

# CVR-Series

Rheostat Switch

[PRODUCT WEBPAGE](#)

*request sample, configure part*



The CVR-Series is a configurable three- or four-position rheostat switch designed for vehicle lighting control. Available for 12V DC and 24V DC systems, the CVR-Series automotive rheostat switch is made with durable thermoplastic materials and silver-plated brass terminals for reliable operation in commercial vehicles, such as work trucks, agricultural equipment, and construction equipment. The front panel-mount dimmer switch is available with or without white backlighting.

**12/24**  
V DC

**3 or 4**  
Detent Positions

**Snap-In**  
Mounting

## Typical Applications

- Commercial Vehicles
- Construction Equipment
- Agricultural Equipment
- Work Trucks

# Tech Specs

## Electrical

Operating Voltage	12VDC/24VDC systems
Dielectric Strength	1500V RMS (Terminal to Shell)
Insulation Resistance	50 Megohms
Terminals	.250" (6.3mm) Quick Connect
Electrical Endurance	Minimum 10,000 Operations (2,000 cycles at -40 °C, 6,000 cycles at ambient temperature, 2,000 cycles at +85 °C)

## Physical

Switch functions	3 or 4 wheel detents of rotation
Materials	Housing – PC Base – Nylon Top cover – PC Wheel – Nylon Terminal – Brass, Silver Plated
Weight	≈23.8g
Mating Connection	VC2 : AMP 250 series fastin-faston VC1 : Packard 630 and AMP 250 series fastin-faston
Mounting	Front panel mount

## Environmental

Operating Temperature	-40°C to +85°C
Thermal, Hot Soak	IEC 60068-2-2 Test Bb, 85°C for 96 hours
Thermal, Cold Soak	IEC 60068-2-1 Test Ab, -40°C for 96 hours
Thermal, Shock	MIL-STD-202G Condition A-1, 25 cycle, -55°C to +85°C
Humidity, Cyclic	IEC 60068-2-38 Test Z/AD, -10°C to 65°C, 10 cycle for temperature / humidity composite, 24h per cycle.
Thermal, Cycling Each	IEC 60068-2-14 Test Nb, -40°C to 85°C, 25 cycles of 10 hours
Solar Radiation	ASTM G155-05A 300hr, 1.5W/(m <sup>2</sup> *nm) at 420nm, 300hr,
Sealing Protection	IEC 60529; IP53, for above-panel components of the actual switch only
Shock	IEC 60068-2-27, 3 shocks in each direction of the 3 axes (18 total shocks) at 300 m/s <sup>2</sup> for 11 ms
Drop	EN 60068-2-31 Test Ec Free Fall – Procedure 1, drop in each direction of the 3 axes (6 total drops) from 1000 mm
Vibration, Sinus	MIL-STD-202G Method 204D, condition A, Sweep from 10Hz to 55Hz with +/-0.06inch, 55Hz to 500Hz with 10g. each axis 12time, total 36 time(9h)
Vibration, Random	MIL-STD-202G Method 214A Condition C, 50Hz to 2000Hz, 0.06PSD, 9.26Grms. each axis 8h, total 24h
Chemical Resistance	ISO 16750-5 Method II for Diesel fuel, Gasoline, Engine oil, Hydraulic fluid, Grease and Urea, interior cleaner .
Salt Spray	IEC 60068-2-11 Test Ka 5%NaCl, 96h.
ESD Contact Discharges	ISO 10605 Power off mode, +/- 15kV air discharges, +/-8kV
Symbol Abrasion Resistance	RCA, 175g, 200 cycles.
Strength	withstand a torque 2N*m for 10s
Panel Insertion Force	25N to 45N

# Ordering Scheme

Sample Part No. CVR - B 2 A - 100

Selection 1 2 3 4 5

## 1. SERIES

**CVR** Rheostat Switch

## 2. WHEEL DETENTS

**A** Three  
**B** Four

## 3. OUTPUT

### Voltage Divider

	System Voltage	Detent 0	Detent 1	Detent 2	Detent 3
<b>1</b>	12V	2.8V	5V	7.3V	9.5V
<b>2</b>	24V	5.5V	10V	14.5V	19V
<b>3</b>	12V	5V	7.3V	9.5V	-
<b>4</b>	24V	10V	14.5V	19V	-

### Shunt Resistor (Only for 3 Detents)

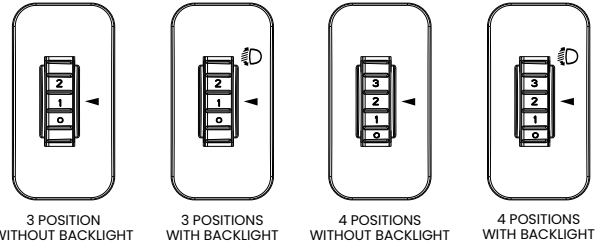
	System Voltage	Detent 0	Detent 1	Detent 2
<b>A</b>	12V or 24V	1.5K OHMS	4.2K OHMS	9.8K OHMS

## 4. BACK LIGHT COLOR

**Z** None  
**A** White

## 5. CAP AND WHEEL LEGEND

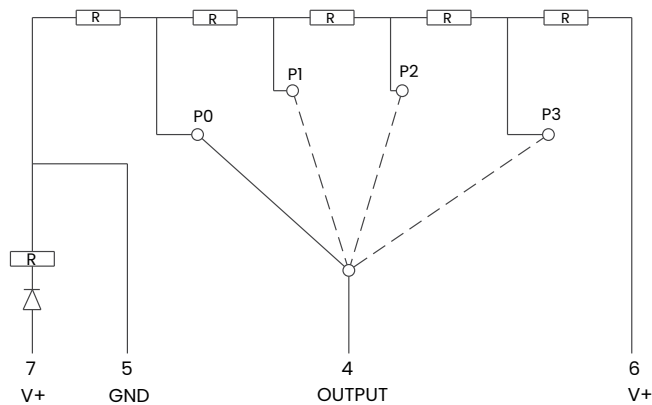
**100** Standard legend



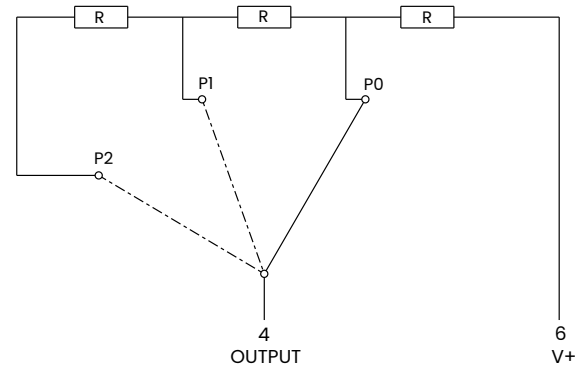
For additional legends, please consult factory.

# Circuit Diagram

CIRCUIT DIAGRAM FOR VOLTAGE DIVIDER OUTPUT

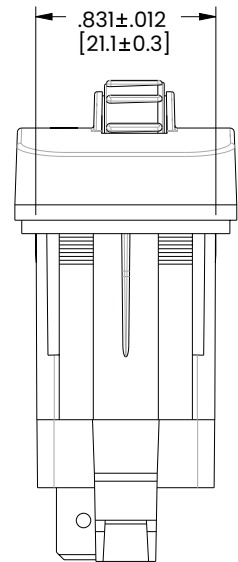
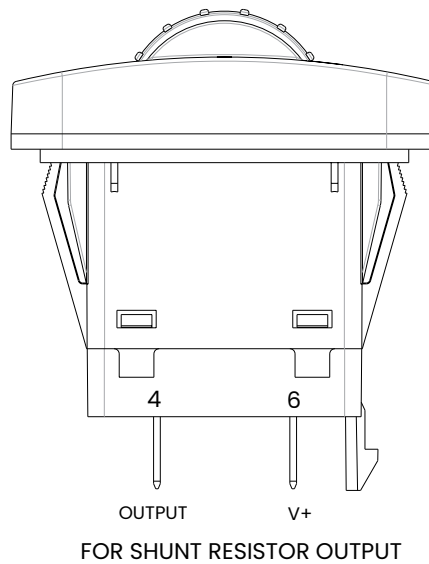
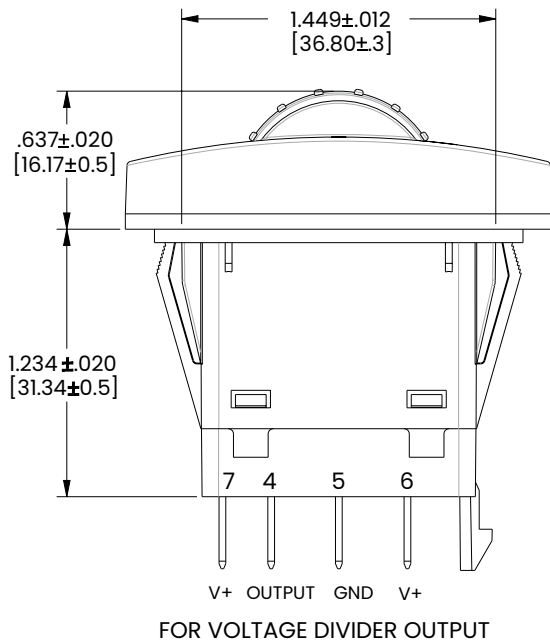
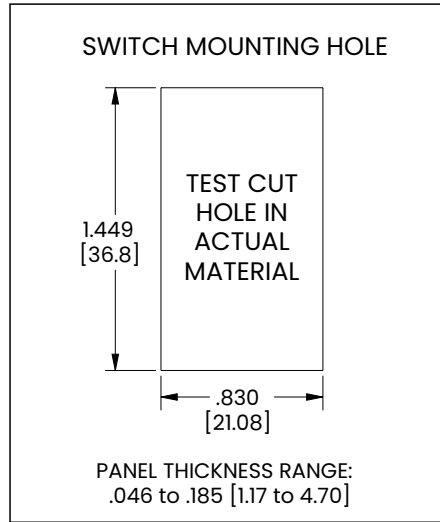
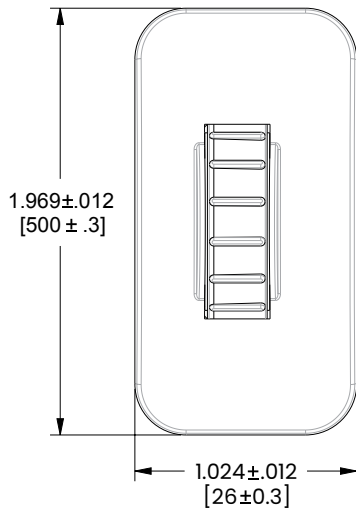


CIRCUIT DIAGRAM FOR SHUNT RESISTOR OUTPUT



# Dimensional Specs

inches [millimeters]



MATING CONNECTOR:  
VC2: AMP 250 series fastin-faston  
VC1: Packard 630 and AMP 250 series fastin-faston

## Authorized Sales Representatives and Distributors

Click on a region of the map below to find your local representatives and distributors or visit [www.carlingtech.com/findarep](http://www.carlingtech.com/findarep).



## About Carling

Founded in 1920, Carling Technologies is a leading manufacturer of electrical and electronic switches and assemblies, circuit breakers, electronic controls, power distribution units, and multiplexed power distribution systems. With six ISO9001 and IATF16949 registered manufacturing facilities and technical sales offices worldwide, Carling Technologies Sales, Service and Engineering teams do much more than manufacture electrical components, they engineer powerful solutions! To learn more about Carling please visit [www.carlingtech.com/company-profile](http://www.carlingtech.com/company-profile).

To view all of Carling's environmental, quality, health & safety certifications please visit [www.carlingtech.com/environmental-certifications](http://www.carlingtech.com/environmental-certifications).

© Carling Technologies, Inc.

5. Carling is a registered trademark of Carling Technologies, Inc. in the U.S. and other countries.