# 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
**Mechanical Life:** 30,000 operations minimum
**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:** Nitrile butadiene 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:** Copper with tin plating for solder lug & wire lead
Brass with silver plating for screw lug
Brass with tin plating for quick connect
**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$^2$) 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.
Solder & screw lug models recognized at 15A @ 125/250V AC & 15A @ 30V DC.
**VDE:** **License No. 126501 - Approved only when ordered with marking on switch.**
Add "/V" to end of part number to order VDE approved switch.
All models approved at 15A @ 250V AC (pending for quick connect).
**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.
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.

# Distinctive Characteristics

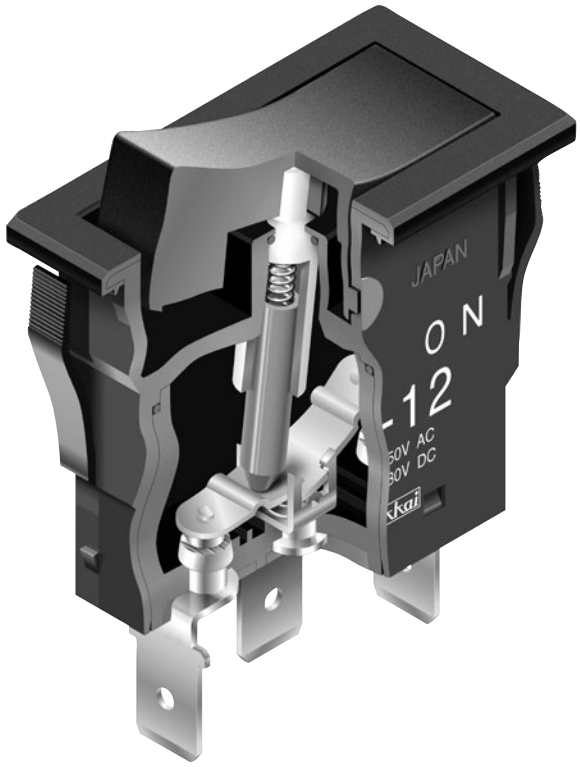
Single unit construction of the flange and outer housing gives added protection from environmental elements.

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.

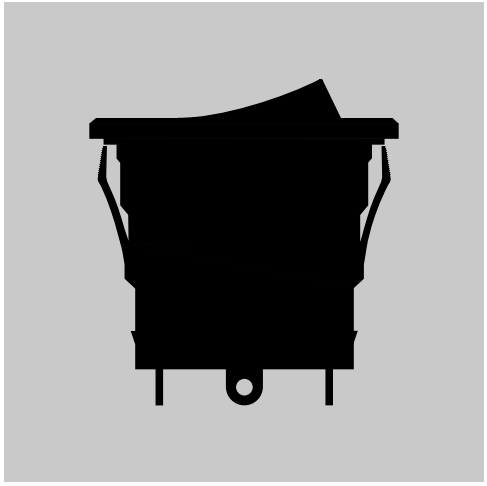



## Sealed Construction Meets IP60 & IP67 Standards

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.)

Actual Size



## TYPICAL SWITCH ORDERING EXAMPLE

WR 1 2 B S

### Poles

| | |
|---|---|
| 1 | SPST<br>SPDT |

### Circuits

| | | | |
|---|---|---|---|
| 1 | ON | NONE | OFF |
| 2 | ON | NONE | ON |
| 3 | ON | OFF | ON |
| 5 | ON | NONE | (ON) |
| 8 | (ON) | OFF | (ON) |
| 9 | ON | OFF | (ON) |

( ) = Momentary

### Rockers

| | |
|---|---|
| A | Black |
| * B | Ivory |

* Contact Factory for Quick Connect with Ivory Rocker

### Terminals

| | |
|---|---|
| S | Solder Lug with Epoxy Seal * |
| SN | Solder Lug without Epoxy Seal * |
| T | Screw Lug with Epoxy Seal |
| TN | Screw Lug without Epoxy Seal |
| F | .250" (6.35mm) Quick Connect with Epoxy Seal * |
| FN | .250" (6.35mm) Quick Connect without Epoxy Seal * |
| L | Wire Lead |

* Wire harness & cable assemblies offered only in Americas

### IMPORTANT:

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

### DESCRIPTION FOR TYPICAL ORDERING EXAMPLE

**WR12BS**

Ivory Rocker

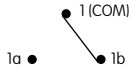
SPDT
ON-NONE-ON Circuit

Solder Lug Terminals with Epoxy Seal

## POLES & CIRCUITS

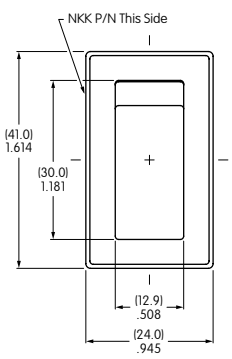
| Pole | Model | Rocker Position ( ) = Momentary: Down | Center | Up | Connected Terminals: Down | Center | Up | Throw & Schematics |
|---|---|---|---|---|---|---|---|---|
| SP | **WR11** | ON | NONE | OFF | 1a-1b | OPEN | OPEN | SPST |
| SP | **WR12**<br>**WR13**<br>**WR15**<br>**WR18**<br>**WR19** | ON<br>ON<br>ON<br>(ON)<br>ON | NONE<br>OFF<br>NONE<br>OFF<br>OFF | ON<br>ON<br>(ON)<br>(ON)<br>(ON) | 1-1b | OPEN | 1-1a | SPDT |

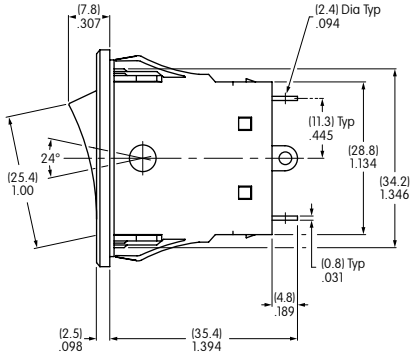
Note: Terminal numbers are not actually on wire lead models.

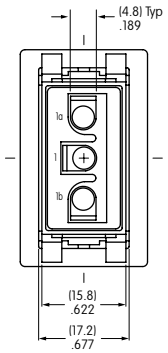


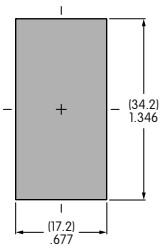

## TYPICAL SWITCH DIMENSIONS

### Solder Lug Terminals



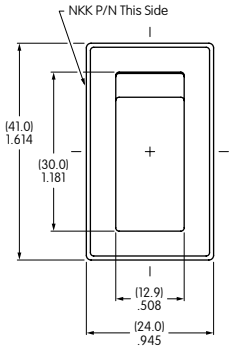



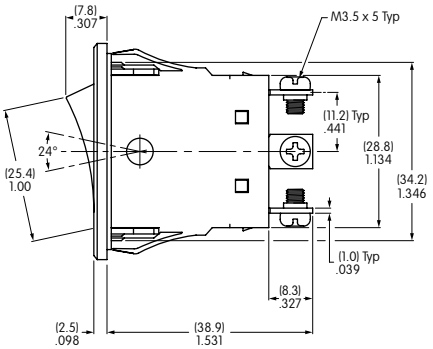
WR11 model does not have terminal 1.

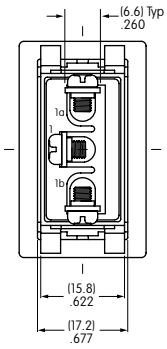
Panel Thickness
.039" ~ .157"
(1.0mm ~ 4.0mm)

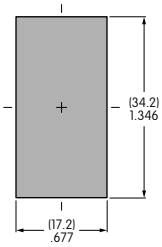
**WR12AS**

### Screw Lug Terminals



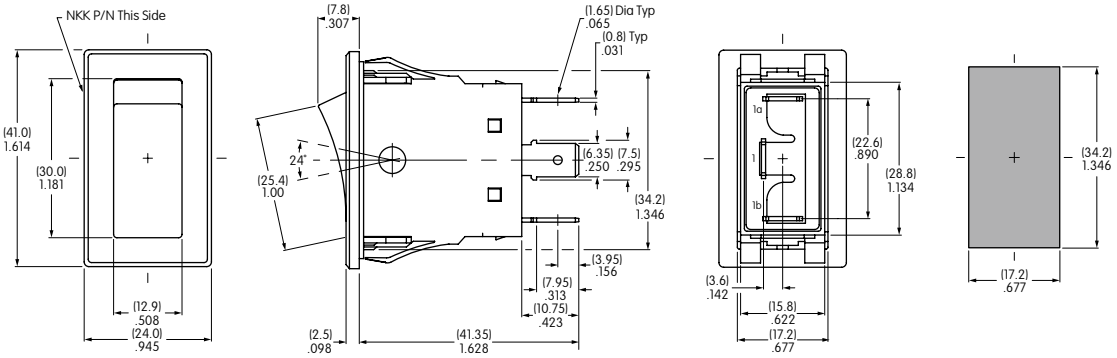
WR11 model does not have terminal 1.

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

**WR12AT**

## TYPICAL SWITCH DIMENSIONS

### .250" (6.35mm) Quick Connect Terminals

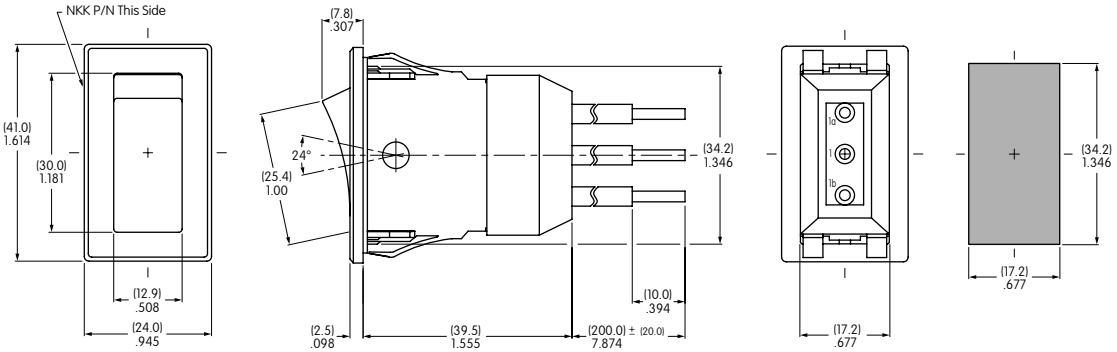



**WR13AF**

WR11 model does not have terminal 1.

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

### Wire Lead Terminals




**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 | | | |
|---|---|---|---|
| | 1a | 1 | 1b |
| **WR11** | Black | | White |
| **WR12-19** | White | Black | Red |

LifeElectronics
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