Contents in this document may change without prior notice.
Please obtain the delivery specification for the latest design.

TM Series
21.5” Wide
LCD Touchscreen Monitor

Model G
Model H

Model: TMG-215FH01-01 / TMG-215FH03-01
TMH-215FH01-01 / TMH-215FH03-01

Product Specification

DMC Co. Ltd.
https: //www.dush.co.jp/english/

23A4A2-10002E-2

Table of Contents

Appendix:

Outline drawing: TMG (H) -215FH01-01 Drawing No.: SM3-002356-10

Outline drawing: TMG (H) -215FH03-01 Drawing No.: SM3-002357-10

1 Summary

This is a touchscreen monitor equipped with 21.5” wide LCD touchscreen.

There are two types of touchscreens: analog resistive and projection capacitive.

Product will be referred to as TM herein.

2 Product Model

Model	Specification				
	LCD Size	Touchscreen Type	Image Input	USB Host I/F *1 (Upstream)	USB Hub I/F*2 (Downstream)
TMG-215FH01-01	21.5” Wide	Projected capacitive	HDMI	USB3.0 Type-B (USB2.0Type-B can be connected also)	—
TMG-215FH03-01					USB3.0 Type-A
TMH-215FH01-01		Analog resistive			—
TMH-215FH03-01					USB3.0 Type-A

∗1 Connect the USB cable when using as a touchscreen monitor or when using USB hub functions.

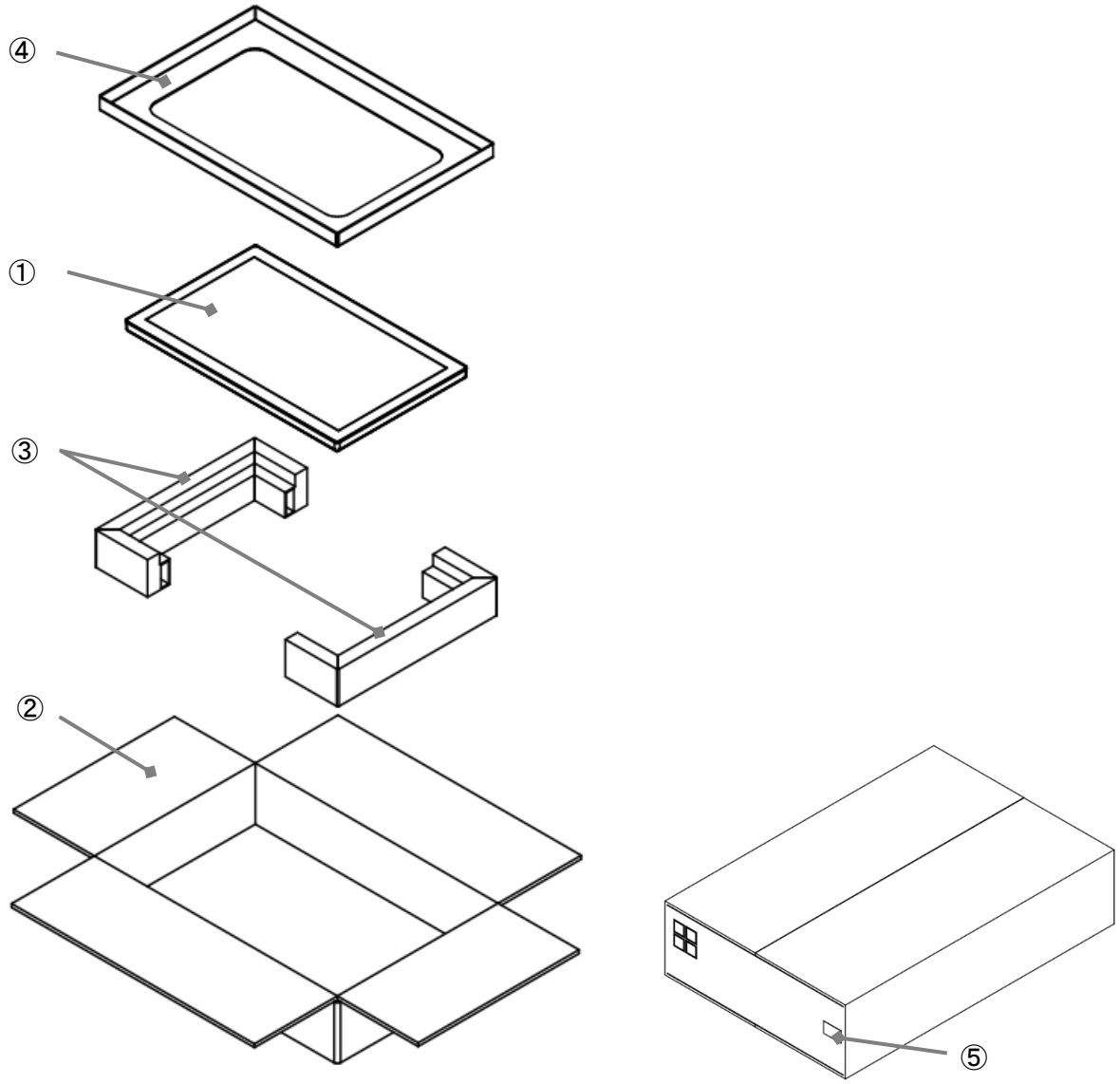
∗2 Can be connected to USB compatible peripherals.

3 Packaging Specification

Packaged Contents	Specification
TM main unit	One unit/ box

3-1 Packaging Format

No.	Item	Qty
①	TM main unit (put in anti-static bag)	1
②	Outer box (external dimension: W617xD414xH147)	1
③	Bottom pad	2
④	Top pad	1
⑤	Packaging Label (Model)	1



4 Specification

4-1 Functions

Item			Specification			
			TMG-215FH01-01	**TMG-215FH03-01**	**TMH-215FH01-01**	**TMH-215FH03-01**
LCD Panel	LCD size		21.5” Wide			
	Resolution		Full HD (1,920 (H) x1,080 (V) dot)			
	Display Area		476.064mm (W) ×267.786mm (H)			
	Pixel Pitch		0.24795mm (W) ×0.24795mm (H)			
	Color		App. 16.77million colors			
	View Area (Typ.)	Horizontal	178º (89º/89º)			
		Vertical	178º (89º/89º)			
	Brightness (Typ.)		350 cd/m^2		310 cd/m^2	
	Backlight Method		LED			
	Backlight Life		50,000 h*1			
Input Signal	Digital		HDMI 1.3b			
	Max. Input Resolution		Full HD (1,920 (H) x1,080 (V) dot)			
	Horizontal Scanning Cycle		30KHz - 80KHz			
	Vertical Scanning Cycle		50Hz – 60Hz			
	Upstream (USB)		USB3.0 TYPE-B			
	Downstream (USB)		-	USB3.0 TYPE-A x2	-	USB3.0 TYPE-A x2

*1 Time until surface brightness declines to 50% from the initial value at maximum brightness. (at ambient temperature of 25℃).

4-2 Touchscreen

4-2-1 Projected Capacitive

Item	Specification
	TMG-215FH01-01/TMG-215FH03-01
Type	Projected capacitive
Input Method	Finger
Maximum Simultaneous Input	Five points *1
Operating Life	Continuous typing (finger input): 50 million times
Communication Method	USB
Supporting OS	Microsoft® Windows® 10/11 (64bit) *2

∗1 Operation confirmed of gesture operation to 5 points.

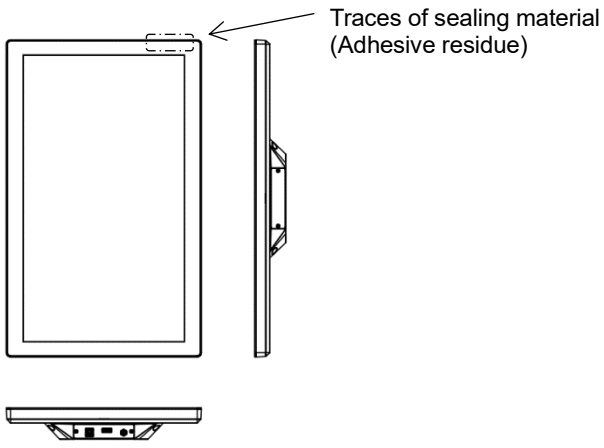
∗2 The standard Windows touchscreen driver can be used, but operations may become unstable depending on the environment installed. Please perform calibration according to the instructions in “Section 4.4 Calibration” in the Instruction Manual.

4-2-2 Analog Resistive

Item		Specification
		TMH-215FH01-01/TMH-215FH03-01
Type		Analog resistive
Input Method		Finger or R0.8 Polyacetal pen
Maximum Simultaneous Input		1 point (gesture supported)
Operating Life	Typing (by finger)	10 million times
	Character Input (by pen)	100 thousand characters
Communication Method		USB
Supporting OS*1		Microsoft® Windows® 10/11 (64bit)

∗1 Dedicated driver installation required. Please refer to “Chapter 4 Touchscreen Setup Tool” in the Instruction Manual for details.

∗2 Due to the structure of the touchscreen, sealing material may be visible at the edge (upper right corner viewed from the front) of the touchscreen.
Please refer to the Shipping Standards for details. (Please contact our sales representative).



4-3 Power

Item	Specification			
	TMG-215FH01-01	TMG-215FH03-01	TMH-215H01-01	TMH-215FH03-01
Rated Voltage	12VDC			
Voltage Tolerance	12VDC±5%			
Power Consumption	25W (MAX)	35W (MAX)	25W (MAX)	35W (MAX)
SG-FG Connection	SG (Signal GND) and FG (Frame GND) are connected inside the unit. FG is connected to the VESA mounting holes marked ( ). Connect Field GND to the FG accordingly.			

4-4 Environment

Item	Specification	
	TMG-215FH01-01/TMG-215FH03-01	TMH-215FH01-01/TMH-215FH03-01
Ambient operating temperature (Inside cabinet and display side)	0 to 40℃	
Ambient storage temperature	-10 to 60℃	
Ambient operating humidity	10 to 80%RH (Non-condensing. Wet-bulb temperature is 39 °C or less)	
Ambient storage humidity	10 to 80%RH (Non-condensing. Wet-bulb temperature is 39 °C or less)	
Corrosive Gas	Prohibited	
Dust	Prohibited	
Pressure Resistance (Operating Altitude)	800 to 1114hPa (Altitude of 2000m or lower)	
Vibration Resistance	5 to 9Hz Single amplitude width: 3.5mm 9 to 150Hz Fixed accelerated velocity: 9.8m/s^2 10 times in each direction (X, Y, Z) (100minutes)	

4-5 Installation

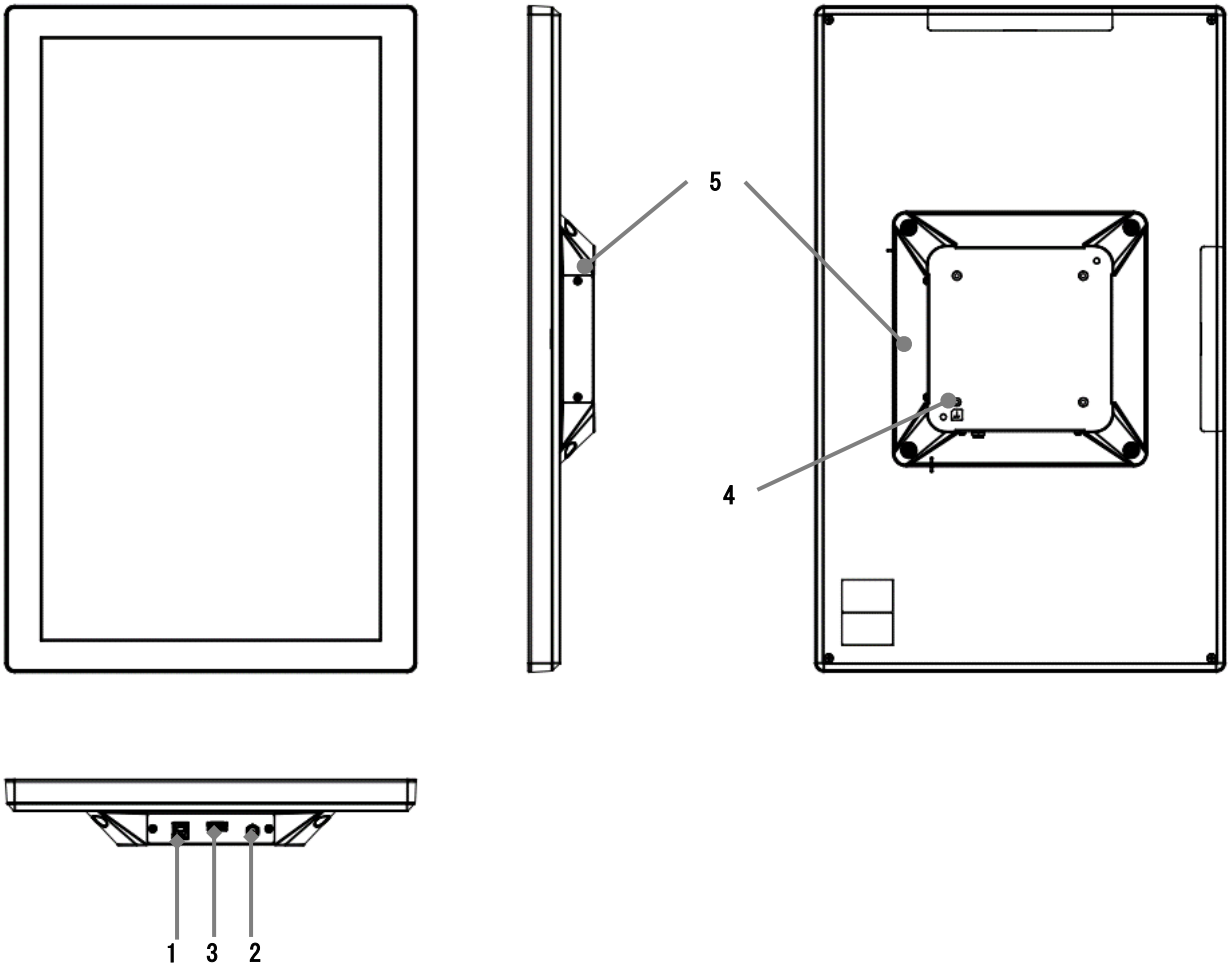
Item	Specification			
	TMG-215FH01-01	TMG-215FH03-01	TMH-215FH01-01	TMH-215FH03-01
Installation	Standard installation: Portrait mode display installation Display can be installed either in Portrait or Landscape mode. *1			
Structure	VESA 100 x 100mm compliant (M4 screw, Dept 8mm at max)			
Body Color	Black			
Protective Structure	Equivalent to IP65 (Display side only) *2			
Cooling Method	Natural Cooling			
External Dimension	527 (W) x 325 (H) x 52 (D) mm			
Weight	Approx. 4,700g	Approx. 4,700g	Approx. 4,500g	Approx. 4,500g

∗1 By changing the mounting angle of the VESA box, the IF cable withdrawal direction can be changed freely.
(Angle: 90degress)

∗2 The VESA box and I/F cable are not drip-proof.
Operation is not guaranteed under all conditions of actual use.

4-6 Name of Each Parts

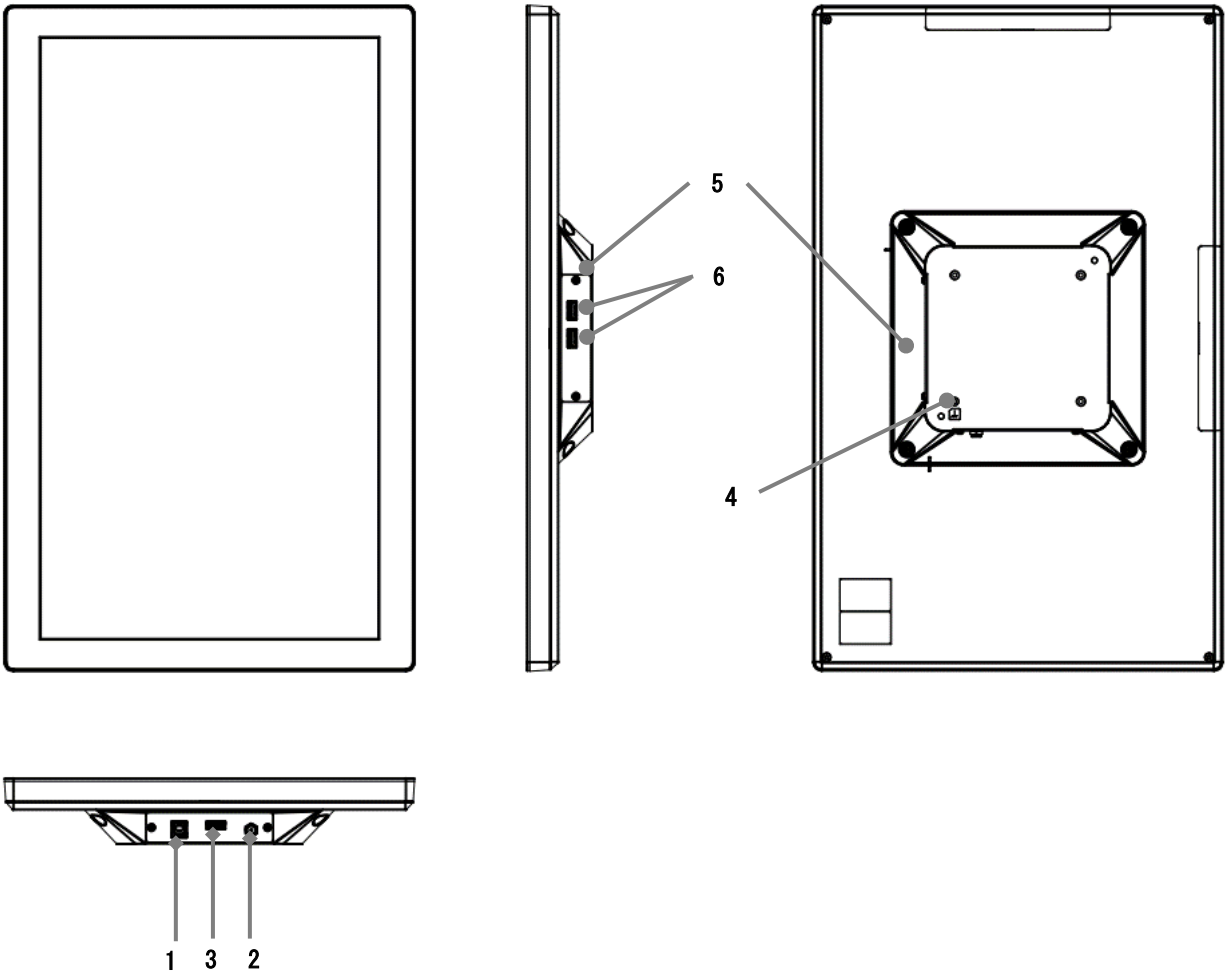
4-6-1 TMG-215FH01-01, TMH-215FH01-01



No	Name	Functions
1	USB Host I/F *1	USB3.0 Standard Type-B connector (USB2.0 Type-B can be connected)
2	Power Input	Input power (12VDC)
3	Image Input (Digital)	HDMI connector
4	FG Terminal	Use to connect to Field GND
5	VESA Box	Can be rotated by user

*1 Connect an USB cable when using as a touchscreen monitor.

4-6-2 TMG-215FH03-01, TMH-215FH03-01



No.	Name	Functions
1	USB Host I/F *1 (Upstream)	USB3.0 Standard Type-B connector (USB2.0 Type-B can be connected)
2	Power Input	Input power (12VDC)
3	Image Input (Digital)	HDMI connector
4	FG Terminal	Use to connect to Field GND
5	VESA Box	Can be rotated by user
6	USB Hub I/F *2 (Downstream)	USB3.0 Standard Type-A connector (USB2.0 Type-A can be connected)

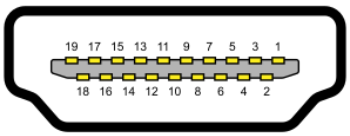
*1 Connect an USB cable when using as a touchscreen monitor or when using the USB hub function.

*2 Can connect to USB compatible peripherals.

4-7 External Interface

4-7-1 Image Input (Digital [HDMI])

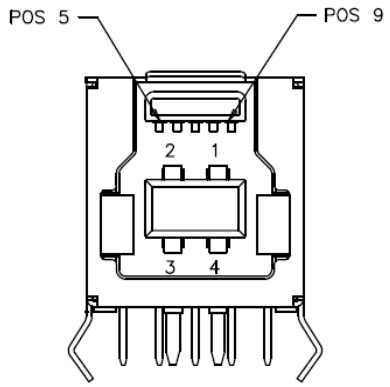
Interface: HDMI 1.3b

Schematic			
			
Pin	**Signal**	**Pin**	**Signal**
1	TMDS Data2+	2	TMDS Data2 Shield
3	TMDS Data2-	4	TMDS Data1+
5	TMDS Data1 Shield	6	TMDS Data1-
7	TMDS Data0+	8	TMDS Data0 Shield
9	TMDS Data0-	10	TMDS Clock+
11	TMDS Clock Shield	12	TMDS Clock-
13	CEC (NC)	14	Reserved
15	DDC Clock	16	DDC Data
17	DDC GND	18	+5V Power
19	Hot Plug Detect		

4-7-2 USB Host I/F (Upstream)

Interface: USB3.0

Connector: USB3.0 Type-B

Schematic


Pin	Signal	Description
1	VBUS (5V)	Power
2	D-	USB 2.0
3	D+	
4	GND	GND for power return
5	StdB_SSTX-	SuperSpeed transmitter
6	StdB_SSTX+	
7	GND_DRAIN	GND for signal return
8	StdB_SSRX-	SuperSpeed receiver
9	StdB_SSRX+	
10	Shield	

4-7-3 USB Hub I/F (Downstream)

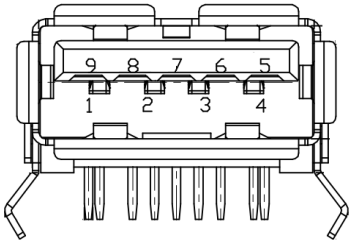
■TMG-215FH03-01, TMH-215FH03-01

Interface: USB3.0

Port: 2

Connector: USB3.0 Type-A

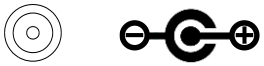
Maximum Voltage Supply: 0.9A (per port)

Schematic		
		
Pin	**Signal**	**Description**
1	VBUS (5V)	Power
2	D-	USB 2.0
3	D+	
4	GND	GND for power return
5	StdB_SSTX-	SuperSpeed transmitter
6	StdB_SSTX+	
7	GND_DRAIN	GND for signal return
8	StdB_SSRX-	SuperSpeed receiver
9	StdB_SSRX+	

4-7-4 Power Input

Connector: DC Jack

Conforming Plug: Outer diameter: φ5.5; inner diameter: φ2.1

Pin	Signal	Schematic
＋	+12V	
－	GND	

4-8 Main Functions

4-8-1 Multi-scanning

Image is automatically scaled to match the input resolution and the LCD display resolution.

However, the scaling of image to fit the resolution may cause distortion of the input image and/or collapsing of the text.

4-8-2 Support Timing

No	Resolution	Aspect Ratio	Refresh Rate
1	640×480p	4: 3	60Hz
2	720×480p	4: 3	60Hz
3	800×600p	4: 3	56Hz
4	800×600p	4: 3	60Hz
5	1024×768p	4:3	60Hz
6	1280×720p	16:9	60Hz
7	1280×960p	4:3	60Hz
8	1280×1024p	5:4	60Hz
9	1600×900p	16:9	60Hz
10	1600×1200p	4:3	60Hz
11	1680×1050p	16:10	60Hz
12	1920×1080p	16:9	60Hz

5 Installation

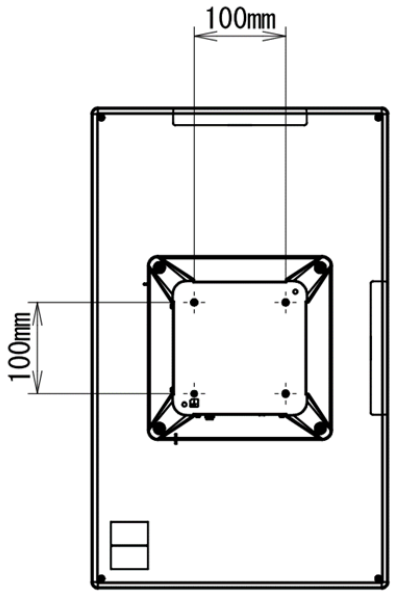
5-1 Mounting a “VESA Standard” Arm

Commercially available arms can be mounted.

Please refer to the instruction manual of the arm for mounting instructions.

The dimensions of the mounting holes are as shown in the diagram below.

VESA Standard 100mm×100mm

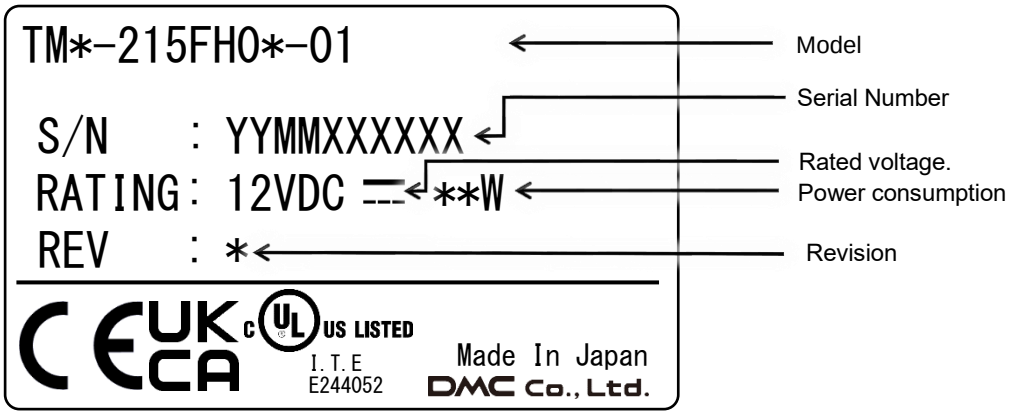


Fix with M4 screws. Torque range to tighten is 0.7 to 0.8N・m.

Select M4 screws so that the penetration depth is 8mm or less from the back side of the TM case.

.

6 Product Label



Above is an example image of the product label.

The following information will be noted on the label of the actual product.

- Model : Model of the product purchased
- Serial number : 10 digit control number
- Rated voltage : Rated voltage of the product
- Power consumption: Maximum power consumption of the product
- Revision : Alphabet (1 character from A to Z) according to the shipped product.

7 Complying Standards

TM is intended for use as an industrial equipment. The following standards apply when the product is installed properly and used in accordance with the instruction manual and specifications.

7-1 UL Certification

TM complies to the below UL Certification.

UL standard No.	UL File No
UL 62368-1, 2nd Ed, 2014-12-01 CSA C22.2 No. 62368-1-14, 2nd Ed., Issue Date: 2014-12-01	E244052

7-2 EMC Directives

TM is compliant to the EMC Directives of EU.

Complying Standards: EMI: EN 55011: 2016/A1: 2017/A11: 2020
EMS: EN 61000-6-2: 2019

*EMC Directives Compling Requirements

USB Port connection requirements noted below must be followed as to meet the EMC Directive complying requirement.

Connection requirement to the USB Downstream Port

- USB3.0 device direct connection only. (USB3.0 extension cable connection is not acceptable.)
- USB2.0 devices can be connected to extended cable to maximum length of 5m.

7-3 RoHS Directives

TM is compliant to the EU RoHS Directives.

7-4 FCC

The FCC requires the below note to be issued in accordance with the FCC guidelines.

Note:

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user is required to correct the interference at their own expense.
Changes or modifications to this unit that are not expressly approved by DMC could void the user's authority to operate the equipment.

Industry Canada requires the following note to be published:

Note:

This Class A digital apparatus complies with Canadian CAN ICES-3 (A) /NMB-3 (A).

7-5 FCC Label

Below is stated on the TM main unit.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

CAN ICES-3 (A)/NMB-3(A)

8 Optional Items

■AC Adapter

Model	Specification
AKA-12050	IN: 100～240VAC/50～60Hz AC INLET: C14 AC code: included (2P+ ground) OUT: 12VDC 0～5A (60W) DC Plug: Φ5.5xΦ2.1x9.5mm without screw lock
ATS065T-P120B15210	IN: 100～240VAC/50～60Hz AC INLET: C14 AC code: included (3P) OUT: 12VDC 0～5A (60W) DC Plug: Φ5.5xΦ2.1x7.5mm with screw lock

*Please make sure the AC power cord included complies with the standard of the country or region in which it will be used.

■Free-Standing Stand

Model	Specification
SWST-01-001	Installation: VESA Mount (100mm×100mm)

*Cannot be used for portrait display.

9 Warranty

The warranty period is limited to 12 months (1 year) from the date of shipment. Any defects that occur upon normal use under the conditions specified herein will be repaired (factory repair) free of charge. (Warranty for any repair needed to the same repaired part of the same product is three months.)

You will be liable for all repair fees even within the warranty period for any conditions listed below.

(1) Any malfunctions, defects, and/or damages that occurred during transport, transfer, or mishandling by the user after delivery.
(2) Any malfunctions, defects, and/or damages caused by natural or human-made disaster.
(3) If the product is used under any condition, environment, or method other than those specified in the specifications, catalogs, manuals, notes, and/or other documents.
(4) Any replacement of consumables.
(5) Any malfunctions, defects, and/or damages caused by connected equipment and/or usage of inappropriate consumables and media.
(6) If the product is repaired, remodeled, modified, or disassembled by a party other than DMC Co., Ltd, or if a serial number label cannot be verified.
(7) Any failure, damage, or malfunction is deemed to be caused on your behalf.

This warranty covers only the product itself. Any damages, on-site repairs, and replacements driven by the failure of the product, will be decided upon discussion by both parties, as necessary.

10 Production Discontinuance

In the event of production discontinuance, an announcement will be made six months prior to the last possible order reception date.

11 Others

If you have comments or questions, please feel free to contact us.

Office hours: 9:00a.m to 5:00 p.m. (JST)

(Except Saturdays, Sundays, national holidays, and year-end and New Year holidays

North South America area

✉ technical-global@dush.co.jp

Asia Pacific area

✉ technical-global-asia@dush.co.jp

Europe, Middle East, Africa area

✉ technical-global-eu@dush.co.jp

FAQ

www.dush.co.jp/english/support/faq/

2nd Edition December 2023

Published by DMC Co., Ltd.

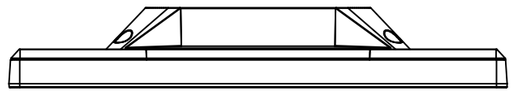
Office hours: 9:00a.m to 5:00 p.m. (JST)

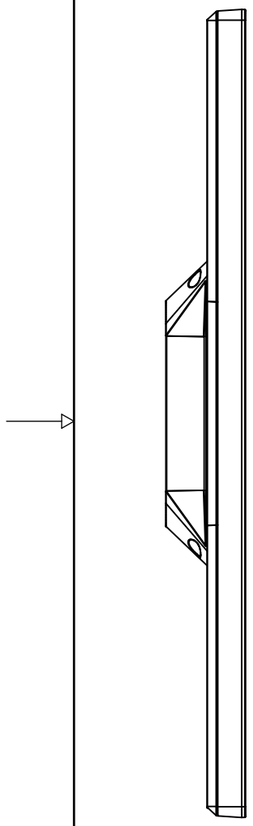
(Except Saturdays, Sundays, national holidays, and year-end and New Year holidays)

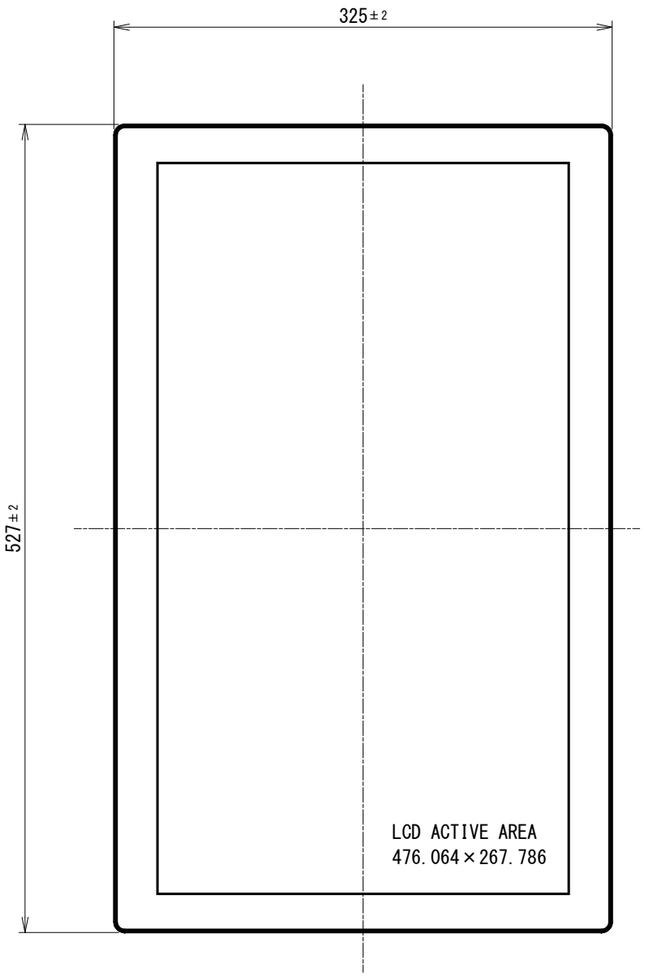
URL: https: //www.dush.co.jp/english/

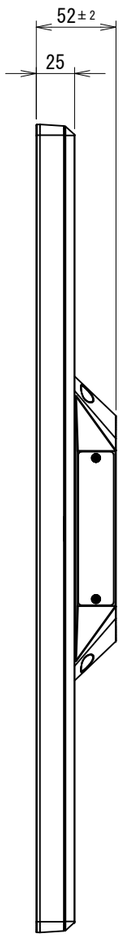
寸法公差表 (公差等級 IT15)	
呼び寸法 Nominal Dimensions	
L≦3	±0.4
3<L≦6	±0.48
6<L≦10	±0.58
10<L≦18	±0.7
18<L≦30	±0.84
30<L≦50	±1.0
50<L≦80	±1.2
80<L≦120	±1.4
120<L≦180	±1.6
180<L≦250	±1.85
250<L≦315	±2.1
315<L≦400	±2.3
400<L≦500	±2.5

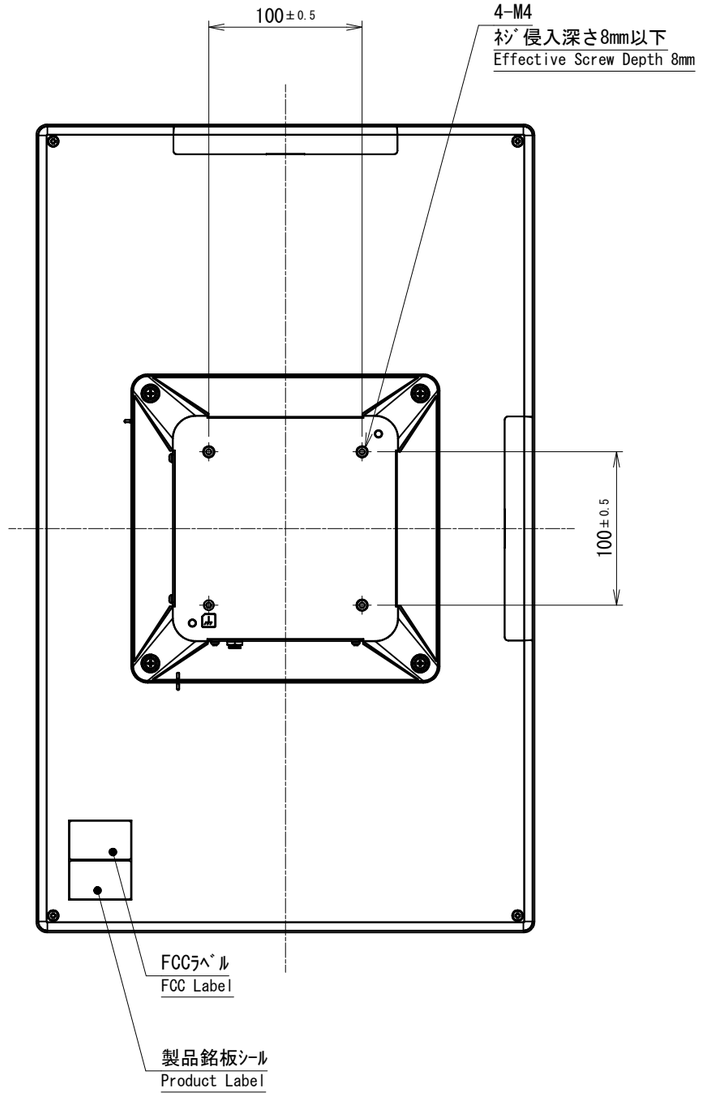
SYM	改訂日 DATE	改 訂 内 容 DESCRIPTION	ページ PAGE	担当 DESIGNED
	2023.07.13	新規図面登録	—	S.Yoshimoto

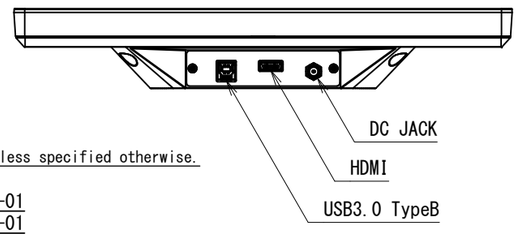










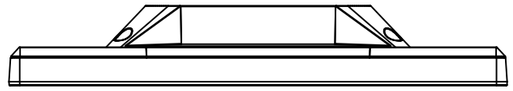


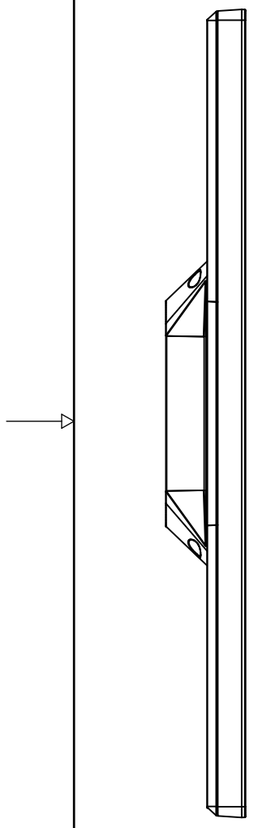
NOTES
1. 指示なき寸法公差は寸法公差表の通りとする。
   Tolerance shall be of dimensional tolerance table unless specified otherwise.
2. 製品型式
   投影型静電容量方式ﾀｯﾁﾊﾟﾈﾙﾓﾃﾞﾙ : TMG-215FH01-01
   ｱﾅﾛｸﾞ抵抗膜方式ﾀｯﾁﾊﾟﾈﾙﾓﾃﾞﾙ : TMH-215FH01-01
   Product Model
   Projected Capacitive Touchscreen Model : TMG-215FH01-01
   Analog Resistive Touchscreen Model : TMH-215FH01-01

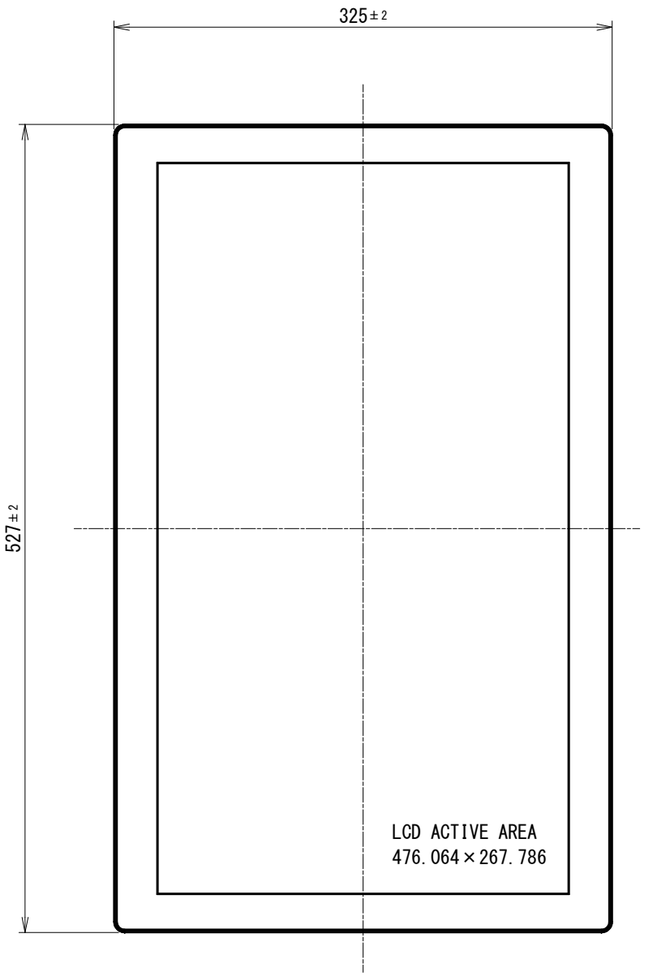
製図日 ISSUED	2023.07.13	部署 SECTION	Technical Dept.	尺度 SCALE	CAD登録名 CAD FILE NAME	22K001-1_TMG(H)-215FH01-01_OUTLINE	RoHS対応品 RoHS compliant
承認 APPROVED	検図 CHECKED	製図 DRAWN	設計 DESIGNED	1:4	製品名 MODEL	TMG(H)-215FH01-01	
				単位 UNIT			
T.Okada	M.Mitani	S.Yoshimoto	S.Yoshimoto	mm	図名 TITLE	OUTLINE	ページ PAGE 1/1
DMC Co., Ltd.			A3		図番 DWG No.	SM3-002356-10	

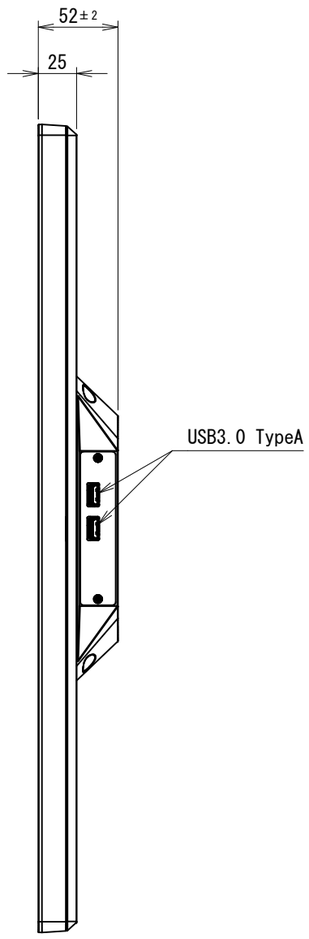
寸法公差表 (公差等級 IT15)	
呼び寸法 Nominal Dimensions	
L≦3	±0.4
3<L≦6	±0.48
6<L≦10	±0.58
10<L≦18	±0.7
18<L≦30	±0.84
30<L≦50	±1.0
50<L≦80	±1.2
80<L≦120	±1.4
120<L≦180	±1.6
180<L≦250	±1.85
250<L≦315	±2.1
315<L≦400	±2.3
400<L≦500	±2.5

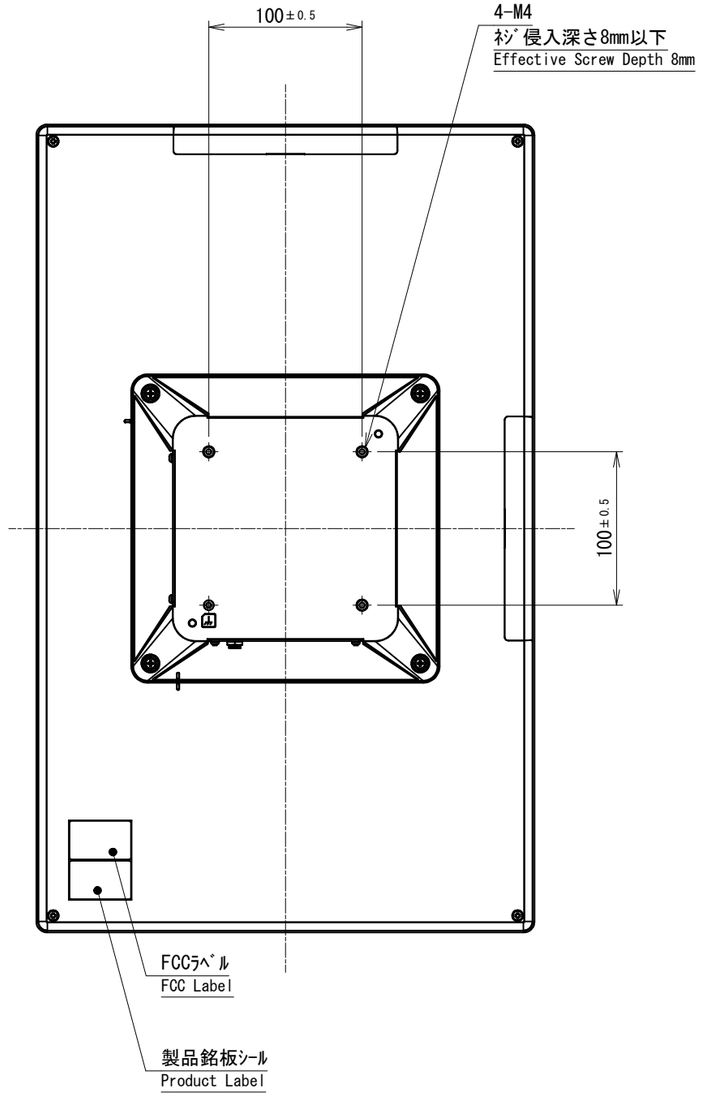
SYM	改訂日 DATE	改 訂 内 容 DESCRIPTION	ページ PAGE	担当 DESIGNED
	2023.07.13	新規図面登録	—	S.Yoshimoto

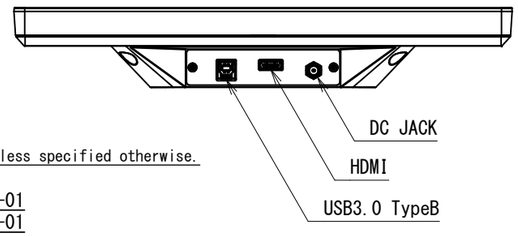












NOTES
1. 指示なき寸法公差は寸法公差表の通りとする。
   Tolerance shall be of dimensional tolerance table unless specified otherwise.
2. 製品型式
   投影型静電容量方式ﾀｯﾁﾊﾟﾈﾙﾓﾃﾞﾙ : TMG-215FH03-01
   ｱﾅﾛｸﾞ抵抗膜方式ﾀｯﾁﾊﾟﾈﾙﾓﾃﾞﾙ : TMH-215FH03-01
   Product Model
   Projected Capacitive Touchscreen Model : TMG-215FH03-01
   Analog Resistive Touchscreen Model : TMH-215FH03-01

製図日 ISSUED	2023.07.13	部署 SECTION	Technical Dept.	尺度 SCALE	CAD登録名 CAD FILE NAME	22K001-2_TMG(H)-215FH03-01_OUTLINE / RoHS対応品 RoHS compliant
承認 APPROVED	検図 CHECKED	製図 DRAWN	設計 DESIGNED	1:4	製品名 MODEL	TMG(H)-215FH03-01
				単位 UNIT		
T.Okada	M.Mitani	S.Yoshimoto	S.Yoshimoto	mm	図名 TITLE	OUTLINE / ﾍﾟｰｼﾞ PAGE 1/1
DMC Co., Ltd.			A3		図番 DWG No.	SM3-002357-10