

### Warranty

Each unit is carefully tested and adjusted at the factory before shipping and is warranted for one full year against original defects in materials or workmanship. This warranty does not include damage to the product resulting from accident or misuse.

If the product should become defective within the warranty period, we will repair or replace it free of charge, including free return transportation, provided it is delivered prepaid to the dealer from whom it is originally purchased.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state, or country to country.

# CruzPro®



## V55



### Digital Voltmeter & Alarm

#### NMEA 0183 Sentences

The V55 outputs a 4800 BAUD serial data stream of battery volts once per second.

**Volts:** \$IIXDR,U,xx.x,V,V25\*CS

\*CS = Check Sum

#### Introduction

The V55 Battery Monitor provides accurate low cost digital instrumentation for battery volts between 9.5 and 33.0 VDC. You can set independent Low and High voltage alarms and the V55 continuously monitors the voltage at all times. When activated, the V55 built-in 85 dB alarm will sound and the display will flash. Five levels of backlighting can be selected and all set-up, calibration constants and alarm values are saved to non-volatile memory. You can select to have either an external alarm output or standard NMEA 0183 compatible data output. If you select NMEA 0183, the voltage is output once per second as a 4800 BAUD serial data stream. This information can be sent to a computer for data logging or repeater at a remote location.

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V55MAN-C

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## Other CruzPro Products

- Depthsounders, Fishfinder & Speed/Temperature/Log
- DC Volts/Amps/Amp-Hour Monitors
- AC Volts/Amps/Freq/kW Monitor
- LPG/Petrol Gas Detectors/Alarms
- Bilge Water Alarms & Bilge Pump Controllers
- Windlass Controller/Chain Counter
- Digital Fuel Gauges & Fuel Consumption Calculator
- Digital Gauge for 1 or 3 Tanks /w Separate Alarms
- Smart 4 step Alternator Regulator
- Marine Security System/w Reliable Intrusion Sensors
- RPM/Engine Hours/Elapsed Time Gauge/w Alarm
- Digital Oil Pressure Gauge/Alarm
- Digital Temperature Gauges for 1 or 3 Areas /w Alarms
- One and Three Bank Digital Volts Gauges
- Digital Amps Gauge
- Digital Clock/Watch/Race Timers/w 8 Alarms
- 8 and 16 Amp Light Dimmers / Motor Speed Controller
- Solar Panel Charge Controllers 6/8/9 & 20 Amps
- 4 & 8 Channel NMEA Combiners/RS-232 Convertors
- Engine/Exhaust Temp. Monitor & Digital Pyrometer
- NMEA 0183 Remote Data Repeater/w 4 Input Channels

## Specifications

**Power supply:** 9.5 to 33.0 VDC, .018 amps nominal

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

**Size:** 2.5" dia X 4.1" deep (61mm x 104 mm).

**Accuracy:** Better than +/- 0.1 VDC front panel adjustable

**Range:** 9.5 to 33.0 VDC

**Alarms:** Independent High and Low Voltage Alarms

**Display:** 4 digit LCD, 5 levels of backlighting.

**Output:** 4800 Baud Serial Data; \$IIXDR output once per second OR external alarm output (user selectable).

## Warnings and Notes

1. Screw terminal (D) must be connected to 9.5 VDC minimum in order for the backlights to turn ON. If screw terminal (D) is not connected to at least 9.5 VDC the backlights will turn OFF. This provides remote control of the backlights.

## Selecting NMEA 0183 or External Alarm Output

The V55 comes factory pre-set to output NMEA 0183 compatible serial data. If you do not need this feature or would rather have an external alarm output on screw terminal (C), you can do so as follows:

While viewing battery voltage, press and hold down both the ▼ and ▲ keys for 10 seconds (until you hear a long beep). This operation switches the output mode between NMEA 0183 and External Alarm. The new output mode is automatically saved to memory.

When the external alarm output is activated, a 5V signal (10 mA Max.) is output on screw terminal (C).

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## 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.*

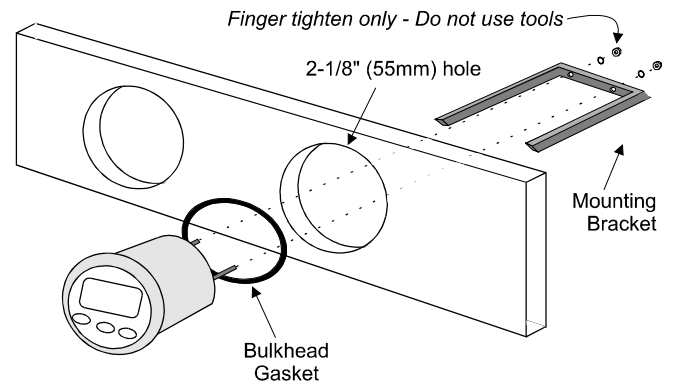


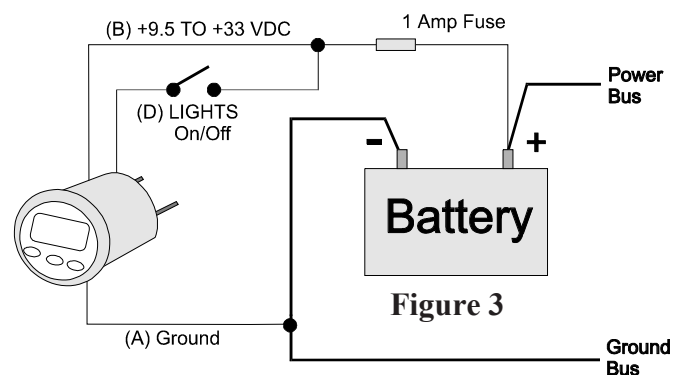
Figure 1

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## Setting Low Volts Alarm

Press and hold the ▼ key for ten (10) seconds. You will hear a beep and the Low Volts alarm value will be displayed. Use the ▼ and ▲ keys to set the desired alarm value. Press the + key for 1/2 second to save the Low Volts Alarm value to memory.

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- Carefully check all your wiring against those shown in Figures 2 and 3. If everything is wired correctly you can mount the V55 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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- Drill a 2-1/8" (55mm) mounting hole where you desire to mount the instrument (Figure 1).
- Bring the wires out the mounting hole and make the connections to the screw terminal on the instrument case back as shown in Figure 2 and Figure 3.

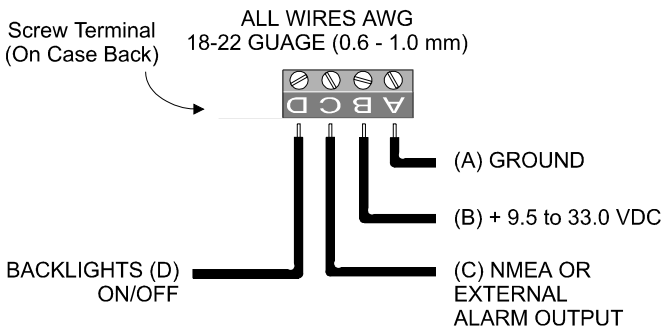


Figure 2

## Calibrating the Instrument

The V55 is calibrated at time of manufacture for 12V batteries, but can be calibrated at any time by using the front panel keys. To calibrate the voltmeter, press and hold down the ▼ key for three seconds while applying power to the instrument. Use the ▲ and ▼ keys to make the displayed value read correctly. Press the + key to save the calibration data to memory.

## Key Functions Operation

### Key Functions

The ▼, +, ▲ keys are used to select what to display, backlights, calibrate volts, turn alarms on/off and set alarm values. New information is automatically saved to memory.

### Turning Alarms ON/OFF

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

### Backlight Intensity

Press the + key 1/2 second to adjust the backlight level for night-time viewing. Each time you press the + key 1/2 second, the level will get brighter 1, 2, 3,

4, OFF, 1, 2, ... etc. Screw terminal pin (D) must be switched ON for the backlights to work.

### Display Volts

Quick press the ▼ key ▼, +, ▲ to display volts

### Setting High Volts Alarm

Press and hold the ▲ key for ten (10) seconds. You will hear a beep and the High Volts alarm value will be displayed. Use the ▼ and ▲ keys to set the desired alarm value. Press the + key for 1/2 second to save the High Volts Alarm value to memory.