

**NAVnet**

**TZ**  
touch

**Model: MCU002**  
**Remote Control Unit**

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# 1. Model: MCU002

The Model **MCU002** 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 MCU002.



Model: MCU002



Screen Image from TZTBB

## 2. Specifications

### 2-1. Standard Comprising

The **MCU002 (00002546100)** comes with the components shown at right.




Name	Type	Qty
Remote control unit	MCU002	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)

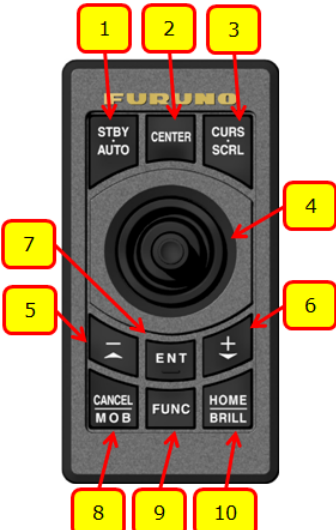
# 3. Operations – User Interface

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

To fully make use of the MCU002, update the TZT9/14/BB to **v3.12**, which will be released in May 2014.

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

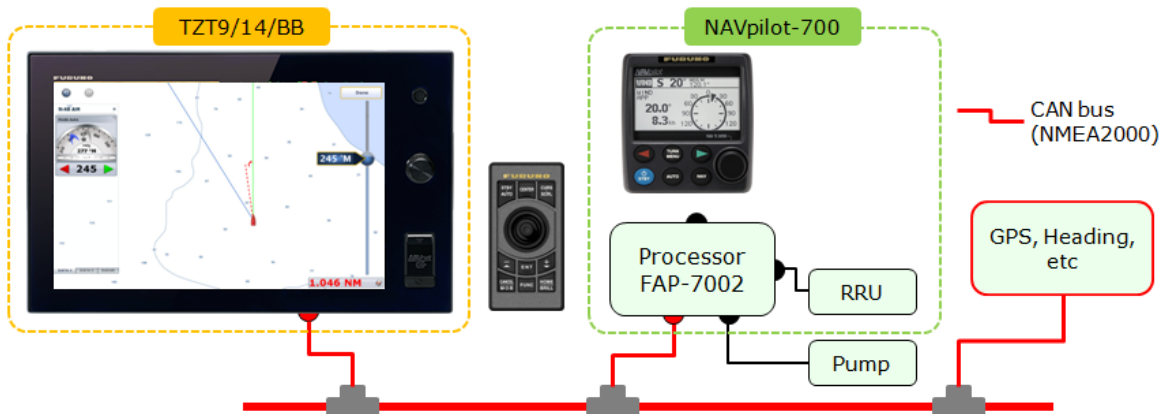
The MCU002 consists of **10 hardware keys** to control the TZT9/14/BB as described below.

MCU002	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 MCU002 **[STBY/AUTO]** key.



When the NAVpilot-700 mode is changed between AUTO/NAV and STBY with the MCU002 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 [NAVpilot is engaged.] will appear.</p>	<p>The notification of [NAVpilot is disengaged.] 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 MCU002, see Section 3-5.

(Sample: Plotter screen from TZTBB)



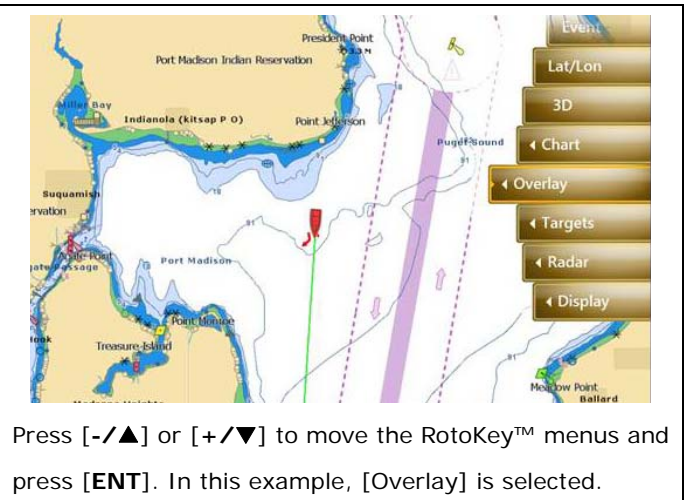
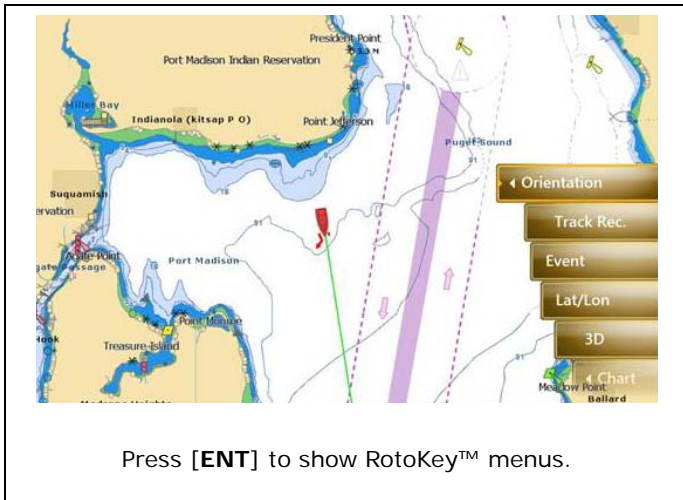
(5) - / UP (▲)

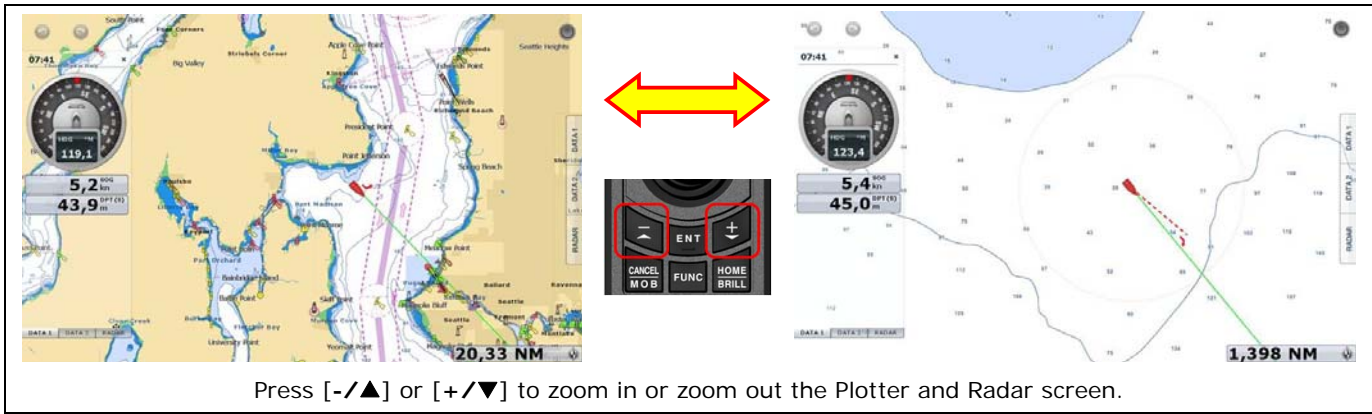
(6) + / DOWN (▼)

(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.






**(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 “ <b>CANCEL</b> ”	Long Press for “ <b>MOB</b> ”
<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

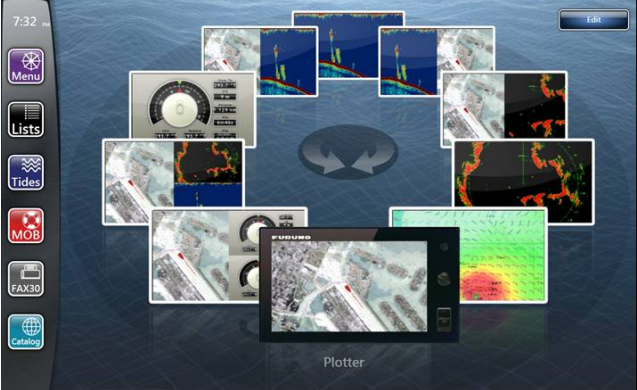



can select an event mark with the [-/▲] or [+/▼] key and enter it with the [**ENT**] key, or place a cursor with the joystick on a required event mark and push the joystick.

**(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.


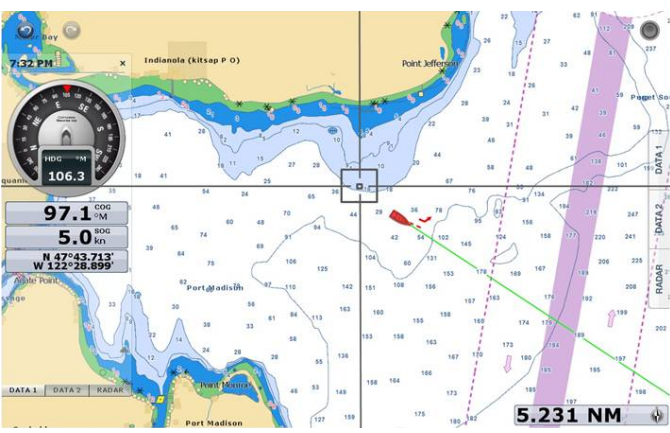
Short Press for "HOME"	Long Press for "BRILL"
	
<p>Press [-/▲] or [+/▼] to select a page and [ENT] to open the selected page.</p>	<p>Press [-/▲] or [+/▼] to adjust the brilliance and [CANCEL] to close the window. To turn off the unit, place a cursor with the joystick on [Power Off This Device] or [Power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

**Note:**

It is not possible to turn on the TZT9/14/BB with the MCU002 although the power can be turned off as shown above.

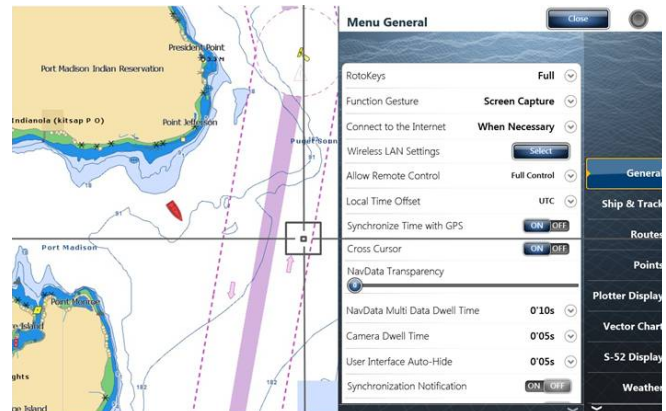
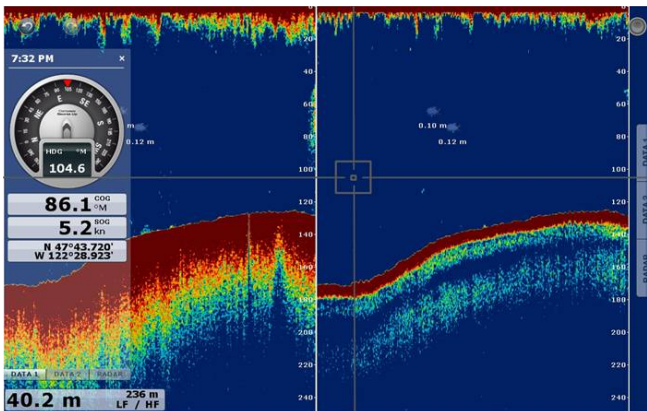
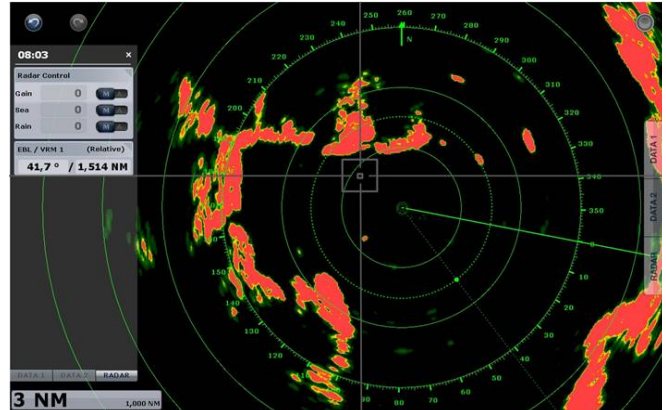
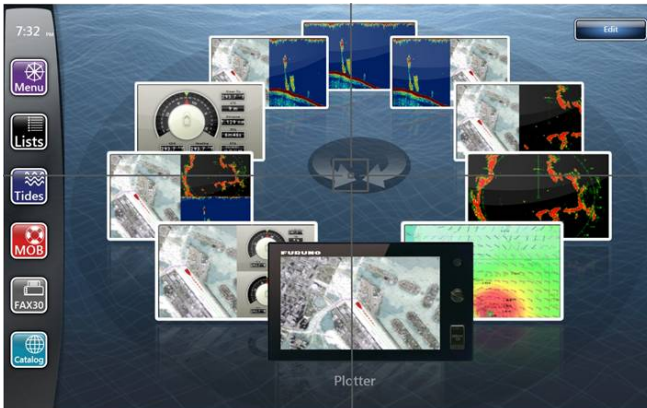
**3-3. Showing a Cross Cursor – New with Model TZT9/14/BB v3.12**

The TZT9/14/BB v3.12 program has new setting options of **Cross Cursor** and **Cross Cursor Speed**, which enables to show a cross cursor on the screen and adjust its speed. With the MCU002, 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



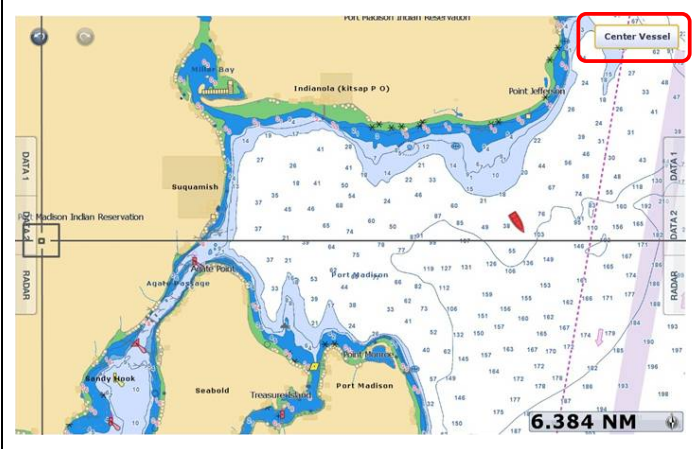
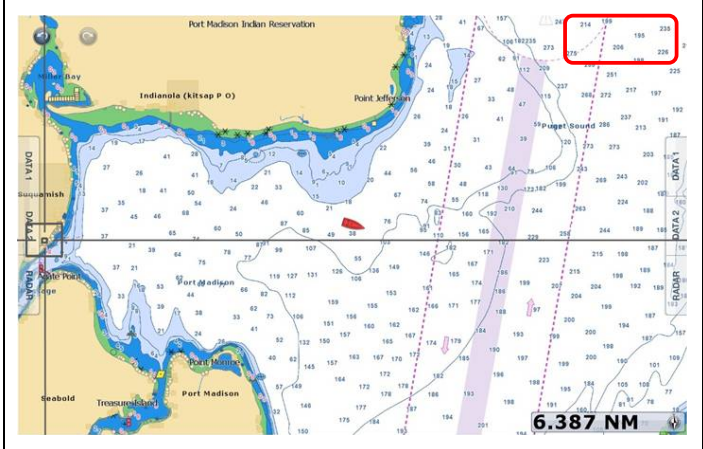


## Tips – No cross cursor while touch operations

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 MCU002 joystick.**

### 3-4. Auto Scroll ON or OFF – New with Model TZT9/14/BB v3.12

The TZT9/14/BB v3.12 program has another new setting option of Auto Scroll, which enables to scroll the Plotter, Radar, and Sounder screen by placing a cursor at the edge of the screen. The following screenshots show the menu settings and scroll motions.

<p style="text-align: center;"><b>Menu Settings</b> [Menu] – [General] – [Auto Scroll] – [ON]</p>	<p style="text-align: center;"><b>Menu Settings</b> [Menu] – [General] – [Auto Scroll] – [OFF] (Default)</p>
	
	
<p>In this example, a cursor is placed at the left edge of the Plotter screen, while the chart is automatically scrolled. (You can see the [Center Vessel] icon.) To stop the scroll motion, place the cursor away from the edge.</p>	<p>At default, the Auto Scroll mode is set to OFF. When a cursor is placed at the edge of the screen, the chart is not scrolled.</p>

### 3-5. Entering a Point – New with Model TZTB and TZT14 (External Touch Screen Mode) v3.12

Pushing the MCU002 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 TZTB 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.

TZTBB and TZT14 (External Touch Screen Mode)	Entering a Point	Note on TZT9 and TZT14 (without External Touch Screen Mode)
		<p>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>[New Point] is always highlighted in orange.</p>	<p>Just press the [ENT] key to enter a point.</p>	

### 3-6. User Interface Auto-Hide "10 Seconds" Recommended

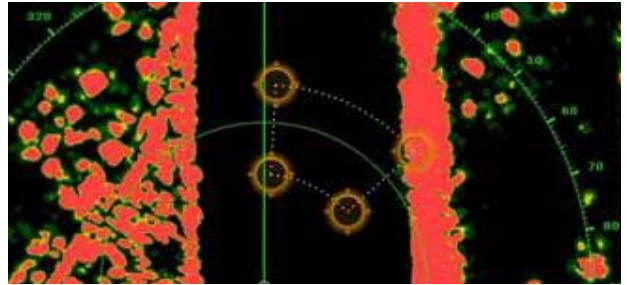
In [Menu] – [General], there is a setting option of [User Interface Auto-Hide]. This setting offers the time period before the popped-up RotoKey™ or contextual menus and window closes. With the MCU002 in use, the setting of "10 seconds" is useful to show the popped up items for a longer time.

Menu Setting	Plotter – Contextual Menus
<p>[Menu] – [General] – [User Interface Auto-Hide] – [0'10s]</p>	<p>Contextual menus will stay for 10 seconds</p>

## 3-7. 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 MCU002 joystick. This operation should be made by touch operations or with a generic mouse/trackball unit.



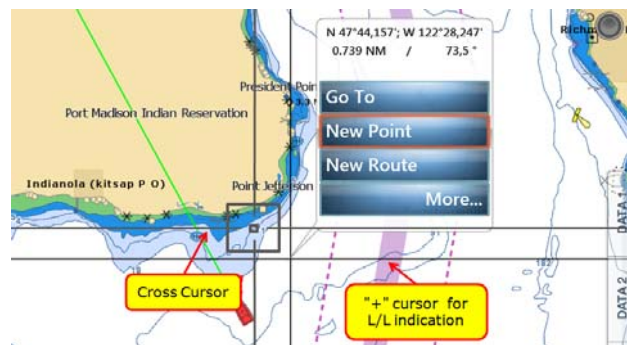
### (2) Limitation in 3D Mode – Pan/Tilt

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 MCU002** 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.



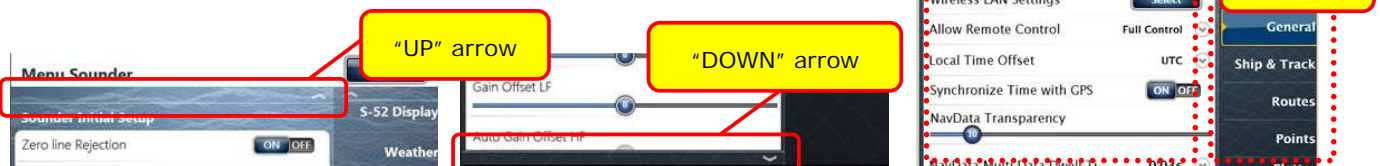
### (3) Note on Cross Cursor Position

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.



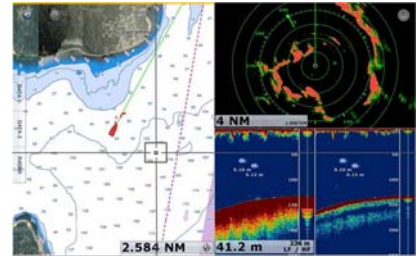
### (5) Note on Virtual Keyboard

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.



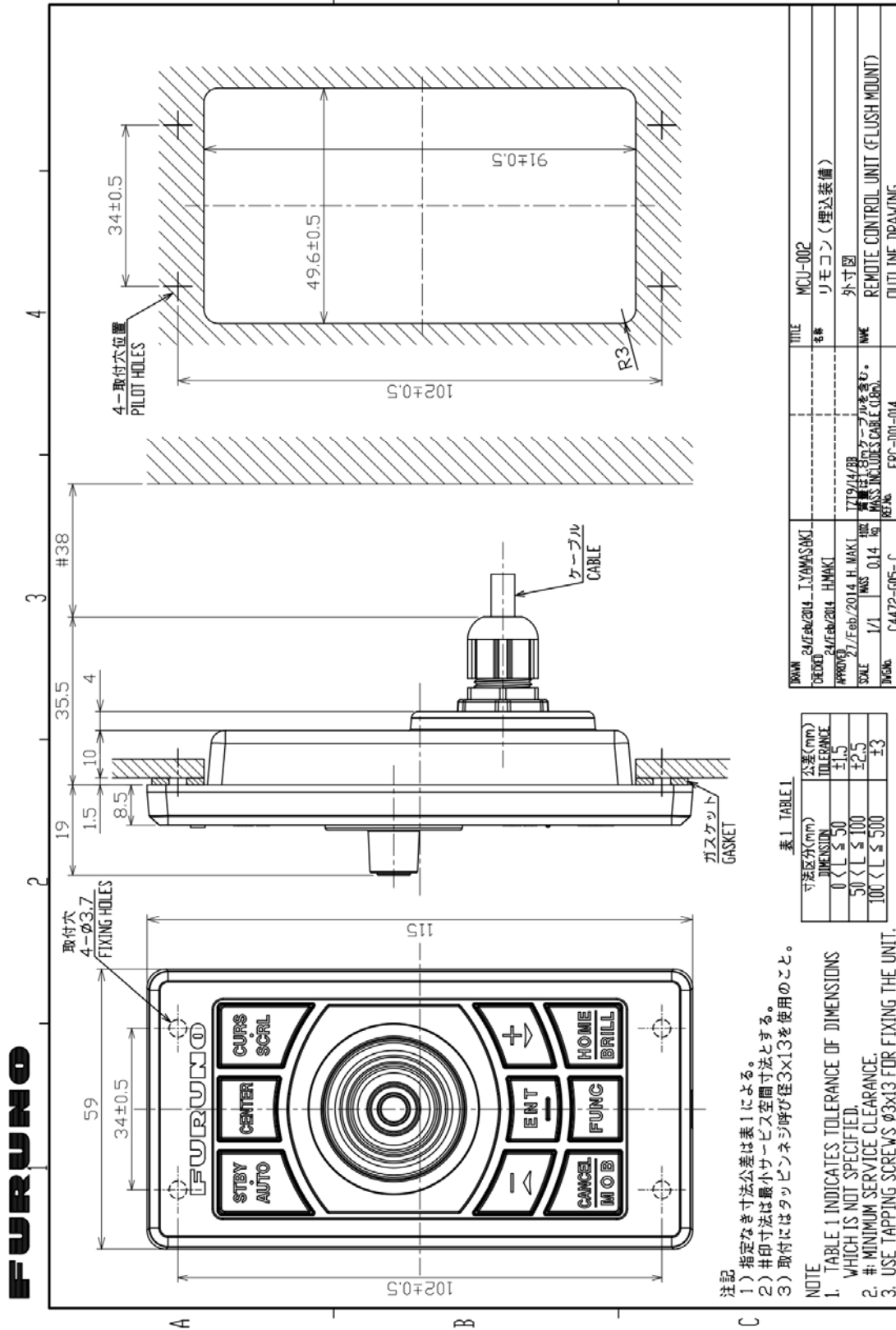
### (7) Note on Power On/Off

It is not possible to turn on the TZT9/14/BB with the MCU002. 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



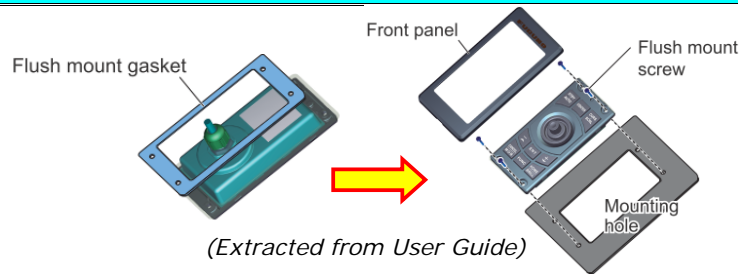
# 4. Installing Model MCU002

## 4-1. Dimensions



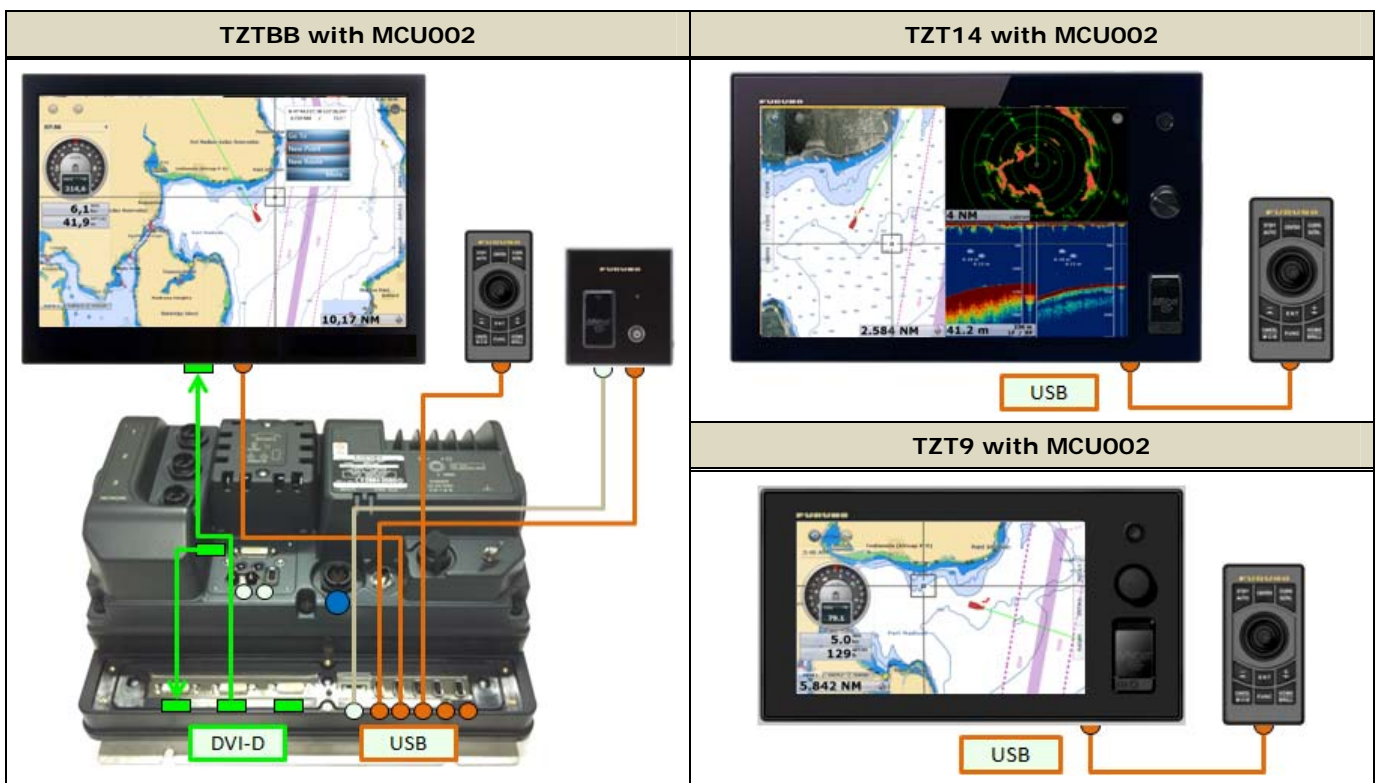
## 4-2. Flush Mounting

The MCU002 can be **flush mounted** on a console from the **front side** as shown in the illustration at right.



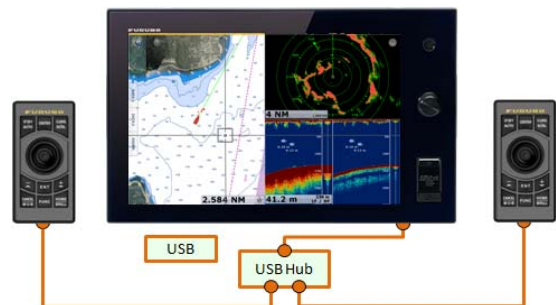
## 4-3. Interconnection

The MCU002 can be used with the TZT9, TZT14, and TZTBB by **USB** connection. Connect the MCU002 to the USB port of the TZT9/14/BB as shown in the following examples.



### Notes:

- (1) A maximum of **two (2) sets** of MCU002 can be connected to **one (1) USB port** via a **USB hub** as shown at right.
- (2) When there are two (2) sets of MCU002 are connected to one (1) TZT9/14/BB, we recommend that both MCU002 units should not be operated simultaneously because it can give a load on the system.



## 5. Model MCU002 with TZT9/14/BB v3.02 or Earlier

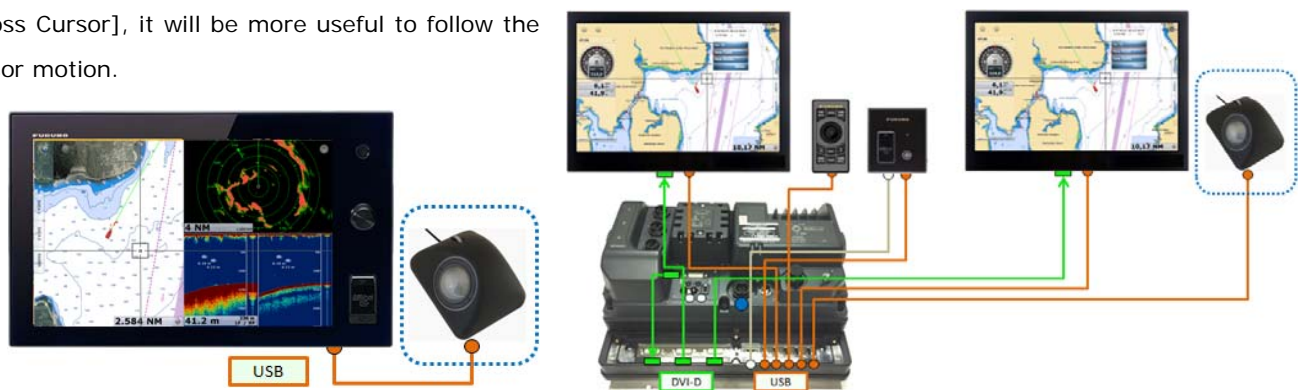
If the MCU002 is used with the TZT9/14/BB **v3.02 or earlier** program, there will be limitations as described below.

- (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 MCU002. 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>	<p>Acts as the <b>RotoKey™</b> of TZT9/14:</p> <p>(1) Rotate to zoom in/out.</p> <p>(2) Push to show RotoKey™ items in gold at the right side of the screen as shown at right.</p> <p>(3) Select RotoKey™ items or contexts</p>
1. Wheel	
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 ---



# History

Release	Date	Page	Section	Descriptions
1 <sup>st</sup> release	Apr. 16, 2014	-	-	-
Rev. 1	May xx, 2014	10	3-4	Descriptions of the Auto Scroll mode are added.
Rev. 1	May xx, 2014	10	3-5	Section numbers are changed after adding the descriptions of the Auto Scroll mode in Section 3-4.
Rev. 1	May xx, 2014	11	3-6	
Rev. 1	May xx, 2014	12	3-7	