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# N-Series

Addressable Rocker Switches

**PRODUCT WEBPAGE**

*request sample, configure part*



The N-Series produces up to 144 individual switch IDs by using a resistive ladder circuit. Different switch IDs are achieved by changing the resistor values tied to individual loads, which can then be assigned to the specific functions that the switch is controlling.

**1**

Pole

**.4**

Amps

**28**

VDC Max

**IP67 Sealing**

Above-Panel

## Typical Applications

• On/Off-Highway • Construction • Agriculture • Marine

# Tech Specs

## Electrical

|                       |                                                                                                  |
|-----------------------|--------------------------------------------------------------------------------------------------|
| Contact Rating        | .4VA @ 28VDC (MAX)                                                                               |
| Dielectric Strength   | 1250 Volts RMS between pole to pole<br>3750 Volts RMS between live parts and accessible surfaces |
| Insulation Resistance | 50 Megaohms                                                                                      |
| Contact Bounce        | 20 milliseconds max.                                                                             |
| Contact               | gold plated                                                                                      |
| Terminals             | Brass or copper/silver plate<br>3/16" (4.76mm)<br>Quick Connect terminations standard.           |

## Physical

|                     |                                                                                                                                |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------|
| Lighted             | Incandescent - rated 10,000 hours<br>LED - rated 100,000 hours 1/2 life<br>(LED is internally ballasted for voltages to 24VDC) |
| Seals               | Rocker, base & bracket are sealed                                                                                              |
| Base                | Nylon 66 GF rated to 85°C with a flammability rating of 94V0.                                                                  |
| Rocker and Paddle   | Nylon 66 Reinforced, rated to 105°C                                                                                            |
| Laser Etched Rocker | Polycarbonate rated at 100°C.                                                                                                  |
| Lens                | Polycarbonate rated at 100°C.<br>Front snap-in.                                                                                |
| Connector           | Nylon 66 rated at 85°C. Polarized.                                                                                             |
| Bracket             | Nylon Zytel                                                                                                                    |

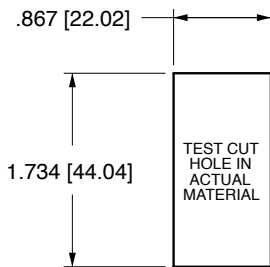
## Actuator Travel (Angular Displacement)

|            |                 |
|------------|-----------------|
| 2 position | 26°             |
| 3 position | 13° from center |

## Environmental

|                 |                                                                                                                                                                                                                  |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Environmental   | IP67, for above-panel components of actual switch only.                                                                                                                                                          |
| Operating Temp. | -40°C to +85°C                                                                                                                                                                                                   |
| Vibration       | Per SAE J1399 "electronic Tachometer Specification" for Class II truck and bus applications. Test Criteria: No change in resistance and no evidence of physical damage.                                          |
| Salt Spray      | Exposure to 95% water, 5% NCI fog solution at 95 degrees F according to ASTM B 117-90 "Standard Method of Salt Spray (fog) Testing". Test Criteria: No visual evidence of corrosion or external physical damage. |
| Humidity        | Samples were exposed to selected temperature profile, while maintaining 90% +- 5% relative humidity for 30 cycles. Test Criteria: No evidence of external physical deterioration.                                |

## Mounting Specifications



**MOUNTING HOLE**  
**Panel Thickness Range**  
Acceptable Panel Thickness  
.030 to .156 (.76mm to 3.96mm)  
Recommended:  
.030, .062, .093, .125 and .156

# Ordering Scheme

Sample  
Part Number

N 4 1 2 1 A N H 1 - 1 1 2 46 - 1 EK

Selection

1

2

3

4

5

6

7

8

9

10

11

12

13

14

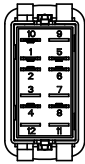
15

## 1. SERIES

N

## 2. CIRCUIT 2

### Terminal Orientation



( ) - momentary

| Position: | 1     | 2                   | 3     |
|-----------|-------|---------------------|-------|
| STANDARD  | 2 & 4 | Connected Terminals | 1 & 2 |
| 4         | ON    | NONE                | ON    |
| 5         | (ON)  | NONE                | ON    |
| 6         | ON    | ON                  | ON    |
| 7         | (ON)  | ON                  | ON    |
| 8         | (ON)  | ON                  | (ON)  |

## 3. R1 RESISTIVE IDENTIFICATION

|   |      |   |       |
|---|------|---|-------|
| 1 | 1020 | 7 | 3570  |
| 2 | 1300 | 8 | 4320  |
| 3 | 1620 | A | 5230  |
| 4 | 2000 | B | 6340  |
| 5 | 2430 | C | 7870  |
| 6 | 2940 | D | 10000 |

## 4. R2 RESISTIVE IDENTIFICATION

|   |      |   |       |
|---|------|---|-------|
| 1 | 1020 | 7 | 3570  |
| 2 | 1300 | 8 | 4320  |
| 3 | 1620 | A | 5230  |
| 4 | 2000 | B | 6340  |
| 5 | 2430 | C | 7870  |
| 6 | 2940 | D | 10000 |

## 5. RESISTOR CONSTANTS (INDICATES SWITCH STATE)

|   | R3   | R4    | R5   |
|---|------|-------|------|
| 1 | 1300 | 10000 | 5230 |
| 2 | 825  | 6650  | 3830 |

## 6. ILLUMINATION

Lamp #1: above terminals 9 & 10 end of switch.; Lamp #2 above terminals 11 & 12 end of switch. Positive (+) and negative (-) symbols apply to LED lamps only.

|   | Lamps   | Illumination Type | Lamp wired to Terminals |
|---|---------|-------------------|-------------------------|
| S | None    |                   |                         |
| A | # 1     | Standard          | 10+ 12-                 |
|   | # 2     | Standard          | 11+ 9-                  |
| B | # 1 & 2 | Special Parallel  | 11+ 9-                  |
| C | # 1 & 2 | Special Parallel  | 10+ 9-                  |
| 1 | # 1     | Independent       | 10+ 9-                  |
| 2 | # 2     | Independent       | 12+ 11-                 |
| 3 | # 1     | Independent       | 10+ 9-                  |
|   | # 2     | Independent       | 12+ 9-                  |
| 4 | # 1     | Independent       | 10+ 9-                  |
|   | # 2     | Independent       | 12+ 11-                 |

## 7,8. LAMP (SAME CODING FOR BOTH SELECTIONS)

Selection 7: above terminals 10 & 9; Selection 8: above terminals 12 & 11

No lamp 0  
LED\* Red Amber Green  
12VDC C N H

\* Consult factory for "daylight bright", blue/green and white LED options. Typical current draw for LED is 20ma.

## 9. BRACKET COLOR 1

|                       | Black | White | Gray | Red |
|-----------------------|-------|-------|------|-----|
| Standard Bracket      | 6     | 7     | 8    | 9   |
| Rockerguard at Lamp 1 | L     | B     | C    | D   |
| Rockerguard at Lamp 2 | E     | F     | G    | H   |

## 10. ACTUATOR STYLE AND COLOR

|        | Black | White | Gray | Red | Laser Etched |
|--------|-------|-------|------|-----|--------------|
| Rocker | A     | B     | C    | D   | 1            |
| Paddle | J     | N     | K    | M   |              |

## 11. & 12. LENS STYLE AND COLOR

Lens color for LEDs must be clear, white, or match color of LED.

| 0 – No Actuator |       |       | Z – No Lens |     |      |                             |
|-----------------|-------|-------|-------------|-----|------|-----------------------------|
| Clear           | White | Amber | Green       | Red | Blue |                             |
| 1               | -     | B     | G           | M   | T    | Large Transparent           |
| -               | 7     | C     | H           | N   | U    | Large Translucent           |
| 3               | -     | D     | J           | P   | V    | Bar Transparent             |
| -               | 9     | E     | K           | R   | W    | Bar Translucent             |
| 5               | A     | -     | -           | -   | -    | Laser Etch background color |

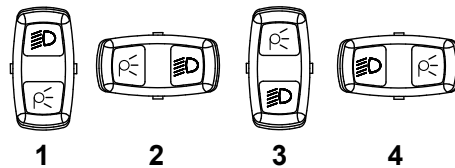
## 13. LEGEND ORIENTATION

00 No legend

For standard legends, see "Standard Legend Codes" page.  
For additional legends, please consult factory

## 14. LEGEND ORIENTATION

- 0 No legend (used with codes 11-18 in selection 12)
- 1 Orientation 1 - vertical, lamp 1 on top
- 2 Orientation 2 - horizontal, lamp 1 on right
- 3 Orientation 3 - vertical, lamp 1 on bottom
- 4 Orientation 4 - vertical, lamp 1 on left



## 15. ACTUATOR LENS LEGEND

00 No legend

For standard legends, see "Standard Legend Codes" page.  
For additional legends, please consult factory

Notes:

1 Custom colors are available. Consult factory.

2 Switch supplied with .187 tab terminals.

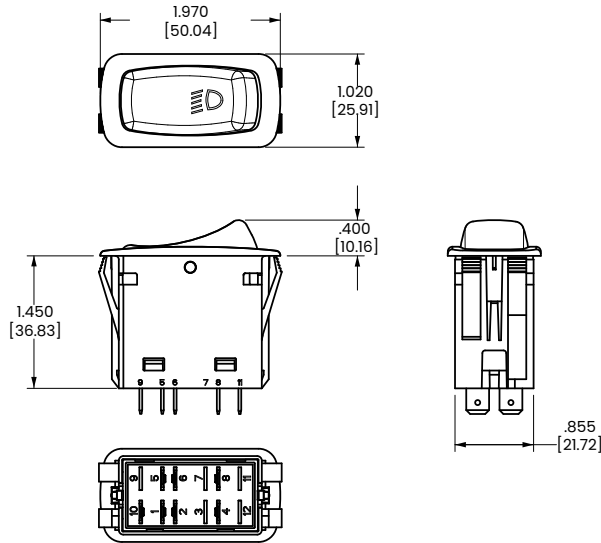
[Configure Complete Part Number >](#)

[Browse Standard Parts >](#)

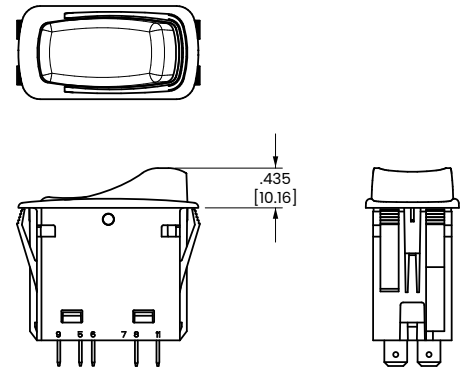
# Dimensional Specs

inches [millimeters]

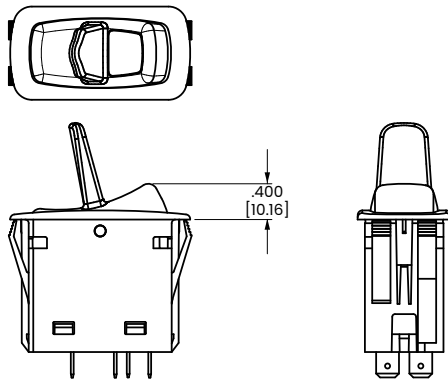
## LASER ETCHED ACTUATOR



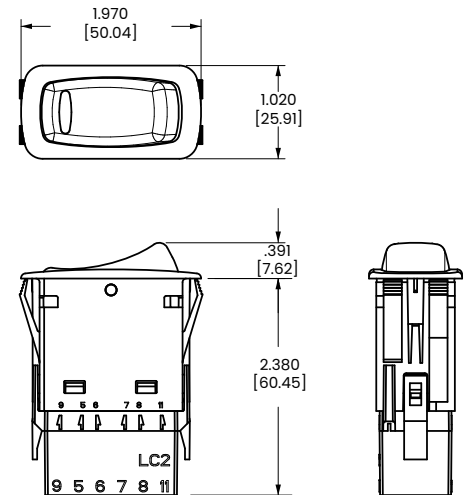
## ROCKER GUARD



## LARGE LENS AND PADDLE ACTUATOR

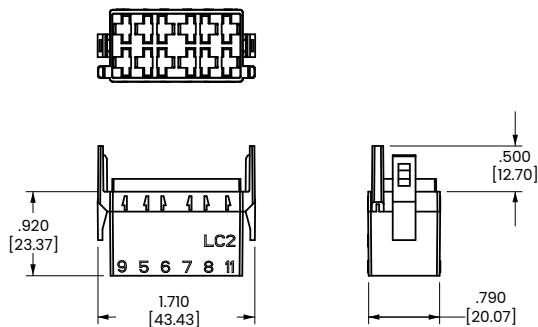


## BARS LENS AND CONNECTOR



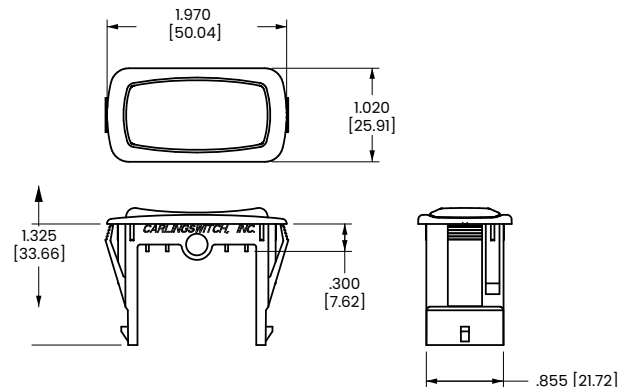
## ACCESSORY

LC2-01 BLACK .187 TAB CONNECTOR (PACKARD 480-SERIES)



## ACCESSORY

LH1 REMOVABLE HOLE PLUG WITH NON-SERRATED WINGS  
LH2 HOLE PLUG WITH SERRATED WINGS



# Diagrams

## Circuit Diagrams:

| CIRCUIT CODE | SCHEMATIC                               |
|--------------|-----------------------------------------|
| 4            | <p>INTERNAL CIRCUIT BOARD (TYPICAL)</p> |
| 5            |                                         |
| 6            |                                         |
| 7            |                                         |
| 8            |                                         |

## Lamp Circuit Diagrams:

| ILLUM. CODE | SCHEMATIC |
|-------------|-----------|
| A           |           |
| B           |           |
| C           |           |
| 1           |           |
| 2           |           |
| 3           |           |
| 4           |           |

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