

# S-Series

## S-Series

### ROCKER SWITCHES

S-Series rocker switches are designed for use in the enclosed cabs of today's trucks, with special focus afforded to the vehicle operator. With features including abbreviated travel ½ throw actuation, ergonomic rockers, illumination in up to three detent switch positions, and a non-teasable snap action circuit, these switches provide the driver with easily recognizable and simple to operate controls. Designers will appreciate the 10A, 24VDC rating, space saving compact envelope, clean bezel-less design, integrated low insertion force connector and polarized switch base for quick installation. Most any illumination and switch circuitry is easily accommodated with the S-Series 10 terminal base.



#### Product Highlights:

- ♦ Abbreviated travel ½ throw actuation
- ♦ Ergonomic rockers
- ♦ Recognizable and simple to operate controls
- ♦ Compact Design

#### Typical Applications:

- ♦ On-Highway Transportation Equipment
- ♦ Agricultural Equipment
- ♦ Construction Equipment



**Electrical**

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

**Mechanical**

Endurance	250,000 cycles minimum
-----------	------------------------

**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

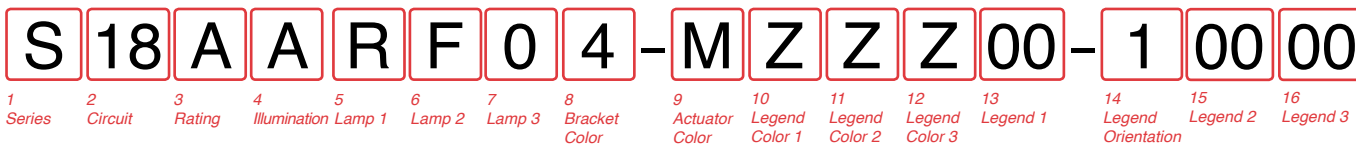
**Environmental**

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.)
---------------	--

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



**1 SERIES**  
S

**2 CIRCUIT**  
Terminal Connections as viewed from bottom of switch: ( ) - momentary  
1 - - 2 SP - single pole uses terminals  
3, 5 & 7. DP - double pole uses terminals  
3 - - 4  
3, 5, 7 & 4, 6, 8.  
5 - - 6  
7 - - 8  
9 - - 10

<b>Position:</b>	<b>1</b>	<b>2</b>	<b>3</b>
SP DP	5 & 7, 6 & 8	Connected Terminals	3 & 5, 4 & 6
16 26	ON	OFF	ON
18 28	(ON)	OFF	(ON)

**SPECIAL CIRCUITS**

31	(6 & 8)	4, 5, 6, 7	OFF
41 51	ON	OFF	NONE 1
42 52	(ON)	OFF	NONE 1
43 53	(ON)	3 & 5	NONE 1
44 54	ON	3 & 5	NONE 1
45 55	(ON)	OFF	ON
46 56	NONE	5 & 7	ON
47 57	NONE	5 & 7	(ON)
75	(5 & 7, 3 & 6)	5 & 7, 4 & 6	(3 & 5, 4 & 6)
98 2	(5 & 7, 2 & 6)	5 & 7, 4 & 6	(5 & 9, 4 & 6)

**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	0	Red	Orange	Yellow	Green
LED	A	C	E	H	
12VDC	B	D	F	J	
24VDC					

**8 BRACKET COLOR**  
1 Black  
4 Dark Carbon

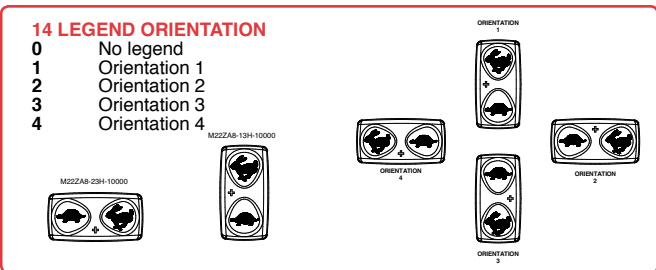
**9 ACTUATOR**  
Standard Rocker, Laser Etched  
Black M Titan Gray N Dark Carbon R

**10, 11, 12 LEGEND COLOR**  
Z No Legend  
1 Clear

**13 LEGEND 1 5**  
00 No Legend

**3 RATING**

1	0.4VA 28VDC Resistive
A 3	10.5mA 1.5A 28VDC, 5A 28V 50A Inrush Lamp Load
B 4	3.5A 28VDC, 18A Inrush
C 3	10mA 10A 28VDC
D 3	20mA 10A 14VDC



**4 ILLUMINATION**

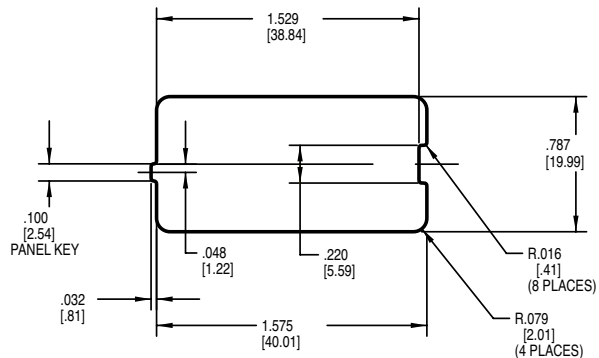
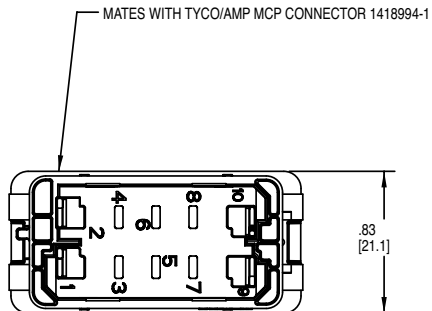
S	Lamps	Illumination Type	Lamp wired to Terminals
NONE		INDEPENDENT	-
A 1		INDEPENDENT	1 (+) 2 (-)
C 1		INDEPENDENT	1 (+) 2 (-)
2		INDEPENDENT	9 (+) 2 (-)
D 1		INDEPENDENT	1 (+) 2 (-)
2		INDEPENDENT	9 (+) 10 (-)
E 1 & 3		INDEPENDENT	1 (+) 2 (-)
F 1		PARALLEL	
		INDEPENDENT	1 (+) 10 (-)
		SNAP	
G 1 & 2		INDEPENDENT	1 (+) 10 (-)
		DEPENDENT	9 (+) 2 (-)
H 1 & 2		INDEPENDENT	1 (+) 2 (-)
		DEPENDENT	9 (+) 10 (-)
J 1, 2 & 3		INDEPENDENT	1 (+) 2 (-)
		DEPENDENT	5 (+) 10 (-)
		INDEPENDENT	1 (+) 2 (-)
K 1 & 2		INDEPENDENT	1 (+) 2 (-)
		INDEPENDENT	9 (+) 10 (-)

3.3K RESISTOR IN PARALLEL

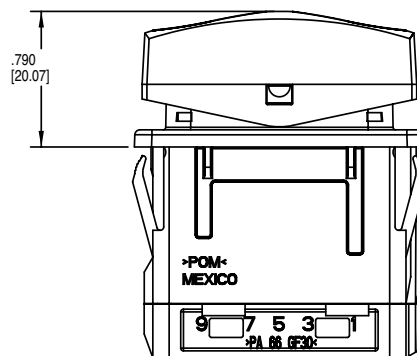
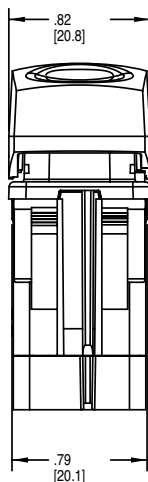
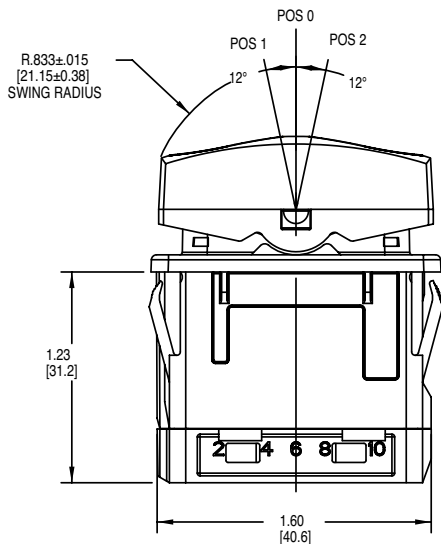
**15,16 LEGEND 2,3 6**  
00 No legend

Notes:  
1 Indicates 1/2 travel for actuator.  
2 Snap-Action Contact Mechanism  
3 Not available with circuit 98.  
4 Available with circuit 98 only.  
5 Located over T1-2.  
6 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.

Dimensional Specifications: in. [mm]



PANEL THICKNESS: 2.5±0.1mm  
 PANEL OPENING CLEARANCE: ±5°  
 SCALE 2.000



## 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 four ISO 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)

## **Worldwide Headquarters**

Carling Technologies, Inc.  
60 Johnson Avenue, Plainville, CT 06062  
**Phone:** 860.793.9281 **Fax:** 860.793.9231  
**Email:** sales@carlingtech.com

**Northern Region Sales Office:** nrsm@carlingtech.com  
**Southeast Region Sales Office:** sersm@carlingtech.com  
**Midwest Region Sales Office:** mrrsm@carlingtech.com  
**West Region Sales Office:** wrsm@carlingtech.com  
**Latin America Sales Office:** larsm@carlingtech.com

## **Asia-Pacific Headquarters**

Carling Technologies, Asia-Pacific Ltd.,  
Suite 1607, 16/F Tower 2, The Gateway,  
Harbour City, 25 Canton Road,  
Tsimshatsui, Kowloon, Hong Kong  
**Phone:** Int + 852-2737-2277 **Fax:** Int + 852-2736-9332  
**Email:** sales@carlingtech.com.hk

**Shenzhen, China:** shenzhen@carlingtech.com  
**Shanghai, China:** shanghai@carlingtech.com  
**Pune, India:** india@carlingtech.com  
**Kaohsiung, Taiwan:** taiwan@carlingtech.com  
**Yokohama, Japan:** japan@carlingtech.com

## **Europe | Middle East | Africa Headquarters**

Carling Technologies LTD  
4 Airport Business Park, Exeter Airport,  
Clyst Honiton, Exeter, Devon, EX5 2UL, UK  
**Phone:** Int + 44 1392.364422 **Fax:** Int + 44 1392.364477  
**Email:** ltd.sales@carlingtech.com

**Germany:** gmbh@carlingtech.com  
**France:** sas@carlingtech.com



**Carling Technologies®**

Innovative Designs. Powerful Solutions.