## Neon Miniature Power Rocker with Wire Leads

# **Series CWSB**

Voltage (V)

Internal Series Resistance

Current (I)

Endurance (Hours)

125V AC

68K ohms

0.6mA

8,000

### CWSB21FAFF-WL



### DOUBLE POLE WITH SOLDER LUG

			Rocker Position			Connected Terminals			Throw & Switch/Lamp Schematic	
Base Swit	ch Po	ole	Down	Center	Up	Down	Center	Up	Note: Terminal numb on the switch.	ers are actually
CWSB21F4	AFF D	OP	ON	NONE	OFF	1-1a 2-2a	OPEN	OPEN	DPST	
Wiring						Wire Specifications		Panel Cutout		
No. of Wires	Termin 1	al	Terminal 1a	Terminal 2	Terminal 2a	UL1015 600V	Temperature Range: -40°C ~ +105°C (-40°F ~ +221°F)		Panel Thickness Range: .030″ ~ .079″	(19.2) .756
4	Black	¢	White	Blue	Yellow	16 AWG S	Stripped Wire Ends 1/4"		(0.75mm ~ 2.0mm)	(12.9) 

**Neon Lamp Color & Specifications** 

Green Illumination

Neon Lamp

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The Neon lamp is factory assembled and not available separately. The lamp circuit is synchronous to the switching circuit.

Electrical specifications are determined at a basic temperature of 25°C.

# Base Switch Specifications

Power Level:       9A @ 125V AC         Other Ratings       20 milliohms maximum         Insulation Resistance:       20 milliohms maximum         Insulation Resistance:       500 megohms minimum @ 500V DC         Dielectric Strength:       1,500V AC minimum between contacts for 1 minute minimum;         3,000V AC minimum between contacts & case for 1 minute minimum;         3,000V AC minimum between contacts & case for 1 minute minimum;         Mechanical Life:       10,000 operations minimum         Electrical Life:       10,000 operations minimum         Nominal Operating Force:       10.0N         Angle of Throw:       30°         Materials & Finishes       Rocker:         Polycarbonate       Stationary Contacts:         Brass with silver plating       Brass with silver plating         Movable Contactor:       Beryllium copper with silver plating         Movable Contacts:       Silver allay         Brow > 50C (hrough +85°C (-4°F through +185°F)       Brass with silver plating         Power Livit pack-to-peak amplitude of 0.75mm traversing the frequency range & returning in 1 minute; 3 right angled directions for 2 hours         Shock:       Shock:       SoG (490m/s²) acceleration (tested in 6 right angled directions, with 5 shocks in each direction)         Standards & Certifications for Base Switch       UL       File No. E	Electrical Capacity (Resistive Lo	ad)							
Contact Resistance:       20 milliohms maximum         Insulation Resistance:       500 megohms minimum @ 500V DC         Dielectric Strength:       1,500V AC minimum between contacts for 1 minute minimum; 3,000V AC minimum between contacts & case for 1 minute minimum         Mechanical Life:       30,000 operations minimum         Ibelectric Strength:       10,000 operations minimum         Mechanical Life:       10,000 operations minimum         Nominal Operating Force:       10.0N         Angle of Throw:       30°         Materials & Finishes       Rocker:         Rocker:       Polycarbonate       Switch Terminals:         Housing:       Polycarbonate       Switch Terminals:         Movable Contactor:       Beryllium copper with silver plating       Lamp Terminals:         Movable Contactor:       Silver alloy         Movable Contactor:       Silver alloy         Movable Contacts:       Silver alloy         Humidity:       90 ~ 95% humidity for 96 hours @ 40°C (104°F)         Yibration:       10 ~ 55Hz with peak-to-peak amplitude of 0.75mm traversing the frequency range & returning in 1 minute; 3 right angled directions for 2 hours         Shock:       50G (490m/s²) acceleration (tested in 6 right angled directions, with 5 shocks in each direction)         Standards & Certifications for Base Switch       UL:       F	Power Level:	9A @ 125V AC							
Insulation Resistance:       500 megohms minimum @ 500V DC         Dielectric Strength:       1,500V AC minimum between contacts for 1 minute minimum; 3,000V AC minimum between contacts & case for 1 minute minimum         Mechanical Life:       30,000 operations minimum         Electrical Life:       10,0N         Angle of Throw:       30°         Materials & Finishes       Polycarbonate         Rocker:       Polycarbonate         Housing:       Polycarbonate         Silver alloy       Beryllium copper with silver plating         Movable Contactor:       Beryllium copper with silver plating         Movable Contactor:       Beryllium copper with silver plating         Movable Contactor:       Silver alloy         Movable Contacts:       Silver alloy         Brass with silver plating       Brass with silver plating         Movable Contacts:       Silver alloy         Humidity:       90 ~ 95% humidity for 96 hours @ 40°C (104°F)         Vibration:       10 ~ 55Hz with peak-to-peak amplitude of 0.75mm traversing the frequency range & returning in 1 minute; 3 right angled directions for 2 hours         Shock:       Staddards & Certifications for Base Switch       UL         UL:       File No. E44145       CSA:         YA @ 125V AC       YA @ 125V AC         Markings on case are sta	Other Ratings								
Dielectric Strength:       1,500V AC minimum between contacts for 1 minute minimum; 3,000V AC minimum between contacts & case for 1 minute minimum; 3,000V AC minimum between contacts & case for 1 minute minimum         Mechanical Life:       30,000 operations minimum         Electrical Life:       10,000 operations minimum         Nominal Operating Force:       10.0N         Angle of Throw:       30°         Materials & Finishes       8         Rocker:       Polycarbonate       Stationary Contacts:         Housing:       Polyamide       Switch Terminals:         Movable Contactor:       Beryllium copper with silver plating       Lamp Terminals:         Movable Contactor:       Silver alloy         Humidity:       90 ~ 95% humidity for 96 hours @ 40°C (104°F)         Vibration:       10 ~ 55Hz with peak-to-peak amplitude of 0.75mm traversing the frequency range & returning in 1 minute; 3 right angled directions for 2 hours         Shock:       50G (490m/s²) acceleration (tested in 6 right angled directions, with 5 shocks in each direction)         Standards & Certifications for Base Switch       UL:         UL:       File No. E44145	Contact Resistance:	20 milliohms maximum							
3,000V AC minimum between contacts & case for 1 minute minimum Mechanical Life: 30,000 operations minimum Electrical Life: 10,000 operations minimum Nominal Operating Force: 10.0N Angle of Throw: 30° Materials & Finishes Rocker: Polycarbonate Stationary Contacts: Silver alloy Housing: Polyamide Beryllium copper with silver plating Lamp Terminals: Brass with silver plating Movable Contacts: Silver alloy Environmental Data Operating Temp Range: -20°C through +85°C (-4°F through +185°F) Humidity: 90 ~ 95% humidity for 96 hours @ 40°C (104°F) Vibration: 10 ~ 55Hz with peak-to-peak amplitude of 0.75mm traversing the frequency range & returning in 1 minute; 3 right angled directions for 2 hours Standards & Certifications for Base Switch UL: File No. E44145 Standards & Certifications for Base Switch UL: File No. E44145 Standards.	Insulation Resistance:	500 megohms minimum @ 500V DC							
Mechanical Life:       30,000 operations minimum         Electrical Life:       10,000 operations minimum         Nominal Operating Force:       10,0N         Angle of Throw:       30°         Materials & Finishes       Stationary Contacts:         Rocker:       Polycarbonate         Housing:       Polycarbonate         Movable Contactor:       Beryllium copper with silver plating         Movable Contacts:       Silver alloy         Movable Contacts:       Silver alloy         Poperating Temp Range:       -20°C through +85°C (-4°F through +185°F)         Humidity:       90 ~ 95% humidity for 96 hours @ 40°C (104°F)         Vibration:       10 ~ 55Hz with peak-to-peak amplitude of 0.75mm traversing the frequency range & returning in 1 minute; 3 right angled directions for 2 hours         Shock:       50G (490m/s²) acceleration (tested in 6 right angled directions, with 5 shocks in each direction)         Standards & Certifications for Base Switch       UL:         UL:       File No. E441145       CSA:         9A @ 125V AC       Markings on case are standard.	Dielectric Strength:								
Electrical Life:       10,000 operations minimum         Nominal Operating Force:       10.0N         Angle of Throw:       30°         Materials & Finishes       Rocker:         Polycarbonate       Stationary Contacts:         Novable Contactor:       Polycarbonate         Movable Contactor:       Beryllium copper with silver plating         Movable Contacts:       Silver alloy         Brass with silver plating       Lamp Terminals:         Movable Contacts:       Silver alloy         Brass with silver plating       Brass with silver plating         Movable Contacts:       Silver alloy         Brass with silver plating       Brass with silver plating         Movable Contacts:       Silver alloy         Brass with silver plating       Brass with silver plating         Movable Contacts:       Silver alloy         Environmental Data       -20°C through +85°C (-4°F through +185°F)         Yolp ~ 95% humidity for 96 hours @ 40°C (104°F)       Yibration:         Vibration:       10 ~ 55Hz with peak-to-peak amplitude of 0.75mm traversing the frequency range & returning in 1 minute; 3 right angled directions for 2 hours         Shock:       50G (490m/s²) acceleration (tested in 6 right angled directions, with 5 shocks in each direction)         Standards & Certifications of Base Switch									
Nominal Operating Force:       10.0N         Angle of Throw:       30°         Materials & Finishes       So         Rocker:       Polycarbonate       Stationary Contacts:       Silver alloy         Housing:       Polyamide       Switch Terminals:       Brass with silver plating         Movable Contactor:       Beryllium copper with silver plating       Lamp Terminals:       Brass with silver plating         Movable Contacts:       Silver alloy       Brass with silver plating       Brass with silver plating         Movable Contacts:       Silver alloy       Brass with silver plating       Brass with silver plating         Movable Contacts:       Silver alloy       Brass with silver plating       Brass with silver plating         Movable Contacts:       Silver alloy       Brass with silver plating       Brass with silver plating         Movable Contacts:       Silver alloy       Brass with silver plating       Brass with silver plating         Interview       Silver alloy       Silver alloy       Brass with silver plating       Brass with silver plating         Interview       90 ~ 95% humidity for 96 hours @ 40°C (104°F)       Interview       Interview       Interview         Vibration:       10 ~ 55Hz with peak-to-peak amplitude of 0.75mm traversing the frequency range & returning in 1 minute; 3 right angled directions for 2 hours	Mechanical Life:	30,000 operations minimum							
Ángle of Throw:       30°         Materials & Finishes       80%         Rocker:       Polycarbonate       Stationary Contacts:       Silver alloy         Housing:       Polyamide       Switch Terminals:       Brass with silver plating         Movable Contactor:       Beryllium copper with silver plating       Lamp Terminals:       Brass with silver plating         Movable Contacts:       Silver alloy       Brass with silver plating       Brass with silver plating         Movable Contacts:       Silver alloy       Brass with silver plating       Brass with silver plating         Movable Contacts:       Silver alloy       Brass with silver plating       Brass with silver plating         Movable Contacts:       Silver alloy       Brass with silver plating       Brass with silver plating         Movable Contacts:       Silver alloy       Brass with silver plating       Brass with silver plating         Movable Contacts:       Silver alloy       Brass with silver plating       Brass with silver plating         Movable Contacts:       Silver alloy       Polycarbonate       Polycarbonate       Polycarbonate         Movable Contacts:       Silver alloy       Polycarbonate       Polycarbonate       Polycarbonate       Brass with silver plating         Movable Contacts:       Soft Silver alloy       Polyc	Electrical Life:	10,000 operations minimum							
Materials & Finishes       Rocker: Housing: Novable Contactor: Movable Contactor: Movable Contacts:       Polycarbonate Polyamide       Stationary Contacts: Switch Terminals:       Silver alloy         Movable Contactor: Movable Contacts:       Beryllium copper with silver plating Silver alloy       Barass with silver plating Brass with silver plating Brass with silver plating       Brass with silver plating Brass with silver plating         Environmental Data       -20°C through +85°C (-4°F through +185°F) Humidity:       90 ~ 95% humidity for 96 hours @ 40°C (104°F)       Brass with silver plating         Vibration:       10 ~ 55Hz with peak-to-peak amplitude of 0.75mm traversing the frequency range & returning in 1 minute; 3 right angled directions for 2 hours       50G (490m/s²) acceleration (tested in 6 right angled directions, with 5 shocks in each direction)         Standards & Certifications for Base Switch       UL:       File No. E44145       CSA:       File No. 0701166_0_000 9A @ 125V AC         Warkings on case are standard.       Markings on case are standard.       Markings on case are standard.	Nominal Operating Force:	10.0N							
Rocker: Housing: Movable Contactor:Polycarbonate PolyamideStationary Contacts: Switch Terminals:Silver alloy Brass with silver plating Brass with silver platingEnvironmental Data-20°C through +85°C (-4°F through +185°F) 90 ~ 95% humidity for 96 hours @ 40°C (104°F) Vibration: 10 ~ 55Hz with peak-to-peak amplitude of 0.75mm traversing the frequency range & returning in 1 minute; 3 right angled directions for 2 hoursShock:SoG (490m/s²) acceleration (tested in 6 right angled directions, with 5 shocks in each direction)Standards & Certifications for Base Switch UL:File No. E44145 9A @ 125V AC Markings on case are standard.CSA:File No. 0701166_0_0000 9A @ 125V AC Markings on case are standard.	•	30°							
Housing:       Polyamide       Switch Terminals:       Brass with silver plating         Movable Contactor:       Beryllium copper with silver plating       Lamp Terminals:       Brass with silver plating         Movable Contacts:       Silver alloy       Silver alloy       Brass with silver plating         Environmental Data       -20°C through +85°C (-4°F through +185°F)       Brass with silver plating         Operating Temp Range:       -20°C through +85°C (-4°F through +185°F)       Brass with silver plating         Yibration:       90 ~ 95% humidity for 96 hours @ 40°C (104°F)       10 ~ 55Hz with peak-to-peak amplitude of 0.75mm traversing the frequency range & returning in 1 minute; 3 right angled directions for 2 hours         Shock:       SoG (490m/s²) acceleration (tested in 6 right angled directions, with 5 shocks in each direction)         Standards & Certifications for Base Switch       UL:       File No. E44145       CSA:       File No. 0701166_0_000         9A @ 125V AC       Markings on case are standard.       Markings on case are standard.       Markings on case are standard.	Materials & Finishes								
Movable Contactor: Movable Contacts:       Beryllium copper with silver plating Silver alloy       Lamp Terminals:       Brass with silver plating         Environmental Data       -20°C through +85°C (-4°F through +185°F)       90 ~ 95% humidity for 96 hours @ 40°C (104°F)       Brass with silver plating         Vibration:       -20°C through +85°C (-4°F through +185°F)       90 ~ 95% humidity for 96 hours @ 40°C (104°F)       In minute; 3 right angled directions for 2 hours         Shock:       Shock:       50G (490m/s²) acceleration (tested in 6 right angled directions, with 5 shocks in each direction)         Standards & Certifications for Base Switch       CSA:       File No. 0701166_0_000 9A @ 125V AC         UL:       File No. E44145       CSA:       File No. 0701166_0_000 9A @ 125V AC         Markings on case are standard.       Markings on case are standard.	Rocker:								
Movable Contacts:       Silver alloy         Environmental Data       -20°C through +85°C (-4°F through +185°F)         Operating Temp Range:       -20°C through +85°C (-4°F through +185°F)         Yibration:       90 ~ 95% humidity for 96 hours @ 40°C (104°F)         Vibration:       10 ~ 55Hz with peak-to-peak amplitude of 0.75mm traversing the frequency range & returning in 1 minute; 3 right angled directions for 2 hours         Shock:       50G (490m/s²) acceleration (tested in 6 right angled directions, with 5 shocks in each direction)         Standards & Certifications for Base Switch       UL:         UL:       File No. E44145         Shock:       CSA:         File No. 0701166_0_000         9A @ 125V AC       9A @ 125V AC         Markings on case are standard.       Markings on case are standard.	<b>u</b>	Polyamide	Switch Terminals:	1 0					
Environmental Data         Operating Temp Range: Humidity: Vibration:         0       -20°C through +85°C (-4°F through +185°F)         90 ~ 95% humidity for 96 hours @ 40°C (104°F)         10 ~ 55Hz with peak-to-peak amplitude of 0.75mm traversing the frequency range & returning in 1 minute; 3 right angled directions for 2 hours         Shock:       50G (490m/s²) acceleration (tested in 6 right angled directions, with 5 shocks in each direction)         Standards & Certifications for Base Switch       UL:         UL:       File No. E44145         9A @ 125V AC       9A @ 125V AC         Markings on case are standard.       Markings on case are standard.			Lamp Terminals:	Brass with silver plating					
Operating Temp Range:       -20°C through +85°C (-4°F through +185°F)         Humidity:       90 ~ 95% humidity for 96 hours @ 40°C (104°F)         Vibration:       10 ~ 55Hz with peak-to-peak amplitude of 0.75mm traversing the frequency range & returning in 1 minute; 3 right angled directions for 2 hours         Shock:       50G (490m/s²) acceleration (tested in 6 right angled directions, with 5 shocks in each direction)         Standards & Certifications for Base Switch       UL:         VIL:       File No. E44145         VIL:       File No. E44145         VIL:       File No. E44145         VIL:       File No. E44145         VIL:       A@ 125V AC         Markings on case are standard.       Markings on case are standard.		Silver alloy							
Humidity:       90 ~ 95% humidity for 96 hours @ 40°C (104°F)         Vibration:       10 ~ 55Hz with peak-to-peak amplitude of 0.75mm traversing the frequency range & returning in 1 minute; 3 right angled directions for 2 hours         Shock:       50G (490m/s²) acceleration (tested in 6 right angled directions, with 5 shocks in each direction)         Standards & Certifications for Base Switch       UL:         File No. E44145       CSA:       File No. 0701166_0_000         9A @ 125V AC       9A @ 125V AC       9A @ 125V AC         Markings on case are standard.       Markings on case are standard.	Environmental Data								
Vibration:       10 ~ 55Hz with peak-to-peak amplitude of 0.75mm traversing the frequency range & returning in 1 minute; 3 right angled directions for 2 hours         Shock:       50G (490m/s <sup>2</sup> ) acceleration (tested in 6 right angled directions, with 5 shocks in each direction)         Standards & Certifications for Base Switch       UL:         VIL:       File No. E44145         VIL:       File No. E44145         VIL:       File No. E44145         VIL:       Markings on case are standard.									
Shock:       in 1 minute; 3 right angled directions for 2 hours         Shock:       50G (490m/s <sup>2</sup> ) acceleration (tested in 6 right angled directions, with 5 shocks in each direction)         Standards & Certifications for Base Switch       UL:         VIL:       File No. E44145         VIL:       File No. E44145         VIC:       File No. E44145         VIC:       File No. E44145         VIC:       Markings on case are standard.									
Shock:       50G (490m/s <sup>2</sup> ) acceleration (tested in 6 right angled directions, with 5 shocks in each direction)         Standards & Certifications for Base Switch       Base Switch         UL:       File No. E44145       CSA:       File No. 0701166_0_000         9A @ 125V AC       9A @ 125V AC       9A @ 125V AC         Markings on case are standard.       Markings on case are standard.       Markings on case are standard.	Vibration:								
Standards & Certifications for Base Switch         UL:       File No. E44145         9A @ 125V AC         Markings on case are standard.									
UL:File No. E44145CSA:File No. 0701166_0_0009A @ 125V AC9A @ 125V ACMarkings on case are standard.Markings on case are standard.									
9A @ 125V AC 9A @ 125V AC 9A @ 125V AC 9A @ 125V AC									
Markings on case are standard. Markings on case are standard.	UL:		CSA:						
		Markings on case are standard.		Markings on case are standard.					

