



www.furuno.com

All brand and product names are registered trademarks, trademarks or service marks of their respective holders. Alpha blending technology is used for transparency effects.

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE
PLEASE READ MANUAL BEFORE USING THE UNIT

FURUNO ELECTRIC CO., LTD.
Nishinomiya, Hyogo, Japan
www.furuno.com

FURUNO U.S.A. INC.
Camas, Washington, U.S.A.
www.furunousa.com

FURUNO (UK) LIMITED
Havant, Hampshire, U.K.
www.furuno.co.uk

FURUNO FRANCE S.A.S.
Bordeaux-Mérignac, France
www.furuno.fr

FURUNO ESPAÑA S.A.
Madrid, Spain
www.furuno.es

FURUNO DANMARK A/S
Hvidovre, Denmark
www.furuno.dk

FURUNO NORGE A/S
Ålesund, Norway
www.furuno.no

FURUNO SVERIGE AB
Västra Frölunda, Sweden
www.furuno.se

FURUNO FINLAND OY
Espoo, Finland
www.furuno.fi

FURUNO POLSKA Sp. z o.o.
Gdynia, Poland
www.furuno.pl

FURUNO EURUS LLC
St. Petersburg, Russian Federation
www.furuno.com.ru

FURUNO DEUTSCHLAND GmbH
Rellingen, Germany
www.furuno.de

FURUNO HELLAS S.A.
Piraeus, Greece
RICO (PTE) LTD
Singapore
www.rico.com.sg

1202-PDF Printed in Germany
Catalogue No. R-201a



FURUNO

Total Control at your Fingertips

NAVnet

TZ
touch

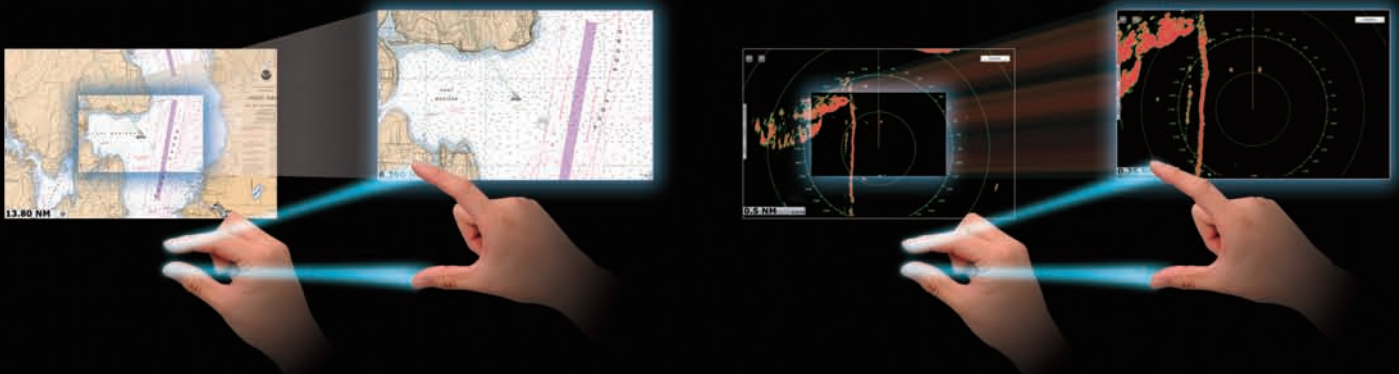


www.navnet.com



Pinch-To-Zoom

TZtouch brings you pinch-to-zoom capability, as well as other multi touch gestures for the most intuitive navigation experience.



See Page 7-8 for details >>>

High Performance Technology Beyond Your Expectations

Tablet & Smartphone Apps

Custom apps allow you to wirelessly view and control TZtouch from any iPhone, iPad, or iPod Touch*.



*NavNet Remote App is available for iPad only.
Other mobile platforms to be supported in the future.

See Page 9 for details >>>

Wireless Hotspot Connectivity

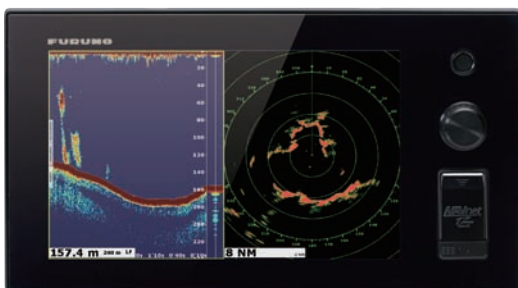
TZtouch has wireless connectivity to hotspots, enabling the ability to download useful updates, such as real-time weather data, via the Internet.



See Page 10 for details >>>

TZtouch Delivers A Huge Step Forward In Touch Screen Technology

Today's NavNet has come a long way from the first multi function display. Take one look and you will see just how far. A generous 9" or 14.1" display with edge-to-edge glass makes for a clean and stylish installation. The LED backlighting pushes light through every pixel on the screen for remarkable brightness. Anti-reflective glass coating is visible under any lighting condition. Configure the displays with a wide variety of sensors to build a navigation suite that meets your individual requirements.



Model TZT9

Model TZT9

9" Multi Function Display

Resolution: WVGA (800 x 480 pixels)
 Brightness: 900 cd/m² (typical)



Model TZT14

Model TZT14

14.1" Multi Function Display

Resolution: WXGA (1280 x 800 pixels)
 Brightness: 900 cd/m² (typical)



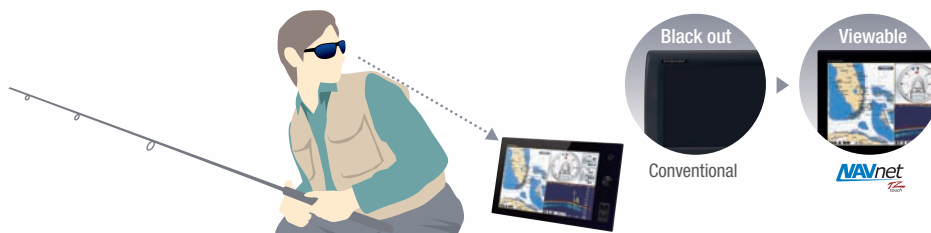
Bonded LCD - Clear Readability

Our bonded LCDs offer a fog-free structural design that has been applied to both the TZT9 and TZT14. This ensures the display will never be affected by water condensation, caused by an air gap between the LCD and the front cover plate.



Polarized Friendly - Clearly Remarkable

NavNet TZtouch has an LCD screen that does not "black out" when wearing polarized sunglasses, providing clear visibility from virtually any angle.



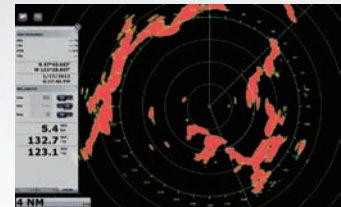
« Ethernet



RADAR



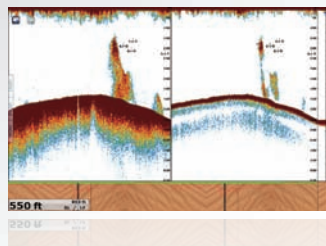
Ultra High Definition Radar Sensors



FISH FINDER



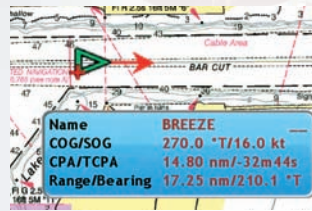
Network Fish Finder
DFF1/DF3/BBDS1



AIS



AIS Receiver
FA-30
Class-B AIS Transponder
FA-50

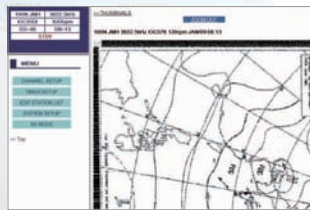


NavNet TZtouch Net

WEATHER FAX



Network Weather
Facsimile Receiver
FAX-30



PC



MAXSEA TimeZero Explorer
PC Software

CAMERA



IP Camera



SIRIUS



Network Satellite Weather and Radio Receiver
BBWX2



Sirius weather coverage is currently available only in U.S. and Canada. Sirius subscription required.

CAN bus >>>



GPS



GPS Antenna
GP-330B

GPS Navigator
GP-33



INSTRUMENTS



FI-50 Series

work: Building Block Solution

NavNet TZtouch is built on an Ethernet network, allowing you to add as few or as many components as you desire, along with up to six displays, as well as CAN bus and NMEA2000 devices, to create your perfect navigation suite.

The NavNet TZtouch system is built upon the most advanced chart plotter technology. Add to this a UHD™ Radar and an FDF™ Fish Finder, along with your choice from a wide variety of sensor options. It is easy to see how a NavNet TZtouch chart plotter display is the genesis to begin building the most sophisticated navigation suite available.

AUTOPILOT



NAVpilot-700 Series

NMEA0183 to CAN bus converter available

The optional IF-NMEA2K2 converts NMEA0183 sentences to FURUNO CAN bus PGNs, enabling conventional NMEA0183 navigation devices to be incorporated into the NavNet TZtouch network.



COMPASS



Satellite Compass
SC-30



Integrated Heading Sensor
PG-700

REMOTE DISPLAY



Remote Display
RD-33

SENSORS



Weather Station



Depth/Speed/Temp Sensor
Airmar DST-800

*All stated CAN bus devices can be incorporated into the NMEA2000 network.



Touch... and Go Menu Selection

Be more hands-on with our easy-to-understand touch screen interface. You'll have full control of each component connected to the network right at your fingertips.



RotoKey™

NavNet's revolutionary RotoKey™ now merges the power and versatility of touch screen control with an easy-to-use rotary knob. One turn of the RotoKey™ gives you instant access to full control of NavNet TZtouch.



The World's Most Advanced Multi Touch Navigation Interface

With Navnet TZtouch's high-sensitivity, touch screen interface, total control is at your fingertips. Navigation is simplified by using your fingers to zoom and pan around the chart. As soon as your fingers touch the display, taps, pinches and swipes are instantly transformed into action. You will learn your controls so quickly that you'll be up and running in no time. To make operation even easier while underway, adjustments such as range and gain are easily made from either the on-screen touch menu or our patented RotoKey™.

Multi Touch Control

Furuno elevates marine touch screen technology to an entirely new level with the industry's first multi touch MFD. The use of multi touch technology opens the door to a wide variety of gesture-based commands. NavNet TZtouch's waterproof display is also ruggedized to perform perfectly in wet, harsh conditions.

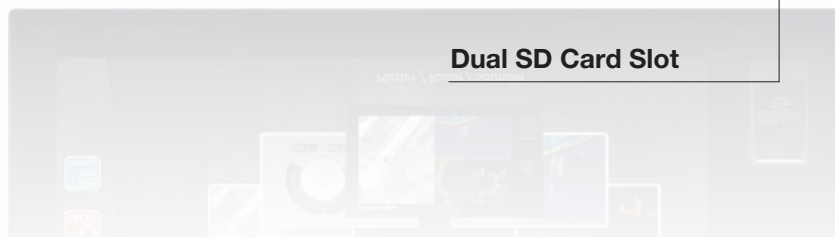


Home Key

By simply pressing the Home key, you'll gain immediate access to your carousel of customized display configurations. The Home screen is where you can find, select, and custom build the presentation modes you want to display.



Dual SD Card Slot



Get Connected With Our Wireless Interf

Engineered to utilize the latest technology, NavNet TZtouch opens the door to cutting edge wireless LAN features, such as tablet and smartphone apps, points of interest (POI), real time weather data, software updates and more.

Visit the Apple App Store to download these FREE apps to view and control NavNet TZtouch.

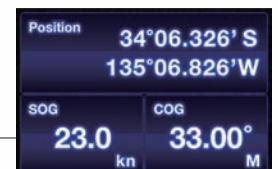
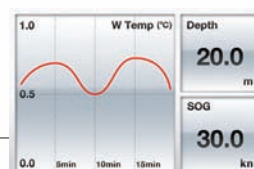
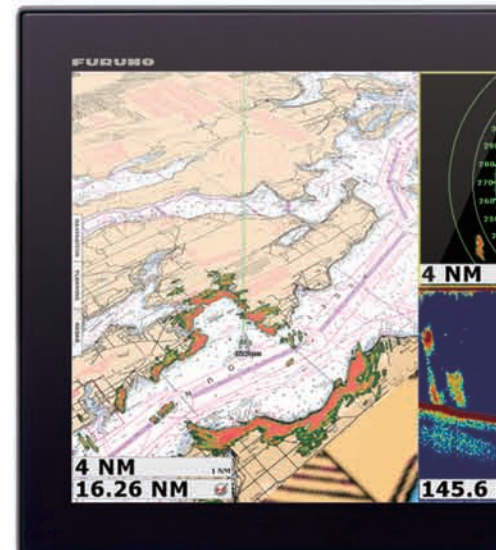
Remotely View And Control TZtouch With Apps Designed For Your Smartphone And Tablet



NavNet Viewer App

Conveniently view information shared wirelessly by the NavNet TZtouch network on your Apple mobile products*. As one of the features, you can flick through instrument pages to view key navigational information, such as Depth, Temp, Wind, COG and much more.

*Other mobile platforms to be supported in the future

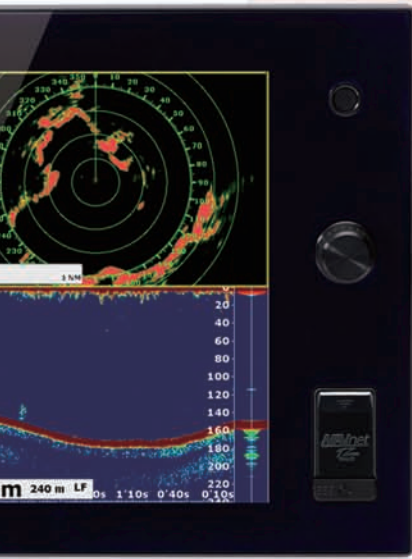


ace



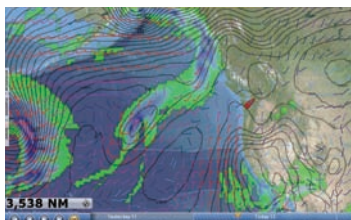
NavNet Remote App

Take full control of your NavNet in a whole new way. The TZtouch Remote app allows you to operate your system remotely with an iPad1 and iPad2 over wireless LAN, when connected to the network.



Marine Weather Forecast

The weather tool is completely free and easy to use, giving you unlimited access to weather forecasts worldwide 24 hours a day provided by NavCenter. Select geographic coverage, data type, period of time, and then choose how to receive the file. NavNet TZtouch provides up to 16 days of weather forecasting.



POI Database

Available in Autumn 2012

You can search and access an abundance of customer-rated points of interest (POIs), such as restaurants, hotels and more at the local harbors.



Not actual screen shot.
Finished display may appear different.

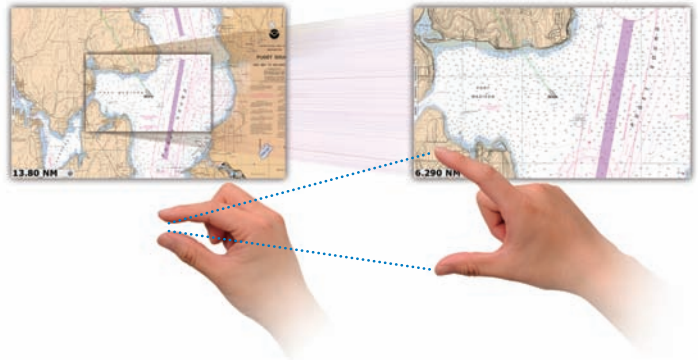
Nothing Is Faster Than TimeZero™



NavNet TZtouch's TimeZero™ technology delivers chart processing like you've never seen before – seamless chart handling, zooming and panning without the screen disappearing. TimeZero™ technology redefines the meaning of stress-free operation by smoothing out your chart handling actions.

The Only Acceptable Wait Time is Zero: TimeZero™ Technology Changes Your Perspective on Chart Redraw

Equipped with powerful TimeZero™ technology, NavNet TZtouch will completely transform the way you navigate. You can scroll, pan, zoom in/out with a smooth, fast and seamless graphics engine. Navigating in a fully 3D environment offers you a true perspective and wider area of view around the ship, which allows you to better plan your routes, while TimeZero technology updates the information on your screen with virtually no redraw.

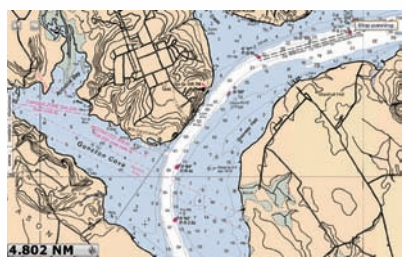




Scan above code for more details about Chart Plotter.

Chart Plotter

NavNet TZtouch is the only chart plotter on the market that provides users the ability to choose from official NOAA raster and vector charts, or optional “C-Map by Jeppesen” and “Datacore by Navionics” vector cartography, etc. Fully integrating a cutting-edge data algorithm with a high-resolution image processing technique, MapMedia delivers digital navigation charts and satellite photography with absolute clarity. MapMedia vector and raster charts are built upon 3D architecture, which is smoothly integrated with NavNet’s TimeZero™ technology.



4.802 NM
2D Raster



3.569 NM
2D Vector



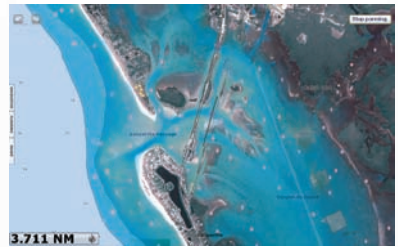
6.970 NM
3D Raster with Satellite Photo

Satellite PhotoFusion™

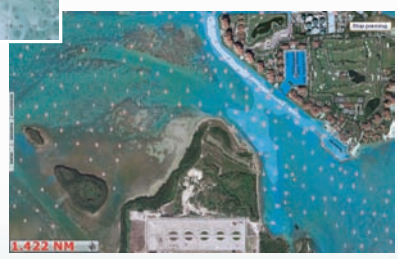
You can load any two ultra-wide high-resolution satellite photo areas at your convenience. Land areas (zero depth) are completely opaque, so these areas are displayed as high-resolution satellite photos on the chart. As the depth increases, the satellite photography becomes more transparent. This allows you to see where the shallows end and the deeper water begins, while still allowing the raster or vector chart to be visible.



3.729 NM



3.711 NM



1.422 NM

- On top of the bundled cartography and satellite photography, you can save the following marks and points in the NavNet TZtouch internal memory:
- up to 30,000 points.
 - up to 30,000 ship's track points.
 - 1,000 planned routes, with up to 500 waypoints each



Scan above code for more details about Radar.

Radar



NavNet TZtouch Radar Sensor Options

Sensor Lineup	DRS2D	DRS4D	DRS4A	DRS6A	DRS12A	DRS25A
Output Power	2.2 kW	4 kW	4 kW	6 kW	12 kW	25 kW
Size	19 inch	24 inch	3.5 ft	4 ft	4 ft/6 ft	4 ft/6 ft
Antenna Type	Radome	Radome	Open	Open	Open	Open
Beam Width	Horizontal	5.2°	3.9°	2.3°	1.9°	1.9°/1.4°
	Vertical	25°	25°	22°	22°	22°/22°
Max. Range	24 nm	36 nm	48 nm	64 nm	72 nm	96 nm
48 rpm Capability	✓	✓	✓	✓	✓	✓
Req'd Power Amp Unit	PSU-012	PSU-012	PSU-012	PSU-012	PSU-012	PSU-013

The radar antenna complies with IEC62252 Ed.1:2004 (Clauses 4.33, 5.33, Annex D) relevant to radio characteristic.

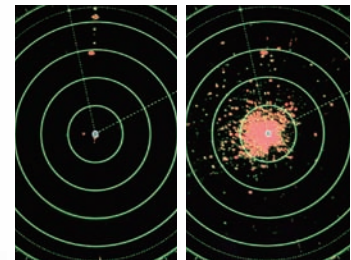
Ultra High Definition (UHD™) Digital Radar

FURUNO has taken its NMEA award-winning radar technology to the next level with Ultra High Definition Digital Radar. UHD™ offers crystal clear target presentation with automatic, real-time digital signal processing. Antenna rotation speed (24/36/48 rpm) is automatically shifted to the appropriate pulse length. Commercial-grade radar performance is now available in the ultimate MFD navigation suite.



Real-Time Digital Auto Gain/Sea Controls

NavNet TZtouch employs revolutionary real-time digital auto Gain/Sea controls to deliver a crystal clear radar presentation. With this new technology, NavNet TZtouch computes and applies an adaptive omni-directional anti-clutter filter with variable intensity depending on bearing.

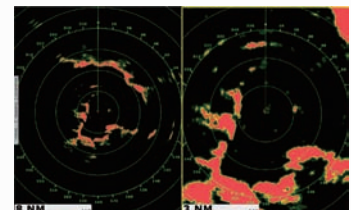


Auto Gain/Sea Controls On

Auto Gain/Sea Controls Off

Real-Time Dual Range Radar Presentation with Dual Progressive Scan

NavNet TZtouch's simultaneous scanning technology allows dual progressive scan to display and update two radar pictures, both long and short range, at the same time as opposed to alternate update methods of typical conventional dual range radar. Autonomous control over gain and anti-clutter can be performed on each radar presentation. This can be used to have one screen with the gain set to locate birds and buoys, while you use the other radar screen to navigate.



8 NM

3 NM

Radar-Chart Overlay

A Radar image can be overlaid onto the chart screen. Not only is this possible with the conventional 2D chart format, but it can also be projected onto a 3D chart presentation. Radar range scales in the radar chart overlay entirely depend on the range scales in the chart presentation, allowing you to view the radar image on the chart information at any magnification level you desire.

(An appropriate heading sensor is required.)



8 NM

12.24 NM



Scan above code for more details about Fish Finder.



Fish Finder



FURUNO Digital Filter (FDF™) Fish Finder

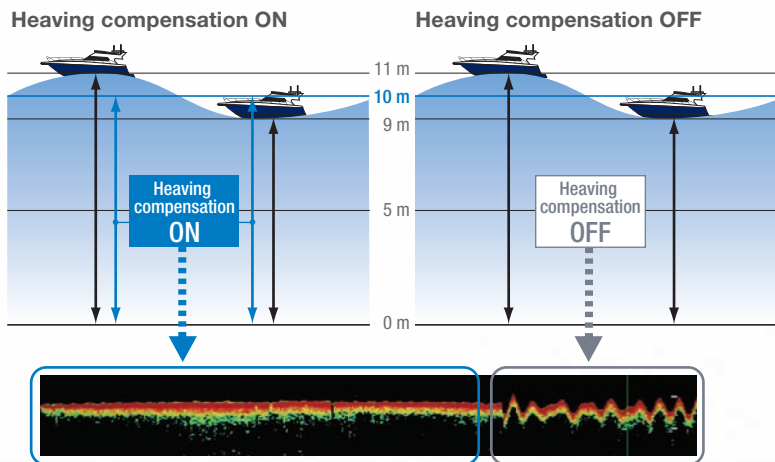
Sensor Lineup

	DFF1	BBDS1	DFF3
Frequency	Dual frequency 50 kHz and 200 kHz		The synthesized transducer works with dual frequencies between 28 and 200 kHz
Output Power	600 W/1 kW		1, 2 or 3 kW
Range Scale	8 basic range scales customized upto 1,200 m		8 basic range scales customized upto 1,500 m
Accu-Fish	Available		
Bottom Discrimination	N/A	Available	N/A
Power Supply	12-24 VDC		

FURUNO Digital Filter (FDF™) fish finders feature advanced filtering capabilities and digital auto tuning, which eliminates noise, while delivering the ability to spot individual fish with clarity, accuracy and detail. Whether it is used for shallow or deep water, FURUNO FDF™ fish finders give you what you would expect from a fish finder at all times.

Heaving Compensation with Satellite Compass SC-30

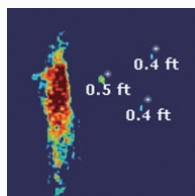
An unstable fish finder presentation caused by vessel's heaving motion will no longer be an issue. FURUNO's Satellite Compass SC-30 detects your vessel's heaving motion and transfers the data to the networked fish finder. It then corrects the echo distortion and delivers stable underwater presentation to your network.



ACCU-FISH™ (Fish Size Analyzer)

FURUNO's award winning network fish finders (DFF1/DFF3/BBDS1) offer a unique fish size analyzer function, ACCU-FISH™.

The ACCU-FISH™ algorithm analyzes echo returns to compute individual fish size and display it on the screen.



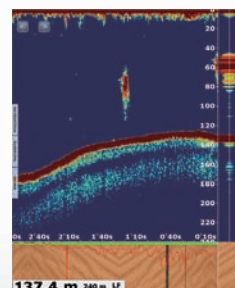
In some instances, fish size indicated on the NavNet TZtouch may differ from its actual size. Please carefully read the operator's manual prior to utilizing this feature.

*ACCU-FISH™ is capable of detecting individual fish at a depth of 2 m down to 100 m and computing the fish size of those ranging from 10 cm to 199 cm.

Bottom Discrimination Display (with BBDS1 only)*

Utilizing input from the Network Fish Finder BBDS1, the bottom discrimination display will be shown in the following four categories; "Rocks", "Gravel", "Sand" and "Mud", either in dedicated graphics or colors with corresponding probability. This information is helpful in spotting the rich fishing ground where you can boost your catch of the day.

(Available in USA Autumn 2012)



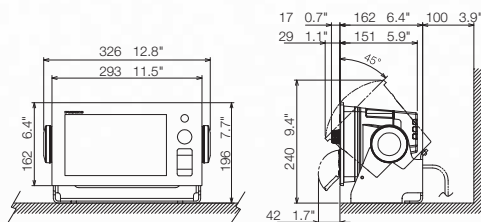
Specifications

Model **TZT9**

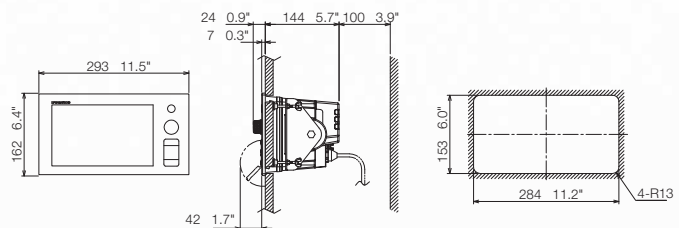


Multi Function Display	TZT9
DISPLAY UNIT	
Type	Color TFT multi touch LCD
Screen Size	9" wide
Screen Resolution	WVGA 800 x 480
Screen Brightness	900 cd/m ² (typical)
Language	English (US & UK), French, Spanish, German, Italian, Portuguese, Swedish, Danish, Norwegian, Finnish, Greek, Russian*, Chinese (simplified Chinese characters)*, Japanese *Available in future update.
CHART PLOTTER	
Cartography	MapMedia mm3d chart (Jeppesen/Navionics/NOAA)
Memory Capacity	30,000 user points 30,000 points for ship's tracks 1,000 planned routes (500 points per route)
Alarms	Anchor Watch, XTE, Proximity, Depth, Temperature, Speed, etc.
RADAR	
Display Modes	Head-up, North-up* *Heading input required.
Echo Trail	Interval: 15 s, 30 s, 1 min, 3 mins, 6 mins, 15 mins, 30 mins and continuous
INTERFACE	
CAN bus	1 Port
LAN	1 Port (100 BASE-TX)
USB	1 Port (USB2.0)
Video Output	1 Port (DVI-D)
Video Input	2 Ports (NTSC/PAL)
Line Out	1 Port
MIC In	1 Port
SD Card Slot	2 Slots (SDXC card - supports upto 128GB)
ENVIRONMENT	
Temperature (IEC60945)	-15°C to + 55°C
Waterproofing	IP56
POWER	
Power Supply	12-24 VDC
Power Consumption	51 W

Multi Function Display (Table-top Mount) TZT9
4.7 kg 10.4 lb



Multi Function Display (Flush Mount) TZT9
4.5 kg 9.9 lb

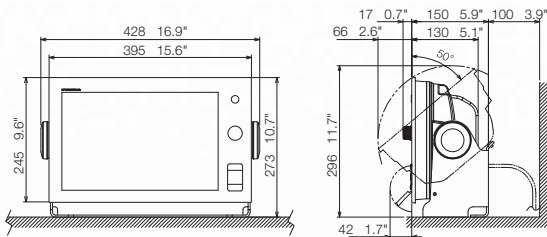


Model **TZT14**

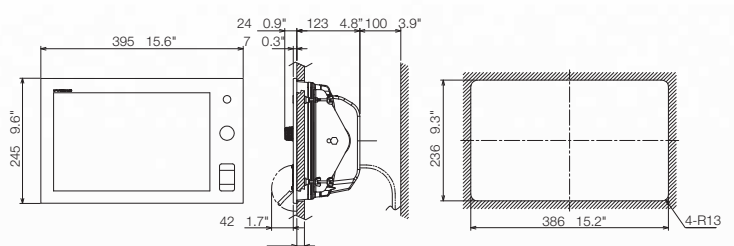


Multi Function Display	TZT14
DISPLAY UNIT	
Type	Color TFT multi touch LCD
Screen Size	14.1" wide
Screen Resolution	WXGA 1280 x 800
Screen Brightness	900 cd/m ² (typical)
Language	English (US & UK), French, Spanish, German, Italian, Portuguese, Swedish, Danish, Norwegian, Finnish, Greek, Russian*, Chinese (simplified Chinese characters)*, Japanese *Available in future update.
CHART PLOTTER	
Cartography	MapMedia mm3d chart (Jeppesen/Navionics/NOAA)
Memory Capacity	30,000 user points 30,000 points for ship's tracks 1,000 planned routes (500 points per route)
Alarms	Anchor Watch, XTE, Proximity, Depth, Temperature, Speed, etc.
RADAR	
Display Modes	Head-up, North-up* *Heading input required.
Echo Trail	Interval: 15 s, 30 s, 1 min, 3 mins, 6 mins, 15 mins, 30 mins and continuous
INTERFACE	
CAN bus	1 Port
LAN	3 Ports (100 BASE-TX)
USB	1 Port (USB2.0)
Video Output	1 Port (DVI-D)
Video Input	2 Ports (NTSC/PAL)
Line Out	1 Port
MIC In	1 Port
SD Card Slot	2 Slots (SDXC card - supports upto 128GB)
ENVIRONMENT	
Temperature (IEC60945)	-15°C to + 55°C
Waterproofing	IP56
POWER	
Power Supply	12-24 VDC
Power Consumption	71 W

Multi Function Display (Table-top Mount) TZT14
8.0 kg 17.6 lb



Multi Function Display (Flush Mount) TZT14
7.1 kg 15.6 lb



WWW.NAVNET.COM



Whenever you require any information about NavNet TZtouch, just visit our web site (www.navnet.com), solely dedicated to current and prospective users of NavNet TZtouch.

At NavNet.com, you can access in-depth product information from various angles, including a NavNet TZtouch demonstration video, introduction to the product, product specifications, training videos, user interviews, and much more!



Total Control at your fingertips

