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- 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
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- Digital Clock with four 4 amp electronic timer switches
- NMEA 0183 Remote Data Repeater/w 4 Input Channels

See full details at <http://www.cruzpro.com>  
 Email to: [info@cruzpro.com](mailto:info@cruzpro.com)

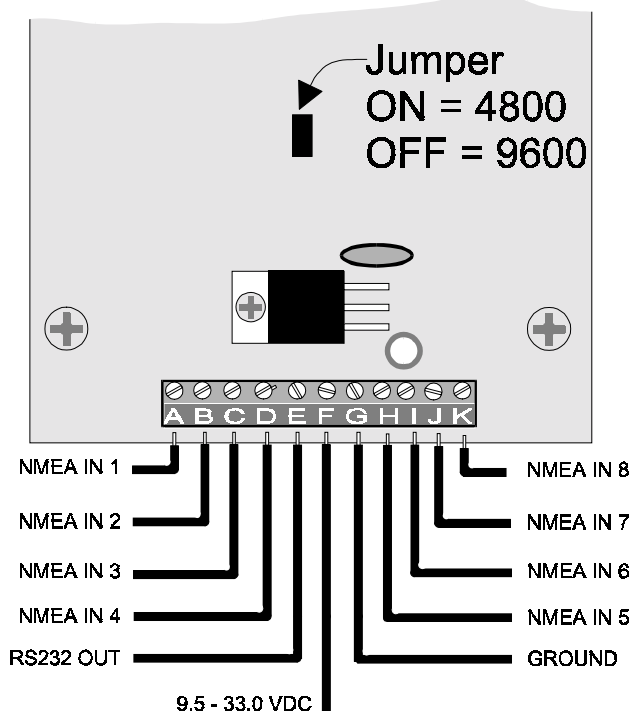
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# CruzPro NC20/4/8



4/8 Channel NMEA 0183 signal combiner and RS-232 converter

**ALL WIRES AWG  
18-22 GAUGE (0.6 - 1.0 mm)**



**Figure 2 - Eight Channel  
NC-20 Connections**

## Specifications

**Power Supply:** 9.5 to 33 VDC, 100 mA Max.

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

**Size:** 100 x 60 x 30 mm (4 x 2.4 x 1.2 inch)

**Data Voltage:** 0 to 1.6 Vp-p minimum required level. -12 Vdc to +20 Vdc maximum allowed.

**Output Voltage:** -10 to +12 VDC open circuit, -6 to +8 VDC into 3300 ohm load.

**Input Baud Rate:** 4800 BAUD

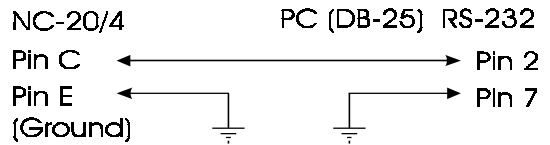
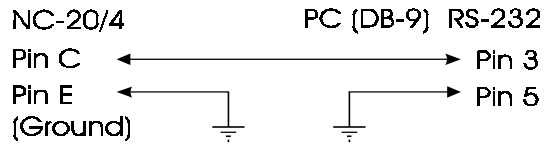
**Output Baud Rate:** 4800 or 9600 BAUD selectable

**Sentence Length:** 122 characters maximum per channel including the '\$', <CR> and <LF> chars.

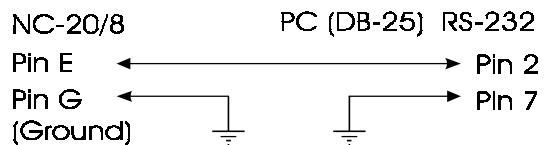
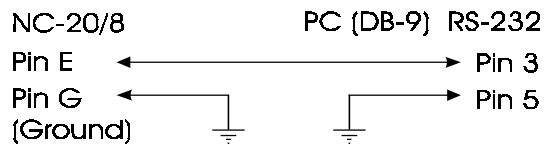
## Introduction

The NC20 NMEA Combiner accepts up to 4 or 8 channels (depending on model) of NMEA 4800 BAUD serial data and combines the data onto one RS232 compatible output channel at 4800 or 9600 BAUD, depending upon one jumper. Each sentence can have up to 122 characters of ASCII data starting with a '\$' and ending with <CR>,<LF> characters. The NC-20 can be powered from any power source between 9.5 and 33 VDC and consumes a maximum of 100 mA.

## NC-20/4



## NC-20/8



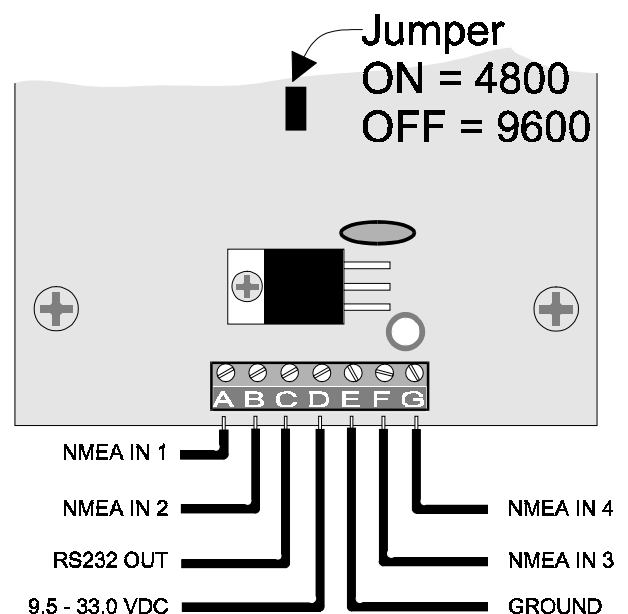
## Installation

*Before starting the installation, please read this entire section.* The instrument is NOT waterproof and must be located in an area that will not get wet. The screw terminals will accept up to 18 gauge (1mm diameter) maximum wire size.

Remove the case front and align the case back onto any suitable surface. Using the case back as a drill guide, mark the location of the two holes with a soft pencil lead. Remove the case back and drill two 2mm (3/32 inch) holes where indicated. Mount the case back using the two stainless countersunk screws provided.

Depending upon whether you have the 4 or 8 channel model, wire the NC-20 as per Figure 1 or Figure 2 and check your wiring carefully. If there are no errors in the wiring, apply power to the NC20. At this point the front panel LED should come on. If all is working properly, install the front cover using the four stainless case front screws. *Do not overtighten these screws or you might damage the case front decal.*

**ALL WIRES AWG  
18-22 GAUGE (0.6 - 1.0 mm)**



**Figure 1 - Four Channel  
NC-20 Connections**