



**Littelfuse®**



**Carling Technologies®**

A Littelfuse® Brand

# V-Series

## Contura® II & III

Sealed Rocker Switches

**PRODUCT WEBPAGE**

*request sample, configure part, watch video*



### Contura® IP66/68 Snap-In Mounted Switches

The V-Series switches are well known for their cutting edge design, high quality, maximum performance and unmatched reliability. These snap-in rocker switches offer countless options for ratings, circuits, colors, illuminations and symbols. These single or double pole switches feature removable actuators in a choice of actuator styles and colors, which may be purchased and stocked separately. An optional plug-in terminal connector enables pre-wiring of wire harness.

**1-2**

Poles

**.4-20**

Amps

**125-250**

VAC

**12-24**

VDC

## Typical Applications

- On/Off-Highway
- Armored Vehicles
- Commercial Food
- Any Application Requiring Sealing Protection
- Marine
- Industrial Automation
- Medical Equipment

# Design Features

## INTERCHANGEABLE ACTUATORS

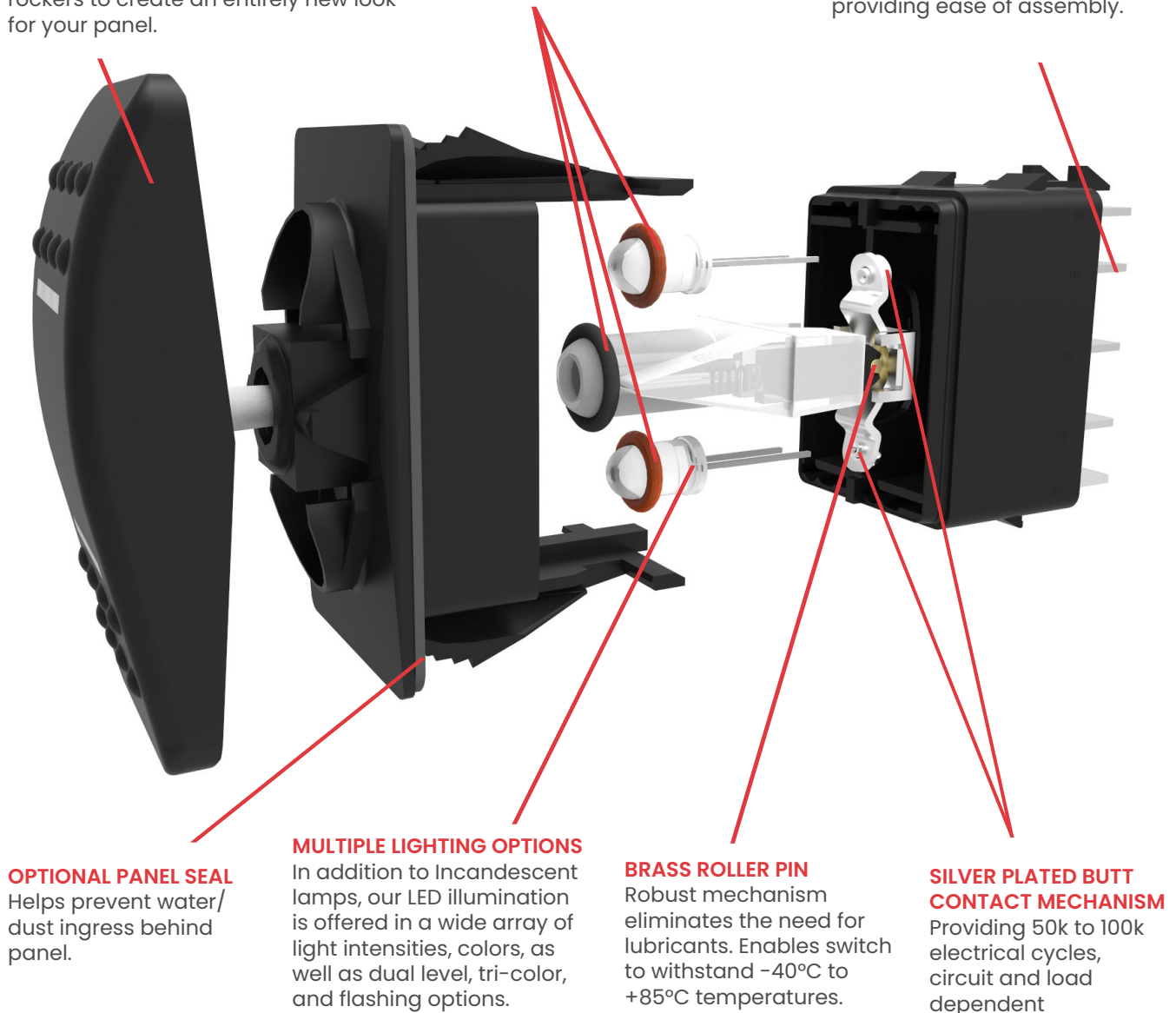
Panel redesign is a snap with our wide range of rocker styles. Achieve maximum design variety with minimum inventory. Simply swap rockers to create an entirely new look for your panel.

## DUAL SEAL PROTECTION

Seals out water, dust, debris, and sealed to IP66/68 for above-panel components

## CLEAN CONNECTIONS

Options for both eight and ten terminal base styles with AMP & Packard compatible connectors affords myriad circuit options while providing ease of assembly.



# Tech Specs

## Electrical

|                            |                                                                                                                                                              |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Contact Rating             | 4VA @ 24VDC (MAX) resistive<br>15 amps, 125VAC<br>10 amps, 250VAC<br>1/2 HP 125-250VAC<br>20 amps, 4-14VDC<br>15 amps, 15-28VDC<br>10A, 14VT<br>6A, 125VAC L |
| Dielectric Strength        | 1500 Volts RMS                                                                                                                                               |
| Insulation Resistance      | 50 Megohms                                                                                                                                                   |
| Initial Contact Resistance | 10 milliohms max. @ 4VDC                                                                                                                                     |
| Life                       | Up to 100,000 cycles, circuit and load dependent                                                                                                             |
| Contacts                   | Silver alloy, silver tin-oxide, fine silver                                                                                                                  |
| Terminals                  | Brass or copper/silver plate<br>1/4" (6.3mm) Quick Connect terminations standard. Solder lug, Wire Lead                                                      |

## Physical

|                                          |                                                                                                                                                                                                                                                           |
|------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Lighted                                  | Incandescent - rated 10,000 hours<br>Neon - rated 25,000 hours<br>LED - rated 100,000 hours 1/2 life (LED is internally ballasted for voltages to 24VDC)                                                                                                  |
| Seals                                    | Internal<br>Optional external gasket panel seal                                                                                                                                                                                                           |
| Base                                     | Polyester blend rated to 125°C with a UL flammability rating of 94V0.                                                                                                                                                                                     |
| Contura II, III, IV, V, VI, VII Actuator | <b>Hard Surface:</b> Basic actuator structure molded of thermoplastic polycarbonate with a hard Nylon 66 thermoplastic surface overlay.<br><b>Soft Surface:</b> Basic actuator structure molded of thermoplastic polycarbonate with an elastomer overlay. |
| Contura X, XI, XII Actuator, VP          | Nylon 66 Reinforced rated to 105°C                                                                                                                                                                                                                        |
| Lens                                     | Polycarbonate rated at 100°C                                                                                                                                                                                                                              |
| Contura XIV                              | Polycarbonate lens/sub-rocker with ABS shell                                                                                                                                                                                                              |

## Actuator Travel (Angular Displacement)

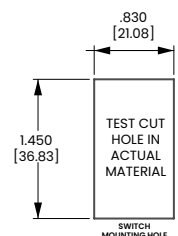
|             |                |
|-------------|----------------|
| 2 position  | 18°            |
| 3 positions | 9° from center |

## Environmental

|                     |                                                                                                                                                                                                                                            |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sealing             | IP66/68, for above-panel components of actual switch only.                                                                                                                                                                                 |
| Corrosion           | Mixed Flowing Gas (MFG) Class III<br>3 year accelerated exposure per ASTM B-827, B-845 Silver and gold contacts                                                                                                                            |
| Operating Temp      | -40°C to +85°C                                                                                                                                                                                                                             |
| Vibration 1         | Per Mil-Std 202F, Method 204D<br>Test Condition A 0.06 DA or 10G's 10-500 Hz. Tested with VCH connector. Test criteria - No loss of circuit during test, pre and post test contact resistance.                                             |
| Vibration 2         | Resonance search 24-50 Hz<br>0.40 DA 50-2000 Hz ±10 G's peak<br>Horizontal Axis 3-5 G's max.<br>Random 24 Hz 0.06 PSD-Gsq/Hz<br>60 Hz 0.50 100 Hz 0.50 200 Hz 0.025<br>2000 Hz 0.025 No loss of circuit during test; <10µ seconds chatter. |
| Shock               | Per Mil-Std 202F, Method 213B, Test Condition K @ 30G's. Tested with VCH connector. Test criteria - No loss of circuit during test, pre and post test contact resistance.                                                                  |
| Salt Spray          | Per Mil-Std 202F, Method 101D, Test Condition A, 96 Hrs. Sealed version only.                                                                                                                                                              |
| Dust                | Mil STD 810, Method 510.2 Air Velocity 300 Ft/Min Duration 16Hr                                                                                                                                                                            |
| Thermal Shock       | Per Mil-Std 202F, Method 107F, Test Cond. A, -55°C to +85°C. Test criteria -pre and post test contact resistance                                                                                                                           |
| Moisture Resistance | Per Mil-Std 202F, Method 106F, Test Criteria - pre and post test contact resistance                                                                                                                                                        |
| Ignition Protection | All Contura switches with sealed construction meet the requirements of UL1500/ISO8846 for ignition protection, in addition to conformance with EC directive 94/25/EC for marine products.                                                  |

## Mounting Specifications

Panel Thickness Range  
Gaskets Acceptable Panel Thickness  
0 .030 to .250 (.76 to 6.35mm)  
1 .030 to .109 & .147 to .157 (.76 to 2.77mm & 3.73 to 3.98mm)  
Recommended: No gasket with panel thickness of .032, .062, .093, .125, .187 or .250



# Ordering Scheme

Contura II & III

Sample  
Part Number

V 1 D A B T 0 B - A R B 00 - 0 00

Selection

1

2

3

4

5

6

7

8

9

10

11

12

13

14

## 1. SERIES

V V-Series

## 2. CIRCUIT

Terminal Connections as viewed ( ) - momentary from bottom of switch: SP - single pole: terminals 1, 2 & 3.  
8 terminal 10 terminal DP - double pole: terminals 1, 2, 3, 4, 5 & 6.  
8 - 7 8 - 7  
1 - 4 1 - 4  
2 - 5 2 - 5  
3 - 6 3 - 6  
10 - 9

### Position:

| SP DP | 1            | 2         | 3                      |
|-------|--------------|-----------|------------------------|
| 1 A   | 2 & 3, 5 & 6 | Connected | Terminals 1 & 2, 4 & 5 |
| 2 B   | (ON)         | NONE      | OFF                    |
| 3 C   | ON           | NONE      | OFF                    |
| 4 D   | ON           | NONE      | (OFF)                  |
| 5 F   | ON           | NONE      | ON                     |
| 6 J   | ON           | OFF       | (ON)                   |
| 7 K   | ON           | OFF       | (ON)                   |
| 8 L   | (ON)         | OFF       | (ON)                   |

### SPECIAL CIRCUITS

|    | 2 & 3          | 2 & 3, 5 & 4 | 5 & 4 |
|----|----------------|--------------|-------|
| H* | 2 & 3          | 2 & 3        | OFF   |
| G* | 2 & 3, 5 & 6   | 2 & 3        | 1 & 2 |
| S* | 2 & 3, 5 & 6   | 2 & 3        | OFF   |
| M* | (2 & 3, 5 & 6) | 2 & 3        | 2 & 1 |
| R* | (2 & 3, 5 & 6) | 2 & 3        | 5 & 1 |
| E* | 5 & 6          | 5 & 3        |       |

Jumper between terminals 2 & 5 for circuits H, G, M, R & S are specified in selection 4. External jumper between terminals 2 & 4 for circuit E are provided by customer. Circuit E may be used for SP OFF-ON-ON circuit.

## 3. RATING 3

|   |                                              |
|---|----------------------------------------------|
| 1 | .4VA @ 28VDC Resistive                       |
| B | 15A 24V                                      |
| C | 20A 18V                                      |
| D | 20A 12V                                      |
| E | 20A 14V, 10A 14VT (circuit 1, 4, A & D only) |
| F | 10A 14V, 6A 14VT (circuit G only)            |
| M | .4VA/20A 12V                                 |
| N | .4VA/15A 24V                                 |

## 4. TERMINATION / BASE STYLE

| 8 term | 10 Term | Termination                 | Jumper      |
|--------|---------|-----------------------------|-------------|
| 1      | 2       | .250 TAB (QC) no barriers   | No          |
| A      | B       | .250 TAB (QC) with barriers | No          |
| J      | K       | .250 TAB (QC) no barriers   | Yes T2 to 5 |
| 3      | 4       | Solder Lug no barriers      | No          |
| C      | D       | Solder Lug                  | No          |
| 5      | 6       | Wire Leads no barriers      | No          |
| E      | F       | Wire Leads                  | No          |

Note: Codes J & K for circuits H, G & M. Do not use silicone based lubricants to reduce terminal insertion forces during connector assembly, as it is detrimental to function and performance.

## 5. ILLUMINATION

Lamp #1: above terminals 1 & 4 end of switch; Lamp #2 above terminals 3 & 6 end of switch. Positive (+) and negative (-) symbols apply to LED lamps only.

| Sealed                    | Unsealed | Lamps | Illumination Type | Lamp wired to Terminals |
|---------------------------|----------|-------|-------------------|-------------------------|
| S                         | 0        | NONE  | -                 | -                       |
| A                         | 1        | 1     | INDEPENDENT       | 8 (+) 7 (-)             |
| B                         | 2        | 1     | DOWN              | 3 (+) 7 (-)             |
| C                         | 3        | 2     | UP                | 3 (+) 7 (-)             |
| D                         | 4        | 1     | DOWN              | 3 (+) 7 (-)             |
| E                         | 5        | 2     | DOWN              | 1 (+) 7 (-)             |
| F                         | 6        | 1     | UP                | 3 (+) 7 (-)             |
| G                         | 7        | 2     | INDEPENDENT       | 8 (+) 7 (-)             |
| H                         | Z        | 2     | UP                | 3 (+) 6 (-)             |
| U                         | Y        | 1     | INDEPENDENT       | 8 (+) 7 (-)             |
|                           |          | 2     | INDEPENDENT       | 8 (+) 7 (-)             |
|                           |          | 2     | INDEPENDENT       | 10 (+) 9 (-)            |
| SINGLE POLE SWITCHES ONLY |          |       |                   |                         |
| J                         | 8        | 1     | DOWN              | 3 (+) 8 (-)             |
|                           |          | 2     | INDEPENDENT       | 6 (+) 7 (-)             |
| K                         | W        | 1     | INDEPENDENT       | 8 (+) 7 (-)             |
|                           |          | 2     | INDEPENDENT       | 6 (+) 7 (-)             |
| DOUBLE POLE SWITCHES ONLY |          |       |                   |                         |
| L                         | 9        | 1     | DOWN              | 3 (+) 6 (-)             |
| M                         | R        | 1     | UP                | 3 (+) 6 (-)             |
| N                         | T        | 1     | DOWN              | 3 (+) 6 (-)             |
|                           |          | 2     | UP                | 1 (+) 4 (-)             |
| P                         | V        | 1     | DOWN              | 1 (+) 4 (-)             |
|                           |          | 2     | UP                | 3 (+) 6 (-)             |

## 6,7. LAMP (SAME CODING FOR BOTH SELECTIONS)

Selection 6: above terminals 1 & 4; Selection 7: above terminals 3 & 6

|              |          |          |             |             |       |
|--------------|----------|----------|-------------|-------------|-------|
| No lamp      | 0        | 2 250VAC | 6 12V       | 7 18V       | 8 24V |
| Neon         | 1 125VAC | 5 6V     | superbright | superbright |       |
| Incandescent | 4 3V     |          | Green       | Red         |       |
| LED*         |          |          | F           | R           |       |
|              | Red      | Amber    | G           | S           |       |
| 2VDC         | A        | L        | H           | T           |       |
| 6VDC         | B        | M        | J           | V           |       |
| 12VDC        | C        | N        |             |             |       |
| 24VDC        | D        | P        |             |             |       |

\* Consult factory for "daylight bright" LED options. Typical current draw for LED is 20ma.

## 8. FLUSH BRACKET COLOR, PANEL SEAL 1

|          |       |       |      |
|----------|-------|-------|------|
| No Seal  | Black | White | Gray |
| One Seal | B     | W     | G    |
|          | C     | Y     | H    |

## 9. ACTUATOR

|      |             |  |
|------|-------------|--|
| 0    | No Actuator |  |
| A, B | Contura II  |  |
| C, D | Contura III |  |

Actuator thick end over terminals: 1, 4, 3, 6

## 10. LENS 1

|                 |             |       |
|-----------------|-------------|-------|
| 0 - No Actuator | Z - No Lens |       |
| Clear           | White       | Amber |
| 1               | 6           | B     |
| 2               | 7           | C     |
| 3               | 8           | D     |
|                 |             | H     |
|                 |             | J     |
|                 |             | N     |
|                 |             | P     |
|                 |             | U     |
|                 |             | V     |

Square lens options only available for Contura II.

4 9 E K R W  
5 A F L S Y

Lens color for LEDs must be clear, white, or match color of LED. Green or blue lenses are not recommended with Neon lamps.

## 11. ACTUATOR COLOR AND TEXTURE 1

|                 |       |      |     |       |
|-----------------|-------|------|-----|-------|
| 0 - No Actuator |       |      |     |       |
| Soft Surface    | Black | Gray | Red | White |
| Hard Surface    | B     | H    | S   | W     |
|                 | C     |      |     | Y     |

## 12. ACTUATOR LENS OR BODY LEGENDS 2

|    |     |    |     |    |     |    |     |
|----|-----|----|-----|----|-----|----|-----|
| 11 | ON  | 12 | OFF | 13 | I   | 14 | O   |
|    | OFF |    | ON  |    | O   |    | I   |
| 15 | O O | 16 | O O | 17 | O I | 18 | I O |
|    | F N |    | N F |    |     |    |     |
|    | F   |    | F   |    |     |    |     |

For additional legend options & codes, visit us at [www.carlingtech.com](http://www.carlingtech.com)

## 13. LEGENDS ORIENTATION

|   |                                                   |  |
|---|---------------------------------------------------|--|
| 0 | No legend (used with codes 11-18 in selection 12) |  |
| 1 | Orientation 1                                     |  |
| 2 | Orientation 2                                     |  |
| 3 | Orientation 3                                     |  |
| 4 | Orientation 4                                     |  |

## 14. ACTUATOR LENS LEGENDS

00 No legend this location / no actuator (used with codes 11-18 in selection 12) Selection 14 required when switch requires two legends. If the two legends consist of one lens and one body legend, lens legend must be specified in selection 12; body legend specified in selection 14. For legend options & codes, visit us at [www.carlingtech.com](http://www.carlingtech.com).

### Notes:

Consult factory to verify horsepower rating for your particular circuit choice.

1 Custom colors are available. Consult factory.

2 Body legends not available on Soft surface actuators; White imprinting is standard on black actuators; Black imprinting is standard on white, red and gray actuators. Custom colors are available, consult factory.

3 Additional ratings available. See V-Series Switch Accessories page.

4 Contura II available with two square lenses. Consult factory for details.

Configure Complete Part Number >

Browse Standard Parts >

# Ordering Scheme

Contura II & III locking

Sample  
Part Number

V 1 D A S W O B - A Z E 00 - 0

Selection

1 2 3 4 5 6 7 8 9 10 11 12 13

## 1. SERIES

V V-Series

## 2. CIRCUIT

Terminal Connections as viewed ( ) - momentary from bottom of switch: SP - single pole: terminals 1, 2 & 3.  
8 terminal 10 terminal DP - double pole: terminals 1, 2, 3, 4, 5 & 6.  
Terminals 7, 8, 9 & 10 for lamp circuit only.

8 - - 7  
1 - - 4  
2 - - 5  
3 - - 6  
10 - - 9

### Position:

| SP DP | 1    | 2    | 3    |
|-------|------|------|------|
| 1 A   | ON   | NONE | OFF  |
| 4 D   | ON   | NONE | ON   |
| 6 J   | ON   | OFF  | ON   |
| 7 K   | ON   | OFF  | (ON) |
| 8 L   | (ON) | OFF  | (ON) |
| 9 N   | OFF  | NONE | ON   |

### SPECIAL CIRCUITS

|    | 2 & 3          | 2 & 3, 5 & 4 | 5 & 4 |
|----|----------------|--------------|-------|
| H* | 2 & 3, 5 & 6   | 2 & 3        | OFF   |
| G* | 2 & 3, 5 & 6   | 2 & 3        | 1 & 2 |
| S* | (2 & 3, 5 & 6) | 2 & 3        | OFF   |
| M* | (2 & 3, 5 & 6) | 2 & 3        | 2 & 1 |
| R* | 5 & 6          | 5 & 3        | 5 & 1 |

\*Jumper between terminals 2 & 5 for circuits H, G, M, R & S are specified in selection 4. External jumper between terminals 2 & 4 for circuit E are provided by customer. Circuit E may be used for SP OFF-ON-ON circuit.

## 3. RATING

4

|   |                                              |
|---|----------------------------------------------|
| 1 | .4VA @ 28VDC Resistive                       |
| B | 15A 24V                                      |
| C | 20A 18V                                      |
| D | 20A 12V                                      |
| E | 20A 14V, 10A 14VT (circuit 1, 4, A & D only) |
| F | 10A 14V, 6A 14VT (circuit G only)            |
| M | .4VA/20A 12V                                 |
| N | .4VA/15A 24V                                 |

## 4. TERMINATION / BASE STYLE

| 8 term | 10 Term | Termination                 | Jumper      |
|--------|---------|-----------------------------|-------------|
| 1      | 2       | .250 TAB (QC) no barriers   | No          |
| A      | B       | .250 TAB (QC) with barriers | No          |
| J      | K       | .250 TAB (QC) no barriers   | Yes T2 to 5 |
| 3      | 4       | Solder Lug no barriers      | No          |
| C      | D       | Solder Lug                  | No          |
| 5      | 6       | Wire Leads no barriers      | No          |
| E      | F       | Wire Leads                  | No          |

Note: Codes J & K for circuits H, G & M. Do not use silicone based lubricants to reduce terminal insertion forces during connector assembly, as it is detrimental to function and performance.

## 5. ILLUMINATION & SWITCH SEALING

| 3 & 6 end of switch. Positive (+) and negative (-) symbols apply to LED lamps only | Sealed | Unsealed | Lamps       | Illumination Type | Lamp wired to Terminals |
|------------------------------------------------------------------------------------|--------|----------|-------------|-------------------|-------------------------|
| S                                                                                  | 0      | NONE     | -           | -                 | -                       |
| C                                                                                  | 3      | 2        | UP          | 3 (+) 7 (-)       |                         |
| H                                                                                  | Z      | 2        | INDEPENDENT | 8 (+) 7 (-)       |                         |
| DOUBLE POLE SWITCHES ONLY                                                          |        |          |             |                   |                         |
| M                                                                                  | R      | 1        | UP          | 3 (+) 6 (-)       |                         |
|                                                                                    |        | 2        | DOWN        | 1 (+) 4 (-)       |                         |
| P                                                                                  | V      | 1        | UP          | 1 (+) 4 (-)       |                         |
|                                                                                    |        | 2        | UP          | 3 (+) 6 (-)       |                         |

## 6. LOCK

Lock above terminals 1 & 4 end of switch  
W lock

## 7. LAMP

Lamp above terminals 3 & 6 end of switch

|              |   |          |          |             |             |       |
|--------------|---|----------|----------|-------------|-------------|-------|
| No lamp      | 0 | 1 125VAC | 2 250VAC | 6 12V       | 7 18V       | 8 24V |
| Neon         | 1 | 3V       | 6V       | superbright | superbright |       |
| Incandescent | 4 |          |          | Green       | Red         |       |
| LED*         |   | Red      | Amber    |             |             |       |
|              | A | L        | M        | F           | R           |       |
|              | B | N        | P        | G           | S           |       |
|              | C |          |          | H           | T           |       |
|              | D |          |          | J           | V           |       |

\* Consult factory for "daylight bright" LED options. Typical current draw for LED is 20ma.

## 8. FLUSH BRACKET COLOR, PANEL SEAL

1

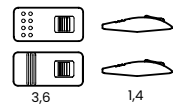
|          |       |       |      |
|----------|-------|-------|------|
| No Seal  | Black | White | Gray |
| One Seal | B     | W     | G    |
|          | C     | Y     | H    |

## 9. HARD SURFACE ACTUATOR

1

|             |       |      |     |       |
|-------------|-------|------|-----|-------|
| Contura II  | Black | Gray | Red | White |
|             | A     | B    | G   | H     |
| Contura III | C     | D    | E   | F     |

Actuator orientation above terminals:



## 10. LENS

|             |       |       |       |     |      |
|-------------|-------|-------|-------|-----|------|
| Z - No Lens |       |       |       |     |      |
| Clear       | White | Amber | Green | Red | Blue |
| 3           | 8     | D     | J     | P   | V    |



Lens color for LEDs must be clear, white, or match color of LED. Green or blue lenses are not recommended with Neon lamps.

## 11. ACTUATOR LOCK FUNCTION AND COLOR

1

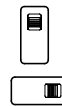
| Lock Color     | Up | Down | Up & Down | Center <sup>3</sup> |
|----------------|----|------|-----------|---------------------|
| Match Actuator | A  | H    | R         | 1                   |
| Black          | B  | J    | S         | 2                   |
| White          | C  | K    | T         | 3                   |
| Red            | D  | L    | V         | 4                   |
| Safety Orange  | E  | M    | W         | 5                   |

## 12. ACTUATOR LENS OR BODY LEGENDS

2

00 - No Legend

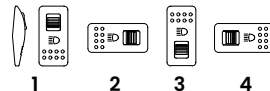
|     |    |    |    |
|-----|----|----|----|
| 21  | 22 | 23 | 24 |
| OFF | ON | O  | I  |
| 25  | 26 | 27 | 28 |
| O   | O  | O  | I  |
| F   | N  |    |    |



For additional legend options & codes, visit us at [www.carlingtech.com](http://www.carlingtech.com)

## 13. LEGEND ORIENTATION

|   |                                                   |
|---|---------------------------------------------------|
| 0 | No legend (used with codes 21-28 in selection 12) |
| 1 | Orientation 1                                     |
| 2 | Orientation 2                                     |
| 3 | Orientation 3                                     |
| 4 | Orientation 4                                     |



Notes: Consult factory to verify horsepower rating for your particular circuit choice.

- Custom colors are available. Consult factory.
- White imprinting is standard on black actuators; Black imprinting is standard on white, red and gray actuators. Custom colors are available, consult factory.
- Only available with 3 position circuits. Center OFF and special circuits only available with center position lock function.
- Additional ratings available. See V-Series Switch Accessories page.

Configure Complete Part Number >

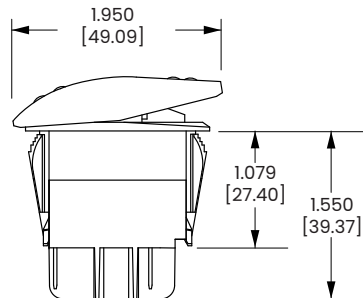
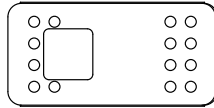
Browse Standard Parts >

# Dimensional Specs

inches [millimeters]

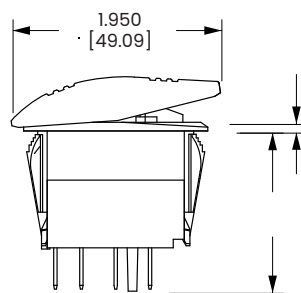
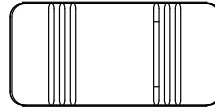
## CONTURA II

SHOWN WITH  
SQUARE LENS

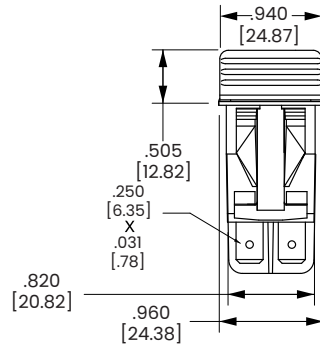
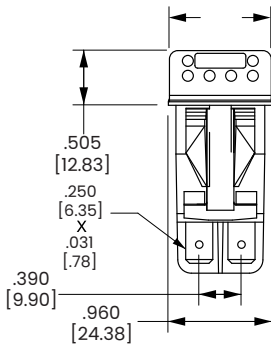


**8 TERMINAL BASE  
W/BARRIERS**

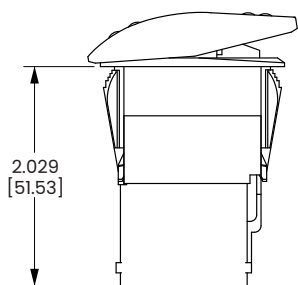
## CONTURA III



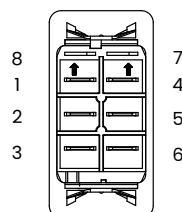
**8 TERMINAL BASE  
W/O BARRIERS**



**10 TERMINAL BASE  
W/BARRIERS**



**SWITCH SHOWN WITH  
VCH CONNECTOR 8  
TERMINAL**



**BOTTOM VIEW  
TERMINAL  
ARRANGEMENT  
8 TERMINAL BASE**

# Circuit Diagrams:

| CIRCUIT CODE | CIRCUIT DIAGRAM |
|--------------|-----------------|
| 1            |                 |
| 2            |                 |
| 3            |                 |
| 4            |                 |
| 5            |                 |
| 6            |                 |
| 7            |                 |
| 8            |                 |

| CIRCUIT CODE | CIRCUIT DIAGRAM |
|--------------|-----------------|
| A            |                 |
| B            |                 |
| C            |                 |
| D            |                 |
| E            |                 |
| F            |                 |
| G            |                 |
| H            |                 |

| CIRCUIT CODE | CIRCUIT DIAGRAM |
|--------------|-----------------|
| J            |                 |
| K            |                 |
| L            |                 |
| M            |                 |
| R            |                 |
| S            |                 |

| SYMBOL LEGEND |                                                 |
|---------------|-------------------------------------------------|
| SYM.          | DEFINITION                                      |
|               | DESIGNATES TERMINALS AND CONTACTS               |
|               | DESIGNATES MAINTAINED CIRCUITS                  |
|               | DESIGNATES OTHER POSITION                       |
|               | DESIGNATES MOMENTARY CIRCUITS                   |
|               | DESIGNATES TWO POSITION CONNECTION              |
|               | DESIGNATES EXTERNAL JUMPER PROVIDED BY CUSTOMER |

# Lamp Circuit Diagrams:

| LAMP CIRCUIT CODE | CIRCUIT DIAGRAM | LAMP CIRCUIT CODE | CIRCUIT DIAGRAM | LAMP CIRCUIT CODE | CIRCUIT DIAGRAM | LAMP CIRCUIT CODE | CIRCUIT DIAGRAM |
|-------------------|-----------------|-------------------|-----------------|-------------------|-----------------|-------------------|-----------------|
| A / 1             |                 | F / 6             |                 | L / 9             |                 | SPECIAL #1        |                 |
| B / 2             |                 | G / 7             |                 | M / R             |                 | SPECIAL #3        |                 |
| C / 3             |                 | H / Z             |                 | N / T             |                 | SPECIAL #4        |                 |
| D / 4             |                 | J / 8             |                 | P / V             |                 |                   |                 |
| E / 5             |                 | K / W             |                 | U / Y             |                 |                   |                 |

## J-Series Hazard Warning Circuit Diagrams:

| CIRCUIT CODE | CIRCUIT DIAGRAM | CIRCUIT CODE | CIRCUIT DIAGRAM |
|--------------|-----------------|--------------|-----------------|
| J1           |                 | J5           |                 |
| J2           |                 | JA           |                 |
| J3           |                 | JJ           |                 |
| J4           |                 | JK           |                 |

NOTE:  
J circuits are available for all  
non-locking V-Series styles.  
Consult factory for partnumber details.

| SYMBOL LEGEND |                                   |
|---------------|-----------------------------------|
| SYM.          | DEFINITION                        |
|               | DESIGNATES TERMINALS AND CONTACTS |
|               | DESIGNATES LAMP LOCATION          |

# Stand-Alone Components

**Reduce inventory levels and cost by stocking actuators and base switches separately.**

**Contura II, III, IV, V, VI, VII, X, XI, XII, XIV Base switches separately:** specify V with code selections 2-8 in the ordering schemes.

**Contura II, III, IV, V Actuator only:** VV with code A or C for selection 9, & with selections 10-14 in the ordering schemes.

**Contura VI Actuator with lenses and inserts only:** VT with code selections 9-16

**Contura II, III, IV, V, VII Actuator only:** VV with code A, C, E, G, P or Z for selection 9 & with selections 10-14 in the ordering schemes.

**Contura X, XI, XII, XIV actuators with lenses separately:** VV with code selections 9-14 in the ordering schemes.

Panel Seal: VPS

## Contura X & XI actuators without lenses separately

VVR 6 1 00 1

1 2 3 4 5

### 1. CONTURA X & XI ACTUATOR SEPARATELY

VVR

### 2. ACTUATOR STYLE & COLOR

|            | Black | Gray | White | Red |
|------------|-------|------|-------|-----|
| Contura X  | 1     | 2    | 3     | 4   |
| Contura XI | 6     | 7    | 8     | 9   |

### 3. LENS OPENING FOR 1

|   |                 |   |                                                               |
|---|-----------------|---|---------------------------------------------------------------|
| 1 | One bar lens    |   |                                                               |
| 2 | Two bar lenses  |   |                                                               |
| 3 | One square lens | 5 | square lens on top/<br>bar lens on bottom<br>(Contura X only) |
| 4 | Two square lens |   |                                                               |

### 4. ACTUATOR LENS OR BODY LEGEND

00 - No Legend this location

|       |        |      |      |   |
|-------|--------|------|------|---|
| 11 ON | 12 OFF | 13 I | 14 O |   |
|       | OFF    | ON   | O    | I |
| 15 O  | 16 O   | 17 O | 18 I | O |
|       | F N    | N F  |      | F |

For additional legend options & code, visit us at [www.carlingtech.com](http://www.carlingtech.com)

### 5. LEGEND ORIENTATION 1

|   |               |  |  |  |  |
|---|---------------|--|--|--|--|
| 0 | No legend     |  |  |  |  |
| 1 | Orientation 1 |  |  |  |  |
| 2 | Orientation 2 |  |  |  |  |
| 3 | Orientation 3 |  |  |  |  |
| 4 | Orientation 4 |  |  |  |  |

## Contura X, XI & XII top piece of 2-piece lens separately

VVT 1

1 2

### 1 TOP OF LENS SEPARATELY

VVT

### 2 COLOR

1 Clear 2 Smoke 3 White

## Contura X, XI & XII actuator lens assembly:



1 piece lens/bar lens are positioned the same as bottom lens for assembly, minus the top lens. Lenses snap in from bottom.

Notes:

- 1 If actuator lens opening for 2 bar or 2 square lenses, legend orientation 0, 1, or 2 must be chosen.
- 2 Center of actuator marking not available for Contura XII.
- 3 Legend is not available for bar style lens.
- 4 Not recommended with neon lamps.
- 5 Must also order top piece of 2 piece square lens separately.

## Contura XII actuators without lenses separately

VVP J 1 Z 21 1 00

1 2 3 4 5 6 7

### 1 CONTURA XII ACTUATOR SEPARATELY

VVP

### 2. ACTUATOR STYLE & COLOR

J Black K Gray N White M Red

### 3,4 LENS OPENING FOR 1

Z No lens 1 Bar lens 2 Square lens

### 5, 7 LENS OR BODY LEGEND 2

|                |        |       |      |      |  |
|----------------|--------|-------|------|------|--|
| 00 - No Legend | 21 OFF | 22 ON | 23 O | 24 I |  |
|                | 25 O   | 26 O  | 27 O | 28 I |  |
|                | F      | N     |      |      |  |
|                | F      |       |      |      |  |

For additional legend options & codes, visit us at [www.carlingtech.com](http://www.carlingtech.com)

### 6 LEGEND ORIENTATION 3

|   |               |  |  |
|---|---------------|--|--|
| 0 | No legend     |  |  |
| 1 | Orientation 1 |  |  |
| 2 | Orientation 2 |  |  |

## Contura X, XI & XII actuator lens assembly separately

VVL 2 1 00 0

1 2 3 4 5

### 1 CONTURA X, XI & XII LENS SEPARATELY

VVL

### 2 LENS STYLE 3

1 Bar lens  
2 One Piece Square lens  
3 Bottom of Two-Piece Square lens<sup>5</sup>

### 3 TRANSLUCENT LENS COLOR

1 Clear 2 White 3 Amber 4 Green<sup>4</sup> 5 Red 6 Blue<sup>4</sup>

### 4 LENS OR BODY LEGEND 2

|                |        |       |      |      |  |
|----------------|--------|-------|------|------|--|
| 00 - No Legend | 21 OFF | 22 ON | 23 O | 24 I |  |
|                | 25 O   | 26 O  | 27 O | 28 I |  |
|                | F      | N     |      |      |  |
|                | F      |       |      |      |  |

For additional legend options & codes, visit us at [www.carlingtech.com](http://www.carlingtech.com)

### 5 LEGEND ORIENTATION 3

|   |               |  |  |  |  |
|---|---------------|--|--|--|--|
| 0 | No legend     |  |  |  |  |
| 1 | Orientation 1 |  |  |  |  |
| 2 | Orientation 2 |  |  |  |  |
| 3 | Orientation 3 |  |  |  |  |
| 4 | Orientation 4 |  |  |  |  |

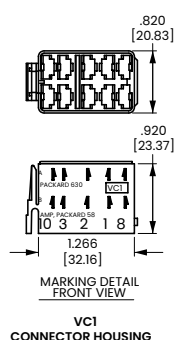
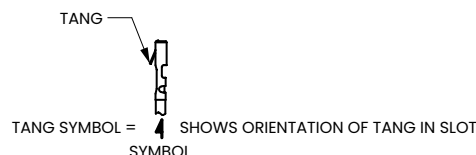
# Accessories

Easily integrate Contura products into your system, with Contura Accessories

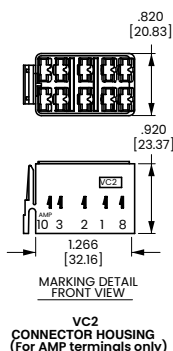
## Contura Connectors

| Q.C. SELECTION GUIDE          |             |                  |            |                       |             |
|-------------------------------|-------------|------------------|------------|-----------------------|-------------|
| COMPANY SERIES                | PART NO     |                  | WIRE RANGE |                       | ORIENTATION |
|                               | PLAIN BRASS | TIN PLATED BRASS | AWG        | MM <sup>2</sup> (REF) |             |
| PACKARD 58 SERIES             | 02965580    | 12010601         | 12         | 3.0                   | B           |
|                               | 02965471    |                  | (2)16-14   | (2)1.0-2.0            |             |
|                               | 02965470    |                  | 16-14      | 1.0-2.0               |             |
|                               | 02965469    | 06288318         | 20-18      | .5-.8                 |             |
| PACKARD METRI-PACK 630 SERIES |             | 12084590         | 105.0      |                       | A           |
|                               |             | 12052224         | 123.0      |                       |             |
|                               |             | 12015870         | 16-14      | 1.0-2.0               |             |
|                               |             | 12020035         | (2)22-18   | (2).5-.8              |             |
|                               | 12015832    | 12015869         | 20-18      | .5-.8                 |             |
|                               |             | 12052222         | 20-22      | .35-.5                |             |
| AMP 250 SERIES FASTIN-FASTON  | 60253-1     | 60253-2          | 16-12      | 1.3-3                 | B           |
|                               | 42100-1     | 42100-2          | 18-14      | .8-2                  |             |
|                               | 60295-1     | 60295-2          | 22-18      | .3-.9                 |             |
|                               |             |                  |            |                       |             |

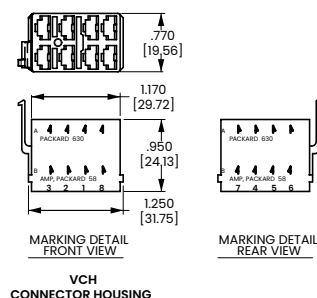
**NOTE:** Consult Delphi Packard and/or Amp on actual part numbers and availability.  
AMP is a registered trademark of AMP Inc. Harrisburg, PA  
Delphi Packard is a registered trademark of Delphi-Packard Electrical Systems Warr



VC1  
CONNECTOR HOUSING

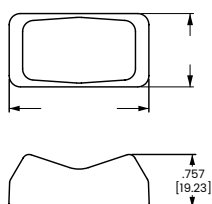


VC2  
CONNECTOR HOUSING  
(For AMP terminals only)

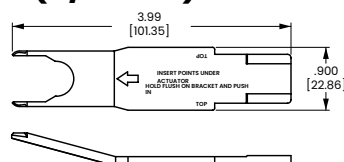


VCH  
CONNECTOR HOUSING

## Contura X Boot (P/N VB1-01)



## Contura II, III, IV, V, VI & VII Actuator Removal Tool (P/N VRT)



## Additional V-Series Ratings

- 1 .4VA @ 28VDC Resistive
- 4 10A 250VAC 1/2 HP, 15A 125 VAC 1/2 HP, No Agency Listings
- 5<sup>1</sup> 10A 250VAC 1/2 HP, 15A 125 VAC 1/2 HP, UL Recognized, CSA Certified
- B 15A 24V
- C 20A 18V
- D 20A 12V
- E 20A 14V, 10A 14VT (circuits 1, 4, A, & D only)
- F 10A 14V, 6A, 14VT (circuit G only)
- G 20A 6V
- H 20A 3V
- L<sup>2</sup> 15A 125 VAC, 10A 250VAC, 1/2 HP 125-250 VAC; 6A 125 VAC L
- M .4VA/20A 12V (combi-contact)  
(combination gold/silver contacts for borderline dry circuit applications)
- N .4VA/15A 24V (combi-contact)  
(combination gold/silver contacts for borderline dry circuit applications)

### NOTES

Consult factory to determine availability for individual circuits and their HP rating.

1. Not available with Contura 7 or 14 rocker styles.
2. Rating L available with circuits 1, 4, A & D only.

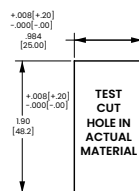
# Accessories

## Contura Mounting Panels Dimensional Specifications: in. [mm]

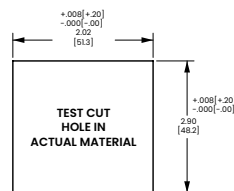
**MOUNTING PANEL**  
For additional units, add 1.03 [26.2] per unit. For more than 2 V-Series Switches, add middle section. Available in panel Thicknesses listed below. Consult factory.

### MOUNTING PANEL THICKNESS

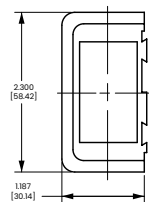
|        |        |
|--------|--------|
| .62    | .87    |
| [15.7] | [4.75] |
| .93    | .250   |
| [23.6] | [6.35] |
| .125   | .375   |
| [3.17] | [9.52] |



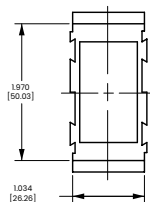
**VMS MOUNTING PANEL HOLE**



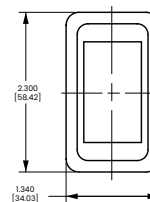
**MOUNTING PANEL OPENING (2) UNITS**



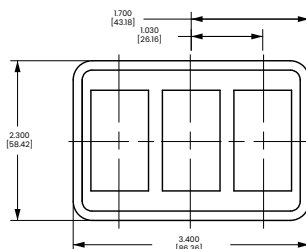
**VME MOUNTING PANEL END**



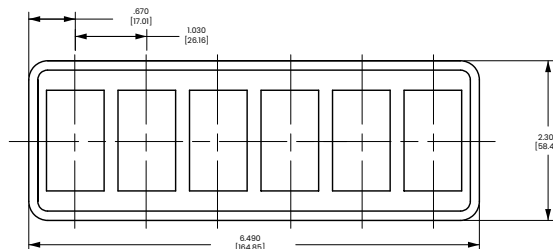
**VMM MOUNTING PANEL MIDDLE**



**VMS MOUNTING PANEL**



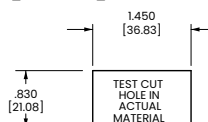
**VM3 MOUNTING PANEL**



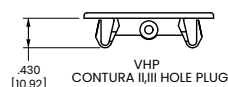
**VM6 MOUNTING PANEL**



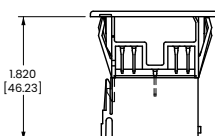
## Contura Hole Plug Dimensional Specifications: in. [mm]



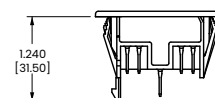
**VHP CONTURA II, III HOLE PLUG**



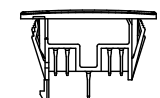
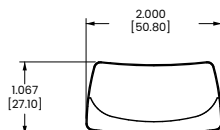
**VHP CONTURA II, III HOLE PLUG**



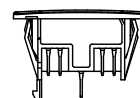
**VH1 STANDARD HOLE PLUG (No wing serrations) (With VC1 connector attached)**



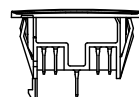
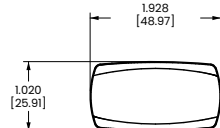
**VH2 STANDARD HOLE PLUG (With wing serrations)**



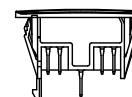
**VH3 CONTURA IV HOLE PLUG (No wing serrations)**



**VH4 CONTURA IV HOLE PLUG (With wing serrations)**



**VH5 CONTURA V HOLE PLUG (No wing serrations)**



**VH6 CONTURA V HOLE PLUG (With wing serrations)**



**DETAIL VIEW VH1, VH3 & VH5 HOLE PLUGS (No wing serrations for ease of removal)**



**DETAIL VIEW VH2, VH4 & VH6 HOLE PLUGS (With wing serrations)**



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