# **V-Series** CONTURA IV, V, VII 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:**

Download 3D CAD Files



Watch Product Video



# **Product Highlights:**

- Countless options for ratings, circuits, colors, illuminations and legends
- Certified to IP66/68 for front 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

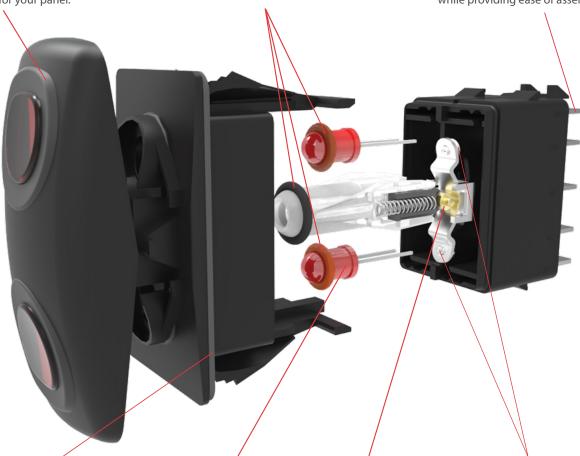
Panel redesign is a snap with our wide range of rocker styles. Achieve maximum design variety with minimum inventory. Simply swap rockers to create an entirely new look for your panel.

## **DUAL SEAL PROTECTION**

Seals out water, dust, debris, and enables switch certification to IP66/68 for front 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 and a variety of different electrical ratings.

\*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 WAVF 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

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

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

Dielectric Strength Insulation Resistance 50 Megohms Initial Contact Resistance 10 milliohms max. @ 4VDC

Life 50,000 - 100,000 cycles circuit dependent

Contacts Silver alloy, silver tin-oxide, fine

silver

**Terminals** Brass or copper/silver plate 1/4"

(6.3mm) Quick Connect

terminations standard. Solder lug,

Wire Lead

# Mechanical

150,000 cycles minimum Endurance

circuit dependent

# **Physical**

Lighted Incandescent - rated 10.000

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

voltages to 24VDC)

Internal Seals

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

a UL flammability rating of 94V0.

Hard Surface: Basic actuator Contura II, III, IV, V, VI. VII 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 Lens Contura XIV Polycarbonate lens/sub-rocker with

ABS shell

# Actuator Travel (Angular Displacement)

2 position

3 positions 9° from center

# **Mounting Specifications**

Panel Thickness Range Gaskets Acceptable Panel Thickness .030 to .250 (.76 to 6.35mm) 0 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



.830[21.08]

# **Agency Certifications**



Corrosion

Shock

Moisture Resistance

# **Environmental**

Sealing Sealed version: IP66/68, this rating applies to front panel components of

the actual switch only, and signifies complete protection against dust as well as powerful jets of water.

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 Operating Temp.

Per Mil-Std 202F, Method 204D Vibration 1

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 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.

Mil STD 810, Method 510.2 Air Velocity Dust

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 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.

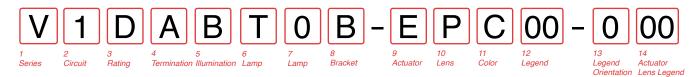
8 FLUSH BRACKET COLOR 1, PANEL SEAL

White **W** 

Black

В

No Seal



# 1 SERIES

## 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. Terminals 7, 8, 9 & 10 for lamp circuit only. 8 - - 7 8 - - 7 1 - - 4 2 - - 5 2 - - 5 3 - - 6 10 - - 9 Position: SP DP 3 1 & 2, 4 & 5 OFF OFF 2 & 3, 5 & 6 ON (ON) ON Connected Terminals NONE NONE 12345678 A B C ON ON ON ON (ON) Þ ON (ON) NONE OFF OFF OFF 8 PECIAL CIRCUITS H\* G\* 2 8 S\* 28 M\* (2 8 R\* (2 8 2 & 3 2 & 3. 5 & 4 2 & 3 2 & 3, 5 & 6 2 & 3, 5 & 6 (2 & 3, 5 & 6) (2 & 3, 5 & 6) 2 & 3 2 & 3 2 & 3 2 & 3 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 <sup>4</sup> 1 .4VA @ 28VDC Resistive B 15A 24V C 20A 18V D 20A 12V BCDEFMN 20A 14V, 10A 14VT (circuit 1, 4 , A & D only) 10A 14V, 6A 14VT (circuit G only) .4VA/20A 12V .4VA/15A 24V

4 TERMINATION	I / 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					
5 6	Wire Leads no barriers	No					
E F	Wire Leads	No					
Note: Codes 1 & K for circuits H. G. & M. Do not use silicone based							

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 ILLUN Lamp # 3 & 6 er lamps o	INATION 8 1:above teri nd of switch	& SWITCH minals 1 8 . Positive	H SEALING & 4 end of switch.; L (+) and negative (-)	amp #2 above terminals symbols apply to LED
Sealed	Unsealed 0 1 2 3 4	Lamps	Illumination Type	Lamp wired to Terminals
A	0 1	NONE 1	- INDEPENDENT	- 8 (+) 7 (–)
B	2	1	DOWN UP	8 (+) 7 (-) 3 (+) 7 (-) 3 (+) 7 (-) 3 (+) 7 (-)
Ď	4	1	DOWN	
E	5	2	DOWN UP	1 (+) 7 (–) 1 (+) 7 (–)
_	-	2	ŬΡ	
F	6	1	INDEPENDENT UP	8 (+) 7 (–) 3 (+) 6 (–)
G	7	21212121221	INDEPENDENT	8 (+) 7 (–)
н	7	2	UP INDEPENDENT	3 (+) 7 (-) 8 (+) 7 (-)
Ü	Z Y		INDEPENDENT	8 (+) 7 (-)
SINGI F	POLE SW	2 ITCHES (	INDEPENDENT	10 (+) 9 ( <del>-</del> )
J	8	1	DOWN	3 (+) 8 (-) 6 (+) 7 (-)
к	w	1	INDEPENDENT INDEPENDENT	6 (+) 7 (–) 8 (+) 7 (–)
		,,, <u>,</u> , ,	INDEPENDENT	6 (+) 7 (-)
I DOUBL	E POLE SV 9	VII CHES	DOWN	3 (+) 6 (-)
M	9 <u>R</u>	1	UP	3 (+) 6 (-)
N	ľ	1 2	DOWN DOWN	3 (+) 6 (-) 1 (+) 4 (-)
P	٧	2	UP	1 (+) 4 (-)
		2	UP	3 (+) 6 (–)

6,7 LAMP (SA Selection 6: ab No lamp	0	•		NS) ve terminals 3	& 6	
Neon	<b>1</b> 125VAC	<b>2</b> 250VA	ز			
Incandescent	4 3V	<b>5</b> 6V	<b>6</b> 12V	<b>7</b> 18V	8 24V	
LFD*			superbright	superbright		
LLD	Red	Amber	Green	Red		
2VDC		L	E	R		
	A	<u>-</u>	_			
6VDC	В	М	G	S		
12VDC	С	N	Н	Т		
24VDC	Ď	P	.iv			
* Consult factory for "daylight bright" LED options. Typical current draw for LED is 20ma.						
I ED is 20m2	iy ioi dayiigi	it brigit L	LD options. Ty	picai current	ulaw ioi	
LLD is Zuilla.						

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	1,4
Actuator orientation over terminals:	3,6

Gray

10 LE 0 - No Clear 1 2 3 4 5	o Actuat	or Amber 8 C D E F	Z - No Green G H J K L		Blue T U V W	(a) (b) (c) (c) (c) (c) (c) (c) (c) (c) (c) (c		
Lens	Lens color for LEDs must be clear, white, or match color of LED.							
Gree	Green or blue lenses are not recommended with Neon lamps.							

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



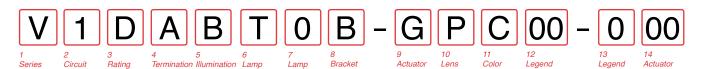
13 L 0	EGEND ORIENTATION No legend (used w		8 in selection	on 12)	
1 2 3 4	Orientation 1 Orientation 2 Orientation 3 Orientation 4		(B) (B)		(a)
		1	2	3	4

# 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.

- 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.
- Laser etched rocker only available with lens code Z & actuator colors black, nickel or pewter.
- Pewter and nickel colors only available with laser etched actuator.



# 1 SERIES

```
2 CIRCUIT
 Terminal Connections as viewed
                                          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.
                       8 -
                                           Terminals 7, 8, 9 & 10 for lamp circuit only.
                       1 - - 4
                      2 - - 5
3 - - 6
   2 - - 5
   3 - - 6
                     10 -
                             - 9
                              1
2 & 3, 5 & 6
ON
(ON)
                                                   2
Connected Terminals
NONE
NONE
                                                                                               3
1 & 2, 4 & 5
OFF
OFF
Position:
SP DP
1 A
2 B
3 C
4 D
5 F
6 J
7 K
8 L
SPECIAL CIRCUITS
                                                                  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
                                                                   2 & 3
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.
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3 RATING <sup>4</sup>
1 .4VA @ 28VDC Resistive
          .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
BCDEFMX
```

4 TERM	IINATION /	BASE STYLE	
8 term	<u>10 Term</u>	Termination	<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
3	5	Solder Lug no barriers	No
С	D	Solder Lug	No
5	6	Wire Leads no barriers	No
E	F	Wire Leads	No
Note: C	ndee I & K	for circuite H. G. & M. Do not use	cilicona hacad

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

l lamne o	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 0 1 2 3 4	Lamps	Illumination Type	Lamp wired to Terminals				
S	0	NONE 1	- INDEPENDENT	- 8 (+) 7 (–)				
Ê	ż	i	DOWN	3 (+) 7 (-)				
<u>c</u>	3	2	UP	3 (+) 7 (-) 3 (+) 7 (-) 3 (+) 7 (-)				
D	4	1	DOWN DOWN	3 (+) 7 (-)				
E	5	1	UP DOWN	1 (1) 1 (1)				
_	•	ż	ŪΡ	3 (+) 7 (-)				
F	6	2 1 2 1 2 1 2	INDEPENDENT	3 (+) 7 (-) 8 (+) 7 (-) 3 (+) 6 (-) 8 (+) 7 (-) 3 (+) 7 (-) 8 (+) 7 (-) 8 (+) 7 (-)				
G	7	2	UP INDEPENDENT	3 (+) 6 (-) 8 (+) 7 (-)				
<u> </u>	,		UP	3 (+) 7 (-)				
H	Z Y	2 2 1	INDEPENDENT	8 (+) 7 (-)				
U	Y	1	INDEPENDENT INDEPENDENT					
SINGI F	POLE SV	VITCHES C	DNI Y	10 (+) 9 (–)				
J	8	1	DOWN	3 (+) 8 (-)				
.,	***	2	INDEPENDENT	6 (+) 7 (-) 8 (+) 7 (-)				
K	W	1	INDEPENDENT INDEPENDENT	8 (+) 7 (–) 6 (+) 7 (–)				
DOUBL	E POLE S	WITCHES		0 (+) 7 (-)				
L	9	1	DOWN	3 (+) 6 (-)				
M N	Ŗ	1	UP DOWN	3 (+) 6 (-) 3 (+) 6 (-) 3 (+) 6 (-)				
IN	'	2	DOWN	3 (+) 6 (-) 1 (+) 4 (-)				
P	V	2 1	UP	1 (+) 4 (-)				
		2	UP	3 (+) 6 (–)				

6,7 LAMP (SA Selection 6: at No lamp	ME CODING	FOR BOTH s 1 & 4; Sele	SELECTION ection 7: above	S) e terminals :	3 & 6
Neon	1 125VAC	2 250VAC			
Incandescent		5 6V	6 12V	<b>7</b> 18V	<b>8</b> 24V
	4 3 V	<b>3</b> 0 V			
LED*			superbright	<u>s</u> uperbrigh	π
	Red	Amber	Green	Red	
2VDC	Α	L	F	R	
6VDC	В	М	G	S	
12VDC	Ċ	Ñ	Ĥ	Ť	
24VDC	Ď	P	.i	V	
* Consult factor	ry for "daylig	ht hriaht" I Fl	Ontions Tyr	ical current	draw for
LED is 20ma.	ny ioi dayiigi	in bright LL	options. Typ	noai carrorn	araw ioi
LLD is Zonia.					

Orientation Lens Legend

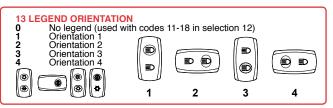
8 FLUSH B	RACKET Black	COLOR White	<sup>1</sup> , <b>PANEL SEA</b> Grav	<b>L</b>
No Seal One Seal	B C	W Y	G " H	

# 9 ACTUATOR No Actuator Contura V Contura V, laser etched

1 - 0	<b>ens</b> No Actuat ar White		<b>Z</b> - No Green		Blue	style & location: #1 / #2 e		
1	6	8	G	M	Т	bar		
2	7	С	Н	N	U	bar/bar		
3	8	D	J	Р	٧	oval		
4	9	E	K	R	W	oval/bar		
5	Α	F	L	S	Υ	oval/oval		
Len Gre	Lens color for LEDs must be clear, white, or match color of LED. Green or blue lenses are not recommended with Neon lamps.							







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.

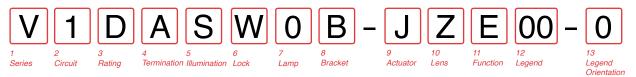
- Consult factory to verify horsepower rating for your particular circuit choice.

  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.

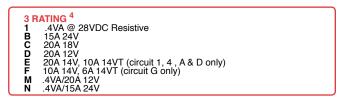
  Laser Etched rocker only available with lens code Z & actuator colors black,
- nickel or pewter.

  Additional ratings available. See V-Series Switch Accessories page.
- Nickel and Pewter colors only available with laser etched actuator
- Consult factory for laser etched lens callout.





2 CIRCUIT Terminal Co from botton	onnec n of sv	vitch: SI	P - :	single pole - uses termin	als 1, 2 & 3.
8 terminal	10 te	rminal D	P - (	double pole uses termina	ls 1, 2, 3, 4, 5 & 6.
8 7	8 -	- 7 Te	ermi	inals 7, 8, 9 & 10 for lam	p circuit only.
1 4	1 -	- 4			,
2 5	2 -	- 5			
3 6	3 -	-			
0 0	10 -	- 9			
Position:	10 -	- J		2	3
SP DP		2 & 3, 5 8	6	Connected Terminals	1 & 2, 4 & 5
1 A		ON		NONE	OFF
1 2		ŎŇ		NONE	ÓN
4 D 6 J 7 K		ÓN		OFF	ÓN
7 K		ON		ÖFF	(ON)
8 L		(ON)		OFF	(ON)
9 N		ÒFÉ		NONE	`ON´



### **BASE STYLE** 4 TERMINATION / EASE SIYLE Termination .250 TAB (QC) no barriers .250 TAB (QC) with barriers .250 TAB (QC) no barriers Solder Lug no barriers Solder Lug Wire Leads no barriers Wire Leads 8 term 10 Term <u>Jumper</u> No No A J 3 C 5 E Ē K 5 D Yes T2 to 5 No No No No Wire Leads 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 to 3 & 6 end of switch lamps only	I & SWITCH erminals 1 & ch. Positive	H SEALING & 4 end of switch.; La (+) and negative (-)	amp #2 above terminals symbols apply to LED
Sealed Unsealed		Illumination Type	Lamp wired to Terminals
S 0	NONE		
Č 3	2	UP	3 (+) 7 (-)
Ĥ Ž	2	INDEPENDENT	3 (+) / (-) 8 (+) 7 (-)
DOUBLE POLE S	SWITCHES	ONLY	- ( ) ( )
M R	1	I IP	3 (+) 6 (-)

L			-	<u> </u>		- ( - ) - ( )	
Ξ				· ·			
۲	6 LOCI	ζ					
l			als 1 & 4 e	nd of switch.			
l	W	low profile			γ6	high profile lock	

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

- Sum ractory to verify norsepower 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. Located at T3-6 end of switch.

  Contura V style only.

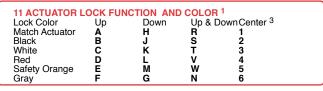
					_
7 LAMP Lamp above to No lamp	erminals 3 & 6	6 end of swite	ch		·
Neon	1 125VAC	2 250VAC			
			C 401/	7 401/	0 041/
Incandescent	<b>4</b> 3V	<b>5</b> 6V	<b>6</b> 12V	<b>7</b> 18V	<b>8</b> 24V
LED*			superbright	superbrigh	t
	Red	Amber	Green	Red	•
2VDC		1	E.	R	
	A	<u></u>	_	ח	
6VDC	В	M	G	S	
12VDC	С	N	Н	T	
24VDC	Ď	D	.1	V	
	wy for "douliel	r btbriabt" I⊏I	Ontions Tim	ical aurrant	drour for
* Consult factor	iry ior dayligi	ni brigni LEI	ט opuons. Typ	icai current	uraw ioi
LED is 20ma.					

No Se One S	eal <b>E</b>	Black B	White W Y	Gray G H		
	URA IV	FACE A Black J N	CTUATO Gray K P	OR Red L R	White M S	$\int$

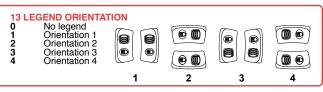
8 FLUSH BRACKET COLOR 1, PANEL SEAL



10 LE Z - No Clear A G	Lens	Amber C J	Green <b>D</b> <b>K</b>	Red <b>E</b> L	F	e bar lens oval lens
						or match color of LED. led with Neon lamps.









1 SERIES

### 2 CIRCUIT ( ) - momentary Terminal Connections as viewed 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. 8 - - 7 8 - - 7 Terminals 7, 8, 9 & 10 for lamp circuit only. 8 - - 7 1 - - 4 2 - - 5 2 - - 5 3 - - 6 10 - - 9 3 - - 6 - 9 1 2 & 3, 5 ON (ON) ON ON 3 1 & 2, 4 & 5 OFF OFF 2 Connected Terminals , 5 & 6 NONE NONE A B 12345678 CD ON ON ON (ON) NONE OFF OFF (ON) (ON) SPECIAL CIRCUITS 2 & 3, 5 & 4 2 & 3 2 & 3 2 & 3 2 & 3 5 & 3 5 & 4 OFF 1 & 2 OFF 2 & 3, 5 & 6 2 & 3, 5 & 6 (2 & 3, 5 & 6) (2 & 3, 5 & 6) 2 & 1 5 & 1 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
E 20A 14V, 10A 14VT (circuit 1, 4, A & D only)
F 10A 14V, 6A 14VT (circuit G only)
M .4VA/20A 12V
M .4VA/20A 12V
M .4VA/20A 24V .4VA/15A 24V

**BASE STYLE** 4 TERMINATION / Termination
.250 TAB (QC) no barriers
.250 TAB (QC) with barriers
.250 TAB (QC) no barriers 8 term 10 Term 1 2 <u>Jumper</u> Yes T2 to 5 Solder Lug no barriers Solder Lug Wire Leads no barriers 3 C 5 No 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

Sealed Unsealed   Lamps   Illumination Type   Lamp wired to Termination Type   Lamp wired to Term	,
A 1 1 INDEPENDENT 8 (+) 7 (-) B 2 1 DOWN 3 (+) 7 (-) C 3 2 UP 3 (+) 7 (-) D 4 1 DOWN 3 (+) 7 (-)	<u>lls</u>
B 2 1 DOWN 3 (+) 7 (-) C 3 2 UP 3 (+) 7 (-) D 4 1 DOWN 3 (+) 7 (-)	
C 3 2 UP 3 (+) 7 (-) D 4 1 DOWN 3 (+) 7 (-) 2 DOWN 1 (+) 7 (-) E 5 1 UP 1 (+) 7 (-)	
D 4 1 DOWN 3 (+) 7 (-) 2 DOWN 1 (+) 7 (-) E 5 1 UP 1 (+) 7 (-)	
2 DOWN 1 (+) 7 (-) E 5 1 UP 1 (+) 7 (-)	
2 UP 3 (+) 7 (-)	
F 6 1 INDEPENDENT 8 (+) 7 (-) 2 UP 3 (+) 6 (-) G 7 1 INDEPENDENT 8 (+) 7 (-) 2 UP 3 (+) 7 (-) 4 Z 2 INDEPENDENT 8 (+) 7 (-)	
2 UP 3 (+) 6 (-)	
<b>G 7</b> 1 INDEPENDENT 8 (+) 7 (–)	
G 7 1 INDEPENDENT 8 (+) 7 (-) 2 UP 3 (+) 7 (-) H Z 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 (-)	
<b>N</b> T 1 DOWN 3 (+) 6 (-) 2 DOWN 1 (+) 4 (-)	
P V 1 UP 1 (+) 4 (-)	
2 UP 3 (+) 6 (-)	

1 125VAC 4 3V 2 250VAC 5 6V Neon Incandescent 6 12V 7 18V superbright Red superbright Green **F** I FD' Red Amber 2VDC RST Ġ 12VDC C Ν 24VDC onsult factory for "daylight bright" LED options. Typical current draw for

Orientation Lens Legend

 $\bigcirc$ 

8 FLUSH BRACKET COLOR 1, PANEL SEAL Black White Gray No Seal ВС W G One Seal

No Actuator Contura VII Actuator orientation over terminals:

9 ACTUATOR

3,6 1,4

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

0 - No Actuator Z - No Lens Green Red White Amber Blue Lens style & location 00 В G М Т 6 00 С Н Ν U Р D ٧ 8 E Κ R w 9 F Υ L s 4

11 ACTUATOR COLOR / THUMB PRINT COLOR 1
O N/A - No Actuator C Black/Black
H Grey/Black S Red/Black
Y White/Black

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

012 No legend (used with codes 11-18 in selection 12) Orientation 1 Orientation 2 Orientation 3 Orientation 4 <u>)</u> 🛞 1/3 1 3 2 4

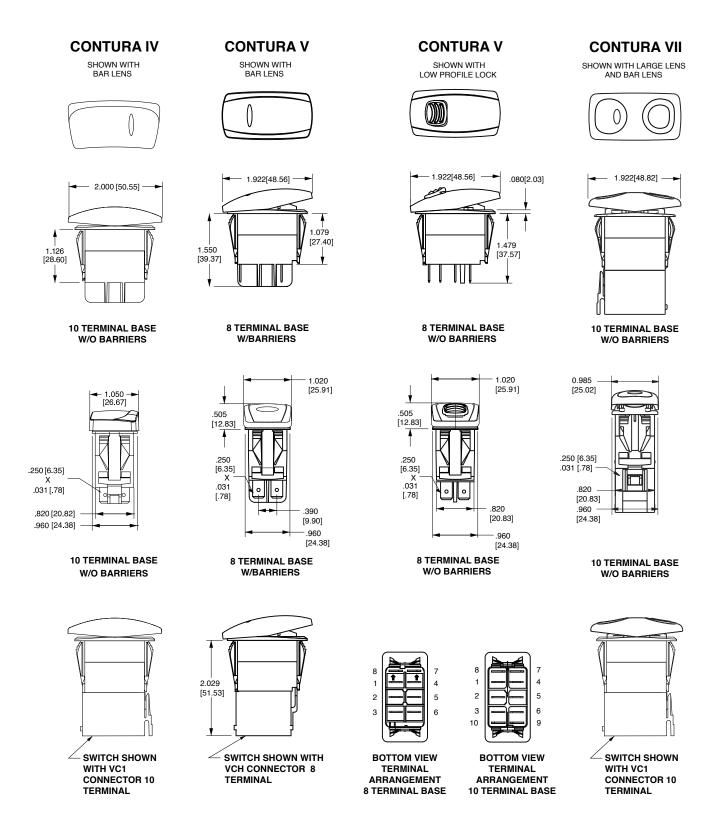
14 ACTUATOR LENS LEGEND
00 No legend this location / no actuator
(used with codes 11-18 in selection 12) Selection 14 required when switch
requires two legends. If the two legends consist of one lens and one
body legend, lens legend must be specified in selection 12; body legend
specified in selection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

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

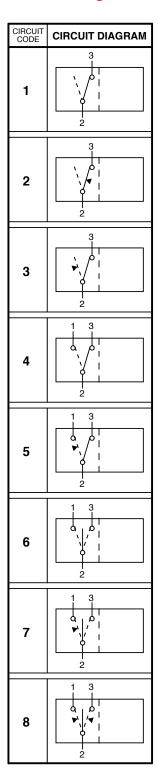
Custom colors are available. Consult factory.
White imprinting is standard on black actuators. Black imprinting is standard on white, red and gray actuators. Custom colors are available, consult factory.
Additional ratings available. See V-Series Switch Accessories page.
Legends available for lighted oval lens version only

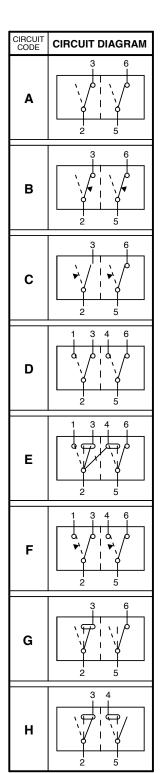
Email: sales@carlingtech.com Application Support: team2@carlingtech.com Phone: (860) 793–9281 Fax: (860) 793–9231 www.carlingtech.com

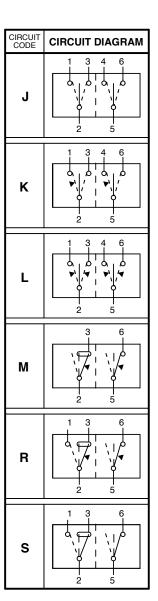
# **Dimensional Specifications: in. [mm]**



# **Circuit Diagrams:**

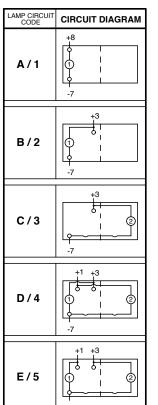


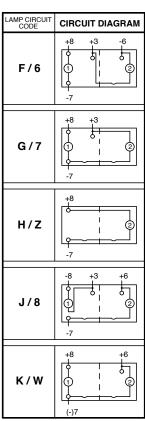




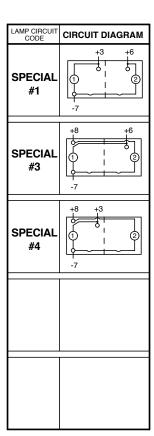
SYMBOL LEGEND								
SYM. DEFINITION								
0	DESIGNATES TERMINALS AND CONTACTS							
<b>—</b>	DESIGNATES MAINTAINED CIRCUITS							
	DESIGNATES OTHER POSITION							
<b>○▼</b> ○	DESIGNATES MOMENTARY CIRCUITS							
	DESIGNATES TWO POSITION CONNECTION							
	DESIGNATES EXTERNAL JUMPER PROVIDED BY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

# **Lamp Circuit Diagrams:**

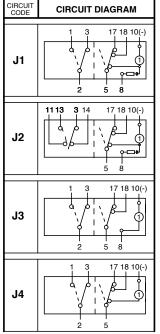


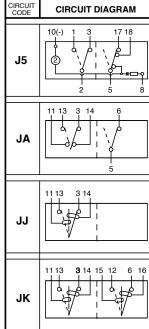


LAMP CIRCUIT CODE	CIRCUIT DIAGRAM
L/9	
M/R	+3 6 0
N/T	1 +3 -4 -6
P/V	1 +3 -4 -6
U/Y	+8 +10



# J-Series Hazard Warning Circuit Diagrams:





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						
	DESIGNATES LAMP LOCATION						

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

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

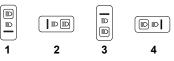
- One bar lens One bar lenses
- square lens on top/ bar lens on bottom One square lens (Contura X only) two square lens

## **ACTUATOR LENS OR BODY LEGEND** 00 - No Legend this location

- **12** OFF 11 ON 13 I OFF ON 0 0 O F N **16** O O N F 17 0 | 18 | 0
- For additional legend options & codes, visit us at www.carlingtech.com.

## 5 LEGEND ORIENTATION 1

- Ō No leaend Orientation 1 Orientation 2
- Orientation 3 Orientation 4



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



1 TOP OF LENS SEPARATELY

COLOR 1 Clear 2 Smoke

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

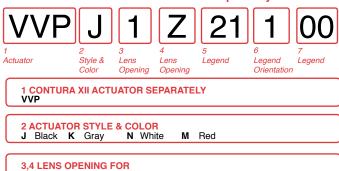


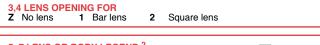
1 piece lens/bar lens are positioned the same as bottom lens for assembly minus the top lens. Lenses snap in from bottom.

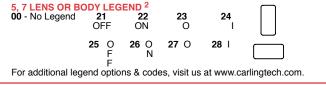
## Notes

- If actuator lens opening for 2 bar or 2 square lenses, legend orientation 0,1, or 2
- 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.

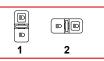
# Contura XII actuators without lenses separately:







- 6 LEGEND ORIENTATION 3 0 No legend
- 1 Orientation 1 2 Orientation 2



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



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

- 2 LENS STYLE 3
  - Bar lens One Piece Square lens
  - Bottom of Two-Piece Square lens 5

# **3 TRANSLUCENT LENS COLOR**

Clear 2 White 3 Amber

4 Green 4 6 Blue 4 5 Red



5 LEGEND ORIENTATION 3 0 No legend

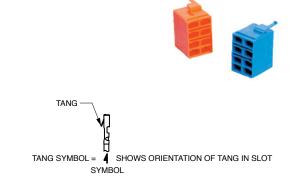
Orientation 4

- Orientation 1 1 2 3 4 Orientation 2 Orientation 3
- ■D ≣D 1
- 2
- ≣D 3

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

# **Contura Connectors**

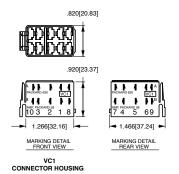
Q.C. SELECTION GUIDE								
	PART	NO	W RA					
COMPANY SERIES	PLAIN BRASS	TIN PLATED BRASS	AWG	MM <sup>2</sup> (REF)	ORIEN- TATION			
	02965580		12	3.0				
	02965471	12010601	(2)16-14	(2)1.0-2.0				
PACKARD 58 SERIES	02965470		16-14	1.0-2.0	В			
30 GET IIIEG	02965469	06288318	20-18	.58				
		12084590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

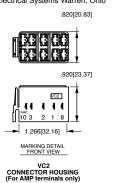


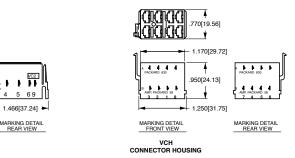
NOTE: Consult Delphi Packard and/or Amp on actual part numbers and availability.

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

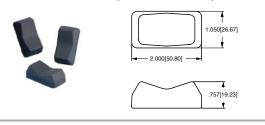
Delphi Packard is a registered trademark of Delphi-Packard Electrical Systems Warren, Ohio



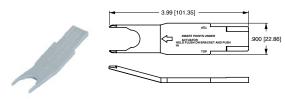




# Contura X Boot (P/N VB1-01)



# 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

15A 24V

20A 18V

20A 12V

20A 14V, 10A 14VT (circuits 1, 4, A, & D only) Ε

10A 14V, 6A, 14VT (circuit G only) G 20A 6V

20A 3V

15A 125 VAC, 10A 250VAC, 1/2 HP 125-250 VAC; 6A 125 VAC L

.4VA/20A 12V (combi-contact) Μ

(combination gold/silver contacts for borderline dry circuit applications) Ν

.4VA/15A 24V (combi-contact)

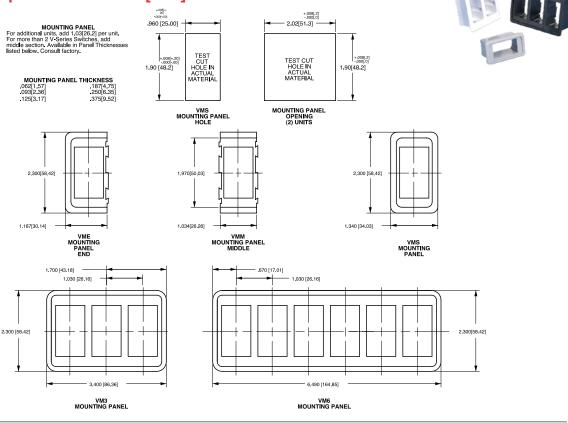
(combination gold/silver contacts for borderline dry circuit applications)

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

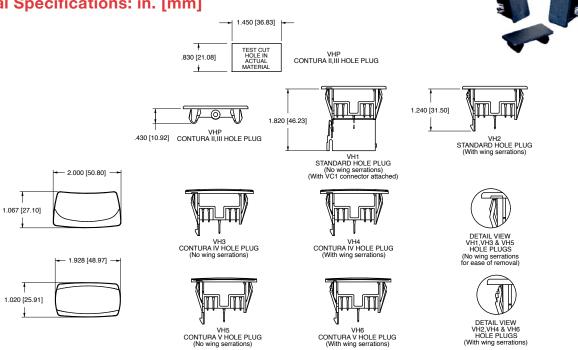
Not available with Contura 7 or 14 rocker styles.

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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A101J2ZQ004 A101J4ZQ004 A101J51CB0004 A107J51ZQ0004 A201J1AQ004 A201J1AV2Q004 A201J3ZB004 A201J50ZQ004

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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 1838.8302 1839.1502