

# INTRODUCING... S-Series Rocker Switches



## S-Series Rocker Switches

Carling Technologies is pleased to introduce the S-Series rocker switch, designed for use in the enclosed cabs of today's trucks, providing the vehicle operator with easily recognizable and simple to operate controls.

### FEATURES:

- Abbreviated travel 1/2 throw actuators
- Ergonomic rockers
- Illumination in up to three detent switch positions
- A non-teasable snap action circuit
- 10A, 24VDC rating
- Space saving compact envelope with clean bezel-less design
- Integrated low insertion force connector and polarized switch base for quick installation
- Illumination and switch circuitry is easily accommodated with the 10 terminal base

These great features, combined with over 1000 available laser etched or padprinted legends, allow the S-Series to be seamlessly incorporated into just about any cab interior environment.

## General Specifications:

### Electrical

Contact Rating . . . . .	10A @ 24VDC
Dielectric Strength . . . . .	1500 Volts RMS between pole to pole
Insulation Resistance . . .	50 Megaohms
Initial Contact Resistance .	10 milliohms max. @ 4VDC
Life . . . . .	100,000 cycles maintained circuit, 50,000 cycles momentary circuit at rated voltage and current
Contact Material. . . . .	Silver tin-oxide
Terminals . . . . .	.110 Tabs, Silver Plated Brass
Operating Temperature. . .	-40°C to +85°C
Circuitry . . . . .	SP, DP 2 & 3 position, 1/2 or full throw
Contact Bounce . . . . .	<20 milliseconds

### Mechanical

Endurance . . . . .	250,000 cycles minimum
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### Physical

Lighted . . . . .	LED - rated 100,000 hours 1/2 life (LED is internally ballasted for voltages to 24VDC.)
Bracket. . . . .	Acetal
Base . . . . .	Nylon 66 GF
Rocker . . . . .	Polycarbonate
Weight . . . . .	25 gms max.

### Connector

Amp/Tyco MCP 2.8 receptacle housing P/N 1418994-1 mates with Amp/Tyco MCP 2.8 flat type receptacle. Based on wire size, choose P/N below:

1-968880-1. . . . .	20-24 awg wire
1-968849-1. . . . .	17-20 awg wire
1-968851-1. . . . .	13.5-17 awg wire

### Actuator Travel (Angular Displacement)

2 position (1/2 throw). . . .	12°
3 position (full throw) . . . .	12° from center

### Environmental

Operating Temperature . .	-40°C to +85°C
Vibration . . . . .	Per IEC 68-2.6 test Fc and 68-2.47 Test Criteria - no noise or contact chatter below 10ms.
Cold Test . . . . .	Per IEC 68-2-1 -40°C for 72 hours Test Criteria - pre & post test contact resistance.
Dry Heat Test Criteria . . .	Per IEC 68-2-2 + 85°C for 72 hours Test Criteria - no loss of circuit during test, pre & post test contact resistance.
Handling Shock . . . . .	Drop from height of 1 meter, 3 times, 4 sides. Test criteria - No loss of circuit during test, pre & post test contact resistance.
Thermal Shock . . . . .	Per IEC 68-2-14, -40°C to +85°C. Test criteria - pre & post test contact resistance.

### Mounting Specifications

Snap in Mount . . . . .	40mm x 20mm keyed hole (see dimensional specifications for details.)
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### Product Bulletin #129 June 2009

#### Carling Technologies, Inc.

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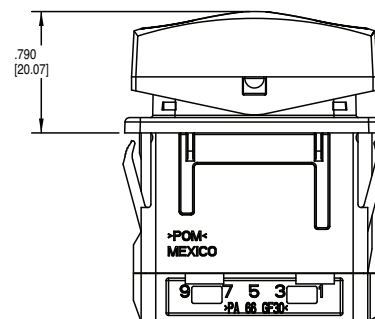
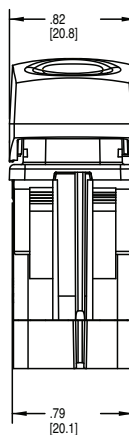
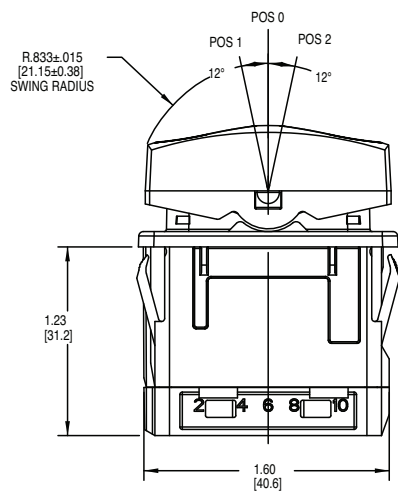
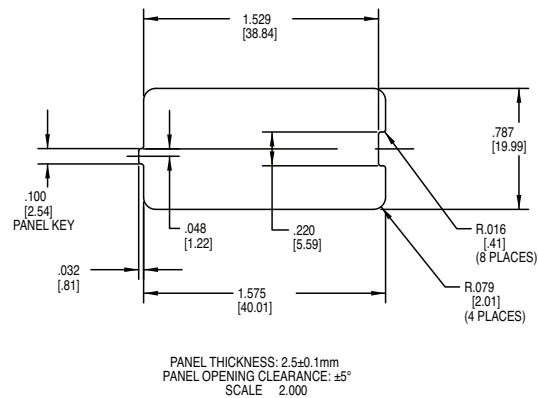
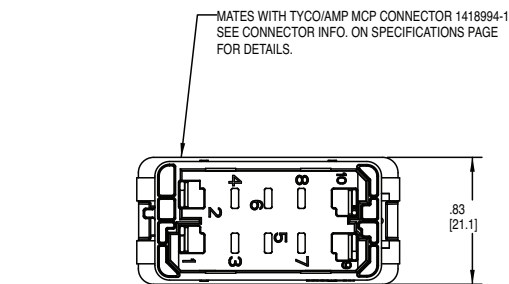
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Dimensional Specifications in. [mm.]:



<b>S</b>	<b>18</b>	<b>A</b>	<b>A</b>	<b>R</b>	<b>F</b>	<b>0</b>	<b>4</b>	-	<b>4</b>	<b>2</b>	<b>1</b>	<b>Z</b>	<b>00</b>	-	<b>1</b>	<b>00</b>	<b>00</b>
1 Series	2 Circuit	3 Rating	4 Illumination	5 Lamp 1	6 Lamp 2	7 Lamp 3	8 Bracket Color		9 Actuator Color	10 Legend Color 1	11 Legend Color 2	12 Legend Color 3	13 Legend 1		14 Legend Orientation	15 Legend 2	16 Legend 3

**1 SERIES****S** S-Series**2 CIRCUIT**

Terminal Connections as viewed from bottom of switch:

1 - 2  
3 - 4  
5 - 6  
7 - 8  
9 - 10

( ) - momentary

SP - single pole uses terminals 3, 5 & 7.  
DP - double pole uses terminals 3, 5, 7 & 4, 6, 8.

Position:	1	2	3
SP DP	5 & 7, 6 & 8	Connected Terminals	3 & 5, 4 & 6
<b>16</b> <b>26</b>	ON	OFF	ON
<b>18</b> <b>28</b>	(ON)	OFF	(ON)
SPECIAL CIRCUITS			
<b>31</b>	(6 & 8)	4, 5, 6, 7	OFF
<b>41</b> <b>51</b>	ON	OFF	NONE <sup>1</sup>
<b>42</b> <b>52</b>	(ON)	OFF	NONE <sup>1</sup>
<b>43</b> <b>53</b>	(ON)	3 & 5	NONE <sup>1</sup>
<b>44</b> <b>54</b>	ON	3 & 5	NONE <sup>1</sup>
<b>45</b> <b>55</b>	(ON)	OFF	ON
<b>46</b> <b>56</b>	NONE	5 & 7	ON
<b>47</b> <b>57</b>	NONE	5 & 7	(ON)
<b>75</b>	(5 & 7, 3 & 6)	5 & 7, 4 & 6	(3 & 5, 4 & 6)
<b>98<sup>2</sup></b>	(5 & 7, 2 & 6)	5 & 7, 4 & 6	(5 & 9, 4 & 6)

**3 RATING**

<b>1</b>	0.4VA 28VDC Resistive
<b>A<sup>3</sup></b>	10.5mA 1.5A 28VDC, 5A 28V 50A Inrush Lamp Load
<b>B<sup>4</sup></b>	3.5A 28VDC, 18A Inrush
<b>C<sup>3</sup></b>	10mA 10A 28VDC

**4 ILLUMINATION**

LAMPS	ILLUMINATION	LAMP WIRED TO TERMINALS
<b>S</b> NONE	INDEPENDENT	-
<b>A</b> 1	INDEPENDENT	1 (+) 2 (-)
<b>C</b> 1	INDEPENDENT	1 (+) 2 (-)
<b>2</b>	INDEPENDENT	9 (+) 2 (-)
<b>D</b> 1	INDEPENDENT	1 (+) 2 (-)
<b>2</b>	INDEPENDENT	9 (+) 10 (-)
<b>E</b> 1 & 3	INDEPENDENT	1 (+) 2 (-)
	PARALLEL	
<b>F</b> 1	INDEPENDENT	1 (+) 10 (-)
	SNAP	
<b>G</b> 1 & 2	INDEPENDENT	1 (+) 10 (-)
	DEPENDENT	9 (+) 2 (-)
<b>H</b> 1 & 2	INDEPENDENT	1 (+) 2 (-)
	DEPENDENT	9 (+) 10 (-)
<b>J</b> 1, 2 & 3	INDEPENDENT	1 (+) 2 (-)
	DEPENDENT	5 (+) 10 (-)
	INDEPENDENT	1 (+) 2 (-)
<b>K</b> 1 & 2	INDEPENDENT	1 (+) 2 (-)
	INDEPENDENT	9 (+) 10 (-)
	3.3K RESISTOR IN PARALLEL	

**5,6,7 LAMP (same coding for all 3 selections)**

Selection 5: specifies lamp 1 located above terminals 1 (+) & 2 (-).  
Selection 6: specifies lamp 2 located in center of rocker.  
Selection 7: specifies lamp 3 located above terminals 9 (+) & 10 (-).

No lamp	<b>0</b>			
LED	Red	Orange	Yellow	Green
12VDC	<b>A</b>	<b>C</b>	<b>E</b>	<b>H</b>
24VDC	<b>B</b>	<b>D</b>	<b>F</b>	<b>J</b>

**8 BRACKET COLOR**

<b>1</b>	Black
<b>4</b>	Dark Carbon

**9 ACTUATOR**

	Black	Titan Gray	Dark Carbon
Standard Rocker, Laser Etched	<b>M</b>	<b>N</b>	<b>R</b>

**10, 11, 12 LEGEND COLOR**

<b>Z</b>	No legend
<b>1</b>	Clear

**13 LEGEND 1<sup>5</sup>****00** No legend**14 LEGEND ORIENTATION**

<b>0</b>	No legend
<b>1</b>	Orientation 1
<b>2</b>	Orientation 2
<b>3</b>	Orientation 3
<b>4</b>	Orientation 4

**15,16 LEGEND 2,3<sup>6</sup>****00** No legend**NOTES**

- Indicates 1/2 travel for actuator.
- Snap-Action Contact Mechanism
- Not available with circuit 98.
- Available with circuit 98 only.
- Located over T1-2.
- Legend 2 located in center of rocker, Legend 3 located over T9-10. Legend 2 options are limited due to a very small marking area. Consult factory for specifics.



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