V-Series

Contura Rotary Switch

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.

Typical Applications:

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



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
- IP67 sealing protection above panel
- Common terminal & circuit functionality with V-Series Rocker switches, with no harness change required

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Innovative Designs. Powerful Solutions.

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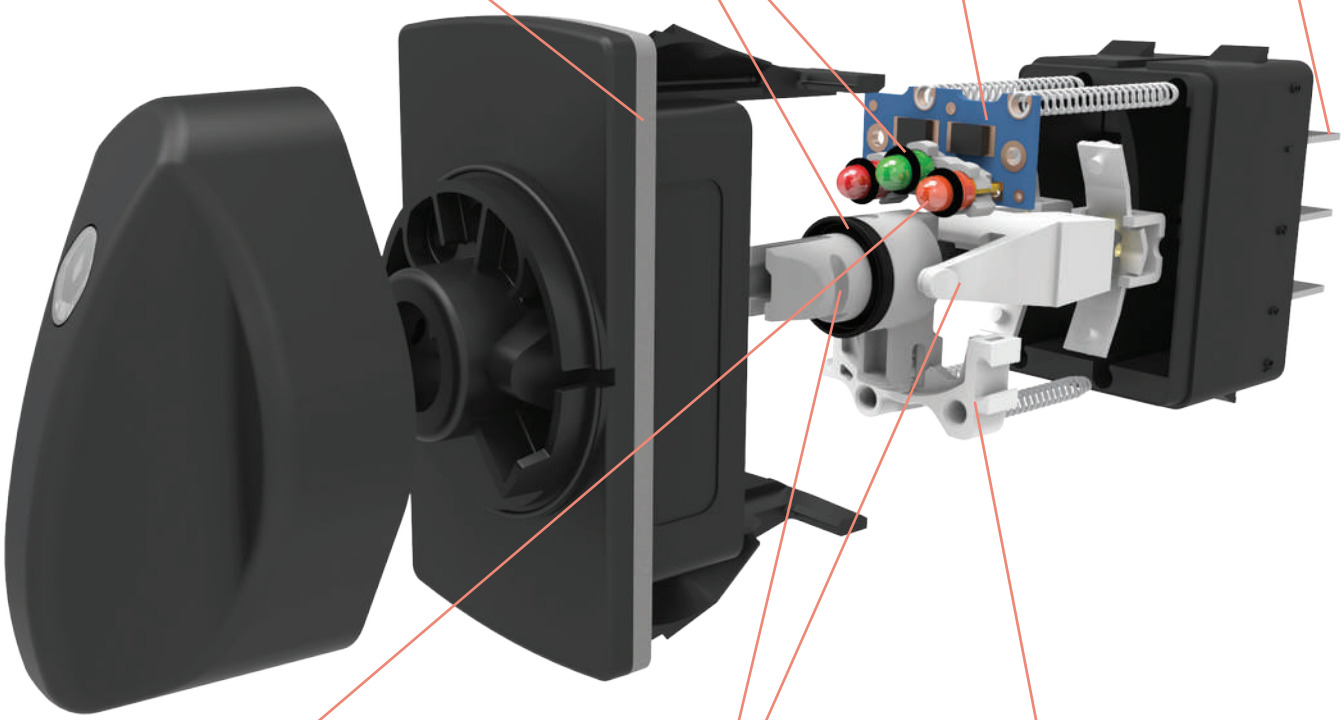
V-Series Rotary Switch
DESIGN FEATURES

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

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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	Single and Double Pole Single Throw, SPST, DPST Single and Double Pole Double Throw, SPDT, 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

Mechanical Life	100,000 Cycles Maintained Circuits 50,000 Cycles Momentary Circuits
Knob Impact	50 Gram weight dropped from a height of 18 inches on Top & Sides

Environmental

Sealing	IP67, in accordance with IEC 60529, BS 5490, DIN 40050 & NFC 20 010. This rating applies to front panel components of the actual switch only, and signifies protection against dust and the prolonged effects of immersion under pressure.
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.

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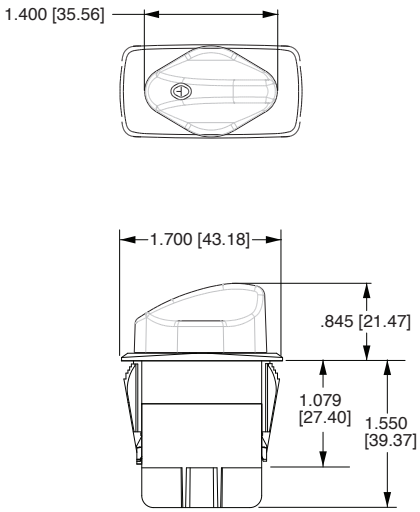
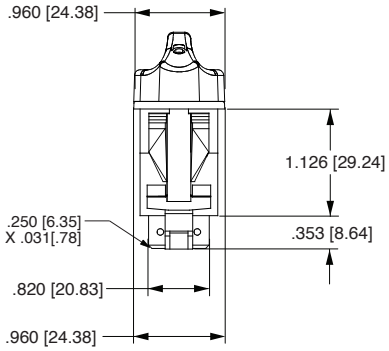
Dimensional Specifications: in. [mm]



10 TERMINAL BASE
W/ BARRIERS



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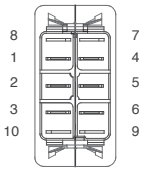
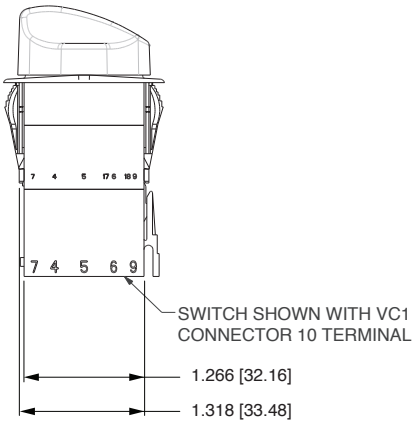
W/O BARRIERS



BOTTOM VIEW
TERMINAL ARRANGEMENT
10 TERMINAL BASE



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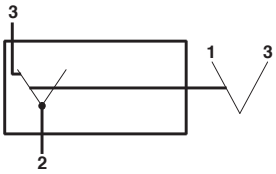
Circuits Codes

KNOB POSITIONS

CKT CODE 11



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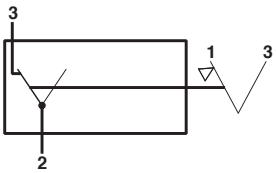

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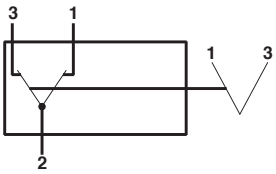

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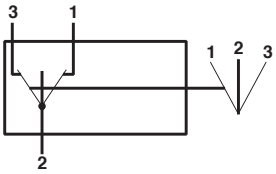

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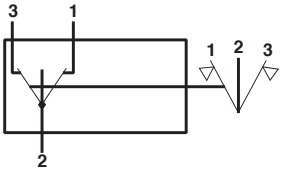

KNOB POSITIONS

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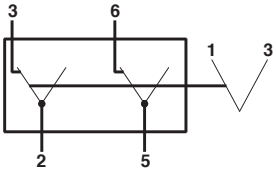

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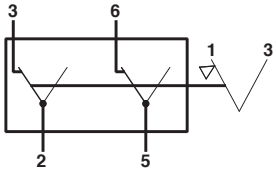

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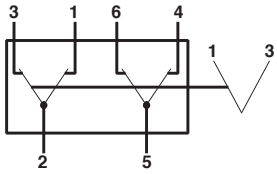

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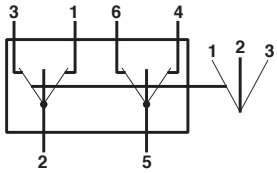

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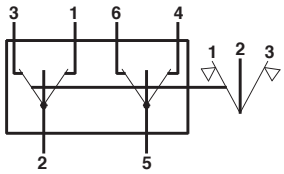

LEGEND

SYMBOL	DEFINITION
	TERMINAL LOCATION
	MAINTAINED CIRCUIT
	MOMENTARY CIRCUIT
	INTERNAL CONNECTION (JUMPER TERMINAL)
	2 POSITION CONNECTION
	2 POSITION CONNECTION
P1 P3	2 POSITION
P1 P2 P3	3 POSITION

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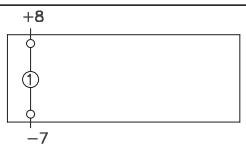
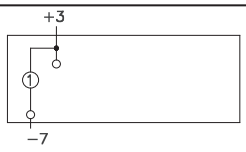
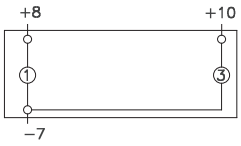
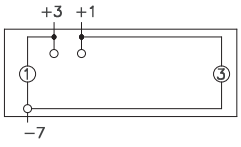
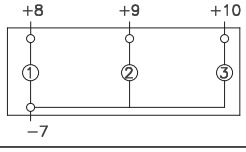
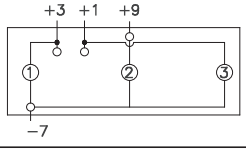
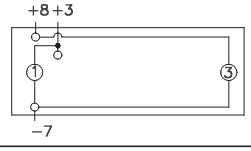
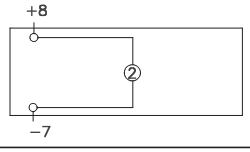
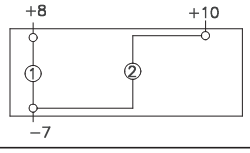
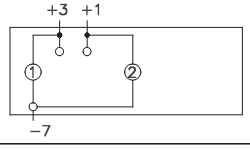
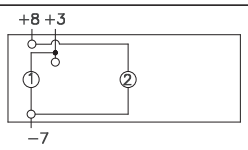
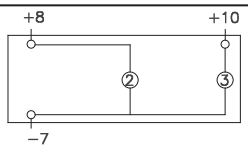
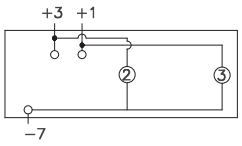
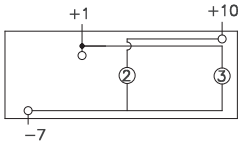
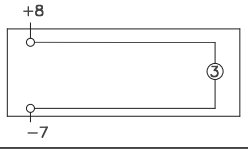
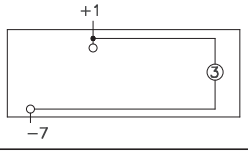
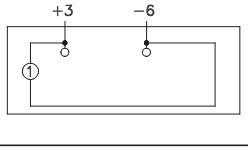
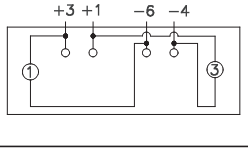
Standard Lamp Circuit Diagrams

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

LAMP CIRCUIT	CIRCUIT DIAGRAM
L	
M	
N	
P	
R	
T	
U	
V	

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RV	11	D	2	B	C	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

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

Position:		1	2	3
SP	DP	2 & 3, 5 & 6	Connected Terminals	1 & 2, 4 & 5
11	**21**	ON	NONE	OFF
12*	**22**	(ON)	NONE	OFF
(*Available Q2 - 2014)				
14	**24**	ON	NONE	ON
16	**26**	ON	OFF	ON
18	**28**	(ON)	OFF	(ON)

3 RATING

	External
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
3	**4**	Solder Lug - no barriers	No
C	**D**	Solder Lug	No
5	**6**	Wire Leads - no barriers	No
E	**F**	Wire Leads	No

5 ILLUMINATION[2]

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-
Single Pole Switches Only			
U	# 1	Dependent	3+ 6-
V	# 1	Dependent	3+ 6-
	# 3	Dependent	1+ 4-

6, 7, 8 LAMP#1, 2 AND OR LAMP #3[4]

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[3]

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[4]

No Actuation **0**
No Lens **Z**

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

12 KNOB COLOR

Black	Gray	Red
C	**H**	**S**

Notes:

1 SP-single pole uses terminals 1,2 & 3. DP-double pole uses terminals 1,2,3,4,5 & 6. Terminals 7,8,9 & 10 are for lamp circuit only.

2 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 1.
Positive (+) and negative (-) symbols apply to LED lamps only.

3 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.

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

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