

SITEX®

CE

SDD-110



DSP
1000 Foot Depth Sounder

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Introduction

The SDD-110 is a compact digital depth gauge. The SDD-110 uses Digital Signal Processing (DSP) to reliably display water depth from 1.2 to 1000 feet (0.3 to 365 Meters). Depth can be displayed in feet, meters or fathoms. Variable display damping is provided.

The SDD-110 has programmable shallow, deep and anchor drag alarms built-in and can display the depth in feet, meters or fathoms. A keel offset from -20.0 to +20.0 feet can be entered so the SDD-110 shows the depth below the surface, below the keel or below the transducer. Under 20 feet, Meters or Fathoms, the depth is displayed in tenths.

Depth trend indicators show you if the water depth is getting deeper, more shallow or remaining the same.

The SDD-110 outputs NMEA 0183 serial data as standard \$SDDPT and \$SDDBT sentences. If not required, the NMEA 0183 data line can be programmed as an external alarm output.

A separate backlight control wire turns the backlights on and off. Five levels of backlighting (including OFF) can be selected and all setup, calibration constants and alarm values are saved to nonvolatile memory.

The SDD-110 works with a 120kHz depth transducer and both through-hull and transom mount transducers are available.

Specifications

Power supply: 9.50 to 16.00 VDC, .037 amps nominal

Operating temperature: 32 to 122 F (0 to 50 C)

Size: 4.3" x 4.3" x 3.5" deep (110 x 110 x 89 mm).

Depth range: 1.2 to 1000 feet (0.3 to 365 Meters)

Resolution: 0.1 Feet, Meters or Fathoms below 20.0, full digits above 20

Keel offset adjust range: -20.0 to +20.0 feet

Alarms: Shallow depth alarm
Deep depth alarm
Anchor drag alarm
External alarm output (or NMEA output)

Display: 4 digit LCD
Feet, Meters and Fathoms icons
Alarm ON/OFF icon
5 levels of backlighting
External and internal ON/OFF control for backlights
Variable display damping
Depth Trend Indicators

NMEA 0183: \$SDDPT, Depth below transducer in Meters
\$SDDBT, Depth in Feet, Meters and Fathoms.

Installation

Before starting the installation, please read this entire section first. Finger tighten the screws that mount the instrument bracket - It is not necessary or recommended to use tools.

- Drill a 2-1/8" (55mm) mounting hole where you desire to mount the instrument (Figure 1).
- Connect the various wires from Cable 1 and Cable 2 as shown in Figure 2.
- Carefully check all your wiring against figures 2 and 3 and then mount the instrument in the hole. Use only finger tension to tighten the bracket hold-down nuts

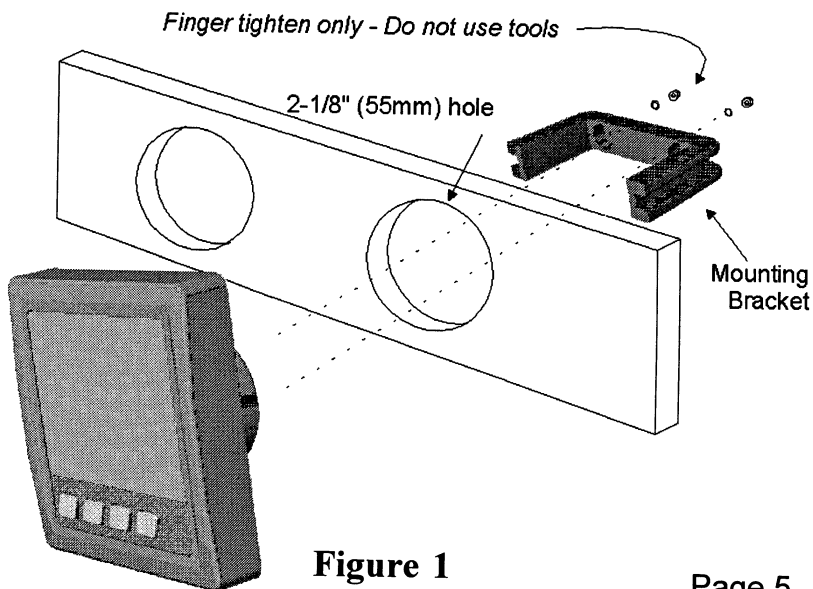


Figure 1

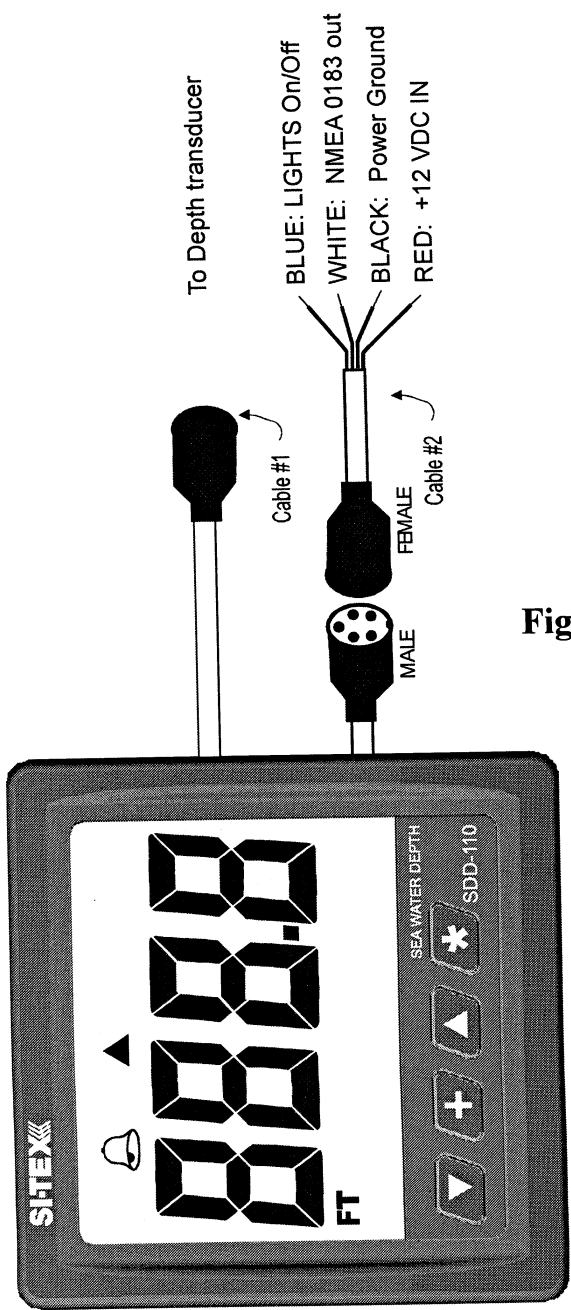


Figure 2

Operation

Key Functions

The ▼, +, ▲ and * keys are used to select what to display, set backlight levels, turn alarms on/off, set alarms values, set/change keel offset and display damping. New information is automatically saved to nonvolatile memory.

Turning Alarms ON/OFF

Press the ▲ key 1/2 second to turn alarms ON. The alarm icon will light. Press the ▼ key 1/2 second to turn the alarms and alarm icon OFF.

Backlight Intensity

Press + the key 1/2 second to adjust the backlight level for night viewing. Each time you press the + key 1/2 second, the level will get brighter 1, 2, 3, 4, OFF, 1, 2, ... etc. The blue backlight ON/OFF control wire in cable #2 must be switched to +12V for the backlights to work.

Selecting Feet, Meters or Fathoms

While viewing the depth display quick press both the ▼ and ▲ keys simultaneously. Each time you do this, the units will switch

Setting Shallow Alarm

Press and hold the ▲ key for ten (10) seconds until you hear a long beep. The Shallow Depth Alarm value will be displayed. Use the ▼ and ▲ keys to set the desired alarm value. Press the + key to save the shallow alarm value to memory.

Setting Deep Alarm

Press and hold the ▼ key for ten (10) seconds. You will hear a beep and the Deep Depth Alarm value will be displayed. Use the ▼ and ▲ keys to set the desired alarm value. Press the + key to save the deep depth alarm value to memory.

Setting Anchor Drag Alarm

After anchoring, set the shallow alarm a few feet more shallow than the actual displayed depth. Similarly set the deep alarm a few feet deeper than the actual displayed depth. Make allowances for local tidal changes to prevent false alarms.

Setting Keel Offset

While viewing Depth, press the ▼ and + keys for ten (10) second until you hear a long beep. The keel offset will be displayed. Use the ▲ and ▼ keys to change the value and press the + key to save your entry. The keel offset will be added to the

displayed value of the depth. A negative keel offset is used to enable the SDD-110 to display depth below the keel or transducer. A positive keel offset enables you to display actual water depth when the transducer is placed below the surface level by up to 20 feet.

Setting Display Damping

While viewing Depth press and hold the ▲ , ▼ and * keys for ten (10) seconds until you hear a long beep. The display damping value is shown. Use the ▲ and ▼ keys to change the value and press the + key to save your entry. A larger value of damping will slow down the flickering of the displayed digits but result in a slower response to depth changes. The display damping limits are 5 to 20 with 10 being the default value.

Selecting NMEA 0183 or External Alarm Output

The NMEA 0183 serial data line can be programmed to function as an external alarm output

To toggle the data line between NMEA 0183 and External Alarm Output, press and hold down both the ▼ and ▲ keys for 10 seconds (until you hear a long beep). The display will briefly show "dAtA" / or "E-AL" to show you which mode is selected. The new output mode is automatically saved to memory. A 5V signal (10 mA Max.) is output whenever an alarm condition exists and the alarms are enabled.

Depth Trend Indicators

To help you see if the bottom depth is falling, rising or stable the SDD-110 keeps track of this information and displays an UP arrow “▲”, a down arrow “▼” or no arrow.

The duration of the depth trend memory depends on the depth damping value. The higher the depth damping, the longer the trend indicator memory.

Simulation Mode

To enable the depth simulation mode, press and hold both the ▼ and * keys for ten (10) seconds until you hear a long beep. In depth simulation mode you can test the various features such as alarm settings, trend indicators, NMEA 0183 output, etc. Turning off the SDD-110 cancels the simulation mode.

NMEA 0183 Sentence

The SDD110 outputs serial data of depth in NMEA 0183 format. Two sentences are output in the following format:

\$SDDPT,xxx.x,yyy.y*CS

xxx.x = Depth in Meters yyy.y = Keel offset in Meters

\$SDDBT,xxx.x,f,yyy.y,M,zzz.z,F*CS

xxx.x = Depth in Feet, yyy.y = Meters, zzz.z=Fathoms

*CS = Check Sum

Important Notes and Warnings

- a) The displayed depth should be used as a guide and cannot always be relied on to be correct. Surface clutter, schools of fish, air bubbles under the transducer caused by other boats, thermoclines and high speed operation of your boat can cause the depthsounder to misread.
- b) A display of " - - - - " means the unit has not acquired or is no longer able to track the bottom.
- c) During setting of values, pressing and holding down the ▼ or ▲ keys will cause the values to scroll faster the longer you hold down the keys.
- d) Key Presses: A “quick press” is any press of a key or keys lasting less than 1/2 second. A 1/2 second press can be any press longer than 1/2 second and shorter than 2 seconds.
- e) On applying power to the SDD-110, the software version is displayed for two seconds (e.g. “- - 1.5”).
- f) The SDD110 will revert back to displaying depth if no key has been pressed in 30 seconds (e.g. if you don’t press a key for 30 seconds while setting an alarm value, etc. the SDD110 will automatically switch back to normal mode).

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