FURUNO

Total Control at your Fingertips

NAVnet TZ touch

www.furuno.com

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

FURUNO
World Wide
Warranty
2 YEARS

WWW.NAVNET.COM

On the device screen:

FURUNO

2/17/2012
6:15:46 PM
N 47°43.719'
W 122°28.916'

Port Jefferson, Washington

+7.84 ft

213.2 °M
2.3 kn

DATA 1

192

3.064 NM

High Performance Technology
Beyond Your Expectations

Pinch-To-Zoom

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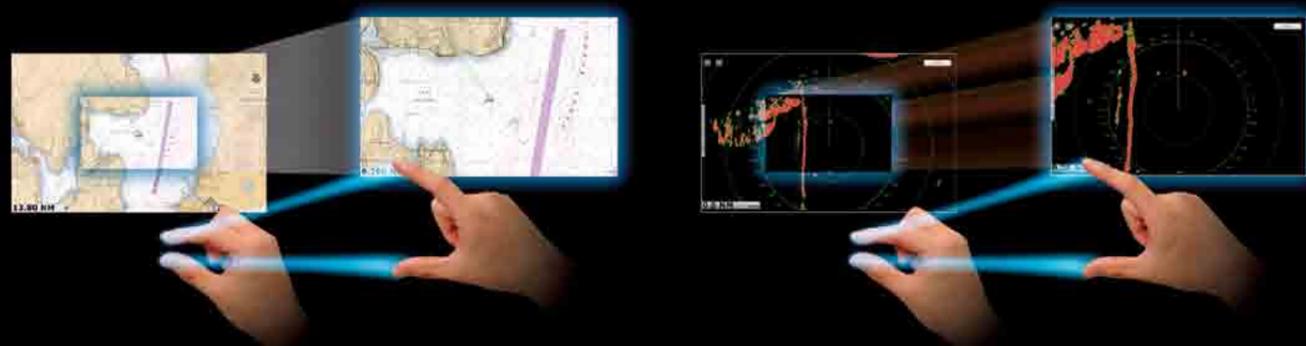
Tablet & Smartphone Apps

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.

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.

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.
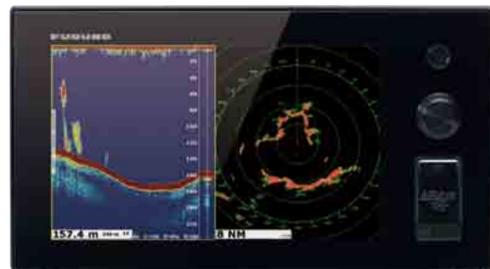
Model TZT9

9" Multi Function Display

Resolution: WVGA (800 x 480 pixels)

Brightness: 900 cd/m^2 (typical)

Model TZT14

14.1" Multi Function Display

Resolution: WXGA (1280 x 800 pixels)

Brightness: 900 cd/m^2 (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.

Black out   Viewable

Conventional   NAVnet
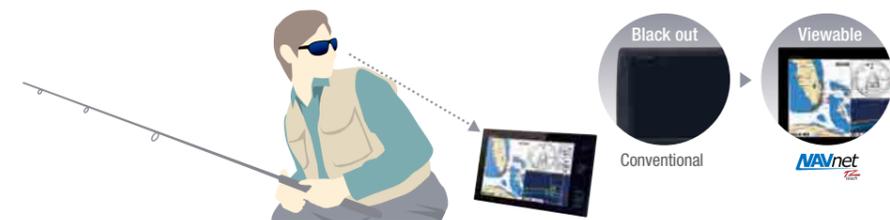
RADAR

Ultra High Definition Radar Sensors

GPS

GPS Antenna
GP-330B

GPS Navigator
GP-33
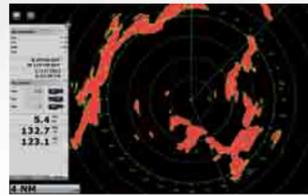
FISH FINDER

Network Fish Finder
DFF1/DFF3/BBDS1

INSTRUMENTS

FI-50 Series
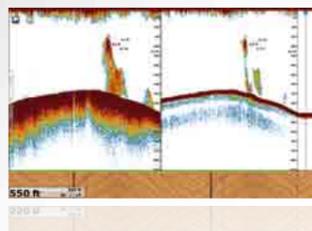
AIS

AIS Receiver
FA-30

Class-B AIS Transponder
FA-50

Name BREEZE
COG/SOG 270.0 °T/16.0 kt
CPA/TCPA 14.80 nmf·32m44s
Range/Bearing 17.25 nmf/310.1 °T

NavNet TZtouch Net 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

WEATHER FAX

Network Weather
Facsimile Receiver
FAX-30

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

PC

MAXSEA TimeZero Explorer
PC Software

CAMERA

IP Camera

SIRIUS

Network Satellite Weather and Radio Receiver
BBWX2

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.

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.

MTC
Multi Touch Control

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.

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.

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.

RotoKey
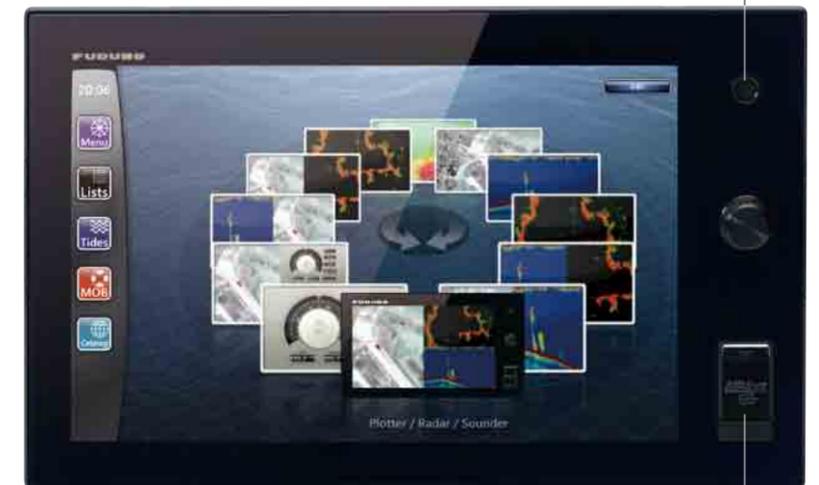
Dual SD Card Slot

Get Connected
With Our Wireless Interface

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 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.

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
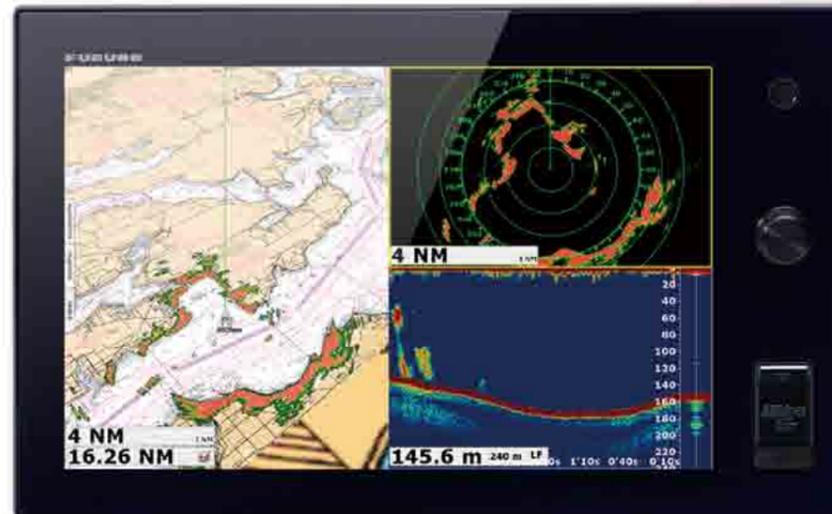
Marine Weather Forecast

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.
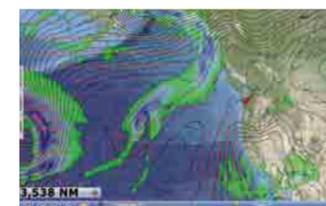
POI Database   *Available in Autumn 2012*

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™

TimeZero
Designed by MAXSEA

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.
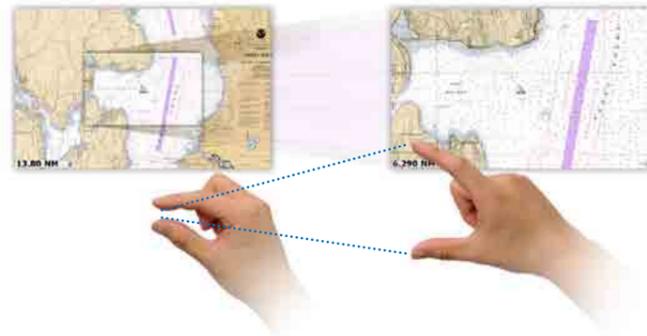
Chart Plotter

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.

2D Raster | 2D Vector | 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.

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.**
• **200 planned routes, with up to 500 waypoints each**

DFF1

DFF3

BBDS1
(Available in USA Autumn 2012)

Radar

Fish Finder

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°	1.9°/1.4°
Beam Width Vertical	25°	25°	22°	22°	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.

UHD
Ultra High Definition

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.
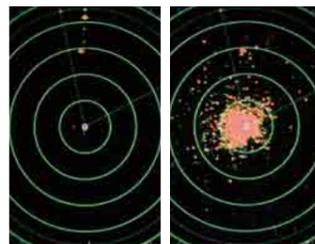
Auto Gain/Sea Controls On

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.
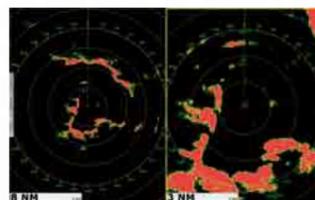
Radar-Chart Overlay

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.)

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.

FDF
FURUNO Digital Filter

## 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.

Heaving compensation ON

Heaving compensation OFF

Heaving compensation ON

Heaving compensation OFF

DFF1

SC-30
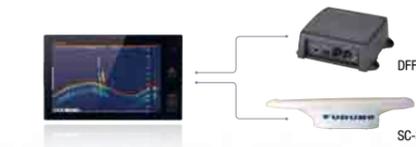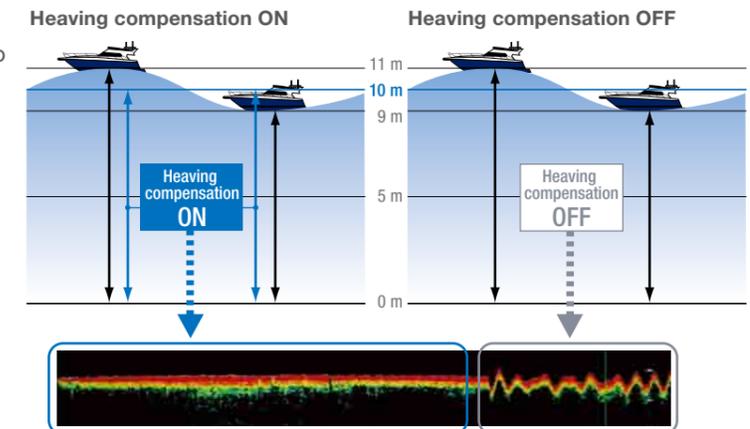
ACCU-FISH™ (Fish Size Analyzer)

FURUNO's award winning network fish finders (DFF1/DFF3/BBDS1) offer a unique fish size analyzer function, ACCU-FISH™.
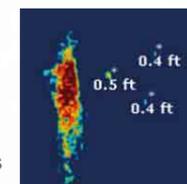
The ACCU-FISH™ algorithm analyzes echo returns to compute individual fish size and display it on the screen.

0.4 ft
0.5 ft
0.4 ft

ACCU-FISH

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)

BDS
Bottom Discrimination Sounder

137.4 m
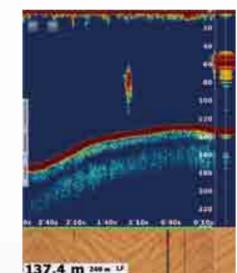
Specifications

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/m² (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 200 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	42 W (3.5 A - 1.8 A)

Multi Function Display (Table-top Mount) **TZT9**
4.7 kg   10.4 lb
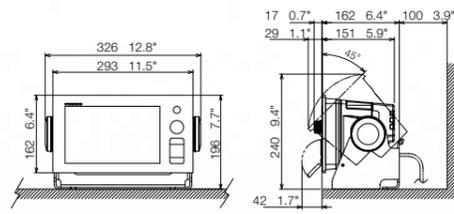
Multi Function Display (Flush Mount) **TZT9**
4.5 kg   9.9 lb
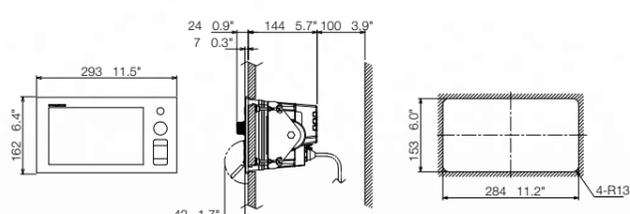
TZT14

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/m² (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 200 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	60 W (5.0 A - 2.5 A)

**Multi Function Display** (Table-top Mount) **TZT14**
8.0 kg   17.6 lb
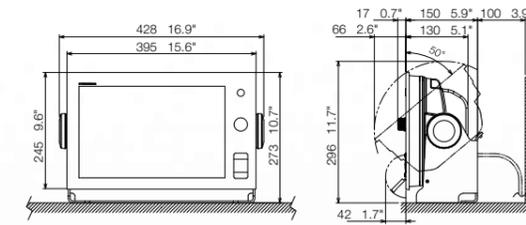
Multi Function Display (Flush Mount) **TZT14**
7.1 kg   15.6 lb
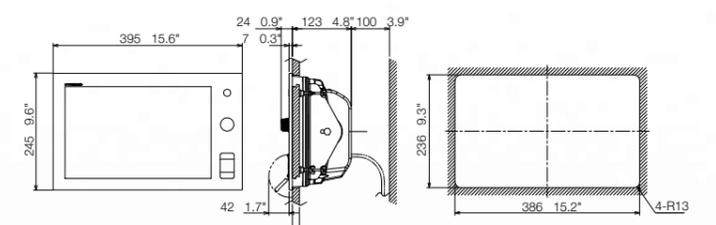
WWW.NAVNET.COM

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**