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- Remote NMEA 0183 Data Repeater/w 4 Input Channels

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CruzPro®

HY60



Hydraulic Pressure Gauge/Alarm

Page 1

Selecting NMEA 0183 or External Alarm Output

The HY60 comes factory preset to use screw terminal pin (C) as an External Alarm output. To switch between NMEA 0183 and External Alarm modes:

While viewing Pressure, 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).

Introduction

The HY60 Hydraulic Pressure Gauge displays pressure in Psi or Bars. It has built-in calibration curves for most popular 4-20 mA hydraulic pressure senders manufactured by Ashcroft, Omega, Midas, Gems, and others (sender not provided). The sender maximum pressure is easily selected from 30 psi to 10,000 psi in 16 steps with the front panel keys. Low and High pressure alarms can be set over the entire range of the instrument/sender. When activated, the HY60 built-in 85 dB alarm will sound and the display will flash. The alarms can be enabled or disabled with a single key press. Five levels of backlighting can be selected and all setup, calibrations constants, alarm values, and sender data are saved to nonvolatile memory. Data is output on an NMEA 0183 compatible serial data output or you can select to use this output line as an External Alarm Output.

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Notes and Warnings

- a) When setting calibration functions that require you to hold down a key while applying power to the HY60 - be sure to turn OFF the power first, then hold the key(s) down during and for at least 3 seconds AFTER the power has been applied to insure the computer has read the keys.
- b) Screw terminal "E" at the back of the instrument is used for external backlight ON/OFF control. If external backlight ON/OFF control is not required, you should permanently connect terminal "D" to +12/24 VDC or the backlights will not work.

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Specifications

Power supply: 9.5 to 33.0 VDC, .035 amps nom.
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 2 %, front panel adjustable calibration
Senders: Built-in calibration curve for 4-20 mA hydraulic pressure senders (Ashcroft, Omega, Midas, Gems, etc.), 16 senders from 30 psi to 10,000 psi, selectable using the front panel keys.
Alarms: Accurate High and Low Pressure alarms settable from 0 to 9999 PSI (0 to 680.0 Bars).
Display: 4 digits, Psi or Bars, 5 levels of backlight.
Data output: NMEA 0183 serial data output . If NMEA output is not needed, the data output pin can be programmed as an External Alarm Output, if desired.

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Calibrating the Instrument

Before attempting to calibrate the instrument you must first Zero the Reading using the procedure on Page 12.

To calibrate the reading, press and hold the **+** key for 10 seconds to enter the Pressure Calibration mode. Using a known pressure, press the **▲** and **▼** keys to adjust the display to read the correct pressure. Press the **+** key to save the calibration information. Calibration is usually not required if the correct sender type is selected.

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Selecting Psi or Bars Display

Turn off the power. Press and hold the ▼ key for three seconds while re-applying power to the instrument. This toggles between Psi and Bars display.

How to Zero the reading

To zero the display when there is no pressure:

- 1) Turn off power to the gauge.
- 2) Reapply power to the gauge while pressing both the DOWN and UP keys.
- 3) Press the ▲ and ▼ keys to make display to read 0.
- 4) Press the + key to save your entry.

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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.

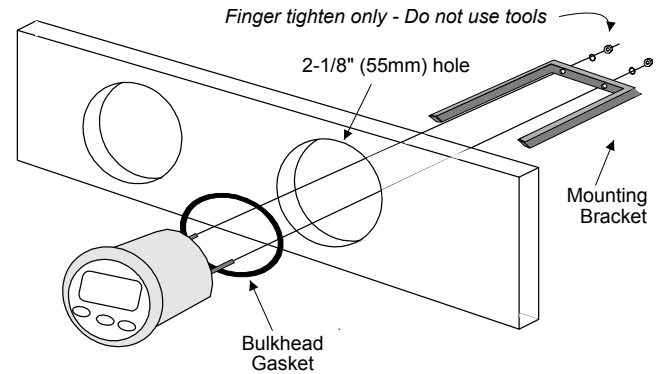


Figure 1

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Setting Low Pressure Alarm

While viewing pressure, press and hold the ▼ key for ten (10) seconds. You will hear a long beep and the Low Pressure Alarm value will be displayed. Press the ▲ and ▼ keys to set the desired low pressure alarm limit (0 to 9999 Psi or 0 to 680 Bars). Press the + key to save your entry.

Setting High Pressure Alarm

While viewing pressure, press and hold the ▲ key for ten (10) seconds. You will hear a long beep and see the High Pressure Alarm value will be displayed. Press the ▲ and ▼ keys to set the desired high pressure alarm limit (0 to 9999 Psi or 0 to 680 Bars). Press the + key to save your entry.

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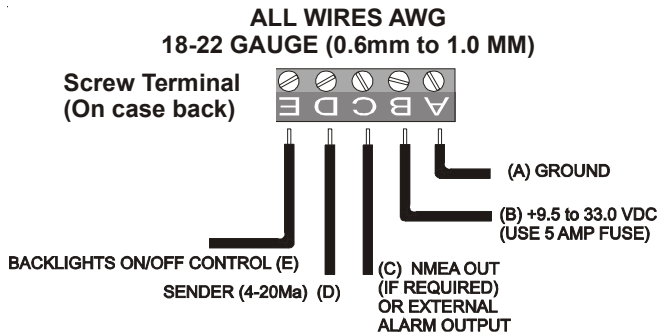
driver to make the connections to the screw terminal on the instrument case back as shown in figure 2.

- Carefully check all your wiring against those shown in figure 2. If everything is wired correctly you can mount the HY60 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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Mounting and Wiring

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



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Figure 2

Selecting Maximum Pressure

Press and hold the ▲ key and apply power to the instrument. You will see the maximum pressure displayed. Press any UP or DOWN keys to cycle through all the possible pressure ranges. Press the + key to save your selection to the memory.

| | |
|------------|-------------|
| 1 : 30 psi | 9 : 750 psi |
| 2 : 45 | 10 : 1000 |
| 3 : 60 | 11 : 1500 |
| 4 : 100 | 12 : 2000 |
| 5 : 150 | 13 : 3000 |
| 6 : 200 | 14 : 5000 |
| 7 : 300 | 15 : 7500 |
| 8 : 500 | 16 : 9999 |

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Operation

Key Functions

The ▼, +, ▲ keys are used to select backlight levels, units of measure (Psi or Bars), maximum sender pressure, calibrate the instrument, set low and high pressure alarms and activate/deactivate the alarms. After changes are made, the new information is automatically saved to memory.

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Backlight Intensity

Press the + key for 1/2 second to adjust the backlight level for nighttime viewing. Each time the level will get brighter 1, 2, 3, 4, OFF, 1, 2, ... etc. Screw terminal "E" at the back of the instrument provides external backlight ON/OFF control and must be connected to +12/24 VDC to enable the backlights. If you do not need external backlight control, permanently connect terminal "E" to +12/24 VDC

Turning Alarms ON/Off

Press the ▲ or ▼ key for 1/2 second to "arm" or "disarm" the alarms.

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