

**CDN105**  
**USER MANUAL**

# CDN105 USER MANUAL

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**Please Note:**

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## OVERVIEW

The CDN105 DeviceNet Cube provides support for a digital interfaces. The preprogrammed device provides a Group II Only device interface in a convenient, pre-packaged module, greatly simplifying the task of designing custom DeviceNet compatible nodes.

The 2" X 2" module connects to a user supplied interface board through a 30 pin header. Four mounting holes allow physical attachment to the board.

Firmware support includes digital inputs, digital outputs, and a CCO programming environment. The device may be used as a conventional I/O node or as a self contained control node.

## MOUNTING

The CDN105 is designed to be mounted to a user supplied interface board. Electrical connections are made through a 30 pin header assembly. Four mounting screws may be used for mechanical support.

The CDN105 will mate with a wide variety of 30 pin header sockets. SAMTEC part #SLW-115-01-G-D will provide a low profile connector solution.

## POWER

The CDN105 operates from a +5 Vdc +/- 10%, 50 mA supply.

## CAN Interface

The CAN bus signals are applied to the CAN H and CAN L signals. The CAN transceiver has internal protection to +/- 40 Vdc or +/- 200 Volt transients. The unit may be configured to operate at any of the three standard DeviceNet data rates (125, 250 or 500 kbits/second) using software attributes.

## RESET

The Reset signal is active high. It will go to a low level after the processor has completed the power on sequence.

If not used the Reset signal should be left open.

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## LEDS

Two DeviceNet compliant LED's are provided on board to indicate Module Status and Network Status. Refer to the ODVA DeviceNet manual for further information.

## DIGITAL I/O

The CDN105 supports 8 digital inputs and 8 digital outputs. These signals are TTL compatible, active low.

## DEVICENET MODEL

The CDN105 DeviceNet model includes up to 8 DIP objects, 8 DOP objects and 1 Virtual Processor CCO object.

## CCO SUPPORT

The CCO Virtual Processor Object allows user application firmware to be installed on the unit to provide local, closed loop control over the digital and analog points. The VPO supports 4 counters and 8 timers.

CCO programs allow forming simple combinatorial logic expressions which operate on the local I/O without intervention from a central control unit. CCO greatly reduces the bus loading for simple logic functions and allows the unit to continue operation in cases of bus failure.

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## CONNECTOR

### Connector P1

Pin	Function	Pin	Function
1	CANH	2	CANL
3	GND	4	GND
5	VCC	6	VCC
7	IN0	8	OUT0
9	IN1	10	OUT1
11	IN2	12	OUT2
13	IN3	14	OUT3
15	IN4	16	OUT4
17	IN5	18	OUT5
19	IN6	20	OUT6
21	IN7	22	OUT7
23	AIN0	24	PWM0
25	AIN1	26	PWM1
27	AIN2	28	TCMP (reserved)
29	RESET	30	IRQ (reserved)

Note: AIN0..2, PWM0..1, TCMP and IRQ are not supported in the CDN105 firmware.