

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Peripheral Equipment**

with type designation(s)
Mitsubishi Graphic Operation Terminal GOT2000 Series

Issued to

Mitsubishi Electric Corporation, Nagoya Works
NAGOYA, AICHI, Japan

is found to comply with
DNV GL rules for classification – Ships, offshore units, and high speed and light craft

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Location classes:

Temperature D
Humidity B
Vibration A
EMC B
Enclosure B / IP67 (Front panel only)

Issued at **Høvik** on **2018-09-07**

This Certificate is valid until **2023-09-06**.

DNV GL local station: **Kobe**

for **DNV GL**

Approval Engineer: **Nils Jarem**

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Odd Magne Nesvåg
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.



Place of manufacture

Mitsubishi Electric Corporation, Nagoya Works,
1-14, Yada-minami 5-chome, Higashi-ku,
Nagoya 461-8670, Japan

Product description

Mitsubishi Graphic Operation Terminal GOT2000 Series as listed below:

GOT main units:

Model Name			Screen size [resolution]	Panel colors	Display	Power supply
GT27	GT2715	GT2715-XTBA	15" XGA [1024×768 dots]	Black	TFT 65536 colors LCD with LED back light	100- 240VAC
		GT2715-XTBD				24VDC
	GT2712	GT2712-STBA	12.1" SVGA [800×600 dots]	Black		100-240VAC
		GT2712-STBD		White		24VDC
		GT2712-STWA				100-240VAC
		GT2712-STWD				24VDC
	GT2710	GT2710-STBA	10.4" SVGA [800×600 dots]	Black		100-240VAC
		GT2710-STBD				24VDC
		GT2710-VTBA	10.4" VGA [640×480 dots]	White		100-240VAC
		GT2710-VTBD				24VDC
		GT2710-VTWA				100-240VAC
		GT2710-VTWD				24VDC
	GT2708	GT2708-STBA	8.4" SVGA [800×600 dots]	Black		100-240VAC
		GT2708-STBD				24VDC
		GT2708-VTBA	8.4" VGA [640×480 dots]			100-240VAC
		GT2708-VTBD				24VDC
	GT2705	GT2705-VTBD	5.7" VGA [640×480 dots]	Black		24VDC
GT25	GT2512	GT2512-STBA	12.1" SVGA [800×600 dots]	Black	100-240VAC	
		GT2512-STBD			24VDC	
	GT2510	GT2510-VTBA	10.4" VGA [640×480 dots]	Black	100-240VAC	
		GT2510-VTBD		White	24VDC	
		GT2510-VTWA			100-240VAC	
		GT2510-VTWD			24VDC	
	GT2508	GT2508-VTBA	8.4"VGA [640×480 dots]	Black	100-240VAC	
		GT2508-VTBD		White	24VDC	
		GT2508-VTWA			100-240VAC	
		GT2508-VTWD			24VDC	

GOT main units added in 2018:

Model Name			Screen size [resolution]	Panel Color	Display	Power supply	Rem- ark
GT25 Wide	GT2510	GT2510-WXTBD	10.1" WXGA [1280×800 dots]	Black	TFT 65536 colors LCD with LED back light	24VDC	-
		GT2510-WXTSD		Silver		24VDC	-
	GT2507	GT2507-WTBD	7" WVGA [800×480 dots]	Black		24VDC	-
		GT2507-WTSD		Silver		24VDC	-
		GT2507T-WTSD		Silver		24VDC	-
GT25	GT2505	GT2505-VTBD	5.7" VGA [640×480 dots]	Black	TFT 65536 colors LCD with LED back light	24VDC	*1
GT21	GT2105	GT2105-QTBDS	5.7" QVGA [320×240 dots]	Black	TFT 65536 colors LCD with LED back light	24VDC	*1
		GT2105-QMBDS		Black	TFT Monochrome (black/white) 32 shade grayscale with LED back light	24VDC	*1

Model Name			Screen size [resolution]	Panel Color	Display	Power supply	Rem- ark
GT21	GT2104	GT2104-RTBD	4.3" [480×272 dots]	Black	TFT 65536 colors LCD with LED back light	24VDC	*1
		GT2104-PMBD	4.5" [384×128 dots]	Black	TFT Monochrome (black/white) 32 shade grayscale	24VDC	*1
		GT2104-PMBDS		Black	with 5-color LED back light	24VDC	*1
		GT2104-PMBDS2		Black	(white, green, pink, orange, red)	24VDC	*1
	GT2103	GT2103-PMBD	3.8" [320×128 dots]	Black	TFT Monochrome (black/white) 32 shade grayscale	24VDC	*1
		GT2103-PMBDS		Black	with 5-color LED back light	24VDC	*1
		GT2103-PMBDS2		Black	(white, green, pink, orange, red)	24VDC	*1
GT21 Wide	GT2107	GT2107-WTBD	7" WVGA	Black	TFT 65536 colors LCD	24VDC	-
		GT2107-WTSD	[800×480 dots]	Silver	with LED back light	24VDC	-

*1 The products listed above are the ones without special coating. When special coating is applied for the purpose to enhancing resistant to corrosive gas (not for insulation protection), suffix "(-05)" will be added at the end of the product type designation.

Type designation of special coatings:

- MELQUID V985-15E Liquid type
- MELQUID V985-SE Spray type
- HumiSeal 1A27NS

Communication interface

Product name	Model Name	Specifications
Serial communication unit	GT15-RS2-9P	RS-232 serial communication unit (D-sub 9-pin male)
	GT15-RS4-9S	RS-422/485 serial communication unit (D-sub 9-pin female)
	GT15-RS4-TE	RS-422/485 serial communication unit (terminal block) Usable only when connecting to temperature controllers/indicating controllers via RS-485 or in GOT multi-drop connection
Q bus connection unit	GT15-QBUS	Q bus connection (1ch) unit standard model
	GT15-QBUS2	Q bus connection (2ch) unit standard model
	GT15-75QBUSL	Q bus connection (1ch) unit slim model
	GT15-75QBUS2L	Q bus connection (2ch) unit slim model
A bus connection unit	GT15-ABUS	A bus connection (1ch) unit standard model
	GT15-ABUS2	A bus connection (2ch) unit standard model
	GT15-75ABUSL	A bus connection (1ch) unit slim model
	GT15-75ABUS2L	A bus connection (2ch) unit slim model
MELSECNET/H communication unit	GT15-J71LP23-25	Normal station unit (optical loop)
CC-Link IE Controller Network Communication unit	GT15-J71GP23-SX	Normal station unit (optical loop)

Optional units

Product name	Model Name	Specifications
Printer unit	GT15-PRN	USB slave (PictBridge) for printer connection, 1ch Cable for connection between printer unit and printer(3m) included
Sound output unit	GT15-SOUT	For sound output (φ3.5 stereo pin jack)
External I/O unit	GT15-DIOR	For external I/O devices and operation panel connection (negative common input/source type output)
	GT15-DIO	For external I/O devices and operation panel connection (positive common input/sink type output)

Job Id: **262.1-018704-2**
Certificate No: **TAA00001YC**

Option

Product name		Model Name	Specifications
Battery		GT11-50BAT	Battery for backup of SRAM date, clock data, and system status log data
Memory card	SD card	L1MEM-2GBSD	2GB SD memory card for GOT
		L1MEM-4GBSD	4GB SDHC memory card for GOT

Option added in 2018

Product name		Model Name	Specifications	
Memory card	SD memory card	NZ1MEM-2GBSD	SD memory card for GOT, 2GB	
		NZ1MEM-4GBSD	SDHC memory card for GOT, 4GB	
		NZ1MEM-8GBSD	SDHC memory card for GOT, 8GB	
		NZ1MEM-16GBSD	SDHC memory card for GOT, 16GB	
USB environmental Protection cover		GT21-WUCOV	For 10.1"/7" Wide, 5.7"(GT2505)	Environmental protection cover for the USB interface on the GOT front face (for replacement)
		GT14-50UCOV	For 5.7" (GT2105)	
SD memory card unit		GT21-03SDCD	For mounting an SD memory card. Only available to GT2103.	

Firmware versions:

GT27, GT25, GT25 Wide models:
Boot OS 01.25.010.AG
Other OS 01.25.010

GT21, GT21 Wide models:
Boot OS 01.21.000.-K
Other OS 01.27.000

Application/Limitation

Both AC and DC power supply inputs except for the GOT main units added in 2018 models shall be protected by power supply noise filters FR S5NFSA 1.5K and RSHN 2006.

DC Power supply inputs for the GOT main units added in 2018 models shall be protected by power supply noise filters FR S5NFSA 1.5K, RSHN 2006 and SG-Z24J or equivalent.

To satisfy the class requirements for power supply variations, the 24VDC units are to be installed with a power supply of approved type.

Approval conditions

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV GL, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case. Reference is made to DNV GL rules for classification of ships Pt.4 Ch.9 Control and monitoring systems.

Type Approval documentation

Tests carried out

Applicable tests according to class guideline DNVGL-CG-0339, November 2016.

Marking of product

Manufacturer: Mitsubishi Electric Corporation
Model name: As listed under Product description

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)

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- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE