

**NAVnet**

**TZ3**  
touch

**NAVnet**

**TZ2**  
touch

**Model:**

**TZT9F/12F/16F/19F**

**Model:**

**TZT2BB**

# Integration with Third Party Devices via Ethernet

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# 1. Integration with Third Party Partners

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

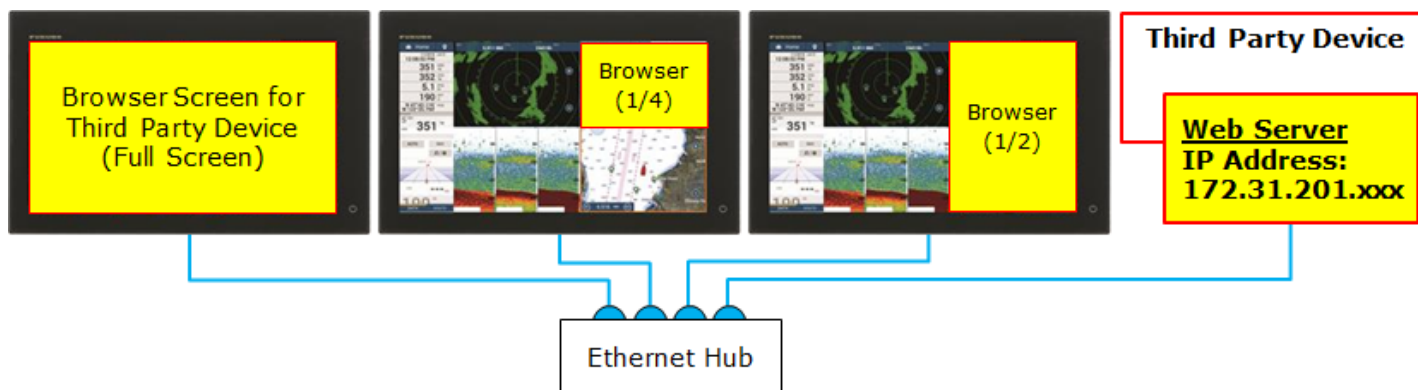
Series / Model	Version Requirement
NavNet TZtouch3: <b>TZT12F/16F/19F</b>	<b>V1.08</b> and later
NavNet TZtouch3: <b>TZT9F</b>	Initial version
NavNet TZtouch2: <b>TZT2BB</b>	<b>V7.01</b> and later
NavNet TZtouch2: TZTL12F/15F	<b>Not Compatible</b>
NavNet TZtouch: TZT9/14/BB	<b>Not Compatible</b>

## 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.

## 2. Compatible Partners and Devices

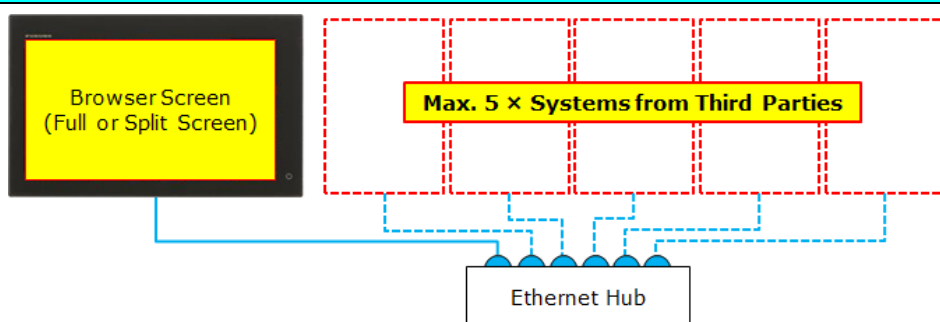
The following table shows the currently available and supported partners and their devices with the TZT12F/16F/19F v1.08 and TZT2BB v7.01. Other partners are planned to be added with the future software update.

No	Manufacturer	Category	Product Name	Model Name	Website	Icon on Home Page	Screen Mode			IP Address	IP Address 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	<a href="https://www.quickitaly.com/en/home/">https://www.quickitaly.com/en/home/</a>		✓	✓	✓	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)	<a href="https://www.lumishore.com/">https://www.lumishore.com/</a>		✓	✓	✓	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-NET Bridge	SCM-MFD-Bridge	<a href="https://shadow-caster.com/">https://shadow-caster.com/</a>		✓	✓	✓	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	Victron Energy	Battery management, inverter, charger	GX series	Cerbo GX CCGX Venus GX Oct GX CANvu GX Maxi GX MultiPlus-II GX EasySolar-II GX	<a href="https://www.victronenergy.com/">https://www.victronenergy.com/</a>		✓	✓	✓	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	HP WATERMAKER	Water maker			<a href="http://www.hpwatermaker.com/">http://www.hpwatermaker.com/</a>		✓	N/A	✓	172.31.201.17	Set up on the 7" display's setting window.
6	OSCAR	Camera			<a href="https://www.oscar-navigation.com/">https://www.oscar-navigation.com/</a>		✓	✓	✓	172.31.201.40	Set up on a PC browser.
7	Omnisense	Thermal camera	Ulysses II	Ulysses II	<a href="https://www.omnisen.se">https://www.omnisen.se</a>		✓	✓	✓	172.31.201.20 to 24	Set up on a PC browser.
8	Seakeeper	Gyro stabilizer	Seakeeper 5" Display Unit or Seakeeper ConnectBox	5" display or ConnectBox	<a href="https://www.seakeeper.com/">https://www.seakeeper.com/</a>		✓	✓	✓	No static IP requirement HDCP server is used	Make sure that the software version is the latest.

# 3. Network Requirement and Setup Procedures

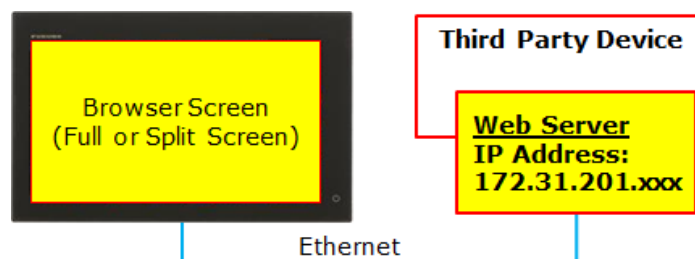
## 3.1. Network Overview

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



## 3.2. Requirement on Partner Devices

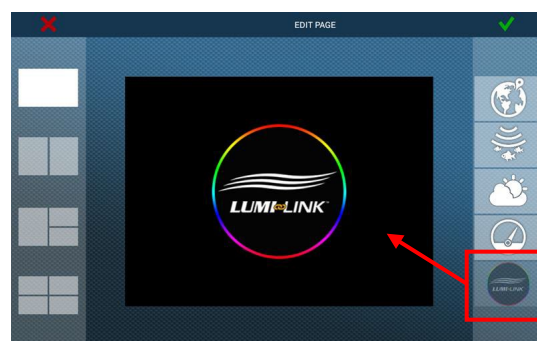
Each partner device has a **built-in web server** compatible with **HTML5**. This built-in web server runs the application to display and operate the device. MFDs then access the server to control the application of the networked device.



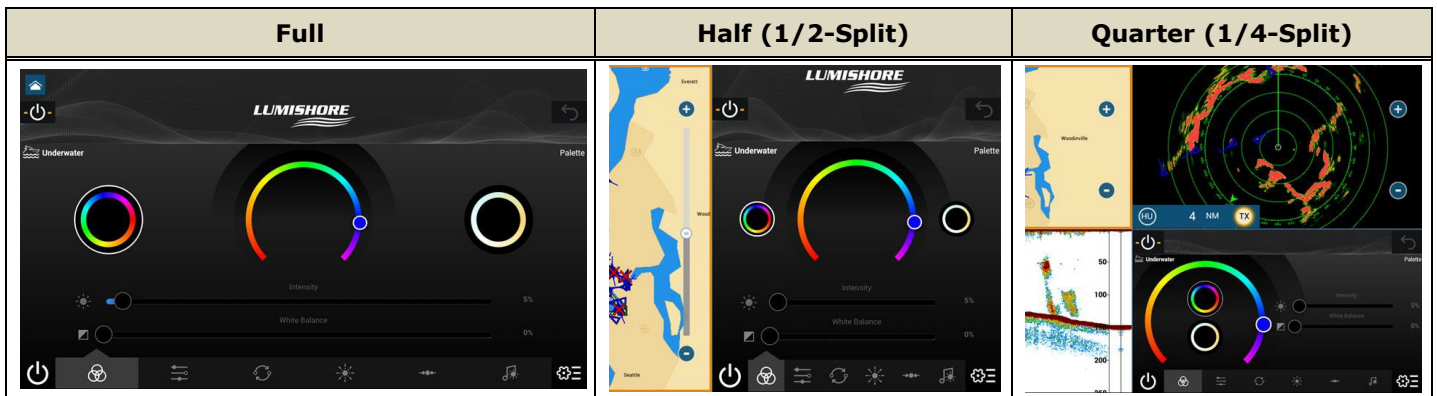
**In order to network with NavNet MFDs, partner devices are assigned with the dedicated IP addresses per manufacture as shown in the table in [Section 2](#) and [Section 3](#):**

## 3.3. 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



### 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 Third-Party 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.

# 4. 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.

## 4.1. 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 Screen

### Tips on Setup

**Required IP address for QNN: 172.31.201.11**

- Quick has a dedicated QNN webservice 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 (1/2-split), or quarter (1/4-split) screen.




Home – Edit Page	Full Screen

## 4.2. Lumishore






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

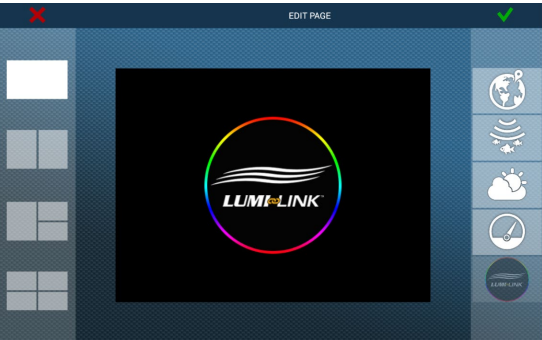
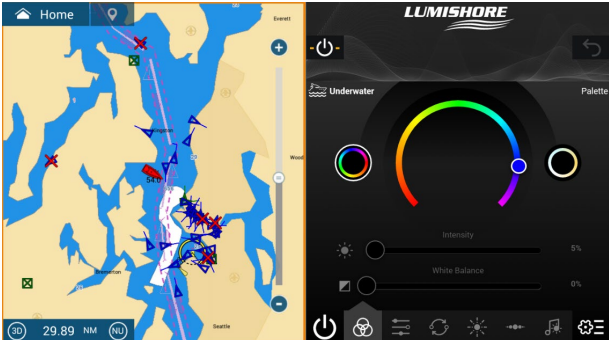
Lumishore offers LED lighting for boats. **The web server called Lumi-Link Command Center** allows you to control LED colors and brilliance on networked MFDs.

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
	

### 4.3. Shadow-Caster



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

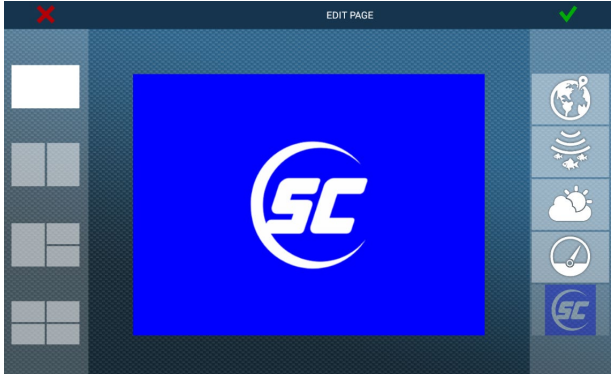
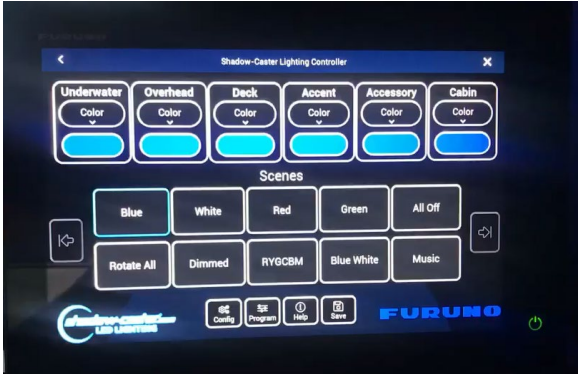
Shadow-Caster offers LED lighting for boats. The web server called **SCM-MFD-BRIDGE** allows you to control LED colors and brilliance from networked MFDs.

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
	



## 4.4. Victron Energy



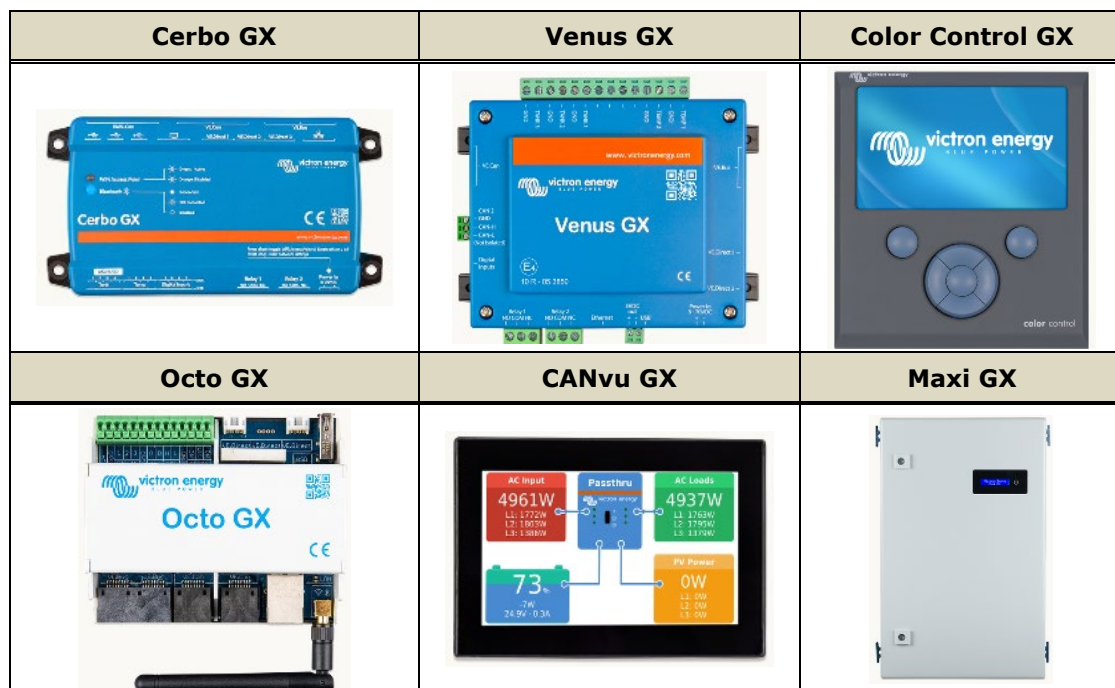
<https://www.victronenergy.com/panel-systems-remote-monitoring>

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.

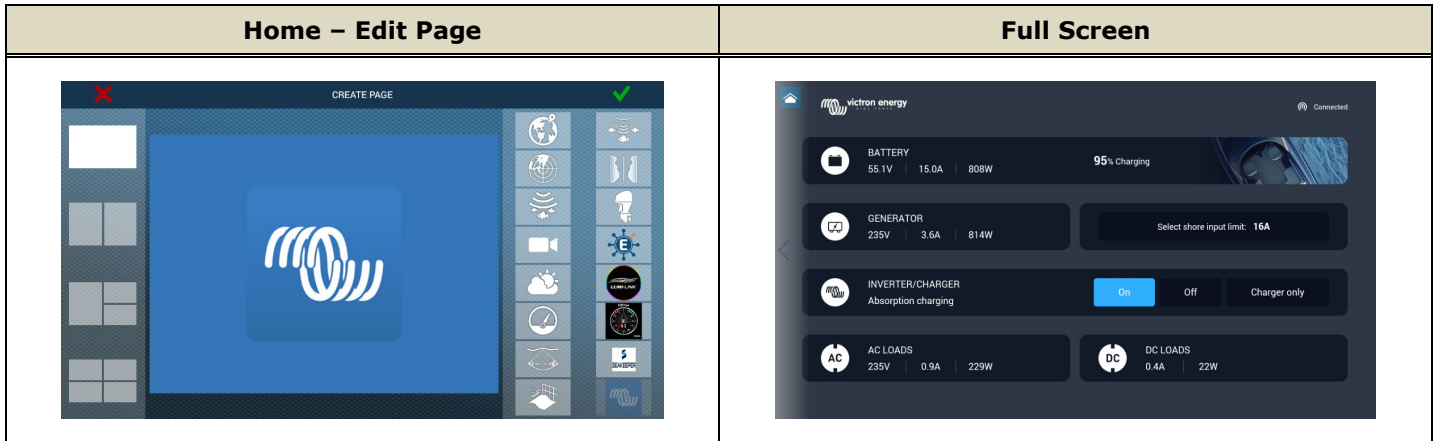
### Tips on Setup

**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-gx-device.html#UUID-4495e95a-8a13-b372-0e28-321ba38fb286](https://www.victronenergy.com/media/pg/Cerbo_GX_Device_Manual/en/accessing-the-gx-device.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-gx-device.html#UUID-58372221-d66e-e9e5-416f-dd3fc2026c6b](https://www.victronenergy.com/media/pg/Cerbo_GX_Device_Manual/en/accessing-the-gx-device.html#UUID-58372221-d66e-e9e5-416f-dd3fc2026c6b)



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



## 4.5. HP WATERMAKER



<http://www.hpwatermaker.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](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.



## 4.6. 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.



## 4.7. 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.



## 4.8. Seakeeper



snipp

<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.

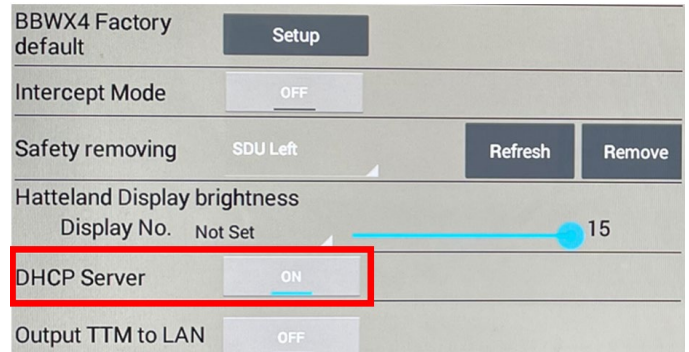
Gyro Stabilizer	ConnectBox	5" Touch Display

## 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.**

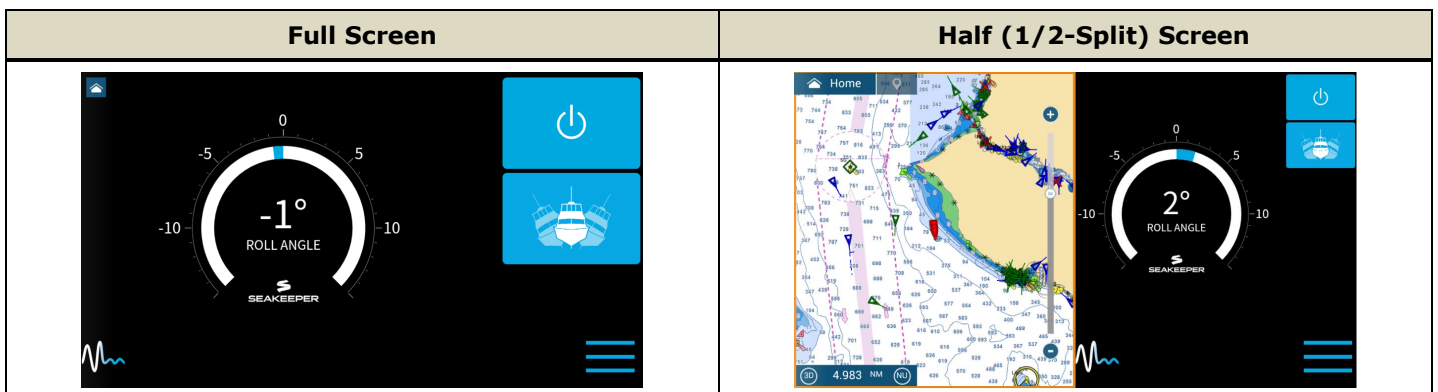
- ✚ The Seakeeper connection cable for the 5" display and the ConnectBox have a M12 4-Pin D-Code connector on the Seakeeper side, along with an RJ45 connector on the other end for connection to either an Ethernet HUB or MFD Ethernet port.

- ✚ **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.



## 4.9. Boening 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

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