

# CN-2 Driver



**WARNING:** Allow only qualified personnel to perform the following tasks. Observe and follow the safety instructions in this document and all other related documentation.

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## 1. Introduction

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The CN-2 driver provides the following features:

- Two sets of dip switches to configure performance settings. The standard factory setting is 16% maintenance cycle with 3.00 msec PULL-IN time.
- Configurable settings for gun maintenance cycle provides optimum performance
- Supports two independent channels, each controlled by isolated timer inputs
- Built-in RUN/OFF/TEST switch for each gun
- Built-in power supply
- Adjustable gun PULL-IN time of 0.50–8.00 msec

## 2. Description

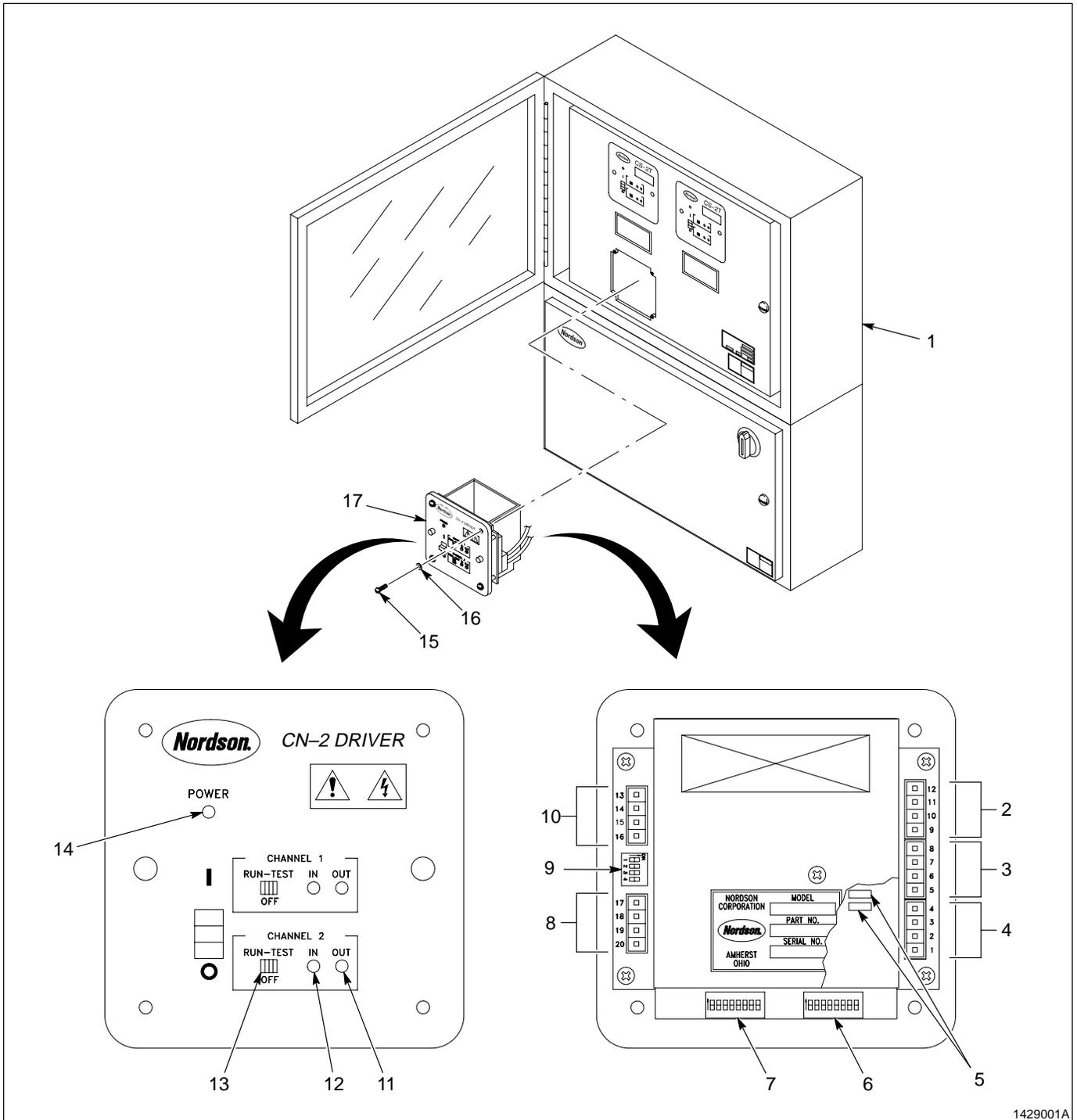
The following section provides general information about the indicators and dip switch settings on the CN-2 driver.

### Indicators

See [Figure 1](#) and refer to Table 1. The following indicators are located on the face of the CN-2 driver (17).

Table 1 CN-2 Driver Indicators and Function

Indicator	Function
ON/OFF Switch	The ON/OFF switch enables and disables power to the CN-2 driver.
Power Indicator	The Power indicator (1) illuminates green when in the ON position. <b>NOTE:</b> When the CN-2 driver is switched OFF, the Power indicator remains illuminated until the capacitor discharges.
IN and OUT Indicators	The IN indicators (green LED) (12) or inputs show a signal is being received from the pattern controller. The OUT indicators (yellow LED) (11) or outputs indicate the signal is traveling to the electric valve(s).
RUN/OFF/TEST Switches	Two RUN/OFF/TEST switches (13) support two independent outputs. The 3-position RUN/OFF/TEST switches enable the CN-2 driver to respond to inputs, turn off, or run a continuous pattern for each output. Place the switch in the RUN position for normal operation. When the switch is toggled to the TEST position, an output occurs.



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Fig. 1 CN-2 Driver

- |   |  |                         |
|---|--|-------------------------|
| 1. Enclosure                            | 6. Configurable dip switch SW2 (gun 1)     | 11. OUT indicator       |
| 2. Input connector (gun 1 input signal) | 7. Configurable dips switch SW4 (gun 2)    | 12. IN indicator        |
| 3. Input connector (gun 2 input signal) | 8. Output connector (gun 2 output signal)  | 13. RUN/OFF/TEST switch |
| 4. Power connector                      | 9. Gun head dip switch                     | 14. Power indicator     |
| 5. Fuse                                 | 10. Output connector (gun 1 output signal) | 15. Screw               |
|   |  | 16. Washer              |
|   |  | 17. CN-2 driver module  |

## Dip Switch Settings



**CAUTION:** Do not change the factory settings of the guns unless you have consulted with your Nordson representative. Changing the factory settings may cause the guns to overheat.

All CN-2 driver switches are factory-set for use with E201 guns, one gun per channel. The settings are configured for maximum performance during typical applications and provide a 16% duty cycle. You must contact your Nordson representative before adjusting any switch settings or before using a different gun.

Refer to Table 2 when preparing your CN-2 driver for installation.

Table 2 CN-2 Driver Switch Settings

Switches (See Figure 1)	Settings
Gun Head Dip Switches (item 9)	See Figure 2. The gun head dip switches are factory-set to the OFF position.
Dip Switches SW2 (item 6) and SW4 (item 7)	The two sets of eight dip switches are accessible from the rear panel of the CN-2 driver. Each set controls one channel (gun) of the driver. Dip switch SW2 controls gun 1 and dip switch SW4 controls gun 2. The dip switches include gun PULL-IN, MAINTENANCE ON, and MAINTENANCE OFF switches, as detailed below.
PULL-IN Switches 1–4	See Figure 3. Dip switches 1–4 adjust the gun PULL-IN time. The switches are factory-set for 3.00 msec. The gun PULL-IN time is a fixed value ranging from 0.50–8.00 msec in 0.50 msec increments.
MAINTENANCE ON Switches 5–6	See Figure 3. Dip switches 5–6 adjust the MAINTENANCE ON portion of the duty cycle from 0.05–0.20 msec in 0.05 msec increments. The switches are factory-set for 0.10 msec.
MAINTENANCE OFF Switches 7–8	See Figure 3. Dip switches 7–8 adjust the MAINTENANCE OFF portion of the duty cycle from 0.50–1.00 msec in 0.50 msec increments based on switch combinations. The switches are factory-set for 0.50 msec.  <b>NOTE:</b> If you need to adjust the MAINTENANCE OFF time, you must contact your Nordson representative.

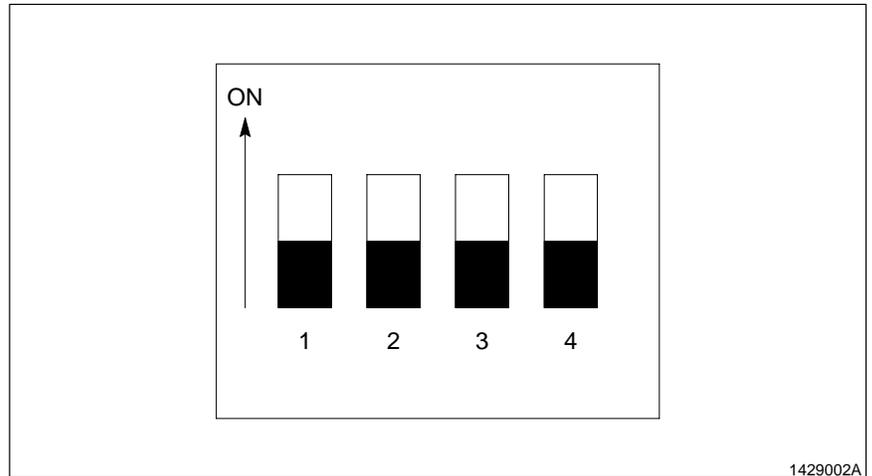


Fig. 2 Gun Head Dip Switch Settings

Note: The shaded areas represent the actual switch. White areas represent a void.

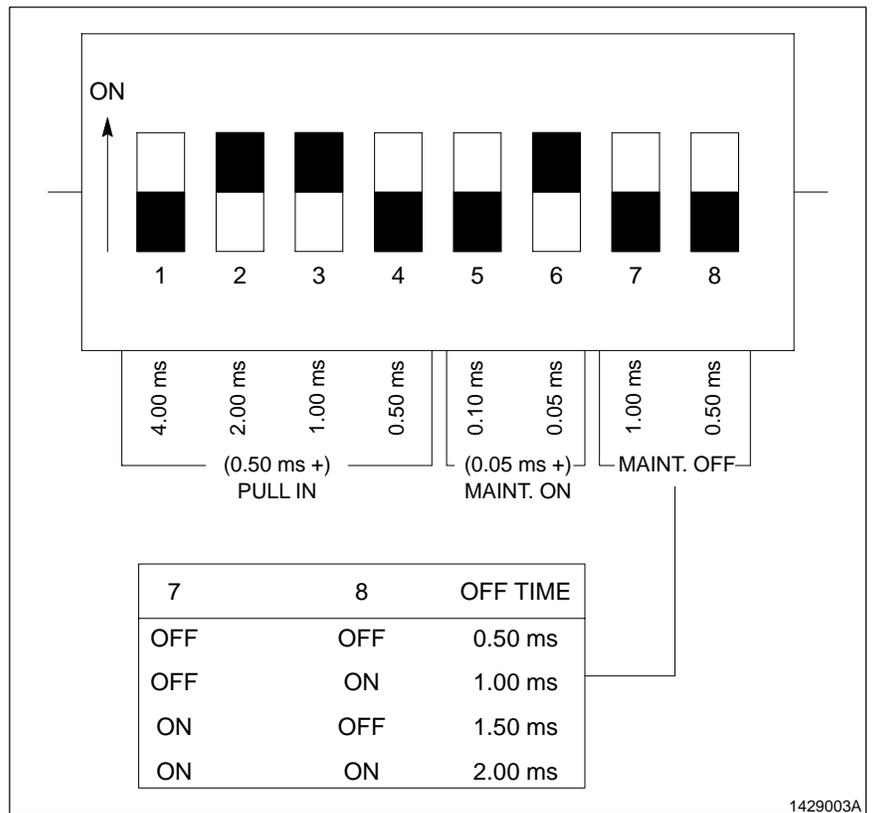


Fig. 3 Dip Switch SW2 and SW4 Settings

Note: The shaded areas represent the actual switch. White areas represent a void.

### Specifications

Following are the specifications for the CN-2 driver.

#### **Electrical Specifications**

Input Voltage	110–230 Vac
Input Current	up to 2.5 amps
Input Trigger	12–24 Vdc
Output	Switched dc

#### **Environment**

Operating Temperature 0–60 °C (32–140 °F)

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### 3. Installation

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**WARNING:** Disconnect equipment from line voltage. Failure to observe this warning may result in personal injury, death, or equipment damage.

See [Figure 1](#). Use these procedures to install the CN-2 driver.

### Removing the Existing Driver

Use these steps to remove the existing driver module (12) from the enclosure (1).

1. Shut off all power to the enclosure (1).



**WARNING:** Allow two minutes for the driver to dissipate its electrical charge. Failure to allow the electrical charge to dissipate may cause personal injury.

2. Remove the screws (10) and washers (11) to remove the existing driver module (12) from the enclosure.
3. Pull the driver module out of the enclosure.

## Wiring the Input and Output Connectors

See Figure 1. Each driver module (17) has two input connectors (2, 3) and two output connectors (8, 10). The input connectors receive the input signals from the timer. The driver's output connectors provide drive signals to the guns.

When replacing the CN-2 driver module, you can reuse the input and output connectors from the enclosure (1) if they are in good condition.

Complete the wiring installation as follows:

1. Refer to Table 3. Install the input and output connectors from the enclosure to their correct mating connectors on the driver module. The connectors are labeled with matching numbers.
2. See Figure 1. Connect the CN-2 driver module's ground wire to the enclosure (1).

Table 3 Connector Labels and Connection Points (See Figure 1)

Install Connector Labeled:	To:
1–4	Power input (4)
5–8	Gun 2 trigger input (3)
9–12	Gun 1 trigger input (2)
13–16	Gun 1 output connector (10)
17–20	Gun 2 output connector (8)

## Installing the CN-2 Driver

See Figure 1. After all connections are complete,

1. Place the driver (17) in the enclosure (1) and secure with screws (15) and washers (16).
2. Close the door to the enclosure and turn on power to the driver.
3. Place the RUN/OFF/TEST switch (13) in the TEST position to determine if the gun(s) will fire.
4. Place the RUN/OFF/TEST switch in RUN mode for normal operation.

#### 4. Troubleshooting

This section contains troubleshooting procedures. These procedures cover only the most common problems that you may encounter. If you cannot solve the problem with the information given here, contact your local Nordson representative for help.

Problem	Possible Cause	Corrective Action
<b>1. Power indicator does not illuminate when ON/OFF is in the ON position</b>	No voltage to input terminal  Blown fuse(s)  Faulty CN-2 driver	Check input voltage between terminals L1 and L2. If no voltage is present, check the power source.  See Figure 1. Check the fuses (5). If one or both of the fuses is blown, replace it/them.  If 110–240 Vac is present between terminals L1 and L2, replace your CN-2 driver.
<b>2. No input signal light</b>	Timer not on or not sending signal  Poor wiring connections  Faulty timer	A flashing green light indicates that an input signal is being received from the timer to the CN-2 driver. When no light is present, test the timer (with the CN-2 driver power OFF). Check to make sure that the timer is turned on. Check the polarity of the trigger signal. The voltage must be between 12–28 Vdc.  If the timer is on and the input signal is still not present, check the wiring at the timer and the CN-2 driver.  If the timer wiring is okay and the input signal is still not present, replace the timer.

*Continued on next page*

Problem	Possible Cause	Corrective Action
<b>3. No output indicator light</b>	ON/OFF switch and/or RUN/OFF/TEST switch in wrong position  Faulty CN-2 driver	Make sure that the ON/OFF switch is in the ON position and the RUN/OFF/TEST switch is in the RUN position.  If the switches are in their correct positions and the output light is still not on, replace the CN-2 driver.
<b>4. No output to solenoid or valve coil</b>	Faulty wiring between CN-2 driver and solenoid  Faulty solenoid	If output indicator light is on but there is no output to the solenoid, check the wiring.  If the wiring checks out okay, replace the solenoid.
<b>5. Electric guns fail to open or fail to remain open for entire duration</b>	Faulty guns or other problems	Contact your Nordson Corporation representative for technical assistance.

## 5. Parts

Use the following lists for the parts and spare parts of the CN-2 driver.

### **CN-2 Driver and Spare Parts**

[See Figure 1.](#)

Item	Part	Description	Quantity	Note
2, 3, 8, 10	168 175	Connector, plug, 4 pin with label	1	
4	933 755	Connector, plug, 4-pin with label	1	
5	939 967	Fuse, 2.5 amp, fast acting, 250 v, 5x 20 mm	2	
17	274 528	Module, driver, CN-2	1	

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