



**E-SWITCH®**

# Rocker Switches

Product Training Module



**Service** ♦ **Selection** ♦ **Speed**



# Introduction

## Purpose

- Introduce engineers, designers, and customers to E-Switch's wide range of electro-mechanical rocker switches, as well explain features and applications for various types of rocker switches.

## Objective

- Review and explain the major features of rocker switches such as;
  - IP rating
  - illumination categories
  - termination styles
  - power rating per agency approval
- Provide typical applications

## Content

- 21 pages

# Introduction to Rocker Switches

## What makes a rocker a rocker switch?

It is a switch where the actuation rocks, rather than trips, when pressed. One side of the switch is raised while the other side is depressed similar to a teeter-totter or rocking horse back and forth motion.

Rockers are commonly used to directly power a device. They are available in many shapes, sizes, colors, and feature standard or custom symbols on the actuator.





# Rocker Switch Features

**E-Switch offers a wide range of rocker switches, which vary in features. Features include:**

- IP Certified
- Illumination Categories and Options
- Termination options include:
  - SMT (Surface Mount)
  - PCB pins (PC Board Mount)
  - Solder lugs
  - Screw terminals
  - Quick connect tabs
- Power Rating per Agency Approval



# Rocker Switch Features

*(continued)*

## **Rocker Switch Features**

- Functionality
  - Single Pole
  - Double Pole
  - Three Pole
  - Four Pole
- 2 or 3 Position throws
- Lamp voltage options
- Marking type options
- Miniature and sub-miniature size

# IP Rated Rocker Switches



400A/IP67



400B/IP67



R7/IP67

**Rated IP55 to IP67**



RBW2/IP66



WB2/IP55

## Applications

### 400A / 400B / R7

- Industrial Equipment
- Marine Transportation
- Construction Equipment
- Agricultural Equipment
- Recreational Vehicles
- Lawn and Garden Equipment

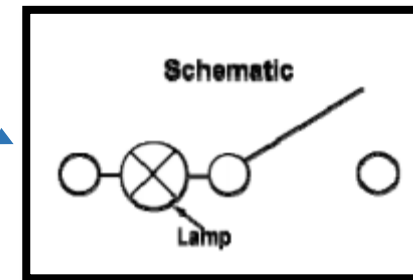
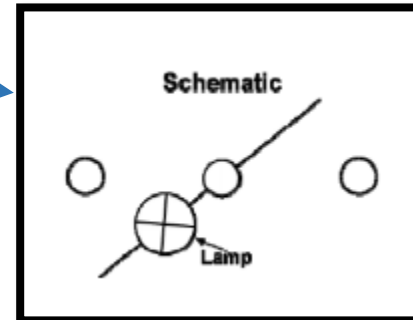
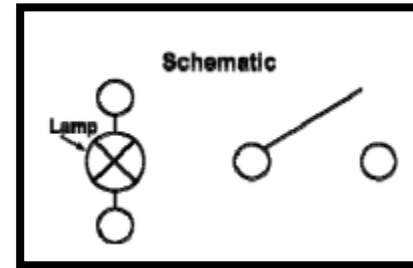
### RBW2 and WB2

- Commercial Appliances
- Electrical Housewares
- Floor Care Appliances
- Industrial Controls
- Medical Equipment
- Household Appliances/White Goods

# Illumination Categories

## Three Categories of Illumination

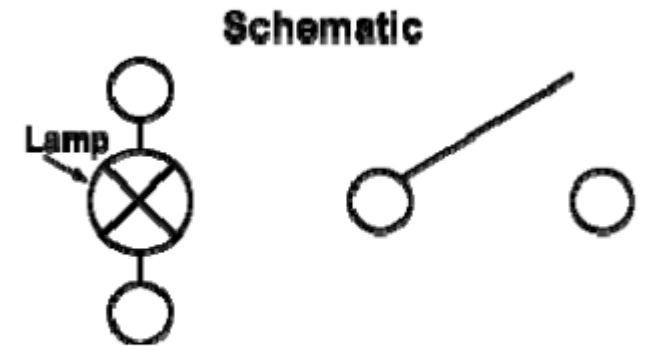
1. Independent
2. Dependent
3. Semi-independent



# Illumination Category – Independent

## Independent Illumination

The light is powered by a voltage source, not controlled by the switch action.

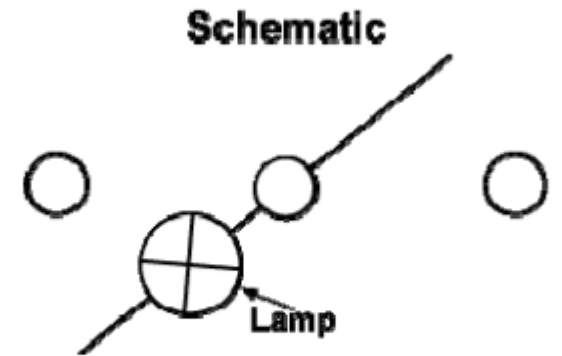




# Illumination Category - Independent

## Dependent Illumination

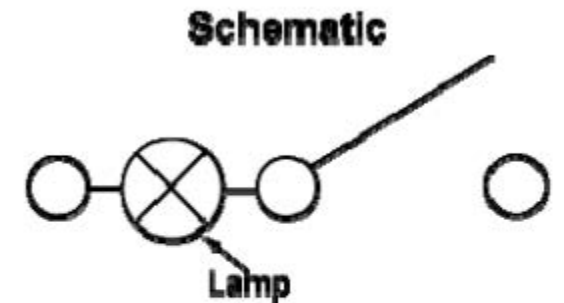
The light is powered by the same source that the switch is controlling.



# Illumination Category - Semi-independent

## Semi-independent Illumination

The light and switch share a common electrical terminal; an independent light can turn on with the source power, while the dependent light turns on when the switch is activated.



# Illumination Options

## Illumination Options

1. Incandescent
2. LED
3. Neon





# Non-Illuminated Rockers

Nearly all of E-Switch's high power rockers, those rated 10 amps and up to 20 amps, offer illumination options.

R6



RD1



RR3130



Non-illumination



RR5



RRGA



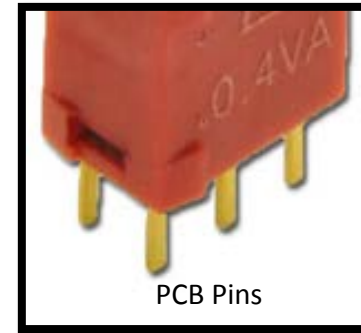
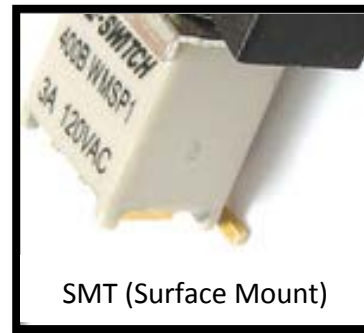
RRG3



# Termination Options

## Terminations Options

1. SMT (Surface Mount)
2. PCB pins
3. Solder lugs
4. Screw terminals
5. Quick connect tabs



# Agency Approvals

## Agency Approval for Electro-mechanical Switches

- Most countries have regulatory agencies that determine the safety and performance standards required for products used in that country.
- Typically required on switches above 48 volts
- Country specific, so make sure you have the right approval for the region that the final product will be sold in

North American Agency



Mexican Agency



European Agency



German Agency



Worldwide Agency



# Agency Approvals

How do you know which agency each switch has been approved for?

E-Switch posts the agency approval symbol on the product page indicating that the particular switch has been tested to nationally recognized safety standards set by that agency.

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Home / Product Catalog / By Feature / Power Rated / R1966 Series Illuminated Rocker Switches

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**R1966 Series Illuminated Rocker Switches**

The R1966 Series illuminated rocker switches are available with a variety of colored housings, actuators and LEDs. The panel cut out size is an industry standard size 13mm x 19.2mm.

Markets include Audio/Visual, Consumer Electronics and Test/Instrumentation.

CERTIFICATIONS (click the logo below)

RoHS cUL US DVE ENEC

- Consumer switches
- Other illuminated switches
- Other panel mount switches
- Other power rated switches
- Other right angle switches

Product Configurator Detail Specs Spec Sheets

Step 1 Configure your part number by selecting from the columns below.

Step 2 When your part number is complete, click to view additional options.

Most Common Parts  
R1966ABLKBLKGR

# Power Switch Rating Definition

## Definition:

*A switch with voltage ranging between 48 and 277 volts.*

## Three Power Levels

Low Power – less than 2 amps at rated voltage

Medium Power – above 2 amps and less than 10 amps rated voltage

High Power – above 10 amps at rated voltage

## Medium Power

RR3402 Series  
Paddle Switch  
Rocker –  
3A@250VAC  
6A@125VAC



## High Power

R5 Series  
Illuminated  
Rocker -  
10A@250VAC  
15A@125VAC







# High Power Rated Rockers

**Up to 10A**

R6 Series



RR3130 Series



**Up to 15A**

RRA Series



R1966 Series



**Up to 16A**

RA1 Series



RA2 Series



RA4 Series



RA8 Series



**Up to 16A**

RB4 Series



RBW2 Series



RD1 Series



RE1 Series



RR1 Series



RR3112 Series



RR8 Series



RRG3 Series



RRGA Series





# High Power Rated Rockers

**Up to 20A**

R4 Series



R5 Series



R7 Series



RB1 Series



RB2 Series



RR5 Series



RSC Series



RVW Series



WB2 Series



# Resources

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**Catalog By Type**

- Anti-vandal
- Detector
- DIP
- Keylock
- Navigation
- Pushbutton
- Rocker**
- Rotary
- Rotary DIP

**Rocker**

Rocker switches are commonly used to directly power a device. They are available in many shapes, sizes and colors, with both standard and custom symbols available on the actuator. Rocker switch illumination may be connected on a separate circuit, or be dependent on the switch actuator. Based on what is chosen. Available termination options include quick connect tabs.

**300 Series Miniature Rocker Switch**

- Up to 5A 120VAC or 20A 240VAC
- Panel or PC board mount
- Up to 4 poles momentary

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**3D Drawings**

Request 3D Drawings

**Featured Product**

**ULV7 Series Anti-vandal Switch Offers UL listing and IP67 ratings**

E-Switch announces the ULV7 series anti-vandal...

View Details

**TL3780 Series Ultraminiature SMT Tact Switch**

**R1966 Series Illuminated Rocker Switch**

- 15A 125VAC rating
- 13mm x 19.2mm panel cutout
- Full LED illumination options

**R1973 Series Illuminated Rocker Switch**

- 9A 125VAC rating
- 13mm x 19.2mm panel cutout
- Full illumination options
- 1 or 2 pole maintained functions

**R4 Series Illuminated Rocker Switches**

- 20A 125VAC rating
- 11mm x 30mm panel cutout
- Full illumination options

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Search Part No. Drawing Series **GO**

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Home / Product Catalog / By Type / Rocker / R1966 Series Illuminated Rocker Switches

**R1966 Series Illuminated Rocker Switches**

The R1966 Series illuminated rocker switches are available with a variety of colored housings, actuators and LEDs. The panel cut out size is an industry standard size 13mm x 19.2mm.

Markets include Audio/Visual, Consumer Electronics and Test/Instrumentation.

**CERTIFICATIONS (click the logo below)**

RoHS CE UL US

Other rocker switches  
Other illuminated switches  
Other panel mount switches  
Other power rated switches  
Other right angle switches

View Large Image  
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Distributor Stock Check

Product Configurator Detail Specs Spec Sheets

**Step 1**  
Configure your part number by selecting from the columns below.

**PART NUMBER:**

Clear

**Step 2**  
When your part number is complete, click to view additional options.

Additional Options

**Most Common Parts**

- R1966BLKBLK/3R
- R1966BLKBLKESORN
- R1966BLKBLK/FF
- R1966FBLKBLK/FF
- R1966BLKBLK/RS

Series	Circuit	Housing Color	Actuator Color	Marking	Termination	LED Color
R1966	A SPST On-Off	BLK Black	BLK Black	A	F Fusion Quick Connect 0.187 x 0.032	None
		WHT White	WHT White	B		RED Red "A"
	C					

# Resources

www.e-switch.com

The image shows a screenshot of the E-Switch website's navigation bar and promotional banners. The navigation bar includes links for Contact Us, Catalog Request, Sample/Quote Request (circled in purple), and Distributor Stock Check. Below the navigation bar is the E-Switch logo, an Extranet Login link, and a search bar with the text "Part No, Drawing, Series" and a "GO" button. A horizontal menu contains links for Product Catalog, E-Cross™, Where to Buy, Technical Information, and About E-Switch. The phone number 800.867.2717 is displayed below the menu. The main content area features a large orange banner for "INTRODUCING... E-Switch Virtual Solutions" with a grid of product images and a "CLICK HERE to interact with our virtual solutions" call to action. To the right, there are two smaller banners: "3D Drawings" with a circled "Request 3D Drawings" button and "Product Matrix" with a product image.

Contact Us   Catalog Request   **Sample/Quote Request**   Distributor Stock Check

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**INTRODUCING... E-Switch Virtual Solutions**

Our complete array of anti-vandal switches... at your fingertips!

**CLICK HERE to interact with our virtual solutions**

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**Product Matrix**


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# Resources

## Data Sheet

**RBW2 SERIES**



**APPLICATIONS / MARKETS**



**SPECIFICATIONS**

Electrical Rating: 10A/250VAC 50/60Hz (RFL) / 10A/250VAC 50/60Hz (RFL) / 10A/250VAC 50/60Hz (RFL)

Electrical Life: 50,000 Cycles  
 Mechanical Life: 10,000 Cycles  
 Contact Resistance: <math>< 50m\Omega</math> Max.  
 Insulation Resistance: 500M $\Omega$  Min. at 500VDC  
 Dielectric Strength: 1000VAC for 1 Minute  
 Operating Temperature: -20°C to 85°C Max.  
 Ingress Protection: IP66  
 Panel Cutout: 22mm x 30mm

Function: DPST, ON-ON  
 DPDT, On-On

**FEATURES & BENEFITS**

- Full Illumination options available
- Approved under new UL 51055-1 rating
- UL approved up to 1500V
- Internally sealed to an IP66 rating using patented technology (Patent No.: US 7,872,355 B2)

**PART NUMBER CONFIGURATOR**

Series	Mount	Body Color	Actuator Color	Marking	Termination	Lamp Voltage
RBW2	A: CRCH (DPST) B: CRCH (DPDT)	BLK - Black WHY - White	BLK - Black WHY - White RED - Red FLU - Fluor. A Burn GR - Green Full Burn YL - Yellow Full Burn EB - Blue Full Burn	A: Top D: 10 Vertical F: 10 Vertical G: 10 Horizontal L: Crisp Mark E: No Marking	P: 6 Pin Tab	0: No Lamp 1: 20VAC Non-Fl 2: 20VAC Non-Fl 3: 12VDC Incandescent

\* RFL models with illumination

Specifications subject to change without notice

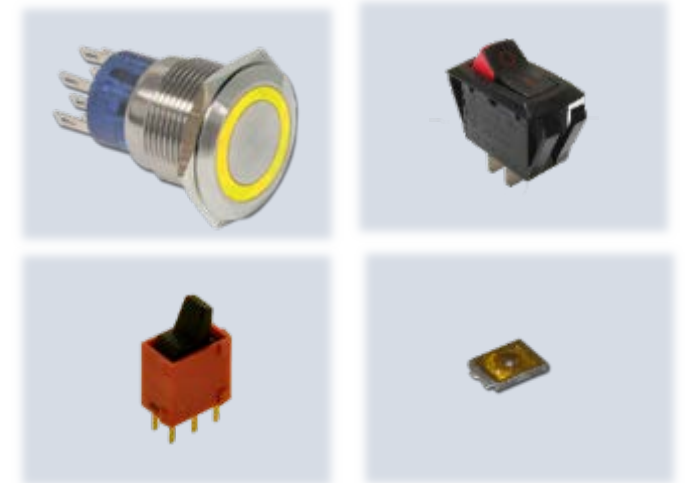
**E+SWITCH** [www.e-switch.com](http://www.e-switch.com) 800.867.2717



## 3D Models



## Switch Samples





# Summary

- In summary, a rocker is a switch where the actuation rocks, rather than trips when pressed.
- Rockers offers a wide range of features, such as IP rated, non-illumination and illumination options, termination options, power rating per agency approval, functionality regarding single pole, double pole options, 2 or 3 position throws, lamp voltage options, marking type options and E-Switch offers miniature and sub-miniature size rocker switches.
- E-Switch provides rockers that are rated from IP55 to IP67.
- Illumination categories include independent, dependent and semi-independent.
- Incandescent, LED and Neon are available illumination options.
- Termination options are surface mount, PCB pins, solder lugs, screw terminals, and quick connect tabs.
- Agency approvals set the safety standards for electro-mechanical switches.
- E-Switch offers a wide selection of rocker switches which are categorized as high power ranging from 10 amps up to 20 amps.
- For more specific details on Rocker switches from E-Switch, visit [www.e-switch.com](http://www.e-switch.com).