## **Series WR**

# General Specifications

#### **Electrical Capacity (Resistive Load)**

Power Level:

15A @ 125/250V AC or 15A @ 30V DC

#### **Other Ratings**

**Contact Resistance:** 10 milliohms maximum for solder lug, screw & quick connect terminal models 30 milliohms maximum for wire lead terminal models **Insulation Resistance:** 200 megohms minimum @ 500V DC **Dielectric Strength:** 1,250V AC minimum between contacts for 1 minute minimum 3,750V AC minimum between contacts & case for 1 minute minimum 30,000 operations minimum Mechanical Life: **Electrical Life:** 15,000 operations minimum for circuit 11 and 12 models 10,000 operations minimum for circuit 13, 15, 18, 19 models Angle of Throw: 24°

#### Materials & Finishes

Rocker:	Phenylene oxide
Outer Housing:	Polyamide (UL94V-0)
Inner Case:	Melamine (UL94V-0)
Cover for Wire Lead Models:	Glass fiber reinforced polyamide (UL94V-0)
Flange Gasket:	Polychloroprene rubber
Movable Contactor:	Copper with silver plating
Movable Contacts:	Silver alloy plus copper with silver plating
Stationary Contacts:	Silver alloy plus copper with silver plating
Terminals:	Brass with tin plating
Wire Lead Covers:	Heat resistant polyvinyl chloride (Leads are AWG 14)

#### **Environmental Data**

Operating Temp Range:	-25°C through +85°C (-13°F through +185°F)
Humidity:	90 ~ 95% humidity for 96 hours @ 40°C (104°F)
Vibration:	10 ~ 55Hz with peak-to-peak amplitude of 1.5mm 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)
Front Panel Seal:	IP67 of IEC60529, dust tight & water protected during temporary immersion for all models
Behind Panel Seal:	IP60 of IEC60529, dust tight but not water protected for solder lug, screw & quick connect models
	IP67 of IEC60529, dust tight & water protected during temporary immersion for wire lead models
- 	
Installation	
Soldering Time & Temp:	Manual Soldering: See Profile A in Supplement section.
Cleaning:	Hand clean locally using alcohol based solution.
Standards & Certifications	
Flammability Standards:	UL94V-0 outer housing, inner case, & outer cover on wire lead models
UL:	File No. E44145 - Recognized only when ordered with marking on switch.
	Add "/U" or "/CUL" to end of part number to order UL recognized switch.
-	All models approved at 15A @ 125/250V AC & 15A @ 30V DC.
EN:	No. 61058-1
	WR11 & WR12 models meet European Norm for 3mm contact gap to prevent contact welds.
Wiring Material Standards:	UL AWM 1015 Recognized at Flammability VW-1.
<b>.</b>	Temperature Range –20°C ~ +105°C; Maximum Load 600V; AWG 14.
	CSA TEW 105 Certified at Temperature Range -20°C ~ +105°C; Maximum Load 600V.



Toggles

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Touch

Supplement Accessories Indicators

Toggles

Rockers

Keylocks Programmable Illuminated PB Pushbuttons

Rotaries

Slides

**Factiles** 

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Touch

Indicators

Supplement Accessories

# Distinctive Characteristics

Single unit construction of the flange and outer housing gives added protection from environmental elements.

Specially designed contact mechanism for breaking light welds.

Minimal contact bounce achieved with specially designed interlocked switching mechanism.

Heat resistant resin used for outer housing, inner case, and cover on wire lead models meets UL94V-0 flammability standard and provides high arc and tracking resistance.

Available with solder lug, screw, quick connect, and wire lead terminations.

#### Sealed Construction Meets IP60 & IP67 Standards

Solder lug, screw, and quick connect terminal models meet IP67 of IEC60529 Standards at front panel (dust tight and water protected for temporary immersion, patent pending). Behind panel standard is IP60 (dust tight but not water protected).

Wire lead models conform fully to IP67 of IEC60529 Standards at front and behind panel (dust tight and water protected for temporary immersion). Switch base is epoxy sealed and covered by an outer case for further protection from dust and water. (Switches cannot be operated under water. Contact factory for further details regarding operating environment.)









### **Series WR**

### **Environmentally Sealed Rockers**

Toggles	TYPICAL SWITCH ORDERING EXAMPLE							
Rockers B	WR	1			<b>2 B</b>			S
Pushbuttons								
ted PB	Poles	(	Circuits Rockers				Terminals	
Illuminated PB	1 SPST SPDT	1 ON 2 ON	NONE NONE	OFF ON	A * B	Black	S	Solder Lug with Epoxy Seal
mable	I	3 ON	OFF	ON	* Co	Ivory ntact Factory Quick Connect	SN	Solder Lug without Epoxy Seal
Programmable		5 ON 8 (ON	NONE OFF	(ON) (ON)		h Ivory Rocker	T	Screw Lug with Epoxy Seal
		9 ON	OFF	(ON)			TN	Screw Lug without Epoxy Seal
Keylocks			= Momenta	ry			F	.250" (6.35mm) Quick Connect with Epoxy Seal
Rotaries							FN	.250″ (6.35mm) Quick Connect without Epoxy Seal
Slides							L	Wire Lead

#### **IMPORTANT:**



Switches are supplied without UL & cULus marking unless specified. **UL & cULus recognized only when ordered with marking on the switch.** Specific models, ratings and ordering instructions are noted on the General Specifications page.

#### DESCRIPTION FOR TYPICAL ORDERING EXAMPLE

#### WR12BS

SPDT ON-NONE-ON Circuit Solder Lug Terminals with Epoxy Seal



Tactiles

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Touch

Supplement Accessories Indicators

### **Environmentally Sealed Rockers**

#### Toggles **POLES & CIRCUITS Rocker Position Throw & Schematics Connected Terminals** ( ) = Momentary Rockers Up Down Center Up В Down Center Terminal numbers are not Note: Pole Model actually on wire lead models. Programmable Illuminated PB Pushbuttons 1a (COM) ۲ SP WR11 ON NONE OFF 1a-1b OPEN OPEN SPST • 1b WR12 ON NONE ON **WR13** OFF ON ON 1 (COM) SP WR15 ON NONE (ON) 1-1b OPEN 1-1a SPDT 1a ) 1b **WR18** (ON) OFF (ON) WR19 ON OFF (ON)

#### **TYPICAL SWITCH DIMENSIONS**

**Solder Lug Terminals** 

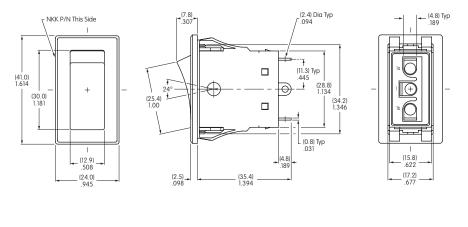
Keylocks

Rotaries

Slides

Tactiles

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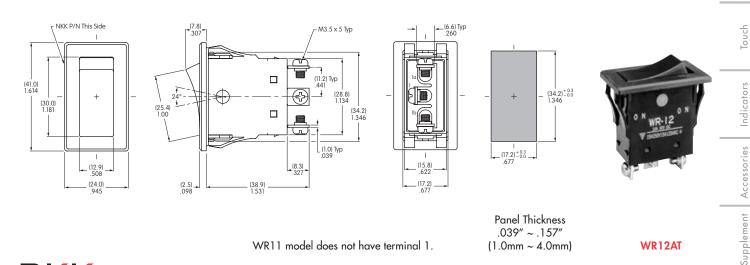
WR11 model does not have terminal 1.

Panel Thickness .039" ~ .157"  $(1.0 \text{mm} \sim 4.0 \text{mm})$ 

\_ (17.2) <sup>+ 0.3</sup> \_ .677

**WR12AS** 

#### **Screw Lug Terminals**





## **Series WR**



### **Series WR**

.250" (6.35mm) Quick Connect Terminals

## Toggles

# Rockers B

Rotaries

Slides

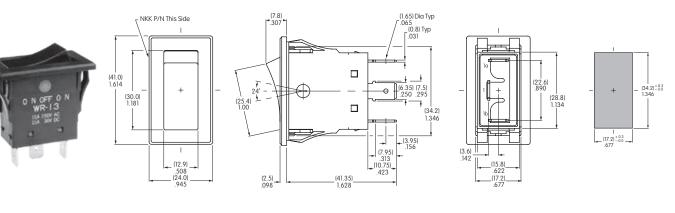
Tactiles

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Touch

Indicators

Supplement Accessories



**TYPICAL SWITCH DIMENSIONS** 

WR13AF

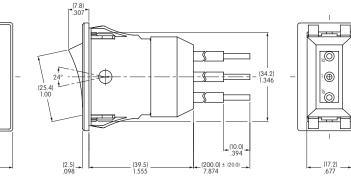
Wire Lead Terminals



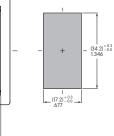


NKK P/N This Side

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WR11 model does not have terminal 1.



Panel Thickness .039" ~ .157"

(1.0mm ~ 4.0mm)

WR15BL

WR11 model does not have terminal 1.

Panel Thickness .039" ~ .157" (1.0mm ~ 4.0mm)

#### **STANDARD WIRE COLOR SCHEME**

Wire leads are covered with heat resistant vinyl in accordance with UL 1015 and CSA TEW 105 Standards for Appliance Wiring Material (AWM).

Terminal Numbers & Wire Colors							
	la	1	1b				
WR11	Black		White				
WR12-19	White	Black	Red				



### **Mouser Electronics**

Authorized Distributor

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

NKK Switches: WR19ASN WR11ASN WR15BS