Mintaka STAR-Touch Guide for VOS Program PMOs & Vessels

Introduction

This document describes how the Mintaka STAR-**Touch** ("**Touch**") differs from the Mintaka STAR ("STAR"). Most features and functionality are the same; it has two pressure sensors, is powered the same ways, is in Weather Service Mode by default, and uses MintakaCommander to export data, issue commands and install updates.

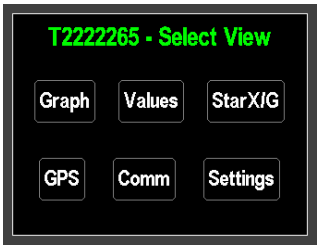
The two main differences is the **Touch** has a color touch screen, and it uses LoRa to communicate with the Mintaka STAR**XG+**. It continues to use WiFi (and MintakaWx) to communicate with the Mintaka STAR**X/XG** should one of those instruments be installed on a vessel. One additional improvement: the **Touch** has more accurate pressure sensors.

Important: Update MintakaCommander before connecting the **Touch** and STAR**XG+** so that Commander can recognize the instrument. Also update the instrument.

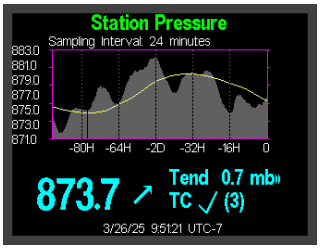
Select Screens

The Menu Map is a consolidated view of the **Touch** screens. It is included with this reference guide.

Start Up Screen - Like the STAR, each **Touch** has been calibrated and initialized with Universal Time Zone 0 (UT=GMT). After powering the instrument for the first time, or if a factory reset is performed, you will see a screen asking you to set the time zone. Press [OK] to retain the setting or touch the UTC button to select the proper time zone. You can also set the time zone, date and time in System Settings.



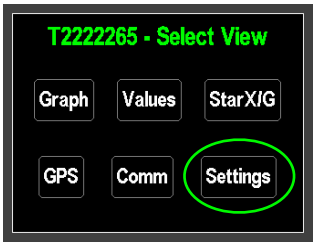
Select View Screen - Touch the option you wish to view. To return, swipe up from the bottom of another screen.

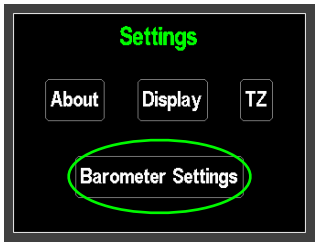


Pressure Screen - This screen is a consolidated view of pressure information. Swipe right / left to change the sample interval shown, or swipe down to view Plot Options. Touch the graph to view details of a specific sample.

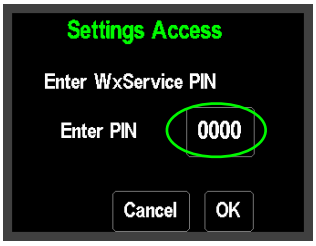
As with the STAR, the Pressure Trend arrow will appear after one hour of operation. The Pressure Tendency Value, Code and Symbol will appear after three hours.

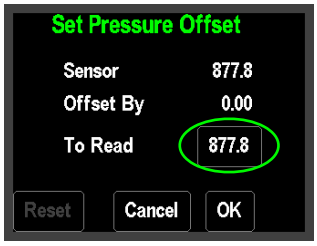
The setting most adjusted by the VOS Program is the Pressure Offset. Like the STAR, the **Touch** reported pressure can be adjusted to match an instrument that is NIST (or equivalent) calibrated. This can be adjusted via MintakaCommander or on the instrument. Pressure Offset is under Barometer Settings.

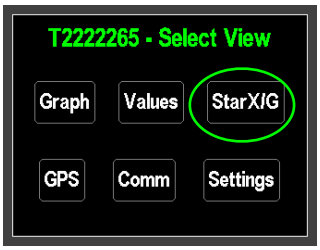


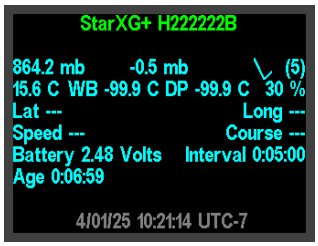


Barometer Settings requires the WxService PIN (7827 / STAR) be entered. On the Set Pressure Offset Screen, touch [To Read] to enter an adjustment, then [OK].









STARX/G Screen - This screen is a consolidated view of the pressure, temperature and humidity data received from the STAR**X/XG/XG+**, along with the age of the last report, reporting interval and battery status.

LoRa - Low Power, Low Bandwidth, Long Range Wireless Communication

LoRa is a low bandwidth communication technology as compared to WiFi, but the **Touch** and STAR**XG+** transfer a very small amount of data so high bandwidth is not necessary. LoRa uses a modulation technique that allows very weak signals to be detected. The result is that LoRa communications can be transmitted over longer distances using much less power as compared with WiFi. For the STAR**XG+** this means that standard alkaline batteries can be used instead of expensive Lithium batteries.

In the **Touch** and STAR**XG+** the LoRa signals use the same unlicensed radio spectrum as 2.4 gHz WiFi, so available worldwide.

In the LoRa communication model, there is no concept of “connection” as there is in a WiFi / Internet model. The STAR**XG+** transmits a weather report and listens for an acknowledgment from the **Touch**. If it doesn’t receive an acknowledgment it tries two more times before going to sleep. The format of this weather data report is proprietary, so even if a third party could intercept the report, it is extremely unlikely they will be able to decipher it. Likewise, a third party could attempt to transmit a message to the **Touch** but the only message the **Touch** understands is a weather report in its proprietary format. As a broadcast technology, a receiving device recognizes and accepts data only in the format expected, otherwise a message is ignored.

STAR-TOUCH

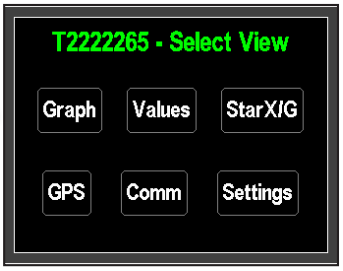
mintaka INNOVATIONS

INNOVATORS OF PRECISION BAROGRAPHIC SYSTEMS

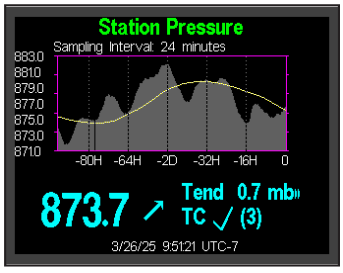
MENU MAP

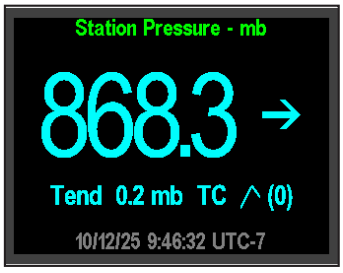
WELCOME

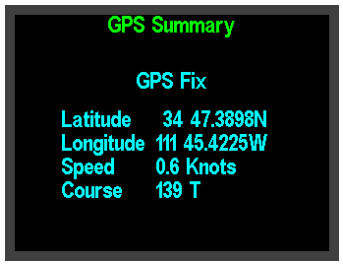
MAIN SCREENS

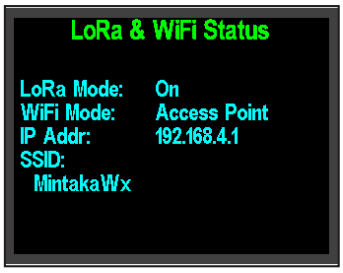


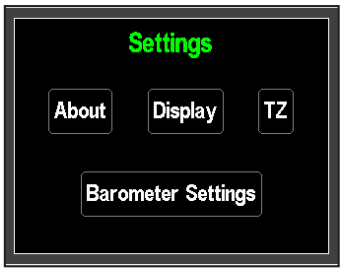
In general, swipe up from the bottom of a screen to view the previous screen.



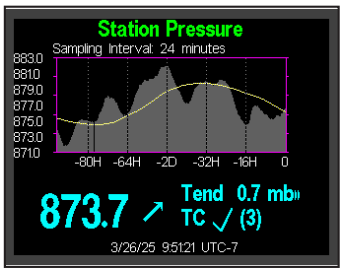


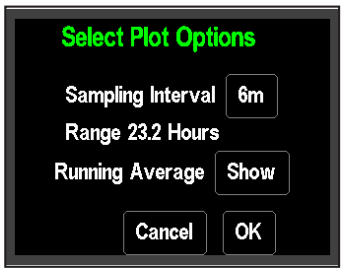






PRESSURE SETTINGS

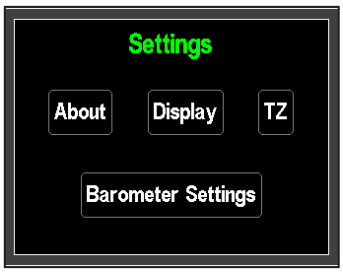


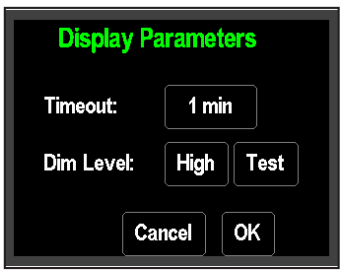


Swipe Right & Left to Change Sample Interval

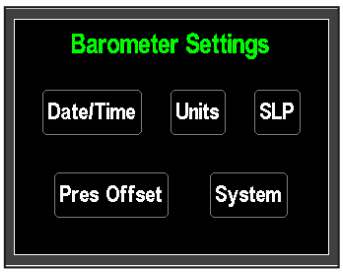
Swipe Down from Top to View Plot Options

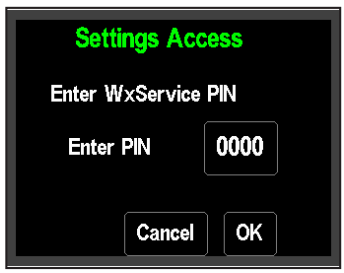
SETTINGS



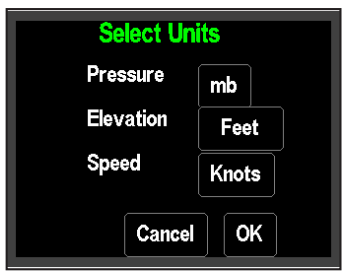


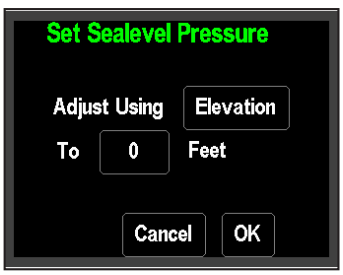
BAROMETER SETTINGS

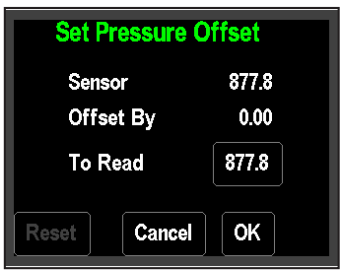


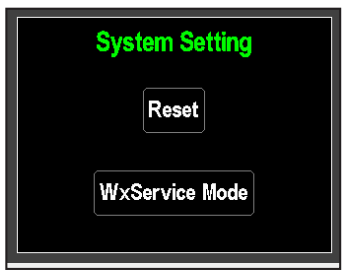


When in WxService Mode









SYSTEM SETTINGS