

3.7-inch **5.7-inch** **8.4-inch to 15-inch**

GT11
 An entry-level HMI range that provides an array of easy-to-use functions for stand alone use

GT15
 A progressive HMI range for a wide range of stand alone and network applications

NEW

GT1020-LBD 24V DC
 GT1020-LBD2 24V DC
 GT1020-LBL 5V DC

GT1155-QSBD 24V DC
 QVGA 320x240 256 Colors

GT1155HS-QSBD 24V DC
 QVGA 320x240 256 Colors

GT1150-QLBD 24V DC
 QVGA 320x240 Black and White 16 tones

GT1150HS-QLBD 24V DC
 QVGA 320x240 Black and White 16 tones

160x64 Black and White 2 tones
 3-color backlight

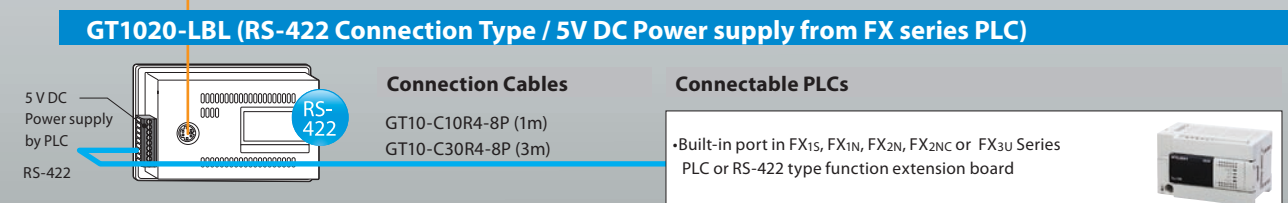
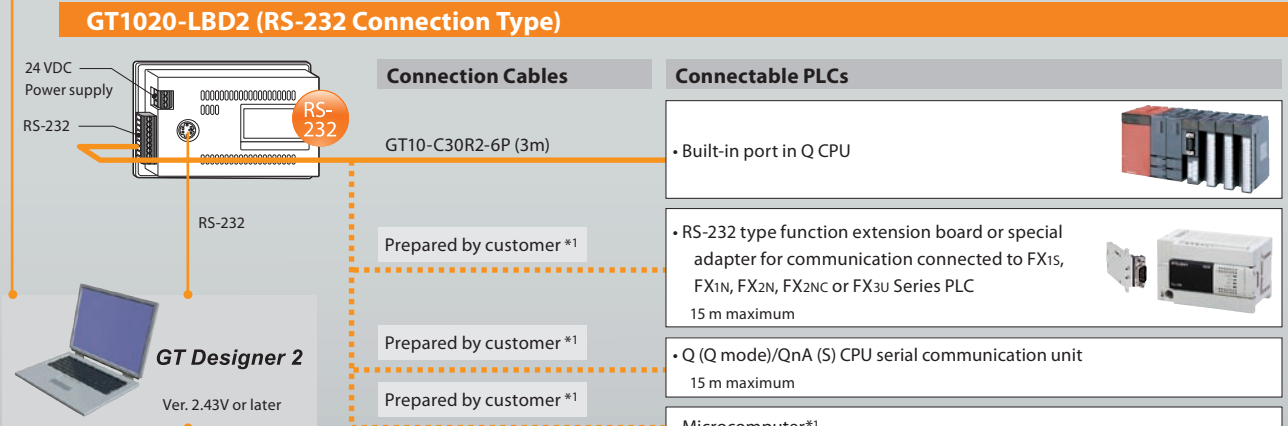
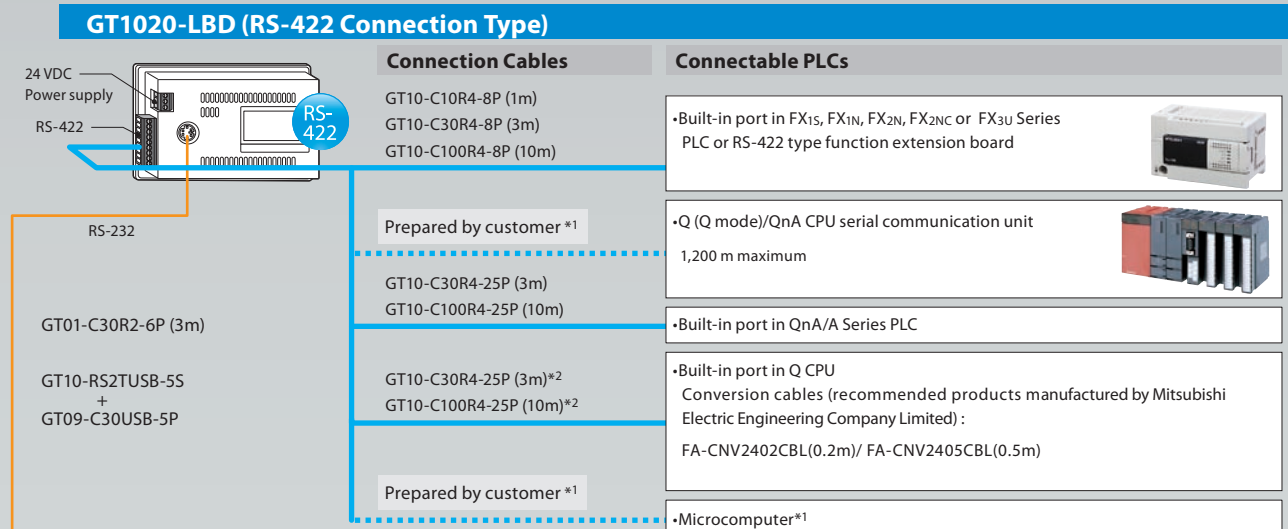
178x128 Black and White 2 tones
 3-color backlight

178x128 Black and White 16 tones
 3-color backlight

178x128 Black and White 16 tones
 3-color backlight

Panel size

System Configuration



*1 Please refer to the connection manual for the details.
 *2 Used with conversion cables. See text box shown to the right.

Functionality

Features
 • Screen : 1,024 base screens max + 3 key windows max
 • Font : Gothic (size: 6 x 8 dots or 16 dots), high quality, true type and Windows font
 • Screen switching function, screen call, language switching function, password protection, system information, connected equipment setting and startup logo

Figure drawing
 Straight line, continuous straight line, rectangle, polygon, chamfered rectangle, circle, ellipse, circular arc, elliptical arc, circular sector, elliptical sector, scale display, painting and image type (BMP/DXF)

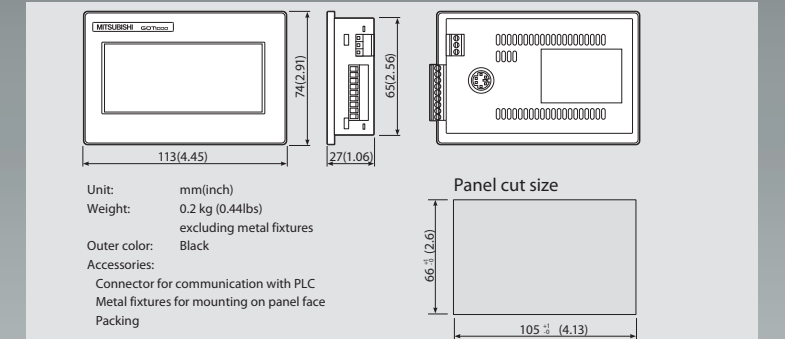
Object
 Comment registration (basic comment and comment group), object registration, data calculation function, offset function, security function, lamp display, touch key, numerical display and input, ASCII display, clock display (linked to PLC clock), comment display, alarm list, alarm history, object display, panel meter, trend graph, line graph, bar graph, state monitoring function, recipe function (4,000 points) and time action function

General specification, power specification and options

Item	GT1020-LBD / GT1020-LBD2	GT1020-LBL
Ambient operating temperature	Display area: 0 to +50°C Excluding display area: 0 to +55°C (horizontal layout) or 0 to +50°C (vertical layout)	
Ambient storage temperature	-20 to +60°C (Ambient operating/storage humidity*: 10 to 90% RH, no dew condensation)	
Vibration resistance	Intermittent vibration	Frequency: 5 to 9 Hz, Amplitude: 9.8m/s ²
	Continuous vibration	Frequency: 5 to 9 Hz, Amplitude: 1.75mm
	Continuous vibration	Frequency: 9 to 150 Hz, Amplitude: 4.9m/s ²
	In conformance to JIS B3502 and IEC 61131-2	
Impact resistance	In conformance to JIS B3502 and IEC 61131-2 (147 m/s, application period: 11ms, sine half-wave pulse, 3 times in each of X, Y and Z directions)	
Noise resistance	Noise voltage: 1,000 Vp-p, noise width: 1µs (Testing via a noise simulator whose noise frequency (range 30 to 100 Hz))	
Maximum voltage	500 VAC, 1 min (between all power terminals and ground)	—
Insulation resistance	10 MΩ or more by 500 VDC insulation resistance tester (between all power terminals and ground)	—
Ambient atmosphere	Free from soot, corrosive gas, flammable gas, and high levels of conductive dusts	
Protective structure against environment	Equivalent to IP67 (JEM 1030) (front face) (This structure does not provide protection against all environmental conditions in your site.)	
Grounding	Class D grounding (insulation resistance: 100Ω or less - When grounding is disabled, perform grounding to the panel.)	
Weight	0.2 kg (excluding metal fixtures)	
Others	Operating height above sea level*: 2,000 m or less, Installation location: Inside control panel, Over-voltage category*: II or lower, Pollution level*: 2 or lower, Cooling Method: Self-cooling	
Power supply	Supply voltage	24 VDC (+10%, -15%), ripple voltage: 200 mV or less (Voltage fuse is built in, and cannot be replaced)
	Power consumption	1.9 W or less (80 mA, 24 VDC) or 1.2 W or less (50 mA, 24V DC - when backlight is OFF)
	Rush current	13 A or less (at 26.4 VDC), 1 ms
Power supply	Supply voltage	5V DC (±5%) Power supply from FX PLC
	Power consumption	1.1 W or less (220 mA, 5 VDC) or 0.6 W or less (120 mA, 5V DC - when backlight is OFF)
Power supply	Power consumption	1.9 W or less (80 mA, 24 VDC) or 1.2 W or less (50 mA, 24V DC - when backlight is OFF)
	Allowable instantaneous power interruption	Within 5 ms

Item	GT1020-LBD/LBL (RS-422 connection)	GT1020-LBD2 (RS-232 connection)
Data Transfer Cable	GT10-C10R4-8P	GT10-C30R2-6P
	GT10-C30R4-8P	GT10-C30R2-6P
	GT10-C100R4-8P*1	GT10-C100R4-25P*1
Protective Sheet	GT10-20PSCB	GT10-20PSCB
	GT10-20PSGB	GT10-20PSGB
	GT10-20PSCW	GT10-20PSCW
Conversion adaptor	GT10-RS2TUSB-5S	GT10-RS2TUSB-5S
	Manual	GT10-U-E

Dimensions



Performance specification

Item	GT1020-LBD / GT1020-LBL	GT1020-LBD2
Display area	Type	STN type black-and-white liquid crystal
	Screen size and resolution	3.7 inch, 160 W x 64 H dots
	Display size (mm)	86.4 W x 34.5 H (3.7 inch) for horizontal layout
	Number of displayed characters	At 16-dot font, 20 half-width characters x 4 lines for horizontal layout
View angle	View angle	30° leftward, 30° rightward, 20° upward and 30° downward for horizontal layout
	Contrast adjustment	16 steps
	Liquid crystal individual brightness	200 cd/m ² (green)
Life	Life	Approximately 50,000 hours (when ambient operating temperature is 25°C), guarantee period: 1 year
	Backlight	3-color LED (green, red and orange) not requiring replacement Status (ON, blinking or OFF) can be controlled. Screen saver delay time can be set.
Touch panel	Number of touch keys	50 maximum per screen
	Key size	2 x 2 dots minimum per key
	Simultaneous pressing	Disabled (If there is a key around the center of the pressed area when two or more keys are pressed, the key in the center may be activated.)
Life	Life	1,000,000 times or more (when pressing force is 0.98 N or less)
	Buzzer output (buzzer sound issued when touch key is pressed)	Single tone ("Long", "short" or "no buzzer" can be selected.)
Memory	User memory	Built-in flash ROM to store project data (512 kb or less), OS, alarm history and recipe data
	Life	100,000 times (number of times of writing to flash ROM)
Communication with PLC	Communication with PLC	Conforms to serial RS-422 standard (insulated type), 1 channel Transmission speed: 115,200, 57,600, 38,400, 19,200, 9,600 and 4,800 bps Connector shape: 9-pin connector terminal block
	Communication with PC	Conforms to serial RS-232 standard (insulated type), 1 channel Transmission speed: 115,200, 57,600, 38,400, 19,200, 9,600 and 4,800 bps Connector shape: 6-pin mini DIN (female)
Applicable software package	GT Designer2 Version 2.43V or later	

*1 Wet bulb temperature: 39°C or less
 *2 Never use the GOT in an environment that is pressurized to an atmospheric pressure above the height of sea level as the GOT may malfunction.
 *3 The over-voltage category indicates the equipment is connected to a power distribution area between the public power distribution network and the machine site. Category II is applied to equipment supplied by a fixed power source where the resistance voltage is 2,500 V in equipment whose rating is 300V or less.
 *4 This index indicates the level of conductive substances in the environment where the equipment is used. Level 2 is applied to environments where only non-conductive pollution is generated but temporary conductive states can occur through condensation of the environment.
 *5 This cable cannot be used for GT1020-LBL.
 [Trademarks]
 "Windows" is a registered trademark of Microsoft Corporation in the USA and other countries. Other described brand names and product names are trademarks or registered trademarks of their respective companies.

Safety Warning
 To ensure proper use of the products listed in this catalog, please be sure to read the instruction manual prior to use.

MITSUBISHI ELECTRIC CORPORATION
 HEAD OFFICE: TOKYO BUILDING, 2-7-3 MARUNOUCHI, CHIYODA-KU, TOKYO 100-8310, JAPAN
 HIMEJI WORKS: 840, CHIYODA CHO, HIMEJI, JAPAN

MITSUBISHI ELECTRIC
 GRAPHIC OPERATION TERMINAL
 GT1020-LBD / GT1020-LBD2 / GT1020-LBL



**Introducing the Micro-GOT
 GT1020**

Mitsubishi Electric Corporation Himeji Works is a factory certified for ISO14001 (standards for environmental management systems) and ISO9001 (standards for quality assurance management systems)

ISO 14001
 JACO

UKAS ENVIRONMENTAL MANAGEMENT
 051

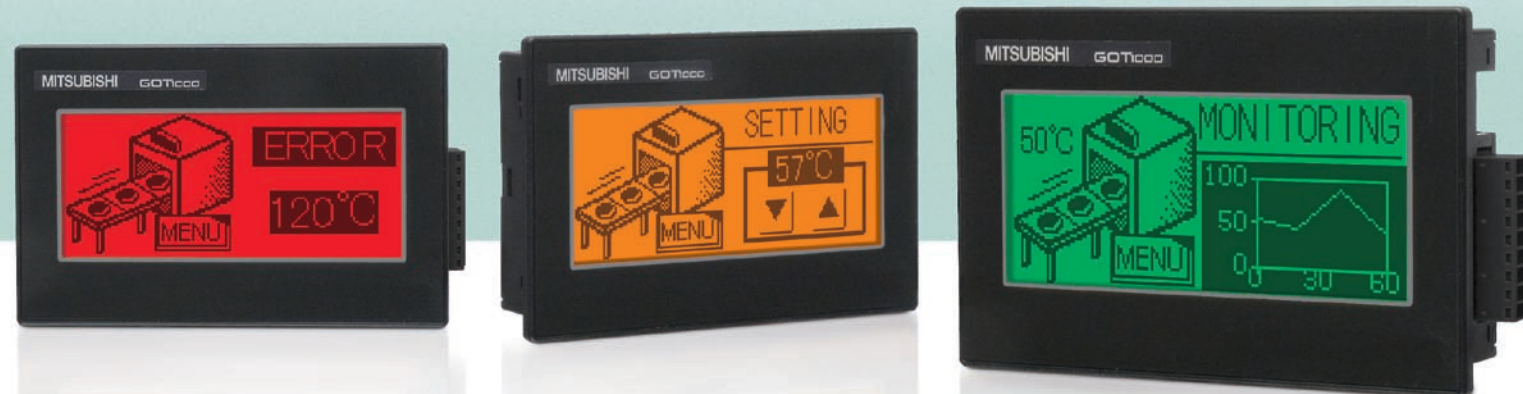
Certified ISO 9001 by
 Evi

UKAS QUALITY MANAGEMENT
 008

MELSOFT

Creative Visual Solutions from a Super-Small Display

The Micro-GOT - Easy to use for all!

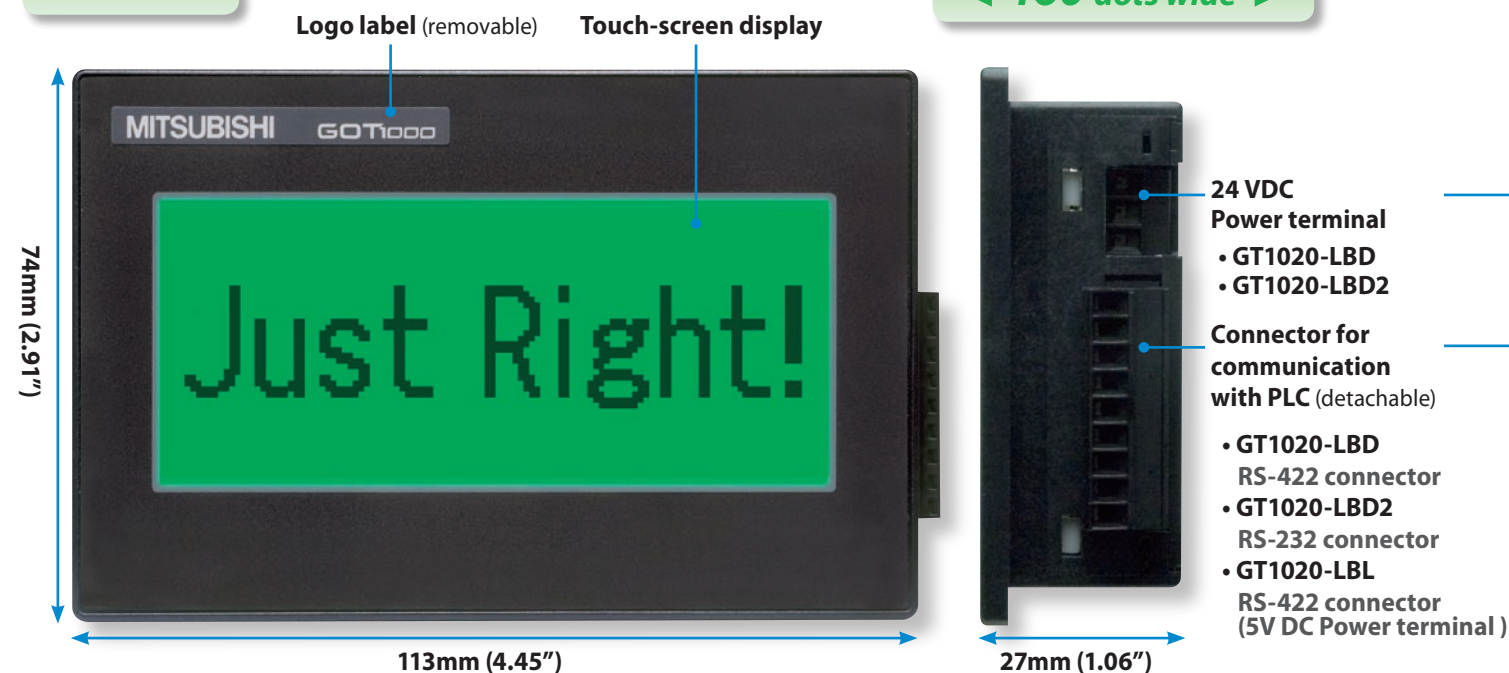


Featuring a bright 3.7-inch STN black-and-white liquid crystal display.

- The 3-color LED backlight offers users a variety of display backgrounds.
- The 3.7-inch LCD optimizes screen space with a resolution of 160 x 64 pixels. The LCD's brightness (200 cd/m²)*1 offers clear imaging even under external lighting conditions.
- Equipped with a super slim design of 27 mm in depth the GT1020 also conforms to standard IP67.
- 5V DC version can be powered directly from the FX series PLC.

Straight-Forward Connectivity

Full size



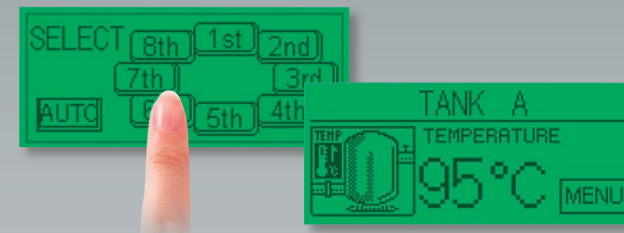
Note: The screens shown in this brochure are for presentation purposes only. Actual backlight colors may differ slightly from those shown in the brochure.

*1 Liquid crystal with green backlight brightness

Intelligent Functionality

Flexible screen layout

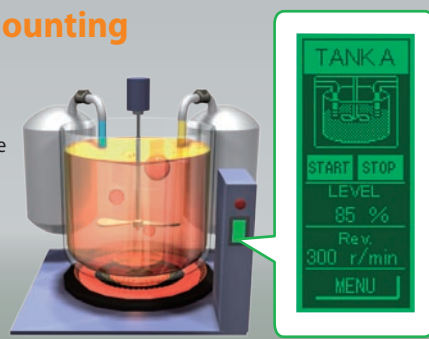
Thanks to the analog touch panels, touch keys can be quickly created and placed in a desired position. Due to the high screen resolution, touch keys can be placed with up to 1 pixel accuracy.



Minimum unit of touch key size: 2 x 2 dots
Maximum number of touch keys: 50/screen

Versatile mounting

Both horizontal and vertical mounting available to meet the needs of different applications.



3-Color backlight screen for enhanced data visualization

Both flashing screens and different screen colors can be created based on the type of information being displayed. As the connected PLC is also able to switch screen colors and turn the backlight ON and OFF the GT1020 can be used to visualize a variety of system statuses.

For example:

[Green]:
Normal operation, automatic operation, etc.



[Orange]:
Manual operation, setup change, etc.



[Red]:
Abnormality, material shortage, etc.



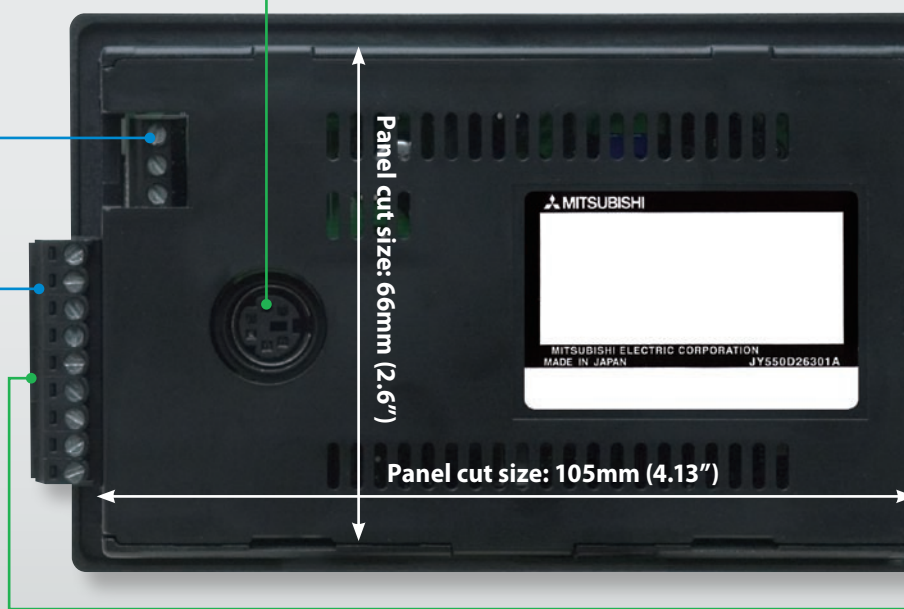
Connection to personal computers

MELSOFT
GT Designer 2 GX Developer

Connection cables:
GT01-C30R2-6P(3m)
GT10-RS2TUSB-5S + GT09-C30USB-5P(3m)



Sequence program transfer/monitoring/test



** When two GT1020 units are connected, this connector is available to communicate with the second GT1020 unit.

Effortless operation and maintenance

Alternative start-up screen

Users can set-up alternative images to be displayed when the GOT starts up.

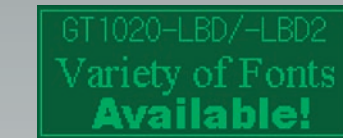
* Bit-map images can be used.

Choose your font!

A variety of fonts are available including the standard type set and the windows type set

When windows fonts are selected, italic, underlined and underlined italic are also available.

*Standard fonts cannot be changed.
**For windows fonts restrictions apply please check manual for details.



Font type	Size	Font name
Standard*	6 x 8 dots	Gothic/Mincho
	16 dots	
High quality	12 dots	Gothic/Mincho
	16 dots	
True type		Gothic/Mincho
Windows* type		All**

Characters from all over the world for people all over the world

Compatible with Unicode 2.1

The GOT1020 can display a number of languages for a variety of countries and areas.

Transparent mode

Through the personal computer communication connector**2 at the rear of the GOT, users can debug, start and adjust sequence programs.

- Direct connection to FX/Q/QnA/A CPU
- Serial communication unit for Q/QnA CPU
- Microcomputer



Trouble free

- The GOT1020 uses a LED backlight for high reliability that does not require replacement.
- The GOT1020 is equipped with a flash ROM, therefore it does not require a battery.
- Optional protective cover available

Options

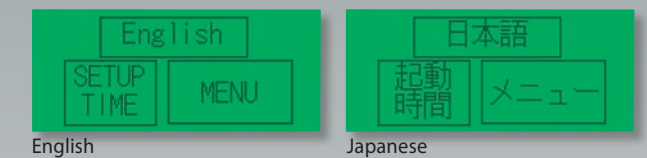
Cables		Protective sheet	
GT1020-*** (RS-422 connection)	LBD	GT10-C10R4-8P	RS-422 cable for direct connection with FX CPU
		GT10-C30R4-8P	RS-422 cable for direct connection with QnA/A CPU
		GT10-C100R4-8P	RS-422 cable for direct connection with Q CPU
		GT10-C30R4-25P	RS-232 cable for direct connection with Q CPU
GT1020-LBD2 (RS-232 connection)		GT10-C30R2-6P	RS-232 cable for direct connection with Q CPU
Data Transfer Cable		GT01-C30R2-6P	For connection between PC (screen creation software) (9-pin D sub, female) and GOT (6-pin mini DIN, female)
		GT10-20PSGB	Anti-glare type, transparent frame, 5 sheets
		GT10-20PSCB	Clear type, transparent frame, 5 sheets
		GT10-20PSGW	Anti-glare type, white frame, logo provided, 5 sheets
		GT10-20PSCW	Clear type, white frame, logo provided, 5 sheets
		GT10-RS2TUSB-5S	RS-232/USB conversion adaptor (applicable software: GT Designer2 and GX Developer) Connectable USB cable: GT09-C30USB-5P (3 m) (manufactured by Mitsubishi Electric System & Service)
		Manual	GT10-U-E (Users manual)

** Drivers available at time of brochure printing. For latest driver updates contact your local Mitsubishi Electric representative.

Simple set-up of language switching windows

Language switching windows can be easily created allowing one language to be switched to another, for example English to Japanese.

Up to 10 languages can be switched per comment group. Window switching can take place not only for languages but also for different applications.



Functionality of GOT1000 Series embodied in a compact design

Recipe function included as standard

The GOT has a built-in memory for up to 4,000 points (corresponding to 16-bit word devices). Using this memory the GOT can transfer a range of values to the PLC.

Communication driver

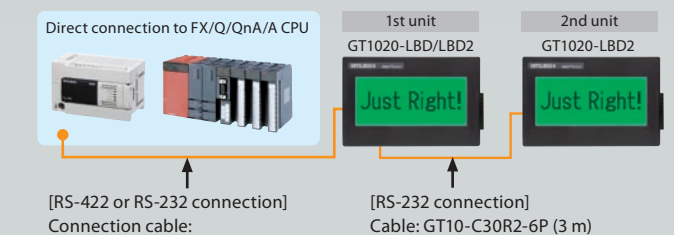
- Pre-installed OS
The OS of the GOT is installed before shipment from the factory.
- Communication driver
The communication driver mounted before shipment is provided for an FX Series PLC.
To connect a Q/QnA/A Series PLC or microcomputer board, you have to install the required communication driver available from GT Designer2.

Other

- Screen saving function and alarm function

Multi-unit connection for high cost performance

You can connect two GT1020 units using a cable only.



* When two GT1020 units are connected, transparent functionality is disabled.