NMEA 0183 Serial Data Output

The CO60 outputs the NMEA 0183 \$IIXDR sentence of Compass Heading.

e.g. \$IIXDR,A,148,D,CO60\*7C

CruzPro® CE



Digital Electronic Compass

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## Setting a Compass Offset

Turn OFF the power to the CO60. Press and hold either the ▼ or ▲ key while turning ON the power to view/set the compass offset value.

Holding the  $\bigvee$  key allows you to enter a negative offset and holding the  $\triangle$  key allows you to enter a positive offset.

Quick press the  $\triangle$  or  $\nabla$  keys to change the offset value by one degree. Holding the  $\triangle$  or  $\nabla$  keys for 1/2 second will increase or decrease the offset value by 10 degrees. Press the  $\triangle$  key for 1/2 second to save your entry to the nonvolatile memory.

### Introduction

The CO60 digital electronic compass provides an accurate display of compass heading.

Compass heading is displayed with a resolution of 1 degree.

A compass compensation of up to -255 to +255 degrees can be entered to adjust for local variation.

A damping value can be entered to prevent rapid changing of the displayed results.

An alarm value can be entered and if the displayed heading varies more than the selected alarm value the display will flash and the alarm buzzer can be made to sound.

Five levels of backlighting can be selected and all setup and alarm values, etc. are saved in a nonvolatile memory.

The CO60 outputs NMEA 0183 serial data.

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# Setting a Damping Value

Turn OFF the power to the CO60. Press and hold either the + key while turning ON the power to view/set the damping value.

Quick press the ▲ or ▼ keys to change the damping value by one. Holding the ▲ or ▼ keys will increase or decrease the damping value quicker. Press the +key for 1/2 second to save your entry to the nonvolatile memory.

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# **Specifications**

**Power supply:** 9.5 to 33.0 VDC, 0.022 amps no backlight, 0.037 amps full backlight.

**Operating temperature:** 32 to 122 F (0 to 50 C) **Size:** 2.5" dia X 4.1" deep (61mm x 104 mm)

Accuracy: 1 Degree

**Compass:** Internal Electronic Compass Sensor

Alarms: 85 db internal Heading Error Alarm, settable

from 0 to 255 degrees.

**Display:** 4 digits, Five levels of backlighting.

Output: NMEA 0183 4800 baud serial output of

Compass Heading. \$IIXDR sentence.

e.g. \$IIXDR,A,148,D,CO60\*7C

# **Backlight Intensity**

Press the  $\pm$  key for 1/2 second to adjust the backlight level for nighttime viewing. Each time you press the + key for 1/2 second, the backlight level will change: 1,2, 3, 4, OFF, 1, 2, ... etc.

### Setting an Alarm Value

Turn OFF the power to the CO60. Press and hold the ▲ key to view/set the desired alarm value (0 to 255) degrees). Quick press the ▲ or ▼ keys to change the alarm value by one degree. Holding the ▲ or ▼ keys for 1/2 second will increase or decrease the alarm value by 10 degrees. Press the **+** key for 1/2 second to save your entry to the nonvolatile memory.

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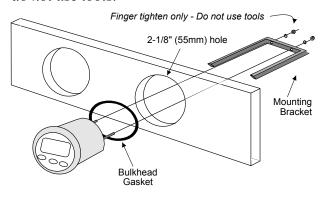
### **Operation**

# **Key Functions**

The  $\nabla$ ,  $\blacksquare$ , and  $\triangle$  keys are used to select backlight levels, display compass heading, adjust the damping value, add/subtract a compass offset and other functions. After changes are made, the new information is automatically saved to a nonvolatile memory.

#### Installation

Before starting the installation, please read this entire section first. Be sure to install the bulkhead gasket before you install the instrument. Finger tighten the screws that mount the instrument bracket - do not use tools.

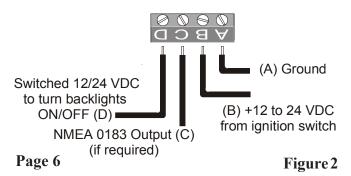


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### Mounting and Wiring

- Drill a 2-1/8" (55mm) mounting hole where you desire to mount the instrument (Figure 1).
- Bring the ground, and power lines out of the mounting hole and use a small flat screwdriver to make

ALL WIRES AWG 18 - 22 GUAGE (0.6 - 1.0 mm)



the connections to the screw terminal on the instrument case back as shown in figure 2.

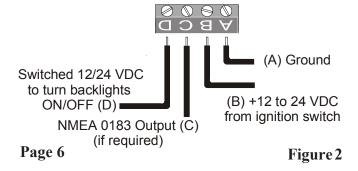
• Carefully check all your wiring against those shown in figure 2. If everything is wired correctly you can mount the CO60 in the instrument hole. Be sure the bulkhead gasket is in place and use only finger tension to tighten the bracket hold-down nuts Do not overtighten the bracket or you may damage the case - do not use tools to tighten the nuts.

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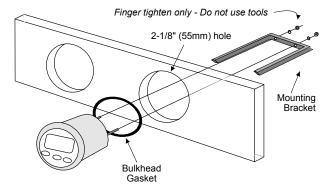
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