

## Sales Bulletin

Attention : All Furuno Distributors/Subsidiaries

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Model: **MCU-002**

# Remote Control Unit

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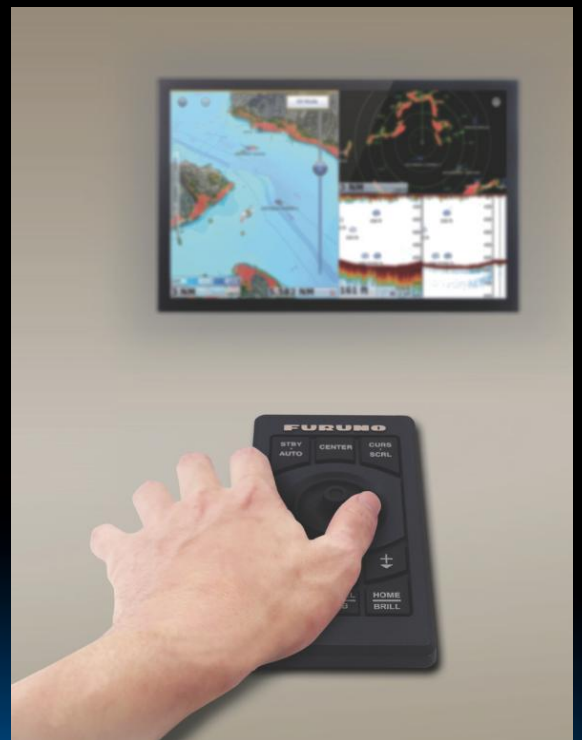
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# 1. Model: MCU-002

The Model **MCU-002** is a compact remote control unit for use with the TZT9/14/BB. It offers the expandability of multi touch operation of the TZT9/14/BB to the hardware key operation, as the best supplemental tool to multi touch operation. This document describes the basic information on specifications, operations, and installation of the MCU-002.



Model: MCU-002



Screen Image from TZTB

## 2. Specifications

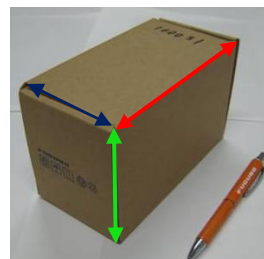
### 2-1. Standard Comprising

The **MCU-002 (00002546100)** comes with the components shown at right.




Name	Type	Qty
Remote control unit	MCU-002	1
Front panel	FRC-D01-003	1
Flush mount gasket	FRC-D01-008	1
Flush mount screw	BH3*13 TAB-B	4
User's Guide (English)		1



(Components)



(Carton)

 **L (175 mm)**  
 **W (85 mm)**  
 **H (100 mm)**

### 2-2. Technical Specifications

Interface	USB2.0
Cable Length	2 m
Power Supply	via USB port
Water Proof	Front: IP56 Rear: IP22
Operating Temperature	-15 to +55°C
Humidity	40°C 94% or less (without internal fogging)
Mounting	Flush mount from the front side (See Section 4-2)

# 3. Operations – User Interface

## 3-1. Getting Started – Model TZT9/14/BB New Version v3.12

To fully make use of the MCU-002, update the **TZT9/14/BB** to **v3.12**, which will be released in May 2014.

## 3-2. Keys and Functions – Basic Operations

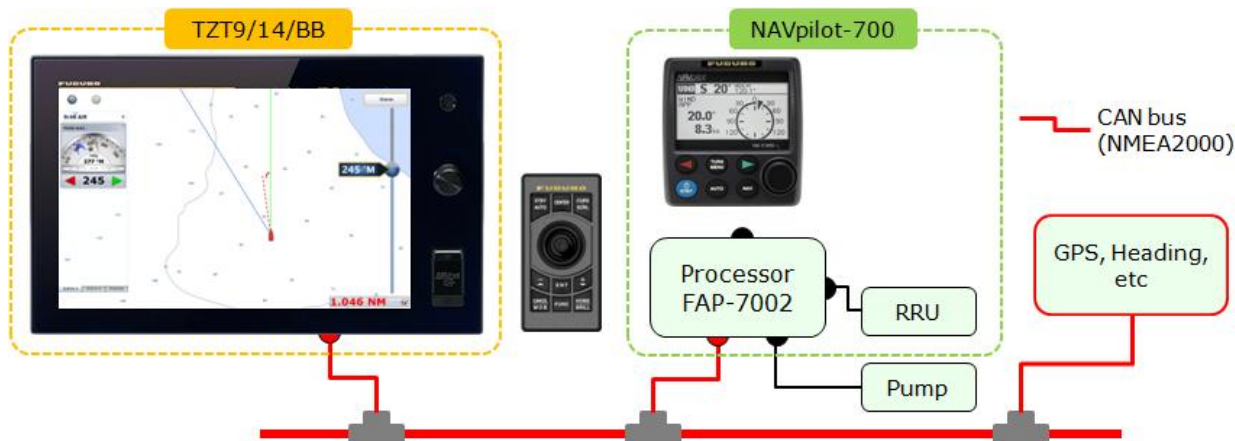
The MCU-002 consists of **10 hardware keys** to control the TZT9/14/BB as described below.

MCU-002	No	Keys	Descriptions
	(1)	STBY / AUTO	Sets the NAVpilot-700 to STBY or AUTO modes
	(2)	CENTER	Sets the ship in the center of the screen
	(3)	CURS / SCRL	Switches the joystick functions between Cursor and Scroll
	(4)	Joystick	Moves a cursor in 8 directions
	(5)	– / ▲ (UP)	Acts as rotating RotoKey™ clockwise
	(6)	+ / ▼ (DOWN)	Acts as rotating RotoKey™ counterclockwise
	(7)	ENT	Acts as pushing RotoKey™
	(8)	CANCEL & MOB	Short press to cancel Long press to enter an MOB point
	(9)	FUNC	Acts as Function Gesture
	(10)	HOME & BRILL	Short press to access the Home page Long press to open the Brilliance control box

### (1) STBY / AUTO



This key **activates the NAVpilot-700 AUTO and STBY modes**. When opening the NAVpilot-700 control window on the TZT9/14/BB, you can activate the AUTO mode from the MCU-002 [STBY/AUTO] key.



When the NAVpilot-700 mode is changed between AUTO/NAV and STBY with the MCU-002 or touch operations, the TZT9/14/BB will generate a **beep** sound with the following notification on the top of the screen.

STBY to <b>AUTO/NAV</b>	<b>AUTO/NAV</b> to STBY
<p>The notification of [<b>NAVpilot is engaged.</b>] will appear.</p>	<p>The notification of [<b>NAVpilot is disengaged.</b>] will appear.</p>

## (2) CENTER

This key sets the own vessel to the center on the screen of Plotter and Radar and cancels echo history of Fish Finder.

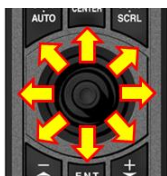
## (3) CURS / SCRL (CURSOR / SCROLL)



This key **switches the joystick functions between cursor and scroll modes**. At default the joystick works to move a cursor. Pressing the [**CURS/SCRL**] key, the joystick works to scroll the Chart, Radar, and Fish Finder screen.

Plotter screen – Cursor in motion	Plotter screen – Scrolled with joystick

## (4) Joystick



The joystick can move in **eight (8) directions** to **move a cursor** or **scroll the screen** as shown above. It also has a “**push**” function. As an example, if you push the joystick on the Plotter screen, contextual menus will appear as follows.

**Note:**

The joystick has **NO “drag” function**. For details on limitations of operations with the MCU-002, see Section 3-5.

*(Sample: Plotter screen from TZTBB)*



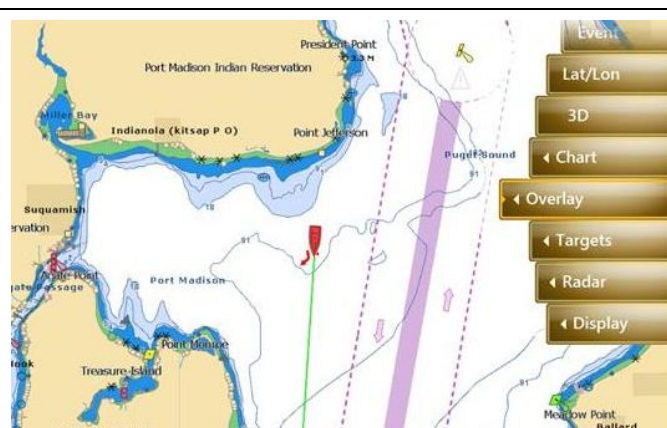
- (5) - / UP (▲)
- (6) + / DOWN (▼)
- (7) ENT



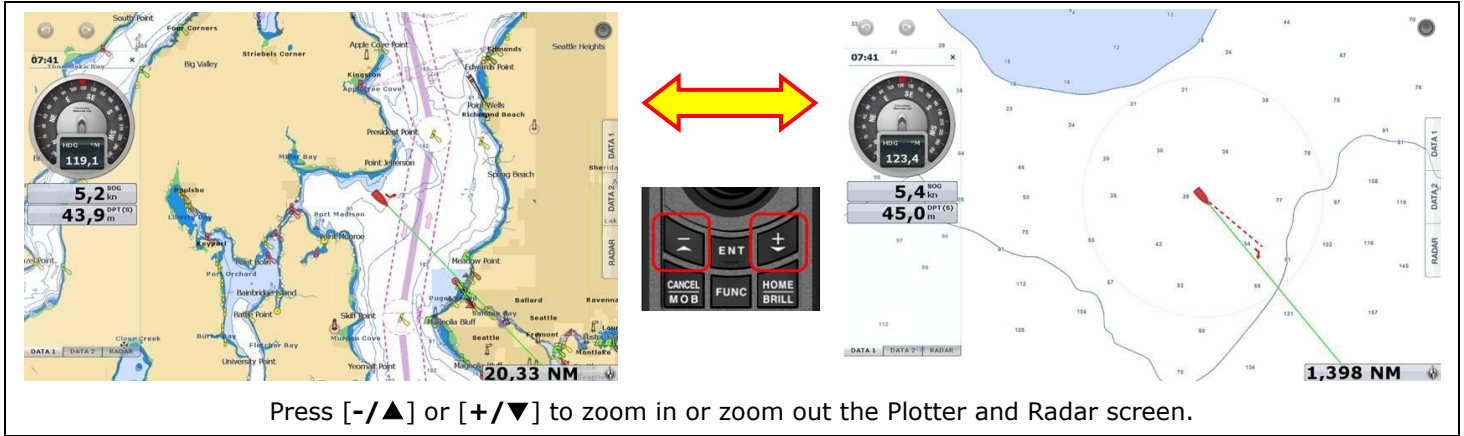
These three (3) components **work as the RotoKey™**: [-/▲ (UP)] key as rotating the RotoKey™ clockwise, [+ /▼ (DOWN)] key as rotating the RotoKey™ counterclockwise, and [ENT] as pushing the RotoKey™. The following screenshots from the Plotter page show how to operate these keys.



Press [ENT] to show RotoKey™ menus.




Press [-/▲] or [+ /▼] to move the RotoKey™ menus and press [ENT]. In this example, [Overlay] is selected.



### (8) CANCEL & MOB



This key has two (2) functions: Short press to activate the **"CANCEL"** and long press the **"MOB"** functions as shown below.

Short Press for "CANCEL"	Long Press for "MOB"
<ul style="list-style-type: none"> <li>- Closes Home/Menu/Lists/Tides/Catalog pages, RotoKey™ and contextual menus, and dialog boxes</li> <li>- Mutes alarm sound</li> <li>- Ends action such as creating a route and moving a point</li> </ul> <p><b>Note: No "Undo" function</b></p>	<ul style="list-style-type: none"> <li>- Enters an MOB point at the own ship's position</li> </ul> 

### (9) FUNC (FUNCTION)



This key **activates the function set in [Menu] – [General] – [Function Gesture]**. In the following example, the Function Gesture is assigned to [Event]. The **[FUNC]** key pops up the event window. You

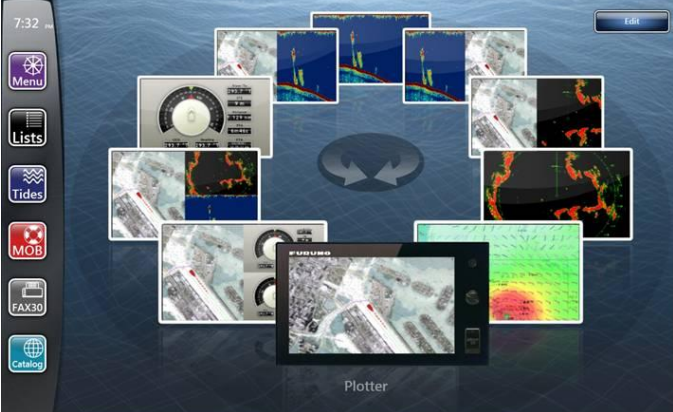



can select an event mark with the [-/▲] or [+/▼] key and enter it with the **[ENT]** key, or place a cursor with the joystick on a required event mark and push the joystick.

### (10) HOME & BRILL



This key has two (2) functions: Short press to activate the **"HOME"** and long press the **"BRILL"** functions. On the Home page and Brilliance window, you can proceed to further settings as follows.


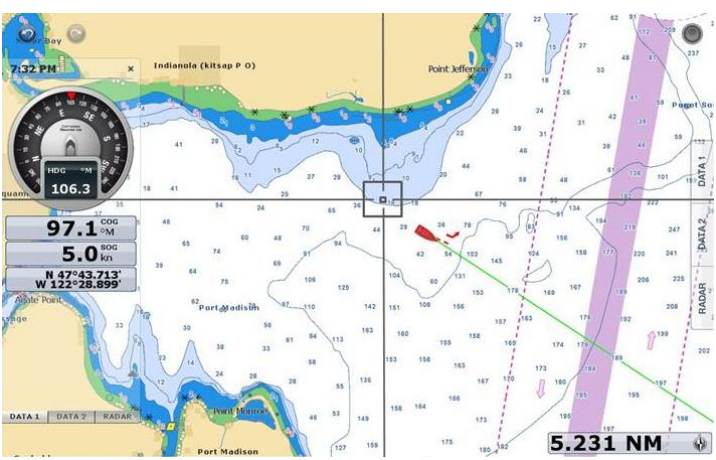
Short Press for "HOME"	Long Press for "BRILL"
	
<p>Press [-/▲] or [+/▼] to select a page and [ENT] to open the selected page.</p>	<p>Press [-/▲] or [+/▼] to adjust the brilliance and [CANCEL] to close the window. To turn off the unit, place a cursor with the joystick on [Power Off This Device] or [Power Off Network] and press it.</p>

**Note:**

It is not possible to turn on the TZT9/14/BB with the MCU-002 although the power can be turned off as shown above.

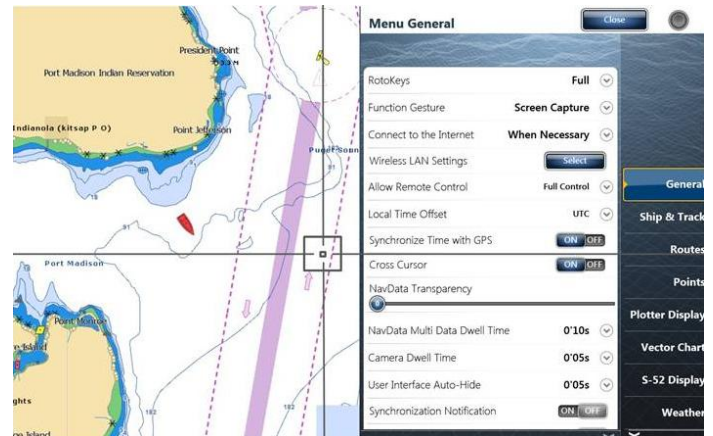
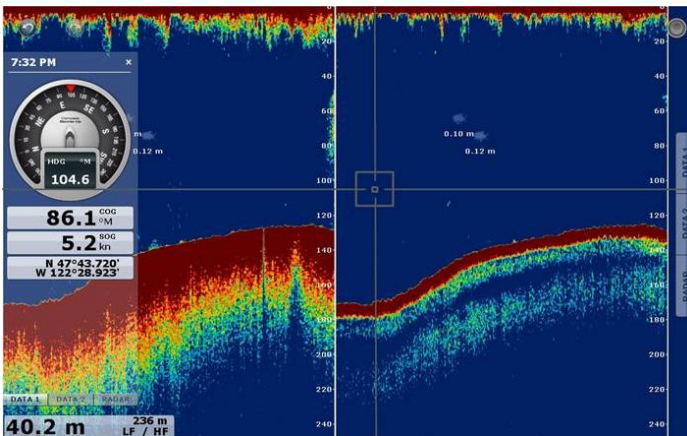
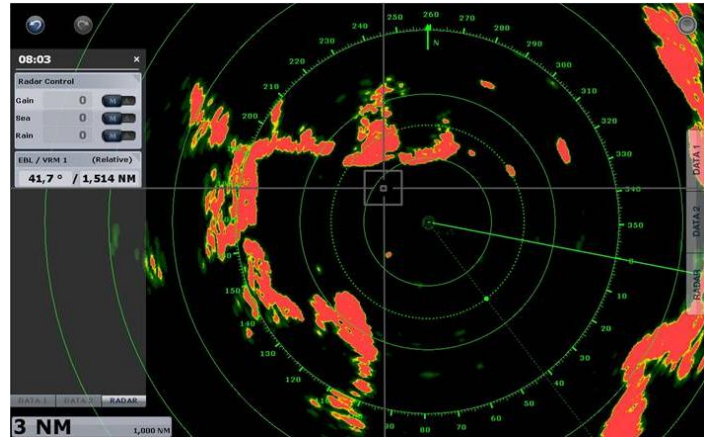
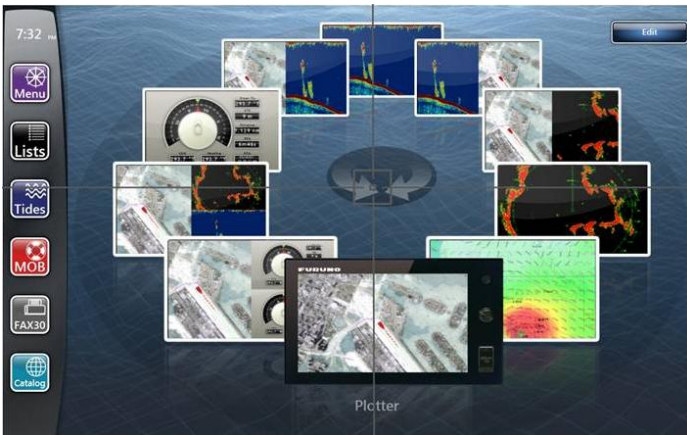
**3-3. Showing a Cross Cursor – New with Model TZT9/14/BB v3.12**

The TZT9/14/BB v3.12 program has a new setting option of **Cross Cursor** and **Cross Cursor Speed**, which enables to show a cross cursor on the screen and adjust its speed. With the MCU-002, the cross cursor will help to see a present cursor location.

Menu Settings	Cross Cursor on Screen
	
<p>[Menu] – [General] – [Cross Cursor] – [ON]</p>	<p>While the joystick in operation, the gray, thick cross cursor appears on the screen.</p>
<p>[Menu] – [General] – [Cross Cursor Speed] – [1] to [20]</p>	<p>The cursor speed can be adjusted between [1] and [20]: [1] – slowest, [8] – default, and [20] – fastest.</p>



## Cross Cursors on Other Screens



## Tips – No cross cursor while touch operations

When the TZT9/14/BB is operated by touch, the cross cursor will not appear. **The cross cursor will appear only when the cursor is in operation with the MCU-002 joystick.**


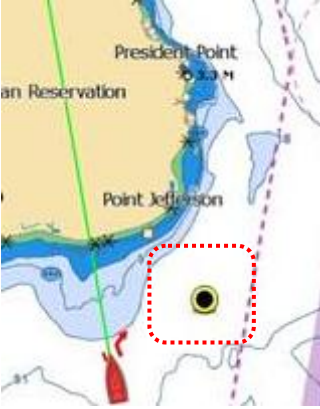

## 3-4. Entering a Point – New with Model TZTBB and TZT14 (External Touch Screen Mode) v3.12

Pushing the MCU-002 joystick, [**New Point**] will be highlighted at default on the contextual menus. You can just press [**ENT**] to enter the point.

### Note:

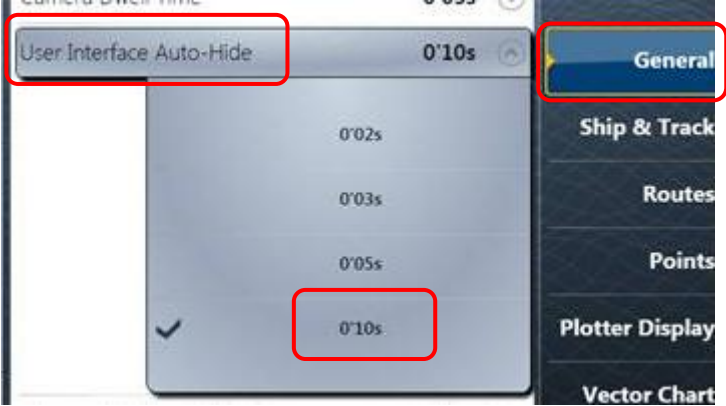

This specification is for the TZTBB and TZT14 under the **External Touch Screen Mode** only. With the TZT9 and TZT14 without the External Touch Screen Mode, the top one or previously-selected one of the contextual menus will be highlighted even if the joystick is pushed.

See each screenshot below.

<b>TZTBB and TZT14</b> (External Touch Screen Mode)	<b>Entering a Point</b>	<b>Note on TZT9 and TZT14</b> (without External Touch Screen Mode)
		 <p data-bbox="965 533 1516 757">With the TZT9 and TZT14 without the External Touch Screen mode, the top one or previously-selected one of the contextual menu will be highlighted even if the joystick is pushed.</p>
<p data-bbox="81 678 563 757">[New Point] is always highlighted in orange.</p>	<p data-bbox="587 678 943 757">Just press the [ENT] key to enter a point.</p>	

### 3-5. User Interface Auto-Hide "10 Seconds" Recommended

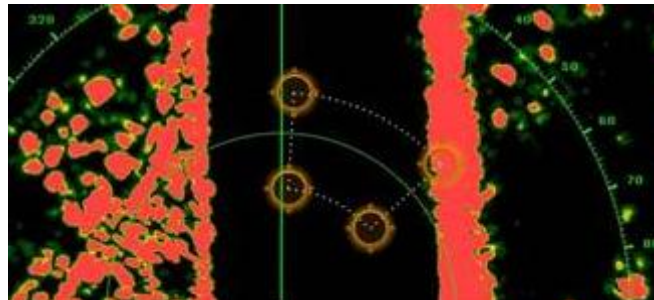
In [Menu] – [General], there is a setting option of [User Interface Auto-Hide]. This setting offers the time period before the popped-up RotoKey™ or contextual menus and window closes. With the MCU-002 in use, the setting of "10 seconds" is useful to show the popped up items for a longer time.

<b>Menu Setting</b>	<b>Plotter – Contextual Menus</b>
	
<p data-bbox="113 1601 842 1637">[Menu] – [General] – [User Interface Auto-Hide] – [0'10s]</p>	<p data-bbox="943 1601 1465 1637">Contextual menus will stay for 10 seconds</p>

## 3-6. Limitations and Notes

### (1) Limitation in Drag by Joystick

The joystick has **NO "drag" function**. The guard zone setting of Radar, which requires to be adjusted by drag, will not be available with the MCU-002 joystick. This operation should be made by touch operations or with a generic mouse/trackball unit.



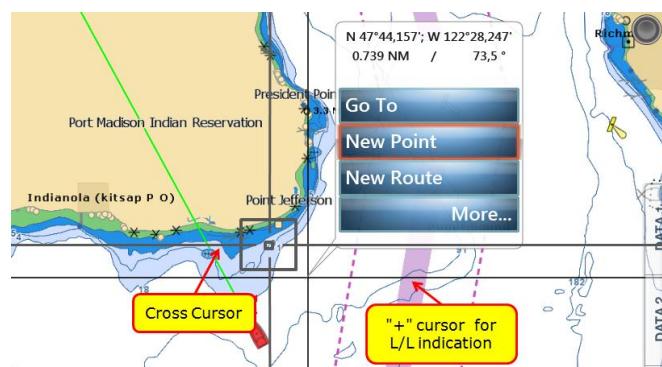
### (2) Limitation in 3D Mode – Pan/Tilt

You can turn the screen mode into the 3D mode by selecting [3D Mode] from the contextual menu. However, **you cannot pan/tilt the chart with the MCU-002** because sliding the screen with two fingers is the only way to pan/tilt it. The chart in 3D is always in the default angle as shown at right. Or if you have panned/tilted the chart with two fingers before, the screen will be in the previously-set angle.



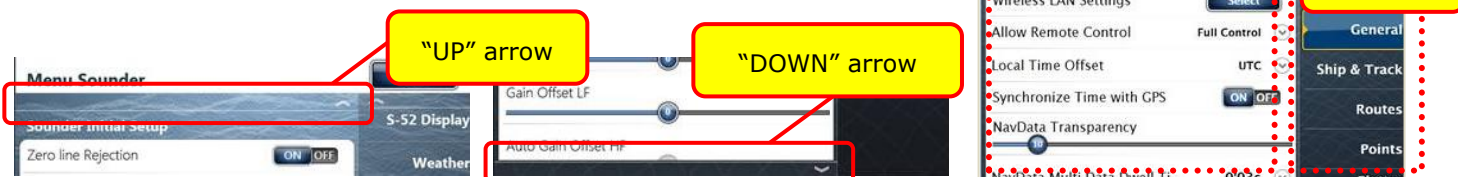
### (3) Note on Cross Cursor Position

The cross cursor position will not appear on the data box. To show the cursor position, ensure to push the joystick and show pop-up windows like you tap the screen.



### (4) Note on Menu – Second Layer

The first layer of the Menu can also be scrolled with the [-/▲] and [+ /▼] keys, but the second layer cannot. We recommend that the arrow icons on the top and bottom of the layer be pressed with the joystick to scroll the second layer.



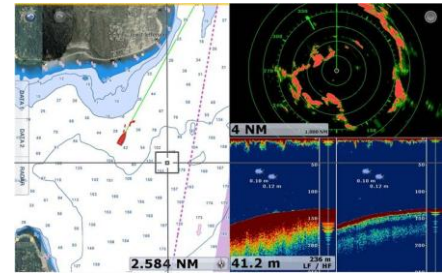
### (5) Note on Virtual Keyboard

To enter characters and numbers with a virtual keyboard, use the joystick: Place a cursor on a required key and push the joystick.



### (6) Note on Active Window

In the split screen mode, even if you place a cursor on a different screen, the window will not be active. Ensure to press any key such as joystick on the screen like you tap the screen to activate it.



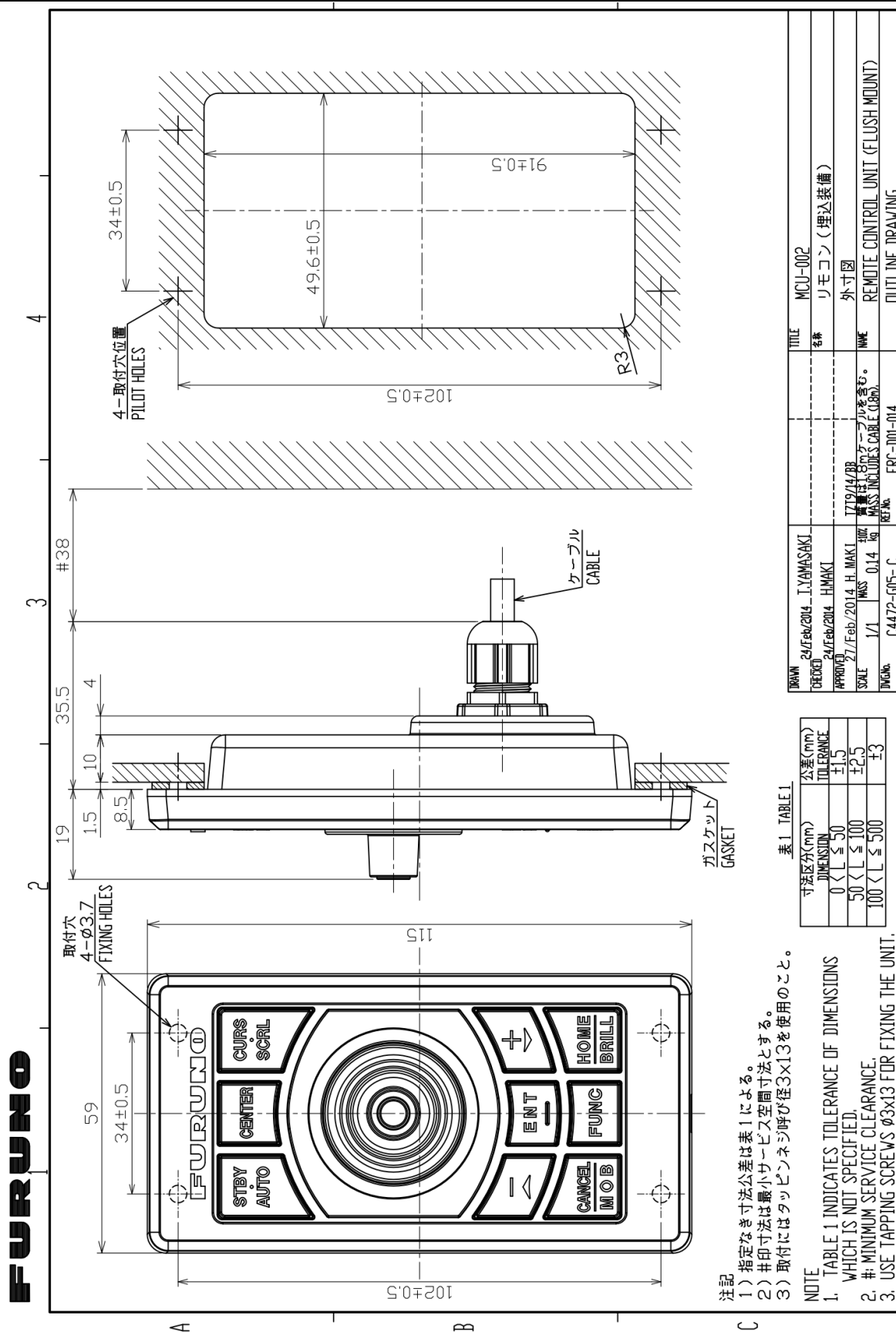
### (7) Note on Power On/Off

It is not possible to turn on the TZT9/14/BB with the MCU-002. Ensure to press the Power key of the TZT9/14/BB. However, the power can be turned off with the operation of [HOME & BRILL] key and joystick as described in Section 3-1 (10) HOME & BRILL and shown at right



# 4. Installing Model MCU-002

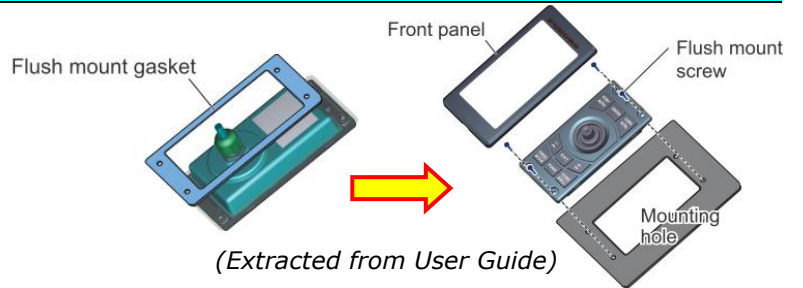
## 4-1. Dimensions



FURUNO ELECTRIC CO., LTD.

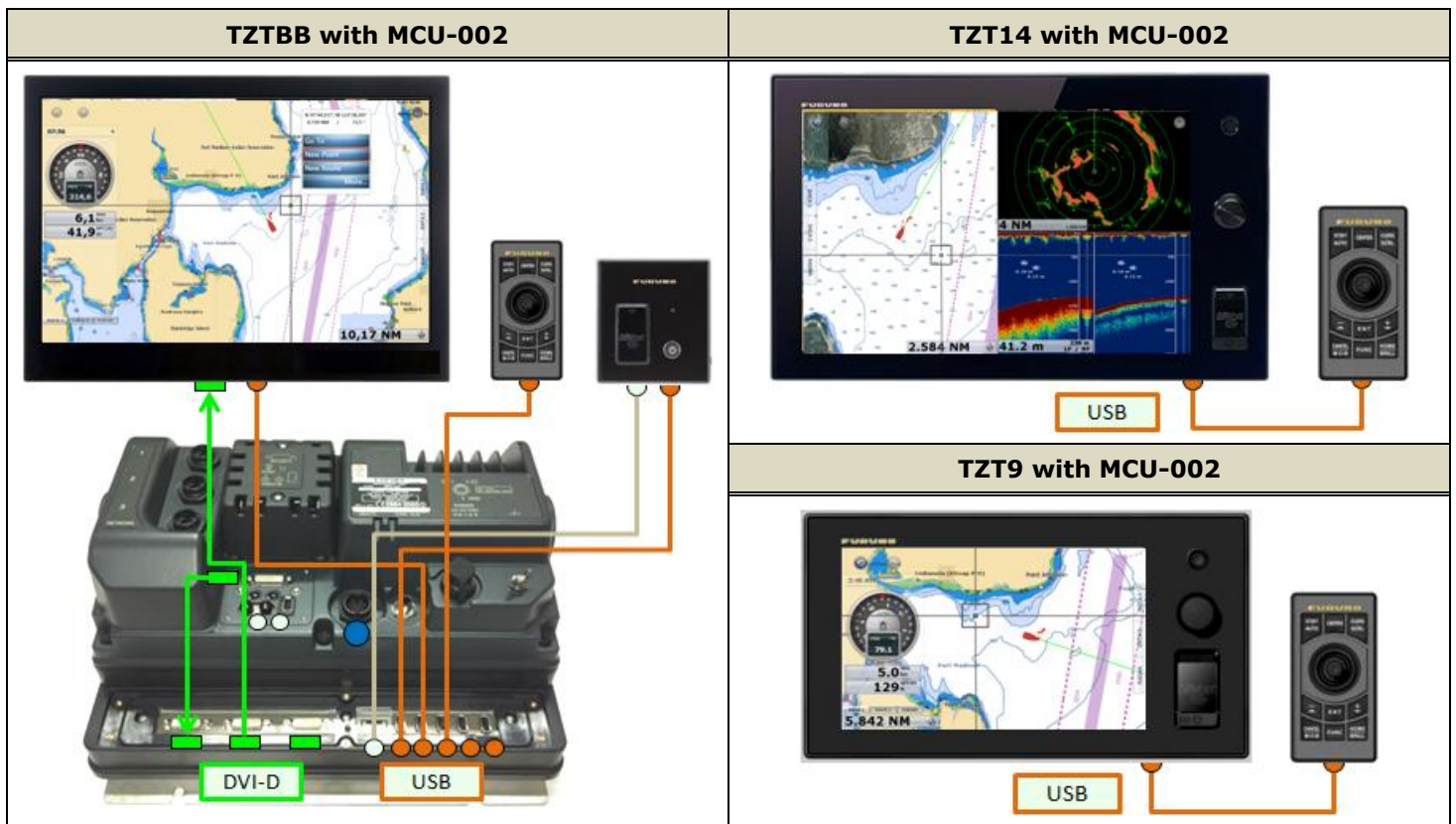
## 4-2. Flush Mounting

The MCU-002 can be **flush mounted** on a console from the **front side** as shown in the illustration at right.



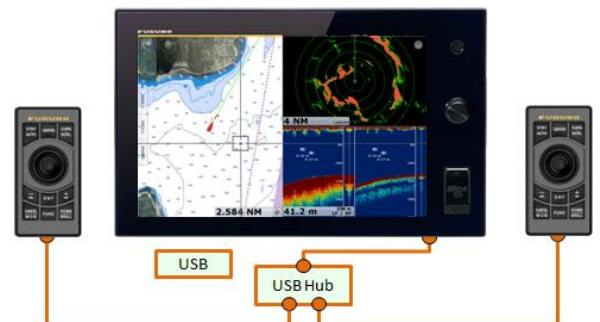
## 4-3. Interconnection

The MCU-002 can be used with the TZT9, TZT14, and TZTBB by **USB** connection. Connect the MCU-002 to the USB port of the TZT9/14/BB as shown in the following examples.



### Notes:

- (1) A maximum of **two (2) sets** of MCU-002 can be connected to **one (1) USB port via a USB hub** as shown at right.
- (2) When there are two (2) sets of MCU-002 are connected to one (1) TZT9/14/BB, we recommend that both MCU-002 units should not be operated simultaneously because it can give a load on the system.



## 5. Model MCU-002 with TZT9/14/BB v3.02 or Earlier

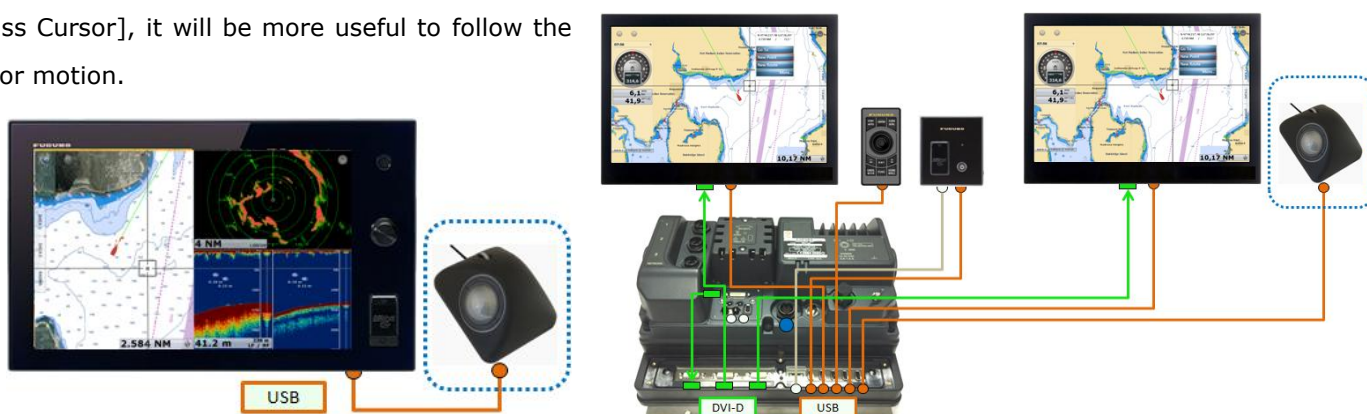
If the MCU-002 is used with the TZT9/14/BB **v3.02 or earlier** program, there will be limitations as described below.

- (1) **No gray, thick cross cursor is available** because there is no menu option of Cross Cursor.
- (2) **Only the joystick will work.** Other hardware keys will not work because the v3.02 or earlier programs do not detect these key codes from the MCU-002. The [-/▲] and [+/▼] keys may react but will just scroll the screen upwards and downwards respectively.



## 6. Tips – Model TZT9/14/BB with Generic HID Mouse

While the TZT9/14/BB is preloaded with an HID driver, **a generic HID mouse (USB mouse) or trackball unit with a wheel can also be used.** If the Cross Cursor mode is activated on the TZT9/14/BB v3.12 [Menu] – [General] – [Cross Cursor], it will be more useful to follow the cursor motion.



Each mouse/trackball component will work as follows.

Components		Functions	
<p>(Sample shot: LTSX50 from NSI, Belgium)</p>	1. Wheel	Acts as the <b>RotoKey™ of TZT9/14:</b> (1) Rotate to zoom in/out. (2) Push to show RotoKey™ items in gold at the right side of the screen as shown at right. (3) Select RotoKey™ items or contexts	
	2. Left-click	<b>Single tap, drag/scroll</b> with trackball	
	3. Right-click	Acts as <b>Function Gesture:</b> Right-click to activate the preset function in [Menu] – [General] – [Function Gesture].	
	4. Trackball	<b>Selects a spot</b> to be tapped, <b>drag/scroll</b> with left-click	

--- END ---