Rotary

V-Series

CONTURA ROTARY SWITCHES

The V-Series Contura Rotary Switch was designed for maximum performance and reliability leveraging the features of the widely popular V-series Contura Rocker Switches. Available in maintained and momentary circuit options, the V-Series Rotary features a sturdy knob construction, up to three separate LEDs, and fits in an industry standard panel opening.

Internally, the V-Series Contura Rotary uses a patented mechanism that translates rotary to linear motion. This allows for common switch functionality and terminal connections with the V-Series rocker version and requires no harness change. A secondary CAM, which helps drive the mechanism, provides definitive detent positions and prevents the switch from stopping between positions, while improving tactile feel.

The V-Series Rotary also features an innovative PC board that supports the LED and surface mount resistors; and IP67 sealing protection above panel by utilizing LED and actuator stem seals. Together, these features make the V-Series Contura Rotary switch the best choice available in the market today.

Resources:

Download 3D CAD Files

IGS › STP ›

Watch Product Video

Product Highlights:

- Accommodates up to three separate LEDs
- Patented mechanism translates rotary into linear motion
- Secondary CAM for definitive detent positions
- PC Board supports LED and surface mount resistors
- Sealed to IP67 for Above-Panel Components
- Common terminal & circuit functionality with V-Series Rocker switches, with no harness change required

Typical Applications:

- On/Off Highway Equipment
- Marine
- Test & Measurement
- Instrumentation
- Speed Control

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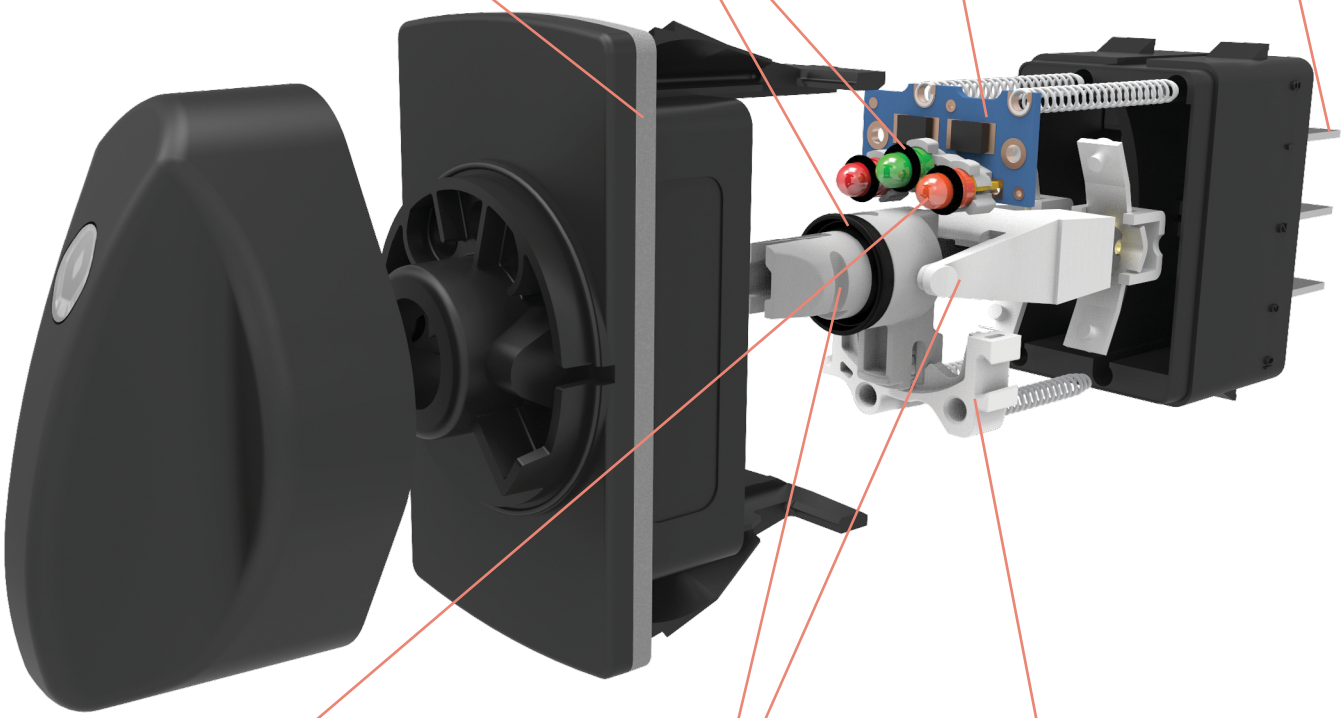
V-Series Rotary Switch
DESIGN FEATURES

OPTIONAL PANEL SEAL
Prevents water/dust ingress behind panel

SEALS
LED and stem seals provide IP67 protection above panel

PC BOARD
Supports LEDs and surface mount resistors

TERMINALS
Same pinout as V-Series Rocker Switches, requiring no harness change



LEDS
Up to three separate LEDs

ROTARY & LINEAR ACTUATOR
Patented mechanism that translates rotary to linear motion

SECONDARY CAM
Provides definitive detent positions with ball & spring located in rotary actuator

Electrical

Rating

Circuit	Voltage	Max Current Resistive
2 Position Maintain	12	20
2 Position Momentary	12	20
3 Position All	12	20
2 Position Maintain	24	15
2 Position Momentary	24	15
3 Position All	24	15

Dielectric Strength	1500 Volts RMS
Insulation Resistance	50 Megohms
Initial Contact Resistance	10 Milli Ohm max @ 4VDC
Life	50,000 Cycles Two Position 25,000 Cycles Two Position Momentary and All Three position
Terminals	0.250" (6.3mm) Quick Connect

Physical

Function Circuits	Double Pole Single Throw, DPST Double Pole Double Throw, DPDT
Operation	Two and Three Position Maintained and Momentary
Knob Rotation	Two Position 60 Degrees Three Position 30 Degrees from Center
Illumination	LED; Red, Green, Amber, Yellow, White, Blue
Seals	LED O-ring(s) – Silicone, Bezel gasket – Neoprene, Knob seal - NBR
Flammability	Exceeds FVMSS 302 Requirements, Exterior Components, UL 94 V-2 or Better Interior Components, UL 94 HB or Better
Base	Polyester, PBT
Bracket	Nylon 66, PA
Knob	Polybutylene Terephthalate, PBT 6.5%GF
Lens	Polycarbonate, PC
Connector	Nylon 66, PA
Mounting	Front Panel Snap In, 1.450" (36.83mm) X 0.830" (21.08mm) Panel Thickness, 0.030" – 0.187" (0.76 – 4.75mm)

Mechanical

Knob Impact	50 Gram weight dropped from a height of 18 inches on Top & Sides

Environmental

Sealing	IP68, for above-panel components of actual switch only.
Dust	Mil STD 810, Method 510.2 Air Velocity 300 Ft/Min Duration 16Hr
Corrosion	IEC 68-2-60 Mixed Flowing Gas (MFG) 14 Days
Chemical Splash	Gasoline, Diesel, Motor Oil, Brake Fluid, Ammonia, Armour All
Salt Spray	Mil STD 202G, Method 101, Test Condition A 96 Hr
Vibration Random	Mil STD 202G, Method 214 test Condition C 10G's RMS
Vibration Sinusoidal	Mil STD 202G, Method 204D, Test Condition A 0.06DA or 10G's 10-500Hz
Shock	MIL-STD 202G, Method 213B Test Condition K, 30G's
Handling Shock	1 Meter Drop onto Hard Surface
Thermal Shock	MIL-STD 202G, Method 107G Test Condition A -55 C to 85 C
Moisture Resistance	MIL-STD 202G, Method 106F 10, 25 C to 65 C Cycles 95% RH
Thermal Cycling	25 Cycles -40 C to 85 C
Ignition Protection	ISO 8846 with EC Directive 94/25/EC for Marine Products
UV Protection	300 hr Xenon Arc, 1.4W/m2 wavelength 420 nm
ESD	Human Static Discharge, +/- 15KV applied during normal operation Shipping/Handling, frequency range 200-2000 MHz applied voltage is +8KV to +15KV and -8KV to -15KV 3 discharge cycles

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

RV	21	D	2	B	6	0	0	B	-	K	R	C
1 Series	2 Circuit	3 Rating	4 Termination	5 Illumination	6 Lamp 1	7 Lamp 2	8 Lamp 3	9 Bracket		10 Actuator	11 Lens	12 Knob Color

1 SERIES
RV Rotary Contura

2 CIRCUIT [1]
Terminal Connections as viewed from bottom of switch:
8 - - 7
1 - - 4
2 - - 5
3 - - 6
10 - - 9

( ) - momentary

DP - double pole uses 1, 2, 3 and 4, 5, 6.

Position:	1	2	3
DP	2 & 3, 5 & 6	Connected Terminals	1 & 2, 4 & 5
21	ON	NONE	OFF
22	(ON)	NONE	OFF
23	ON	NONE	(OFF)
24	ON	NONE	ON
26	ON	OFF	ON
28	(ON)	OFF	(ON)
SPECIAL CIRCUITS			
55	(ON)	OFF	ON
61	2 & 3, 5 & 6	2 & 3, 4 & 5	1 & 2, 4 & 5
62	2 & 3, 5 & 6	2 & 3	OFF
64	(2 & 3, 5 & 6)	2 & 3	OFF

3 RATING
1 .4VA 28VDC Resistive
B 15A 24V
D 20A 12V

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 [4, 5]	**K** [4, 5]	.250 TAB (QC) - no barriers	Yes (T2 to T5)

Notes:
1 Switch circuit uses terminals 1,2,3,4,5 & 6. Terminals 7,8,9 & 10 are for lamp circuit only.
2 Jumper between terminals 2 & 5 for Circuits 61, 62, & 64 to be specified in the Termination & Jumper selection.
3 Circuit 61 may be used for SP, OFF-ON-ON circuit.
4 Base will not have terminal insulating barriers when connector and/or jumpers are used.
5 Code J,K are optional for circuits 62 and 64. Customer may provide externally wired jumper to connect terminals 2 and 5.
6 Lamp #1 located at top end of switch, above terminal 4.
Lamp #2 located at top end of switch between terminals 1 & 4.
Lamp #3 located at top end of switch, above terminal
Positive (+) and negative (-) symbols apply to L.E.D. lamps only.
7 Mounting hole size is 1.450" (36.83mm) by 0.830" (21.08mm). To mount multiple switches in single panel cut-out order optional interlocking mounting panels.
8 Lens color for L.E.D.s must be clear, white, or match color of L.E.D.

5 ILLUMINATION [6, 8]

Sealed	Lamps	when illuminated	Terminals
S	NONE		
A	# 1	Independent	8+ 7-
B	# 1	Dependent	3+ 7-
C	# 1	Independent	8+ 7-
	& # 3	Independent	10+ 7-
D	# 1	Dependent	3+ 7-
	& # 3	Dependent	1+ 7-
E	# 1	Independent	8+ 7-
	# 2	Independent	9+ 7-
	# 3	Independent	10+ 7-
F	# 1	Dependent	3+ 7-
	# 2	Independent	9+ 7-
	# 3	Dependent	1+ 7-
G	# 1	Dependent	3+ 7-
	# 3	Independent	8+ 7-
H	# 2	Independent	8+ 7-
J	# 1	Independent	8+ 7-
	# 2	Independent	10+ 7-
K	# 1	Dependent	3+ 7-
	# 2	Dependent	1+ 7-
L	# 1	Dependent	3+ 7-
	# 2	Independent	8+ 7-
M	# 2	Independent	8+ 7-
	# 3	Independent	10+ 7-
N	# 2	Dependent	3+ 7-
	# 3	Dependent	1+ 7-
P	# 2	Independent	10+ 7-
	# 3	Dependent	1+ 7-
R	# 3	Independent	8+ 7-
T	# 3	Dependent	1+ 7-

6, 7, 8 LAMP #1, 2 AND OR LAMP #3 [6, 8]
Selection 6: above terminal 7; Selection 8: above terminal 8
No lamp **0**

LED	Red	Amber	Green	Blue	White
12VDC	**C**	**N**	**H**	**E**	**6**
24VDC	**D**	**P**	**J**	**K**	**8**

9 BRACKET COLOR & PANEL SEAL [7]

Color	No Gasket	1 Gasket	2 Gasket
Black	**B**	**C**	**D**
Gray	**G**	**H**	**J**
White	**W**	**Y**	**Z**

10 ACTUATOR STYLE
K Rotary Knob (Standard)

ACTUATOR ORIENTATION ABOVE TERMINALS

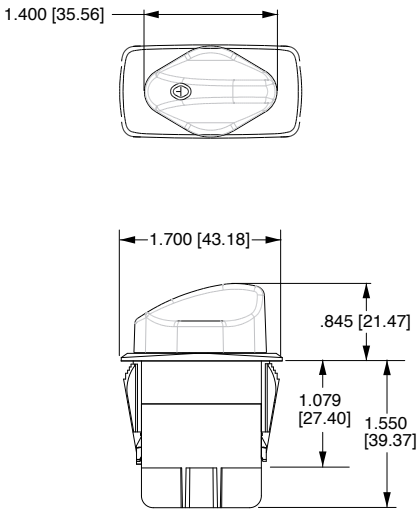
11 LENS COLOR [8]
No Lens **Z**

Clear	White	Amber	Green	Red	Blue
4	**9**	**E**	**K**	**R**	**W**

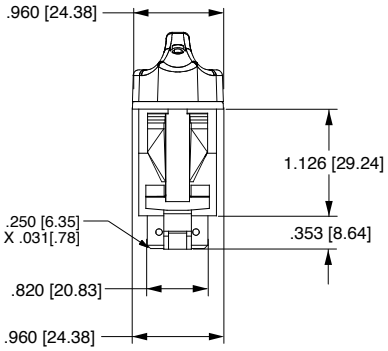
12 KNOB COLOR

Black	Gray	Red	White
C	**H**	**S**	**Y**

Dimensional Specifications: in. [mm]



10 TERMINAL BASE W/ BARRIERS



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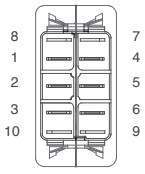
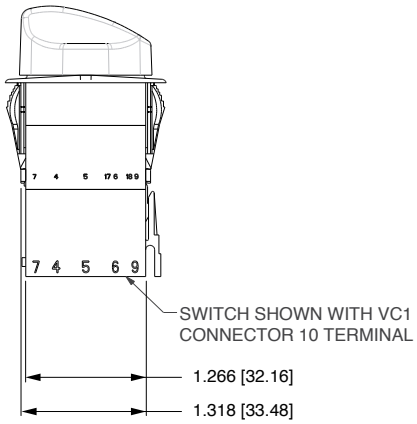


BOTTOM VIEW TERMINAL ARRANGEMENT 10 TERMINAL BASE



Circuits Diagrams:

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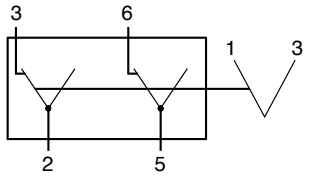
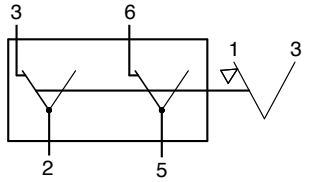
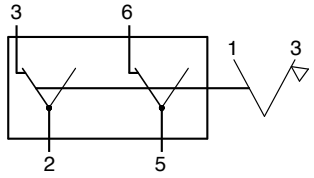
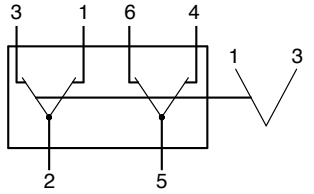
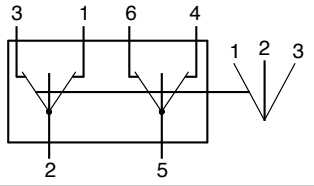
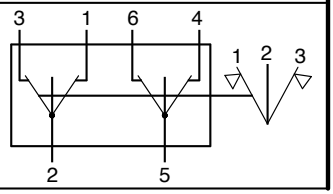
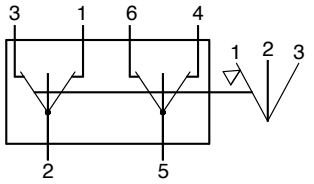
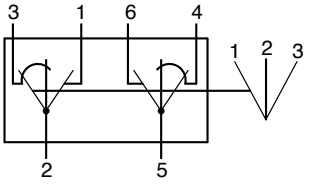
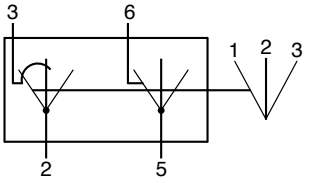
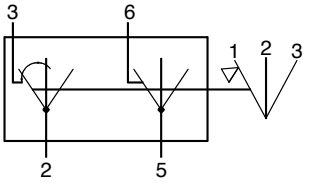
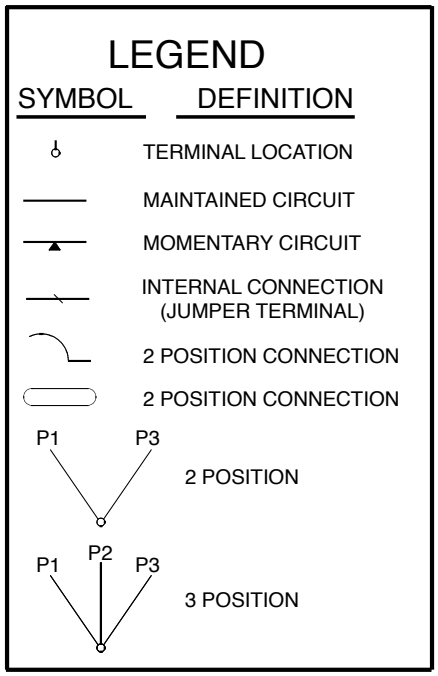
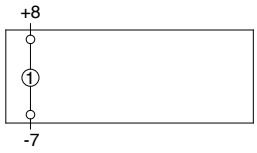
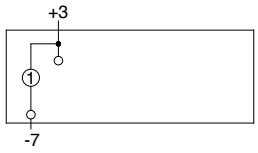
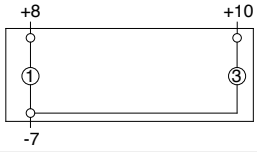
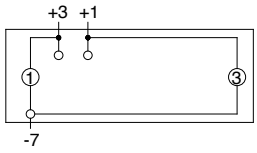
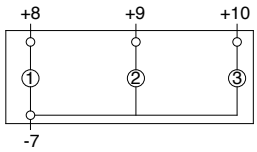
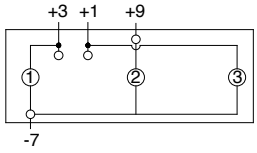
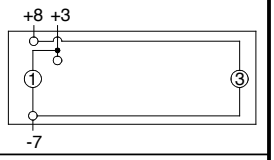
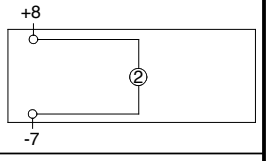
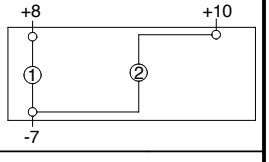
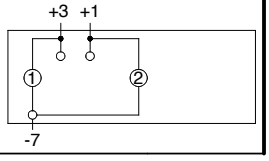
21		
22		
23		
24		
26		
28		

CIRCUIT CODE	CIRCUIT DIAGRAM	KNOB POSITION
55		
61		
62		
64		



Lamp Circuit Diagrams:

LAMP CIRCUIT CODE	CIRCUIT DIAGRAM
A	
B	
C	
D	
E	
F	
G	
H	
J	
K	

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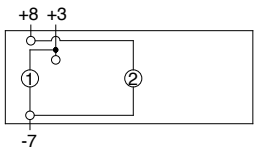
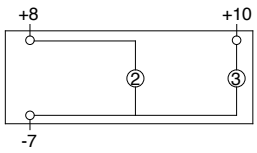
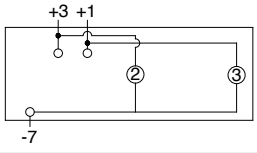
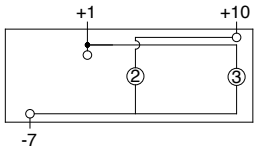
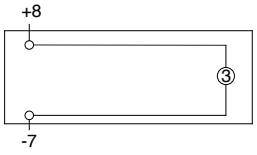
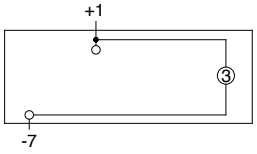
L	
M	
N	
P	
R	
T	

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