Looking for a rugged, fully sealed rocker switch?

Carling Technologies set the standard for performance, reliability and aesthetics with the widely successful, often imitated, but never duplicated, V-Series rocker switches. Building further upon that platform, Carling has once again raised the bar with the fully sealed W-Series. The W-Series traditional appearance features complete IP68 protection, even below the panel, where the critical connection is made from your wiring harness. When used in conjunction with the integrated connector, the totally submersible W-Series provides a seal for up to ten individual wires, assuring compatibility with even the most complex circuitry.

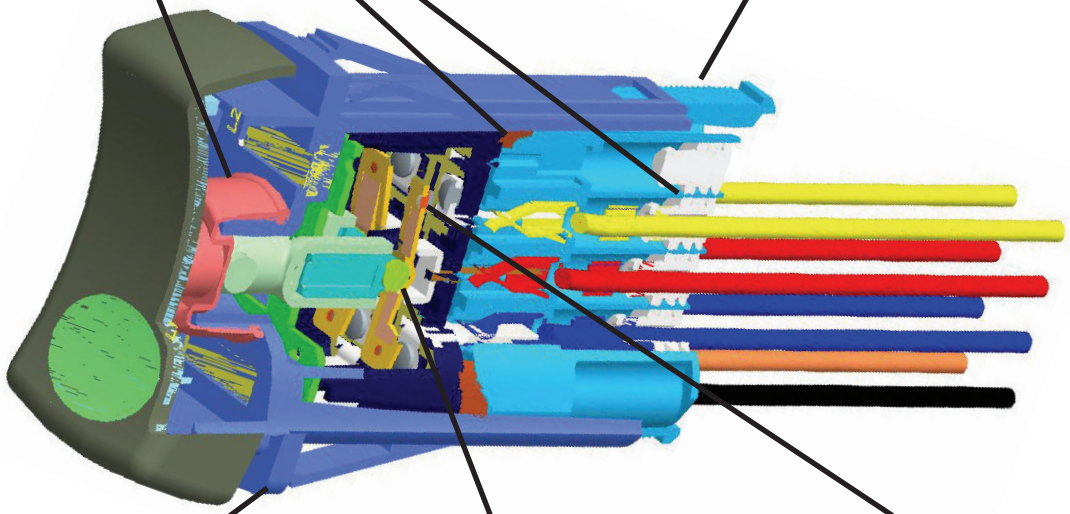
The W-Series also offers a wide variety of accoutrements including endless illumination options featuring dual level and multicolor LEDs, progressive and hazard warning circuits, ratings up tp 10A 24V, choice of paddle, rocker, locking or laser etched actuators, hundreds of standard legend choices and the electrical performance and reliability that is the hallmark of Carling Technologies products.

Tri-Seal Design

Affords IP68 protection for the entire switch including teminals and connector

Connector with Twin Locking Tabs

Provides sealed water tight connections as well as simple removal using only your hands.



Proven Switch Mechanism

Butt-Action contacts are available in a wide variety of circuitry and platings to accommodate most any application.

An Easy Retrofit

W-Series fits industry standard mounting hole 1.450 x .830

Functionality Under Extreme Conditions

Roller pin mechanism is lubricant free, withstanding temperatures from -40°C to +85°C.

Electrical

Contact Rating	.4VA @ 24VDC 10 amps, 3-24VDC
Dielectric Strength	1500 Volts RMS
Insulation Resistance	50 Megaohms
Initial Contact Resistance	10 milliohms max. @ 4 VDC
Life	100,000 cycles
Contacts	Silver tin-oxide, 88/12
Terminals	Copper with silver or gold plating. Quick Connect terminations.
Voltage	3-24 VDC
Overcurrent	15A for 50 cycles

Mechanical

Endurance	250,000 cycles minimum

Physical

Lighted	LED - rated 100,000 hours 1/2 life (LED is internally ballasted for voltages to 24 VDC)
Seals	Neoprene
Base	Polyester blend rated to 125C with a UL flammability rating of 94V0.
Actuator	Basic actuator structure molded of thermoplastic polycarbonate with a hard Nylon 66 thermoplastic surface overlay.
Lens	Polycarbonate rated at 100°C
Function	2 & 3 Position Rocker Style
Operation	Maintained & Momentary
Base	PA 6/6 30GF (glass filled)
Actuator	PA 6/6 13GF
Bracket	PBT 10GF
Connector	PBT 10GF, polarized

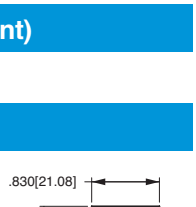
Actuator Travel (Angular Displacement)

24° full throw

Mounting Specifications

Panel Thickness Range .032 to .125

For optimum panel fit, the following panel thicknesses are suggested: .032, .062, .093, .125

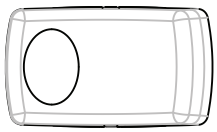


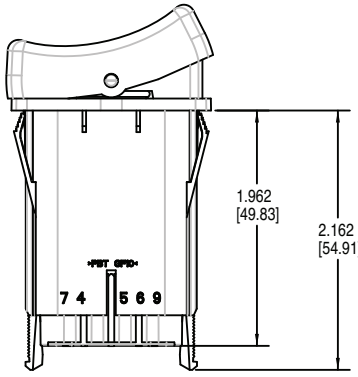
SWITCH MOUNTING HOLE

Environmental

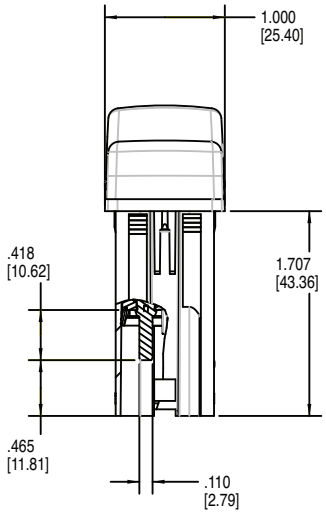
Environmental	IP68, Fully sealed
Corrosion/ Chemical Splash	Flowing Mixed Gas (FMG) Class III 3 year accelerated exposure per ASTM B-827, B-845
Operating Temperature	-40°C to +85°C, 22 cycles, 300 hours
Vibration 1	Per Mil-Std 202F, Method 204D Test Condition A 0.06 DA or 10G's 10-500 Hz.
Vibration 2	Resonance search 24-50 Hz 0.40 DA 50-2000 ±10 G's peak Results Horizontal Axis 3-5 G's max. Random 24 Hz 0.06 PSD-Gsq/Hz 60 Hz 0.50 100 Hz 0.50 200 Hz 0.025 2000 Hz 0.025
Handling/Drop	One meter onto concrete floor
Salt Spray	Per Mil-Std 202F, Method 101D, Test Condition A, 48 Hrs.
Dust	IP6X
Thermal Shock	Per Mil-Std 202F, Method 107F, Test Condition A, -55°C to 85°C. Test criteria - pre and post test contact resistance
Moisture Resistance/ Humidity	Per Mil-Std 202F, Method 106F, Test Criteria - pre and post test contact resistance

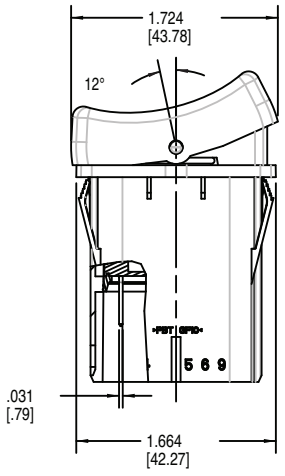
Dimensional Specifications: in. [mm]

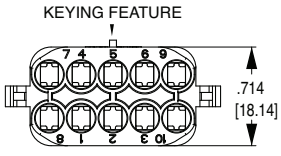




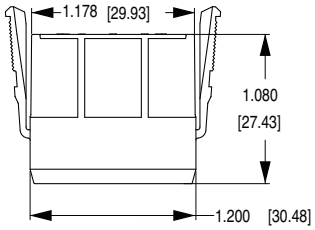
SWITCH SHOWN WITH
CONNECTOR INSTALLED







WCH CONNECTOR
(190-31214-001)



Notes:
WCH connector is intended for use with Tyco/Amp .110 Junior Power Timer, female contacts, and wire seals.
For 14-16 awg wire, specify Tyco/Amp P/N 927766-3
For 16-20 awg wire, specify Tyco/Amp P/N 927770-3
Tyco/Amp cable seal P/N 828904-1 (20-18 awg wire) or P/N 828905-1 (16-14 awg wire) is required for each individual wire lead, and Tyco/Amp cable plug, P/N 828922-1, is required to seal each unused connector opening. Consult Tyco/Amp for the cable seal recommended for your specific wire gauge and thickness.

W	11	D	2	B	C	0	1	-	A	7	Z	00	-	0	00
1 Series	2 Circuit	3 Rating	4 Termination	5 Illumination	6 Lamp	7 Lamp	8 Bracket		9 Actuator	10 Lens	11 Lens	12 Legend		13 Legend Orientation	14 Actuator Lens Legend

1 SERIES
W

2 CIRCUIT
Terminal Connections as viewed from bottom of switch:

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

( ) - momentary

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

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
13	**23**	ON	NONE	(OFF)
14	**24**	ON	NONE	ON
15	**25**	ON	NONE	(ON)
16	**26**	ON	OFF	ON
17	**27**	ON	OFF	(ON)
18	**28**	(ON)	OFF	(ON)
–	**49**	ON	ON	ON

3 RATING
B 10A 24V
D 10A 12V
G 10A 6V
H 10A 3V

4 TERMINATION/BASE STYLE
2 .110 TAB (QC)

5 ILLUMINATION & SWITCH SEALING
Lamp #1:above terminals 1 & 4 end of switch.; Lamp #2 above terminals 3 & 6 end of switch.

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

Code	Lamps	Actuator Lens position when Illuminated	Lamp wired to Terminals
0	None		
A	# 1	Independent	8+ 7-
B	# 1	Down	3+ 7-
C	# 2	Up	3+ 7-
D	# 1	Down	3+ 7-
	&# 2	Down	1+ 7-
E	# 1	Up	1+ 7-
	& # 2	Up	3+ 7-
F	# 1	Independent	8+ 7-
	& # 2	Up	3+ 6-
G	# 1	Independent	8+ 7-
	& # 2	Up	3+ 7-
H	# 2	Independent	8+ 7-
Selections for Single Pole Switches Only:			
J	# 1	Down	3+ 8-
	& # 2	Independent	6+ 7-
K	# 1	Independent	8+ 7-
	& # 2	Independent	6+ 7-
Selections for Double Pole Switches Only:			
L	# 1	Down	3+ 6-
M	# 2	Up	3+ 6-
N	# 1	Down	3+ 6-
	& # 2	Down	1+ 4-
P	# 1	Up	1+ 4-
	& # 2	Up	3+ 6-
R	# 1	Down	3+ 7-
	& # 2	Up	6+ 7-
S	# 1	Down	6+ 7-
	& # 2	Independent	8+ 7-
U	# 1	Independent	8+ 7-
	& # 2	Independent	10+ 9-
V	# 2	Independent	10+ 9-
W	# 1	Independent	8+ 7-
	& # 2	Independent	10+ 7-
Y	# 1 & 2	Independent in Series	8+ 7-
Z	# 1 & 2	Independent in Parallel	8+ 7-

6,7 LAMP (same coding for both selections)
Selection 6: above terminals 1 & 4; Selection 7: above terminals 3 & 6

No lamp **0**

LED*

	Red	Amber	superbright Green	White
2VDC	**A**	**L**	**F**	**4**
6VDC	**B**	**M**	**G**	**5**
12VDC	**C**	**N**	**H**	**6**
24VDC	**D**	**P**	**J**	**8**

* Consult factory for "daylight bright" LED options. Typical current draw for LED is 20ma.

8 BRACKET COLOR[1]
1 Black

9 ACTUATOR[1,3]
3 Black with Laser Etch
A Black

10 LENS - above lamp #1 terminals 1,4
11 LENS - above lamp #2 terminals 3,6
Lens color for LEDs must be clear, white, or match color of LED.

0 - No Actuator **Z** - No Lens

Clear	White	Amber	Green	Red	Blue	Lens Style
1	**–**	**B**	**G**	**M**	**T**	**Transparent Large**
–	**7**	**C**	**H**	**N**	**U**	**Translucent Large**
3	**–**	**D**	**J**	**P**	**V**	**Transparent Bar**
–	**9**	**E**	**K**	**R**	**W**	**Translucent Bar**
5	**A**	**–**	**–**	**–**	**–**	**Laser Etch** (Background Color)

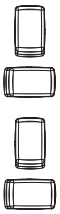
12 ACTUATOR LENS OR BODY LEGEND[2]
00 - No Legend this location/No actuator

11 ON OFF **12** OFF ON **13** I O **14** O I

15 O O F N F **16** O O N F F **17** O I **18** I O

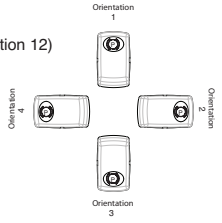
21 OFF **22** ON **23** O **24** I

25 O F F **26** O N **27** O **28** I



For additional legend options & codes, see pages 54-65 of this catalog

13 LEGEND ORIENTATION
0 No legend (used with codes 11-18 in selection 12)
1 Orientation 1
2 Orientation 2
3 Orientation 3
4 Orientation 4



14 ACTUATOR LENS LEGEND[2]
00 No legend this location/no actuator (used with codes 11-18 in selection 12)

Selection 14 required when switch requires two legends. If the two legends consist of one lens & one body legend, lens legend must be specified in selection 12; body legend specified in selection 14. For legend options & codes, see pages 54-65 of this catalog.

NOTES
1 Custom colors are available. Consult factory.
2 White imprinting is standard on black actuators; Black imprinting is standard on white, red & gray actuators; Custom colors are available, consult factory.
3 Locking rocker version is also available, consult factory for details.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Carling Technologies:

W21D20001-AZZ00-000 W24D20001-AZZ00-000 W14D20001-AZZ00-000 W16D2DHN1-A7700-000 W14D2DHN1-A7700-000 W26D2DHN1-A7700 W11D2GHN1-A7900-000 W26D20001-AZZ00-000 W12D2GHN1-A7900-000 W21D2GHN1-A7900 W22D20001-AZZ00-000 W11D20001-AZZ00-000 W22D2GHN1-A7900 W12D20001-AZZ00-000 W24D2DHN1-A7700 W16D20001-AZZ00-000