# Distinctive Characteristics 

Single unit construction of the bushing and case gives added protection from environmental elements.

Specially designed contact mechanism for breaking light welds.

Minimal contact bounce is achieved with specially designed interlocked switching mechanism.

Outer housing of heat resistant resin meets UL 94V-0 flammability standard and provides high arc and tracking resistance.

Solder lug and screw terminal models meet IP67 of IEC529 Standards at front panel (dust tight and water protected for temporary immersion). Behind panel standard is IP60 (dust tight but not water protected).


Wire lead models conform fully to IP67 of IEC529 Standards at front and behind panel (dust tight and water protected for temporary immersion). These models are epoxy sealed at the switch base and covered by an outer case for further protection from dust, water, oil, and gas. (Switches cannot be operated under water or oil.)


## General Specifications

## Ratings

| Electrical Capacity (Resistive Load): | $6 \mathrm{~A} @ 125 \mathrm{~V} \mathrm{AC} \mathrm{\&} \mathrm{3A} \mathrm{@} 250 \mathrm{~V}$ AC or 6A @ 30V DC |
| ---: | :--- |
| Contact Resistance: | 10 milliohms maximum for solder lug \& screw terminal models |
|  | 30 milliohms maximum for wire lead terminal models |
| Insulation Resistance: | 200 megohms minimum @ 500 V DC |
| Dielectric Strength: | $1,500 \mathrm{~V}$ AC minimum for 1 minute minimum |
| Mechanical Life: | 30,000 operations minimum |
| Electrical Life: | 15,000 operations minimum |
| Contact Timing: | Break before make |

## Materials \& Finishes

| Plunger: | Brass with nickel plating |
| ---: | :--- |
| Bushing \& Outer Case: | Fiberglass reinforced polyamide (UL94V-0 outer case) |
| Inner Case: | Melamine |
| Inner Sealing Ring: | Silicone rubber |
| Outer Sealing Ring: | Natural rubber |
| Movable Contactor: | Copper with silver plating <br> Movable Contacts: |
| Silver alloy plus copper with silver plating |  |
| Stationary Contacts: | Silver alloy plus copper with silver plating <br> Terminals: <br> Brass with silver plating for screw lug models; <br> copper with tin plating for solder lug \& wire lead models |
| Wire Lead Covers: | Heat resistant polyvinyl chloride (Leads are AWG 16.) |

## Environmental Data

Operating Temp Range:
Humidity:
Vibration:
$-30^{\circ} \mathrm{C}$ through $+70^{\circ} \mathrm{C}\left(-22^{\circ} \mathrm{F}\right.$ through $\left.+158^{\circ} \mathrm{F}\right)$
90 ~ $95 \%$ humidity for 96 hours @ $40^{\circ} \mathrm{C}\left(104^{\circ} \mathrm{F}\right)$
$10 \sim 55 \mathrm{~Hz}$ with peak-to-peak amplitude of 1.5 mm traversing the frequency range
\& returning in 1 minute; 3 right angled directions for 2 hours
Shock: $\quad 50 \mathrm{G}\left(490 \mathrm{~m} / \mathrm{s}^{2}\right)$ acceleration (tested in 6 right angled directions, with 5 shocks in each direction)

## Installation

Soldering Time \& Temperature: $\quad 3$ seconds @ $350^{\circ} \mathrm{C}$

## Standards \& Certifications

Flammability Standards: UL94V-0 outer case
Wiring Material Standards: UL AWM 1015 Recognized at Flammability VW-1;
Temp Range $-20^{\circ} \mathrm{C} \sim+105^{\circ} \mathrm{C}$; Max Load 600V; AWG16.
CSA TEW 105 Certified at Temp Range $-20^{\circ} \mathrm{C} \sim+105^{\circ} \mathrm{C}$; Max Load 600V

## TYPICAL SWITCH ORDERING EXAMPLE



## POLES \& CIRCUITS

|  |  | Actuator Position ( ) = Momentary |  | Connected Terminals |  | Throw \& Schematics |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Pole | Model | Normal Flat | Down | Normal Flat $\xrightarrow{-}$ | Down昷 | Note: | Terminal numbers are not actually on wire lead models. |
| SP SP | WB12 WB15 | $\begin{aligned} & \mathrm{ON} \\ & \mathrm{ON} \end{aligned}$ | $\begin{gathered} \mathrm{ON} \\ (\mathrm{ON}) \end{gathered}$ | $\begin{aligned} & 1-1 b \\ & 1-1 b \end{aligned}$ | $\begin{aligned} & 1-1 a \\ & 1-1 a \end{aligned}$ | SPDT |  |

## STANDARD WIRE COLOR SCHEME

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

| Terminal Numbers \& Wire Colors |  |  |  |
| :---: | :---: | :---: | :---: |
| Models | $\mathbf{l a}$ | $\mathbf{1}$ | $\mathbf{1 b}$ |
| WB12L, WB15L | White | Black | Red |

## TYPICAL SWITCH DIMENSIONS



## TYPICAL SWITCH DIMENSIONS



Panel Thickness 4.0 mm (.157")

Wire Lead


Panel Thickness $4.0 \mathrm{~mm}\left(.157^{\prime \prime}\right)$

## CAPS \& CAP COLORS



AT414
.520" Diameter
Colors Available:
ABCDEFGH
Material: PBT Finish: Glossy



Colors Available:
A B C F
Material: Polystyrene Finish: Glossy


## STANDARD HARDWARE

## AT503M

Hex Face Nut
Material:
Brass with tin plating

1 supplied with each switch


AT401P
O-ring
Material: Natural rubber

1 supplied with each switch


