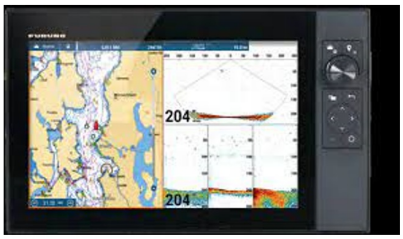


FURUNO navnet tztouch3 TZT16F Integration with Third Party Devices via Ethernet Instructions

Integration with Third Party Devices via Ethernet Instructions
Model: TZT9F/12F/16F/19F
Model: TZT2BB

Contents

1 Integration with Third Party Partners
2 Compatible Partners and Devices
3 Network Requirement and Setup Procedures
3.1 Network Overview
3.2 Requirement on Partner Devices
3.3 Action and Operation on MFDs
4 Setup Requirements for Third Party Devices
4.1 Quick SpA
4.2 Lumishore
4.3 Shadow-Caster
4.4 Victron Energy
4.5 HP WATERMAKER
4.6 OSCAR Collision Avoidance System
4.7 Omnisense
4.8 Seakeeper
4.9 Boening Automation
5 Documents / Resources
5.1 References
6 Related Posts

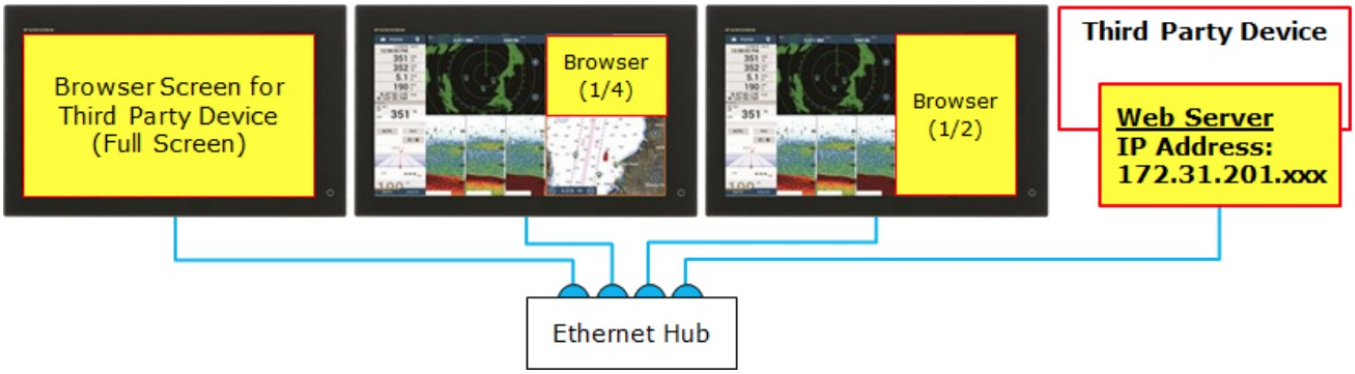
Integration with Third Party Partners

The following NavNet TZtouch2 and TZtouch3 MFDs can be integrated with third party partners' devices via Ethernet – HTML.

Series / Model	Version Requirement
NavNet TZtouch3: TZT12F/16F/19F	V1.08 and later
NavNet TZtouch3: TZT9F	Initial version
NavNet TZtouch2: TZT2BB	V7.01 and later
NavNet TZtouch2: TZTL12F/15F	Not Compatible
NavNet TZtouch: TZT9/14/BB	Not Compatible

Note:
TZTL12F and TZTL15F from NavNet TZtouch2 series MFDs are NOT compatible with this feature. Only the TZT2BB is compatible from the NavNet TZtouch2 series.

Network Overview
MFDs are networked with third party devices via Ethernet. These compatible devices have built-in web servers (HTML5), which MFDs can access to show images and control the networked devices.



See Section 2 for compatible devices from third party partners and communications overview, Section 3 for network requirement and setup procedures, and Section 4 for sample screens.

Compatible Partners and Devices

The following table shows the currently available and supported partners and their devices with the TZT12F/16F/19F v1.08 and TZT2BB v7.01. Other partners are planned to be added wit the future software update.

No	Manufacturer	Category	Product Name	Model Name	Website	Icon on Homeage	Screen Mode			IP Address	IPAddress Configuration (Overview of procedures provided by partners)
							Full	Half(1/2)	Quarter(1/4)		
1	Quick SpA	Gyro stabilizer, thruster, windlass, etc.	QNN Web Server	No specific model name	https://www.quickitaly.com/en/home/		✔	✔	✔	172.31.201.11	QNN for FURUNO type is to be arranged by Quick. Make sure to arrange the FURUNO-compatible type/s.

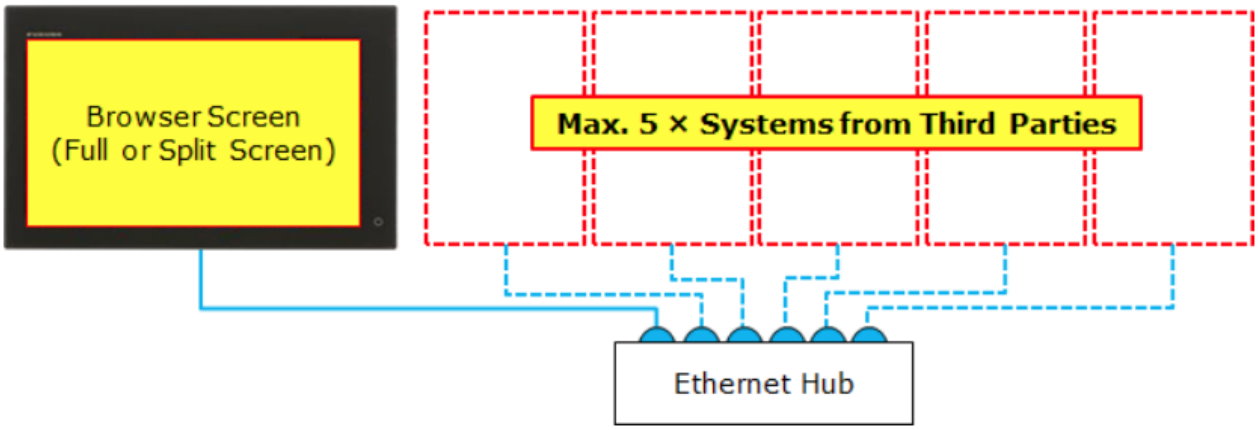
2	Lumishore	LED lighting	Lumi-Link Command Center	No specific model name (Part Number: 60-0366)	https://www.lumishore.com/		✔	✔	✔	172.31.201.4	Purchase the following SD card to allow a user to change the settings of Command Center. Part Number: 60-0377
3	Shadow- Caster	LED lighting	Shadow- ET Bridge	SCM-MFD-Bridge	https://shadow-caster.com/		✔	✔	✔	172.31.201.9	SCD-MFD-Bridge devices with software version 4.10 and later have the static IP address of 172.31.201.9. Make sure to double check about the IP address and setting procedures with their representatives prior to installation.
4	ictron Energy	Battery management, inverter, charger	GX series	Cerbo GX CC GXVenus GX Oct GX CANvu GX Maxi GX MultiPlus-II GX Easy Solar-II GX	https://www.victronenergy.com/		✔	✔	✔	172.31.201.12	For the device with display, set the IP address in [Settings] – [Ethernet]. For the device with built-in Wi-Fi, set the IP address on a connected remote console. For devices with built-in Bluetooth, set the IP address on the VictronConnect app.

5	HPWATER MAKER	Water maker			http://www.hpwater maker		✔	N/A	✔	172.31.201.17	Set up on the 7” display’s setting window.
6	OSCAR	Camera			https://www.oscar-navigation.com/		✔	✔	✔	172.31.201.40	Set up on a PC browser.
7	Omnisense	Thermal camera	Ulysses II	Ulysses II	https://www.omnise nse		✔	✔	✔	172.31.201.20 to 24	Set up on a PC browser.
8	Seakeeper	Gyro stabilizer	Seakeeper 5″ Display Unit or Seakeeper Connect Box	5” display or Connect Box	https://www.seakeeper.com/		✔	✔	✔	No static IP requirement HDCP server is used	Make sure that the software version is the latest.

Network Requirement and Setup Procedures

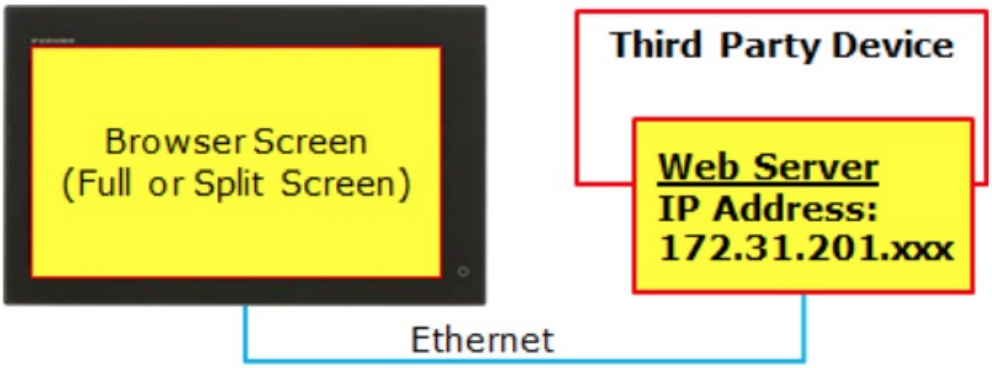
Network Overview

A maximum of five (5) third party systems can be connected on the same NavNet MFD network.



Requirement on Partner Devices

Each partner device has a built-in web server compatible with HTML5. This built-in web server runs the application to display and operate the device. MFDs then access the server to control the application of the0 networked device.



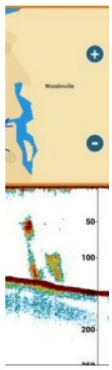
In order to network with NavNet MFDs, partner devices are assigned with the dedicated IP addresses per manufacture as shown in the table in Section 2 and Section 3:

Action and Operation on MFDs

1. Update MFDs (TZT12F/16F/19F and TZT2BB) to compatible versions: V1.08 and later for TZT12F/16F/19F and v7.xx and later for TZT2BB.
2. Make sure that the target device is assigned with the dedicated IP address of 172.31.201.xxx.
3. Network MFDs with the device via Ethernet.
4. In the Home page, tap the [+] icon to create a new page and confirm that the icon of partner device is shown.
5. Select the partner device to create the page. Home Page – Icon from Lumishore

6. Operate the networked device by touch on the MFD screen.

Screen Images – Example from Lumishore

Full	Half (1/2-Split)	
		

Notes:

1. Availability of half (1/2-split) and quarter (1/4-split) pages depends on networked partner devices as shown in the table in Section 2.
2. Time to open the device page varies and depends upon the Third-Party device.
3. Alarms generated on third party devices are NOT shown on the Plotter, Radar, Fish Finder, etc. of MFDs.

Tips – How do these partner devices communicate with MFDs?
Each partner device has a built-in web server compatible with HTML5. This web server allows an MFDs to access the device via Ethernet for data display and operation in a browser. These partner devices are assigned with a dedicated Class B IP address (172.31.xxx.xxx). This dedicated IP address allows MFDs to access the built-in browsers of networked devices. The current exception to a fixed IP address is Seakeeper. Seakeeper uses a DHCP server to assign an address. This is done automatically between the MFD and the Seakeeper device. Make sure to consult with representatives of each manufacturer for IP address configuration.

How are these partner devices are detected by MFDs?
MFDs have built-in files (.enc), which identify networked partner devices. In the Service menu – [UTILITY] – [ACCESS MANAGER], you can see unique files named [xxx (partner name).enc]. At the time of release of TZT12F/16F/19F v1.08 and TZT2BB v7.01 software, the partner files in the table above are enclosed in the software installation packages: On updating the MFD to these software versions, these files are also installed. These files define IP addresses of partner devices and logo images to be shown on the Home page. If an MFD detects a connected ThirdParty device, the logo will appear on the home page. It can then be selected for a display page just like you
would when setting up a Radar, Plotter, or Fish Finder page.

Setup Requirements for Third Party Devices

This section describes basic requirements for third party devices. For IP address settings on each device, consult with representatives of each partner.

Quick SpA

https://www.quickitaly.com/en/products/quick-nautical-network-en/qnn-quick-nautical-network-en/qnn-

en/

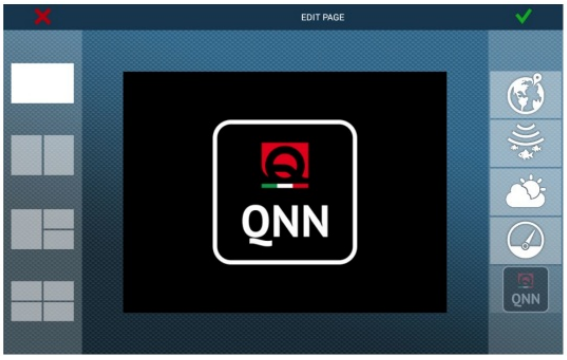
Quick SpA offers gyro stabilizer, thruster, windlass, battery charger, etc., which are controlled via the system called QUICK Nautical Network (QNN). The browser page on MFDs can activate the gyro stabilizer, roll up the anchor, operate the thruster, monitor the battery, and engage in other available actions in the browser page.

QNN – Web Server	Windlass in Full
	

Tips on Setup

Required IP address for QNN: 172.31.201.11

- Quick has a dedicated QNN webserver for the NavNet network. Make sure that the server compatible with FURUNO is arranged.
- For QNN systems already installed onboard, consult with representatives of Quick in order to network with NavNet MFDs.
- Connect MFDs to the QNN network via Ethernet and create a page for QNN on the Home page – in full, half (1/2split), or quarter (1/4-split) screen.

Home – Edit Page	F
	

Lumishore

https://www.lumishore.com/lumi-link-smart-lighting/about-lumilink

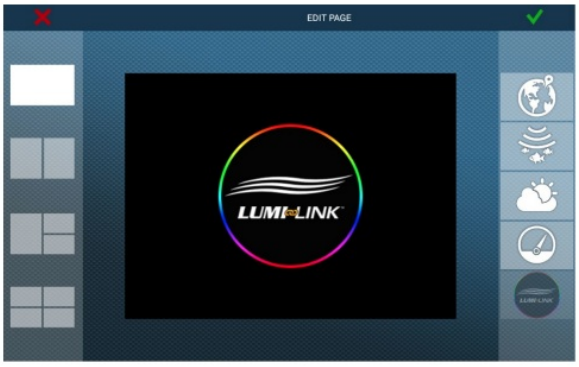
Lumishore offers LED lighting for boats. The web server called Lumi-Link Command Center allows you to control LED colors and brilliance on networked MFDs.

Lighting Image	Lumi-Link Command Center (Web Server)	Underwater Light
 		

Tips on Setup

Required IP address for Lumishore: 172.31.201.4

- Purchase the following SD card to allow a user to change the settings of Lumi-Link Command Center.
  Part Number: 60-0377
- For other settings and operation, refer to the Installation Guide or Setup and User Guide from the following Lumishore website.
  https://www.lumishore.com/lumi-link-smart-lighting/command-center
- Connect MFDs to the Lumi-Link Command Center via Ethernet and create a page for Lumishore on the Home page
  – in full, half (1/2-split), or quarter (1/4-split) screen.

Home – Edit Page	Half (1/2-Split) Screen
	

Shadow-Caster

https://shadow-caster.com/product-detail/scm-mfd-lc/

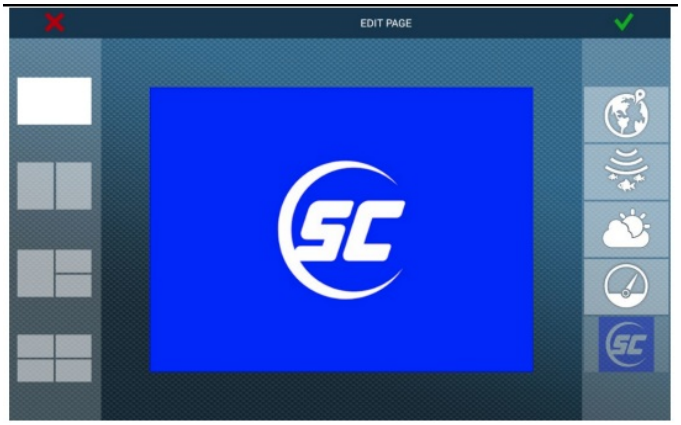
Shadow-Caster offers LED lighting for boats. The web server called SCM-MFD-BRIDGE allows you to control LED colors and brilliance from networked MFDs.

SCM-MFD-BRIDGE (for Web Server)	Lighting Image
	

Tips on Setup

Required IP address for Shadow-Caster: 172.31.201.9

- The SCM-MFD BRIDGE with v4.10 and later software has the static IP address above by default.
- Connect MFDs to the SCM-MFD-BRIDGE via Ethernet and create a page for Shadow-Caster on the Home page – in full, half (1/2-split), or quarter (1/4-split) screen.

Home – Edit Page	Full Screen
	

Victron Energy

https://www.victronenergy.com/panel-systems-remote-monitoring

Victron Energy offers battery charger, inverter, and battery monitors, etc. The web server models called GX series allows you to monitor the battery status and operate chargers on networked MFDs.

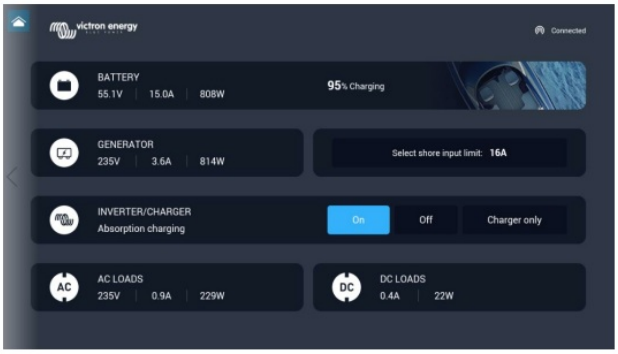
Tips on Setup

Required IP address for Shadow-Caster: 172.31.201.12

- Connect MFDs with the GX series web server via Ethernet.
- Make sure that the IP address of 172.31.201.12 is assigned by Victron Energy representatives for the following settings.
  - For a device with a display, set the IP address in [Settings] – [Ethernet].
  - For the device with built-in Wi-Fi, set the IP address on a connected remote console.
    Note: LAN cable connection is required to change the Ethernet settings.
    https://www.victronenergy.com/media/pg/Cerbo_GX_Device_Manual/en/accessing-the-gxdevice.html#UUID-4495e95a-8a13-b372-0e28-321ba38fb286
  - For devices with built-in Bluetooth, set the IP address on the VictronConnect app.
  - https://www.victronenergy.com/media/pg/Cerbo_GX_Device_Manual/en/accessing-the-gxdevice.html#UUID-58372221-d66e-e9e5-416f-dd3fc2026c6b

Cerbo GX	Venus GX	Color Control GX
		
Octo GX	**CANvu GX**	**Maxi GX**
		

- Connect MFDs to the GX via Ethernet and create a page for Victron Energy on the Home page – in full, half (1/2split), or quarter (1/4-split
  screen.)

Home – Edit Page	Full Screen
	

HP WATERMAKER

http://www.hpwatermaker.it/it/

HP WATERMAKER manufactures water maker products. Control of switches, valves, and settings is available on the MFD. Their website introduces the procedures along with some tips.
http://www.hpwatermaker.it/en/s/assets/images/Furuno_part-net_eng.pdf

Tips on Setup
Required IP address for HP WATERMAKER: 172.31.201.17

- Set up the IP address on their 7” display’s setting window.
- Connect it to the network from the 7” display – rear side port.
- Both full screen and Quarter (1/4) screen modes are available on the MFD.

OSCAR Collision Avoidance System

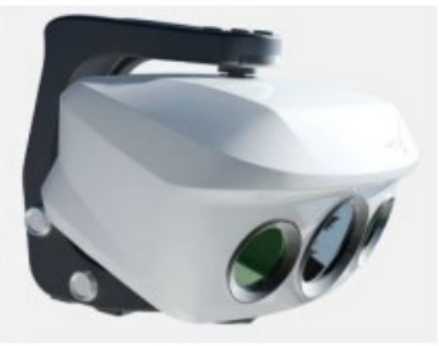
https://www.oscar-navigation.com/

OSCAR Collision Avoidance System offers the system to avoid collision utilizing cameras mainly for racing yachts. Dangerous targets are identified with a camera to generate an alarm. The MFD can be utilized to show the camera image and operate for zoom in/out, etc.

Tips on Setup

Required IP address for OSCAR: 172.31.201.45

- Set up the IP address above using a PC browser.
- Connect to the MFD network from the processor’s port.
- In addition to full screen, Half (1/2) and Quarter (1/4) screen modes are available on the MFD.


Omnisense

https://www.omnisense-systems.com/

Thermal camera (Model: Ulysses II) can be shown and controlled from the MFD for pan/tilt/zoom operation, etc.

Note:
Currently target tracking or camera lock on the plotter screen are not available.

Tips on Setup

Required IP address for Omnisense: 172.31.201.20 (to 24)

- Set up the IP address above using a PC browser.
- When multiple cameras are to be networked, assign IP addresses in the range of 172.31.201.20 to 24.
- Connect to the MFD network from the connection box’s port.
- In addition to full screen, Half (1/2) and Quarter (1/4) screen modes are available on the MFD.


Seakeeper

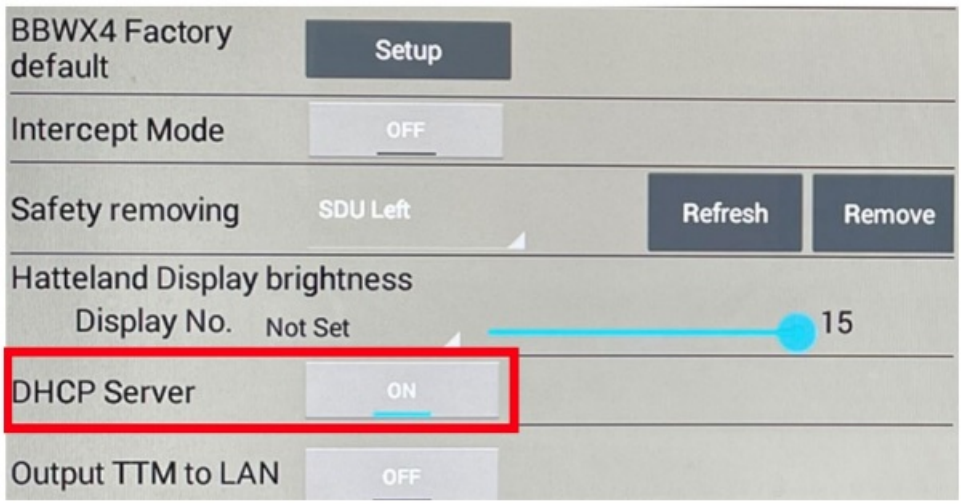
https://www.seakeeper.com/

Seakeeper offers a full range of gyro stabilizers to stabilize the roll motion of a boat for a variety of boat sizes and types. The 5” touch screen displays the status of the gyro. MFDs can also display the gyro status and the ability to turn on/off the stabilization function.

Gyro Stabilizer	ConnectBox	5” Touch Display
		

Tips on Setup

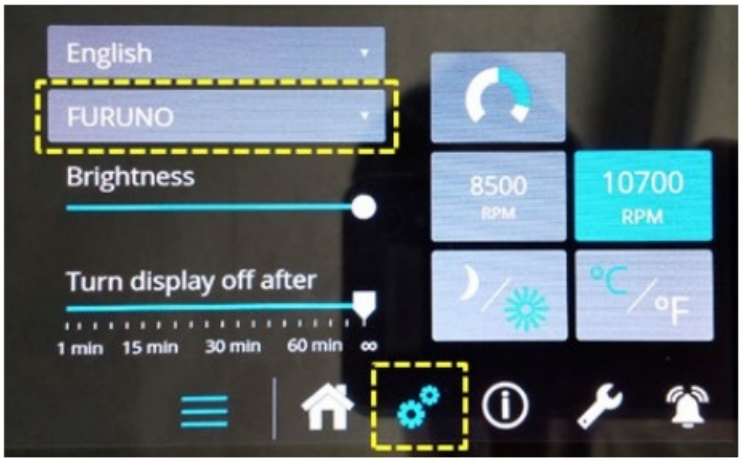
No static IP address is required
TZT9F/12F/16F/19F v2.01 and later, and TZT2BB v8.01 and later, include a DHCP server. This server assigns an IP address allowing it to be networked with Seakeeper. FYI: The DHCP Control ON/OFF setting is available in the [Service Menu] – [Utility] tab – [DHCO Control] -[ON]/[OFF].



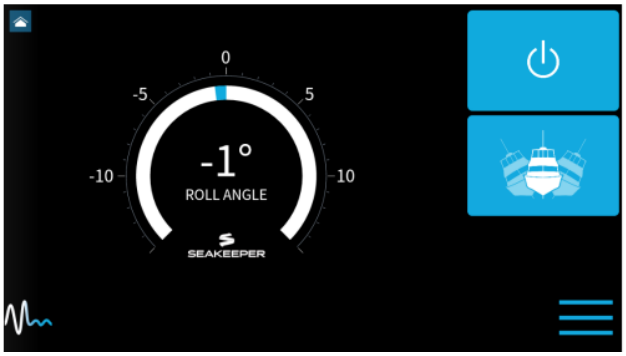
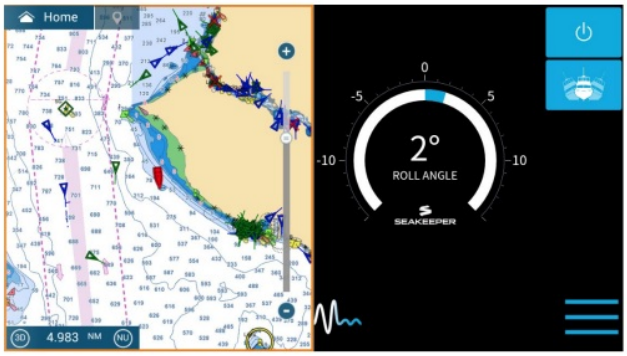
However, the Default is set to ON E.g., Service Menu

- The Seakeeper 5” touch display and the ConnectBox have a web server to communicate with MFDs via Ethernet. Either the 5” display or the ConnectBox are always necessary, although MFDs are/can be used to control and view the status of the gyro. When running the ConnectBox or more than one Seakeeper, TZT3 v3.5 software (TZT2BB v9.5) is required.

- The Seakeeper connection cable for the 5” display and the ConnectBox have a M12 4-Pin D-Code connector on the Seakeeper side, along with an RJ45 connector on the other end for connection to either an Ethernet HUB or MFD Ethernet port.



- Make sure that the software version of the 5” display or the ConnectBox are the latest.
  E.g. – Setting Page
- Create a page for Seakeeper on the Home page. Full, half (1/2-split), or quarter (1/4-split) screen are available.

Full Screen	Half (1/2-Split) Screen
	

Boening Automation

BÖNING
SHIP AUTOMATION

https://www.boening.com/38.html?&L=1

Boening Automation offers ship automation to monitor and control a variety of systems onboard. Network with their system will be established via DHCP.

Tips on Setup

Required IP address for Boening Automation:
172.31.201.46

Last update: Nov 2022

Documents / Resources

	FURUNO navnet tztouch3 TZT16F Integration with Third Party Devices via Ethernet [pdf] Instructions navnet tztouch3 TZT16F Integration with Third Party Devices via Ethernet, navnet tztouch3 TZT16F, Integration with Third Party Devices via Ethernet, Third Party Devices via Ethernet, Devices via Ethernet, via Ethernet, Ethernet

References

- Caster | Trending
- Energy.com – The Future of Blockchain
- —
- Navigation Map Update | GPS Navigation System | HERE Technologies
- per.com/
- HP Watermaker
- Homepage - www.boening.com
- Lumishore
- Lumishore
- Omnisense Systems | Marine Thermal Night Vision

- SEA.AI > Machine Vision for Safety at Sea
- QNN - Quick Nautical Network | Quick Spa
- Seakeeper | Eliminate Boat Roll and Pitch
- Panels and System Monitoring - Victron Energy