

C-Nav1PPSI 1 PPS Converter/Combiner User Guide

C-Nav™

Power Requirements

Input Voltage: +12 V to +24 VDC
Reverse Polarity Protected

Power Consumption: < 50 mA

I / O Connections

Inputs
1 PPS A BNC TTL level + going pulse
1 PPS B BNC TTL level + going pulse

Outputs
1 PPS A "OR" ed B TTL level + going pulse
Single DB 9 male
1 PPS A RS 422
1 PPS B RS 422
1 PPS A "OR"ed with RS 422
1 PPS B "OR"ed with RS 232

Indicators
Red LED = Power
Yellow LED = 1 PPS A "OR"ed with B
Green LED = 1 PPS A
Green LED = 1 PPS B

Environmental

Operating Temperature: -0° C to +70° C /
-32° F to 158° F

Mechanical

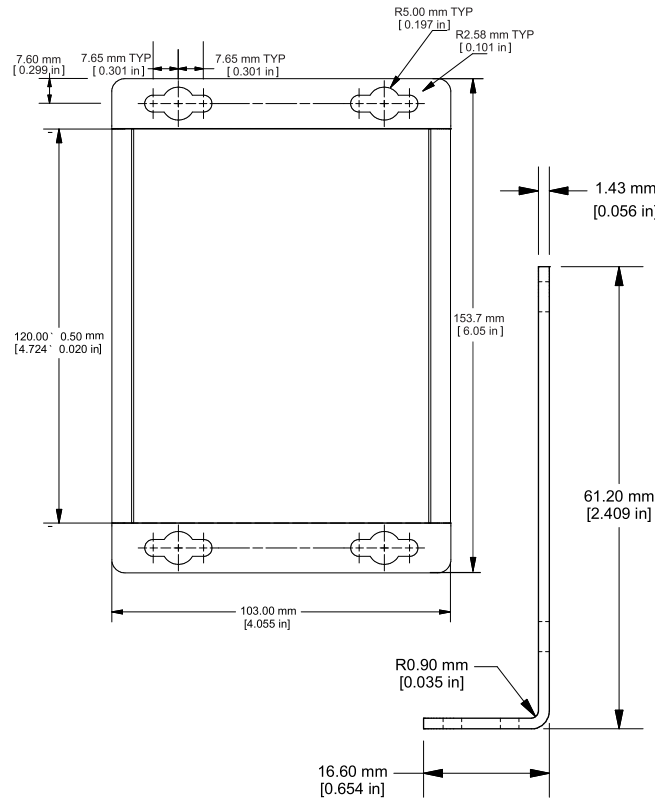
Enclosure Construction: Black anodized extruded aluminum

Cable Connector: BNC
DB 9 Male

Dimensions: 153.7 mm x 103 mm x 61.2 mm
6.05 in x 4.05 in x 2.41 in

Weight: 0.82lb / 0.37 kg

Enclosure Drawing

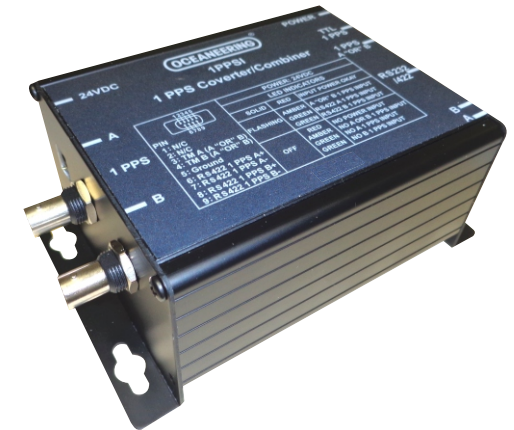


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C-Nav1PPSI

1 PPS Converter/Combiner

User Guide



PN: CNV1PPSI-K

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Connecting What's Needed with What's Next™

C-Nav1PPSI 1 PPS Converter/Combiner User Guide



This User Guide is intended to help you get up and running quickly. It is intended to familiarize the user with the basic operations of the 1 PPS Converter/Combiner and describes the supplied equipment, power supply options, description, connections, functionality, and diagram.

Supplied Equipment

1PPSI - PN: CNV1PPSI-K

1 PPS Converter/Combiner Box
User Guide
6 ft Pig Tail Power Cable

*Power supply must be purchased separately

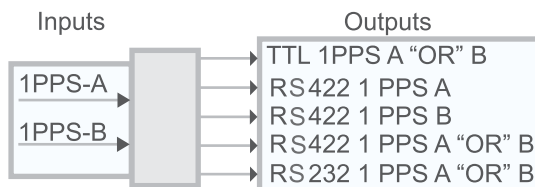
Power Supply Option

12 VDC Power Supply - PN: CNV1PPSI-PSU-12V-K

12 VDC Power Supply
Cord, Power, IEC320-C13 (US)
Cord, Power, IEC320-C13 (EURO)
Cord, Power, IEC320-C13 (UK)

Description

The 1 PPS Converter/Combiner is a multifunction interface for GNSS receiver 1 PPS signals. It has two opto-isolated 1 PPS inputs, which are connected directly to the receivers 1 PPS outputs. For high integrity systems with dual GNSS receivers the interface will "OR" the two TTL sources for output to peripherals which requires a continuous 1 PPS for time stamping. This output is maintained should either GNSS input fail. The drive distance of the signal from most GNSS receivers is limited by the TTL drivers. The "OR" ed signal is converted to both RS 232/422. The RS-232/422 signal will drive standard NMEA splitters such as the Overland UPC 3005 which enables multiple devices to obtain the same 1 PPS timing signal.



Connect Equipment

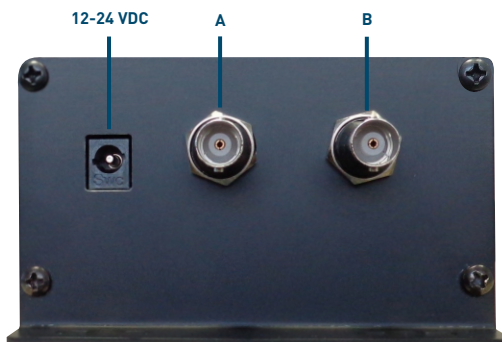


Figure 1: C-Nav1PPSI Front Panel

1. Connect the 6 ft power cable with the locking connector to the 1PPSI unit labeled 12-24 VDC. Connect the unterminated end of the cable to a clean power supply source providing 12-24 VDC. Turn on the power supply and check the front red LED has a solid light. The unit is now ready to be used.
2. Connect a 1 PPS signal to the BNC connector labeled A. Connect a second signal to the other BNC connector labeled B. Check for the yellow LED to be flashing at one second interval. This LED should be flashing when either of the input signals are present.
Note: 1 PPS A & B signals must be either both positive or both negative and the output signal will be the longer of the two input pulses.
3. Check that the green LEDs are flashing at one second interval. Each green LED represents each input marked with label "A" or "B".

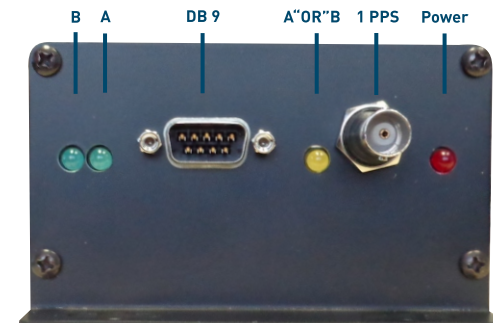


Figure 2: C-Nav1PPSI Front Panel

DB 9 Connector Pin Layout

DB 9 Connector	Pin	Description
	1	N/C
	2	N/C
	3	TM A (A "OR" B + Pulse)
	4	TM B (A "OR" B - Pulse)
	5	Ground
	6	RS 422 1 PPS A+
	7	RS 422 1 PPS A-
	8	RS 422 1 PPS B+
	9	RS 422 1 PPS B-

Note: The DB 9 connector pin layout is customized to allow for different available signals, therefore it requires to have a customize mating connector with the appropriate pin connection for its application.

Do not connect a standard serial cable.

LED Indicators

SOLID	RED	INPUT POWER OKAY
FLASHING	YELLOW GREEN GREEN	A "OR" B 1 PPS OUTPUT RS422 A 1 PPS OUTPUT RS422 B 1 PPS OUTPUT
OFF	RED YELLOW GREEN GREEN	NO POWER INPUT NO A OR B 1 PPS INPUT NO A 1 PPS INPUT NO B 1 PPS INPUT