FURUNO

Total Control at your Fingertips

NAVnet
TZ touch

FURUNO

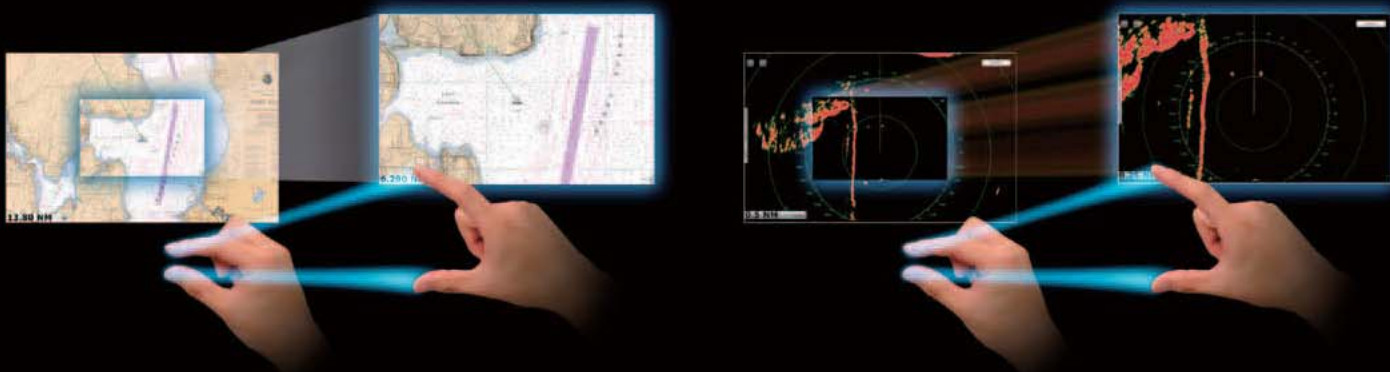Center Vessel

4 NM

4.134 NM   449 ft

![NAVnet TZtouch logo]
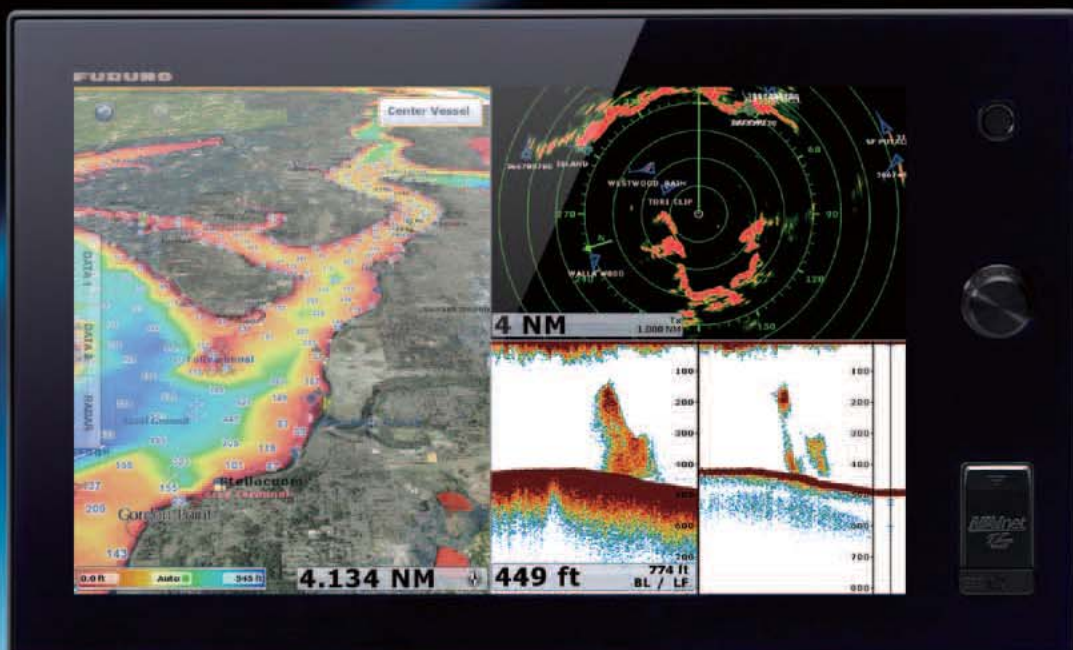
Multi Touch Control · Wireless · TimeZero™ · Digital Revolution

Pinch-To-Zoom

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

High Performance Technology
Beyond Your Expectations

TimeZero
Designed by MAXSEA

RotoKey

MTC
Multi Touch Control

AUTO

Target Tracking

AIS

3D CHART

Enhanced Sunlight Viewable

Bonded LCD

Polarized Friendly

Ethernet Plug&Play

CAN bus

VIDEO IN OUT

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.

2

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.

With the NavNet TZtouch TZTBB, the display unit is selectable from virtually any size of wide or non-wide monitor supporting multi touch controls.

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 TZT9 and TZT14 have an LCD screen that does not "black out" when wearing polarized sunglasses, providing clear visibility from virtually any angle.

Black out — Conventional
Viewable
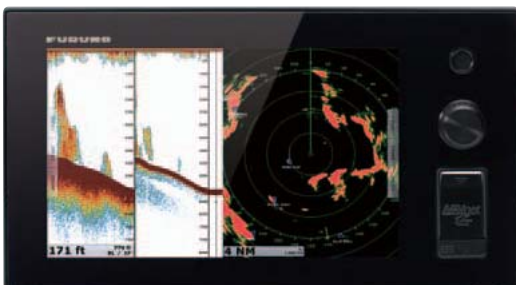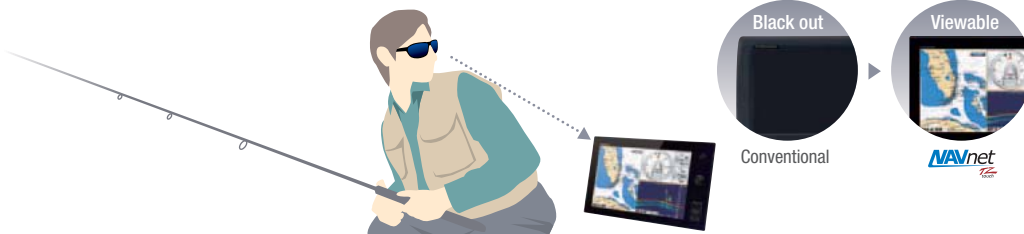
Model TZT9

9" Multi Function Display

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

Model TZT14

14.1" Multi Function Display

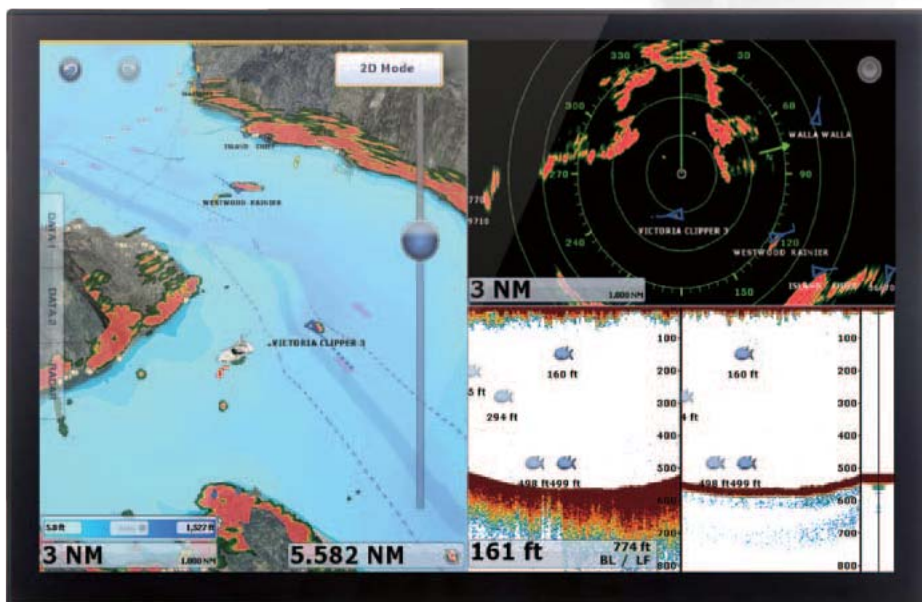| Resolution: | WXGA (1280 x 800 pixels) |
| Brightness: | 900 cd/m² (typical) |

Photo: Multi-touch marine display*
with TZTBB processor (model MPU-002)
* Local supply

Model TZTBB

Multi Function Display Black Box

Supports both wide and non-wide resolutions:
1280 x 720 (16:9), 1280 x 800 (16:10),
1280 x 960 (4:3), 1280 x 1024 (5:4)

Model MCU-002

Remote Control Unit

Take control of your
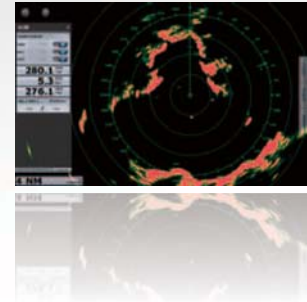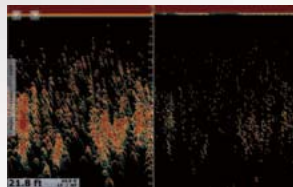NavNet TZtouch series
with a remote controller.

≪ Ethernet

RADAR

Ultra High Definition Radar Sensors

UHD
Ultra High Definition

FISH FINDER

Network Fish Finder
DFF1-UHD/DFF1/DFF3/BBDS1

TruEcho CHIRP
(DFF1-UHD)

FDF
FURUNO Digital Filter

AIS

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

PC

MAXSEA TimeZero Explorer
PC Software

CAMERA

IP Camera
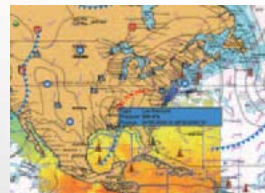
SIRIUS

Network Satellite Weather and Radio Receiver
BBWX2

AUDIO

Marine Entrtainment System
MS700 Series

NavNet TZtouch Net

CAN bus >>>

GPS

GPS Antenna
GP-330B

GPS Navigator
GP-33

INSTRUMENTS
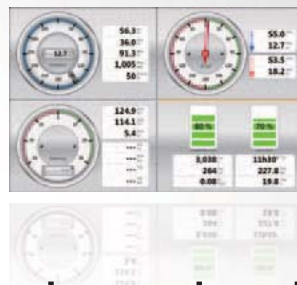
FI-50 Series

work: Building Block Solution

AUTOPILOT

NAVpilot-700 Series

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.

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

REMOTE DISPLAY

SENSORS

Integrated Heading Sensor
PG-700

Depth/Speed/Temp Sensor
Airmar DST-800

Remote Display
RD-33

*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.
For the Blackbox model, the RotoKey™ menu will appear with one tap on the display.

RotoKey™ menu on TZTBB

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.

MTC
Multi Touch Control

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. For TZTBB, Home icon is displayed on the screen.
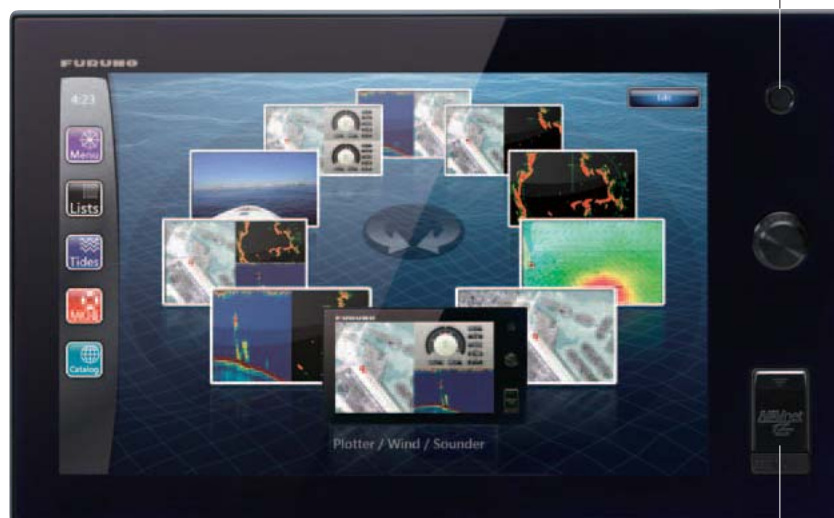
Dual SD Card Slot

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, 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 mobile products. As one of the features, you can flick through instrument pages to view key navigational information, such as Depth, Temp, Wind, COG, Fish Finder display and much more.
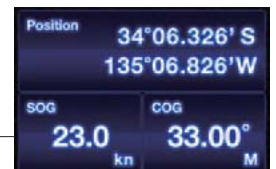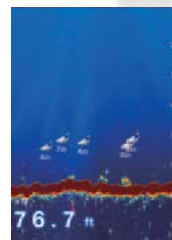
NavNet Remote App

Take full control of your NavNet in a whole new way. The TZtouch Remote app allows you to operate your system remotely with a smart device wireless LAN, when connected to the network.
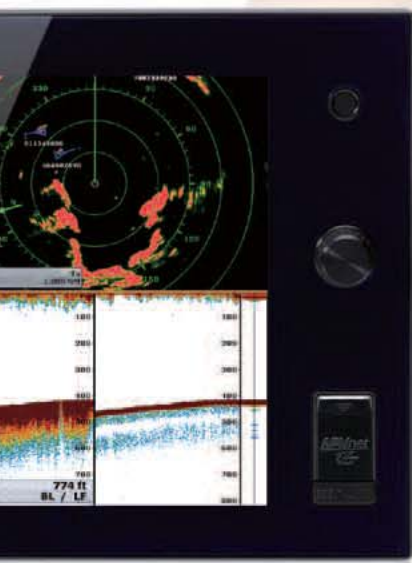
Marine Weather Forecast

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.
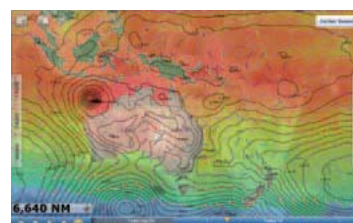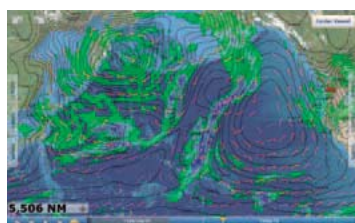
Nothing Is Faster Than TimeZero™

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.
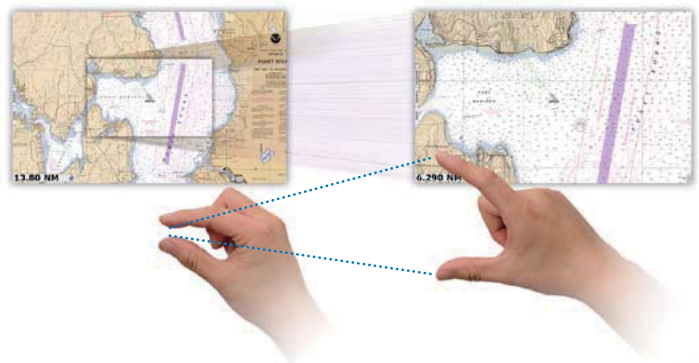
Chart Plotter

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.
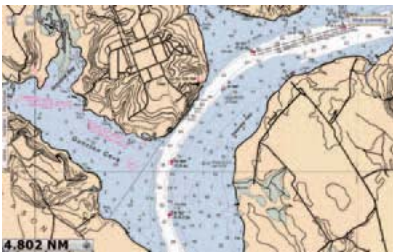
2D Raster

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.

Screen Capture With Event

When an event is entered on the plotter display, a screen capture image can be saved with the point. Tapping the saved point, a screenshot appears in a pop-up window. Any screenshots (ex. Fish Finder, Radar) can be included to customize with your own plotter information.
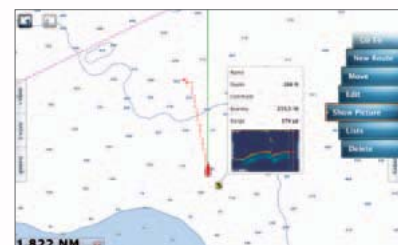
Fuel Max Range

When a route is activated, NavNet TZtouch will display a pump icon at the spot on the route, where it is predicted that the fuel supply will be exhausted.

The tank level display also available on the instrument page.

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°	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-017/PSU-012	PSU-017/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 **H**igh **D**efinition

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 according to bearing.
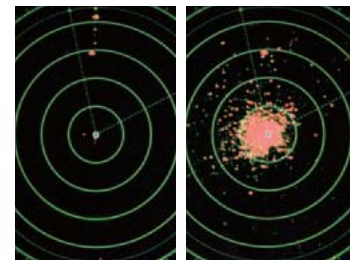
Auto Gain/Sea Controls On   Auto Gain/Sea Controls Off

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.
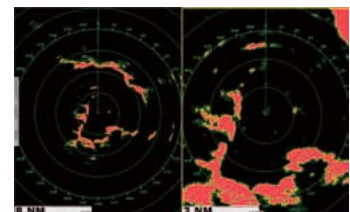
Radar-Chart Overlay

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.)

DFF1

DFF3

BBDS1

DFF1-UHD

Scan above code for more details about Fish Finder.

Fish Finder

FURUNO Digital Filter (FDF™) Fish Finder

Sensor Lineup

	DFF1-UHD	DFF1	BBDS1	DFF3
Frequency	Dual frequency 50±20 and 200±25 kHz	Dual frequency 50 kHz and 200 kHz		The synthesized transducer works with dual frequencies between 28 and 200 kHz
Range Scale	Customized upto 1,200 m			Customized upto 1,500 m
ACCU-FISH™	Available			
Bottom Discrimination	Available	N/A	Available	N/A
Power Supply	12-24 VDC			
Transducers	1 kW	600 W/1 kW		1, 2 or 3 kW

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, FDF™ fish finders give you what you would expect from a fish finder at all times.

Find More Fish With TruEcho CHIRP™ Fish FInder — DFF1-UHD

An advanced technology for professional or enthusiastic fisherman. Designed to operate over a broadband range of frequencies utilizing a broadband transducer, the TruEcho CHIRP™ network fish finder DFF1-UHD delivers significant advancements in signal clarity and target definition. The clear presentation of the fish finder marks individual game fish and bait fish, even when tightly schooled together.

Broadband Transducers*

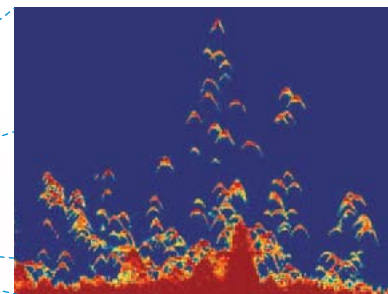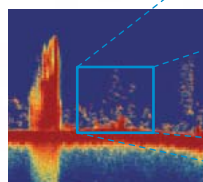AIRMAR
TECHNOLOGY CORPORATION
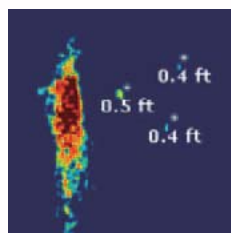Sensing Technology

CM265LH   B265LH

*Local supply

ACCU-FISH™ (Fish Size Analyzer)

FURUNO's award winning network fish finders 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.
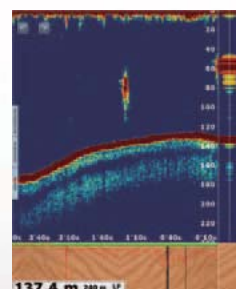
ACCU-FISH

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 to 100 m (DFF1/DFF3/BBDS1), 2 m to 200 m (DFF1-UHD) and computing the fish size of those ranging from 10 cm to 199 cm.

Bottom Discrimination Display — BBDS1/DFF1-UHD

Utilizing input from the Network Fish Finders BBDS1 or DFF1-UHD, 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 rich fishing grounds where you can boost your catch of the day.

BDS
Bottom Discrimination Sounder
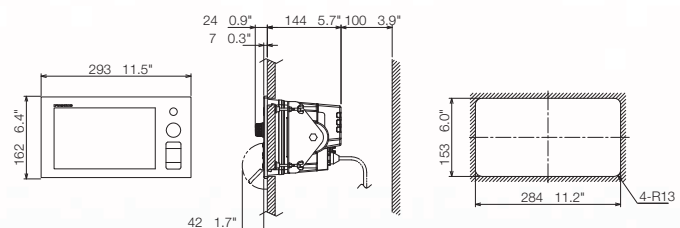
137.4 m

Specifications

TZT9

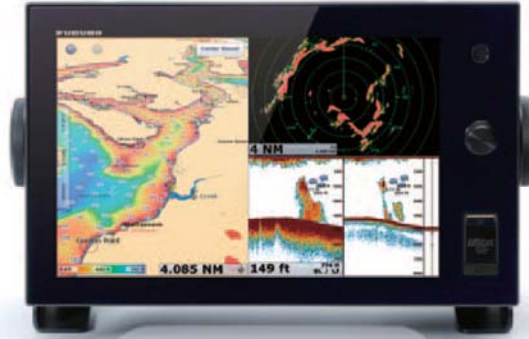| Multi Function Display	TZT9
DISPLAY UNIT	
Type	Color TFT multi touch LCD
Screen Size	9" wide
Screen Resolution	WVGA 800 x 480
Screen Brightness	900 cd/m^2 (typical)
Language	English (US & UK), French, Spanish, German, Italian, Portuguese, Swedish, Danish, Norwegian, Finnish, Greek, Russian*, Chinese, 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
Target Tracking	30 Targets* *Heading input required.
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)
SD Card Slot	2 Slots (SDXC card - supports upto 128GB)
ENVIRONMENT	
Temperature (IEC60945)	-15°C to + 55°C
Waterproofing	IP56 (with connector cover), IP22 (with connector boot)
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
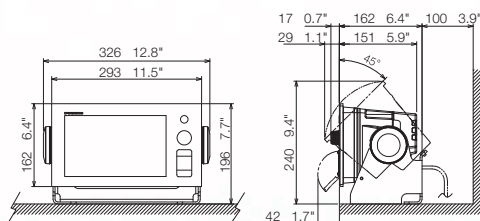
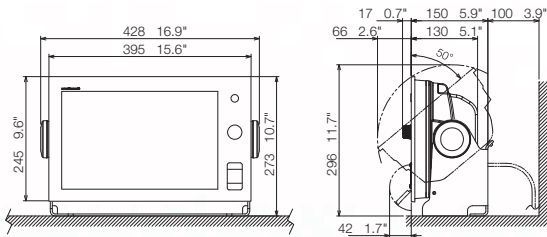**Multi Function Display (Flush Mount) TZT9**
4.5 kg   9.9 lb

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, 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
Target Tracking	30 Targets* *Heading input required.
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)
SD Card Slot	2 Slots (SDXC card - supports upto 128GB)
ENVIRONMENT	
Temperature (IEC60945)	-15°C to + 55°C
Waterproofing	IP56 (with connector cover), IP22 (with connector boot)
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
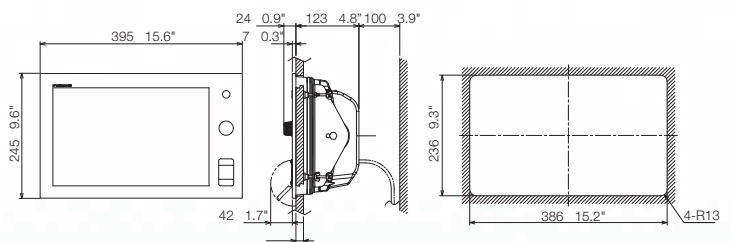
Specifications

Model TZTBB

| Multi Function Display Black Box	TZTBB
DISPLAY UNIT	
Type	Custom multi touch monitor of your choice
Screen Size	—
Screen Resolution	Supports both wide and non-wide resolutions: 1280 x 720 (16:9), 1280 x 800 (16:10), 1280 x 960 (4:3), 1280 x 1024 (5:4)
Screen Brightness	—
Language	English (US & UK), French, Spanish, German, Italian, Portuguese, Swedish, Danish, Norwegian, Finnish, Greek, Chinese (simplified chinese characters), Japanese
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
Target Tracking	30 Targets* *Heading input required.
INTERFACE	
CAN bus	1 Port
LAN	3 Ports (100 BASE-TX)
USB	6 Ports (USB2.0)
Video Output	2 Ports (DVI-D)
Video Input	2 Ports (NTSC/PAL)
SD Card Slot	2 Slots (SDXC card - supports upto 128GB)
ENVIRONMENT	
Temperature (IEC60945)	-15°C to + 55°C
Waterproofing	Processor unit: IP22 Switch box: IP56 (front panel)
POWER	
Power Supply	12-24 VDC
Power Consumption	43.2 W (3.6 A - 1.8 A - including switch box)

Multi Function Display Black Box TZTBB MPU-002
8 kg   17.6 lb
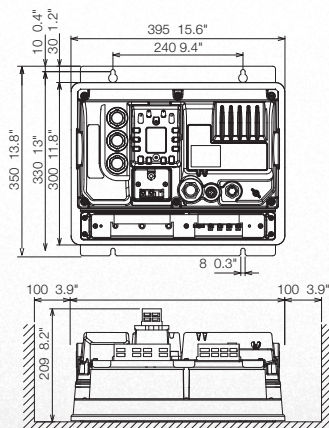
Switch Box PSD-002
0.6 kg   1.3 lb
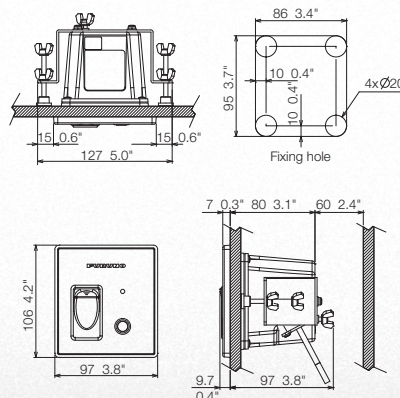
Remote Control Unit MCU-002
TBD
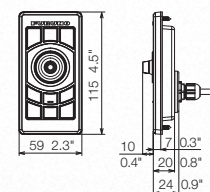
WWW.NAVNET.COM

Whenever you require any information about NavNet TZtouch and NavNet 3D, just visit our web site (www.navnet.com), solely dedicated to current and prospective users of NavNet series.

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

Product Awards

Since the product's debut in February 2012, many accolades have been awarded to NavNet TZtouch all over the world, in recognition of its design excellence. Here is a list of the awards that NavNet TZtouch has won.

National Marine Electronics Association (NMEA) award
Category: The "Best Navigation" and the "Best Radar"
October 2013, The US

Special Mention of the DAME award — Design Award METS Competition
Category: Marine electronics & Marine related software
November 2012, the Netherlands

"Product of the Year" by British Marine Electronics Association (BMEA)
October 2012, The UK

Chuck Husick Technology Award by Ocean Navigator magazine
October 2012, The US

The "Connex Most Innovative International Product" award
June 2012, The New Zealand

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