteristics measurement) screen ①

Possible error causes

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

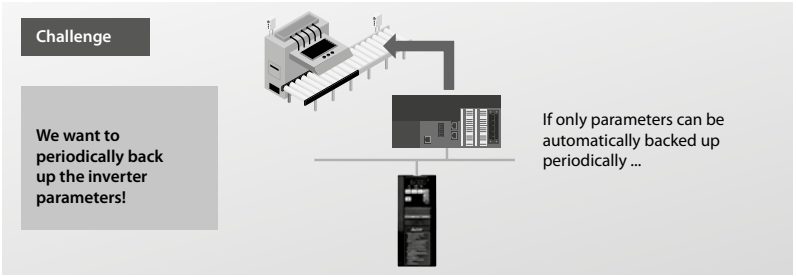
① Sample screens (VGA) are available.
② Sample screens are not supported by GT23 and GT21.

■ Backup/restoration

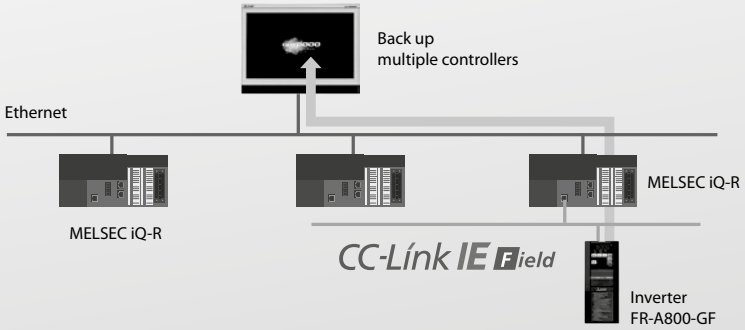
☑GT27 ☑GT25 ☑GT23 ☐GT21

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



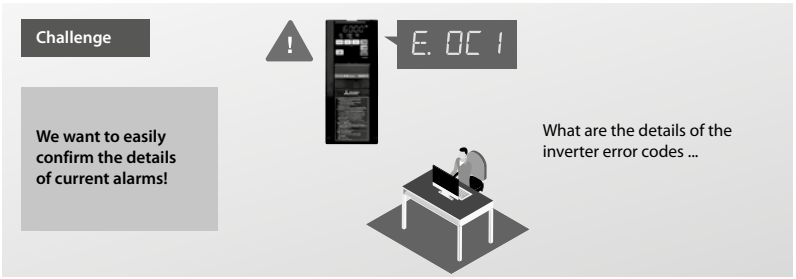
This function cannot be used when using the CC-Link IE Field network Ethernet adapter unit.

■ Alarm display

☑GT27 ☑GT25 ☑GT23② ☑GT21②

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 ①

① Sample screens (VGA) are available.
② Sample screens are not supported by GT23 and GT21.

■ Document display

☑GT27 ☑GT25 ☐GT23 ☐GT21

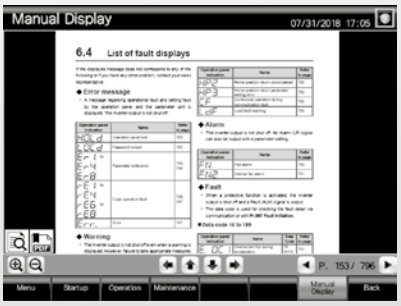
Display the inverter manual on the GOT

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.

Challenge

We want to confirm the actions for current alarms!

How can we handle the alarms ...



Manual display screen ①

① Sample screens (VGA) are available. .

■ Easy-to-use screen design software

☑GT27 ☑GT25 ☑GT23 ☑GT21

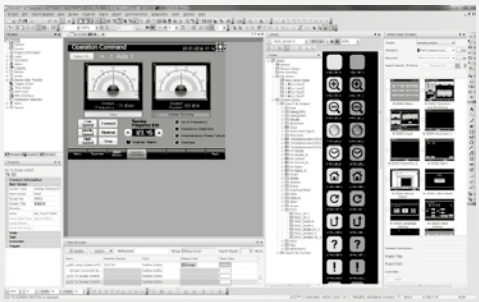
Freely create monitor screens

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.

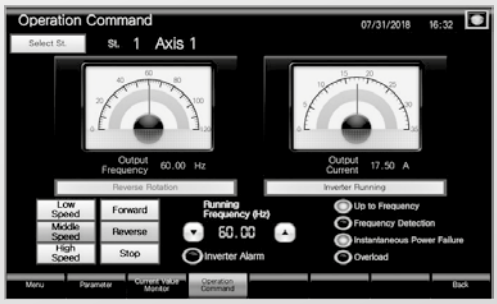
Challenge

We want to freely create screens!

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



Freely create screens with GT Works3



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

■ Sample screen

☑GT27 ☑GT25 ☐GT23 ☐GT21

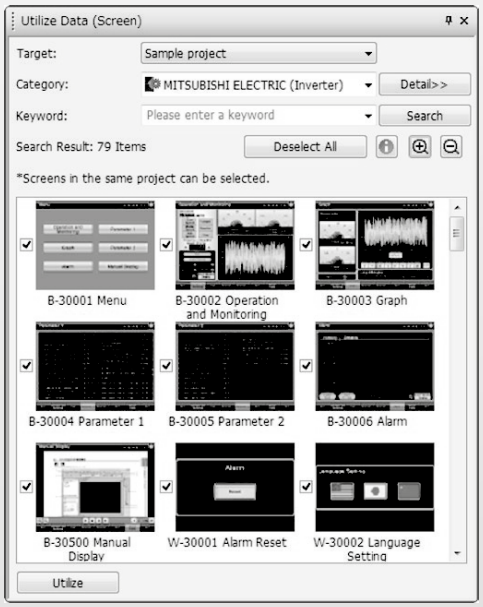
Support screen creation with sample screens

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.1.200J or later).

Challenge

We want to create screens easily!

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



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.

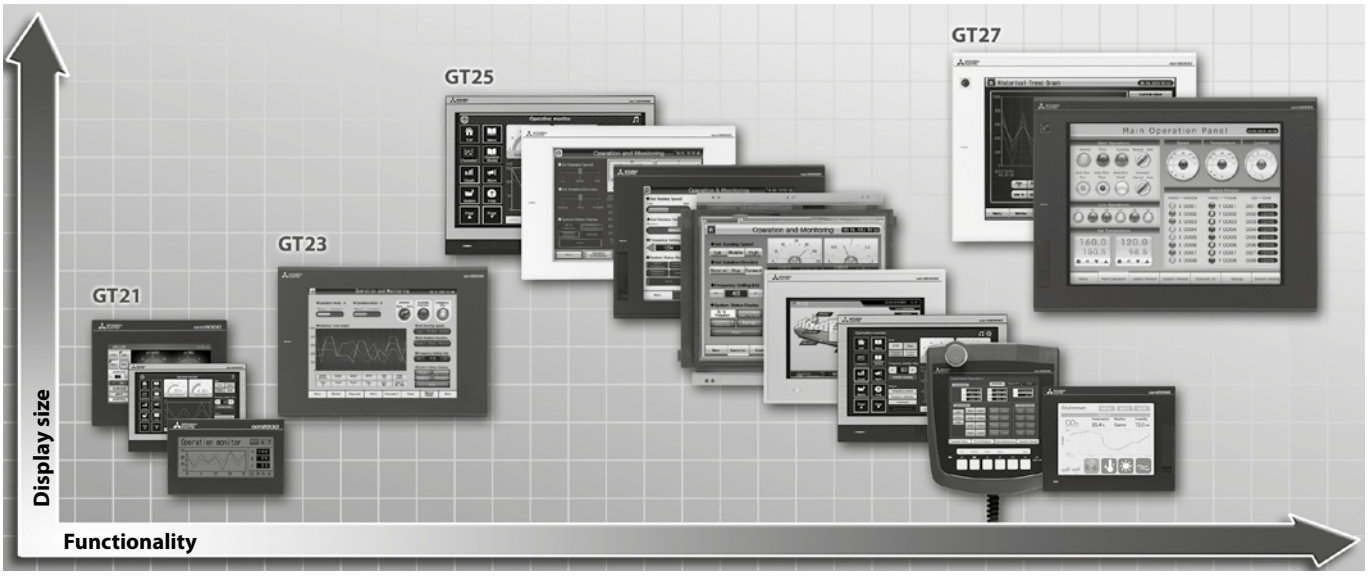
GOT2000

Mitsubishi Electric has raised the bar for HMIs with the GOT2000 series, designed to optimise operator control and monitoring of device and line status. With vastly increased performance, advanced functions, seamless connectivity to other automation devices and highly intuitive, tablet-like operation* and the highest quality graphics, the GOT2000 series provides a range of models and sizes to meet the needs of the broadest spread of applications.

With their enhanced functionality, these HMIs extend capabilities beyond monitoring and visualisation, providing additional features that will help to reduce downtime, enable fast recovery from simple errors, increase availability and boost production efficiency.

More than simply displaying data, these enhanced HMIs deliver genuine perspective on the automation process and provide a platform to solve the typical production problems that drive down OEE.

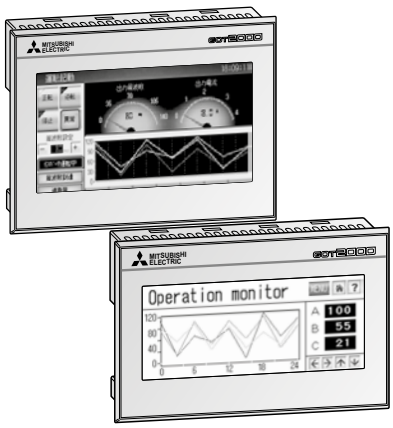
* Some functions such as multi-touch/gesture control are only available on certain models.



General operating conditions

Operating conditions	GT21	GT23	GT25	GT27	GOT2000 Rugged
Ambient temperature in operation	0–55 °C				-20–65 °C
Storage temperature	-20–60 °C				-30–75 °C
Ambient relative humidity	10–90 % (non-condensing)				
Noise durability	1500/500 Vpp tested by noise generator; 1 µs at 50–60 Hz				500 Vpp tested by noise generator; 1 µs at 25–60 Hz
Dielectric withstand voltage	1500 V AC, >1 min/350 V DC, >1 min				350 V AC, >1 min
Shock resistance	15 G (3 times each in 3 directions)				40 G (3 times each in 3 directions)
Vibration resistance	1 G: resistant to vibrations from 9–150 Hz for 80 min. along all 3 axes				2 G: resistant to vibrations from 8.4–150 Hz
Altitude	Max. 2000 m above NN				
Applicable installation position	Cabinet or command panel				
Over-voltage category	Max. II				
Pollution degree	Max. 2				
EMC	89/336/EEC and 93/68/EEC				
Environment	Avoid environments containing aggressive gases				
Cooling	Self-cooling				
Certifications	CE, UL/cUL, KC		CE, UL/cUL, KC, ABS, BV, DNV, LR, NK, RINA, GL		CE, ATEX, UL/cUL, EAC, KC, KCs, ABS, BV, DNV, LR, NK, RINA, GL

GT21



The entrance into the GOT2000 series

The operating terminals of the GT2103 series provide a TFT LCD display with 32 gray scale steps and a screen size of 3.8" with a resolution of 320x128 pixels and up 3 MB internal memory. The LED backlight can display 5 different colours (white, green, pink, orange, red). The GT2103 terminals come with RS422/485, USB interfaces and additionally either RS232 or Ethernet. The SD card slot is optional.

The GT2104 offers a TFT LCD display with 65.536 colours and a screen size of 4.3" with 480x272 pixels resolution and 9 MB internal memory. The GT2104 is equipped with Ethernet, USB, RS232, RS422/485 interfaces and SD card slot as standard.

Special functions

- Operation log
- Data logging
- Multi channel
- Transparent function
- Operator authentication
- Backup/restore
- Alarm function
- GOT Screen templates

Specifications		GT2103-PMBD	GT2103-PMBDS	GT2103-PMBLS	GT2104-RTBD
Display unit	type	3.8" TFT monochrome, 32 greyscales			4.3", TFT, 65536 colours
	resolution (pixel)	320x128			480x272
Power supply		24 V DC		5 V DC	24 V DC
Memory capacity	(ROM)	3 MB			9 MB
Memory card		1 (SD memory card) optional			1 (SD memory card)
Keyboard type		Touch-panel			
Function keys		Touch keys			
LED indicators		—			
Interfaces		Ethernet, RS422/485, USB	RS232, RS422/485, USB	RS422, USB	Ethernet, RS232, RS422/485, USB
Multimedia capability		—			
Real-time clock		Integrated			
Network communication possibilities		Ethernet, RS422/485	RS232, RS422/485	RS422	Ethernet, RS232, RS422/485
Extension interface (communication/option unit)		—			
IP Rating (front)		IP67 ①			
Dimensions (WxHxD)	mm	113x74x32			128x102x40
Weight	kg	0.2			0.3
Order information	Art. no.	279809	279810	288039	283924
Accessories		Programming software (refer to page 68), cables and interface adapters (refer to page 39).			

① The unit may not be used in certain environments where it is subjected to splashing oil or chemicals for a long period of time or soaked in oil mist.

GT23

Economic middle class models

The operating terminals of the GT23 series provide a TFT LCD display with 65 K colours and screen sizes of 8.4" and 10.4" with VGA resolution and 9 MB internal memory.

All terminals come with Ethernet, USB, RS232 and RS422/485 interfaces and SD card slot.

Special functions

- FTP server/client
- Operation log
- Data logging
- Multi channel
- Transparent function
- Operator authentication
- Backup/restore
- MELSEC-FX list editor
- System alarms function
- Alarm function
- GOT Screen templates

Specifications			GT2308-VTBA GT2308-VTBD	GT2310-VTBA GT2310-VTBD
Display unit	type		8.4", TFT, LCD, 65536 colours	10.4", TFT, LCD, 65536 colours
	resolution (pixel)		640x480	
Power supply	A types		100–240 V AC	
	D types		24 V DC	
Memory capacity	(ROM)		9 MB	
	(RAM)		9 MB	
Memory card			1 (SD memory card)	
Keyboard type			Touch-panel	
Function keys			Touch keys	
LED indicators			1 (POWER)	
Interfaces			Ethernet (TCP/IP), RS232, RS422/485, USB, SD card slot	
Multimedia capability			—	
Real-time clock			Integrated	
Network communication possibilities			Ethernet (TCP/IP), RS232, RS422/485	
Extension interface (communication/option unit)			—	
IP Rating (front)			IP67 ①	
Dimensions (WxHxD)		mm	241x194x56	303x218x56
Weight		kg	1.5	1.9
Order information		Art. no.	270570 270571	270568 270569
Accessories			Programming software (refer to page 68), cables and interface adapters (refer to page 39).	

① The unit may not be used in certain environments where it is subjected to splashing oil or chemicals for a long period of time or soaked in oil mist.

GT25

High performance cost efficient upper class models

The operating terminals of the GT25 series provide TFT LCD displays with 65 K colours and screen sizes of 5,7", 8.4", 10.4" and 12.1" with VGA/SVGA resolution and up to 80 MB internal memory. All terminals come with Ethernet, USB, RS232, RS422/485 interface and SD card slot. Additionally the GT25 can be equipped with optional interfaces like CC-Link IE, CC-Link IE Field*, CC-Link, MELSECNET/H and a direct connection to the PLC bus.

Special models of the GT25 with the sizes of 8.4" and 10.4" are available with a white frame and without the front USB interface (GT2508-VTW①/GT2510-VTW①).

In combination with special fittings these models can also be used in hazardous areas (Atex Zone2/22).

*-GF types with communication unit set

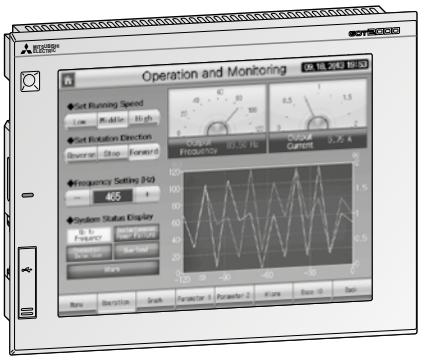
Special functions

- Debugging functions
- Document display
- VNC remote access
- GOT Mobile – Webserver function
- E-mail
- MES interface
- FTP server/client
- Operation log
- Data logging
- Multi channel
- Transparent function
- Operator authentication
- Backup/restore
- MELSEC-FX list editor
- Sequence program monitor
- System alarms function
- Alarm function
- Remote personal computer operation function
- Drive recorder function
- Machine diagnosis
- Servo amplifier life diagnosis
- One-touch-tuning function
- Servo amplifier monitor function
- Power monitor
- Alarm display function
- Intelligent module monitor function
- R/Q motion monitor function
- Motion SFC monitor function
- Log viewer function
- System launcher function
- Recipe record list
- GOT Screen templates

Specifications		GT2505-VTBD	GT2508-VTBA GT2508-VTBD	GT2508-VTWA① GT2508-VTWD①	GT2510-VTBA GT2510-VTBD	GT2510-VTWA① GT2510-VTWD①	GT2512-STBA GT2512-STBD
			GT2508-VTBA-GF GT2508-VTBD-GF	GT2508-VTWA-GF GT2508-VTWD-GF	GT2510-VTBA-GF GT2510-VTBD-GF	GT2510-VTWA-GF GT2510-VTWD-GF	GT2512-STBA-GF GT2512-STBD-GF
Display unit	type	5.7", TFT, LCD, 65536 colours	8.4", TFT, LCD, 65536 colours		10.4", TFT, LCD, 65536 colours		12.1", TFT, LCD, 65536 colours
	resolution (pixel)	640x480					800x600
Power supply	A types	—	100–240 V AC				
	D types	24 V DC					
Memory capacity	(ROM)	32 MB					
	(RAM)	80 MB					
Memory card		1 (SD memory card)					
Keyboard type		Touch-panel					
Function keys		Touch keys					
LED indicators		1 (POWER)					
Interfaces		Ethernet (TCP/IP), RS232, RS422/485, USB, SD card slot					
Multimedia capability		—					
Real-time clock		Integrated					
Network communication possibilities		Ethernet (TCP/IP), CC-Link (IE), Modbus®, RS232, RS422/485, A bus, Q bus, MELSECNET/10/H					
	-GF types	—	CC-Link IE Field Network communication unit GT15-J71GF13-T2				
IP Rating (front)		IP67②					
Extension interface (communication/option unit)		1 port (max. 3 units/4 channels)					
Dimensions (WxHxD)	mm	164x139x53.5	241x194x52		303x218x52		316x246x52
Weight	kg	0.6	1.5		2.1		2.4
Order information	Art. no.	323265	276819 276820	276821 276822	276815 276816	276817 276818	281858 281859
			293288 293289	293290 293291	293284 293285	293286 293287	293282 293283
Accessories		Programming software (refer to page 68), cables and interface adapters (refer to page 39).					

① White frame models without front USB
② The unit may not be used in certain environments where it is subjected to splashing oil or chemicals for a long period of time or soaked in oil mist.

GT27



High end models with multi-touch/ gesture control

The operating terminals of the GT27 series provide TFT LCD displays with 65 K colours and screen sizes of 5.7", 8.4", 10.4", 12.1" and 15" with VGA/SVGA/XGA resolution and up to 128 MB internal memory. All terminals come with Ethernet, USB, RS232 and RS422/485 interfaces and SD card slot. Additionally the GT27 can be equipped with optional interfaces like CC-Link IE, CC-Link IE Field*, CC-Link, MELSECNET/H and a direct connection to the PLC bus.

Special models of the GT27 with the sizes of 10.4" and 12.1" are available with a white frame and without the front USB interface (GT2710-VTW①/GT2712-STW①).

In combination with special fittings these models can also be used in hazardous areas (Atex Zone2/22).

*-GF types with communication unit set

Special functions:

- Multi-touch/gesture control
- Multimedia function (not for GT2705)
- Debugging functions
- Document display
- VNC remote access
- GOT Mobile – Webserver function
- E-mail
- MES interface
- FTP server/client
- Operation log
- Data logging
- Multi channel
- Transparent function
- Operator authentication
- Backup/restore
- MELSEC-FX list editor
- Sequence program monitor
- System alarms function
- Alarm function
- Remote personal computer operation function
- Drive recorder function
- Machine diagnosis
- Servo amplifier life diagnosis
- One-touch-tuning function
- Servo amplifier monitor function
- Power monitor
- Alarm display function
- Intelligent module monitor function
- R/Q motion monitor function
- Motion SFC monitor function
- Log viewer function
- System launcher function
- Recipe record list
- GOT Screen templates

Specifications		GT2705-VTBD	GT2708-STBA GT2708-STBD	GT2708-VTBA GT2708-VTBD	GT2710-STBA GT2710-STBD	GT2710-VTBA GT2710-VTBD GT2710-VTWA ① GT2710-VTWD ①	GT2712-STBA GT2712-STBD GT2712-STWA ① GT2712-STWD ①	GT2715-XTBA GT2715-XTBD
		GT2705-VTBD-GF	GT2708-STBA-GF GT2708-STBD-GF	GT2708-VTBA-GF GT2708-VTBD-GF	GT2710-STBA-GF GT2710-STBD-GF	GT2710-VTBA-GF GT2710-VTBD-GF GT2710-VTWA-GF GT2710-VTWD-GF	GT2712-STBA-GF GT2712-STBD-GF GT2712-STWA-GF GT2712-STWD-GF	GT2715-XTBA-GF GT2715-XTBD-GF
Display	type	5.7", TFT, LCD, 65536 colours	8.4", TFT, LCD, 65536 colours		10.4", TFT, LCD, 65536 colours		12.1",TFT, LCD, 65536 colours	15", TFT, LCD, 65536 colours
	resolution (pixel)	640x480	800x600	640x480	800x600	640x480	800x600	1024x768
Power supply	A types	—	100–240 V AC					
	D types	24 V DC						
Memory capacity	(ROM)	32 MB	57 MB					
	(RAM)	80 MB	128 MB					
Memory card		1 (SD memory card)						
Keyboard type		Touch-panel						
Function keys		Touch keys						
LED indicators		1 (POWER)						
Interfaces		Ethernet (TCP/IP), RS232, RS422/485, USB, SD card slot						
Multimedia capability		—	Optional					
Real-time clock		Integrated						
Network communication possibilities		Ethernet (TCP/IP), CC-Link (IE), Modbus®, RS232, RS422/485, A bus, Q bus, MELSECNET/10/H						
	-GF types	CC-Link IE Field Network communication unit GT15-J71GF13-T2						
Extension interface (communication/option unit)		1 port (max. 3 units/4 channels)						
IP Rating (front)		IP67 ②						
Dimensions (WxHxD)	mm	167x139x60	241x194x52		303x218x52		316x246x52	397x300x60
Weight	kg	1.0	1.5		2.1		2.4	4.5
Order information	Art. no.	288037	270564 270565	270566 270567	270558 270559	270560, 270561 270562, 270563	270504, 270555 270556, 270557	275975 275976
		293281	293277 293278	293279 293280	293271 293272	293273, 293274 293275, 293276	293267, 293268 293269, 293270	293265 293266
Accessories		Programming software (refer to page 68), cables and interface adapters (refer to page 39).						

① White frame models without front USB

② The unit may not be used in certain environments where it is subjected to splashing oil or chemicals for a long period of time or soaked in oil mist.

GOT2000 Wide

Widescreen HMIs to display more information

The operating terminals of the GOT2000 Wide series are designed to visualize more details about the production process than the normal GOT2000 HMIs, simply as they offer a 16:9 widescreen display. This suits any application where a lot of data or maybe additionally pushbuttons need to be fitted on the HMI screen.

The GT2107 offers a wide screen TFT LCD display with 65.536 colours and a screen size of 7" with 800x480 pixels resolution and 15 MB internal memory. The GT2107 is equipped with Ethernet, USB, RS232, RS422/485 interfaces and SD card slot as standard.

The GT2507-W and GT2510-W offer wide screen TFT LCD displays with 65.536 colours, screen sizes of 7" and 10" with 800x480 and 1280x800 pixels resolution and up to 128 MB internal memory. These GOTs are equipped with two Ethernet ports, USB, RS232, RS422/485 interfaces and SD card slots as standard.

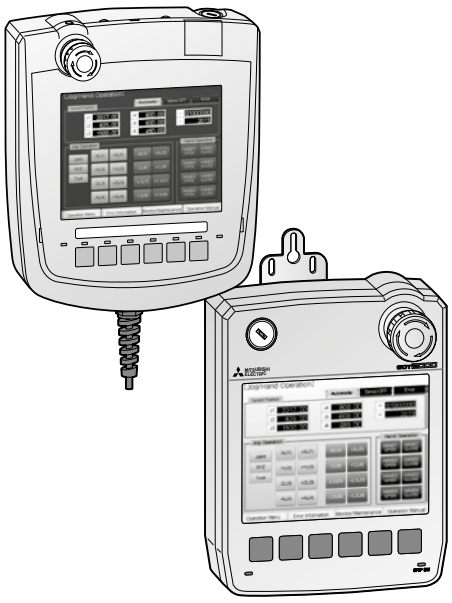
Special functions

- Debugging functions
- Document display
- VNC remote access
- GOT Mobile – Webserver function
- E-mail
- MES interface
- FTP server/client
- Operation log
- Data logging
- Multi channel
- Transparent function
- Operator authentication
- Backup/restore
- MELSEC-FX list editor
- Sequence program monitor
- System alarms function
- Alarm function
- Remote personal computer operation function
- Drive recorder function
- Machine diagnosis
- Servo amplifier life diagnosis
- One-touch-tuning function
- Servo amplifier monitor function
- Power monitor
- Alarm display function
- Intelligent module monitor function
- R/Q motion monitor function
- Motion SFC monitor function
- Log viewer function
- System launcher function
- Recipe record list
- GOT Screen templates

Specifications		GT2107-WTSD	GT2507-WTSD	GT2510-WXTSD
Display unit	type	7", TFT, 65536 colours	7", TFT, LCD, 65536 colours	10.1", TFT, LCD, 65536 colours
	resolution (pixel)	800x480		1280x800
Power supply		24 V DC		
Memory capacity	(ROM)	15 MB	32 MB	
Memory card		1 (SD memory card)		
Keyboard type		Touch-panel		
Function keys		Touch keys		
LED indicators		—	1 (POWER)	
Interfaces		Ethernet, RS232, RS422/485, USB	Ethernet (TCP/IP), RS232, RS422/485, USB, SD card slot	
Multimedia capability		—	Sound output	
Real-time clock		Integrated	Integrated	
Network communication possibilities		Ethernet, RS232, RS422/485	Ethernet (TCP/IP), CC-Link (IE), Modbus®, RS232, RS422/485, A bus, Q bus, MELSECNET/10/H	
Extension interface (communication/option unit)		—		
IP Rating (front)		IP67 ①		
Dimensions (WxHxD)	mm	189x142x48	189x142x48	252x194x48
Weight	kg	0.7	0.75	1.2
Order information	Art. no.	311489	313825	313793
Accessories		Programming software (refer to page 68), cables and interface adapters (refer to page 39).		

① The unit may not be used in certain environments where it is subjected to splashing oil or chemicals for a long period of time or soaked in oil mist.

GOT2000 Handy



HMI functionality in the palm of your hand

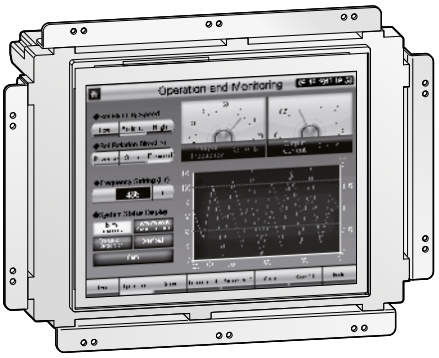
The operating terminals of the GOT2000 Handy series are designed to offer users enhanced freedom to view and control their applications. The GT2505HS and GT2506HS provide TFT LCD displays with 65.536 colours and screen sizes of 5,7" and 6,5" with 640x480 pixels resolution and up to 80 MB internal memory. These GOTs are equipped with Ethernet, USB, RS232, RS422/485 interfaces and SD card slots as standard.

Special functions

- Debugging functions
- Document display
- VNC remote access
- GOT Mobile – Webserver function
- E-mail
- MES interface
- FTP server/client
- Operation log
- Data logging
- Multi channel
- Transparent function
- Operator authentication
- Backup/restore
- MELSEC-FX list editor
- Sequence program monitor
- System alarms function
- Alarm function
- Remote personal computer operation function
- Drive recorder function
- Machine diagnosis
- Servo amplifier life diagnosis
- One-touch-tuning function
- Servo amplifier monitor function
- Power monitor
- Alarm display function
- Intelligent module monitor function
- R/Q motion monitor function
- Motion SFC monitor function
- Log viewer function
- System launcher function
- Recipe record list
- GOT Screen templates

Specifications		GT2505HS-VTBD	GT2506HS-VTBD
Display unit	type	5.7", TFT, LCD, 65536 colours	6.5", TFT, LCD, 65536 colours
	resolution (pixel)	640x480	
Power supply	D types	24 V DC	
Memory capacity	(ROM)	32 MB	
	(RAM)	80 MB	
Memory card		1 (SD memory card)	
Keyboard type		Touch-panel	
Function keys		Touch keys	
LED indicators		8 (POWER, PUSH BUTTON SWITCHES, GRIP SWITCH)	
Interfaces		Ethernet (TCP/IP), RS232, RS422, USB, SD card slot	Ethernet (TCP/IP), RS232, RS422/485, USB, SD card slot
Multimedia capability		—	
Real-time clock		Integrated	
Network communication possibilities		Ethernet (TCP/IP), CC-Link (IE), Modbus®, RS232, RS422, A bus, Q bus, MELSECNET/10/H	Ethernet (TCP/IP), CC-Link (IE), Modbus®, RS232, RS422/485, A bus, Q bus, MELSECNET/10/H
IP Rating (front)		IP65	
Extension interface (communication/option unit)		—	
Dimensions (WxHxD)	mm	145x185x79.3	201x230x97
Weight	kg	0.79	1.2
Order information	Art. no.	338564	331429
Accessories		Programming software (refer to page 68), cables and interface adapters (refer to page 39).	

GOT2000 Open frame



Frameless HMIs for maximum flexibilty

The operating terminals of the GOT2000 open frame series are specially designed to complement machine design. Using a stainless-look environmental protection sheet allows the touch panel to blend into the production machines for the pharmaceutical and food industry.

The GOT2000 open frame models provide TFT LCD displays with 65 K colours and screen sizes of 8.4", 10.4" and 12.1" with VGA/SVGA resolution and up to 80 MB internal memory. All terminals come with Ethernet, USB, RS232, RS422/485 interface and SD card slot. Additionally the GT25 can be equipped with optional interfaces like CC-Link IE, CC-Link IE Field, CC-Link, MELSECNET/H and a direct connection to the PLC bus.

Special functions

- Debugging functions
- Document display
- VNC remote access
- GOT Mobile – Webserver function
- E-mail
- MES interface
- FTP server/client
- Operation log
- Data logging
- Multi channel
- Transparent function
- Operator authentication
- Backup/restore
- MELSEC-FX list editor
- Sequence program monitor
- System alarms function
- Alarm function
- Remote personal computer operation function
- Drive recorder function
- Machine diagnosis
- Servo amplifier life diagnosis
- One-touch-tuning function
- Servo amplifier monitor function
- Power monitor
- Alarm display function
- Intelligent module monitor function
- R/Q motion monitor function
- Motion SFC monitor function
- Log viewer function
- System launcher function
- Recipe record list
- GOT Screen templates

Specifications		GT2508F-VTND + GT25F-08ESGS	GT2508F-VTNA + GT25F-08ESGS	GT2510F-VTND + GT25F-10ESGS	GT2510F-VTNA + GT25F-10ESGS	GT2512F-STND + GT25F-12ESGS	GT2512F-STNA + GT25F-12ESGS
Display unit	type	8.4", TFT, LCD, 65536 colours		10.4", TFT, LCD, 65536 colours		12.1", TFT, LCD, 65536 colours	
	resolution (pixel)	640x480				800x600	
Power supply		24 V DC	100–240 V AC	24 V DC	100–240 V AC	24 V DC	100–240 V AC
Memory capacity	(ROM)	32 MB					
	(RAM)	80 MB					
Memory card		1 (SD memory card)					
Keyboard type		Touch-panel					
Function keys		Touch keys					
LED indicators		1 (POWER)					
Interfaces		Ethernet (TCP/IP), RS232, RS422/485, USB, SD card slot					
Multimedia capability		—					
Real-time clock		Integrated					
Network communication possibilities		Ethernet (TCP/IP), CC-Link (IE), CC-Link IE, CC-Link IE Field, Modbus®, RS232, RS422/485, A bus, Q bus, MELSECNET/10/H					
Extension interface (communication/option unit)		1 port (max. 3 units/4 channels)					
IP Rating (front)		IP67 ① (with contained environmental protection sheet)					
Dimensions (WxHxD)	mm	236x185x54		298x209x54		311x237x54	
Weight	kg	1.5		2.1		2.4	
Order information	Art. no.	296314	296313	296312	296311	296310	296309
Accessories		Programming software (refer to page 68), cables and interface adapters (refer to page 39).					

① The unit may not be used in certain environments where it is subjected to splashing oil or chemicals for a long period of time or soaked in oil mist.

GOT2000 Rugged

Designed for extreme environments

The GOT2000 Rugged HMI offers features like an extended operating temperature range, high brightness, UV and shock & vibration resistance to allow its operation in harsh environments. The GT2507T offers a TFT LCD display with 65.536 colours, a screen size of 7" with 800x480 pixels resolution and 128 MB internal memory. The GT2507T is equipped with two Ethernet ports, USB, RS232, RS422/485 interfaces, an SD card slot and a sound output interface as standard.

Special functions

- Debugging functions
- Document display
- VNC remote access
- GOT Mobile – Webserver function
- E-mail
- MES interface
- FTP server/client
- Operation log
- Data logging
- Multi channel
- Transparent function
- Operator authentication
- Backup/restore
- MELSEC-FX list editor
- Sequence program monitor
- System alarms function
- Alarm function
- Remote personal computer operation function
- Drive recorder function
- Machine diagnosis
- Servo amplifier life diagnosis
- One-touch-tuning function
- Servo amplifier monitor function
- Power monitor
- Alarm display function
- Intelligent module monitor function
- R/Q motion monitor function
- Motion SFC monitor function
- Log viewer function
- System launcher function
- Recipe record list
- GOT Screen templates

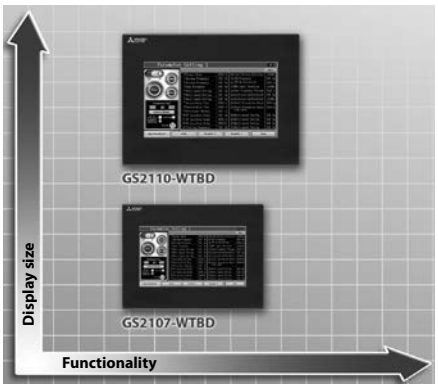
Specifications		GT2507T-WTSD
Display unit	type	7" widescreen, TFT, LCD, 65536 colours
	resolution (pixel)	800x480
Power supply		24 V DC
Memory capacity	(ROM)	32 MB
	(RAM)	128 MB
Memory card		1 (SD memory card)
Keyboard type		Touch-panel
Function keys		Touch keys
LED indicators		1 (POWER)
Interfaces		Ethernet (TCP/IP), RS232, RS422/485, USB, SD card slot, LAN
Multimedia capability		Sound output
Real-time clock		Integrated
Network communication possibilities		Ethernet (TCP/IP), CC-Link (IE), Modbus®, RS232, RS422/485, A bus, Q bus, MELSECNET/10/H
Extension interface (communication/option unit)		—
IP Rating (front)		IP66, IP67 ①
Dimensions (WxHxD)	mm	214x158x55
Weight	kg	1.2
Order information	Art. no.	338565
Accessories		Programming software (refer to page 68), cables and interface adapters (refer to page 39).

① The unit may not be used in certain environments where it is subjected to splashing oil or chemicals for a long period of time or soaked in oil mist.

GOT Simple

Mitsubishi Electric completes his successful GOT HMI series with the inexpensive GOT Simple series, which provides excellent cost effectiveness. The GOT Simple series was designed to optimize operator control and monitoring of various factory automation products.

With a good performance level and advanced functions these new HMIs provide features that will help to reduce downtime, enable fast recovery from simple errors, increase availability and boost production efficiency. More than simply displaying data, the GOT Simple series delivers genuine perspective on the automation process and provide a platform to solve typical production demands in an economically way. They are easy to use, highly reliable and provide excellent serviceability.



General operating conditions

Operating conditions		GS21
Ambient temperature in operation	display	0–55 °C
	main body unit	0–55 °C
Storage temperature		-20–60 °C
Ambient relative humidity		10–90 % (non-condensing)
Noise durability		1500/500 Vpp tested by noise generator; 1 µs at 50–60 Hz
Dielectric withstand voltage		1500 V AC, >1 min/350 V DC, >1 min
Shock resistance		15 G (3 times each in 3 directions)
Vibration resistance		1 G: resistant to vibrations from 9–150 Hz for 80 min. along all 3 axes
Altitude		Max. 2000 m above NN
Applicable installation position		Cabinet or command panel
Over-voltage category		Max. II
Pollution degree		Max. 2
EMC		89/336/EEC and 93/68/EEC
Environment		Avoid environments containing aggressive gases
Cooling		Self-cooling
Certifications		CE, UL / cUL

GS21

Outstanding efficiency

The operating terminals of the GS21 series provide TFT LCD widescreen displays with 65 K colours and screen sizes of 7" and 10" with WVGA resolution and up to 9 MB internal memory. Both terminals come with Ethernet, USB, RS232, RS422 interfaces and SD card slot.

Special functions

- Operation log
- Data logging
- Multi channel
- Transparent function
- Operator authentication
- MELSEC-FX list editor
- Alarm function
- Recipe record list
- GOT Screen templates

Specifications		GS2107-WTBD	GS2110-WTBD
Display unit	type	7", TFT, LCD, 65536 colours	10", TFT, LCD, 65536 colours
	resolution (pixel)	800x480	
Power supply		24 V DC	
Memory capacity	(ROM)	9 MB	
Memory card		1 (SD memory card)	
Keyboard type		Touch-panel	
Function keys		Touch keys	
LED indicators		—	
Interfaces		Ethernet (TCP/IP), RS232, RS422, USB, SD card slot	
Multimedia capability		—	
Real-time clock		Integrated	
Network communication possibilities		Ethernet (TCP/IP), RS232, RS422	
Extension interface (communication/option unit)		—	
IP Rating (front)		IP65 ①	
Dimensions (WxHxD)	mm	206x155x50	272x214x56
Weight	kg	1.3	0.9
Order information	Art. no.	273362	273361
Accessories		Programming software (refer to page 68), cables and interface adapters (refer to page 39).	

① The unit may not be used in certain environments where it is subjected to splashing oil or chemicals for a long period of time or soaked in oil mist.

■ Options

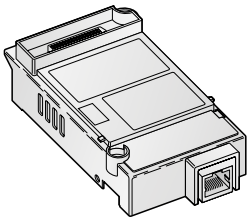
Options	Interface name	GT27	GT25	GT25 open	GT25 rugged	GT23	GT21	GS21	Art. no.
MELSEC Q bus	GT15-75QBUSL	●	●						166305
	GT15-QBUS	●	●						169465
	GT15-75QBUS2L	●	●						166306
	GT15-QBUS2	●	●						169466
Serial interface	GT15-RS2-9P	●	●						169469
	GT15-RS4-9S	●	●						169470
	GT15-RS4-TE	●	●						169471
	GT01-RS4-M	●	●			●	●	●	225497
CC-Link	GT15-J61BT13	●	●						203494
CC-Link IE	GT15-J71GP23-SX	●	●						218576
CC-Link IE Field	GT15-J71GF13-T2	●	●						247574
MELSECNET/H/10	GT15-J71LP23-25	●	●						229842
	GT15-J71BR13	●	●						229843
Ethernet option unit	GT25-J71E71-100	●	●						304016
Printer	GT15-PRN	●	●						170169
WLAN	GT25-WLAN	●	●						283975
Field network adapter unit	GT25-FNADP	●	●						292523
Video interface	GT27-MMR-Z	●							273516
	GT27-V4-Z	●							273517
	GT27-R2	●							288056
	GT27-V4R1-Z	●							273472
	GT27-ROUT	●							288057
	GT27-VHOUT	●							411028
Memory cards	GT05-MEM-128MC	●							166321
	GT05-MEM-256MC	●							166322
	GT05-MEM-512MC	●							221377
	GT05-MEM-1GC	●							221378
	GT05-MEM-2GC	●							221379
	L1MEM-4GBSD	●	●			●	●	●	238061
Option cards	GT05-MEM-ADPC	●							166323
	GT21-03SDCD						●		279811
Interface adapters	GT15-DIO	●	●						209827
	GT15-DIOR	●	●						221953
	GT15-SOUT	●	●						209826
Protective film sheets	GT27-15PSCC	●							276823
	GT27-15PSGC	●							276824
	GT25-12PSCC	●	●						273495
	GT25-12PSGC	●	●						273496
	GT25-12PSCC-UC	●	●						273474
	GT25-10PSCC	●	●						273498
	GT25-10PSGC	●	●						273499
	GT25-10PSCC-UC	●	●			●			273497
	GT25-08PSCC	●	●						273501
	GT25-08PSGC	●	●						273502
	GT25-08PSCC-UC	●	●			●			273500
	GT25-05PSCC	●							288041
	GT25-05PSGC	●							288042
	GT25T-07WPSVC				●				339374
	GT25F-12ESGS			●					296195
	GT25F-10ESGS			●					296196
	GT25F-08ESGS			●					296197
	GT21-03PSGC-UC						●		279812
	GT21-03PSCC-UC						●		279813
	GT21-04RPSGC-UC						●		288044
	GT21-04RPSCC-UC						●		288055
	GS21-10PSCC							●	288468
	GS21-07PSCC							●	288469

■ Options

Options	Interface name	GT27	GT25	GT25 open	GT25 rugged	GT23	GT21	GS21	Art. no.
Oil protection cover	GT20-15PCO	●							276825
	GT20-12PCO	●	●						273503
	GT20-10PCO	●	●			●			273504
	GT20-08PCO	●	●			●			273505
	GT21-04RPCO						●		288984
	GT25-05PCO	●							288043
	GT25T-07WPCO				●				339375
USB environmental protection cover	GT25-05UCOV	●							288058
Stands	GT05-50STAND	●	●						203502
	GT15-70STAND	●	●			●			166341
	GT15-80STAND	●	●						166342
	GT15-90STAND	●							218577
Battery	GT11-50BAT	●	●			●			163943
Fitting for Atex	GT25-10FIT-EXS	●	●						303959
	GT25-12FIT-EXS	●	●						303960

■ Special interface adapter and cables for operator terminals of GOT series

The HMI communications and interface adapters are available for the GOT2000 series. They support connection directly to a PLC or directly to a network.



Adapter type	Interface name	Application	Art. no.
MELSEC Q bus	**GT15-75QBUSL**	GT27/GT25 (1 channel), slim model	166305
	GT15-QBUS	GT27/GT25 (1 channel), standard model	169465
	GT15-75QBUS2L	GT27/GT25 (2 channels), slim model	166306
	GT15-QBUS2	GT27/GT25 (2 channels), standard model	169466
Serial interface	**GT15-RS2-9P**	GT27/GT25 (serial interface RS232, 9-pin D-SUB)	169469
	GT15-RS4-9S	GT27/GT25 (serial interface RS422/485, 9-pin D-SUB)	169470
	GT15-RS4-TE	GT27GT27/GT25 (serial interface RS422/485, screw terminals)	169471
CC-Link	**GT15-J61BT13**	GT27/GT25	203494
CC-Link IE	**GT15-J71GP23-SX**	GT27/GT25, CCLink IE interface, 1 GBaud, optical ring	218576
CC-Link IE Field	**GT15-J71GF13-T2**	GT27/GT25, CC-Link IE Field interface	247574
MELSECNET/H/10	**GT15-J71LP23-25**	GOT MELSECNET/H/10 for GT16/GT27/GT25 HMIs, (for optical SI cable)	229842
	GT15-J71BR13	GOT MELSECNET/H/10 for GT16/GT27/GT25 HMIs, (for coaxial connection)	229843
Ethernet option unit	**GT25-J71E71-100**	GT27/GT25	304016
Printer	**GT15-PRN**	GT27/GT25 (for USB connection to pictbridge compatible printers)	170169
WLAN	**GT25-WLAN**	GT27/GT25 Compatibility with IEEE802.11b/g/n, built-in antenna (WLAN adapter), interface to Personal Computer	283975
Field network adapter	**GT25-FNADP**	GT27/GT25, supported network: Profibus DP, DeviceNet	292523
Network adapter	**Anybus Compact-Com M40 Profibus**	Profibus connector 9-pin female D-SUB	293532
	Anybus Compact-Com M40 DeviceNet	Pluggable 5.08 DeviceNet connector	293533

■ Video interfaces

Video interfaces can be used with the GOT video models.

With the help of these interfaces, images from PCs, cameras and vision sensors can be monitored on the GOT.

Video unit	Application	Art. no.
GT27-MMR-Z	GOT multimedia option board for GT27 HMIs	273516
GT27-V4-Z	GOT video input unit for GT27 HMIs, 4 NTSC/PAL inputs	273517
GT27-R2	Video input unit for GT27 HMIs, 2 RGB composite inputs	288056
GT27-V4R1-Z	Video input unit for GT27 HMIs, 4 NTSC/PAL inputs, 1 RGB composite input	273472
GT27-ROUT	Video output unit for GT27 HMIs, 1 RGB composite output	288057
GT27-VHOUT	Digital video output unit for GT27 HMIs (except GT2705), 1 HDMI output	411028

■ Option cards

A lot of special functions are directly available for the user of the GOT terminal. For additional functions an option board is required. They are fitted in the expansion slot on the rear side of the terminal and are recognized automatically.

Option card	Application	Art. no.
GT25-MESIFKEY-1 ①	MES interface function license for GOT2000; 1 license	274946
GT25-VNCSKEY-1 ①	VNC server function license for GOT2000; 1 license	274947
GT25-PCRAKEY-1 ①	PC remote operation function for GOT2000; 1 license	274948
GT25-WEBSKEY-1 ①	Webserver functionality for GOT2000; 1 license	294485
GT21-03SDCD	SD memory card for GOT2000	279811

① A separate licence is required for each GOT.

■ Interfaces and adapters

Several adapters and interfaces for different GOT operation terminals are available.

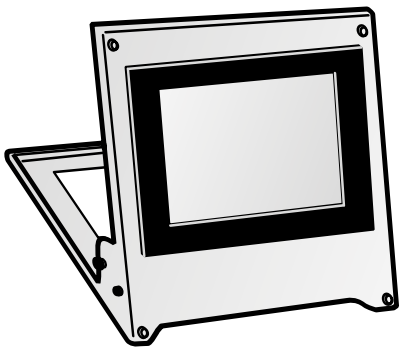
Optional unit	Application	Art. no.
GT15-DIO	GT27/GT25 Optional interface for digital I/Os, 16 (max. 128) inputs, 16 outputs, sink type	209827
GT15-DIOR	GT27/GT25 Optional interface for digital I/Os, 16 (max. 128) inputs, 16 outputs, source type	221953
GT15-SOUT	GT27/GT25 Optional interface for sound output	209826

■ Memory cards

SD memory card to extend the memory of GOTs and many other Factory Automation products of Mitsubishi Electric.

Description	Application	Art. no.
SD Memory Card	SD card 16 GB	340984

■ Protective films and stands



Screen surface protection

Protective film sheets protect the sensitive screen of the unit from scratches and reflections.

Stands

For the GOT operation terminals stands for table-top installation are available. The stands are useful for debugging the GOT screen data, as they can set the GOT at a proper angle on the table.

Specifications		GT27-15PSCC	GT27-15PSGC	GT25F-12ESGS	GT25F-10ESGS	GT25F-08ESGS	GT25-12PSCC	GT25-12PSGC	GT25-12PSCC-UC	GT25-10PSCC	GT25-10PSGC	GT25-10PSCC-UC
Type of accessory		Protective film sheets for the GOT operation terminals display surface										
Use for operator terminal		GT27 with 15" display		GT25 open frame with 12.1" display	GT25 open frame with 10.4" display	GT25 open frame with 8.4" display	GT27/GT25 with 12.1" display			GT27/GT25 with 10.4" display		GT27/GT25/GT23 with 10.4" display
Surface		clear	anti-glare	clear				anti-glare	clear ①	clear	anti-glare	clear ①
Set of		5		1			5					
Order information	Art. no.	276823	276824	296195	296196	296197	273495	273496	273474	273498	273499	273497

① USB connector on the front side not omitted

Specifications		GT25-08PSCC	GT25-08PSGC	GT25-08PSCC-UC	GT25-05PSCC	GT25-05PSGC	GT25T-07WPSVC	GT21-03PSGC-UC	GT21-03PSCC-UC	GT21-04RPSGC-UC	GT21-04RP-SCC-UC	GS21-07PSCC	GS21-10PSCC
Type of accessory		Protective film sheets for the GOT operation terminals display surface											
Use for operator terminal		GT27/GT25 with 8.4" display		GT27/GT25/GT23 with 8.4" display	GT27 with 5.7" display		GT2507T with 7" display	GT21 with 3.8" display		GT21 with 4.3" display		GS21 with 7" display	GS21 with 10" display
Surface		clear	anti-glare	clear ①	clear	anti-glare	anti-glare (UV cutoff)	anti-glare ①	clear ①	anti-glare ①	clear ①	clear	clear
Set of		5					1	5				1	
Order information	Art. no.	273501	273502	273500	288041	288042	339374	279812	279813	288044	288055	288469	288468

① USB connector on the front side not omitted

Specifications		GT20-15PC0	GT20-12PC0	GT20-10PC0	GT20-08PC0	GT21-04RPC0	GT25-05PC0	GT25T-07WPC0	GT14-50UC0V	GT25-UC0V	GT25-05UC0V	GT16H-60ESC0V
Type of accessory		Oil protection cover							USB environmental protection cover for GOT operation terminals			
Use for operator terminal		GT27 with 15" display	GT27/GT25 with 12.1" display	GT27/GT25/GT23 with 10.4" display	GT27/GT25/GT23 with 8.4" display	GT21 with 4.3" display	GT27 with 5.7" display	GT2507T with 7" display	GT14 with 5.7" display and GT2505HS	GT27/GT25	GT27 with 5.7" display	GT16 handy GOTs and GT2506HS
Set of		1										
Order information	Art. no.	276825	273503	273504	273505	288984	288043	339375	252417	273506	288058	237249

Specifications		GT05-50STAND	GT15-70STAND	GT15-80STAND	GT15-90STAND	GT11-50BAT
Type of accessory		Stand for table-top installation				Buffer battery for realtime clock and historical data backup
Use for operator terminal		GOT2000 with 5.7" display	GOT2000 with 8.4" and 10.4" display	GOT2000 with 12.1" display	GOT2000 with 15" display	GT27/GT25/GT23
Set of		1				
Details		—				Lithium battery
Order information	Art. no.	203502	166341	166342	218577	163943

■ Cables

For all GOT operator terminals is a wide variety of different cables available.

All cables have to be ordered separately due to the specific application.

The length for all cables is 3.0 m, if not differently indicated.

Operator terminal	Interface	Connector	Cable	Connector	Periphery	Order information
GOT2000/ GOT Simple series	Frontside USB	MINI-B USB	**GT09-C30USB-5P**	USB-A	Personal Computer	166373
GOT2000/ GOT Simple series	Integrated RS232	D-SUB male connector 9 pin	**GT01-C30R2-6P**	MINI-DIN male connector 6 pin	MELSEC System Q and L series ①	163959
GOT2000/ GOT Simple series	Integrated RS422 or GT16 adapter	D-SUB male connector 9 pin	**GT01-C30R4-8P**	MINI-DIN male connector 8 pin	MELSEC FX	163948 further lengths on request
GOT2000/ GOT Simple series	Integrated RS422 or GT16 adapter	D-SUB male connector 9 pin	**GT01-C30R4-25P**	D-SUB male connector 25 pin	MELSEC AnS/QnAS and AnU/QnA	163953 further lengths on request
GT2103-PMBDS2	RS232	MINI-DIN male connector 6 pin	**GT01-C30R2-6P**	D-SUB male connector 9 pin	PC	163959
GT2103-PMBDS	RS422	Open terminals	**GT10-C30R4-8P**	MINI-DIN male connector 8 pin	MELSEC FX	200494 further lengths on request
GT27/GT25		Q bus	**GT15-QC30B**	Q bus	MELSEC System Q	166348 further lengths on request
GT2103-PMBD	RS422	Loose wire	**GT21-C30R4-8P5**	MINI-DIN male connector 8 pin	MELSEC FX	3.0 m: 280466 further lengths on request
GT2103-PMBDS	RS232	MINI-DIN male connector 6 pin	**GT01-C30R2-6P and GT10-C02H-6PT9P**	MINI-DIN male connector 6 pin	MELSEC System Q and L series CPU	GT01-C30R2-6P: 163959 GT10-C02H-6PT9P: 284223

* GOT-RS422/RS485 cable adapter, 0.2 m. This adapter is to be used with a standard GOT communication cable, e.g. GT01-C30R4-8P.

① The RS232 adapter L6ADP-R2, art. no. 238059 is required, when using a PLC of the MELSEC L series.

■ Special connection cables for the graphic handy operator terminals

Connection of the handy operator terminals to the PLC CPU

The cable is connected to the plug which provides a larger operating range than fixed mounted terminals.

The operating terminals carry a bayonet-joint at the lower end of the unit.

The cable is lead into the cabinet or panel and enables the mobile connection of using the interface in a cabinet or control panel. From there it is easy to connect the line to the PLC.

Operator terminal	External cable	Cable adapters	Relay cables	Periphery
GT2505HS Handy GOT	GT11H-C□-37P	—	GT11H-C15R4-8P	MELSEC FX
			GT11H-C15R4-25P	AnS/QnAS, AnU/QnA
			GT11H-C15R2-6P	MELSEC System Q
GT2505HS Handy GOT	GT11H-C□	—	—	Computer-Link, inverters, servo amplifiers ①
GT2505HS Handy GOT	GT11H-C□-37P	GT11H-CNB-37S	RS232/RS422/485	All Mitsubishi Electric PLC
		GT16H-CNB-37S	Ethernet	All Mitsubishi Electric PLC
	GT14H-C□-42P	GT16H-CNB-42S		
GT2506HS Handy GOT	GT16H-C□-42P	GT16H-CNB-42S	RS232/RS422/485	All Mitsubishi Electric PLC

① These cables with open terminals can be used for the connection to serial communication modules, computer-link, inverters, and servo amplifiers.

Specification of the external cables

Specifications		GT11H-C30-37P/ GT11H-C60-37P/ GT11H-C100-37P	GT14H-C30-42P/ GT14H-C60-42P/ GT14H-C100-42P	GT16H-C30-42P/ GT16H-C60-42P/ GT16H-C100-42P	GT11H-C30 / GT11H-C60 / GT11H-C100
Cable type		External cable for GOT handy			
Connector 1		Round female connector 32 pin	Round female connector 32 pin	Square Handy GOT female connector 42 pin	Round female connector 32 pin
Connector 2		D-SUB male connector 37 pin	Square Handy GOT female connector 42 pin		Open terminals
Applicable with		Relay cable/cable adapter	Cable adapter		Factory automation periphery
Length	m	3.0/6.0/10.0	3.0/6.0/10.0	3.0/6.0/10.0	3.0/6.0/10.0
Order information	Art. no.	191013/191014/191015	271456/271457/271458	237252/237253/237254	191016/191017/191018

Specification of the relay cables

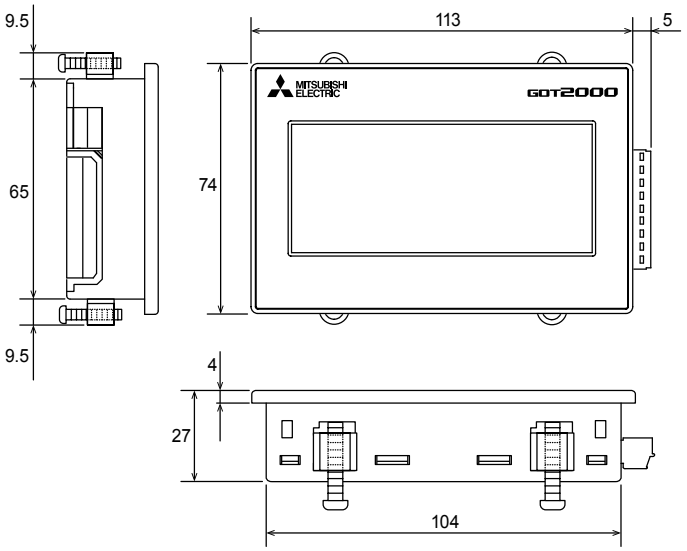
Specifications		GT11H-C15R4-8P	GT11H-C15R4-25P	GT11H-C15R2-6P
Cable type		Relay cable		
Connector 1		D-SUB female connector 37 pin		
Connector 2		MINI-DIN male connector 8 pin	D-SUB male connector 25 pin	MINI-DIN male connector 6 pin
Further connections		For power supply and external signals		
Applicable CPU type		MELSEC FX family	MELSEC AnS/QnAS and AnU/QnA	MELSEC System Q
Length	m	1.5	1.5	1.5
Order information	Art. no.	191019	191020	191021

Specification of the cable adapters

Specifications		GT11H-CNB-37S	GT16H-CNB-37S	GT16H-CNB-42S
Connector 1		D-SUB female connector 37 pin		Square Handy GOT female connector 42 pin
Connector 2		D-SUB male connector 9 pin (RS232), D-SUB female connector 9 pin (RS422)	RJ-45	D-SUB male connector 9 pin (RS232), D-SUB female connector 9 pin (RS422)
Further connections		For power supply and external signals		
Applicable CPU type		All Mitsubishi Electric PLC		
Order information	Art. no.	204631	293261	237251

GT21

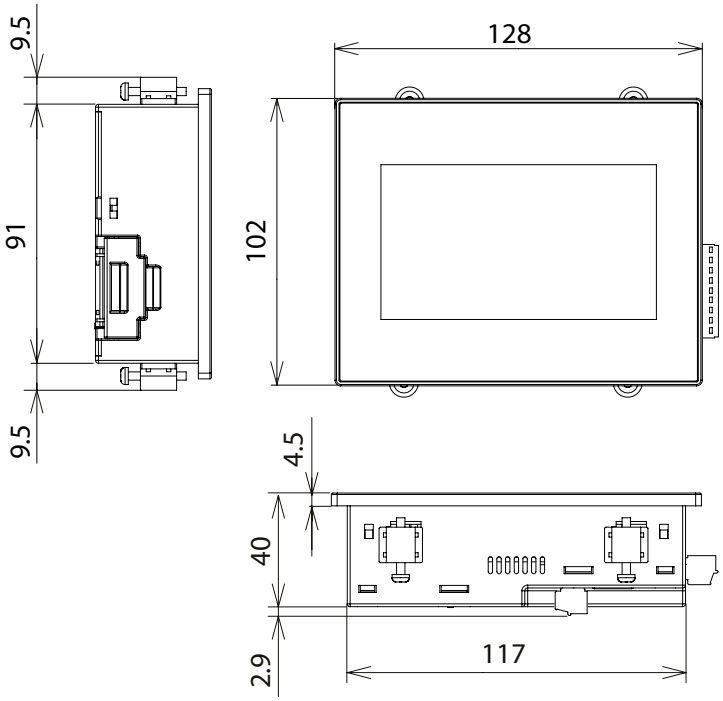
■ GT2103-PMBD, GT2103-PMBDS, GT2103-PMBLS



Switchboard cutout
105^{+2}_{0} x 66^{+2}_{0}

All dimensions in mm

■ GT2104-RTBD

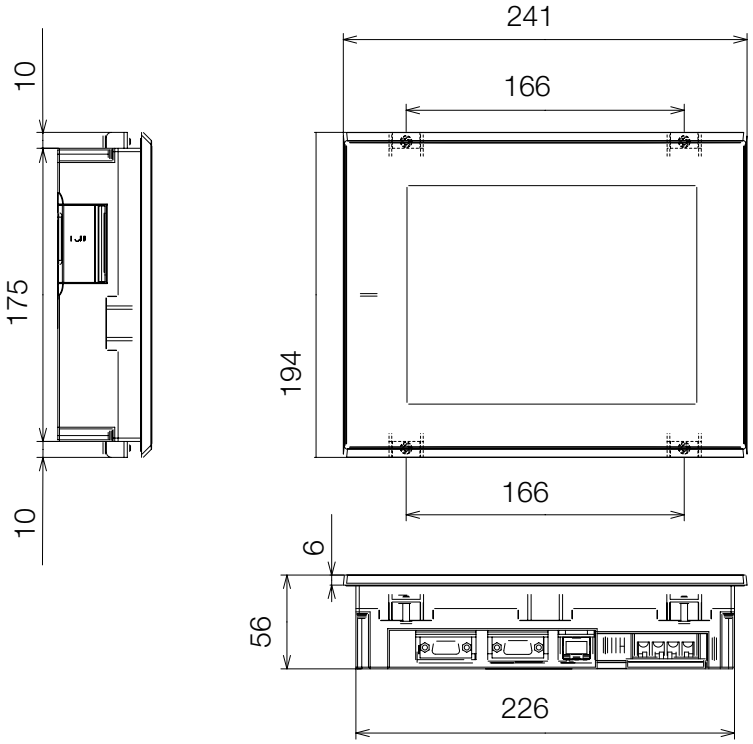


Switchboard cutout
118^{+2}_{0} x 92^{+2}_{0}

All dimensions in mm

GT23

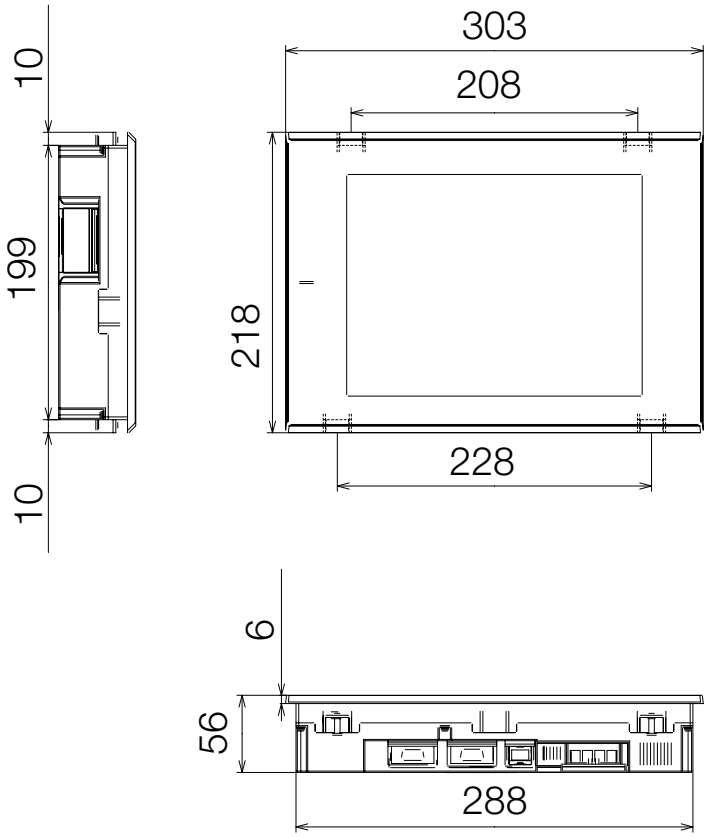
■ GT2308-VTBA,GT2308-VTBD



Switchboard cutout
227$^{+2}_{0}$ x 176$^{+2}_{0}$

All dimensions in mm

■ GT2310-VTBA,GT2310-VTBD

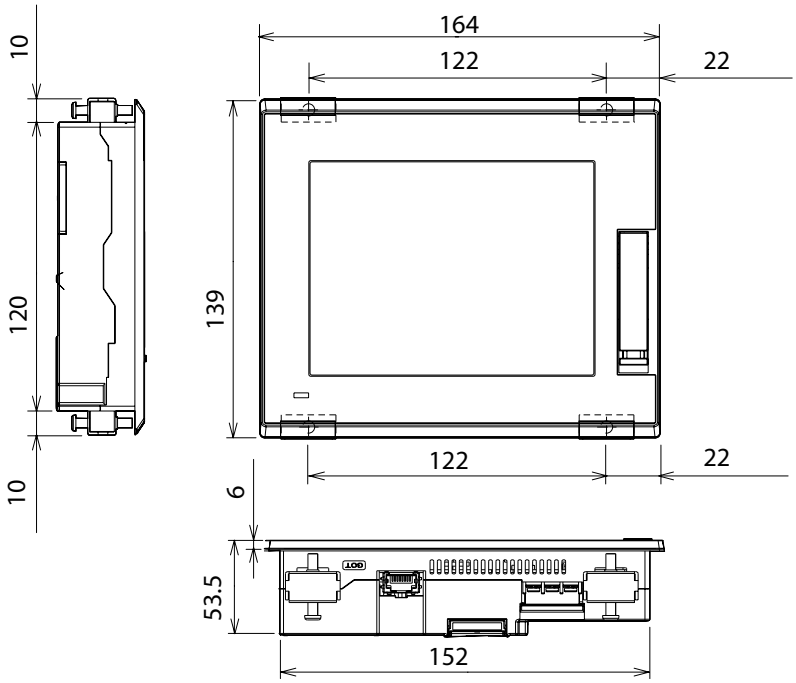


Switchboard cutout
289$^{+2}_{0}$ x 200$^{+2}_{0}$

All dimensions in mm

GT25

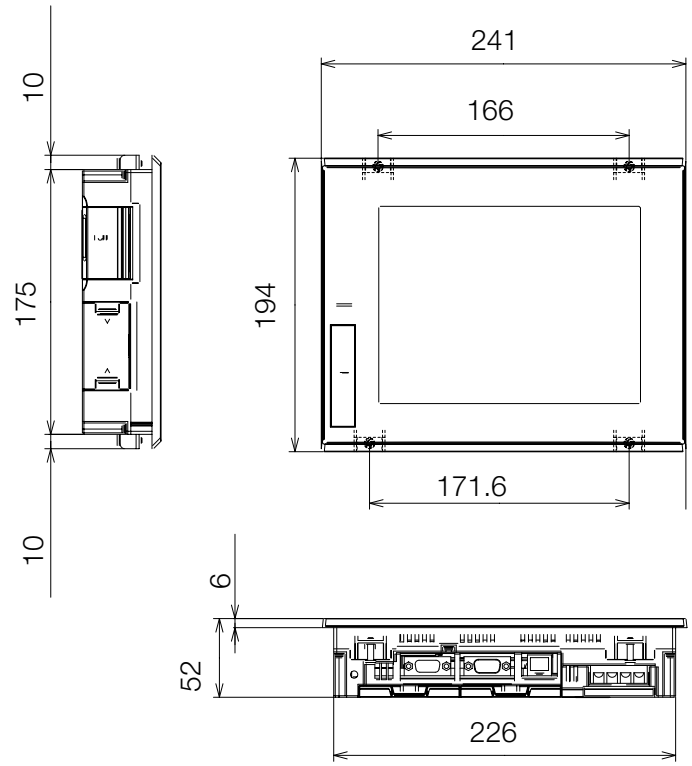
■ GT2505-VTBD



Switchboard cutout
153$^{+3}_{0}$ x 121$^{+2}_{0}$

All dimensions in mm

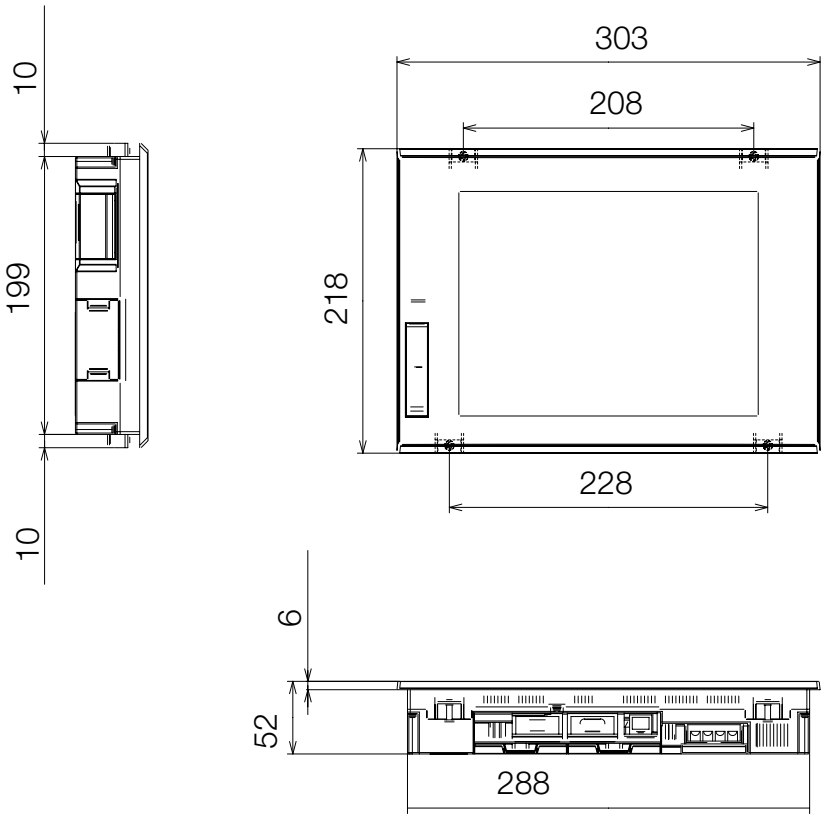
■ GT2508-VTBA, GT2508-VTWA, GT2508-VTBD, GT2508-VTWD



Switchboard cutout
227$^{+3}_{0}$ x 176$^{+2}_{0}$

All dimensions in mm

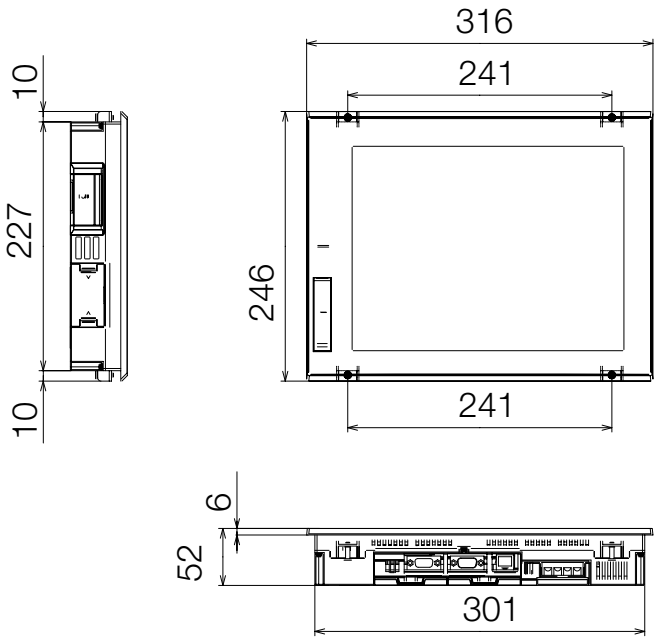
■ GT2510-VTBA, GT2510-VTWA, GT2510-VTBD, GT2510-VTWD



Switchboard cutout
289$^{+2}_{0}$ x 200$^{+2}_{0}$

All dimensions in mm

■ GT2512-STBA, GT2512-STBD

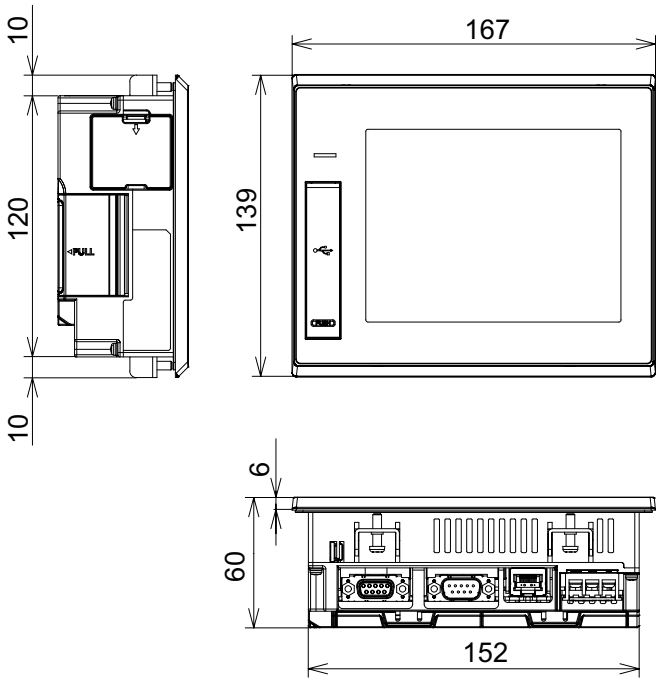


Switchboard cutout
302$^{+2}_{0}$ x 228$^{+2}_{0}$

All dimensions in mm

GT27

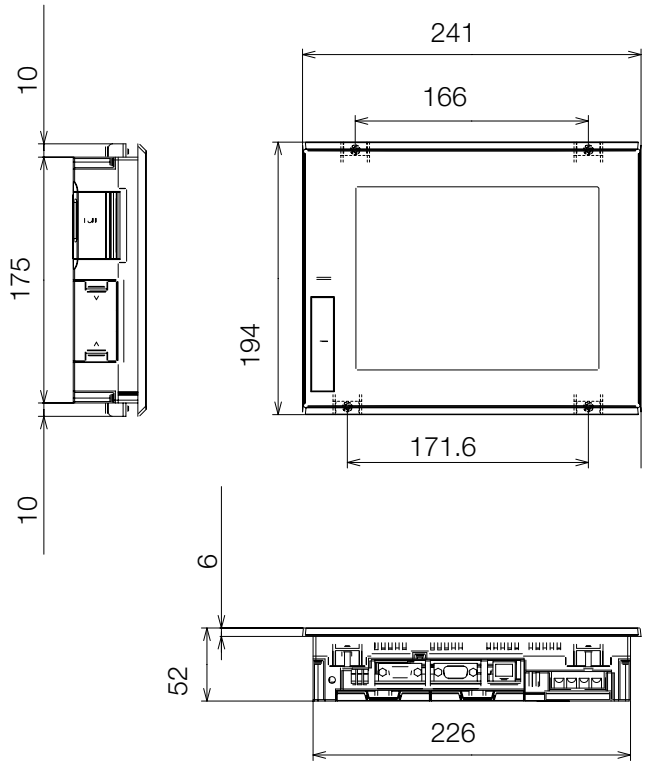
■ GT2705-VTBD



Switchboard cutout
$153^{+3}_{0} \times 121^{+2}_{0}$

All dimensions in mm

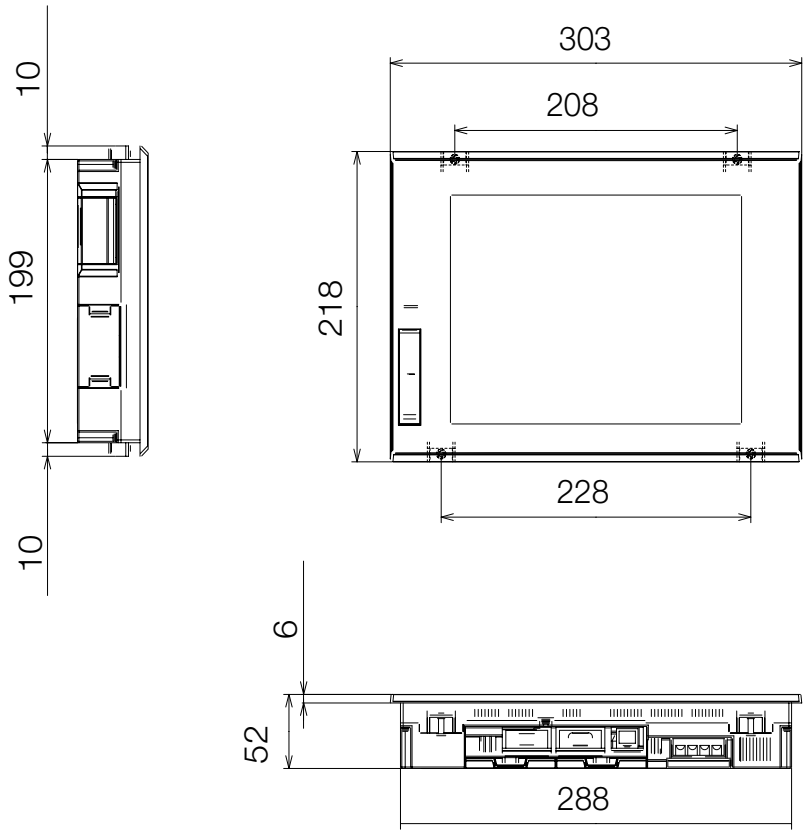
■ GT2708-STBA, GT2708-VTBA, GT2708-STBD, GT2708-VTBD



Switchboard cutout
$227^{+3}_{0} \times 176^{+2}_{0}$

All dimensions in mm

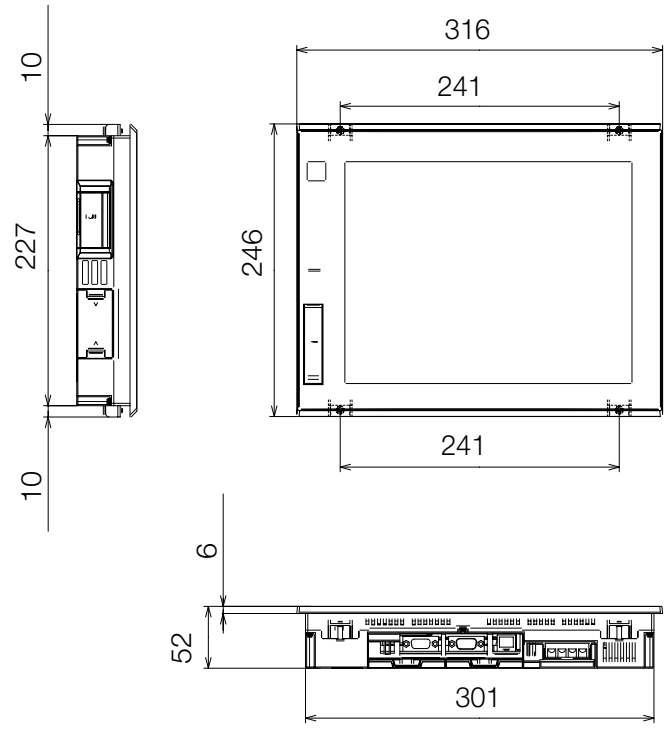
■ GT2710-STBA, GT2710-VTBA, GT2710-VTWA, GT2710-STBD, GT2710-VTBD, GT2710-VTWD



Switchboard cutout
289$^{+2}_{0}$ x 200$^{+2}_{0}$

All dimensions in mm

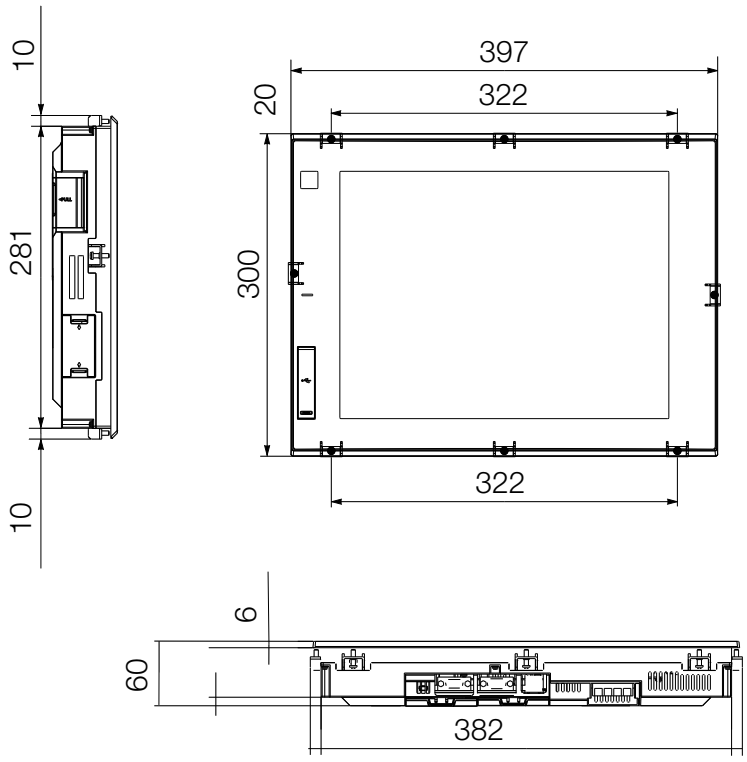
■ GT2712-STBA, GT2712-STWA, GT2712-STBD, GT2712-STWD



Switchboard cutout
302$^{+2}_{0}$ x 228$^{+2}_{0}$

All dimensions in mm

■ GT2715-XTBA, GT2715-XTBD

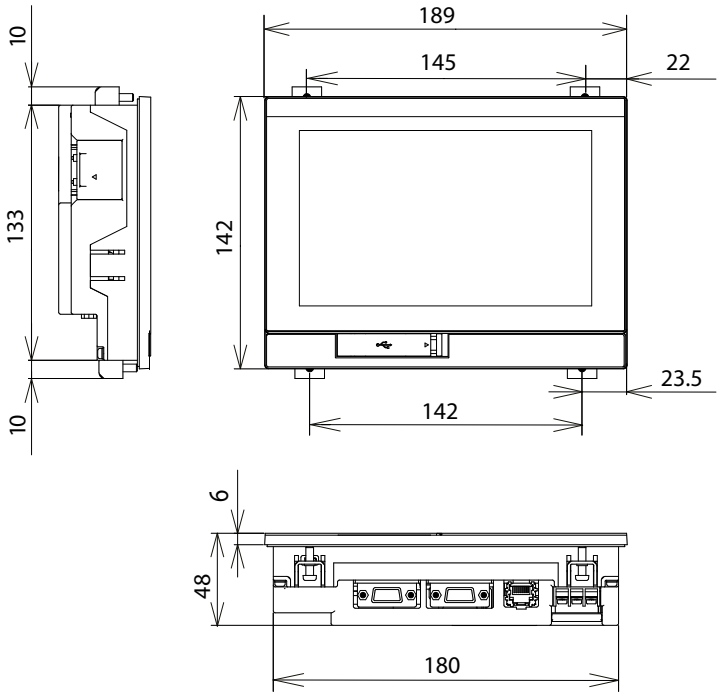


Switchboard cutout
383.5 $^{+3}_{0}$ x 282.5 $^{+3}_{0}$

All dimensions in mm

GOT2000 Wide

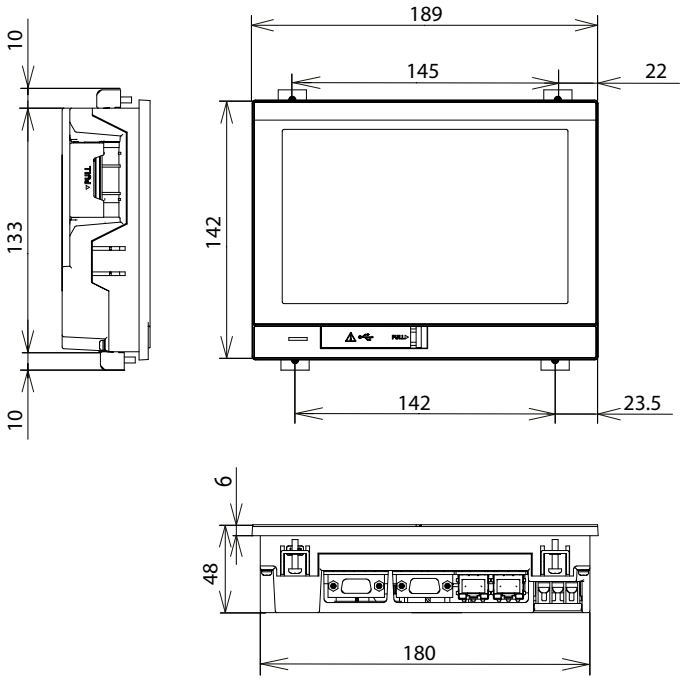
■ GT2107-WT□D



Switchboard cutout
180.5 $^{+1}_{0}$ x 133.5 $^{+1}_{0}$

All dimensions in mm

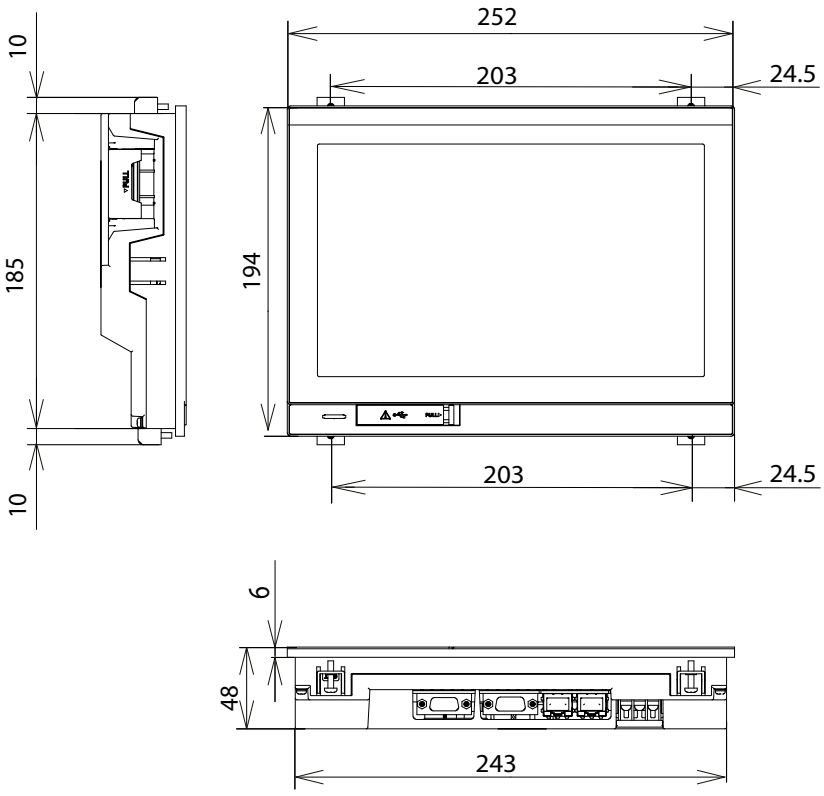
■ GT2507-WT□D



Switchboard cutout
$180.5^{+1}_{0} \times 133.5^{+1}_{0}$

All dimensions in mm

■ GT2510-WXT□D

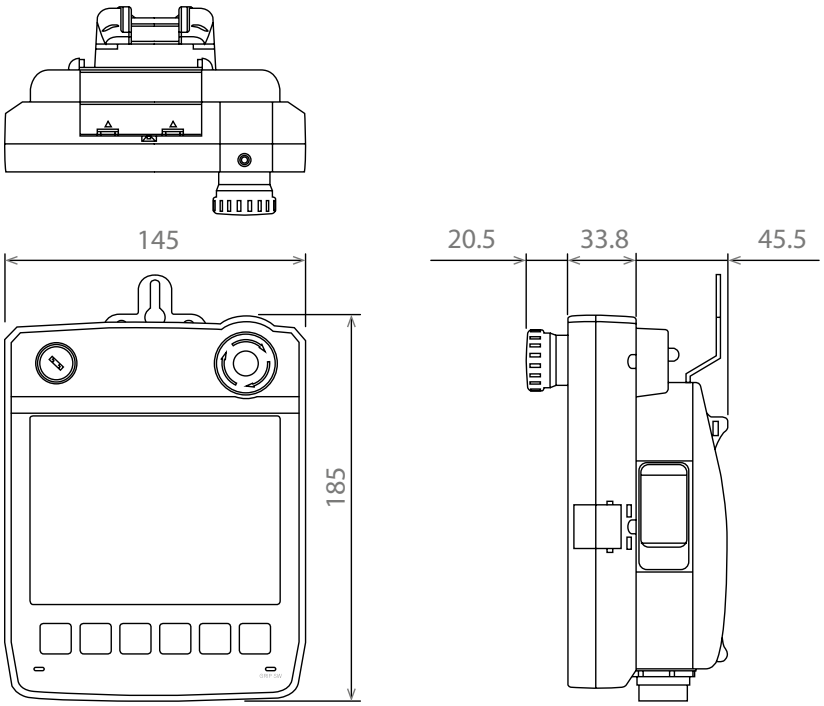


Switchboard cutout
$243.5^{+1}_{0} \times 185.5^{+1}_{0}$

All dimensions in mm

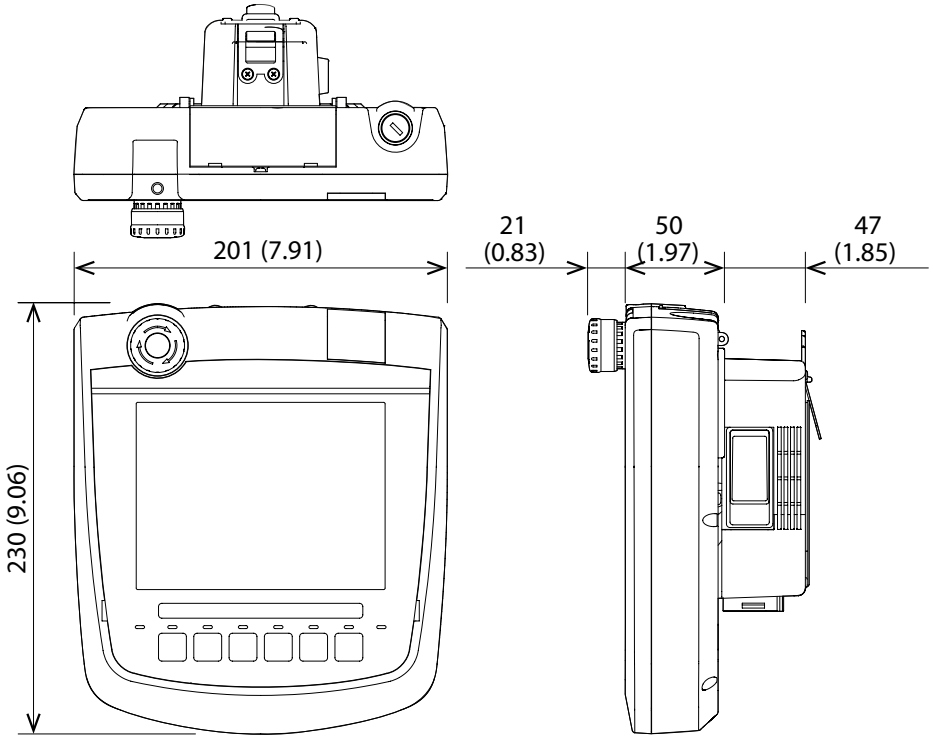
GOT2000 Handy

■ GT2505HS-VTBD



All dimensions in mm

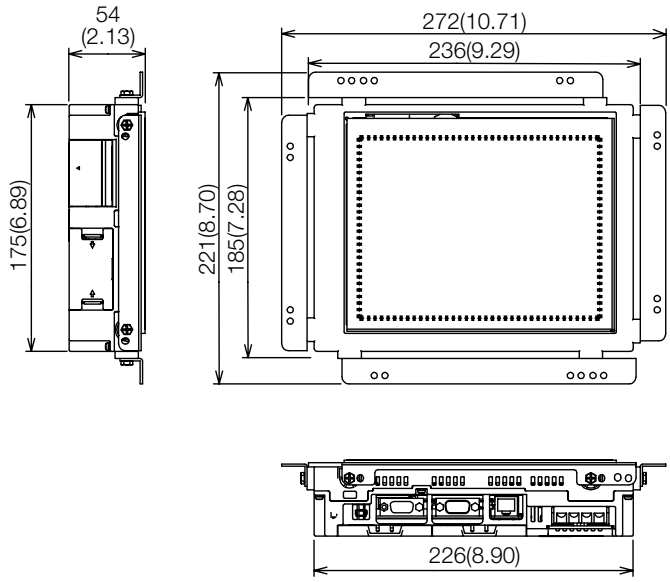
■ GT2506HS-VTBD



All dimensions in mm

GOT2000 Open frame

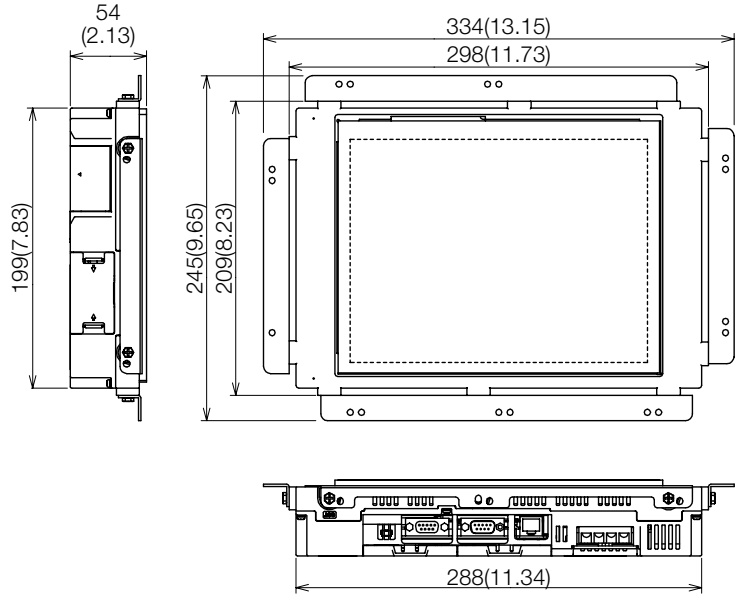
■ GT2508F-VTN□



Switchboard cutout
158$^{+2}_{0}$ x 194$^{+2}_{0}$

All dimensions in mm

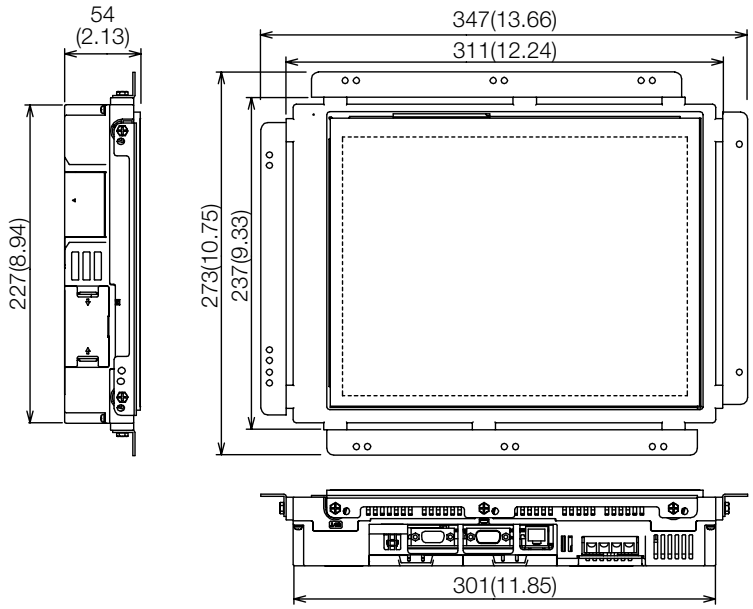
■ GT2510F-VTN□



Switchboard cutout
187$^{+2}_{0}$ x 234$^{+2}_{0}$

All dimensions in mm

■ GT2512F-STN□

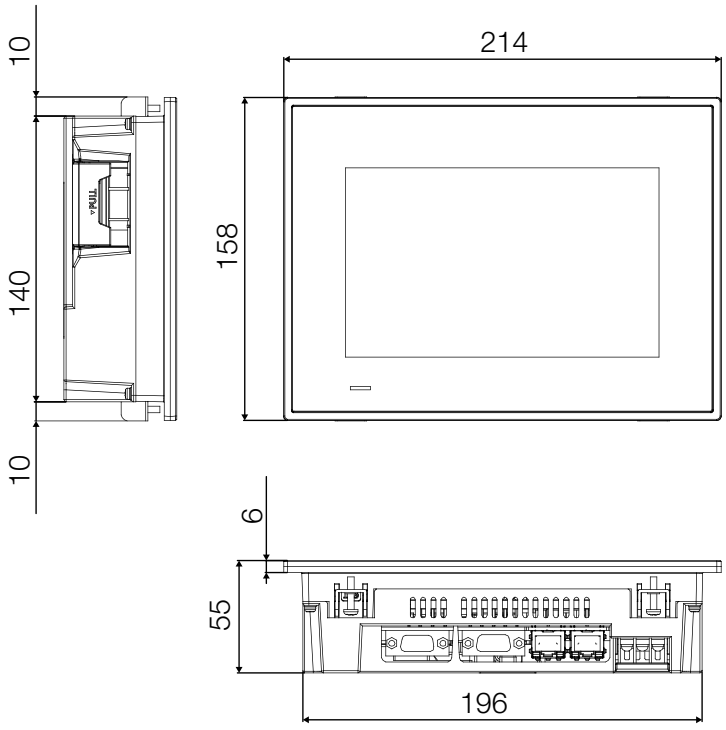


Switchboard cutout
214$^{+3}_{0}$ x 269$^{+2}_{0}$

All dimensions in mm

GOT2000 Rugged

■ GT2507T-WTSD

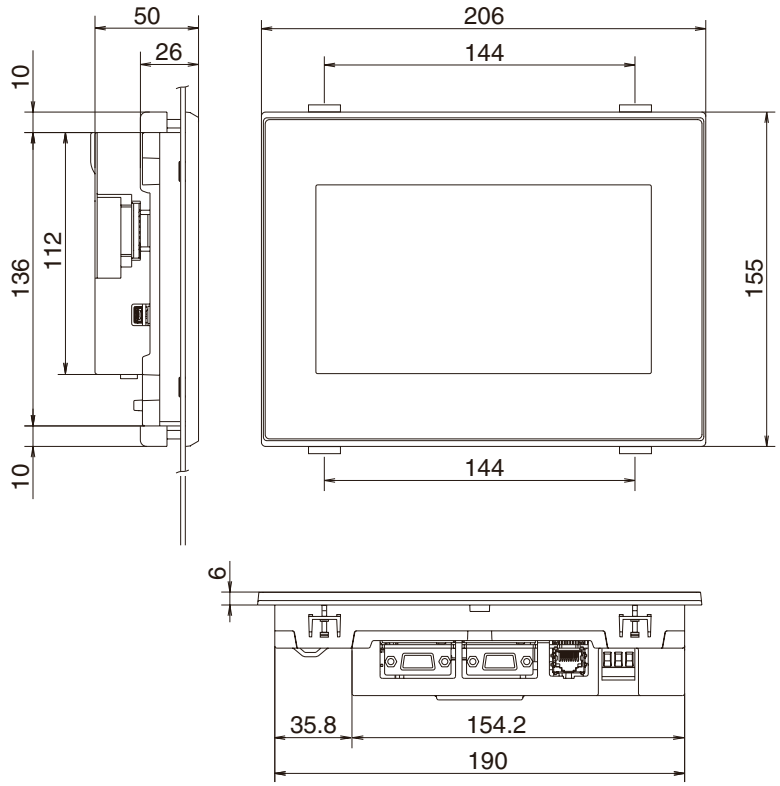


Switchboard cutout
197$^{+1}_{0}$ x 141$^{+1}_{0}$

All dimensions in mm

GS21

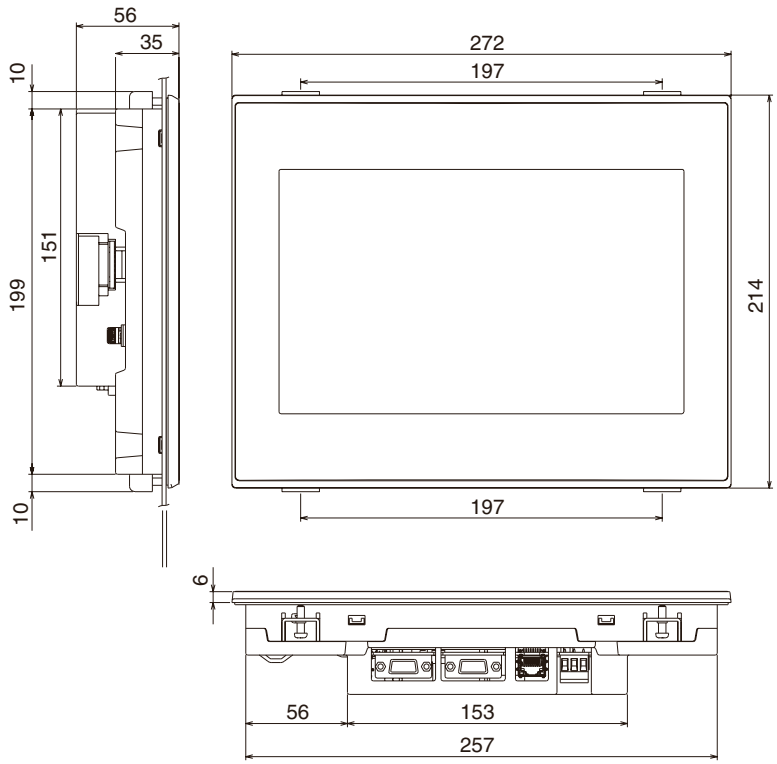
■ GS2107-WTBD



Switchboard cutout
191^{+2}_{0} x 137^{+2}_{0}

All dimensions in mm

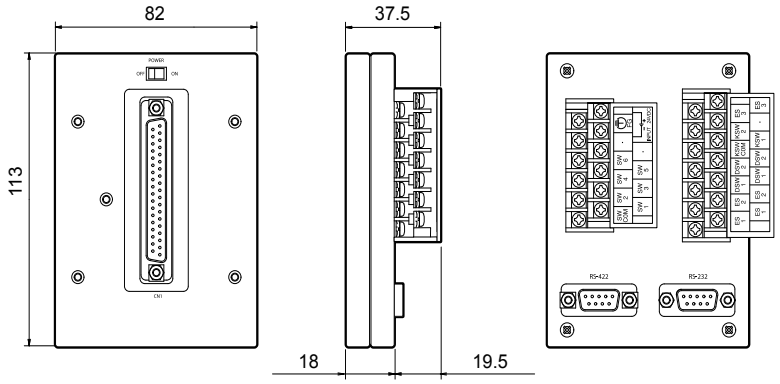
■ GS2110-WTBD



Switchboard cutout
258^{+2}_{0} x 200^{+2}_{0}

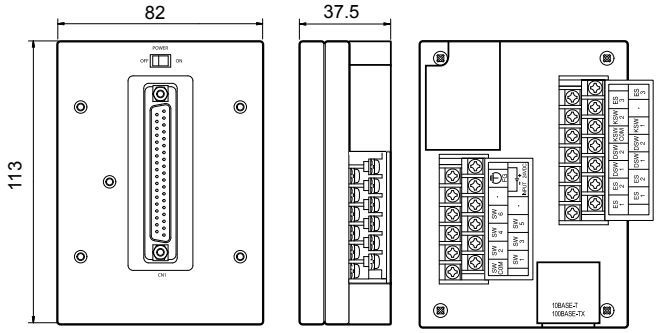
All dimensions in mm

■ GT11H-CNB-37S



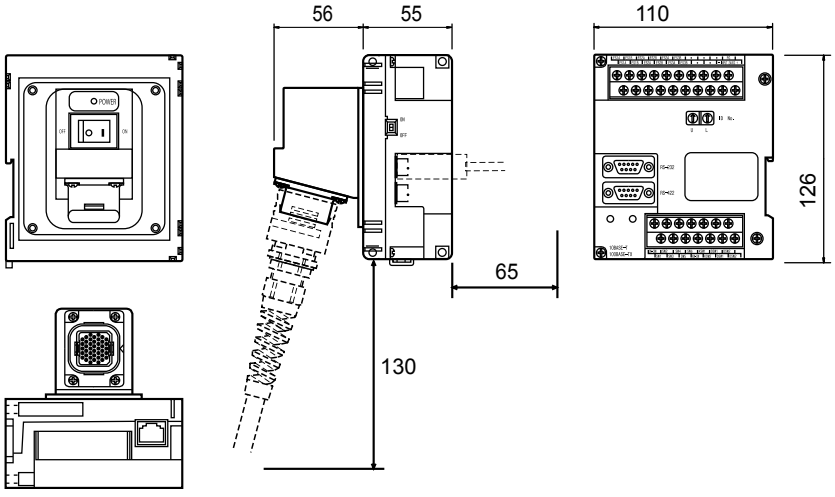
All dimensions in mm

■ GT16H-CNB-37S



All dimensions in mm

■ GT16H-CNB-42S



All dimensions in mm

Industrial panel PCs

Nowadays industrial PCs are a inherent part of automation and process control. The series of APPC/IPPC panel PCs provides outstanding computer performance based on energy-saving Intel® processors. Designed for use in demanding applications in industrial environments, these IPCs feature high quality, fast performance, attractive design and brilliantly legible displays. A wide operating and storage temperature range, tough vibration resistance and high IP ratings mean these IPCs can be used in locations users could never consider before.

All IPCs are equipped with a fanless high performance CPU (Intel® Celeron™/Core™ i5) and SSD drives. This reduces the risk of a production stop with all the consequences and cost due to the failure of a moving part.

APPC/IPPC panel PC series

APPC/IPPC series	APPC 1245T-J1900-WL	APPC 1540T-J1900-WL	APPC 1740T-J1900-WL	IPPCA 1570T-DC	IPPCA 1970TPE2-DC	IPPC 2170P-DC
Display	12.1" TFT	15" TFT	17" TFT	15" TFT	19" TFT	21.5" TFT
Resolution pixel	1024x768		1280x1024	1024x768	1280x1024	1920x1080
Format	4:3					16:9
Brightness cd/m²	500	400	350	400	350	300
Touchscreen	Resistive, 5 wire					Projective capacitive
Backlight	LED					
Colour	Pantone black/RAL 15 00 front bezel w/Pantone 400C/RAL 090 80, 10 metal style membrane			Pantone 432C/RAL 70 24 front bezel Aluminum front bezel with SPPC nickel plated housing		
Mounting	Panel/wall/stand/VESA			Panel/wall/stand/VESA100x100 mm		
Processor	Celeron J1900 2.42 GHz			Intel® Core™ i3-4350T, 3.1 GHz		
RAM	4 GB					
Interfaces	2xRS232/422/485, 2xLAN, 1xVGA, 1xMic, 3xUSB, PS2, 4xDIG/IN, 4xDIG/OUT	2xRS232/422/485, 2xLAN, 1xVGA, 1xMic, 3xUSB, PS2		1xRS232/422/485, 2xRJ45, 1xDVI-I, 1xDisplayPort, 1xLine-out, 1xLine-in, 1xMic, 1xFront USB 2.0, 4xRear USB 3.0, 1xPS2		2xRSJ45, 1xDVI-I (DVI-D +DVI-A), 1xDisplayPort, 1xLine-out; 1xLine-in; 1xMlic-in, 4xUSB3.0, 1xPS2
Field bus options	—			Profinet, Profibus, DeviceNet™, EtherNet/IP and EtherCAT		
Drives	64 GB SSD MLC					
Power supply	12 V–30 V DC			9 V–30 V DC		12 V–30 V DC
Cooling	Fanless					
Protection class	IP65 (front)			IP66 (front)		
OS	Windows®7 Pro					
Weight kg	4	5	6.7	9	10.6	11.7
Dimensions (WxHxD) mm	317x243x65.89	384.37x309.95x63.2	410.4x340.4x65.9	477.64x310x95.72	477.64x399.24x99.38	562.4x382.4x105.05
Order information Art. no.	314713	317456	317457	317458	325820	338701

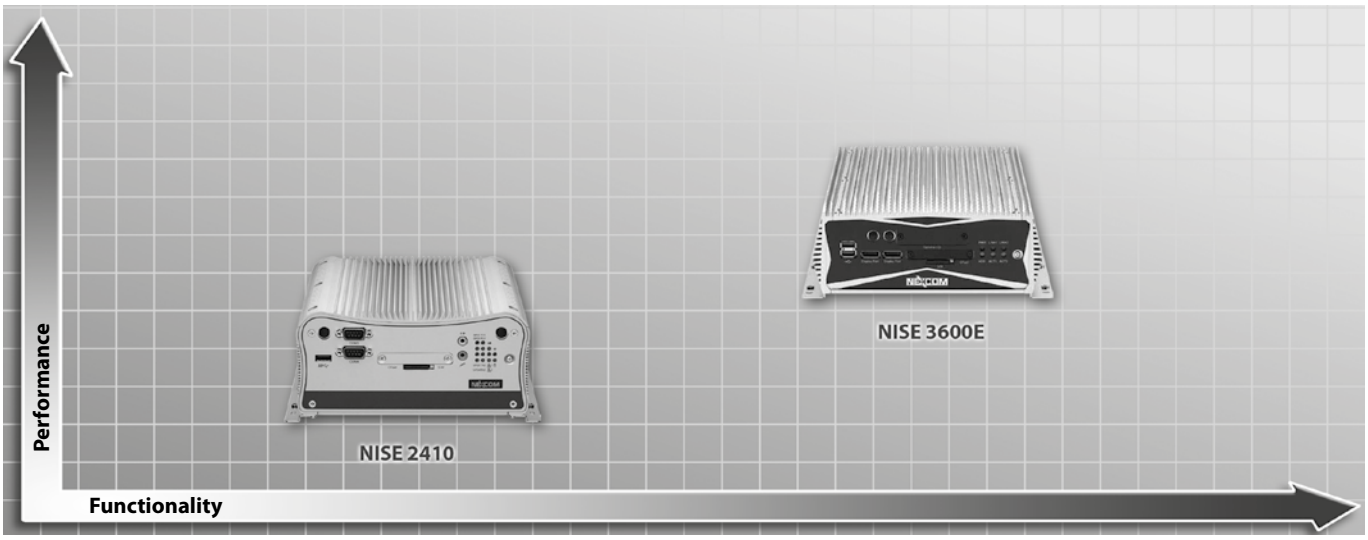
Industrial box PCs and displays

The industrial box PC and display offering is a flexible way to deploy an industrial PC system as it offers the possibility to combine the display and the PC part independently from each other to match the needs of an application perfectly.

All NISE series PCs offer the same technical features as the panel PCs like a fanless high performance CPU (Intel® Atom™/Core™ i5) and SSD drives.

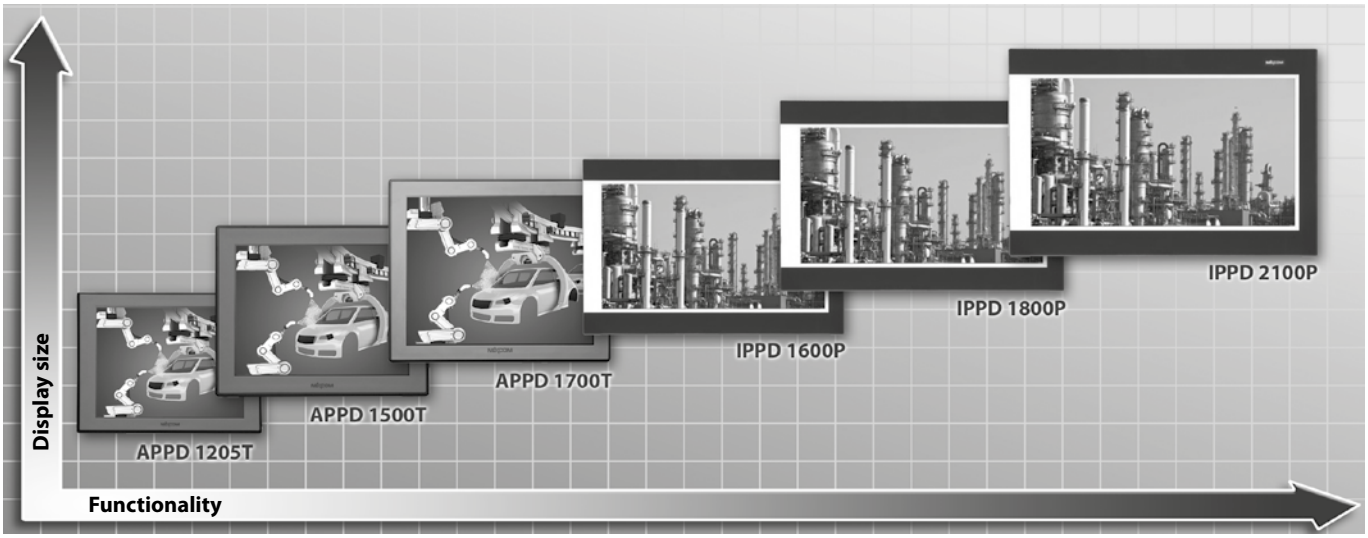
The high resolution APPD/IPPD series displays ranging from 12.1" to 21.5" are built for use in industrial environments. They are available as 4:3 resistive and 16:9 capacitive touchscreens.

NISE box PC series



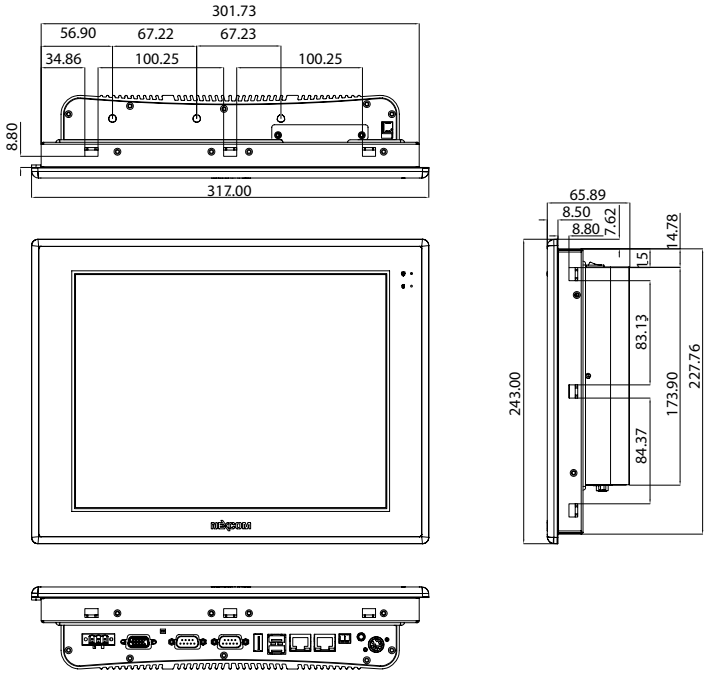
Specifications		NISE 2410	NISE 3600E
Processor		Intel® Atom™ E3827, 1.75 GHz	Intel® Core™ i5-3610ME, 2.7 GHz
RAM		4 GB	
Display option		Dual independent display	Three*/dual independent display (*only 3rd generation processor)
I/O interface	front	ATX power on/off switch, 1x power status, 1x HDD access, 1x battery low, 4x programming, LEDs, 4x Tx/Rx LEDs, 2x LAN LEDs, 2x DB9 RS232 for COM1/COM2 1x external CFast socket, 1x SIM card holder, 1x USB 3.0 (900 mA per each), 1x mic-in and 1x line-out, 2x antenna holes for optional Wi-Fi/3.5 G antenna	ATX power on/off switch, HDD access/power status LEDs, 2x USB3.0 ports, 2x display port (can be converted to DVI-D or HDMI via cables), 2x antenna holes, 1x external CFast (optional), 1x SIM card socket
	rear	4x USB 2.0, 1x DVI-I display output, 1x HDMI display output, 1x remote power on/off switch, 2x Intel® I210IT GbE LAN ports; support WoL, Teaming and PXE, 2x DB9 for COM3/COM4, both support RS232/422/485 with auto flow control, 1x 3-pin DC input, support 9–30 V DC input	2x DB9 for COM5/COM6 (RS232), 1x DB44 serial port, 4x COM port (COM1/COM3/COM4: RS232; COM2: RS232/422/485), 2x Intel® GbE LAN ports (Intel® 82574L and 82579LM); support WoL, Teaming and PXE, 2x USB2.0 ports, 2x USB3.0 ports, 1x DB15 VGA port, 1x DVI-D port, 1x line-out and 1x mic-in, 2-pin remote power on/off switch, 9–30 V DC input
	internal	4 x GPI and 4 GPO (5V, TTL Type)	—
Drives		64 GB SSD MLC	
Expansion slot		2 x mini-PCIe socket for optional Wi-Fi/4G LTE/3.5 G NISE 2410: one PCI expansion, NISE 2410E: 1x PCIe x4 expansion (only support PCIex1 speed and signal)	1x PCIex4 expansion slot, 1x mini-PCIe socket
Power supply		9–30 V DC	
Cooling		Fanless	
OS		Windows®7 Pro	
Dimensions (WxHxD)	mm	195x90x200	215x93x272
Order information	Art. no.	296393	296394

APPD/IPPD display series



APPD/IPPD series		APPD 1205T	APPD 1500T	APPD 1700T	IPPD 1600P	IPPD 1800P	IPPD 2100P
Display		12.1" LCD	15" LCD	17" LCD	15.6" LCD	18.5" LCD	21.5" LCD
Resolution	pixel	1024x768		1280x1024	1366x768		1920x1080
Format		4:3			16:9		
Brightness	cd/m²	500	400	380	300	400	300
Touchscreen		Resistive, 5 wire			10 points P-Cap (projected capacitive)		
Backlight		LED		CCFL	LED		
Colour		Pantone black/plastic front bezel			Pantone 425C/RAL 70 24 front bezel, Aluminum front bezel with metal housing		
Mounting		Panel/wall/stand/VESA 100x100 mm					
Power supply		12 V–24 V DC					
Cooling		Fanless					
Protection class		IP65 (front)			IP66 (front)		
Weight	kg	2.9	3.98	5.3	5.48	6.24	7.87
Dimensions (WxHxD)	mm	317x243x53.5	384.37x309.95x51.2	410.4x340.4x43.7	417.4x312.4x51.75	490.8x320.6x50.65	562.4x382.4x50.85
Order information	Art. no.	296428	296429	296430	296425	296426	296427
Accessory		DVI-D cable, art. no. 296431					

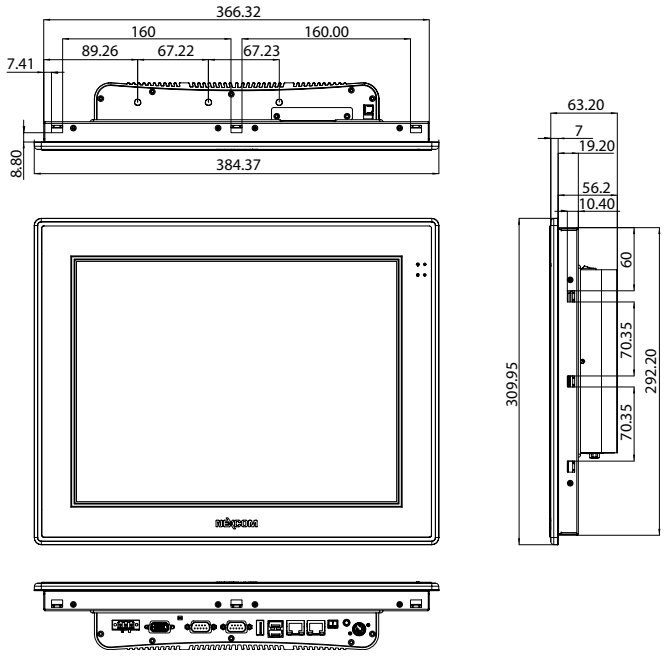
■ APPC 1245T



Switchboard cutout
304,5$^{+2}_{-0}$ x 230$^{+2}_{-0}$

All dimensions in mm

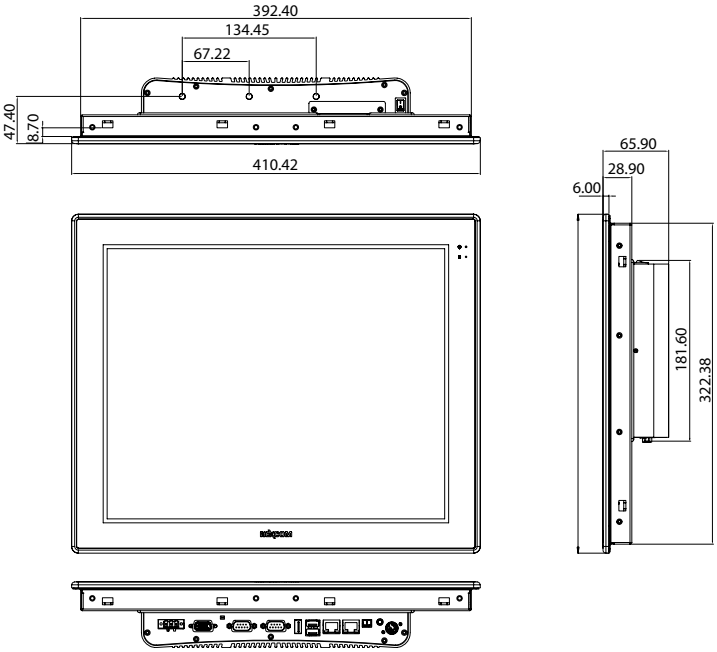
■ APPC 1540T



Switchboard cutout
371$^{+2}_{-0}$ x 297$^{+2}_{-0}$

All dimensions in mm

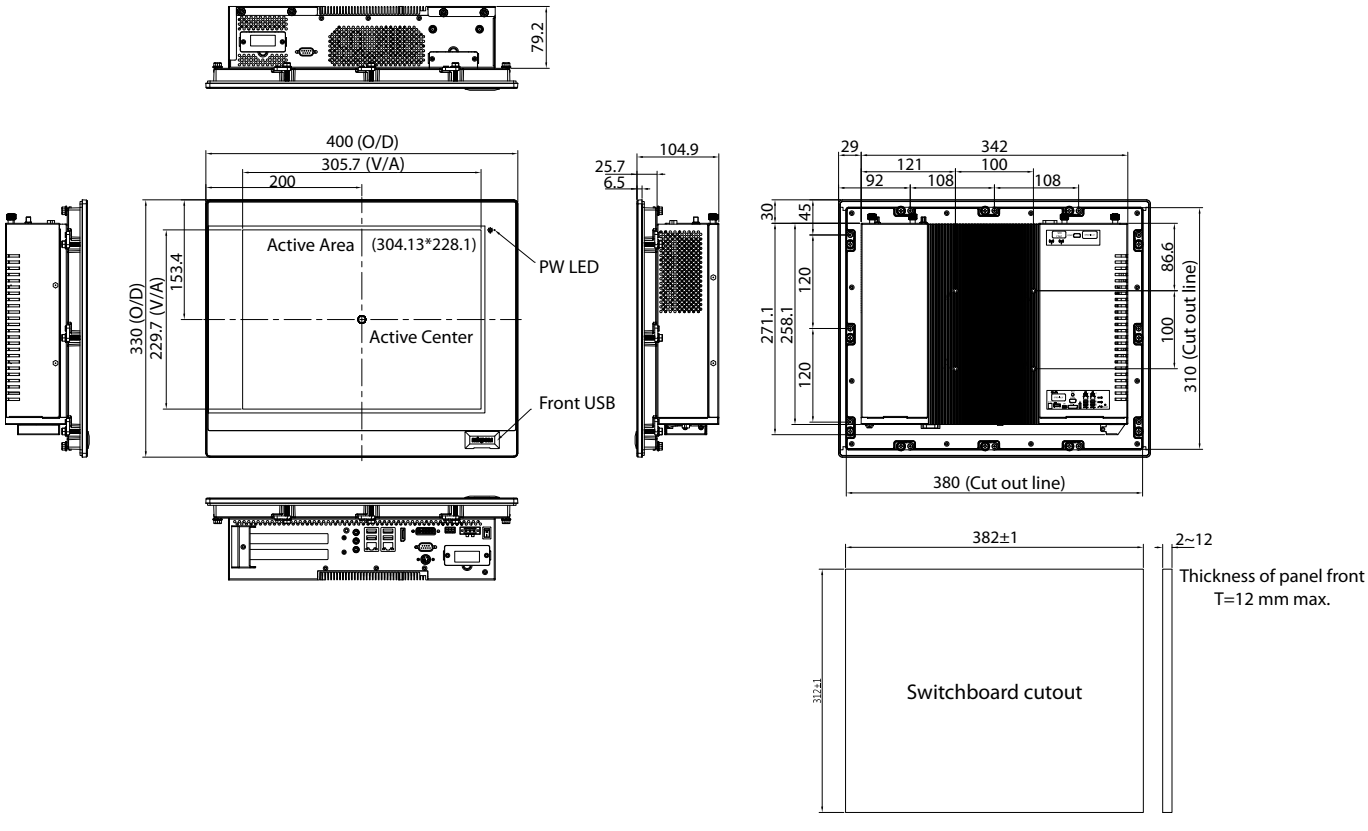
■ APPC 1740T



Switchboard cutout
399$^{+2}_{0}$ x 329$^{+2}_{0}$

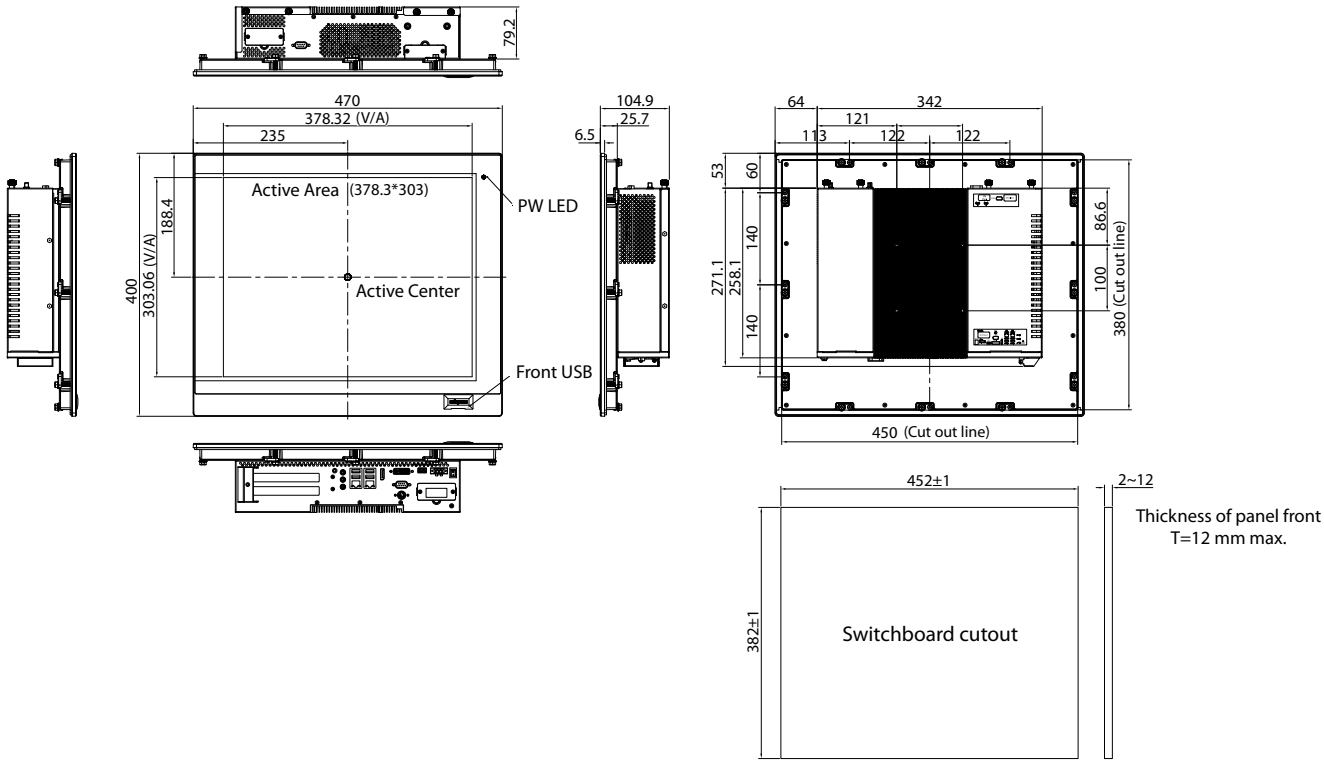
All dimensions in mm

■ IPPC A1570T



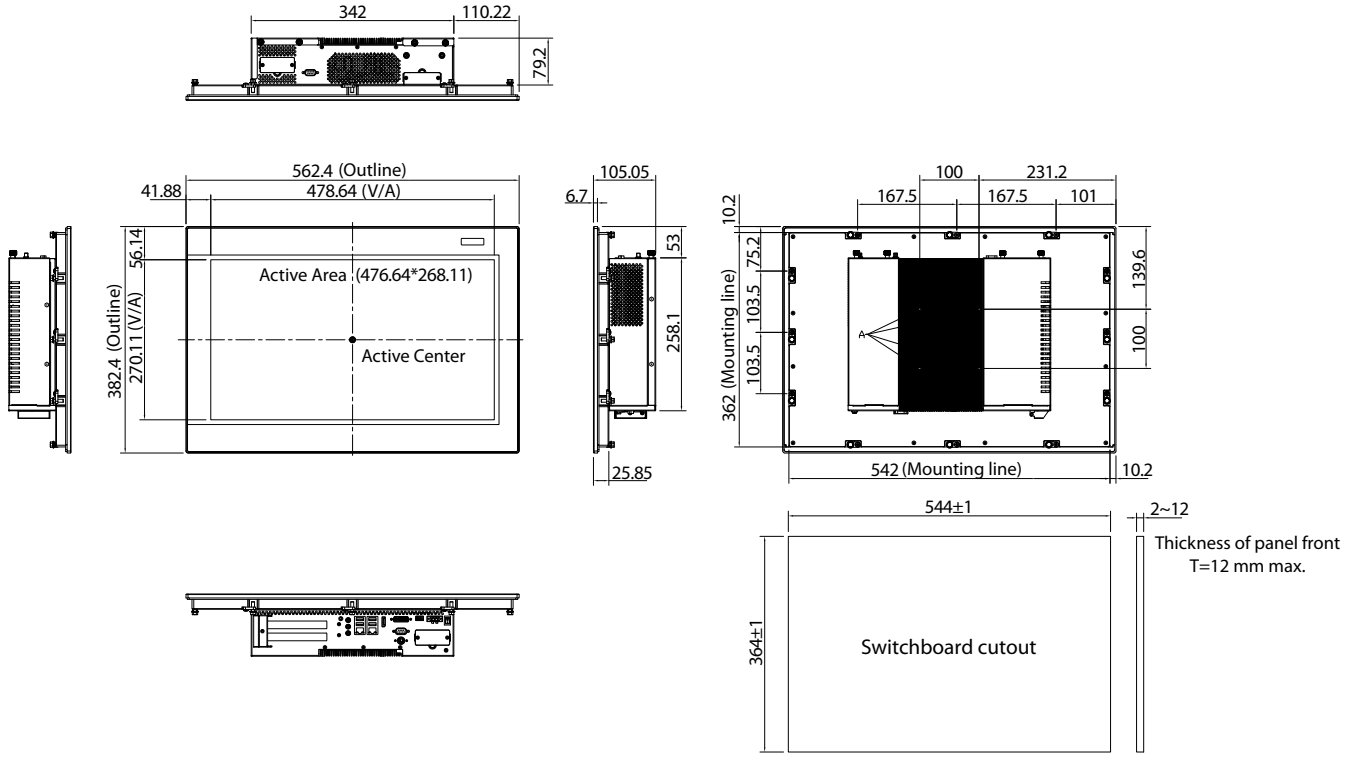
All dimensions in mm

■ IPPC A1970T



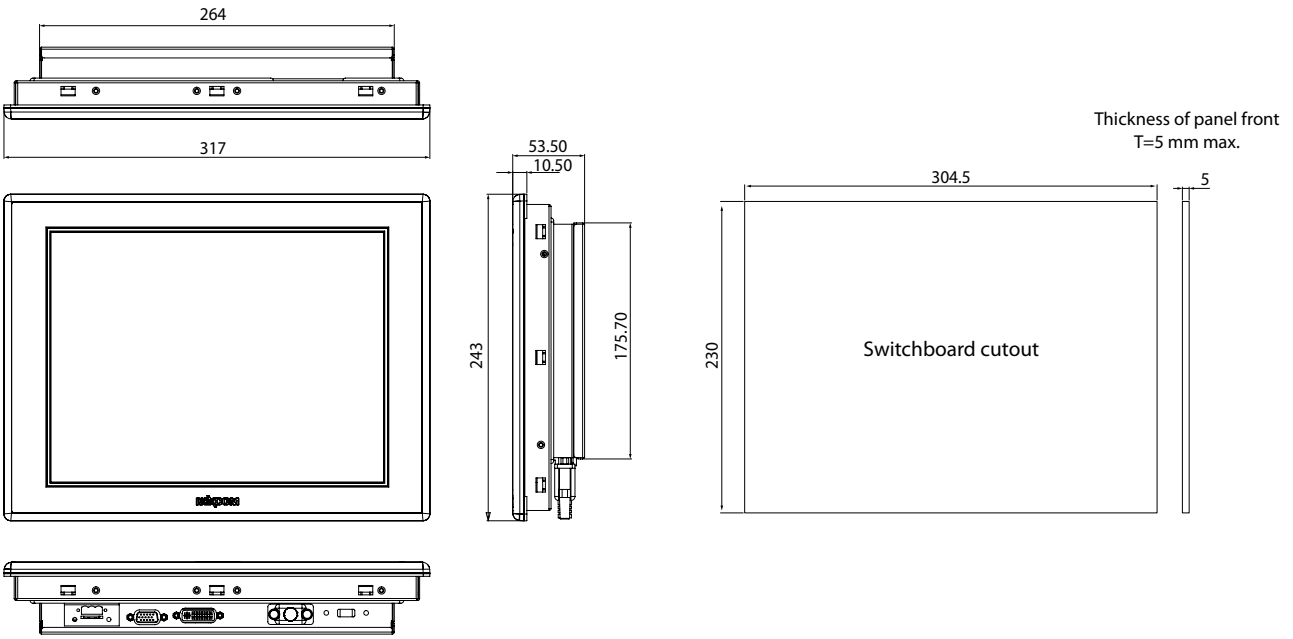
All dimensions in mm

■ IPPC 2170P



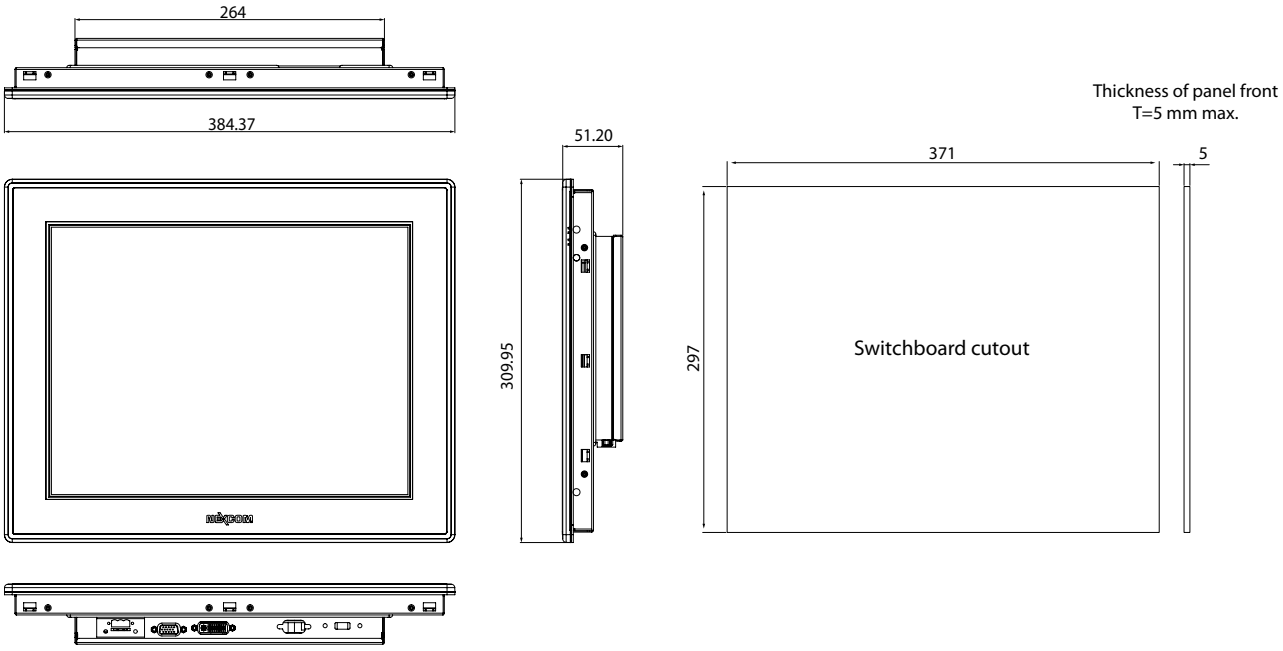
All dimensions in mm

■ APPD 1205T



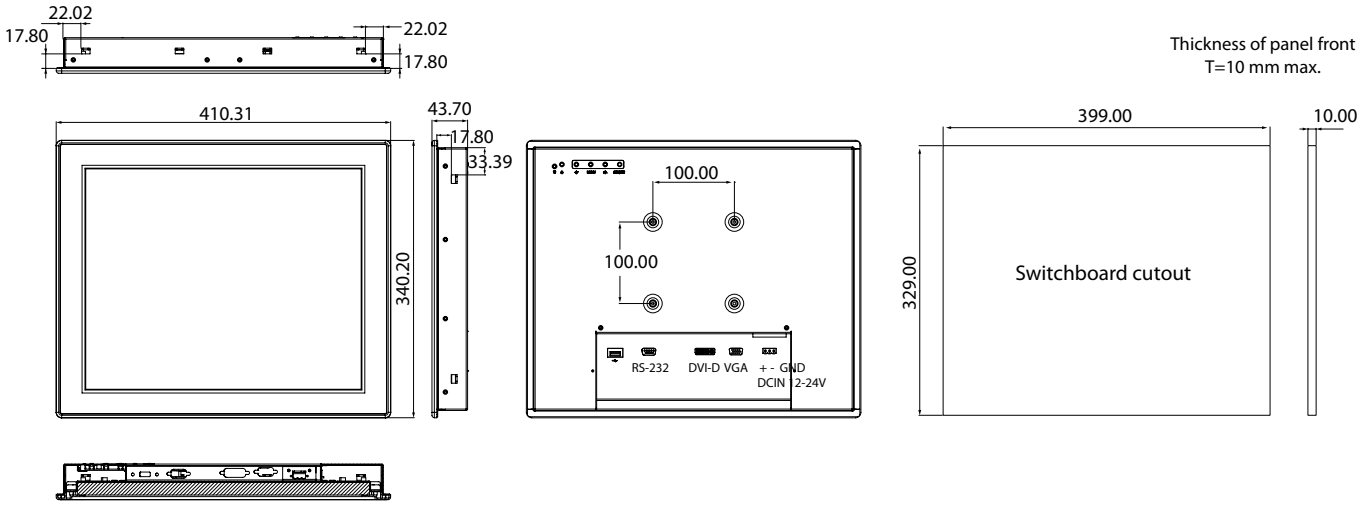
All dimensions in mm

■ APPD 1500T



All dimensions in mm

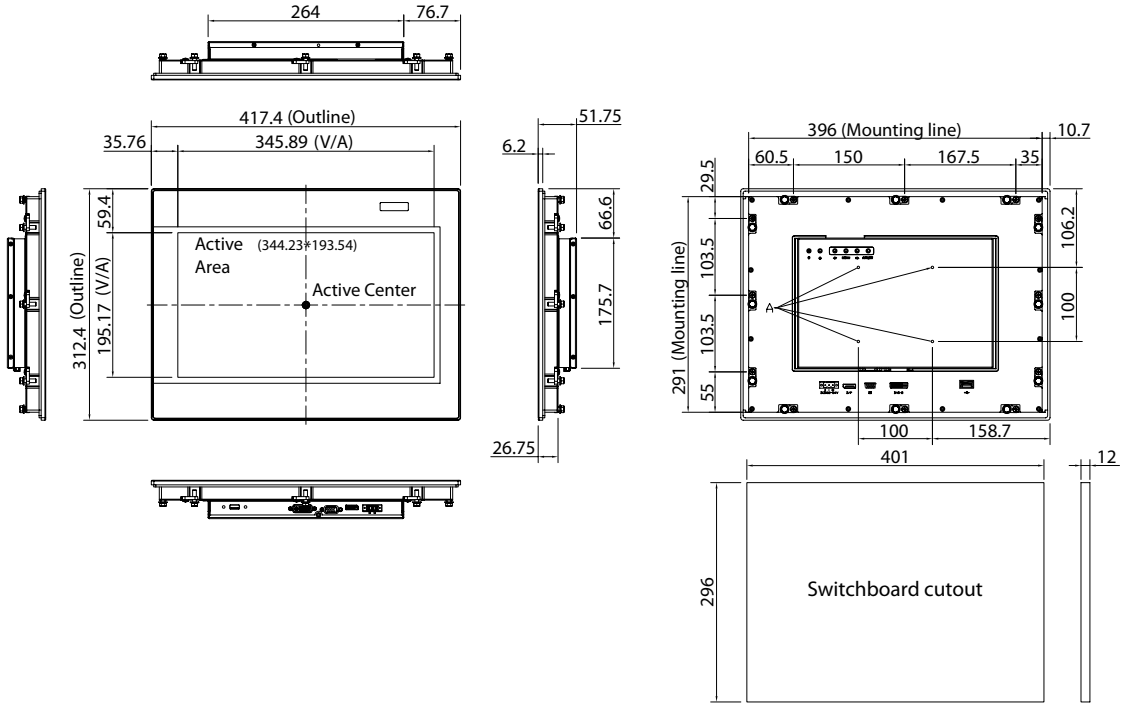
■ APPD 1700T



Thickness of panel front
T=10 mm max.

All dimensions in mm

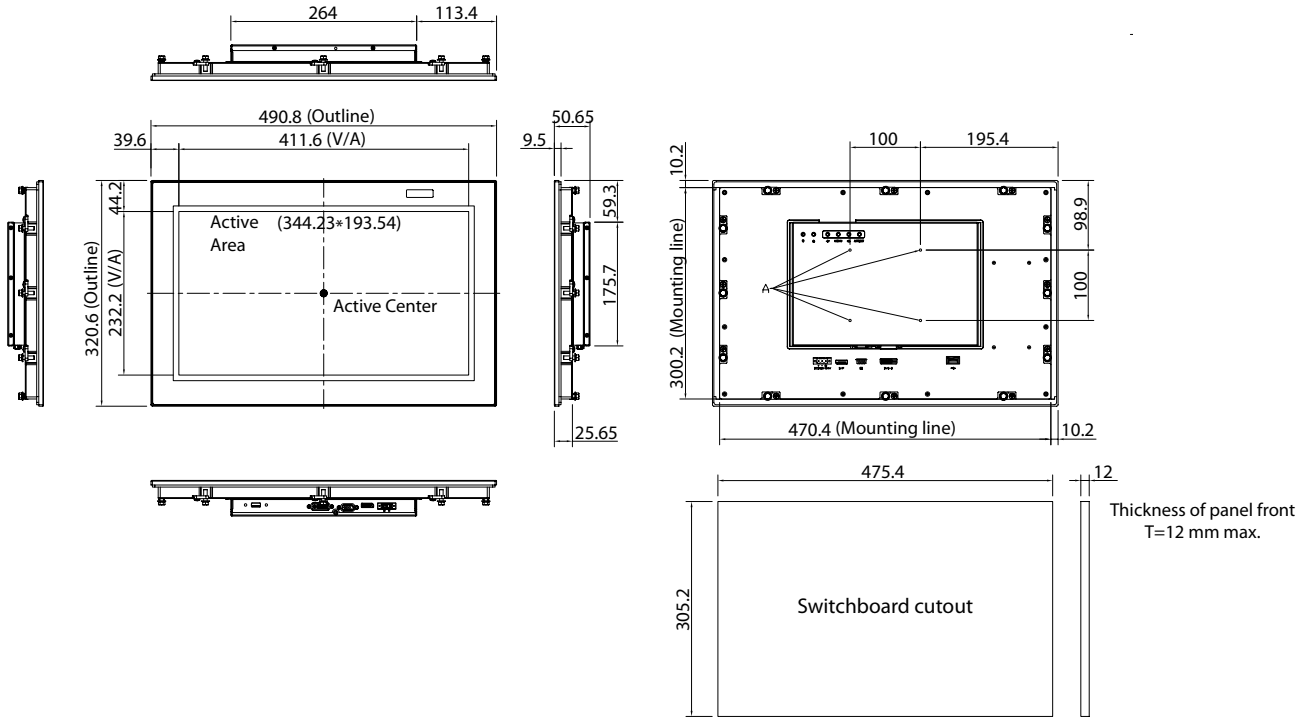
■ IPPD 1600P



Thickness of panel front
T=12 mm max.

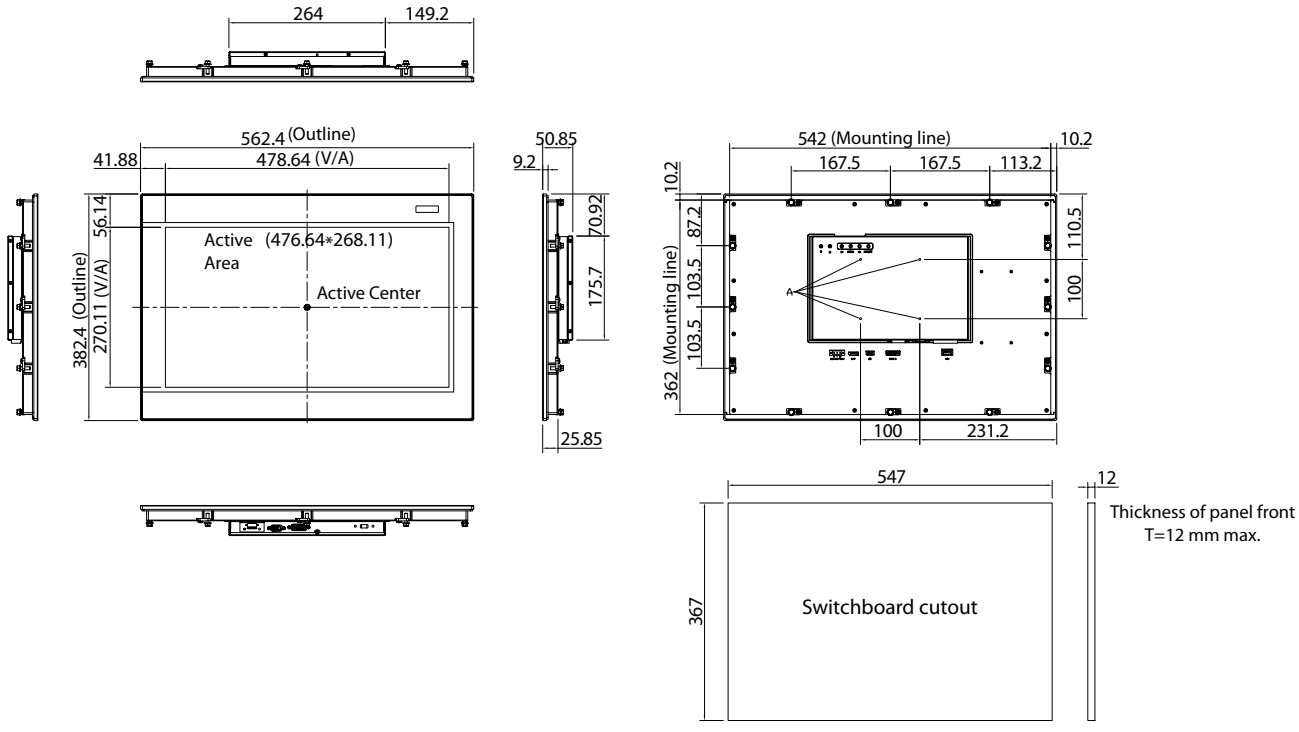
All dimensions in mm

■ IPPD 1800P



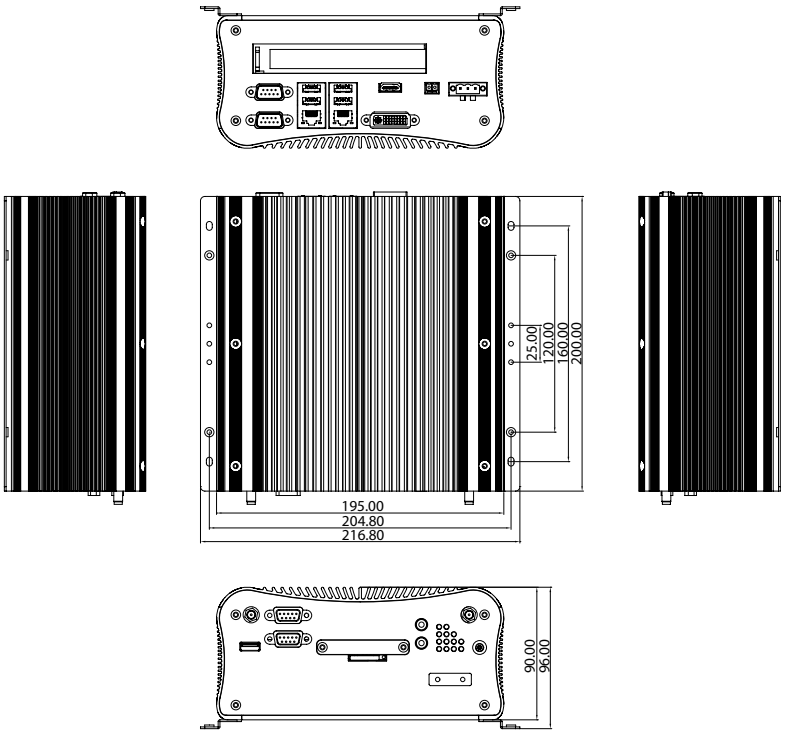
All dimensions in mm

■ IPPD 2100P



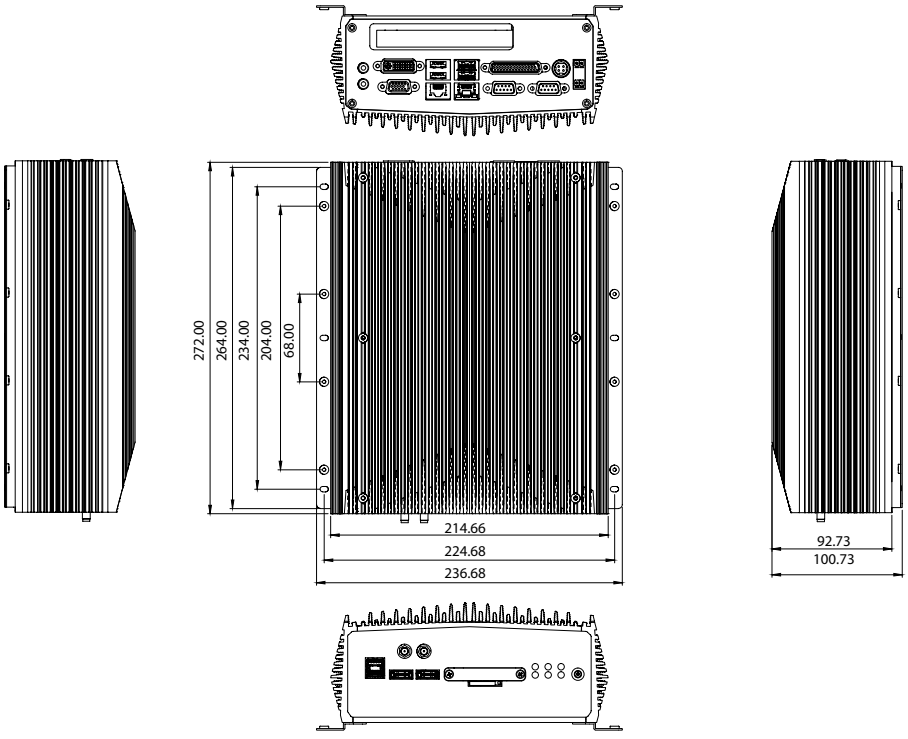
All dimensions in mm

■ NISE 2410



All dimensions in mm

■ NISE 3600E



All dimensions in mm

MELSOFT – Programming and documentation software for standard personal computers

Our MELSOFT suite of Automation software is designed to help you integrate your production process and maximise your business potential. MELSOFT embodies a wide range of software to optimise your plant productivity; from visualisation and control systems to historic and downtime monitoring capabilities. A core design feature of our software is that it is scalable. It is a well accepted truism that one solution rarely fits all, so within each application category there are a range of products offering different levels of functionality and connectivity designed to meet your individual needs. All products are based on Microsoft standards (OPC etc), giving you a broad range of connectivity options and a familiar interface. The MELSOFT suite consists of three main areas:

- **Visualisation.** This type of software is aimed at monitoring and controlling your automation processes.
- **Programming.** Our extensive range of programming software enables users to write their own PLC code for their application. We have software solutions for each of the following products groups: servos, inverters, logic blocks, PLCs, HMIs and networking.
- **Communication.** Our communication software is designed to integrate our products with common third party software packages. This provides you with the reliability and quality of Mitsubishi Electric hardware, combined with the familiarity of software packages/tools such as Microsoft Excel, ActiveX and OPC.

Unified engineering environment: iQ Works

iQ Works integrates the functions necessary to manage every part of the system cycle.

System design

The intuitive system configuration diagram allows for the graphic assembly of systems, centralized management of disparate projects and batch configuration of the entire control system.

Programming

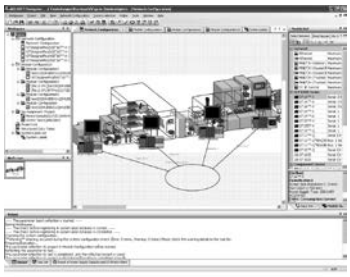
Use system labels to seamlessly share device data between GOTs, PLCs and motion controllers. Save the time and hassle of changing device values in each program by using the update system labels feature.

Test and startup

Debug and optimise programs using the simulation functions. Use the included diagnostics and monitoring functions to quickly identify the source of errors.

Operation and maintenance

Speed up the process of commissioning, configuring and updating the system by using the batch read feature. Virtually eliminate the confusion associated with system management.

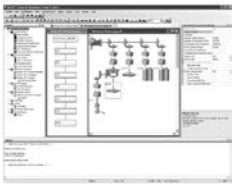


MELSOFT Navigator

is the heart of iQ Works. It enables the effortless design of entire upper-level systems and seamlessly integrates the other MELSOFT programs included with iQ Works. Functions such as system configuration design, batch parameter setting, system labels and batch read all help to reduce TCO.

GX Works2

represents the next generation in MELSOFT PLC maintenance and programming software. Its functionality has been inherited from both GX and IEC Developer, with improvements made throughout to increase productivity and drive down engineering costs.



MT Works2

is a comprehensive motion CPU maintenance and program design tool. Its many useful functions, such as intuitive settings, graphical programming and digital oscilloscope, simulator, different Motion OS support, assistance help, to reduce the MT Works2 associated with motion systems.

GT Works3

is a complete HMI programming, screen creation and maintenance program. In order to reduce the labor required to create detailed and impressive applications, the software's functionality has been built around the concepts of ease of use, simplifications (without sacrificing functionality) and elegance (in design and screen graphics).

■ GT Works3 – GT SoftGOT2000 and GT Designer3

GT Works3

GT Works3 is a wide-ranging visualisation control tool from Mitsubishi Electric. Included are the main program parts GT Designer3 and GT SoftGOT2000 as well as a GT Simulator and a converter for legacy projects.

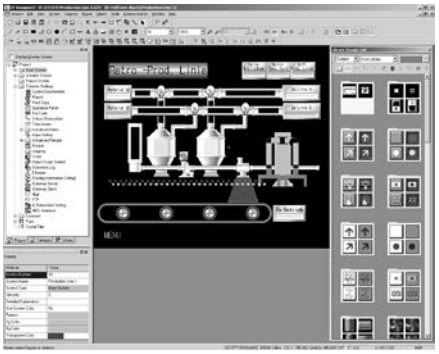
GT Designer3

As part of GT Works3, GT Designer is the graphical development tool to create projects for all GOT terminals. A user-friendly Windows environment provides the user to create and simulate recognisable GOT projects in a fast way.

- An extensive picture and graphics library editor that enables you to modify the graphics to meet your exact specifications.
- A tree format of the project provides you an overview of the structure of the project. This gives you the opportunity to navigate through your project and add, delete or move any programs or functions, creating a more logical flow to your menu structure. Already created components of one project can be used for other projects.
- The combination of GT Simulator and GX Simulator allows you to test both the HMI and PLC coding offline, on your PC without the need to connect to physical hardware.
- Configuration of up to ten languages in the application, easy to edit by using the open Excel format

Specifications	GT Works3: GT Designer3
Application for	All GOT operator terminals
Software language	English, German
Operating system	MS Windows® 2000, MS Windows® XP, MS Windows® Vista, Windows® 7, Windows® 8, Windows® 10
System requirements	PC with at least 1 GHz CPU, 512 MB RAM and 1.5 GB free harddisk space
Required computer interface	RS232C, USB, Ethernet

Order information	Art. no.		
Full version English:	GT Works3: 230020	2 licences and more: 230021
Full version German:	GT Works3 V01-2L0C-G: 234649	GT Works3 V01-5L0C-G: 234650



GT SoftGOT2000

A major benefit of GT SoftGOT2000 is that visualisation screens can be created independently of their final target platform, i. e. a hardware platform or a PC based platform such as GT SoftGOT2000.

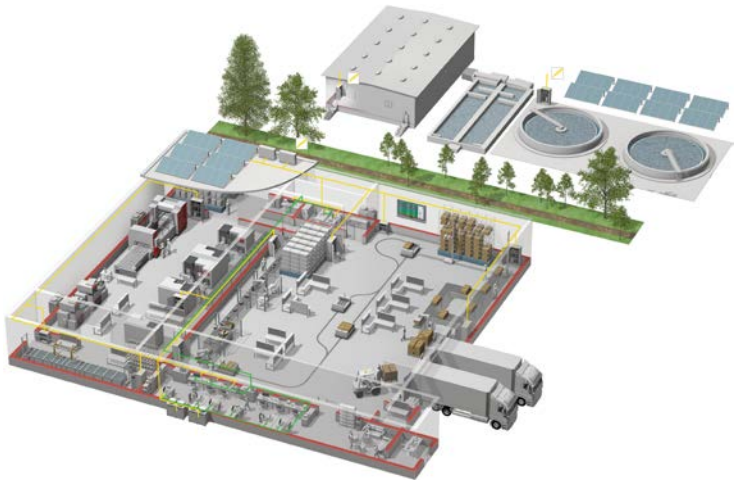
GT SoftGOT2000 is a PC based HMI module within GT Works3. A further benefit of GT SoftGOT2000 is that it inherits the advanced simulation features of GT Works3. It can be simulated in a stand-alone configuration or in conjunction with GX Simulator, linking both PLC and HMI simulation code for a true integrated approach.

- Platform independent, screens created can be used for software-based HMIs or hardware based GOT HMIs.
- Remote monitoring and operation by intranet LAN is possible.
- E-mail support for alarms
- Recording of historical data in user-friendly formats
- Communication with MELSEC PLCs via serial communication, USB (to System Q port), CC-Link IE PC card or Ethernet possible
- Windows® and Microsoft® programs can be accessed from within GT SoftGOT2000

Specifications	GT Works3: GT SoftGOT2000
Application for	All GOT2000 operator terminals
Software language	English, German
Operating system	MS Windows 2000®, MS Windows® XP, MS Windows Vista®, Windows® 7, Windows® 8, Windows® 10
System requirements	The development environment is GT Works3, see above. PC with at least 1 GHz CPU, 512 MB RAM and 1.5 GB free harddisk space
Required computer interface	RS232C, USB, Ethernet
Required dongle interface	USB port (dongle included in the package)

Order information	Art. no.	
Runtime version English with USB dongle:	214653
Runtime version German with USB dongle:	210822

Your solution partner



Mitsubishi Electric offers a wide range of automation equipment from PLCs and HMIs to CNC and EDM machines

A name to trust

Since its beginnings in 1870, some 45 companies use the Mitsubishi name, covering a spectrum of finance, commerce and industry.

The Mitsubishi brand name is recognized around the world as a symbol of premium quality.

Mitsubishi Electric Corporation is active in space development, transportation, semi-conductors, energy systems, communications and information processing, audio visual equipment and home electronics, building and energy management and automation systems, and has 237 factories and laboratories worldwide in over 121 countries.

This is why you can rely on Mitsubishi Electric automation solution - because we know first hand about the need for reliable, efficient, easy-to-use automation and control in our own factories.

As one of the world's leading companies with a global turnover of over 4 trillion Yen (over $40 billion), employing over 130,000 people, Mitsubishi Electric has the resource and the commitment to deliver the ultimate in service and support as well as the best products.

Low voltage: MCCB, MCB, ACB

Medium voltage: VCB, VCC

Power monitoring, energy management

Compact and Modular Controllers

Inverters, Servos and Motors

Visualization: HMIs, Software, MES connectivity

Numerical Control (NC)

Robots: SCARA, Articulated arm

Processing machines: EDM, Lasers, IDS

Air-conditioning, Photovoltaic, EDS

Global Partner. Local Friend.

European Offices

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Estonia **Electrobit OÜ** Pärnu mnt. 160i EST-11317, Tallinn Phone: +372 6518 140	**Finland** **UTU Automation Oy** Peltotie 37 FIN-28400 Ulvila Phone: +358 (0)207 / 463 500	**Greece** **UTECO A.B.E.E.** 5, Mavrogenous Str. GR-18542 Piraeus Phone: +30 (0)211 / 1206-900	**Hungary** **MELTRADE Kft.** Fertő utca 14. HU-1107 Budapest Phone: +36 (0)1 / 431-9726	**Kazakhstan** **TOO Kazpromavtomatika** Ul. Zhambyla 28 KAZ-100017 Karaganda Phone: +7 7212 / 50 10 00	**Latvia** **OAK Integrator Products SIA** Ritausmas iela 23 LV-1058 Riga Phone: +371 67842280	**Lithuania** **Automatikos Centras, UAB** Neries krantinė 14A-101 LT-48397 Kaunas Phone: +370 37 262707
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