# V-Series CONTURA SWITCHES

The V-Series Contura IV, V, & VII snap-in rocker switches offer countless unique options including choices for ratings, circuits, colors, illuminations and symbols. These single or double pole switches feature removable actuators in a choice of actuator styles and colors, and can be illuminated with either oval or bar shaped lenses. Actuators may also be purchased and stocked separately. An optional plug-in terminal connector enables prewiring of wire harnesses.

The Contura switches with sealed option, are certified to IP66/68, signifying complete protection against dust and prolonged spray and submersion under pressure, and are recognized to UL1500 - Ignition Protection for Marine Products. These switches are vibration, shock, thermoshock, moisture and salt spray resistant. Temperature ratings range from -40°C to +85°C.









# **Resources:**

**Configure a Complete Part** 

Download CAD & Sales Drawing >

Watch Product Video



# **Product Highlights:**

- Countless options for ratings, circuits, colors, illuminations and legends
- Sealed to IP66/68 for Above-Panel Components
- Vibration, shock, thermoshock, moisture and salt spray resistant
- Temperature range from -40°C to +85°C.

# **Typical Applications:**

- · On/Off Highway Equipment
- Marine
- Military Armored Vehicles
- · Mining Machinery and Equipment
- Any application requiring environmental protection



# **V-Series Switch DESIGN FEATURES**

## **INTERCHANGEABLE ACTUATORS**

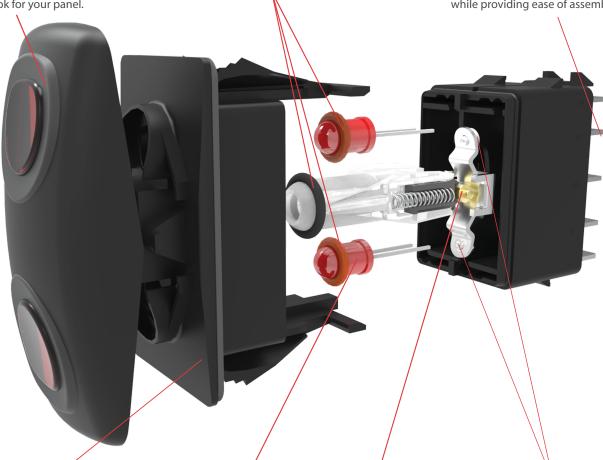
Panel redesign is a snap with our wide range of rocker styles. Achieve maximum design variety with minimum inventory. Simply swap rockers to create an entirely new look for your panel.

## **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.



# **OPTIONAL PANEL SEAL**

Helps prevent water/dust ingress behind panel.

#### **MULTIPLE LIGHTING OPTIONS**

In addition to Incandescent lamps, our LED illumination is offered in a wide array of light intensities, colors, as well as dual level, tri-color, and flashing options.

#### **BRASS ROLLER PIN**

Robust mechanism eliminates the need for lubricants. Enables switch to withstand -40°C to +85°C temperatures.

## **SILVER PLATED BUTT CONTACT MECHANISM**

Providing 50k to 100k electrical cycles, circuit and load dependent

\*Manufacturer reserves the right to change product specification without prior notice



# Contura II & III

The Contura II & III actuators are constructed of thermoplastic polycarbonate and are offered with a hard nylon overlay or a "soft-touch" elastomer overlay. These models incorporate aesthetic designs on the top and bottom of the rocker featuring two rows of raised "bumps" on the Contura II and three "indented" lines on the Contura III.



# Contura X

The raised bracket/bezel on the Contura X helps prevent inadvertent actuation of the rocker, as well as preventing debris from being trapped under the actuator. This curved rocker style is available with a variety of lenses and legends.



# Contura IV

The Contura IV's "Shape to create a Shape" actuator works with the curves, contours & advanced styling of the latest panel designs, flowing with these advanced curves & radii. This actuator style fits on the Contura flush bracket/bezel.



# Contura XI

The raised bracket/bezel on the Contura XI helps prevent inadvertent actuation of the rocker, as well as preventing debris from being trapped under the actuator. This convex style rocker is available with a wide variety of lenses and legends.



# Contura V

The symmetrically curved Contura V actuator provides the perfect complement to the Contura IV's "Shape to create a Shape" design concept. With its flush style mounting bracket, Contura V can be mounted in between two Contura IV's, by itself, or in groups.



# Contura XII

The Contura XII version features a paddle style actuator with the raised bracket/bezel of Contura X and XI. The contoured handle design provides intuitive recognition and ease of operation and is available with all Contura X and XI lens and legend offerings.



# Contura VI (WAVE)

The Contura VI WAVE sealed rocker switches, when used in a row, create an uniquely appealing "wave" design on your panel. A variety of colors and finishes are available for both rocker and wave insert. Contura VI features bar and oval lenses.



# Contura XIV

The Contura XIV represents a sleek new crossover rocker design which should appeal to Trucks, Buses and Heavy Vehicles as well as the Marine Industry. Intuitive feel is provided by recessed ridges along with a Center Groove which effectively defines the boundary between top and bottom switch functions.



# Contura VII

Contura VII featuring gently curved corners and edges assuring compatibility with most any panel design. Intuitive feel is maximized by the use of 2 embossed circular pads located at opposite ends of the rocker. Any combination of Bar or Oval style lenses can be located in the pads providing a truly unique look, exclusive to Contura VII.



# **Illuminated Indicators** & Accessories

Alert operator of systems functions or malfunctions, are offered with removable/replaceable lamps in Contura II, II, V or X styles. Accessories include connectors, mounting panels, hole plugs, panel seals, and actuator removal tools. Refer to accessories page for full details

# **Electrical**

Contact Rating .4VA @ 24VDC (MAX) resistive

> 10 amps. 250VAC 1/2 HP 125-250VAC 20 amps, 4-14VDC 15 amps, 15-28VDC

10A, 14VT 6A, 125VAC L 1500 Volts RMS

Insulation Resistance Initial Contact Resistance 10 milliohms max. @ 4VDC

Life

Dielectric Strength

Contacts

**Terminals** 

**Physical** 

Lighted

Seals

Base

Contura II, III, IV, V, VI. VII Actuator

Lens

Contura XIV

2 position

15 amps, 125VAC

50 Megohms

Up to 100,000 cycles, circuit and load dependent

Silver alloy, silver tin-oxide, fine

silver Brass or copper/silver plate 1/4"

(6.3mm) Quick Connect terminations standard. Solder lug,

Incandescent - rated 10.000

Wire Lead

**Environmental** 

**Agency Certifications** 

Sealing

Corrosion

Operating Temp. Vibration 1

hours Neon - rated 25,000 hours LED - rated 100,000 hours 1/2 life (LED is internally ballasted for

voltages to 24VDC)

Internal

Optional external gasket panel seal Polyester blend rated to 125°C with

a UL flammability rating of 94V0. Hard Surface: Basic actuator

structure molded of thermoplastic polycarbonate with a hard Nylon 66

thermoplastic surface overlay. Soft Surface: Basic actuator structure molded of thermoplastic polycarbonate

with an elastomer overlay.

Contura X,XI,XII Actuator,VP Nylon 66 Reinforced rated to 105°C Polycarbonate rated at 100°C

Polycarbonate lens/sub-rocker with

ABS shell

**Actuator Travel (Angular Displacement)** 

IP66/68, for above-panel components

of actual switch only.

Mixed Flowing Gas (MFG) Class III 3 year accelerated exposure per

ASTM B-827, B-845 Silver and gold

contacts -40°C to +85°C

Per Mil-Std 202F, Method 204D

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 0.40 DA

50-2000 Hz ±10 G's peak Horizontal Axis 3-5 G's max.

Random

24 Hz 0.06 PSD-Gsq/Hz

60 Hz 0.50 100 Hz 0.50 200 Hz 0.025 2000 Hz 0.025

No loss of circuit during test; <10µ

seconds chatter.

Per Mil-Std 202F. Method 213B. Test Shock

Condition K @ 30G's. Tested with VCH connector. Test criteria - No loss of circuit during test, pre and post test contact resistance.

Per Mil-Std 202F, Method 101D, Test Salt Spray Condition A, 96 Hrs. Sealed version only. Dust Mil STD 810, Method 510.2 Air Velocity

300 Ft/Min Duration 16Hr

Per Mil-Std 202F, Method 107F, Test Thermal Shock Cond. A, -55°C to +85°C. Test criteria -

pre and post test contact resistance Per Mil-Std 202F, Method 106F, Test Criteria - pre and post test contact

resistance

**Ignition Protection** 

Moisture Resistance

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.

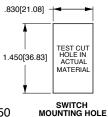
#### 3 positions 9° from center

**Mounting Specifications** Panel Thickness Range

Gaskets Acceptable Panel Thickness .030 to .250 (.76 to 6.35mm) 0 .030 to .109 & .147 to .157 1 (.76 to 2.77mm & 3.73 to 3.98mm)

Recommended: No gasket with panel

thickness of .032, .062, .093, .125, .187 or .250



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1 SERIES

```
2 CIRCUIT
Terminal Connections as viewed
                                                                        ( ) - momentary
                                            SP - single pole - uses terminals 1, 2 & 3.
DP - double pole uses terminals 1, 2, 3, 4, 5 & 6.
Terminals 7, 8, 9 & 10 for lamp circuit only.
from bottom of switch:
8 terminal 10 terminal
  8 - - 7
                        8 -
          - 5
                        3 - - 6
   3 - - 6
                      10 - - 9
Position:
                               2 & 3, 5 & 6
ON
(ON)
ON
                                                                                                     1 & 2, 4 & 5
OFF
OFF
         DP
                                                          Connected Terminals
NONE
         В
                                                                        NONE
234567
         Š
                                        ON
                                                                        NONE
                                       ON
ON
                                        ŎN
8 L
SPECIAL CIRCUITS
                                      (ON)
                                                                         OFF
                                     2 & 3
                                                                   2 & 3, 5 & 4
                              2 & 3, 5 & 6
2 & 3, 5 & 6
2 & 3, 5 & 6
(2 & 3, 5 & 6)
(2 & 3, 5 & 6)
G*
S*
M*
                                                                        2 & 3
2 & 3
2 & 3
2 & 3
                                                                                                            OFF
1 & 2
OFF
                                                                        5 & 3
                                     5 & 6
*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 <sup>4</sup>
1 .4VA @ 28VDC Resistive
B .15A 24V
C .20A 18V
D .20A 12V BCDEF 20A 14V, 10A 14VT (circuit 1, 4 , A & D only) 10A 14V, 6A 14VT (circuit G only) .4VA/20A 12V .4VA/15A 24V

TERMINATION / **BASE STYLE** Termination

.250 TAB (QC) no barriers

.250 TAB (QC) with barriers

.250 TAB (QC) no barriers 10 Term <u>Jumper</u> B K Yes T2 to 5 Solder Lug no barriers Solder Lug Wire Leads no barriers No No 6 No 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
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 | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Type | Lamps | Illumination Typ Lamp wired to Terminals 8 (+) 7 (-) 3 (+) 7 (-) 3 (+) 7 (-) 3 (+) 7 (-) 1 (+) 7 (-) 3 (+) 7 (-) 3 (+) 7 (-) 3 (+) 7 (-) 3 (+) 7 (-) 1 (+) 7 (-) 1 (+) 7 (-) 1 (+) 7 (-) 0 (+) 9 (-) INDEPENDENT 1 BCD DOWN UP 34 DOWN DOWN UP Ε 5 F 6 INDEPENDENT 1 2 1 2 1 7 INDEPENDENT G INDEPENDENT INDEPENDENT SINGLE POLE SWITCHES ONLY DOWN INDEPENDENT INDEPENDENT INDEPENDENT Κ W DOUBLE POLE SWITCHES ONLY DOWN UP (+) 6 (+) 6 (+) 4 (+) 4 DOWN 3 Ν т Р ٧

6,7 LAMP (SA Selection 6: at No lamp	0			NS) ve terminals	3 & 6
Neon	<b>1</b> 125VAC	2 250VA	2		
Incandescent LED*	4 3V	<b>5</b> 6V	6 12V superbright	7 18V superbrigh	<b>8</b> 24V
	Red	Amber	Green	Red	
2VDC	A	1	F	R	
6VDC	Ê	м	Ġ	Š	
12VDC	5		ä	¥	
	Ē	N	Π,	1	
24VDC	υ	. Р	_JV		
* Consult factor LED is 20ma.	ory for "daylig	ht bright" L	ED options. Ty	pical current	draw for
LED IS 2011a.					

( 610 6641 6 1 11	
9 ACTUATOR 0 No Actuator E Contura IV, left orientation T Contura IV, left orientation, laser etched F Contura IV, right orientation R Contura IV, right orientation, laser etched Actuator orientation over terminals:  3,6	_

Gray

GH

8 FLUSH BRACKET COLOR 1, PANEL SEAL

W

White

Black

В

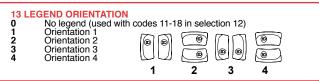
No Seal

One Seal

10 LENS   0 - No Actuator   Z - No Lens   Clear White   Amber   Green   Red   Blue   1   6   8   G   M   T   2   7   C   H   N   U   3   8   D   J   P   V   4   9   E   K   R   W   5   A   F   L   S   Y   Lens color for LEDs must be clear, white, o Green or blue lenses are not recommended.	(T) (T) (T) (T) (T) (T) (T) (T) (T) (T)
----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------

11 ACTUAT	OR CO	LOR 1,5,0	6				
No Actuator	0	Black		Gray	Н	Red	S
White	Υ	Nickel	D	Pewter	E		





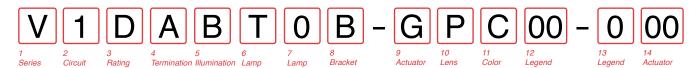
14 ACTUATOR LENS LEGEND

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.

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. Gloss brow is on left side of E actuator and right side of F actuator. Additional ratings available. See V-Series Switch Accessories page.
- 5 Laser etched rocker only available with lens code Z & actuator colors black,
- 6 Pewter and nickel colors only available with laser etched actuator



1 SERIES

#### 2 CIRCUIT Terminal Connections as viewed ( ) - momentary SP - single pole - uses terminals 1, 2 & 3. from bottom of switch: 8 terminal 10 terminal DP - double pole uses terminals 1, 2, 3, 4, 5 & 6. Terminals 7, 8, 9 & 10 for lamp circuit only. 8 - - 7 1 - - 4 1 - - 4 2 - - 5 2 - - 5 3 - - 6 3 - - 6 10 - - 9 **2**Connected Terminals NONE NONE 3 1 & 2, 4 & 5 OFF OFF 2 & 3, 5 & 6 ON (ON) ON ON ON NONE OFF OFF (ON) ON (ON) 2 & 3 2 & 3, 5 & 6 2 & 3, 5 & 6 (2 & 3, 5 & 6) (2 & 3, 5 & 6) 5 & 6 2 & 3, 5 & 4 2 & 3 2 & 3 2 & 3 2 & 3 G\* S\* M\* OFF 1 & 2 OFF

 $^*$ 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.

2 & 3 5 & 3

2 & 1 5 & 1

3 RATING <sup>4</sup>
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 .4VA/15A 24V

as it is detrimental to function and performance.

**BASE STYLE** 4 TERMINATION / Termination
250 TAB (QC) no barriers
250 TAB (QC) with barriers
250 TAB (QC) no barriers 10 Term 2 8 term <u>Jumper</u> AJ3C5E Yes T2 to 5 5 D Solder Lug no barriers Solder Lug Wire Leads no barriers Wire Leads No No Note: Codes J & K for circuits H, G & M. Do not use silicone based

5 ILLUMINATION & SWITCH SEALING Lamp #1:above terminals 1 & 4 end of switch.; Lamp #2 above terminals

lubricants to reduce terminal insertion forces during connector assembly,

3 & 6 e	nd of switch.	Positive	(+) and negative (-)	symbols apply to LED
<u>Sealed</u>	Unsealed	Lamps NONE	Illumination Type	Lamp wired to Terminals
S A B C D	1	1	INDEPENDENT	- 8 (+) 7 (–)
B	2 3 4	1	DOWN UP	3 (+) 7 (-) 3 (+) 7 (-) 3 (+) 7 (-)
Ď	4	2 1	DOWN	3 (+) 7 (-)
E	5	2 1	DOWN UP	1 (+) 7 (-) 1 (+) 7 (-)
_	5	2	UP UP	3 (+) 7 (-)
F	6	1	INDEPENDENT	8 (+) 7 (-)
G	7	2 1	UP INDEPENDENT	3 (+) 6 (-) 8 (+) 7 (-)
	-	2 2	UP	8 (+) 7 (-) 3 (+) 6 (-) 8 (+) 7 (-) 3 (+) 7 (-) 8 (+) 7 (-)
H	Z Y	1	INDEPENDENT INDEPENDENT	8 (+) 7 (–) 8 (+) 7 (–)
011101		, <u>2</u>	INDEPENDENT	10 (+) 9 (-)
SINGLI <b>J</b>	E POLE SW 8	TICHES C	DOWN	3 (+) 8 (–)
J		2	INDEPENDENT	3 (+) 8 (–) 6 (+) 7 (–)
K	W	1	INDEPENDENT	8 (+) 7 (–)
DOLIBI	LE POLE SV	VITCUES	INDEPENDENT	6 (+) 7 (–)
L	.E FOLE 3V <b>9</b>	1	DOWN	3 (+) 6 (–)
M	Ř	i	UP	3 (+) 6 (-) 3 (+) 6 (-)
N	Т	1	DOWN	
Р	V	2	DOWN UP	1 (+) 4 (–) 1 (+) 4 (–)
Г	•	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
Neon
1 125VAC
2 250VAC
Incandescent
4 3V
5 6V
6 12V
7 18V
8 24 superbright Green **F** superbright Red R LED\* Red Amber 2VDC A B C M 12VDC N н 24VDC onsult factory for "daylight bright" LED options. Typical current draw for

Orientation Lens Legend

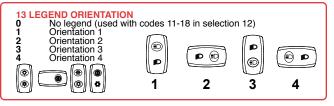
8 FLUSH BRACKET COLOR 1, PANEL SEAL Black White Gray No Seal В w G H One Seal

9 ACTUATOR No Actuator Contura V Contura V, laser etched

10 Lens style & location: #1 / #2 **0** - No Actuator **Z** - No Lens Clear White Amber Green Red Blue 6 8 G М U C н Ν 3 D Р ٧ 8 R w 9 E κ 1 L S 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 1,3,5 No Actuator 0 Black C Nickel D Red S Gray **H** Pewter **E** 

12 ACTUATOR LENS OR BODY LEGENDS 2,6 11 ON 12 OFF 13 I **14** O OFF ON 0 O F N 16 O O N F 17 01 18 1 0 For additional legend options & codes, visit us at www.carlingtech.com.



14 ACTUATOR LENS LEGEND
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.

Notes

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.

Laser Eiched rocker only available with lens code Z & actuator colors black, pieled accounter.

nickel or pewter.
Additional ratings available. See V-Series Switch Accessories page

Nickel and Pewter colors only available with laser etched actuat

Consult factory for laser etched lens callout.



# 1 SERIES V

```
2 CIRCUIT 3
  Terminal Connections as viewed
                                                         ( ) - momentary
 from bottom of switch: SP - single pole - uses terminals 1, 2 & 3.

8 terminal 10 terminal

DP - double pole uses terminals 1, 2, 3, 4, 5 & 6.
                    8 - - 7
   8 - - 7
                                    Terminals 7, 8, 9 & 10 for lamp circuit only.
    1 - - 4
                    2 - - 5
    2 - - 5
                    3 -
                         - 6
         - 6
                  10 -
                          - 9
  Position:
                                             Connected Terminals
NONE
Po:
SP
1
4
6
7
8
9
                          2 & 3, 5 & 6
ON
                                                                              1 & 2, 4 & 5
OFF
      ADJK.
                                                       NONE
OFF
OFF
                                                                                   ON
ON
(ON)
(ON)
                                ON
ON
ON
       L
                                                        NONE
```

```
.4VA @ 28VDC Resistive
15A 24V
20A 18V
20A 12V
BCDEF
        20A 14V, 10A 14VT (circuit 1, 4 , A & D only)
10A 14V, 6A 14VT (circuit G only)
.4VA/20A 12V
        .4VA/15A 24V
```

4 TEI	RMINATION	/ BASE STYLE	
8 terr	n <u>10 Term</u>	<u>Termination</u>	<u>Jumper</u>
1	2	.250 TAB (QC) no barriers	No
Α	В	.250 TAB (QC) with barriers	No
J	K	.250 TAB (QC) no barriers	Yes T2 to 5
J 3	5	Solder Luġ no´barriers	No
С	D	Solder Lug	No
5 E	6	Wire Leads no barriers	No
E	F	Wire Leads	No
Note:	Codes J & K	for circuits H, G & M. Do not us	se silicone based
lubric	ants to reduc	e terminal insertion forces durin	g connector assembly

as it is detrimental to function and performance.

# 5 ILLUMINATION & SWITCH SEALING 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 <u>Unsealed</u> S Illumination Type Lamp wired to Terminals C 3 2 UP H Z 2 INDE DOUBLE POLE SWITCHES ONLY 3 (+) 7 (-) 8 (+) 7 (-) INDEPENDENT 3 (+) 6 (-)

6 LOCK	
Lock above terminals 1 & 4 end of switch.	
W low profile lock Y 6	high profile lock

#### Notes:

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

1 Custom colors are available. Consult factory.

2 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

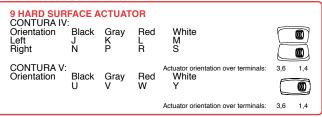
Additional ratings available. See V-Series Switch Accessories page. Located at T3-6 end of switch.

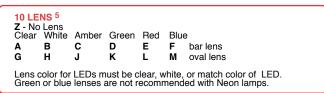
Contura V style only.

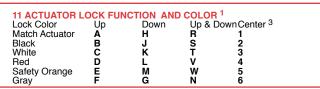
7 LAMP Lamp above terminals 3 & 6 end of switch No lamp 0 125VAC 2 250VAC 5 6V Neon 4 3 7 **7** 18V Incandescent 6 12V 8 24V superbright Green superbright Red Amber Red 2VDC 6VDC L M B 12VDC 24VDC D P J V

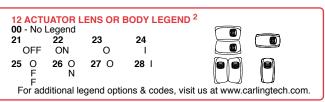
\* Consult factory for "daylight bright" LED options. Typical current draw for LED is 20ma.

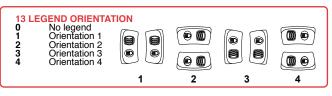


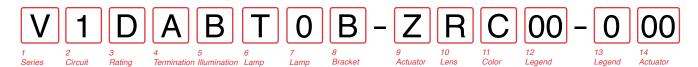












# 1 SERIES V

```
2 CIRCUIT
   Terminal Connections as viewed
                                                                          ( ) - momentary
                                              SP - single pole - uses terminals 1, 2 & 3.
DP - double pole uses terminals 1, 2, 3, 4, 5 & 6.
Terminals 7, 8, 9 & 10 for lamp circuit only.
   from bottom of switch:
   8 terminal 10 terminal
      8 - - 7
      2 - - 5
                          2 - - 5
                          3 - - 6
      3 - - 6
                        10 - - 9
1
                                                                                                     3
1 & 2, 4 & 5
OFF
OFF
   Position:
                              2 & 3, 5 & 6
ON
(ON)
ON
ON
ON
                                                         Connected Terminals
NONE
NONE
   SP
            DP
   345
678
            CDFJKL
OFF
OFF
OFF
                                      ON
                                                                 2 & 3, 5 & 4
2 & 3
2 & 3
2 & 3
2 & 3
                             2 & 3, 5 & 6
2 & 3, 5 & 6
(2 & 3, 5 & 6)
(2 & 3, 5 & 6)
   E*
                                   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.
```

# ATING 4 .4VA @ 28VDC Resistive 15A 24V 20A 18V 20A 12V 20A 14V, 10A 14VT (circuit 1, 4, A & D only) 10A 14V, 6A 14VT (circuit G only) .4VA/20A 12V .4VA/20A 12V .4VA/15A 24V

4 TERMINA	ATION / 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 5	Solder Lug no barriers	No
C D	Solder Lug	No
56	Wire Leads no barriers	No
E F	Wire Leads	No
Note: Code:	s J & K for circuits H. G & M. Do not us	e silicone based

lubricants to reduce terminal insertion forces during connector assembly, as it is detrimental to function and performance. **5 ILLUMINATION & SWITCH SEALING** 

Lamp #1 3 & 6 end lamps on	:above ter d of switch	minals 1 8 . Positive	4 end of switch.; L (+) and negative (-)	amp #2 above terminals symbols apply to LED
	<u>Unsealed</u>	<u>Lamps</u> NONE	Illumination Type	Lamp wired to Terminals
A B C D	1 2 3 4	1 1 2 1	INDEPENDENT DOWN UP DOWN DOWN	8 (+) 7 (-) 3 (+) 7 (-) 3 (+) 7 (-) 3 (+) 7 (-) 1 (+) 7 (-)
E	5	2 1	UP	1 (+) 7 (-)
F	6	2 1 2	UP INDEPENDENT UP	3 (+) 7 (-) 8 (+) 7 (-) 3 (+) 6 (-) 8 (+) 7 (-) 3 (+) 7 (-)
G	7	1	INDEPENDENT	8 (+) 7 (-)
H U	Z Y	2 1 2 2 1 2	UP INDEPENDENT INDEPENDENT INDEPENDENT	3 (+) 7 (-) 8 (+) 7 (-) 8 (+) 7 (-) 10 (+) 9 (-)
	POLE SW	ITCHES (		0 ( : ) 0 ( )
J	8	1	DOWN INDEPENDENT	3 (+) 8 (-) 6 (+) 7 (-)
К	W	1 2	INDEPENDENT INDEPENDENT	8 (+) 7 (-) 6 (+) 7 (-)
DOUBLE	POLE SI	NITÇHES		
M	9 R	1	DOWN UP	3 (+) 6 (-) 3 (+) 6 (-)
Ň	Ϋ́	i	DOWN	3 (+) 6 (-)
P	v	2 1 2	DOWN UP UP	1 (+) 4 (-) 1 (+) 4 (-) 3 (+) 6 (-)
$\overline{}$				

6,7 LAMP (sal Selection 6: at No lamp	me coding for cove terminal 0	or both seles s 1 & 4; Sele	ctions) ection 7: above	e terminals	3 & 6
Neon '	1 125VAC	2 250VAC			
Incandescent	4 3V	<b>5</b> 6V	6 12V	<b>7</b> 18V	8 24V
LED*			superbright	superbrig	ht
	Red	Amber	Green	Red	
2VDC	A	L	F	R	
6VDC	В	М	G	S	
12VDC	С	N	Ĥ	Ť	
24VDC	Ď	P	Ĵ	V	
* Consult facto LED is 20ma.	ory for "daylig	ht bright" LE	D options. Typ	oical curren	t draw for

#### 8 FLUSH BRACKET COLOR 1, PANEL SEAL White Black Gray No Seal В W Y С н One Seal 9 ACTUATOR

No Actuator Contura VII Actuator orientation over terminals:

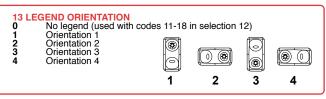


Orientation Lens Legend

10 LEN	ıs				
Lens co	olor for LE	Ds must I	oe clear	', white,	or match color of LED.
Green	or blue ler	ises are n	ot reco	mmend	led with Neon lamps.
0 - No	Actuator	<b>Z</b> - No	Lens		•
White	Amber	Green	Red	Blue	Lens style & location
6	В	G	M	Т	
7	С	Н	N	U	
8	D	J	P	V	
9	E	K	R	W	
Α	F	L	S	Υ	
1	2	3	4	5	

|--|





14 ACTUATOR LENS LEGEND
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.

#### Notes:

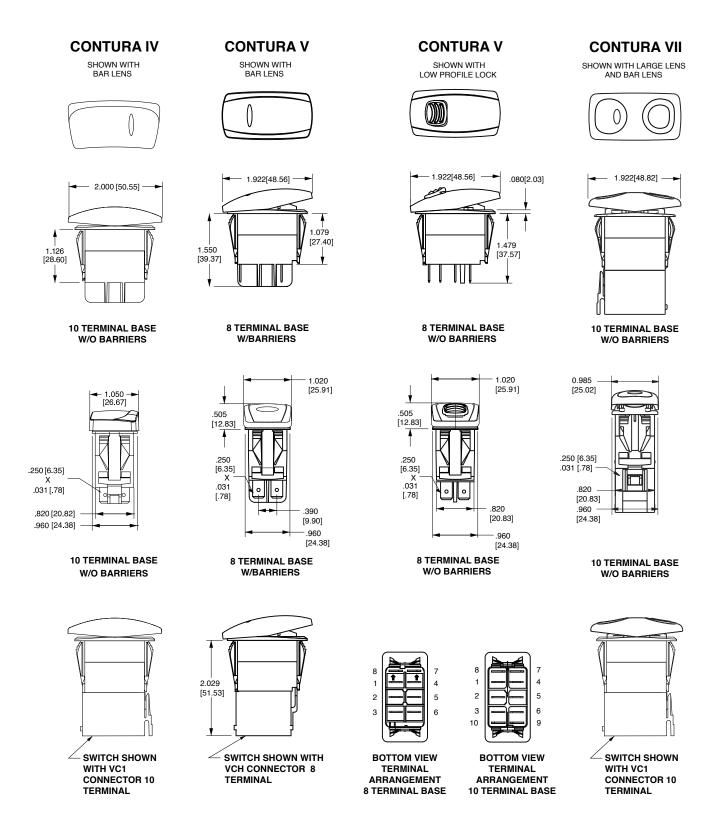
- Consult factory to verify horsepower rating for your particular circuit choice.

  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.

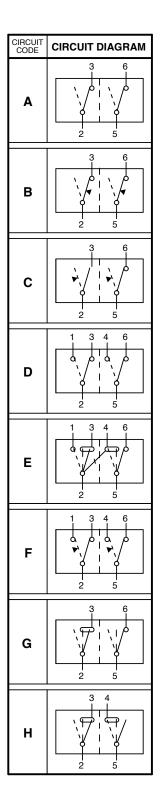
  Additional ratings available. See V-Series Switch Accessories page.
- Legends available for lighted oval lens version only

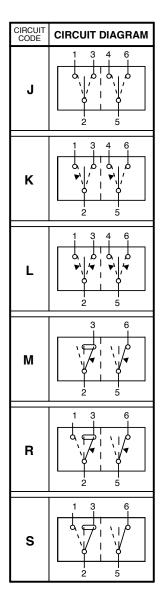
# Dimensional Specifications: in. [mm]



# **Circuit Diagrams:**

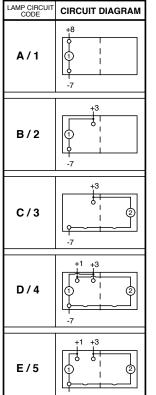
CIRCUIT CODE	CIRCUIT DIAGRAM
1	3
2	3
3	3 V 1 2
4	1 3
5	1 3
6	1 3
7	2
8	1 3 Q D V V V V V V V V V V V V V V V V V V



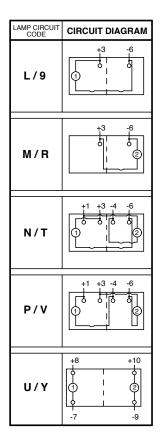


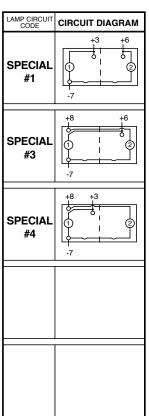
SYMBOL LEGEND				
SYM.	DEFINITION			
0	DESIGNATES TERMINALS AND CONTACTS			
<b>~</b>	DESIGNATES MAINTAINED CIRCUITS			
	DESIGNATES OTHER POSITION			
<b>○▼</b> ○	DESIGNATES MOMENTARY CIRCUITS			
	DESIGNATES TWO POSITION CONNECTION			
	DESIGNATES EXTERNAL JUMPER PROVIDED BY CUSTOMER			

# **Lamp Circuit Diagrams:**

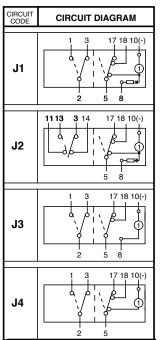


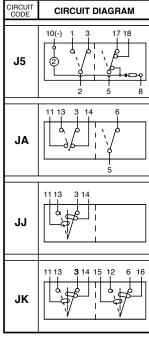
LAMB OIDOUET	I					
LAMP CIRCUIT CODE	CIRCUIT DIAGRAM					
F/6	1 2					
G/7	+8 +3 1					
H/Z	+8 -7					
J/8	-7 +6 +6 +6 +6 +6 +6 +6 +6 +6 +6 +6 +6 +6					
K/W	+8 +6					





# J-Series Hazard Warning Circuit Diagrams:





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

SYMBOL LEGEND				
SYM.	DEFINITION			
0	DESIGNATES TERMINALS AND CONTACTS			
0	DESIGNATES LAMP LOCATION			

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

Contura II, III, IV, V, VI, VII, X, XI, 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: VV 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.

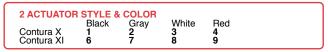
Contura X, XI, XII, XIV actuators with lenses separately: VV with code selections 9-14 in the ordering schemes.

Panel Seal: VPS

# Contura X & XI actuators without lenses separately:



# 1 CONTURA X & XI ACTUATOR SEPARATELY



#### 3 LENS OPENING FOR 1 One bar lens

- One bar lenses
- One square lens two square lens
- 5 square lens on top/ bar lens on bottom (Contura X only)

# **ACTUATOR LENS OR BODY LEGEND**

00 - No Legend this location 11 ON **12** OFF 13 I OFF ON 0 15 00 **16** O O 17 OI 18 I O F N NF

For additional legend options & codes, visit us at www.carlingtech.com.

#### 5 LEGEND ORIENTATION 1

No legend Orientation 1 Orientation 2 3 Orientation 3 Orientation 4



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



# Contura X, XI & XII actuator lens assembly:

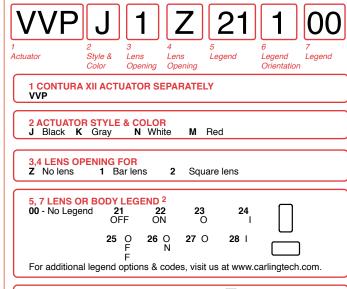


1 piece lens/bar lens are positioned the same as bottom lens for assembly,

#### Notes:

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

# Contura XII actuators without lenses separately:



# 2

**I**D



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

6 LEGEND ORIENTATION 3

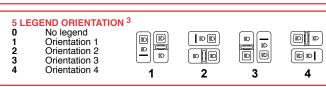
No legend

Orientation 1 Orientation 2

0

- 2 LENS STYLE 3 Bar lens One Piece Square lens
  Bottom of Two-Piece Square lens 5
- 3 TRANSLUCENT LENS COLOR 1 Clear 2 White 3 Amber 4 Green 4 6 Blue 4 5 Red 4 LENS OR BODY LEGEND 2

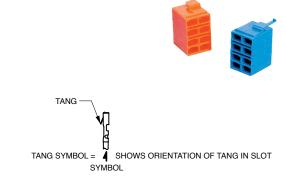




# Easily integrate Contura products into your system, with Contura Accessories

# **Contura Connectors**

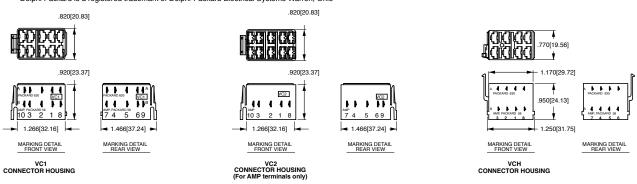
Q.C. SELECTION GUIDE							
	PART NO		WIRE RANGE				
COMPANY SERIES	PLAIN BRASS	TIN PLATED BRASS	AWG	MM <sup>2</sup> (REF)	ORIEN- TATION		
	02965580		12	3.0			
	02965471	12010601	(2)16-14	(2)1.0-2.0	1		
PACKARD 58 SERIES	02965470		16-14	1.0-2.0	В		
00 0211120	02965469	06288318	20-18	.58			
		12084590	10	5.0			
		12052224	12	3.0			
PACKARD		12015870	16-14	1.0-2.0			
METRI-PACK 630 SERIES		12020035	(2)22-18	(2).58	Α		
	12015832	12015869	20-18	.58	1		
		12052222	20-22	.355			
AMP 250 SERIES FASTIN-FASTON	60253-1	60253-2	16-12	1.3-3			
	00233-1		(2) 16	(2) 1.3			
	42100-1	42100-2	18-14	.8-2	В		
	60295-1	60295-2	22-18	.39			



NOTE: Consult Delphi Packard and/or Amp on actual part numbers and availability.

AMP is a registered trademark of AMP Inc. Harrisburg, PA

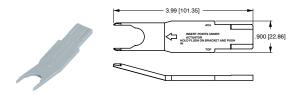
Delphi Packard is a registered trademark of Delphi-Packard Electrical Systems Warren, Ohio



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



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



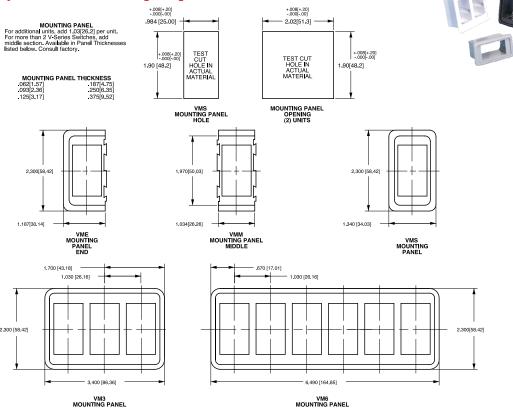
# Additional V-Series Ratings

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

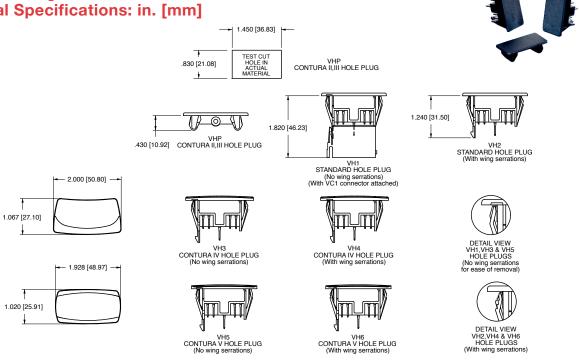
Consult factory to determine availability for individual circuits and their HP rating.

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

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



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



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HB130CHNWWNAAC 1251.0303 AE205J60V3B004 RH110C2NBB 1352.0107 1363.0201 AML25GBF2AA03GR 1571099-3 1571987-4 1571987-5 1571989-7 B123J77V7B2 B226J50W4Q22P B433J37ZQ22M 160212E 1801.1164 1831.1102 1833.3402 1837.1118