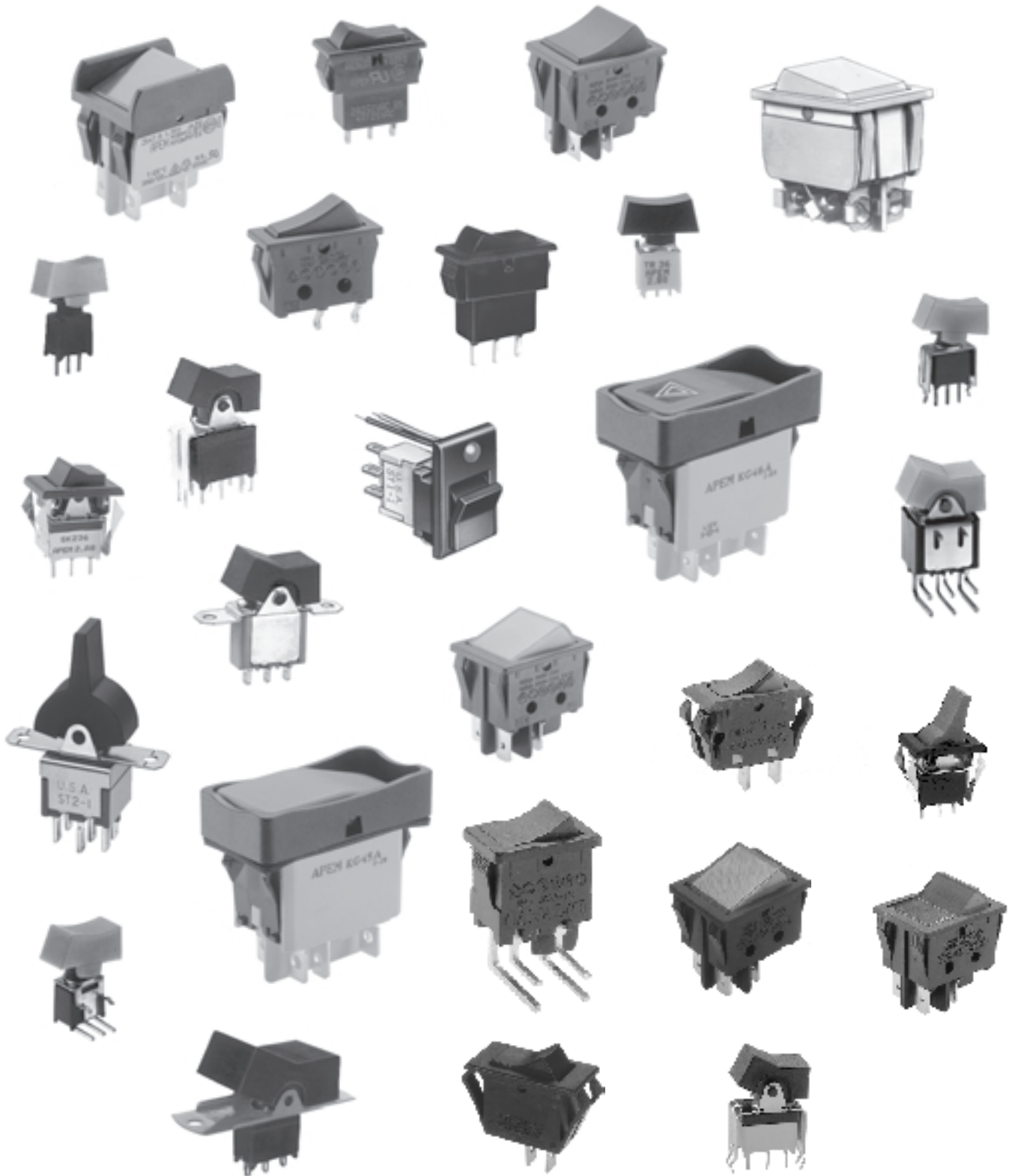


ROCKER & LEVER SWITCHES

SEE ROCKER & LEVER SWITCH SELECTION GUIDE ON NEXT PAGE

B

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE



ROCKER & LEVER SWITCHES

ROCKER & LEVER SWITCH SELECTION GUIDE: This catalog contains an extensive variety of rocker and lever switches with numerous options and accessories. To facilitate easy selection of the desired switch for your application, this guide lists the various Series with some key selection parameters.

B

SERIES	SIZE	RATINGS (Max. in bold)	POLES	ILLUMINATED	SURFACE MOUNT	PANEL MOUNT	P. C. MOUNT	UL	CSA	VDE	WASHABLE	ESD PROTECTION	PAGE(S)
TR <i>New!</i>	TINY	0.4VA 20V	SP		X						X	X	B3-B6
TR	TINY	1/2A 48V 0.4VA 20V	SP,DP				X				X	X	B7-B10
S	MINIATURE	0.4VA 20V 2A 250VAC 5A 125VAC 4A 30VDC	SP,DP				X	X			X	X	B11-B15
7000	MINIATURE	0.4VA 20V 3A 250VAC 6A 125VAC 4A 30VDC	SP,DP			X	X	X	X				B16-B19
ST & UL	MINIATURE	6A 125VAC 3A 250VAC 0.4VA 20V	SP,DP	X		X	X	X	X				B20-B30
2600	STANDARD	16A 125/250VAC 1/3 HP 250VAC PEAK CURRENT 150A 250VAC	SP,DP	X		X		X	X	X			B31-B35
AS	STANDARD	4A 125VAC 2A 250VAC 0.4VA 20V	SP			X		X	X				B36-B37
R <i>New!</i>	STANDARD	16A 125/250VAC 1/4 HP 20A 125VAC	SP,DP	X		X		X	X	X			B38-B39
RH <i>New!</i>	STANDARD	16A 125/250VAC 1/4 HP 20A 125 VAC	SP	X		X		X	X	X			B40-B41
FM <i>New!</i>	STANDARD	10A 125VAC 6A 250 VAC 6A 125/250VAC 1/8 HP	SP,DP	X		X		X	X	X			B42-B43
MR <i>New!</i>	STANDARD	10A 125VAC 8A 250VAC 1/4 HP	DP	X		X		X	X	X			B44-B45
B <i>New!</i>	STANDARD	15A 125VAC 10A 250VAC	SP,DP		X		X		X	X			B46-B47
HB <i>New!</i>	STANDARD	20A 125VAC 16A 250VAC 125/250 VAC 3/4 HP	SP	X		X		X	X	X			B48-B49
KG <i>New!</i>	STANDARD	15A 12VDC/250VAC 10A 24VDC	SP	X		X							B50-B53
H <i>New!</i>	STANDARD	16A 250VAC 4A INDUCTIVE 250 VAC	SP,DP	X		X							B54-B55

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

New! TR SERIES - SMT WASHABLE TINY ROCKER SWITCHES

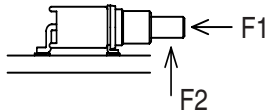
B

DESIGNED EXCLUSIVELY FOR SURFACE MOUNTING

SMT TR Series switches incorporate many desirable features that include:

- **Higher protection against p.c. board tear-offs**

The switch operating force is approx. .56 lbs. while forces required to tear switch off p.c. board are approx. 38 lbs. (F1) and 14 lbs. (F2).



- **Tape & reel packaging**

Recommended for:

- economy
- suitability for automated placement
- handling of large quantities of components per packaging unit
- positive component positioning
- protection of terminals against damage during handling
- high static resistance

- **Reflow solderable**

- High temperature plastic materials
- Tin plated grounding brackets
- Tin-lead alloy over nickel terminal plating
- Terminals turned outward to prevent the shadow effect in infrared soldering and to permit visual inspection of the solder joints
- .021" (0.55mm) air gap between p.c. board and switch case
- End stackable pitch .400" (10.16mm)
- Available with positioning pins to assure correct switch orientation during the reflow process and provide additional mechanical integrity

- **Protected against electrostatic discharges (ESD) up to 10 KV.**

- **Washable**

Switches are designed to withstand cleaning processes, including hot water under pressure.

Surface mount devices (SMD) are subject to more stringent constraints of temperature, solderability, sealing and space savings than through-hole components.

To meet these requirements, APEM has designed a family of tiny surface mount switches that include TL Series toggle switches, TP Series pushbutton switches, TR Series rocker switches & TG Series slide switches. See toggle, pushbutton & slide switch sections of catalog for TL, TP & TG Series respectively.



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

New! TR SERIES - SMT WASHABLE TINY ROCKER SWITCHES

B

ELECTRICAL SPECIFICATIONS

Contact ratings (resistive lds.):	0.4 VA at 20 V max. (AC or DC)
Minimum load:	10 mA at 50 mV or 10µA at 5 VD
Initial contact resistance:	20 milliohms maximum
Insulation resistance:	1000 MΩ min. at 500 VDC
Dielectric strength:	1000 V rms between terminals & frame. 500 V rms between terminals
Electrical life (at full load):	2 position switches: 60,000 cycles 3 position switches: 30,000 cycles
Static resistance:	10 KV (Schaffner equipment)

GENERAL SPECIFICATIONS

Operating temperature range:	-40°C to +85°C
Moisture resistance:	21 days per IEC 512-6 test 11c
Vibration resistance:	10-500 Hz/10g per IEC 512-4 test 6d
Shock resistance:	50 g per IEC 512-4 test 6c

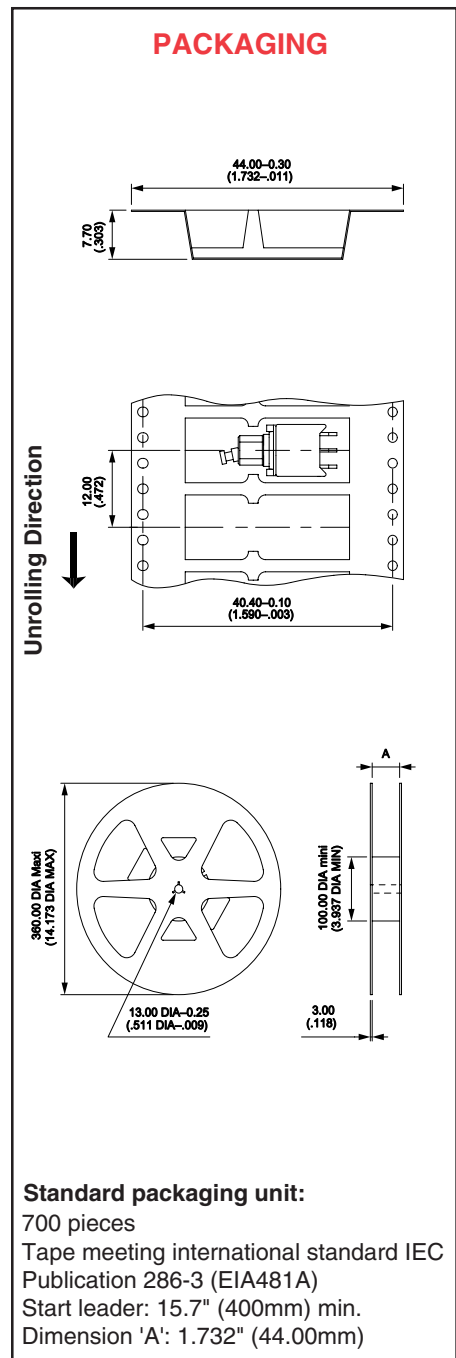
MATERIALS

Case:	High temperature plastic UL94V-0
Actuator:	High temperature plastic UL94V-0
Grounding brackets:	Tin plated steel (includes positioning pins)
Contacts:	Gold plated brass
Terminals:	Brass with tin-lead alloy over nickel plate
Terminal seal:	Epoxy

SOLDERING AND CLEANING

Reflow soldering:	Infrared, vapor phase and infrared convection
Washable:	Per IEA-RS448-2: water and detergent preferred. Solvents.

PACKAGING



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

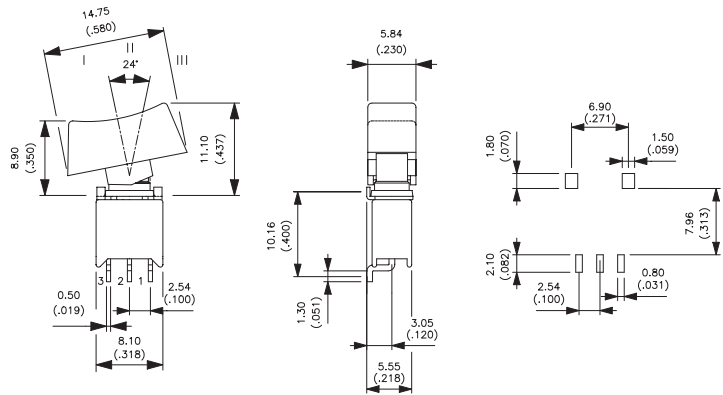
New! TR SERIES - SMT WASHABLE TINY ROCKER SWITCHES

B

Single pole rocker switches



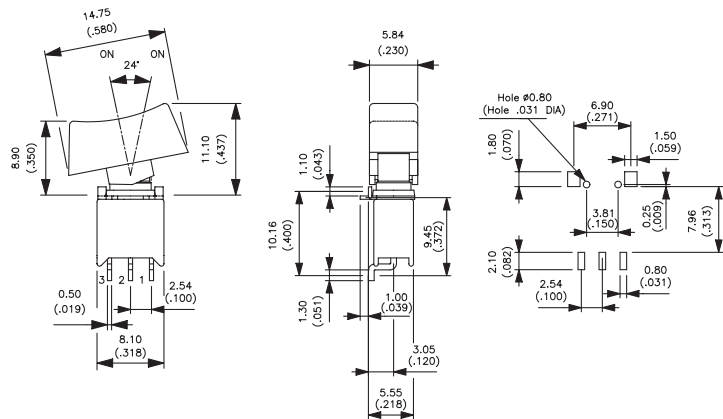
MODEL NO.	CIRCUIT		
TR36WS80000	ON	-	ON
TR39WS80000	ON	OFF	ON
TR37WS80000	MOM	OFF	MOM
TR38WS80000	ON	OFF	MOM
TR32WS80000	ON	-	MOM
Handle position:	III	II	I



Single pole rocker switches with positioning pins

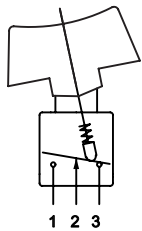


MODEL NO.	CIRCUIT		
TR36WS80065	ON	-	ON
TR39WS80065	ON	OFF	ON
TR37WS80065	MOM	OFF	MOM
TR38WS80065	ON	OFF	MOM
TR32WS80065	ON	-	MOM
Handle position:	III	II	I

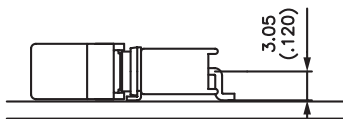


SWITCH ACTION

ON - ON Model shown



P.C. BOARD DIMENSIONS



LED INDICATOR IN TINY ROCKER PACKAGE

ELECTRICAL SPECIFICATIONS

Forward voltage: Red; 3.0 volts at 10 milliamps (2V typical)
 Green; 3.0 volts at 20 milliamps (2.2V typical)
 Yellow; 3.0 volts at 10 milliamps (2.1V typical)

Reverse voltage: 5.0 volts minimum

Viewing angle (total): 90°

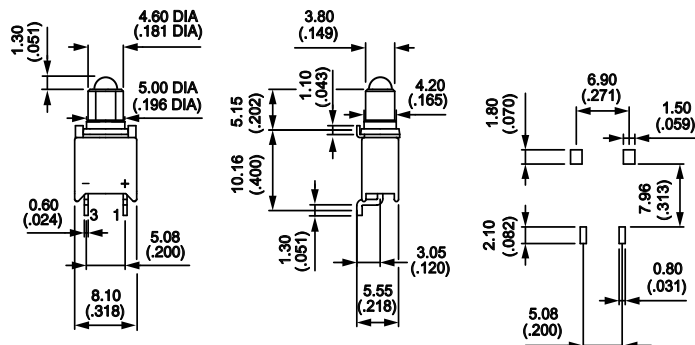
Wavelength: Red; 635 nm
 Green; 565 nm
 Yellow; 585 nm

PACKAGING

Tape & reel



MODEL NO.	COLOR
TV01WS00100	Red
TV02WS00100	Green
TV03WS00100	Yellow



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

New! TR SERIES - SMT WASHABLE TINY ROCKER SWITCHES

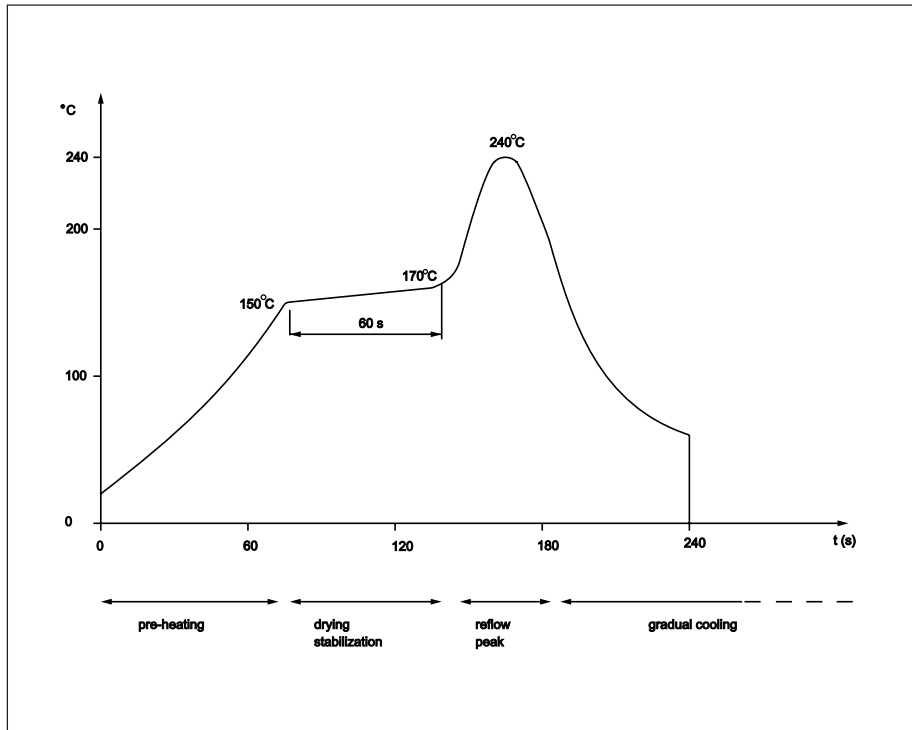
REFLOW SOLDERING - STANDARD PROFILE

B

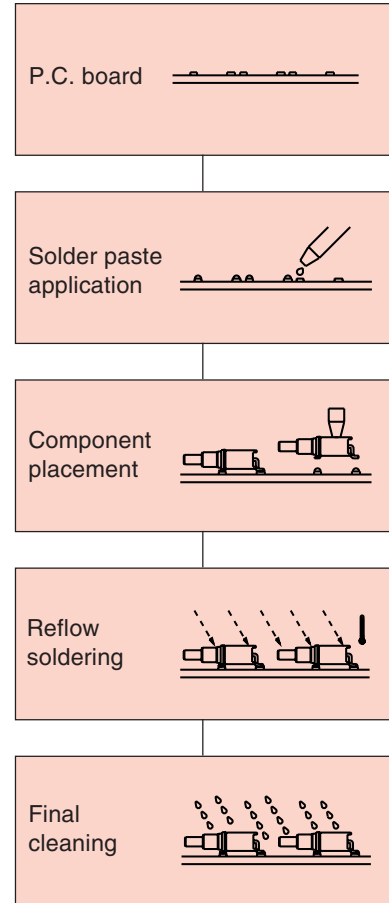
The printed circuit board, carried by a conveyor belt, travels through the reflow soldering oven and experiences the following programmed cycles:

- pre-heat to a maximum of 200°C for 30 seconds
- reflow at a maximum of 245°C for 10 seconds
- final cleaning

TEMPERATURE/TIME PROFILE (typical)

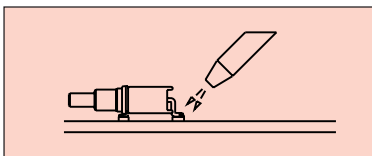


PROCESSING STEPS



P.C. BOARD REWORK RECOMMENDATIONS

Hot air reflow technique is preferred. Avoid the use of a soldering iron.

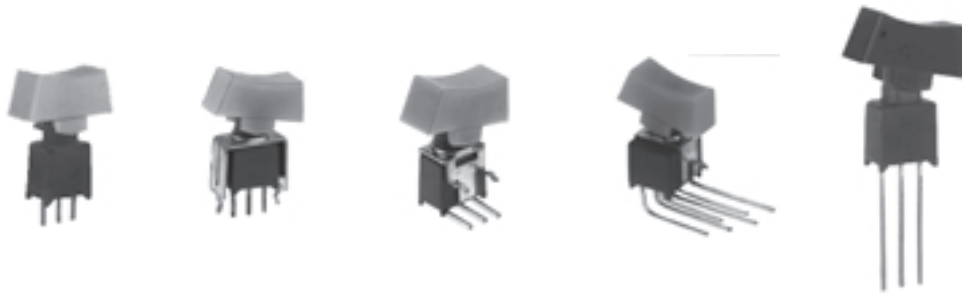


Caution: Excessive and/or repeated high temperature exposure may affect switch performance & reliability.

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

TR SERIES - WASHABLE TINY ROCKER SWITCHES, P.C. MOUNTING

B



FEATURES

- Wave solderable.
- Fully sealed for process compatibility.
- Ultra-compact case size.
- SPDT & DPDT models.
- Narrow & wide actuators in 9 colors.

SPECIFICATIONS

Contact ratings (resistive loads):	Gold plated brass; 0.4 Volt-Amps max. at 20 V max. Silver plated brass; 0.5 Amps at 48 V max.
Minimum load:	10 mA at 50 mV - 10 μ A at 5 VDC
Initial contact resistance:	20 milliohms maximum
Insulation resistance:	1000 megohms minimum at 500 VDC
Dielectric strength:	1000 V rms minimum between terminals and frame. 500 V rms between terminals..
Electrical life:	2 position switches - 60,000 cycles minimum. 3 position switches - 30,000 cycles minimum.
Operating temperature range:	-30°C to +85°C
Washing:	Permissible with water, detergents and freons.

MATERIALS

Contacts & Terminals:	Gold or silver plated brass
Actuator:	Polyamide
Bracket:	Tin plated steel or stainless steel
Case:	PBT
Terminal seal:	Epoxy

ABOUT THIS SERIES

The material in this series is organized in the following sequence:

- Completely specified switch models
- 'build your own switch' order format
- Option drawings & special options
- Miscellaneous

TR SERIES - WASHABLE TINY ROCKER SWITCHES, P.C. MOUNTING

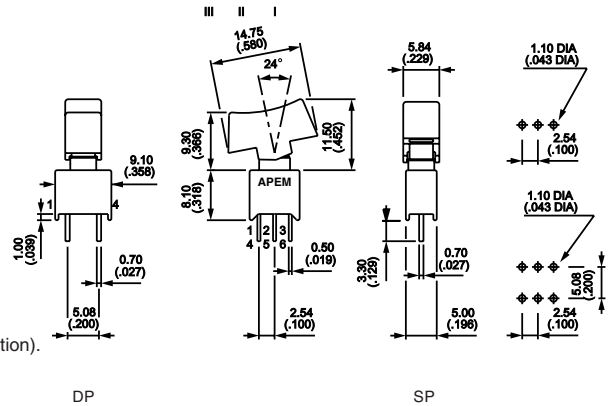
B

Straight p.c. terminals - gold plated brass contacts



SINGLE POLE MODEL NO.	DOUBLE POLE MODEL NO.	CIRCUIT	
TR36P00000012	TR46P00000012	ON	- ON
TR39P00000012	TR49P00000012	ON	OFF ON
TR37P00000012	TR47P00000012	MOM	OFF MOM
TR38P00000012	TR48P00000012	ON	OFF MOM
TR32P00000012	TR42P00000012	ON	- MOM
Handle position (see dwg.):		III	II I
Terminals connected: SP & DP		2-3	2-1
DP		5-6	4-5

Above models have black 10 actuator (see color codes at end of section).



DP

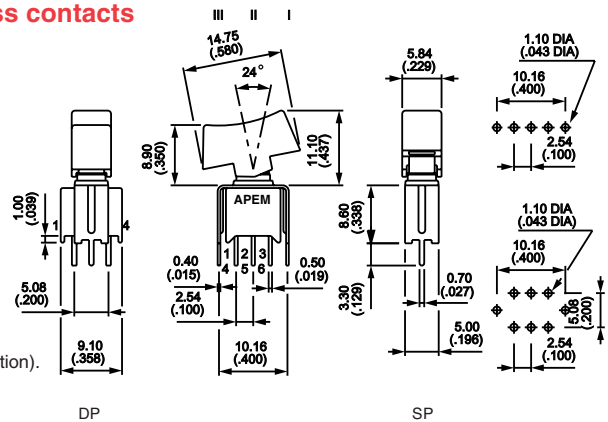
SP

Straight p.c. terminals - mounting bracket - gold plated brass contacts



SINGLE POLE MODEL NO.	DOUBLE POLE MODEL NO.	CIRCUIT	
TR36Y00005012	TR46Y00005012	ON	- ON
TR39Y00005012	TR49Y00005012	ON	OFF ON
TR37Y00005012	TR47Y00005012	MOM	OFF MOM
TR38Y00005012	TR48Y00005012	ON	OFF MOM
TR32Y00005012	TR42Y00005012	ON	- MOM
Handle position (see dwg.):		III	II I
Terminals connected: SP & DP		2-3	2-1
DP		5-6	4-5

Above models have black 10 actuator (see color codes at end of section).



DP

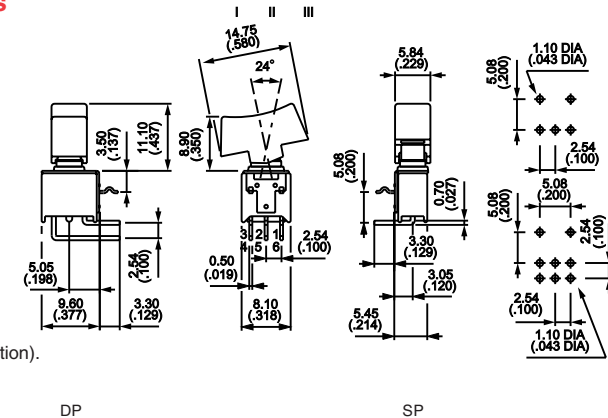
SP

Horizontal right angle terminals - gold plated brass contacts



SINGLE POLE MODEL NO.	DOUBLE POLE MODEL NO.	CIRCUIT	
TR36W00005012	TR46W00005012	ON	- ON
TR39W00005012	TR49W00005012	ON	OFF ON
TR37W00005012	TR47W00005012	MOM	OFF MOM
TR38W00005012	TR48W00005012	ON	OFF MOM
TR32W00005012	TR42W00005012	ON	- MOM
Handle position (see dwg.):		III	II I
Terminals connected: SP & DP		2-3	2-1
DP		5-6	4-5

Above models have black 10 actuator (see color codes at end of section).



DP

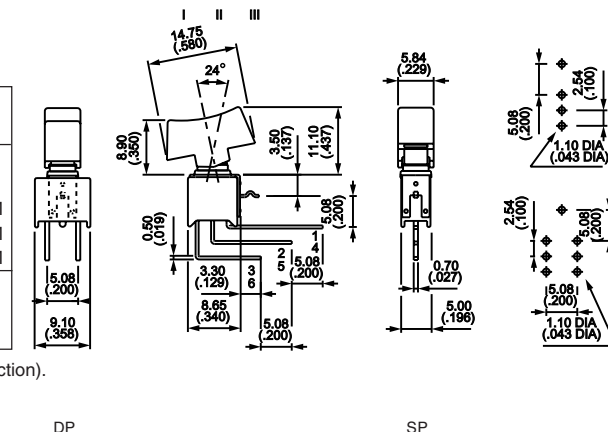
SP

Vertical right angle terminals - gold plated brass contacts



SINGLE POLE MODEL NO.	DOUBLE POLE MODEL NO.	CIRCUIT	
TR36WW00005012	TR46WW00005012	ON	- ON
TR39WW00005012	TR49WW00005012	ON	OFF ON
TR37WW00005012	TR47WW00005012	MOM	OFF MOM
TR38WW00005012	TR48WW00005012	ON	OFF MOM
TR32WW00005012	TR42WW00005012	ON	- MOM
Handle position (see dwg.):		III	II I
Terminals connected: SP & DP		2-3	2-1
DP		5-6	4-5

Above models have black 10 actuator (see color codes at end of section).



DP

SP

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

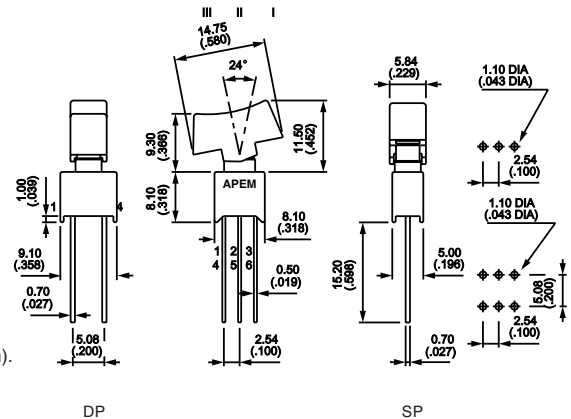
TR SERIES - WASHABLE TINY ROCKER SWITCHES, P.C. MOUNTING

Wire-wrap terminals - gold plated brass contacts



SINGLE POLE MODEL NO.	DOUBLE POLE MODEL NO.	CIRCUIT		
TR36MW0000012	TR46MW0000012	ON	-	ON
TR39MW0000012	TR49MW0000012	ON	OFF	ON
TR37MW0000012	TR47MW0000012	MOM	OFF	MOM
TR38MW0000012	TR48MW0000012	ON	OFF	MOM
TR32MW0000012	TR42MW0000012	ON	-	MOM
Handle position (see dwg.):		III	II	I
Terminals connected:		SP & DP	2-3	2-1
		DP	5-6	4-5

Above models have black 10 actuator (see color codes at end of section).



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

B

Additional ordering information: Commonly ordered models are shown above with complete model numbers and specifications. Below is an order format that enables you to 'build your own switch' and specify the correct switch model number by simply selecting from all available options shown and filling in the boxes.

'BUILD YOUR OWN SWITCH' ORDER FORMAT

Fill in boxes with selections shown for **Model Structure**, then add **Options** selections for complete model number. (Allowable options for are shown under each respective box).

Model Structure:

Series	Number of poles	Electrical functions	Terminals
<input type="checkbox"/> T <input type="checkbox"/> R	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	3 Single pole	6 ON - ON	P 0 Straight p.c.
	4 Double pole	9 ON OFF ON	Y 0 Straight p.c.with bracket
		7 MOM OFF MOM	W 0 Horizontal right angle
		8 ON OFF MOM	W W Vertical right angle
		2 ON - MOM	M W Wire-wrap

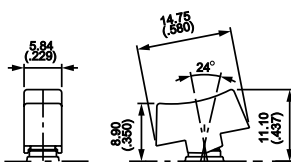
Options:

Contact & terminal mat'ls.	Case color	Special options	Actuators
<input type="checkbox"/>	<input type="checkbox"/> 0 <input type="checkbox"/> 0	<input type="checkbox"/>	<input type="checkbox"/>
0 Brass, gold plated	Blue	0 0 No special requirement	1 0 Narrow rocker
1 Brass, silver plated		5 0 Crimped bracket terminals - specify for models with brackets.	2 0 Wide rocker
3 Brass, gold plated - (1.27 microns gold)		See additional listings on following page.	(Note: replace '0' above with color code from table below).
8 Brass, gold plated contacts with tin plated terminals			
9 Contacts brass, gold plated (1.27 microns gold) and tin plated terminals			

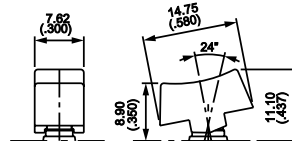
Example of completely specified model number: **TR36Y03005023**

OPTION DRAWINGS

ACTUATORS (replace '0' in part numbers with color code)



10 Narrow



20 Wide

- 1 blue
- 2 black
- 3 green
- 4 grey
- 5 yellow
- 6 red
- 7/1 white
- 9 orange

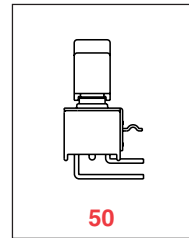
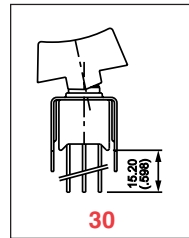
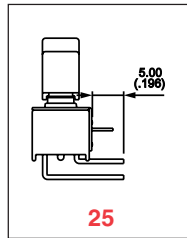
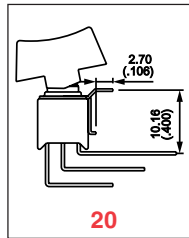
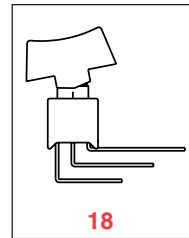
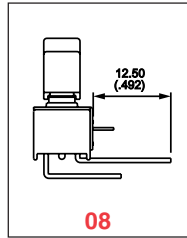
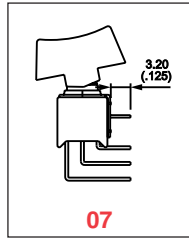
TR SERIES - WASHABLE TINY ROCKER SWITCHES, P.C. MOUNTING

B

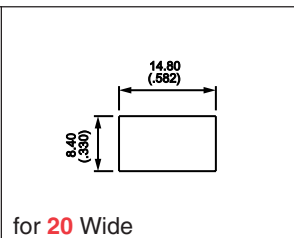
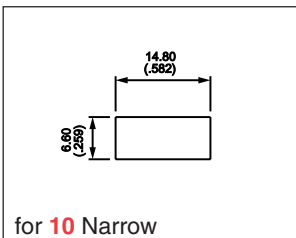
SPECIAL OPTIONS & MISCELLANEOUS

SPECIAL OPTIONS

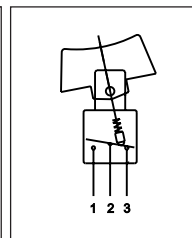
- 00** No special requirement.
- 07** Trimmed terminals for **WW** models only - .125" (3.2mm).
- 08** Extended terminals for **WO** models only.
- 18** **WW** models without mounting bracket.
- 20** **WW** models with Mounting bracket and p.c. board spacer tab.
- 25** Trimmed terminals for all models except **WW** - .196" (5mm).
- 30** Wire-wrap terminals on models with **Y** bracket.
- 50** Crimped bracket terminals (retains switch on p.c. board during assembly and soldering). For models with **WO**, **WW** & **YO** terminals.



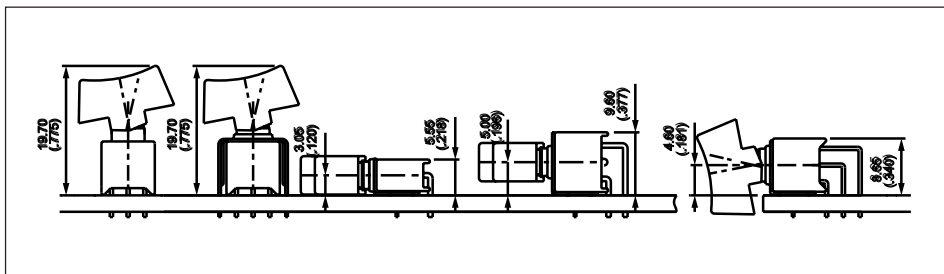
PANEL CUT-OUTS



SWITCH ACTION



PCB MOUNTING



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

S SERIES - WASHABLE MINIATURE ROCKER & LEVER SWITCHES, P.C. MOUNTING

B



FEATURES

- Wave solderable.
- Compact case size & fully sealed for process compatibility.
- SPDT & DPDT models.
- Models available with ESD protection up to 12 KV.
- Agency recognition (see below).

SPECIFICATIONS

Contact ratings (resistive loads):	Gold plated brass; 0.4 Volt-Amps max. at 20 V max. Silver; 2 Amps at 250 VAC, 5 Amps at 125 VAC or 4 Amps at 30 VDC. Gold plated silver; 2 Amps at 250 VAC, 5 Amps at 125 VAC or 4 Amps at 30 VDC (gold plating withstands up to 300 mA at 30 VDC).
Initial contact resistance:	10 milliohms maximum
Insulation resistance:	1000 megohms minimum
Dielectric strength:	1000 V rms minimum
Electrical life:	Gold: 2 positions - 100,000 cycles min. 3 positions - 50,000 cycles min. Silver: 40,000 cycles minimum
Operating temperature range:	-20°C to +85°C
Moisture resistance:	56 days per IEC 68-2-3
Washing:	Permissible with water, detergents and freons

MATERIALS

Contacts & Terminals:	Gold plated brass, silver or gold plated silver
Actuator:	Polyamide
Bracket:	Tin plated steel or stainless steel
Case:	UL94V-0 - Polyamide, glass filled or PES
Terminal seal:	Epoxy

AGENCY RECOGNITION



UL

Availability: consult factory for details of recognized models.

Marking: to order switches with UL mark, complete the appropriate box of the ordering format.

ABOUT THIS SERIES

The material in this series is organized in the following sequence:

- Completely specified switch models
- 'build your own switch' order format
- Option drawings, special options & miscellaneous.

S SERIES - WASHABLE MINIATURE ROCKER & LEVER SWITCHES, P.C. MOUNTING

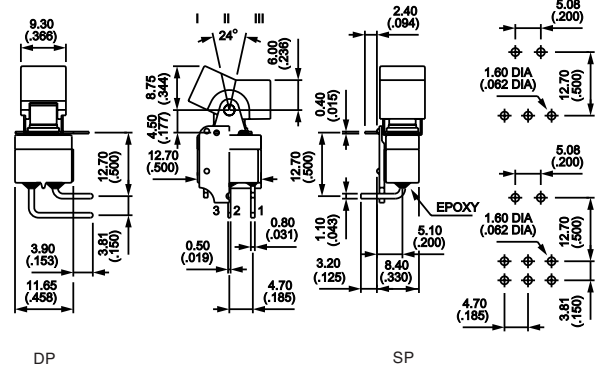
B

Horizontal right angle terminals - .185" spacing - gold plated brass contacts Only single pole has stand-off plate



SINGLE POLE MODEL NO.	DOUBLE POLE MODEL NO.	CIRCUIT
SW236CD6+U622	SW246CD6+U622	ON - ON
SW239CD6+U622	SW249CD6+U622	ON OFF ON
SW237CD6+U622	SW247CD6+U622	MOM OFF MOM
SW238CD6+U622	SW248CD6+U622	ON OFF MOM
SW232CD6+U622	SW242CD6+U622	ON - MOM
-	SW244THCD6+U622*	ON ON ON
Handle position (see dwg.):		III II I
Terminals connected:		2-3 2-1
		5-6 4-5

* Function 4: SP in DP case - see diagram at end of section.
Above models have black U620 actuator.

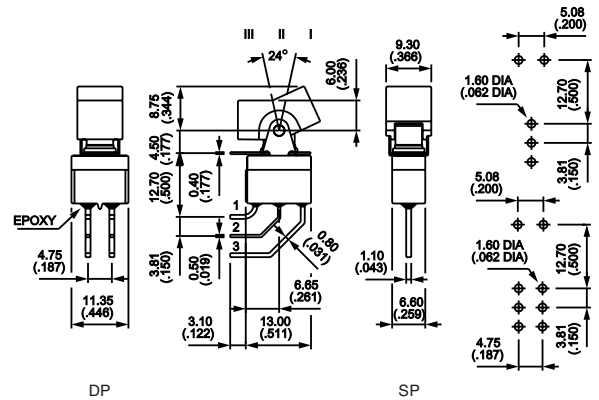


Vertical right angle terminals - gold plated brass contacts



SINGLE POLE MODEL NO.	DOUBLE POLE MODEL NO.	CIRCUIT
SWW236CD6+U622	SWW246CD6+U622	ON - ON
SWW239CD6+U622	SWW249CD6+U622	ON OFF ON
SWW237CD6+U622	SWW247CD6+U622	MOM OFF MOM
SWW238CD6+U622	SWW248CD6+U622	ON OFF MOM
SWW232CD6+U622	SWW242CD6+U622	ON - MOM
-	SWW244THCD6+U622*	ON ON ON
Handle position (see dwg.):		III II I
Terminals connected:		2-3 2-1
		5-6 4-5

* Function 4: SP in DP case - see diagram at end of section.
** reversed connection available - consult factory.
Above models have black U620 actuator.

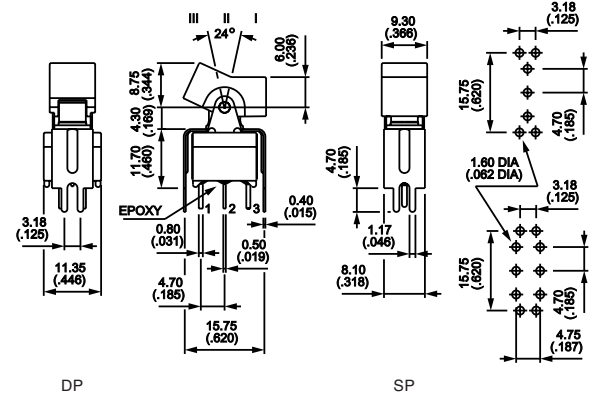


Straight p.c. terminals - mounting bracket - gold plated brass contacts



SINGLE POLE MODEL NO.	DOUBLE POLE MODEL NO.	CIRCUIT
SY236CD6+U622	SY246CD6+U622	ON - ON
SY239CD6+U622	SY249CD6+U622	ON OFF ON
SY237CD6+U622	SY247CD6+U622	MOM OFF MOM
SY238CD6+U622	SY248CD6+U622	ON OFF MOM
SY232CD6+U622	SY242CD6+U622	ON - MOM
-	SY244THCD6+U622*	ON ON ON
Handle position (see dwg.):		III II I
Terminals connected:		2-3 2-1
		5-6 4-5

* Function 4: SP in DP case - see diagram at end of section.
Above models have black U620 actuator.

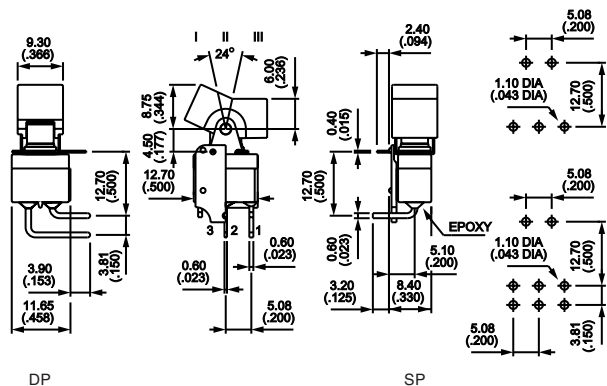


Horizontal right angle terminals - .200" spacing - gold plated brass contacts Only single pole has stand-off plate



SINGLE POLE MODEL NO.	DOUBLE POLE MODEL NO.	CIRCUIT
SW036CD6+U622	SW046CD6+U622	ON - ON
SW039CD6+U622	SW049CD6+U622	ON OFF ON
SW037CD6+U622	SW047CD6+U622	MOM OFF MOM
SW038CD6+U622	SW048CD6+U622	ON OFF MOM
SW032CD6+U622	SW042CD6+U622	ON - MOM
-	SW044THCD6+U622*	ON ON ON
Handle position (see dwg.):		III II I
Terminals connected:		2-3 2-1
		5-6 4-5

* Function 4: SP in DP case - see diagram at end of section.
Above models have black U620 actuator.



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

S SERIES - WASHABLE MINIATURE ROCKER & LEVER SWITCHES, P.C. MOUNTING

Vertical right angle terminals with stand-off bracket - gold plated brass contacts



SINGLE POLE MODEL NO.	DOUBLE POLE MODEL NO.	CIRCUIT		
SWW236CD6X653+U622	SWW246CD6X653+U622	ON	-	ON
SWW239CD6X653+U622	SWW249CD6X653+U622	ON	OFF	ON
SWW237CD6X653+U622	SWW247CD6X653+U622	MOM	OFF	MOM
SWW238CD6X653+U622	SWW248CD6X653+U622**	ON	OFF	MOM
SWW232CD6X653+U622	SWW242CD6X653+U622**	ON	-	MOM
-	SWW244THCD6X653+U622*	ON	ON	ON

Handle position (see dwg.) :
Terminals connected:

SP & DP

2-3

2-1

DP

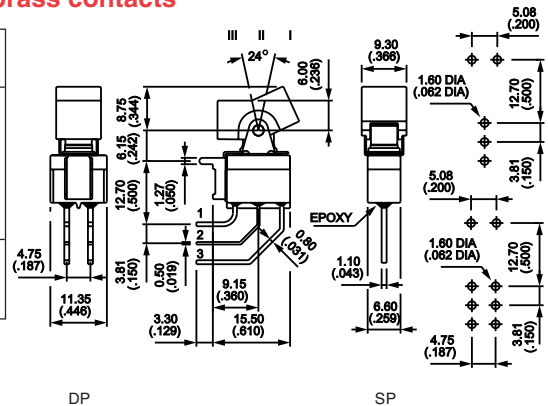
5-6

4-5

* Function 4: SP in DP case - see diagram at end of section.

** reversed connection available - consult factory.

Above models have black U620 actuator.



DP

SP

Straight p.c. terminals - gold plated brass contacts - snap-in mounting



SINGLE POLE MODEL NO.	DOUBLE POLE MODEL NO.	CIRCUIT		
SK236CD6+U732+U1202	SK246CD6+U732+U1202	ON	-	ON
SK239CD6+U732+U1202	SK249CD6+U732+U1202	ON	OFF	ON
SK237CD6+U732+U1202	SK247CD6+U732+U1202	MOM	OFF	MOM
SK238CD6+U732+U1202	SK248CD6+U732+U1202	ON	OFF	MOM
SK232CD6+U732+U1202	SK242CD6+U732+U1202	ON	-	MOM
-	SK244THCD6+U732+U1202*	ON	ON	ON

Handle position (see dwg.) :
Terminals connected:

SP & DP

2-3

2-1

DP

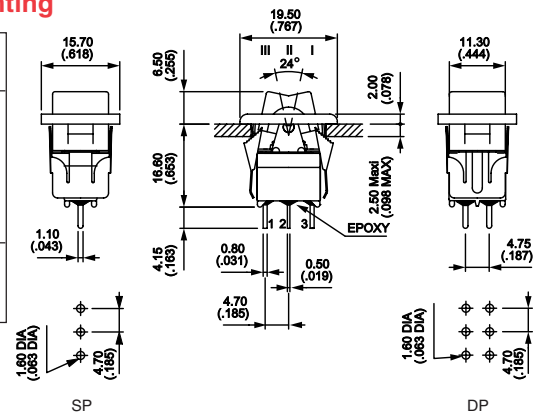
5-6

4-5

* Function 4: SP in DP case - see diagram at end of section.

Above models have black U730 actuator and black U1200 bezel.

See panel cut-out at end of section.



SP

DP

Horizontal right angle models with E.S.D. protection up to 12 KV



SINGLE POLE MODEL NO.	DOUBLE POLE MODEL NO.	CIRCUIT		
SW236CD6X1159+U4602	SW246CD6X1159+U4602	ON	-	ON
SW239CD6X1159+U4602	SW249CD6X1159+U4602	ON	OFF	ON
SW237CD6X1159+U4602	SW247CD6X1159+U4602	MOM	OFF	MOM
SW238CD6X1159+U4602	SW248CD6X1159+U4602	ON	OFF	MOM
SW232CD6X1159+U4602	SW242CD6X1159+U4602	ON	-	MOM
-	SW244THCD6X1159+U4602*	ON	ON	ON

Handle position (see dwg.) :
Terminals connected:

SP & DP

2-3

2-1

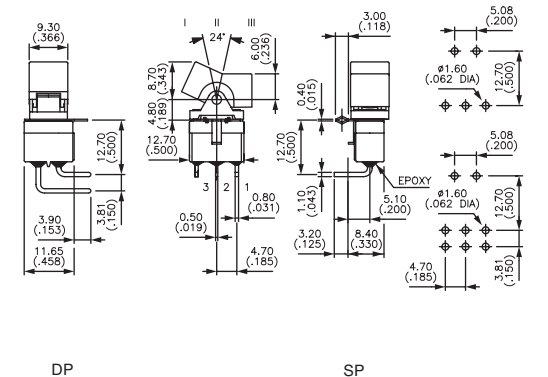
DP

5-6

4-5

* Function 4: SP in DP case - see diagram at end of section.

Above models have black U620 actuator.



DP

SP

Vertical right angle models with E.S.D. protection up to 12 KV



SINGLE POLE MODEL NO.	DOUBLE POLE MODEL NO.	CIRCUIT		
SWW236CD6X1159+U4602	SWW246CD6X1159+U4602	ON	-	ON
SWW239CD6X1159+U4602	SWW249CD6X1159+U4602	ON	OFF	ON
SWW237CD6X1159+U4602	SWW247CD6X1159+U4602	MOM	OFF	MOM
SWW238CD6X1159+U4602	SWW248CD6X1159+U4602**	ON	OFF	MOM
SWW232CD6X1159+U4602	SWW242CD6X1159+U4602**	ON	-	MOM
-	SWW244THCD6X1159+U4602*	ON	ON	ON

Handle position (see dwg.) :
Terminals connected:

SP & DP

2-3

2-1

DP

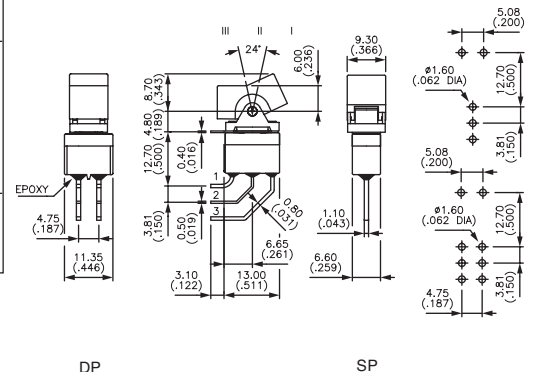
5-6

4-5

* Function 4: SP in DP case - see diagram at end of section.

** reversed connection available - consult factory.

Above models have black U620 actuator.



DP

SP

S SERIES - WASHABLE MINIATURE ROCKER & LEVER SWITCHES, P.C. MOUNTING

B

Straight p.c. models with bracket & E.S.D. protection up to 12 KV

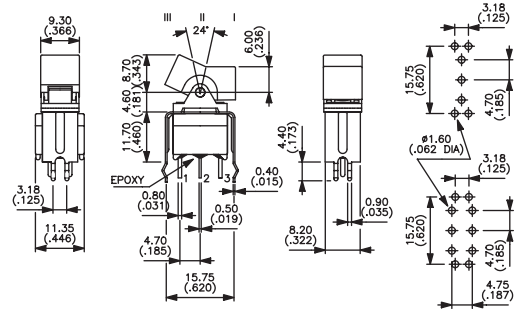


SINGLE POLE MODEL NO.	DOUBLE POLE MODEL NO.	CIRCUIT		
SY236CD6X1159+U4602	SY246CD6X1159+U4602	ON	-	ON
SY239CD6X1159+U4602	SY249CD6X1159+U4602	ON	OFF	ON
SY237CD6X1159+U4602	SY247CD6X1159+U4602	MOM	OFF	MOM
SY238CD6X1159+U4602	SY248CD6X1159+U4602	ON	OFF	MOM
SY232CD6X1159+U4602	SY242CD6X1159+U4602	ON	-	MOM
-	SY244THCD6X1159+U4602*	ON	ON	ON
Handle position (see dwg.) :		III	II	I
Terminals connected:		SP & DP	2-3	2-1
		DP	5-6	4-5

* Function 4: SP in DP case - see diagram at end of section.

** reversed connection available - consult factory.

Above models have black **U620** actuator.



DP

SP

Additional ordering information: Commonly ordered models are shown above with complete model numbers and specifications. Below is an order format that enables you to 'build your own switch' and specify the correct switch model number by simply selecting from all available options shown and filling in the boxes.

'BUILD YOUR OWN SWITCH' ORDER FORMAT

Fill in boxes with selections shown for **Model Structure**, then add **Options** selections for complete model number. (Allowable options are shown under each respective box).

Note: 'NONE' indicates box may be left empty.

Model Structure:

Series	Terminals	Bushing & terminals	Number of poles	Electrical functions
<input type="text" value="S"/>	<input type="text" value="W"/> <input type="text" value="W"/>	<input type="text" value="2"/>	<input type="text" value="3"/>	<input type="text" value="6"/> <input type="text" value="9"/> <input type="text" value="7"/> <input type="text" value="8"/> <input type="text" value="2"/> <input type="text" value="4"/>
	W horizontal rt. angle mtg. W W vertical rt. angle mtg. Y straight pc, bracket mtg. K straight pc, snap-in mtg.	2 Terminal spacing .185" (4,7mm) or .150" (3,81mm) 0 Terminal spacing .200" (5,08mm) (SW models)	3 Single pole 4 Double pole	6 ON - ON 9 ON OFF ON 7 MOM OFF MOM 8 ON OFF MOM 2 ON - MOM 4 T H ON ON ON

Options:

Contact materials	Lever	Special options	Agency recognition	Actuators & bezels
<input type="text" value="A"/> <input type="text" value="C"/>	<input type="text" value="6"/>	<input type="text" value="X"/> <input type="text" value="6"/> <input type="text" value="5"/> <input type="text" value="3"/> <input type="text" value="X"/> <input type="text" value="1"/> <input type="text" value="1"/> <input type="text" value="5"/> <input type="text" value="9"/>	<input type="text" value="U"/> <input type="text" value="L"/>	<input type="text" value="R"/> <input type="text" value="L"/> <input type="text" value="W"/> <input type="text" value="S"/> <input type="text" value="Y"/>
A Silver A D Silver, gold plated C D Brass, gold plated	For all models	(NONE) Vertical rt. angle with stand-off brkt. 12 KV E.S.D protected models	(NONE) U L Consult factory for availability.	Rockers: + U 6 2 0 Large + U 7 3 0 Small Levers: + U 6 1 0 Narrow + U 7 0 0 Wide Bezels for SK models: + U 1 2 0 0 + U 1 2 1 0 (for LED) Bezels for SW, SWW & SY models: + U 4 6 0 2 (see color selections and codes on next page).

Although most combinations of options are available, some may result in incompatibilities. Consult factory if there is any question.

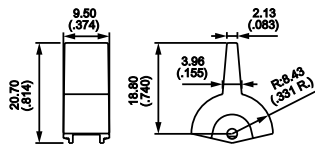
Example of completely specified model number: **SW236CD6+U616**

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

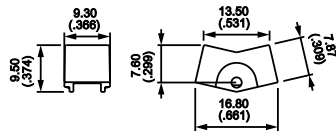
S SERIES - WASHABLE MINIATURE ROCKER & LEVER SWITCHES, P.C. MOUNTING

OPTION DRAWINGS, SPECIAL OPTIONS & MISCELLANEOUS

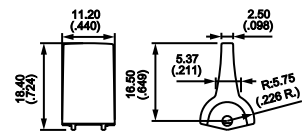
ACTUATORS (replace last '0' in part numbers with color code from table below) Note: U610 & U620 not available on SK models



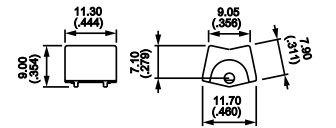
U610 Narrow lever



U620 Large rocker



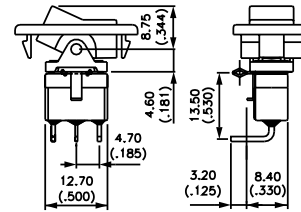
U700 Wide lever



U730 Small rocker

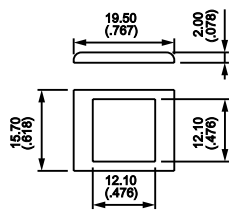
E.S.D. MODELS

Protected against electrostatic discharges (ESD) up to 12 KV.

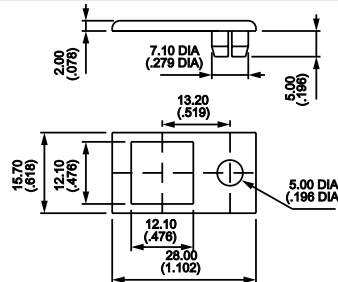


X1159

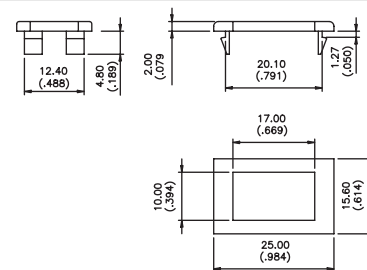
BEZELS (replace last '0' in part numbers with color code from table below)



U1200 for actuators U700 & U730



U1210 for actuators U700 & U730
(.196" (5mm) dia. LED not supplied)



U4602 for SW, SWW & SY models
(Black standard - consult factory for others)

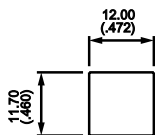
COLOR CODES

- | | |
|-----|--------|
| 1 | blue |
| 2 | black |
| 3 | green |
| 4 | grey |
| 5 | yellow |
| 6 | red |
| 7/1 | white |
| 9 | orange |

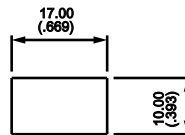
SPECIAL OPTIONS

- X601** Silver plated brass contacts. 0.4 Amps at 125 VAC, 0.2 Amps at 250 VAC or 0.5 Amps at 30 VDC. Electrical life - 20,000 cycles minimum. Minimum quantity: 5000 pcs.
- X653** Vertical right angle with p.c. stand-off bracket.

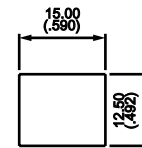
PANEL CUT-OUTS



With rocker **U730** or lever **U700**



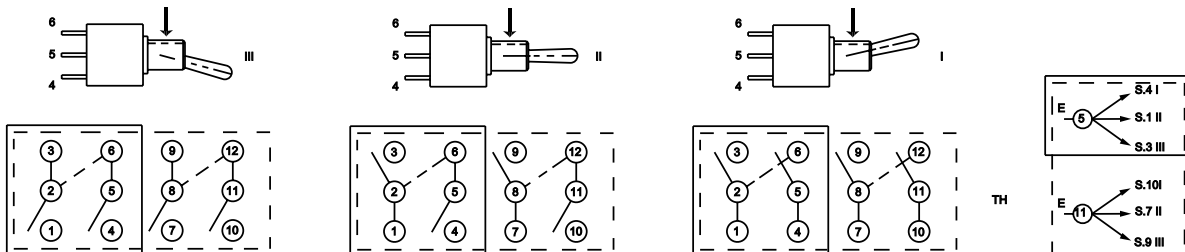
With rocker **U620** or lever **U610**



For **SK** (snap-in mtg.) models only

WIRING for function 4 switch

Below diagrams are viewed from bottom of switch.



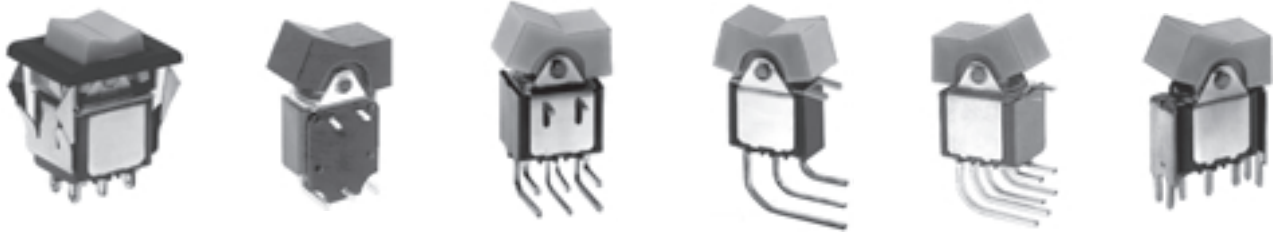
Equivalent to single pole 3 throw switch. Dotted lines between terminals 2 & 6 and 8 & 12 indicate jumpers to be added by customer

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

B

7000 SERIES - MINIATURE ROCKER & LEVER SWITCHES

B



FEATURES

- Broad selection of models and options.
- SPDT & DPDT models. Consult factory for 3 & 4 pole models.
- Numerous configurations for panel, panel & p.c. and p.c. mounting.
- Extensive agency recognition (see below).
- Optional mounting screws, nuts & spacers for panel mounting models.

SPECIFICATIONS

Contact ratings (resistive loads):	Gold plated brass; 0.4 Volt-Amps max. at 20 V max. Silver; 3 Amps at 250 VAC, 6 Amps at 125 VAC or 4 Amps at 30 VDC Gold plated silver; 3 Amps at 250 VAC, 6 Amps at 125 VAC or 4 Amps at 30 VDC. Gold plating withstands up to 100 mA at 30 VDC.
Initial contact resistance:	10 milliohms maximum
Insulation resistance:	1000 megohms min. at 500 VDC
Dielectric strength:	1000 V rms min. - between terminals 1500 V rms min. - between poles and terminals and frame
Electrical life:	Gold: 100,000 cycles min. Silver (at full load): 50,000 cycles minimum.
Operating temperature range:	-40°C to +85°C

MATERIALS

Contacts & Terminals:	Gold plated brass, silver or gold plated silver
Actuator:	Polyamide
Housing:	Stainless steel or tin plated steel
Case:	Diallyl phthalate (DAP)
Terminal seal:	Epoxy

AGENCY RECOGNITION



UL and CSA



Marking: On request only. Add desired recognition as indicated in the following example:
7636ABULCSA+U732+U1202

ABOUT THIS SERIES

The material in this series is organized in the following sequence:

- a. Completely specified switch models
- b. Actuators & bezels
- c. Panel cut-outs & terminals
- d. 'Build your own switch' order format

ALSO -

VDE approved 7000 Series models - see 57000 Series following.



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

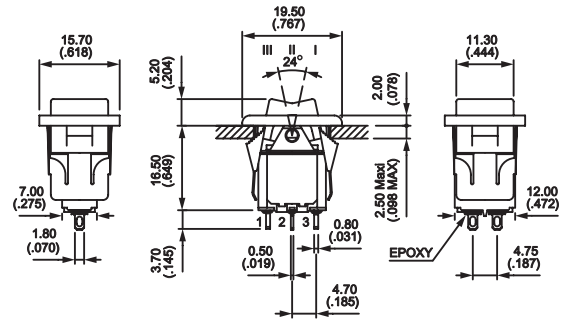
7000 SERIES - MINIATURE ROCKER & LEVER SWITCHES

Solder lug terminals - snap-in mounting - silver contacts



SINGLE POLE MODEL NO.	DOUBLE POLE MODEL NO.	CIRCUIT		
7636AB+U732+U1202	7646AB+U732+U1202	ON	-	ON
7639AB+U732+U1202	7649AB+U732+U1202	ON	OFF	ON
7637AB+U732+U1202	7647AB+U732+U1202	MOM	OFF	MOM
7638AB+U732+U1202	7648AB+U732+U1202	ON	OFF	MOM
7632AB+U732+U1202	7642AB+U732+U1202	ON	-	MOM
Handle position:		III	II	I
Terminals connected:		2-3	1-2	5-6

Above models have black actuator & bezel.



SP

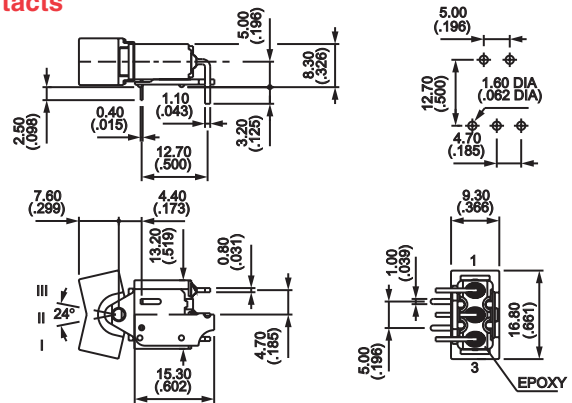
DP

Single pole - horizontal right angle p.c. terminals - silver contacts



SINGLE POLE MODEL NO.	CIRCUIT		
7936WAB+U622	ON	-	ON
7939WAB+U622	ON	OFF	ON
7937WAB+U622	MOM	OFF	MOM
7938WAB+U622	ON	OFF	MOM
7932WAB+U622	ON	-	MOM
Handle position:		III	II
Terminals connected:		2-3	1-2
		5-6	4-5

Above models have black actuator.

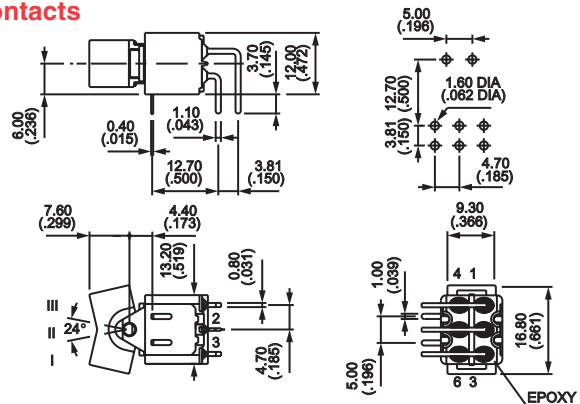


Double pole - horizontal right angle p.c. terminals - silver contacts



DOUBLE POLE MODEL NO.	CIRCUIT		
7946WAB+U622	ON	-	ON
7949WAB+U622	ON	OFF	ON
7947WAB+U622	MOM	OFF	MOM
7948WAB+U622	ON	OFF	MOM
7942WAB+U622	ON	-	MOM
Handle position:		III	II
Terminals connected:		2-3	1-2
		5-6	4-5

Above models have black actuator.

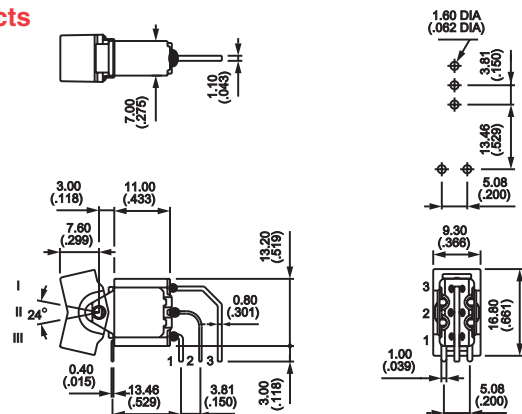


Single pole - vertical right angle p.c. terminals - silver contacts



SINGLE POLE MODEL NO.	CIRCUIT		
7036WWAB+U832	ON	-	ON
7039WWAB+U832	ON	OFF	ON
7037WWAB+U832	MOM	OFF	MOM
7038WWAB+U832	ON	OFF	MOM
7032WWAB+U832	ON	-	MOM
Handle position:		III	II
Terminals connected:		2-3	1-2
		5-6	4-5

Above models have black actuator.



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

B

7000 SERIES - MINIATURE ROCKER & LEVER SWITCHES

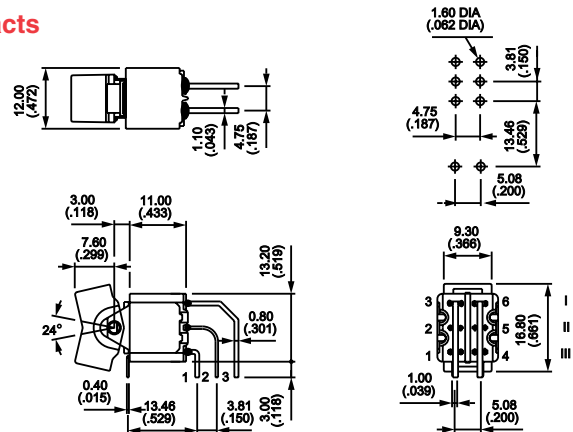
B

Double pole - vertical right angle p.c. terminals - silver contacts



DOUBLE POLE MODEL NO.	CIRCUIT		
7046WWAB+U832	ON	-	ON
7049WWAB+U832	ON	OFF	ON
7047WWAB+U832	MOM	OFF	MOM
7048WWAB+U832	ON	OFF	MOM
7042WWAB+U832	ON	-	MOM
Handle position:	III	II	I
Terminals connected:	2-3	1-2	
	5-6	4-5	

Above models have black actuator.

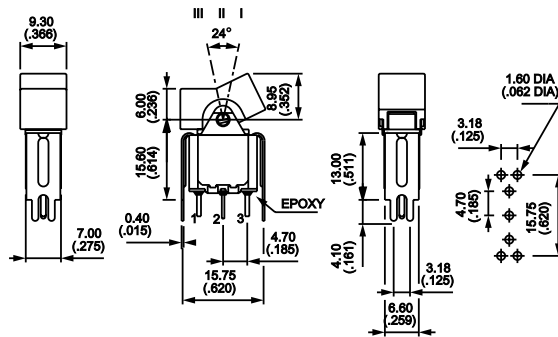


Single pole - straight p.c. terminals - bracket mounting - silver contacts



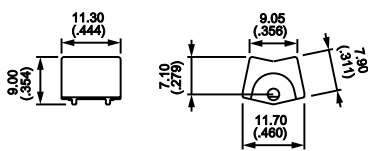
SINGLE POLE MODEL NO.	CIRCUIT		
7036YAB+U622	ON	-	ON
7039YAB+U622	ON	OFF	ON
7037YAB+U622	MOM	OFF	MOM
7038YAB+U622	ON	OFF	MOM
7032YAB+U622	ON	-	MOM
Handle position:	III	II	I
Terminals connected:	2-3	1-2	
	5-6	4-5	

Above models have black actuator.



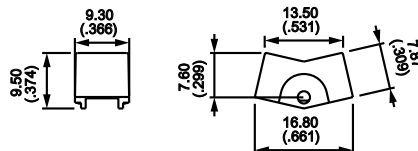
ACTUATORS & BEZELS

COLORS: The above switch model numbers include black rocker U732, U622 or U832 and bezel U1202. For other colors, replace the last digit (2) with one of the following codes: blue 1, green 3, gray 4, yellow 5, red 6, ivory 7, white 7/1 or orange 9.



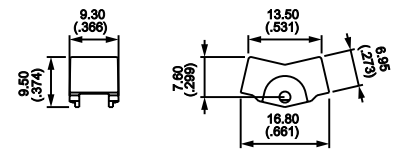
U732

Small black rocker



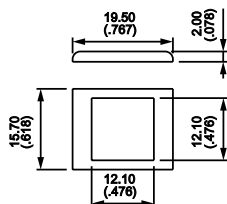
U622

Medium black rocker



U832

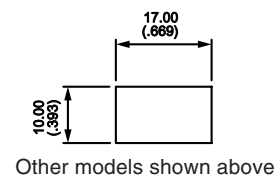
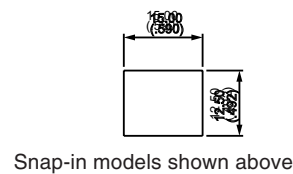
Medium black rocker



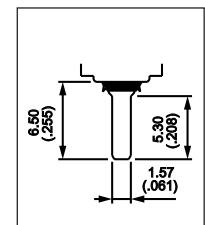
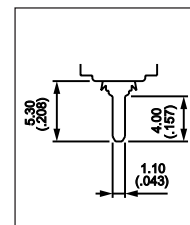
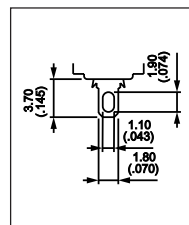
U1202

Black bezel

PANEL CUT-OUTS



TERMINALS



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

7000 SERIES - MINIATURE ROCKER & LEVER SWITCHES

Additional ordering information: Commonly ordered models are shown on prior pages with complete model numbers and specifications. Below is an order format that enables you to 'build your own switch' and specify the correct switch model number by simply selecting from all available options shown and filling in the boxes.

'BUILD YOUR OWN SWITCH' ORDER FORMAT

Fill in boxes with selections shown for **Model Structure**, then add **Options** selections for complete model number. Allowable options are shown below each respective box. Note 'NONE' indicates box may be left empty.

Model Structure:

Series	Terminals - mounting	Number of poles	Electrical functions	Terminals/ mounting brkt.	(For function 4 models only) connections /functions	Contact materials
7						
	<ul style="list-style-type: none"> 0 Right angle terminals or straight p.c. terminals with bracket. 2 Straight p.c. or quick-connect terminals, snap-in mounting. 6 Solder lug terminals, snap-in mounting. 7 Solder lug terminals, panel mounting. 9 Straight p.c. or quick-connect terminals, panel mounting. Also, right angle terminals. 	<ul style="list-style-type: none"> 3 Single pole 4 Double pole <p>Consult factory for 3 & 4 pole models.</p> <ul style="list-style-type: none"> 6 ON - ON 9 ON OFF ON 7 MOM OFF MOM 8 ON OFF MOM 2 ON - MOM 4* ON ON ON 4* ON ON MOM 4* MOM ON MOM <p>* specify selection from 'connections/ functions' box also.</p>	<ul style="list-style-type: none"> (NONE) W Horizontal right angle p.c. W W Vertical right angle p.c. Y Straight p.c. w/mounting brkt. Z Quick connect (epoxy terminal seal standard) N Small mounting bracket 	<ul style="list-style-type: none"> (NONE) T H ON ON ON T H 1 R ON ON MOM T H 2 R MOM ON MOM 	<ul style="list-style-type: none"> A Silver A D Silver, gold plated C D Brass, gold plated 	

Options:

Sealing	Special options	Agency Recognition	Actuators	Bezels & mounting accessories
			+	+
<p>(NONE) Unless standard - (see Terminals above)</p> <p>B Epoxy sealed terminals</p>	<p>(NONE)</p> <p>X 6 5 3 (vertical right angle with stand-off bracket)</p> <p>F tin plated terminals (for p.c. terms. only)</p>	<p>(NONE)</p> <p>U L</p> <p>C S A (consult factory for details of approved models).</p>	<p>Rockers</p> <p>U 5 3 0 Large</p> <p>U 6 2 0 Medium</p> <p>U 7 3 0 Small</p> <p>U 8 3 0 Medium</p> <p>U 1 0 1 0 Large</p> <p>Levers</p> <p>U 4 9 0 Large</p> <p>U 6 1 0 Medium</p> <p>U 7 0 0 Small</p> <p>(see drawings and color codes).</p>	<p>(NONE)</p> <p>Bezels (for U730 or U700)</p> <p>U 1 2 0 0</p> <p>U 1 2 1 0 (for LED)</p> <p>Accessories for panel mounting models</p> <p>U 5 4 3 Spacers, nuts & screws</p> <p>U 1 0 2 2 Spacers, nuts, screws & washers</p>

Although most combinations of options are available, some may result in incompatibilities. Consult factory if there is any question.

Example of completely specified model number:

7044YTH2RADBUL+U612

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

B

ST SERIES - MINIATURE ROCKER & LEVER SWITCHES

B



FEATURES

- Dry circuit through power ratings .
- Ultra-rugged construction SPDT & DPDT models with numerous options.
- Panel, panel & p.c. and p.c. mounting models, lighted and unlighted.

SPECIFICATIONS

Contact ratings (resistive loads):	(Q) power models - coin silver: 6 Amps at 125 VAC, 3 Amps at 250 VAC or 7 Amps at 30 VDC. (B) dry circuit models - gold over nickel over brass: 0.4 VA max. at 20 V max. UL models - coin silver: 6 Amps at 125 VAC or 3 Amps at 250 VAC (75% power factor). UL file no. E66367. CSA models - coin silver: same ratings as UL models. CSA file no. LR54592-1.
Initial contact resistance:	3 milliohms max. at 3 VDC, 0.1 Amp.
Insulation resistance:	Greater than 200,000 megohms between terminals & case ground.
Dielectric strength:	Greater than 2000 VAC for 1 minute between terminals & case ground.
Electrical life (resistive loads):	100,000 cycles min. for ST1-1 & ST2-1. Other models, 40,000 cycles min.
Operating temperature range:	-30°C to +85°C

MATERIALS

Contacts:	Coin silver for power, UL & CSA models. Gold over nickel over brass for dry circuit models.
Actuator:	J1 & J2 - Glass filled polyester. J3 & J4 - Nylon or acetal
Bushing:	Nickel plated brass
Strap:	Stainless steel
Case:	Melamine phenolic, color red
Terminal seal:	Epoxy (optional)
Support bracket:	Brass or steel, tin plated
Spring mounting bracket:	Stainless steel
Bezel:	Nylon. Available in black, red & white. Consult factory for other colors.
Hardware:	See 'Miscellaneous' section.
LED:	Intensity: 2.0 mcd at 10 mA. Forward voltage: 2.0V (3.0V max.). Max. continuous forward current: 15 mA for red, 30 mA for green & 20 mA for yellow. Red is standard. Yellow & green are optional. Specifications are subject to change without notice - consult factory.

AGENCY RECOGNITION



UL, & CSA. Marking: Switches ordered by UL model number are supplied with recognition marking. Switches ordered by UL model no. and with '/CSA' added at end of model no. are supplied with both recognized marks.

ABOUT THIS SERIES

The material in this series is organized in the following sequence:

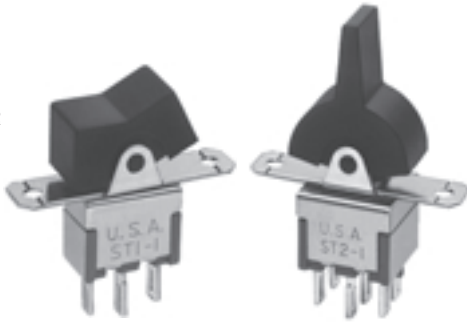
- Completely specified switch models
- Miscellaneous
- 'build your own switch' order format
- Option drawings & information
- Mounting information and panel cut-outs

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

ST SERIES - MINIATURE ROCKER & LEVER SWITCHES

Solder lug terminals - panel mounting

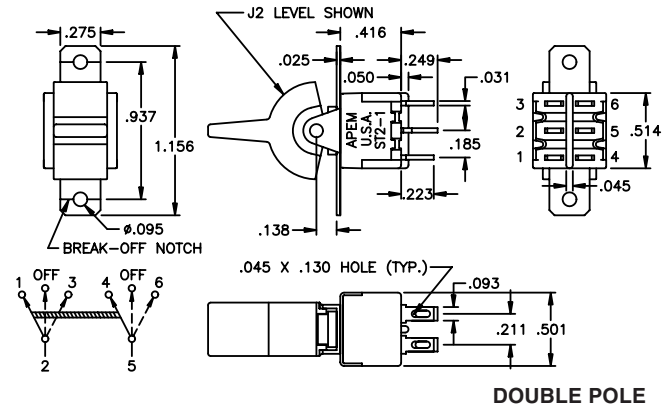
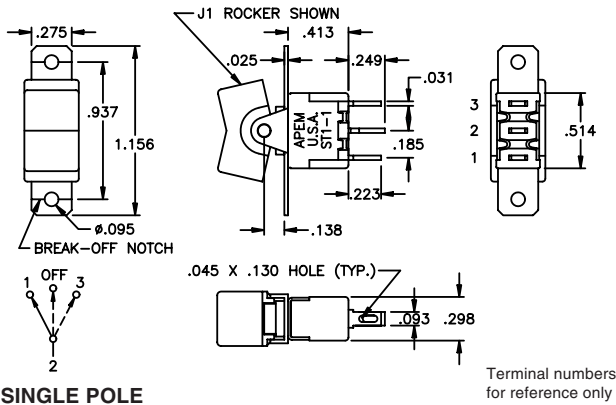
SINGLE POLE WITH J1 ROCKER



DOUBLE POLE WITH J2 LEVER

	POWER CKT. MODEL NO.	UL MODEL NO.	USA marking on other side		
Single pole	ST1-1L4S4ZQJ12	UL11L4S4ZQJ12	ON	NONE	ON
	ST1-2L4S4ZQJ12	UL12L4S4ZQJ12	ON	OFF	ON
	ST1-3L4S4ZQJ12	UL13L4S4ZQJ12	MOM	OFF	MOM
	ST1-4L4S4ZQJ12	UL14L4S4ZQJ12	ON	OFF	MOM
	ST1-5L4S4ZQJ12	UL15L4S4ZQJ12	ON	NONE	MOM
Double pole	ST2-1L4S4ZQJ12	UL21L4S4ZQJ12	ON	NONE	ON
	ST2-2L4S4ZQJ12	UL22L4S4ZQJ12	ON	OFF	ON
	ST2-3L4S4ZQJ12	UL23L4S4ZQJ12	MOM	OFF	MOM
	ST2-4L4S4ZQJ12	UL24L4S4ZQJ12	ON	OFF	MOM
	ST2-5L4S4ZQJ12	UL25L4S4ZQJ12	ON	NONE	MOM
	ST2-6L4S4ZQJ12	UL26L4S4ZQJ12	ON	ON	ON
	ST2-7L4S4ZQJ12	UL27L4S4ZQJ12	ON	ON	MOM
	ST2-8L4S4ZQJ12	UL28L4S4ZQJ12	MOM	ON	MOM
Terminals connected (-6, -7 & -8)			1-2, 4-5	1-2, 5-6	2-3, 4-5

Above models have black actuator.

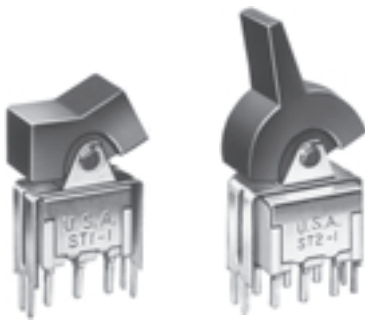


SINGLE POLE

DOUBLE POLE

Straight p.c. terminals with bracket - p.c. mounting

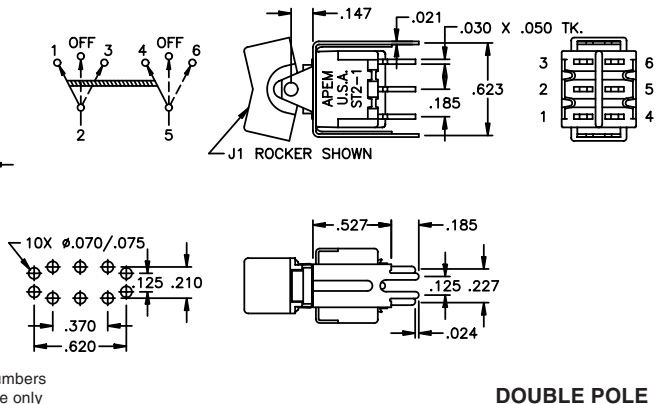
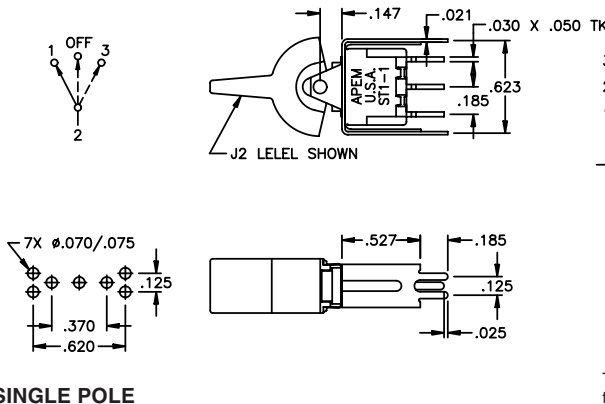
SINGLE POLE WITH J1 ROCKER



DOUBLE POLE WITH J2 LEVER

	DRY CKT. MODEL NO.	UL MODEL NO.	USA marking on other side		
Single pole	ST1-1L4S4V30BJ12	UL11L4S4V30QJ12	ON	NONE	ON
	ST1-2L4S4V30BJ12	UL12L4S4V30QJ12	ON	OFF	ON
	ST1-3L4S4V30BJ12	UL13L4S4V30QJ12	MOM	OFF	MOM
	ST1-4L4S4V30BJ12	UL14L4S4V30QJ12	ON	OFF	MOM
	ST1-5L4S4V30BJ12	UL15L4S4V30QJ12	ON	NONE	MOM
Double pole	ST2-1L4S4V30BJ12	UL21L4S4V30QJ12	ON	NONE	ON
	ST2-2L4S4V30BJ12	UL22L4S4V30QJ12	ON	OFF	ON
	ST2-3L4S4V30BJ12	UL23L4S4V30QJ12	MOM	OFF	MOM
	ST2-4L4S4V30BJ12	UL24L4S4V30QJ12	ON	OFF	MOM
	ST2-5L4S4V30BJ12	UL25L4S4V30QJ12	ON	NONE	MOM
	ST2-6L4S4V30BJ12	UL26L4S4V30QJ12	ON	ON	ON
	ST2-7L4S4V30BJ12	UL27L4S4V30QJ12	ON	ON	MOM
	ST2-8L4S4V30BJ12	UL28L4S4V30QJ12	MOM	ON	MOM
Terminals connected (-6, -7 & -8)			1-2, 4-5	1-2, 5-6	2-3, 4-5

Above models have black actuator.



SINGLE POLE

DOUBLE POLE

Terminal numbers for reference only

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

B

ST SERIES - MINIATURE ROCKER & LEVER SWITCHES

B

Horizontal right angle p.c. terminals - p.c. mounting

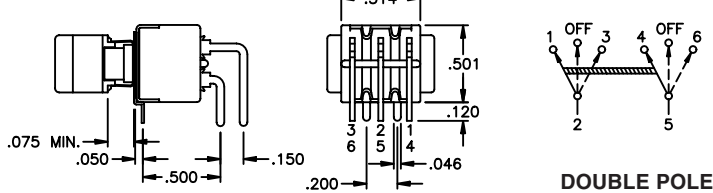
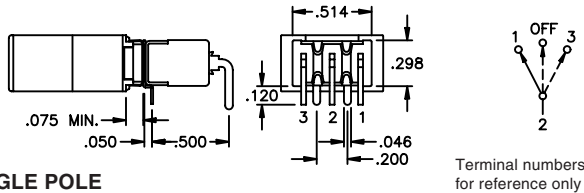
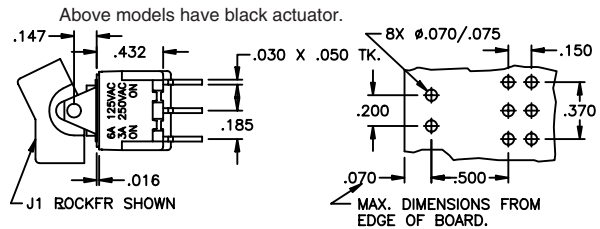
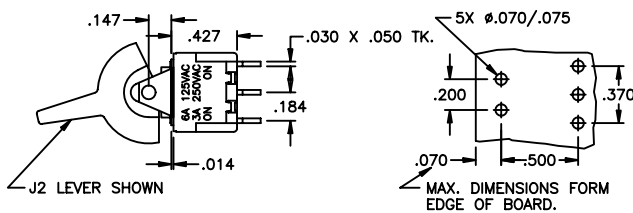


SINGLE POLE WITH J1 ROCKER



DOUBLE POLE WITH J2 LEVER

	DRY CKT. MODEL NO.	UL MODEL NO.	USA marking on other side		
Single pole	ST1-1L4S4A-1BJ12	UL11L4S4A-1QJ12	ON	NONE	ON
	ST1-2L4S4A-1BJ12	UL12L4S4A-1QJ12	ON	OFF	ON
	ST1-3L4S4A-1BJ12	UL13L4S4A-1QJ12	MOM	OFF	MOM
	ST1-4L4S4A-1BJ12	UL14L4S4A-1QJ12	ON	OFF	MOM
	ST1-5L4S4A-1BJ12	UL15L4S4A-1QJ12	ON	NONE	MOM
Double pole	ST2-1L4S4A-1BJ12	UL21L4S4A-1QJ12	ON	NONE	ON
	ST2-2L4S4A-1BJ12	UL22L4S4A-1QJ12	ON	OFF	ON
	ST2-3L4S4A-1BJ12	UL23L4S4A-1QJ12	MOM	OFF	MOM
	ST2-4L4S4A-1BJ12	UL24L4S4A-1QJ12	ON	OFF	MOM
	ST2-5L4S4A-1BJ12	UL25L4S4A-1QJ12	ON	NONE	MOM
	ST2-6L4S4A-1BJ12	UL26L4S4A-1QJ12	ON	ON	ON
	ST2-7L4S4A-1BJ12	UL27L4S4A-1QJ12	ON	ON	MOM
	ST2-8L4S4A-1BJ12	UL28L4S4A-1QJ12	MOM	ON	MOM
Terminals connected (-6, -7 & -8)			1-2, 4-5	1-2, 5-6	2-3, 5-6



SINGLE POLE

DOUBLE POLE

Terminal numbers for reference only

Vertical right angle p.c. terminals - p.c. mounting

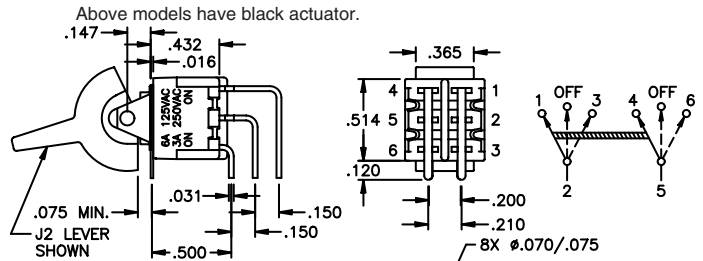
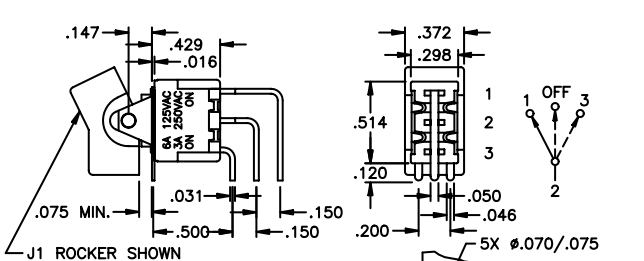


SINGLE POLE WITH J1 ROCKER



DOUBLE POLE WITH J2 LEVER

	DRY CKT. MODEL NO.	UL MODEL NO.	USA marking on other side		
Single pole	ST1-1L4S4V-1BJ12	UL11L4S4V-1QJ12	ON	NONE	ON
	ST1-2L4S4V-1BJ12	UL12L4S4V-1QJ12	ON	OFF	ON
	ST1-3L4S4V-1BJ12	UL13L4S4V-1QJ12	MOM	OFF	MOM
	ST1-4L4S4V-1BJ12	UL14L4S4V-1QJ12	ON	OFF	MOM
	ST1-5L4S4V-1BJ12	UL15L4S4V-1QJ12	ON	NONE	MOM
Double pole	ST2-1L4S4V-1BJ12	UL21L4S4V-1QJ12	ON	NONE	ON
	ST2-2L4S4V-1BJ12	UL22L4S4V-1QJ12	ON	OFF	ON
	ST2-3L4S4V-1BJ12	UL23L4S4V-1QJ12	MOM	OFF	MOM
	ST2-4L4S4V-1BJ12	UL24L4S4V-1QJ12	ON	OFF	MOM
	ST2-5L4S4V-1BJ12	UL25L4S4V-1QJ12	ON	NONE	MOM
	ST2-6L4S4V-1BJ12	UL26L4S4V-1QJ12	ON	ON	ON
	ST2-7L4S4V-1BJ12	UL27L4S4V-1QJ12	ON	ON	MOM
	ST2-8L4S4V-1BJ12	UL28L4S4V-1QJ12	MOM	ON	MOM
Terminals connected (-6, -7 & -8)			1-2, 4-5	1-2, 5-6	2-3, 5-6



SINGLE POLE

DOUBLE POLE

Terminal numbers for reference only

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

ST SERIES - MINIATURE ROCKER & LEVER SWITCHES

Solder lug terminals - snap-in bezel with outboard LED

SINGLE POLE WITH J3 ROCKER

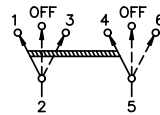
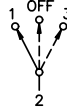
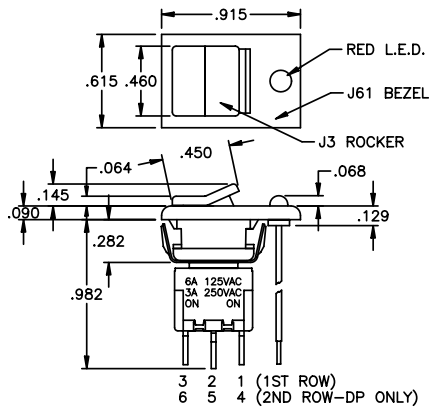


DOUBLE POLE WITH J4 LEVER

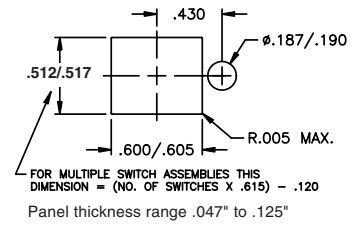


	POWER CKT. MODEL NO.	UL MODEL NO.	USA marking on other side		
Single pole	ST1-1L5S5ZQJ3J6122	UL11L5S5ZQJ3J6122	ON	NONE	ON
	ST1-2L5S5ZQJ3J6122	UL12L5S5ZQJ3J6122	ON	OFF	ON
	ST1-3L5S5ZQJ3J6122	UL13L5S5ZQJ3J6122	MOM	OFF	MOM
	ST1-4L5S5ZQJ3J6122	UL14L5S5ZQJ3J6122	ON	OFF	MOM
	ST1-5L5S5ZQJ3J6122	UL15L5S5ZQJ3J6122	ON	NONE	MOM
Double pole	ST2-1L5S5ZQJ3J6122	UL21L5S5ZQJ3J6122	ON	NONE	ON
	ST2-2L5S5ZQJ3J6122	UL22L5S5ZQJ3J6122	ON	OFF	ON
	ST2-3L5S5ZQJ3J6122	UL23L5S5ZQJ3J6122	MOM	OFF	MOM
	ST2-4L5S5ZQJ3J6122	UL24L5S5ZQJ3J6122	ON	OFF	MOM
	ST2-5L5S5ZQJ3J6122	UL25L5S5ZQJ3J6122	ON	NONE	MOM
	ST2-6L5S5ZQJ3J6122	UL26L5S5ZQJ3J6122	ON	ON	ON
	ST2-7L5S5ZQJ3J6122	UL27L5S5ZQJ3J6122	ON	ON	MOM
	ST2-8L5S5ZQJ3J6122	UL28L5S5ZQJ3J6122	MOM	ON	MOM
Terminals connected (-6, -7 & -8)			1-2, 4-5	1-2, 5-6	2-3, 5-6

Above models have black bezel & actuator.



Terminal numbers for reference only



Solder lug terminals - snap-in bezel

SINGLE POLE WITH J3 ROCKER

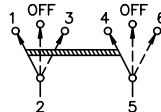
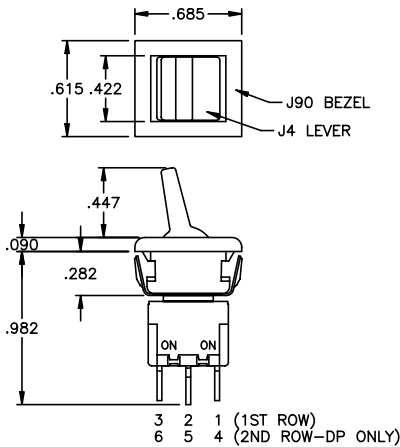


DOUBLE POLE WITH J4 LEVER

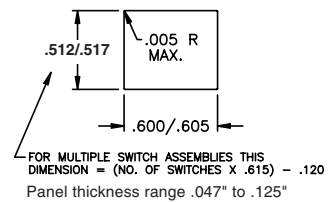


	POWER CKT. MODEL NO.	UL MODEL NO.	USA marking on other side		
Single pole	ST1-1L5S5ZQJ4J9022	UL11L5S5ZQJ4J9022	ON	NONE	ON
	ST1-2L5S5ZQJ4J9022	UL12L5S5ZQJ4J9022	ON	OFF	ON
	ST1-3L5S5ZQJ4J9022	UL13L5S5ZQJ4J9022	MOM	OFF	MOM
	ST1-4L5S5ZQJ4J9022	UL14L5S5ZQJ4J9022	ON	OFF	MOM
	ST1-5L5S5ZQJ4J9022	UL15L5S5ZQJ4J9022	ON	NONE	MOM
Double pole	ST2-1L5S5ZQJ4J9022	UL21L5S5ZQJ4J9022	ON	NONE	ON
	ST2-2L5S5ZQJ4J9022	UL22L5S5ZQJ4J9022	ON	OFF	ON
	ST2-3L5S5ZQJ4J9022	UL23L5S5ZQJ4J9022	MOM	OFF	MOM
	ST2-4L5S5ZQJ4J9022	UL24L5S5ZQJ4J9022	ON	OFF	MOM
	ST2-5L5S5ZQJ4J9022	UL25L5S5ZQJ4J9022	ON	NONE	MOM
	ST2-6L5S5ZQJ4J9022	UL26L5S5ZQJ4J9022	ON	ON	ON
	ST2-7L5S5ZQJ4J9022	UL27L5S5ZQJ4J9022	ON	ON	MOM
	ST2-8L5S5ZQJ4J9022	UL28L5S5ZQJ4J9022	MOM	ON	MOM
Terminals connected (-6, -7 & -8)			1-2, 4-5	1-2, 5-6	2-3, 5-6

Above models have black bezel & actuator.



Terminal numbers for reference only



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

B

ST SERIES - MINIATURE ROCKER & LEVER SWITCHES

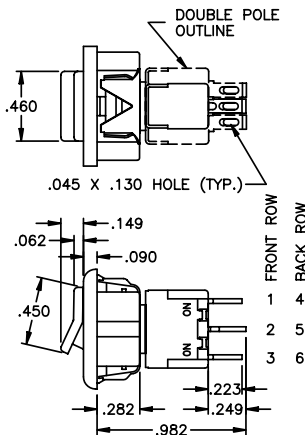
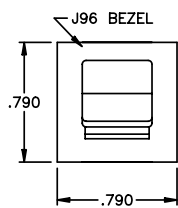
B

Snap-in bezel for round hole mounting
Self-keying against rotation

ST1-1L5S5ZQJ4J9622

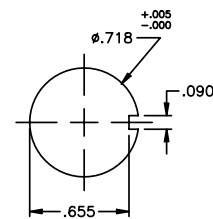
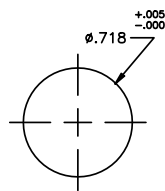
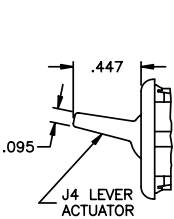
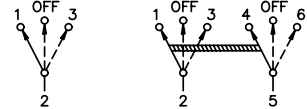
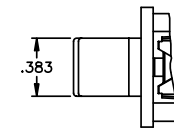


	POWER CKT. MODEL NO.	UL MODEL NO.	USA marking on other side		
Single pole	ST1-1L5S5ZQJ4J9622	UL11L5S5ZQJ4J9622	ON	NONE	ON
	ST1-2L5S5ZQJ4J9622	UL12L5S5ZQJ4J9622	ON	OFF	ON
	ST1-3L5S5ZQJ4J9622	UL13L5S5ZQJ4J9622	MOM	OFF	MOM
	ST1-4L5S5ZQJ4J9622	UL14L5S5ZQJ4J9622	ON	OFF	MOM
	ST1-5L5S5ZQJ4J9622	UL15L5S5ZQJ4J9622	ON	NONE	MOM
Double pole	ST2-1L5S5ZQJ4J9622	UL21L5S5ZQJ4J9622	ON	NONE	ON
	ST2-2L5S5ZQJ4J9622	UL22L5S5ZQJ4J9622	ON	OFF	ON
	ST2-3L5S5ZQJ4J9622	UL23L5S5ZQJ4J9622	MOM	OFF	MOM
	ST2-4L5S5ZQJ4J9622	UL24L5S5ZQJ4J9622	ON	OFF	MOM
	ST2-5L5S5ZQJ4J9622	UL25L5S5ZQJ4J9622	ON	NONE	MOM
	ST2-6L5S5ZQJ4J9622	UL26L5S5ZQJ4J9622	ON	ON	ON
	ST2-7L5S5ZQJ4J9622	UL27L5S5ZQJ4J9622	ON	ON	MOM
	ST2-8L5S5ZQJ4J9622	UL28L5S5ZQJ4J9622	MOM	ON	MOM
Terminals connected (-6, -7 & -8)			1-2, 4-5	1-2, 5-6	2-3, 5-6



Terminal numbers for reference only

Above models have black bezel & actuator.



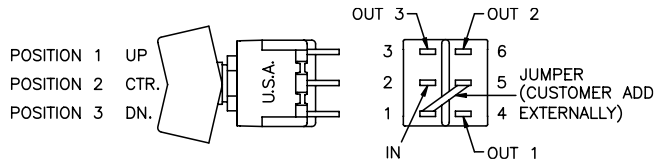
Panel thickness range .047" to .125".

MISCELLANEOUS

ST2-6, -7 & -8 SWITCHES

May be wired as a single pole 3 position switch; add external jumper between terminals 1 & 5, then:

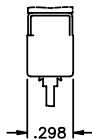
Common terminal is 2
Output 1 - terminal 4
Output 2 - terminal 6
Output 3 - terminal 3



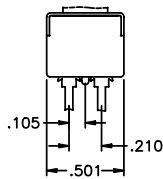
SWITCH BODY

**SIZES WITH
TERMINAL
LOCATION
DIMENSIONS**

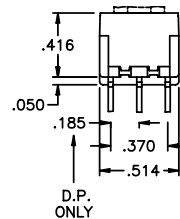
SIDE VIEW SINGLE POLE



SIDE VIEW DOUBLE POLE

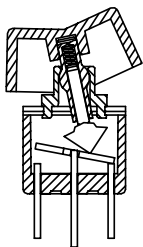


FRONT VIEW SINGLE AND DOUBLE POLE

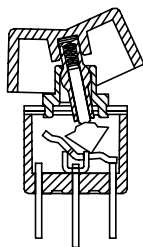


TYPICAL SWITCH CROSS SECTIONS

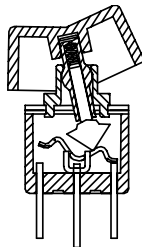
Note: Contacts make opposite actuator direction.



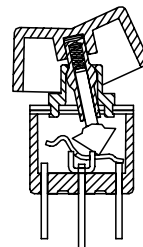
ON NONE ON



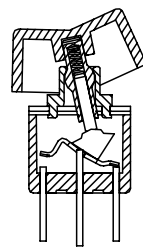
ON OFF ON



MOM OFF MOM



ON OFF MOM



ON NONE MOM

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

ST SERIES - MINIATURE ROCKER & LEVER SWITCHES

B

Additional ordering information: Commonly ordered models are shown on prior pages with complete model numbers and specifications. Below is an order format that enables you to 'build your own switch' and specify the correct switch model number by simply selecting from all available options shown and filling in the boxes.

'BUILD YOUR OWN SWITCH' ORDER FORMAT

Fill in boxes with selections shown for **Model Structure**, then add **Options** selections for complete model number. Allowable options are shown below each respective box with brief description - see option dwgs. & info. following. Note: 'NONE' indicates box may be left empty.

Model Structure:

Series	Electrical functions	Sub-actuators	Sub-Bushings	Terminations	Contact materials
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Single pole: S T 1 -	1 ON NONE ON 2 ON OFF ON	L 4 Specify without bezel	S 4 Specify without bezel	Z Solder lug C Printed circuit W Wirewrap	B Gold Q Coin silver
S.P. UL model: U L 1	3 MOM OFF MOM 4 ON OFF MOM	L 5 Specify with bezel	S 5 Specify with bezel	W 1 Lg. wirewrap W 3 Sht. wirewrap X Extra lg. wirewrap	G Gold over coin silver
Double pole: S T 2 -	5 ON - MOM Following for DP only			Horiz. right angle p.c.: A A - 1	N Economy gold T Economy silver
D.P. UL model: U L 2	6 ON ON ON 7 ON ON MOM 8 MOM ON MOM			Vertical right angle p.c.: V V - 1 V - 2	

Although most combinations of options are available, some may result in incompatibilities. Consult factory if there is any question.

Example of completely specified model number:
ST2-3L5S5ZQEJ4J9622

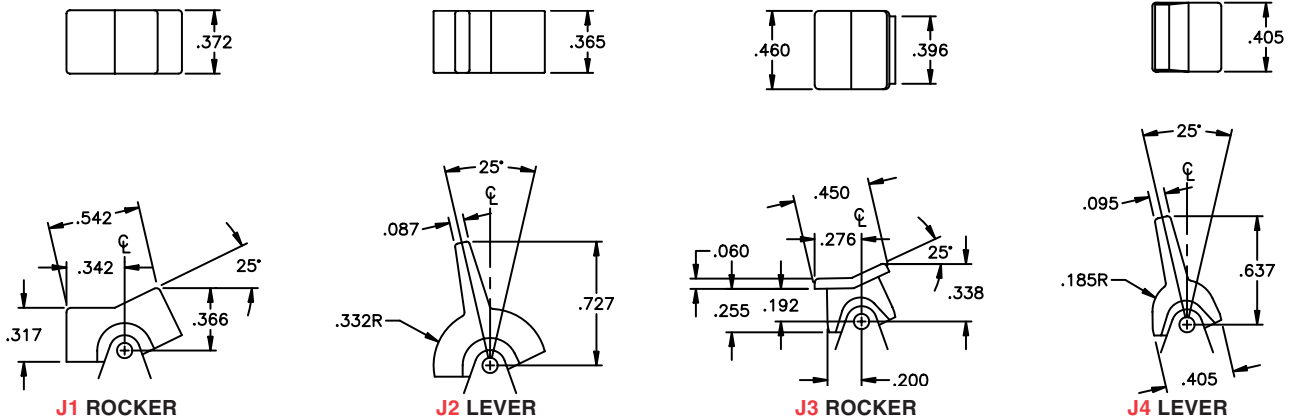
Straight p.c. terms. w/brkt.:
V 3 0 or V 3 1
V 4 0 or V 4 1
V 7 0 or V 7 1
V 8 0 or V 8 1

Options:

Sealing	Actuator	Bezel	Bezel color	Actuator color	Recognition
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
(NONE) E Epoxy	J 1 Rocker J 2 Lever J 3 Small rocker J 4 Small lever	(NONE) J 6 1 Snap-in w/LED J 9 0 Snap-in no LED J 9 3 P.C. style Self-keying round hole mt.: J 9 6 Snap-in no LED Note: specify J3 or J4 actuators only with bezels.	(NONE) 2 Black 6 Red 8 White	2 Black 6 Red 8 White Note: J3 & J4 actuators available in black only.	(NONE) / C S A CSA lising

ACTUATOR OPTIONS

Colors available: J1 & J2: Black, red or white. J3 & J4: Black.

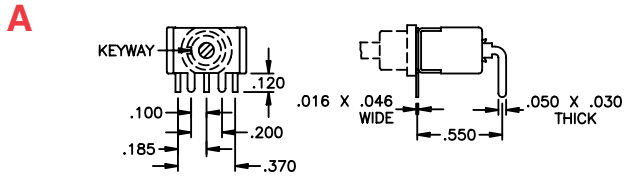


SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

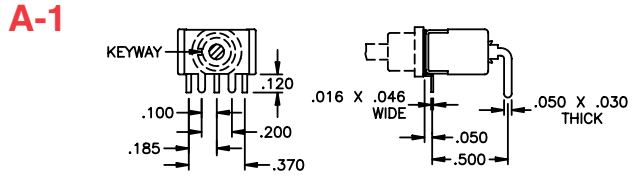
ST SERIES - MINIATURE ROCKER & LEVER SWITCHES

TERMINATION OPTIONS

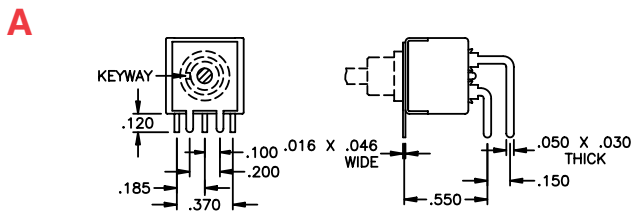
B



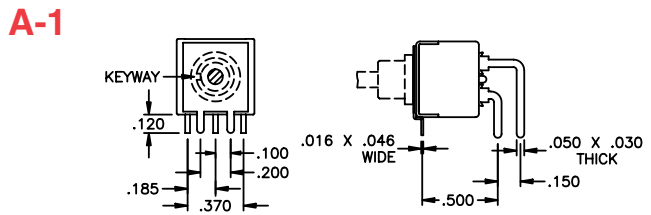
SINGLE POLE HORIZONTAL P.C. MOUNTING



SINGLE POLE HORIZONTAL P.C. MOUNTING



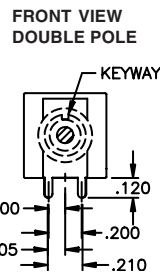
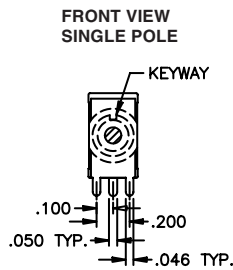
DOUBLE POLE HORIZONTAL P.C. MOUNTING



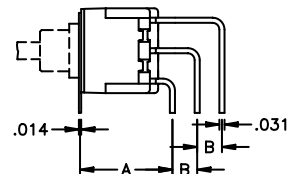
DOUBLE POLE HORIZONTAL P.C. MOUNTING

V, V-1 & V-2

Option	Dim. A	Dim. B
V	.550	.150
V-1	.500	.150
V-2	.500	.100



SIDE VIEW - SINGLE & DOUBLE POLE

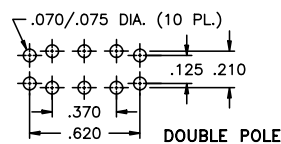
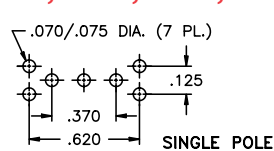


VERTICAL P.C. MOUNTING

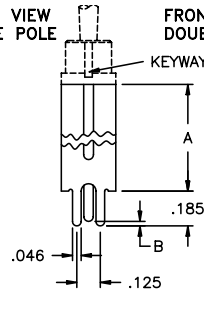
V30, V40, V70, V80, V31, V41, V71 & V81

PANEL LAYOUT V30, V31, V40 & V41

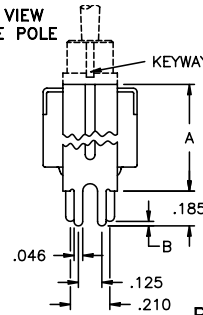
Option	Dim. A	Dim. B
V30-V31	.527	.024
V40-V41	.647	.048



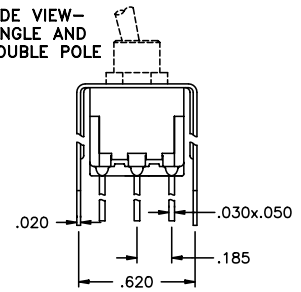
FRONT VIEW SINGLE POLE



FRONT VIEW DOUBLE POLE



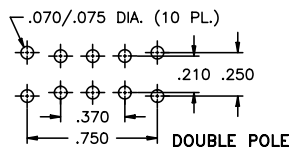
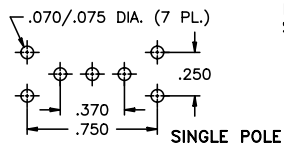
SIDE VIEW - SINGLE AND DOUBLE POLE



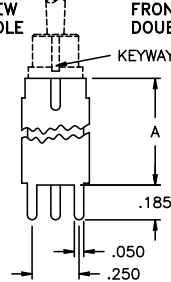
PRINTED CIRCUIT MOUNTING

PANEL LAYOUT V70, V71, V80 & V81

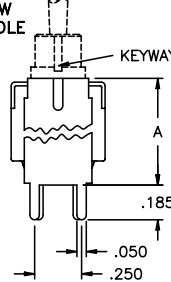
Option	Dim. A
V70-V71	.630
V80-V81	.953



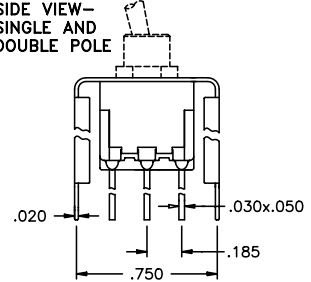
FRONT VIEW SINGLE POLE



FRONT VIEW DOUBLE POLE

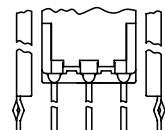
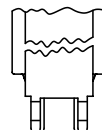


SIDE VIEW - SINGLE AND DOUBLE POLE



PRINTED CIRCUIT MOUNTING

V31, V41, V71 & V81 ARE THE SAME AS V30, V40, V70 & V80 RESPECTIVELY, EXCEPT WITH CRIMPED LEG DESIGN FOR P.C. BOARD RETENTION, AS SHOWN TO RIGHT.

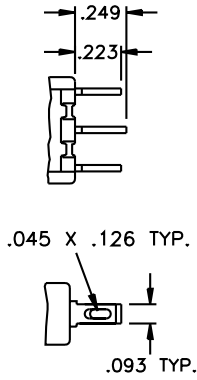


SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

ST SERIES - MINIATURE ROCKER & LEVER SWITCHES

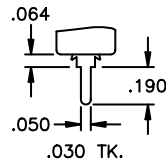
TERMINATION OPTIONS (CONT'D.)

Z



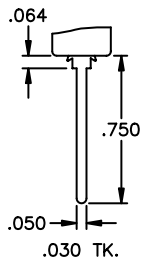
SOLDER LUG

C



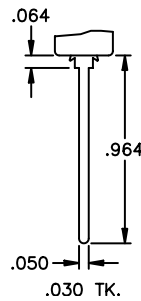
PRINTED CIRCUIT

W



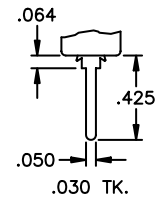
WIREWRAP

W1



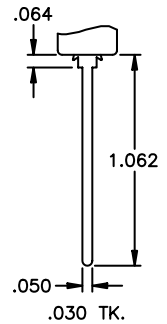
LONG WIREWRAP

W3



SHORT WIREWRAP

X



EXTRA LG. WIREWRAP

CONTACT MATERIAL OPTIONS

B

Dry circuit - gold over nickel over brass.
RATING: 0.4 Volt-Amps (VA) max. at 20 V max.
ELECTRIC LIFE: 100,000 cycles min. (ST1-1 & ST2-1 only - other models 40,000 cycles min.)

Q

Power circuit - coin silver.
RATING: 6 Amps at 125 VAC, 3 Amps at 250 VAC or 7 Amps at 30 VDC (resistive loads).
ELECTRIC LIFE: 100,000 cycles min. (ST1-1 & ST2-1 only - other models 40,000 cycles min.)

G

Dry circuit or power circuit - gold over nickel over coin silver.
RATINGS & ELECTRIC LIFE: Same as B & Q above - i.e. - can be used in either dry circuit or power circuit, however once used in power circuit, switch cannot be re-used in dry circuit. This option satisfies those customers who have both dry circuit and power circuit requirements, but prefer to inventory only one switch for both.

N

Dry circuit - gold over nickel over brass. Note- less gold than B option.
RATING: 0.4 Volt-Amps (VA) max. at 20 V max.
ELECTRIC LIFE: 10,000 cycles min. at 13 cycles per minute.

T

Power circuit - Silver plate over brass.
RATING: 3 Amps at 125 VAC or 1.5 Amps at 250 VAC (resistive loads).
ELECTRIC LIFE: 10,000 cycles min. at 13 cycles per minute.

Solder dipped terminals and custom contact plating available - contact factory.

UL & CSA OPTIONS

UL

For power circuits - coin silver
RATING: 6 Amps at 125 VAC or 3 Amps at 250 VAC (75% power factor).
Underwriter Laboratories file no. E66367. To specify, order UL model no. Note - applicable only to terminations with coin silver contacts (Q or G options).

CSA

For power circuits - coin silver
RATING: 6 Amps at 125 VAC or 3 Amps at 250 VAC (75% power factor). Canadian Standards Association file no. LR54592-1. To specify, order UL model number, then add 'CSA' to complete switch number. Note - applicable only to terminations with coin silver contacts (Q or G options) as CSA recognizes switches for power applications only.

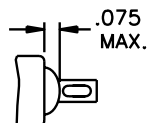
SEALING & MISCELLANEOUS OPTIONS

E

Epoxy terminal sealing: Available with all terminal configurations.

The space between terminal & case hole is sealed with epoxy all around terminal.

Provides maximum protection from entry of flux or contaminants into the switch case.



/R

To specify reverse switch action on non-symmetrical models with bushing keyway, add '/R' to switch model no.

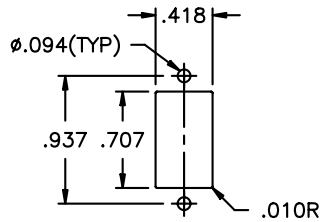
SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

B

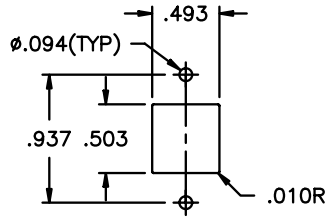
ST SERIES - MINIATURE ROCKER & LEVER SWITCHES

MOUNTING INFORMATION & PANEL CUT-OUTS

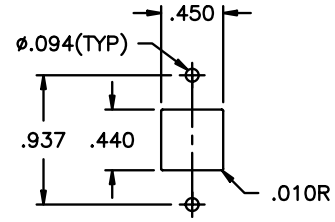
B



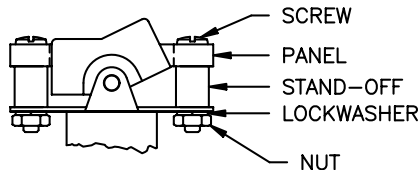
J1 OR J2		
Panel tk'ness.	Hardware number	Stand-off length
1/16"	A322-3	.295
3/32"	A322-2	.264
1/8"	A322-1	.233



J3		
Panel tk'ness.	Hardware number	Stand-off length
1/16"	A322-2	.264
3/32"	A322-1	.233
1/8"	A322-4	.202



J4		
Panel tk'ness.	Hardware number	Stand-off length
1/16"	A322-1	.233
3/32"	A322-4	.202
1/8"	A322-5	.171



TYPICAL ASSEMBLY

Mounting hardware consists of 2 each:
 Hex Nut, stainless steel
 Screw, stainless steel
 Lockwasher, stainless steel
 Stand-off, aluminum

1/8" panel hardware supplied if not specified separately by hardware number shown in tables.

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

2600 SERIES - ILLUMINATED & NON-ILLUMINATED ROCKER SWITCHES



FEATURES

- Broad selection of lamp types and/or rocker colors.
- SPDT & DPDT models with plain, 'V' shaped or concave rocker.
- Illuminated rocker or rocker with illuminated window.
- Screw terminals with clamp or solder lug/quick-connect terminals.

SPECIFICATIONS

Contact ratings (resistive loads): Silver contacts; ON-OFF and ON-ON: 10(4)A 380VAC -16(6)A 250VAC or 20(6)A 125VAC. Other functions: 10A 250VAC or 15A 125VAC
Silver plated copper contacts; All functions: 4A 250VAC or 5A 125VAC

Agency recognized ratings: See table below

Initial contact resistance: 10 milliohms max. at 1A 2VDC

Insulation resistance: 1000 megohms min. at 500 VDC

Dielectric strength: 2500 V rms min. - between terminals
3000 V rms min. - between terminals and metal panel

Electrical life: 10,000 cycles min. at full load

Operating temperature range: Silver contacts: -20°C to +125°C Silver plated contacts: -10°C to +55°C

Panel thickness: 0.8-4mm (.031"-.157")

AGENCY RECOGNIZED RATINGS		
FUNCTIONS	UL & CSA	VDE
ON-OFF	1/6 HP 125VAC, 16A 125VAC	10(4)A 380VAC, 16(6)A 250VAC &
ON-ON	16A 250VAC & 1/3 HP 250VAC	20(6)A 125VAC
ON-OFF-ON	10A 125VAC, 10A 250VAC & 1/6 HP 125/250VAC	10(4)A 380VAC
OTHERS, CSA ONLY : 10A 125VAC, 10A 250VAC & 1/6 HP 250VAC		

MATERIALS

Contacts & Terminals: Silver or silver plated copper

Actuator: Polyamide

Frame: Polyamide

Case: Melamine/polyester

AGENCY RECOGNITION



UL, CSA & VDE. Recognized models are supplied with agency markings.

ABOUT THIS SERIES

The material in this series is organized in the following sequence:

- Completely specified switch models
- 'build your own switch' order format
- Option drawings
- Mounting & miscellaneous

ALSO IN THIS SERIES

2600 Series switches for peak currents - for switching power supplies, DC-DC converters, motors, etc. See specifications on last page of completely specified models.

2600 SERIES - ILLUMINATED & NON-ILLUMINATED ROCKER SWITCHES

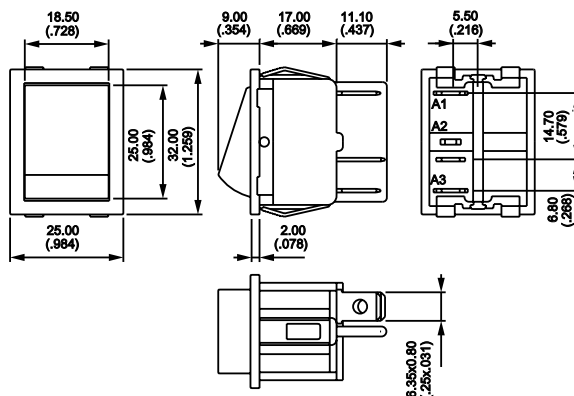
B

Single pole - non-illuminated - black rocker - silver contacts



Screw terminals and clamp	Solder lug/quick-connect terminals	CIRCUIT
2631LHA212000L0	2631LH/2A212000L0	ON - OFF
2636LHA212000L0	2636LH/2A212000L0	ON - ON
2639LHA212000L0	2639LH/2A212000L0	ON OFF ON
Terminals connected:		A2-A1 A2-A3

Above models have black frame.

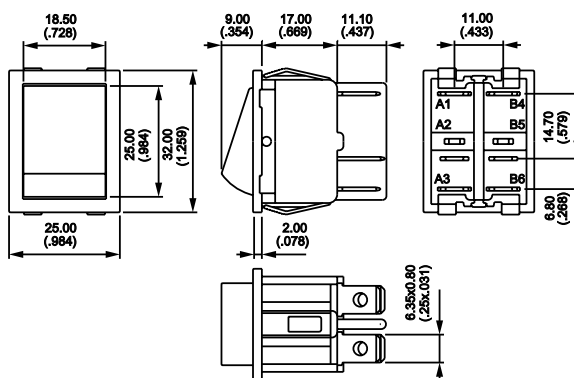


Double pole - non-illuminated - black rocker - silver contacts



Screw terminals and clamp	Solder lug/quick-connect terminals	CIRCUIT
2641LHA212000L0	2641LH/2A212000L0	ON - OFF
2645LHA212000L0	2645LH/2A212000L0	MOM - ON
2646LHA212000L0	2646LH/2A212000L0	ON - ON
2647LHA212000L0	2647LH/2A212000L0	MOM OFF MOM
2648LHA212000L0	2648LH/2A212000L0	ON OFF MOM
2649LHA212000L0	2649LH/2A212000L0	ON OFF ON
Terminals connected:		A2-A1 A2-A3 B5-B4 B5-B6

Above models have black frame.

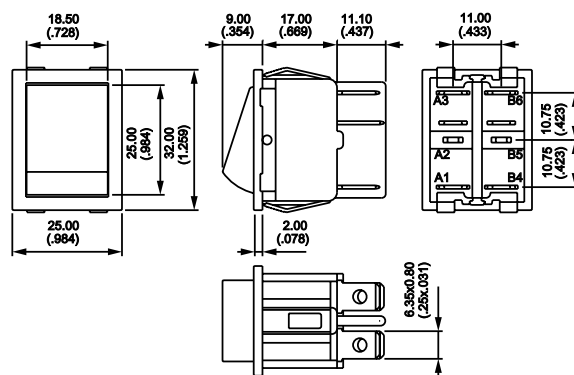


Double pole - illuminated - green rocker - silver contacts



Screw terminals and clamp	CIRCUIT
2641LHA21300L110V3	ON - OFF
2646LHA21300L110V3	ON - ON
2649LHA21300L110V3	ON OFF ON
Solder lug/quick-connect terminals	CIRCUIT
2641LH/2A21300L110V3	ON - OFF
2646LH/2A21300L110V3	ON - ON
2649LH/2A21300L110V3	ON OFF ON
Terminals connected:	
A2-A1	A2-A3
B5-B4	B5-B6

Above models have black frame.

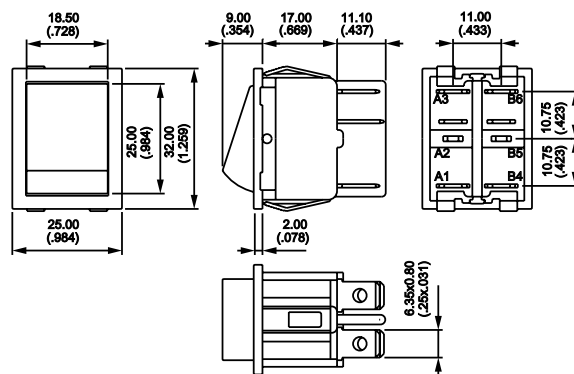


Double pole - illuminated - red rocker - silver contacts



Screw terminals and clamp	CIRCUIT
2641LHA21600L110V	ON - OFF
2646LHA21600L110V	ON - ON
2649LHA21600L110V	ON OFF ON
Solder lug/quick-connect terminals	CIRCUIT
2641LH/2A21600L110V	ON - OFF
2646LH/2A21600L110V	ON - ON
2649LH/2A21600L110V	ON OFF ON
Terminals connected:	
A2-A1	A2-A3
B5-B4	B5-B6

Above models have black frame.



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

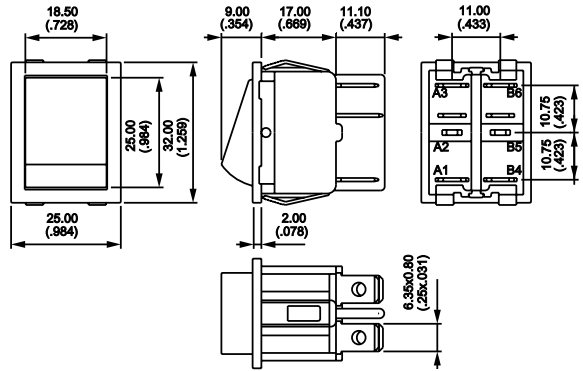
2600 SERIES - ILLUMINATED & NON-ILLUMINATED ROCKER SWITCHES

Double pole - illuminated - amber rocker - silver contacts



Screw terminals and clamp	CIRCUIT		
2641LHA21900L110V	ON	-	OFF
2646LHA21900L110V	ON	-	ON
2649LHA21900L110V	ON	OFF	ON
Solder lug/quick-connect terminals	CIRCUIT		
2641LH/2A21900L110V	ON	-	OFF
2646LH/2A21900L110V	ON	-	ON
2649LH/2A21900L110V	ON	OFF	ON
Terminals connected:	A2-A1	A2-A3	B5-B6

Above models have black frame.

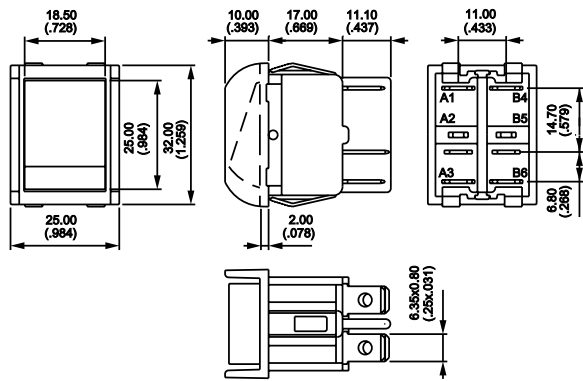


Double pole - illuminated - red rocker - protection guard - silver contacts



Screw terminals and clamp	CIRCUIT		
2641LPA21600L110V	ON	-	OFF
2646LPA21600L110V	ON	-	ON
2649LPA21600L110V	ON	OFF	ON
Solder lug/quick-connect terminals	CIRCUIT		
2641LP/2A21600L110V	ON	-	OFF
2646LP/2A21600L110V	ON	-	ON
2649LP/2A21600L110V	ON	OFF	ON
Terminals connected:	A2-A1	A2-A3	B5-B6

Above models have black frame.



2600 Series double pole switches for peak currents up to 150 Amps at 250 VAC

Also see 'Switches for Peak Currents' technical page in rear of catalog.

Contacts: Silver cadmium oxide

Maximum ratings:

Capacitive load:

- 15/150A 125VAC and 250VAC - 5000 cycles
- 10/150A 125VAC and 250VAC - 10,000 cycles
- 4/90A (10 ms) 60VDC - 10,000 cycles

Motor load:

- 15(6)A 250VAC - 10,000 cycles. 10(4)A 380VAC - 10,000 cycles
- 17(6)A 125VAC - 6,000 cycles. 1 HP 250VAC - 10,000 cycles
- 2 HP 250VAC - 6,000 cycles. 1/2 HP 125VAC - 6,000 cycles
- Note - 6(3 A 125VAC means 6A resistive and 3A motor)

Lamp Load:

- 10A 125VAC and 250VAC - 10,000 cycles

Other specifications and dimensions same as previous 2600 Series models - see first page of Series.

To specify models with protection guard, replace **LH** with **LP** in model numbers shown in table.



16A 250VAC - 1/3 HP 250VAC
16A 125VAC - 1/6 HP 125VAC

NON-ILLUMINATED - BLACK ROCKER		
Solder lug/quick-connect terminals	Screw terminals	CIRCUIT
2641SLH/2A212000L0	2641SLHA212000L0	ON - OFF
2646SLH/2A212000L0	2646SLHA212000L0	ON - ON
ILLUMINATED 220 VAC (without window)		
Solder lug/quick-connect terminals - green rocker		
2641SLH/2A21300L220V3		ON - OFF
2646SLH/2A21300L220V3		ON - ON
Solder lug/quick-connect terminals - red rocker		
2641SLH/2A21600L220V3		ON - OFF
2646SLH/2A21600L220V3		ON - ON
ILLUMINATED 220 VAC (with window)		
Solder lug/quick-connect terminals - green rocker		
2641SLH/2A21300L220V3/3		ON - OFF
2646SLH/2A21300L220V3/3		ON - ON
Solder lug/quick-connect terminals - red rocker		
2641SLH/2A21600L220V3/3		ON - OFF
2646SLH/2A21600L220V3/3		ON - ON

New!

2600 SERIES - ILLUMINATED & NON-ILLUMINATED ROCKER SWITCHES

B

Additional ordering information: Commonly ordered models are shown on prior pages with complete model numbers and specifications. Below is an order format that enables you to 'build your own switch' and specify the correct switch model number by simply selecting from all available options shown and filling in the boxes.

'BUILD YOUR OWN SWITCH' ORDER FORMAT

Fill in boxes with selections shown for **Model Structure & Options** for complete model number.

Allowable options are shown below each respective box.

Note 'NONE' indicates box may be left empty.

Model Structure & options:

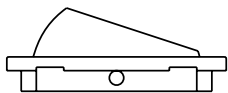
Series	Number of poles	Electrical functions	Frame type	Terminals	Contact materials	Frame color
<input type="text" value="2"/> <input type="text" value="6"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	3 Single pole 4 Double pole	1 ON - OFF 4 ON ON ON* 5 MOM - ON* 6 ON - ON 7 MOM OFF MOM* 8 ON OFF MOM* 9 ON OFF ON * - double pole only	L H Plain L P With protection guard	(NONE) Screw & clamp / 2 Solder lugs/quick-connect / 3 Normalized quick-connect	A Silver C Silver plated copper	2 Black (Standard) 4 Gray 7 / 1 White 8 Chrome plated This option has UL approval only B Light brown E Dark brown

Rocker shape	Rocker color (or no rocker)	Rocker marking (or no marking)	Lamp (or no lamp)	Illuminated window
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
1 Plain 2 'V' shaped 3 Concave	Select rocker color or 'no rocker' from option table below	Select rocker marking or 'no rocker marking' from option table below	L 0 (NONE) Or, select lamp from option table below	(NONE) / 3 Green / 6 Red This option for black, green and red rockers only. With green, use fluorescent lamp only.

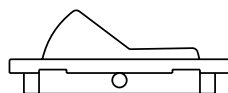
Although most combinations of options are available, some may result in incompatibilities. Consult factory if there is any question.

Example of completely specified model number:
2644LH/2AB1300L110V3

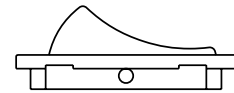
ROCKER SHAPE OPTIONS



1 Plain



2 'V' shaped



3 Concave

ROCKER COLOR OPTIONS

For illuminated rocker (without window):

Rocker color option no.	Without rocker 0	Blue* 1	Green* 3	Yellow 5	Red 6	White 7/1	Orange 9
-------------------------	----------------------------	-------------------	--------------------	--------------------	-----------------	---------------------	--------------------

* With green or blue rocker, use fluorescent lamp only.

For non-illuminated rocker or rocker with illuminated window**:

** - specify only options 20, 30 or 60 with illuminated window rockers.

Rocker color option no.	Without rocker 0	Light brown 02	Dark brown 04	Beige 03	Blue 10	Black 20
Rocker color option no.	Green 30	Gray 40	Yellow 50	Red 60	White 70	Orange 90

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

2600 SERIES - ILLUMINATED & NON-ILLUMINATED ROCKER SWITCHES

ROCKER MARKING OPTIONS

Marking option numbers (for markings and colors shown - consult factory for special marking)

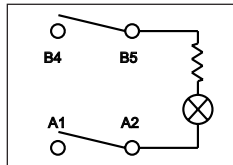
Marking	Marking color	(Below options indicate no marking)					
		4 5 6	1 2 3	4 5 6	1 2 3	4 5 6	1 2 3
Black	00	01	02	06	07	08	
Red	00	11	12	16	17	18	
White	00	21	22	26	27	28	

Marking	Marking color						
		4 5 6	1 2 3	3 2 1	6 5 4	4 5 6	1 2 3
Black	-	-	-	40	43*	46	
Red	13	14	15*	41	44*	47	
White	23	24	25*	42	45*	48	

* not available on 'V' shaped rockers

LAMP OPTIONS

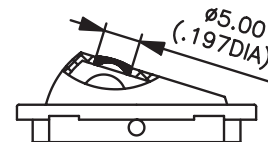
- LO** Non-illuminated switch
- L6V** Filament 6V
- L12V** Filament 12V
- L24V** Filament 24V
- L110V** Neon 110 VAC
- L110V3** Fluorescent green 110 VAC
- L220V** Neon 220 VAC
- L220V3** Fluorescent green 220 VAC
- L380V** Neon 380 VAC
- L380V3** Fluorescent green 380 VAC



For illuminated models, lamp is always connected between center terminals 2 and 5. Lamps L380V and L380V3 are not UL/CSA approved.

ROCKER SWITCH WITH ILLUMINATED WINDOW

New!



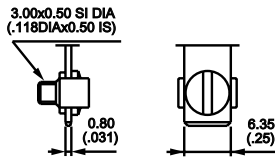
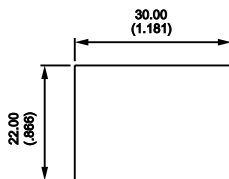
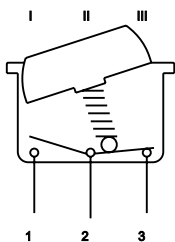
Window colors: red or green

Available with plain, 'V' shaped, or concave rockers

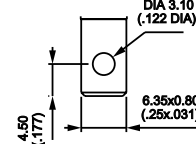
SWITCH ACTION

PANEL CUT-OUT

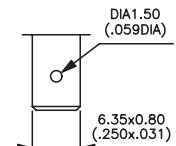
TERMINALS



Standard: Screw & clamp



/2 Solder lug/
quick-connect



/3 Normalized
quick-connect

AS SERIES SNAP-IN ROCKER SWITCHES

B



FEATURES

- Double insulation.
- SPDT models with actuator color selections.
- Epoxy terminal seal standard.
- Agency recognition (see below).

SPECIFICATIONS

Contact ratings (resistive loads):	Silver contacts (1) and gold plated silver contacts (2); 4A 125VAC max. or 2A 250VAC max. Gold plated brass contacts (0): 0.4 VA max. at 20 VAC or VDC.
Initial contact resistance:	10 milliohms max.
Insulation resistance:	10,000 megohms min.
Dielectric strength:	1000 V rms min. - between terminals 4000 V rms min. - between terminals and metal panel
Electrical life:	50,000 cycles min. at full load
Operating temperature range:	-40°C to +85°C

MATERIALS

Contacts & Terminals:	Silver, gold plated silver or gold plated brass
Actuator:	Polyamide
Case:	PES, color black

AGENCY RECOGNITION



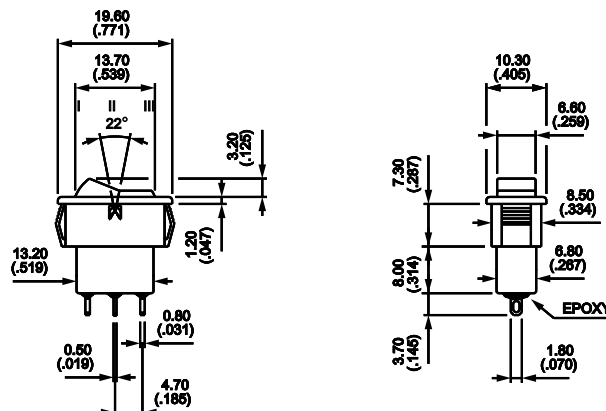
UL & CSA . Recognized models are available with agency markings.

Solder lug terminals - silver contacts



MODEL NO.	CIRCUIT
AS36S010010	ON - ON
AS39S010010	ON OFF ON
AS37S010010	MOM OFF MOM
AS38S010010	ON OFF MOM
AS32S010010	ON - MOM
Act. position:	III II I

Above models have black actuator.



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

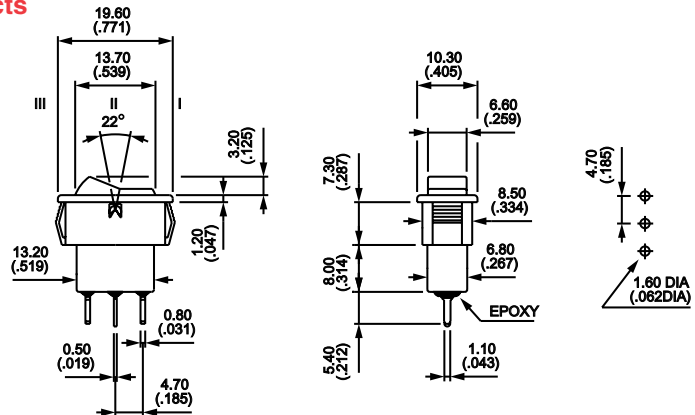
AS SERIES SNAP-IN ROCKER SWITCHES

Printed circuit terminals - gold plated brass contacts



MODEL NO.	CIRCUIT		
AS36P0000	ON	-	ON
AS39P0000	ON	OFF	ON
AS37P0000	MOM	OFF	MOM
AS38P0000	ON	OFF	MOM
AS32P0000	ON	-	MOM
Act. position:	III	II	I

Above models have black actuator.



Additional ordering information: Commonly ordered models are shown above with complete model numbers and specifications. Below is an order format that enables you to 'build your own switch' and specify the correct switch model number by simply selecting from all available options shown and filling in the boxes.

'BUILD YOUR OWN SWITCH' ORDER FORMAT

Fill in boxes with selections shown for complete model number.

Allowable options are shown below each respective box.

Note 'NONE' indicates box may be left empty.

Series	Number of poles	Electrical functions	Terminals	Contact materials	Actuator color	Recognition/Misc.
A S	3 Single pole	6 ON - ON 9 ON OFF ON 7 MOM OFF MOM 8 ON OFF MOM 2 ON - MOM	S 0 Solder lug P 0 Printed circuit	0 Gold plated brass 1 Silver 2 Gold plated silver	0 0 Black 0 1 Red 0 2 Gray 0 3 Blue	(NONE) 1 0 with UL/CSA marking - (for 1 & 2 contacts only) 2 0 .393"(10mm) p.c. terminals

Example of completely specified model number:

AS36P01011020

CROSS SECTION	SOLDER LUG TERMINAL	PRINTED CIRCUIT TERMINAL	PANEL CUT-OUT

New! R SERIES SNAP-IN ROCKER SWITCHES

B

FEATURES

- Cost effective illuminated or non-illuminated models.
- Single pole & double pole maintained or momentary action models.
- Actuator and case color selections.
- Standard actuator marking options.

SPECIFICATIONS

Contact ratings:	16A 125VAC 1/4 HP (UL/CSA). 16A 250VAC 1/4 HP (UL/CSA). 20A 125VAC 3/4 HP 250VAC (UL) 16(4)A 250V ~ T125 1E4 10(2)A 250V ~ 5E4 (VDE, SEMCO, NEMCO, DEMCO, FIMCO, SEV).
Initial contact resistance:	20 milliohms max.
Insulation resistance:	100 megohms min. at 500 V
Dielectric strength:	1000 VAC for 1 minute
Electrical life:	16(4)A 250VAC: 10,000 cycles 10(2)A 250VAC: 50,000 cycles
Operating temperature range:	-20°C to 125°C

MATERIALS

Contacts:	Silver cadmium alloy	Lamps:	Neon or fluorescent.
Terminals:	Silver plated copper		Illumination available
Actuator:	Nylon type 66 (UL94V-2 min.)		only with function 1 (ON OFF).
Case:	Nylon type 66 (UL94V-2 min.)		

AGENCY RECOGNITION

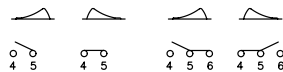


UL, CSA, VDE, SEMKO, NEMKO, DEMKO, FEMKO, & SEV. Models are supplied with agency markings.

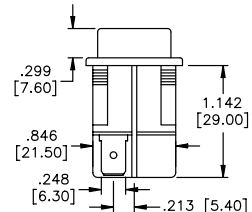
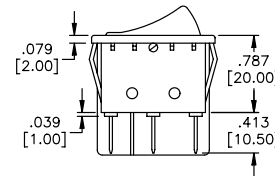
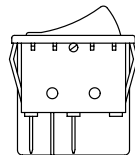
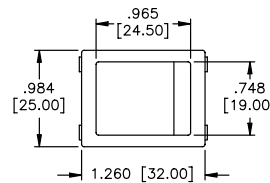
Single pole - quick connect terminals - curved actuator



MODEL NO.	CIRCUIT
R1101C2NBB	ON OFF
R1201C2NBB	ON OFF
R1301C2NBB	ON OFF ON
R1401C2NBB	(ON) OFF
R1501C2NBB	(ON) ON
R1601C2NBB	(ON) OFF (ON)
R1701C2NBB	(ON) OFF ON



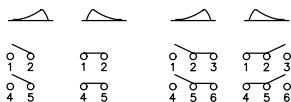
Parenthesis indicates momentary action. Models in table have black actuator and black case.



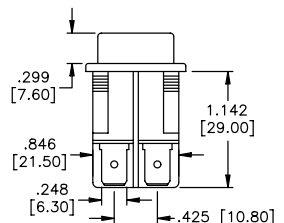
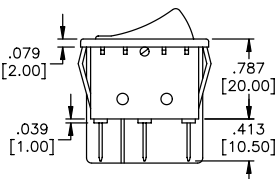
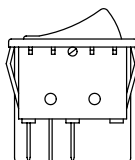
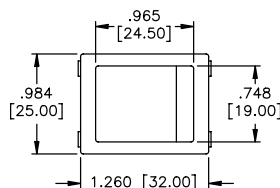
Double pole - quick connect terminals - curved actuator



MODEL NO.	CIRCUIT
R2101C2NBB	ON OFF
R2201C2NBB	ON OFF
R2301C2NBB	ON OFF ON
R2401C2NBB	(ON) OFF
R2501C2NBB	(ON) ON
R2601C2NBB	(ON) OFF (ON)
R2701C2NBB	(ON) OFF ON



Parenthesis indicates momentary action. Models in table have black actuator and black case.



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

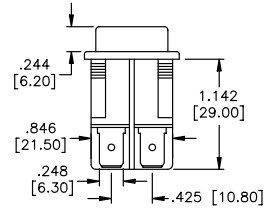
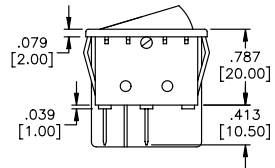
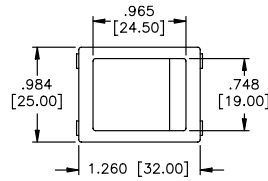
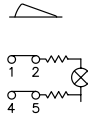
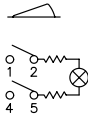
New! R SERIES SNAP-IN ROCKER SWITCHES

Double pole - illuminated - quick connect terminals - flat actuator



MODEL NO.	CIRCUIT		
R2101F2LB0	ON	OFF	
R2201F2LB0	ON	OFF	
R2301F2LB0	ON	OFF	ON
R2401F2LB0	(ON)	OFF	
R2501F2LB0	(ON)	ON	
R2601F2LB0	(ON)	OFF	(ON)
R2701F2LB0	(ON)	OFF	ON




Parenthesis indicates momentary action. Models in table have orange actuator and black case.



Additional ordering information: Commonly ordered models are shown above with complete model numbers and specifications. Below is an order format that enables you to 'build your own switch' and specify the correct switch model number by simply selecting from all available options shown and filling in the boxes.

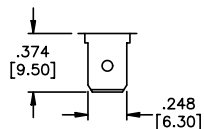
'BUILD YOUR OWN SWITCH' ORDER FORMAT

Fill in boxes with selections shown for complete model number.
Allowable selections are shown below each respective box.
Note 'NONE' indicates box may be left empty.

Series	Number of poles	Electrical functions	Terminals	Actuator shape	Actuator type	Marking/ lens color
<input type="text" value="R"/>	<input type="text" value="2"/>	<input type="text" value="6"/>	<input type="text" value="0"/>	<input type="text" value="1"/>	<input type="text" value="F"/>	<input type="text" value="1"/>
	1 Single pole 2 Double pole	1 ON OFF 2 ON ON 3 ON OFF ON 4 (ON) OFF 5 (ON) ON 6 (ON) OFF (ON) 7 (ON) OFF ON <small>parenthesis = momentary</small>	0 Quick-connect 1 Solder lug 3 Screw type	1 Single 2 Twin	C Curved F Flat Note: only flat actuator is available with full illumination- i.e.-no lens	1 HI LO 2 No marking 3 ON OFF 4 O I 5 O — 6 O II TWIN ACTUATORS: 7 
	<input type="text" value="L"/>	<input type="text" value="A"/>	<input type="text" value="A"/>	<input type="text" value="NONE"/>	<input type="text" value="NONE"/>	<input type="text" value="G"/>
	L Illuminated N non-illum. C round lens  R square lens 	A Gray B Black W White	A Gray B Black G Green O Orange R Red W White	(NONE) W Waterproof		G Green lens R Red lens O Orange lens
Example of completely specified model number: R2301C6NBRW						

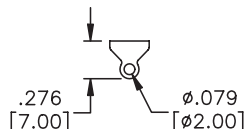
TERMINALS

QUICK-CONNECT



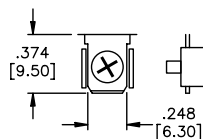
0

SOLDER LUG



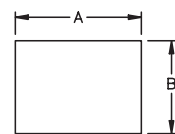
1

SCREW



3

PANEL CUT-OUTS



pnl. tk'ness.	A +0, -.004	B +.006, -.0
.029-.049"	1.181"	.866"
.050-.078"	1.189"	.866"
.079-.118"	1.200"	.866"

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

B

New! RH SERIES SNAP-IN ROCKER SWITCHES

B

FEATURES

- Cost effective illuminated or non-illuminated models.
- Single pole maintained action models.
- Actuator and case color selections.
- Standard actuator marking options.

SPECIFICATIONS

Contact ratings:	16A 125VAC 1/4 HP (UL/CSA). 16A 250VAC 1/4 HP (UL/CSA). 20A 125VAC 3/4 HP 250VAC (UL) 16(4)A 250V ~ T85 1E4 10(2)A 250V ~ 5E4 (VDE, SEMCO, NEMCO, DEMCO, FIMCO, SEV).
Initial contact resistance:	20 milliohms max.
Insulation resistance:	100 megohms min. at 500 V
Dielectric strength:	1000 VAC for 1 minute
Electrical life:	16(4)A 250VAC: 10,000 cycles 10(2)A 250VAC: 50,000 cycles
Operating temperature range:	-20°C to 85°C

MATERIALS

Contacts:	Silver cadmium alloy	Lamps:	Neon or fluorescent.
Terminals:	Silver plated copper		Illumination available
Actuator:	Nylon type 66 or PC (UL94V-2 min.)		only with function 1 (ON OFF).
Case:	Nylon type 66 (UL94V-2 min.)		

AGENCY RECOGNITION



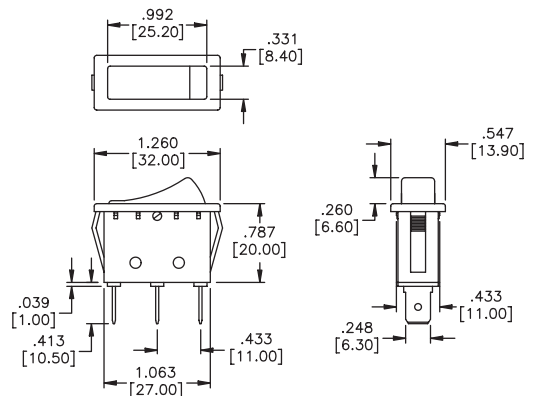
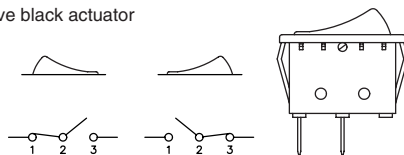
UL, CSA, VDE, SEMKO, NEMKO, DEMKO, FEMKO, & SEV. Models are supplied with agency markings.

Quick connect terminals - curved actuator



MODEL NO.	CIRCUIT
RH110C2NBB	ON OFF
RH120C2NBB	ON OFF
RH130C2NBB	ON OFF ON

Above models have black actuator and black case.

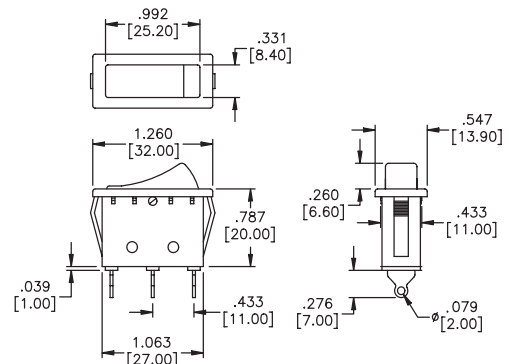
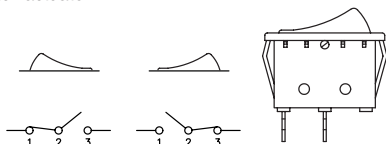


Solder lug terminals - curved actuator



MODEL NO.	CIRCUIT
RH111C2NBB	ON OFF
RH121C2NBB	ON OFF
RH131C2NBB	ON OFF ON

Above models have black actuator and black case.



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

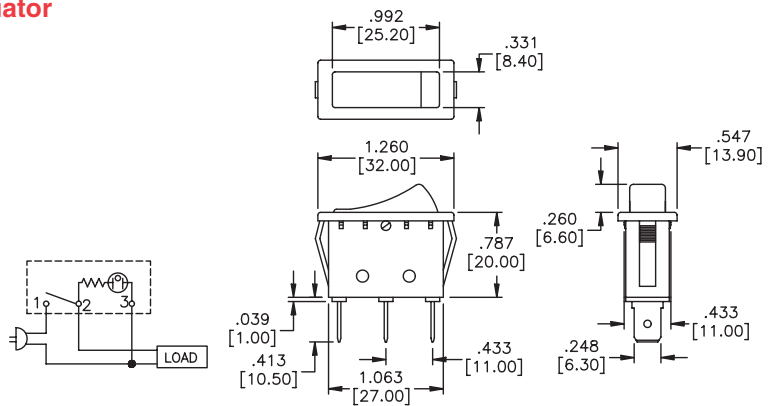
New! RH SERIES SNAP-IN ROCKER SWITCHES

Illuminated - quick connect terminals - flat actuator



MODEL NO.	CIRCUIT		
RH110C2LBR	ON	OFF	
RH120C2LBR	ON	OFF	
RH130C2LBR	ON	OFF	ON

Above models have red actuator and black case.



Additional ordering information: Commonly ordered models are shown above with complete model numbers and specifications. Below is an order format that enables you to 'build your own switch' and specify the correct switch model number by simply selecting from all available options shown and filling in the boxes.

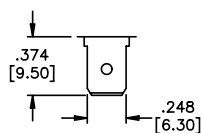
'BUILD YOUR OWN SWITCH' ORDER FORMAT

Fill in boxes with selections shown for complete model number.
Allowable selections are shown below each respective box.

Series	Number of poles	Electrical functions	Terminals	Actuator type	Marking/ lens color
<input type="text" value="R"/> <input type="text" value="H"/>	<input type="text" value="1"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	Single pole	1 ON OFF 2 ON ON 3 ON OFF ON	0 Quick-connect 1 Solder lug	C Curved F Flat S Ergonomic Notes: only flat actuator is available with full illumination-i.e.-no lens. Ergonomic actuator available only with functions 1 & 2 and no illumination.	1 HI LO 2 No marking 3 ON OFF 4 O I 5 O — 6 O II G Green lens R Red lens O Orange lens
Illuminated type	Case color	Actuator color			
<input type="text"/>	<input type="text"/>	<input type="text"/>			
L Illuminated N non-illum. C round lens <input type="checkbox"/> R square lens <input type="checkbox"/>	A Gray B Black W White	A Gray B Black G Green O Orange R Red W White Y Yellow	Example of completely specified model number: RH130C6GLBR		

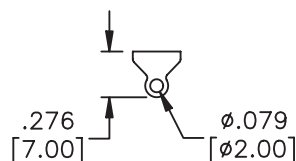
TERMINALS

QUICK-CONNECT



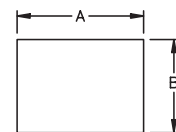
0

SOLDER LUG



1

PANEL CUT-OUTS



pnl. tk'ness.	A +0, -.004	B +.006, -.0
.029-.049"	1.181"	.433"
.050-.078"	1.189"	.433"
.079-.118"	1.200"	.433"

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

B

New! FM SERIES ILLUMINATED & NON-ILLUMINATED ROCKER SWITCHES

B



FEATURES

- SPST & SPDT ergonomically designed models for class II appliances.
- Double shell case provides sealing protection from dust and moisture.
- International standard panel cut-out.
- Horsepower rated.
- Standard actuator markings optional.

SPECIFICATIONS

Contact ratings:	ON OFF & ON - ON models; 10(4)A 250VAC T85°C - 10A 125VAC, 6A 250VAC T65°C. OFF MOM models; 4(2)A 250VAC T85°C _μ - 4A 1/10HP 125-250VAC T65°C. ON OFF ON models; 6(2)A 250VAC T85°C _μ - 6A 1/8 HP 125-250VAC T65°C.
Initial contact resistance:	20 milliohms max.
Insulation resistance:	1000 megohms min.
Dielectric strength:	functions 1 and 6; 2500 V rms between terminals Function 9; 1500 V rms between terminals
Electrical life:	10,000 cycles min. at full load
Mechanical life:	50,000 cycles min.
Operating temperature range:	- 20°C to + 85°C

MATERIALS

Contacts & Terminals:	Silver contacts with silver plated terminals
Actuator, Case & Frame:	PA6/6

AGENCY RECOGNITION



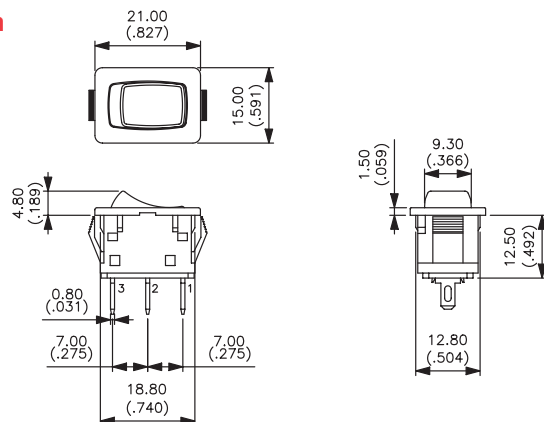
UL & VDE (CSA pending).

Solder lug terminals & silver contacts without illumination



MODEL NO.	CIRCUIT
FMC12A2200000	ON - OFF
FMC32A2200000	OFF - MOM
FMC62A2200000	ON - ON
FMC92A2200000	ON OFF ON

Above models have black bezel & actuator.



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

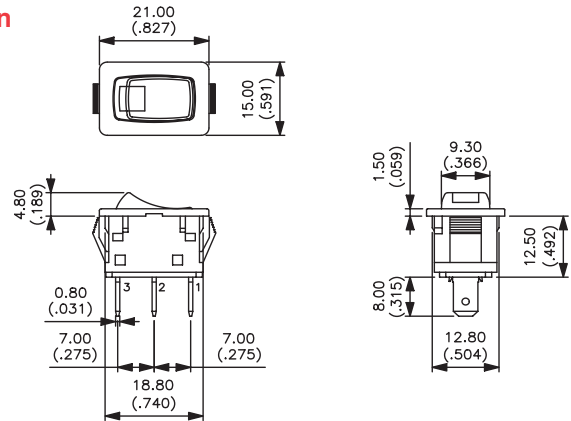
New! FM SERIES ILLUMINATED & NON-ILLUMINATED ROCKER SWITCHES

Quick-connect terminals & silver contacts with illumination



MODEL NO.	CIRCUIT
FML18A276A000	ON - OFF

Above models have white actuator, black case and frame, red lens and 220 volt neon lamp.



Additional ordering information: Commonly ordered models are shown above with complete model numbers and specifications. Below is an order format that enables you to 'build your own switch' and specify the correct switch model number by simply selecting from all available options shown and filling in the boxes.

'BUILD YOUR OWN SWITCH' ORDER FORMAT

Fill in boxes with selections shown for complete model number. Allowable options are shown below each respective box.

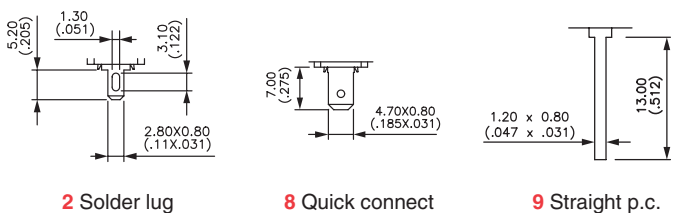
Series	Rocker shape	Electrical functions	Terminals	Contact material	Bezel color	Rocker color
F M	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	A	2	<input type="checkbox"/>
	C Concave (non-lighted) L Concave (lighted)	*1 ON - OFF 3 OFF - MOM 6 ON - ON 9 ON OFF ON *- available for lighted models only.	2 Solder lug *8 Quick-connect 9 Straight p.c. (functions 1 & 6) *- available for lighted models only.	Silver	Black Other colors on request.	1 Blue 2 Black (std.) 3 Green 4 Gray 5 Yellow 6 Red (std.) 7 White 9 Orange

Lens color	Lamp	Marking
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0 No lens (for non-illuminated models) *1 Blue *3 Green 5 Yellow 6 Red 8 Translucent 9 Orange *- With fluorescent lamp - for other colors, specify neon lamp	0 No lamp A 220V neon B 220V fluorescent Note: limiting resistor is supplied.	*0 0 0 No mkg. *0 0 1 <input type="checkbox"/> 0 0 0 2 <input type="checkbox"/> - 0 0 3 <input type="checkbox"/> I 0 0 4 <input type="checkbox"/> I 0 II *- available for lighted models only.

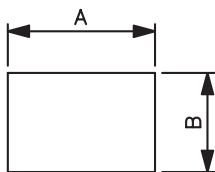
Example of completely specified model number:

FML18A226A001

TERMINALS

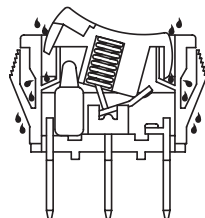


PANEL CUT-OUTS



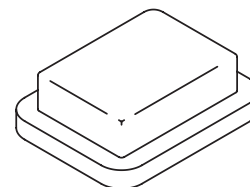
pnl. tk'ness.	A +0, -.004	B +.006, -.0
.029-.049"	.756"	.508"
.050-.078"	.764"	.508"
.079-.118"	.780"	.508"

CROSS SECTION



The double shell case is designed to conduct moisture drops outside the switch case and away from the contact mechanism.

SEALING BOOT (Order separately)



U5720

This translucent PVC Sealing Boot provides the best protection against entry of sand, ice or splashing water into the switch.

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

B

New! MR SERIES SNAP-IN ROCKER SWITCHES

B

FEATURES

- Cost effective illuminated or non-illuminated models.
- Double pole maintained action models.
- Actuator and case color selections.
- Standard actuator marking options.

SPECIFICATIONS

Contact ratings:	10A 125VAC (UL), 8A 250VAC 1/4HP (UL), 12A 125VAC (CSA) 10A 250VAC 1/4HP (CSA), 8(4)A 250V~ μ T86 (VDE, SEMCO, NEMCO, DEMCO, FIMCO, SEV).
Initial contact resistance:	20 milliohms max.
Insulation resistance:	100 megohms min. at 500 V
Dielectric strength:	1000 VAC for 1 minute
Electrical life:	10,000 cycles at full load
Operating temperature range:	-20°C to 80°C

MATERIALS

Contacts:	Silver cadmium alloy	Lamps:	Neon or fluorescent.
Terminals:	Silver plated copper alloy		
Actuator:	Nylon type 66 (UL94V-2 min.)		
Case:	Nylon type 66 (UL94V-2 min.)		

AGENCY RECOGNITION



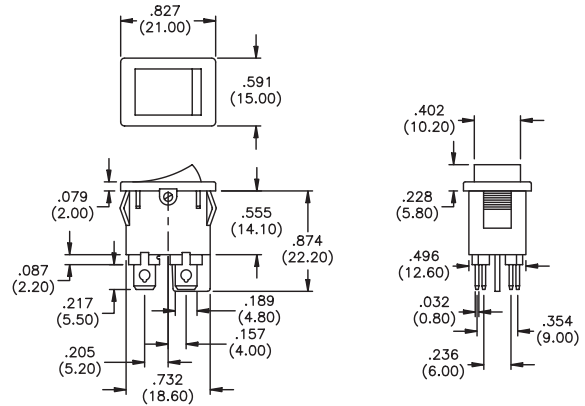
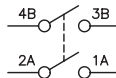
UL, CSA, VDE, SEMKO, NEMKO, DEMKO, FEMKO, & SEV. Models are supplied with agency markings.

Quick connect terminals - non-illuminated

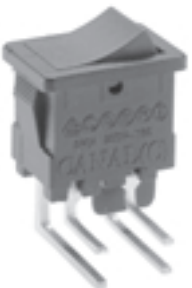


MODEL NO.	CIRCUIT
MR210C2NBB	ON OFF

Above model has black actuator & case.

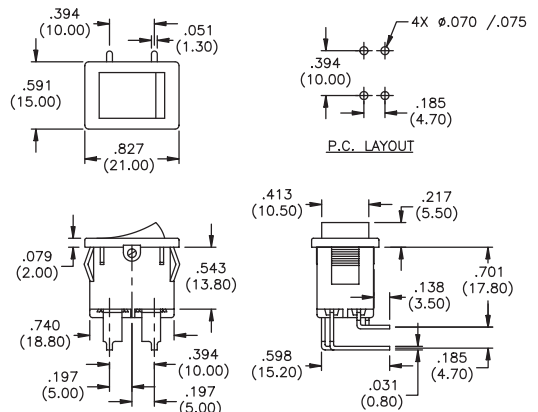
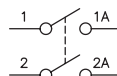


Right angle p.c. terminals - non-illuminated



MODEL NO.	CIRCUIT
MR212C2NBB	ON OFF

Above model has black actuator & case.



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

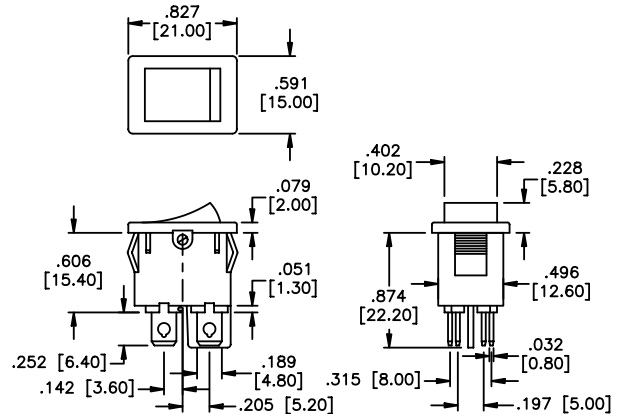
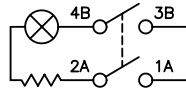
New! MR SERIES SNAP-IN ROCKER SWITCHES

Quick connect terminals - illuminated



MODEL NO.	CIRCUIT
MR210C2LB0	ON OFF

Above model has black actuator & case.

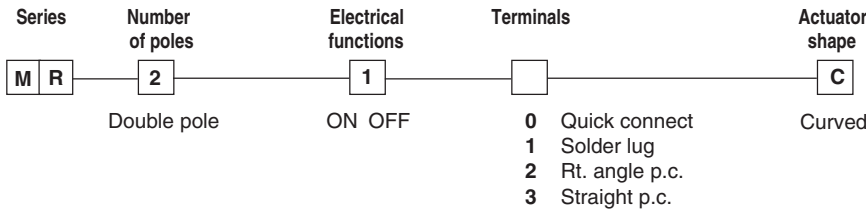


Additional ordering information: Commonly ordered models are shown above with complete model numbers and specifications. Below is an order format that enables you to 'build your own switch' and specify the correct switch model number by simply selecting from all available options shown and filling in the boxes.

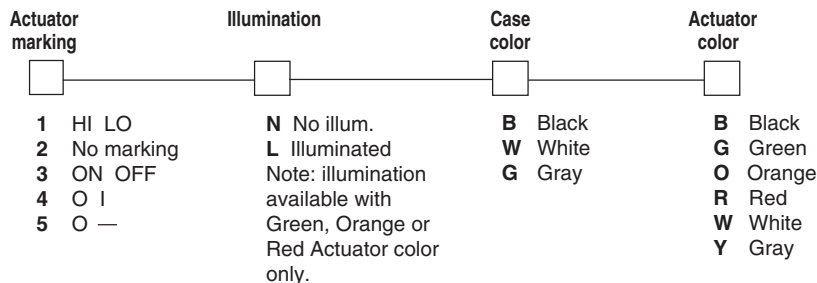
'BUILD YOUR OWN SWITCH' ORDER FORMAT

Fill in boxes with selections shown for **Model Structure**, then add **Options** selections for complete model number. Allowable options are shown below each respective box.

Model Structure:



Options:



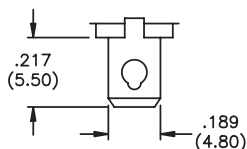
Example of completely specified model number:

MR210C2NBB

TERMINALS

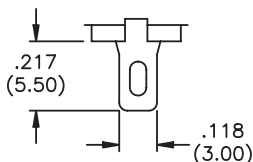
PANEL CUT-OUTS

QUICK-CONNECT



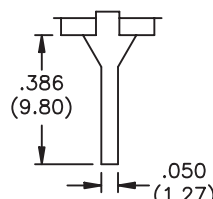
0

SOLDER LUG

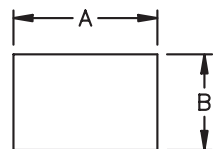


1

STRAIGHT P.C.



3



pnl. tk'nss.	A +0, -.004	B +0, -.004
.029-.049"	.752"	.508"
.050-.078"	.756"	.508"
.079-.118"	.768"	.508"

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

B

New! B SERIES SNAP-IN ROCKER SWITCHES

B

FEATURES

- Cost effective illuminated or non-illuminated models.
- Single pole and double pole maintained action models.
- Actuator and case color selections.
- Standard actuator marking options.

SPECIFICATIONS

Contact ratings:	10A 250VAC (UL/CSA) 15A 125VAC (UL/CSA)
Initial contact resistance:	20 milliohms max.
Insulation resistance:	100 megohms min. at 500 V
Dielectric strength:	1000 VAC for 1 minute
Electrical life:	6000 cycles at full load
Operating temperature range:	-20°C to 85°C

MATERIALS

Contacts:	Copper alloy	Lamps: Neon or fluorescent.
Terminals:	Silver or tin plated copper alloy	
Actuator:	Nylon (UL94V-2 min.)	
Case:	Nylon (UL94V-2 min.)	

AGENCY RECOGNITION



UL & CSA. Models are supplied with agency markings.

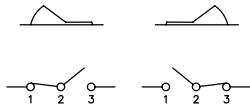
SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

Single pole - non-illuminated - quick connect terminals

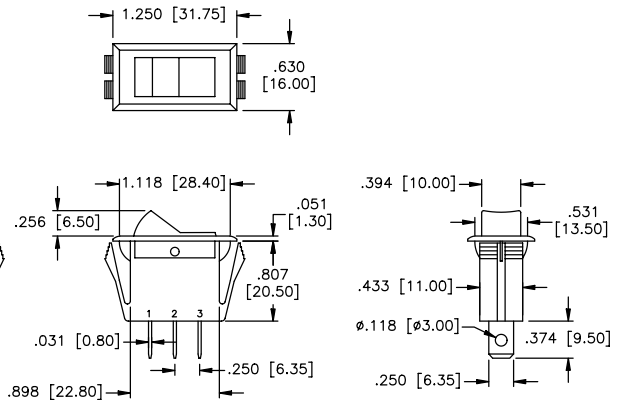


MODEL NO.	CIRCUIT
B120R2NBB0NN	ON NONE ON
B160R2NBB0NN	ON NONE OFF

Above models have black actuator.



Max. panel thickness: .083 [2.10]

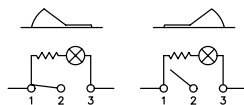


Single pole - illuminated - quick connect terminals

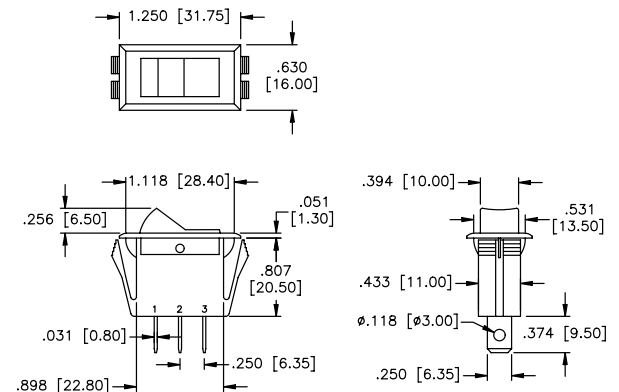


MODEL NO.	CIRCUIT
B120R2LBB1NN	ON NONE ON
B160R2LBB1NN	ON NONE OFF

Above models have black actuator.



Max. panel thickness: .083 [2.10]



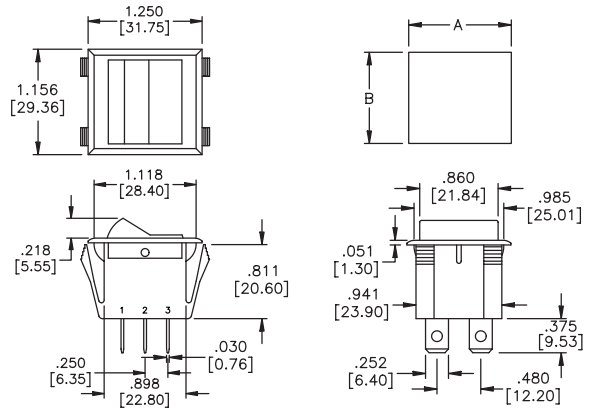
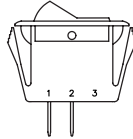
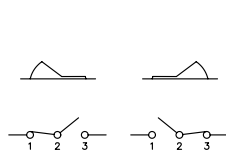
New! B SERIES SNAP-IN ROCKER SWITCHES

Double pole - non-illuminated - quick connect terminals



MODEL NO.	CIRCUIT
B260R2NBB0NN	ON NONE OFF

Above models have black actuator.



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

B

Additional ordering information: Commonly ordered models are shown above with complete model numbers and specifications. Below is an order format that enables you to 'build your own switch' and specify the correct switch model number by simply selecting from all available options shown and filling in the boxes.

'BUILD YOUR OWN SWITCH' ORDER FORMAT

Fill in boxes with selections shown for **Model Structure**, then add **Options** selections for complete model number. Allowable options are shown below each respective box.

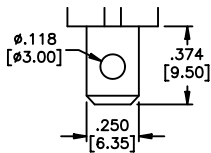
Example of completely specified model number:
B160R2NBB0BN

Series	Number of poles	Electrical functions	Terminals	Actuator type	Actuator marking
<input type="text" value="B"/>	<input type="text" value="2"/>	<input type="text" value="6"/>	<input type="text" value="0"/>	<input type="text" value="R"/>	<input type="text" value=""/>
	1 Single pole 2 Double pole	2 ON NONE ON* 6 ON OFF *-Not available with double pole	Quick connect	Rocker	1 HI LO 2 No marking 3 ON OFF 4 O —
Illumination	Case color	Actuator color	Lamp position	Terminal bending	Case marking
<input type="text" value="N"/>	<input type="text" value="A"/>	<input type="text" value="A"/>	<input type="text" value="0"/>	<input type="text" value="N"/>	<input type="text" value="N"/>
N No illum. L Illuminated Note: illumination available only with Green, Orange or Red Actuator colors.	A Gray B Black C Brown R Red W White	A Gray B Black C Brown G Green O Orange R Red W White Y Yellow	0 No lamp 1 Solder to term. 1 2 Solder to term. 2 Note 1 & 2 have neon lamp.	N No bending B Bend terms. 1 & 3	N No marking M "●" printing (consult factory)

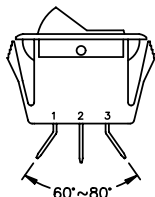
QUICK-CONNECT TERMINAL

TERMINAL BENDING

PANEL CUT-OUTS



0



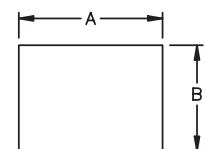
B

SINGLE POLE

pnl. tk'ness.	A +0, -.004	B +0, -.004
.029-.049"	.752"	.508"
.050-.078"	.756"	.508"
.079-.118"	.768"	.508"

DOUBLE POLE

pnl. tk'ness.	A +0, -.004	B +.006, -0
.029-.049"	1.126"	1.000"
.050-.078"	1.134"	1.000"
.079-.118"	1.150"	1.000"



New! HB SERIES SNAP-IN ROCKER SWITCHES

B

FEATURES

- Soft light or standard illuminated and non-illuminated models.
- Single pole maintained action models with splash protection per IP42.
- Actuator and case color selections.
- Standard actuator marking options with optional visible (visi) rocker 'ON' indication.

SPECIFICATIONS

Contact ratings:	20A 125VAC or 16A 250VAC (UL/CSA) 3/4 HP 125VAC or 250VAC (UL/CSA) 6A 125VL (UL) 16(4)A 250VAC~ μT85 (VDE, SEMCO, DEMCO, NEMCO, FEMKO, SEV)
Initial contact resistance:	20 milliohms max.
Insulation resistance:	100 megohms min. at 500 V
Dielectric strength:	1000 VAC for 1 minute
Electrical life:	10,000 cycles at full load
Operating temperature range:	-20°C to 85°C

MATERIALS

Contacts:	Silver cadmium alloy	Lamps:	Neon or fluorescent.
Terminals:	Silver plated copper		
Actuator:	Nylon, type 66 or PC (UL94V-2 min.)		
Case:	Nylon, type 66 (UL94V-2 min.)		

AGENCY RECOGNITION



UL, CSA, VDE, SEMKO, NEMKO, DEMKO, FEMKO, & SEV. Models are supplied with agency markings.

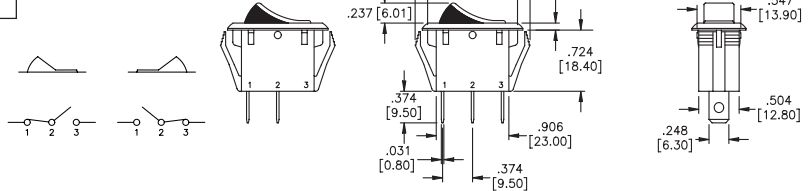
SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

Quick connect terminals - non-illuminated - with visi rocker



MODEL NO.	CIRCUIT
HB110C2NBBRW	ON OFF
HB120C2NBBRW	ON ON
HB130C2NBBRW	ON OFF ON

Above models have black actuator.



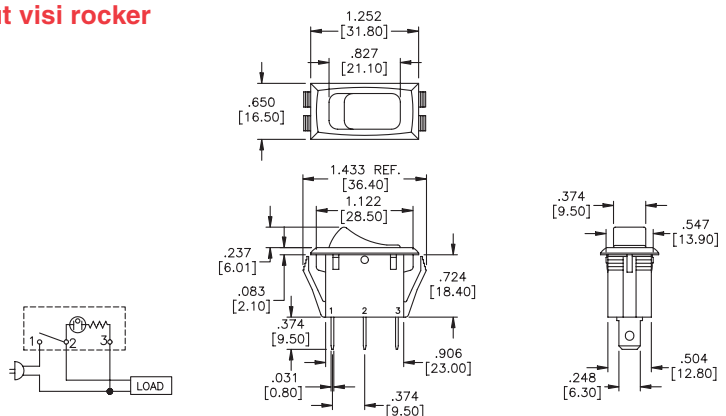
Max. panel thickness: .083 [2.10]

Quick connect terminals - soft illumination - without visi rocker



MODEL NO.	CIRCUIT
HB110C2SBBN	ON OFF
HB120C2SBBN	ON ON
HB130C2SBBN	ON OFF ON

Above models have black actuator.



Max. panel thickness: .083 [2.10]

New! HB SERIES SNAP-IN ROCKER SWITCHES

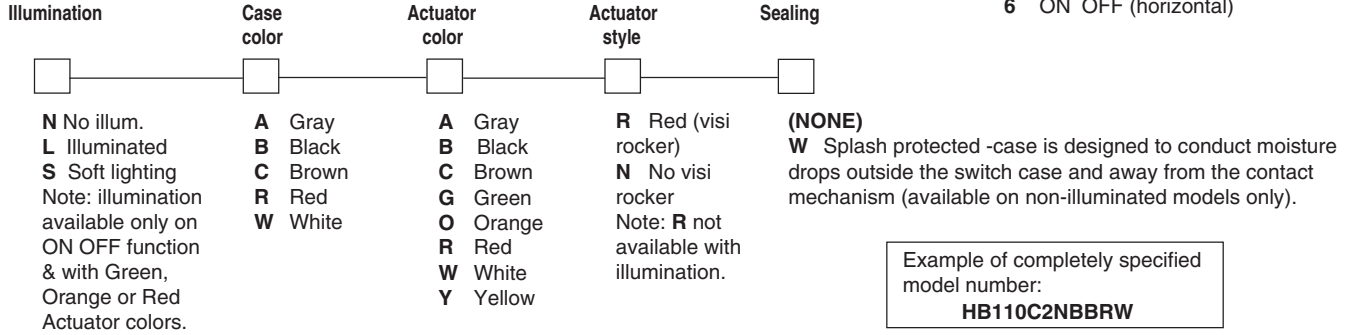
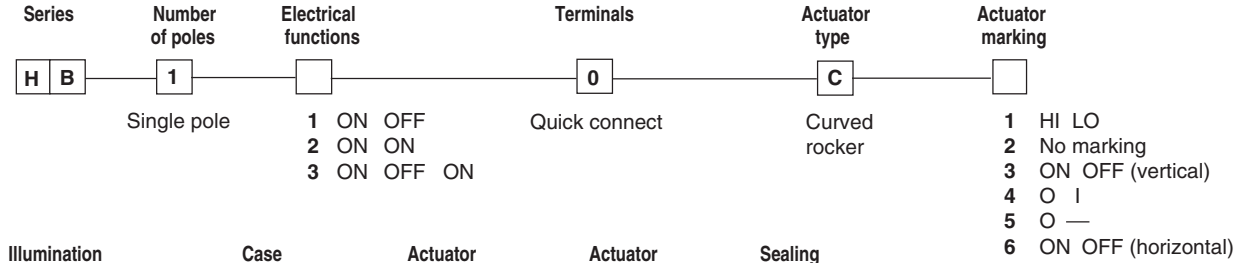
B

Additional ordering information: Commonly ordered models are shown above with complete model numbers and specifications. Below is an order format that enables you to 'build your own switch' and specify the correct switch model number by simply selecting from all available options shown and filling in the boxes.

'BUILD YOUR OWN SWITCH' ORDER FORMAT

Fill in boxes with selections shown for complete model number.
Allowable options are shown below each respective box.
Note 'NONE' indicates box may be left empty.

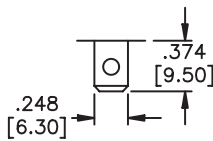
SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE



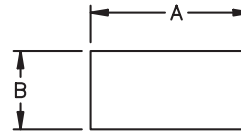
TERMINALS

PANEL CUT-OUTS

QUICK-CONNECT



0



pnl. tk'ness.	A +0, -.004	B +0, -.004
.029-.049"	1.126"	.539"
.050-.078"	1.134"	.539"
.079-.118"	1.150"	.539"

New! KG SERIES - ILLUMINATED & NON-ILLUMINATED ROCKER SWITCHES



B

FEATURES

- Designed for safety of operation under extreme conditions.
- Ideal for off-highway vehicle applications.
- Protected actuator sealed to IP 65.
- Panel mounting SPDT & DPDT models.
- Highly visible actuator symbols, laser or hot die stamped with optional backlighting.

ELECTRICAL & MECHANICAL SPECIFICATIONS

Contact ratings (resistive loads):	ON-OFF and ON-ON functions: 15A 12 VDC, 10A 24VDC, 15A 250VAC max. 10mA 14VDC min. ON-ON-ON function: 10A 12VDC, 5A 24VDC, 10A 250VAC max. Other functions: 10A 12VDC, 8A 24VDC, 10A 250VAC max.
Initial contact resistance:	10 milliohms max. at 1A 2VDC
Insulation resistance:	1000 megohms min. at 500 VDC
Dielectric strength:	2000 V rms min. - between terminals
Electrical life:	10,000 cycles min. at full load
Mechanical life:	2 position models; 100,000 cycles min. 3 position models; 30,000 cycles min.

ENVIRONMENTAL SPECIFICATIONS

Operating temperature range:	2 position models; -40°C to +85°C 3 position models; -10°C to +65°C
Degree of protection:	IP65
Shock resistance:	100g per IEC 512-4, test 6c
Vibration resistance:	10-500 Hz - 10g per IEC 512-4, test 6d
Salt Spray resistance:	96 hours per IEC 512-6, test 11f
Moisture resistance:	56 days per IEC 68-2-3

MATERIALS

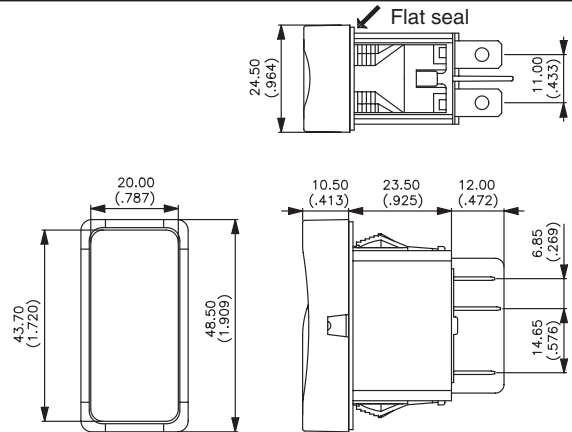
Contacts:	Silver
Terminals:	Silver plated brass
Case and Bezel:	Thermoplastic UL94V-0
Actuator:	Thermoplastic UL94V-0
Lens:	Polycarbonate

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

New! KG SERIES - ILLUMINATED & NON-ILLUMINATED ROCKER SWITCHES

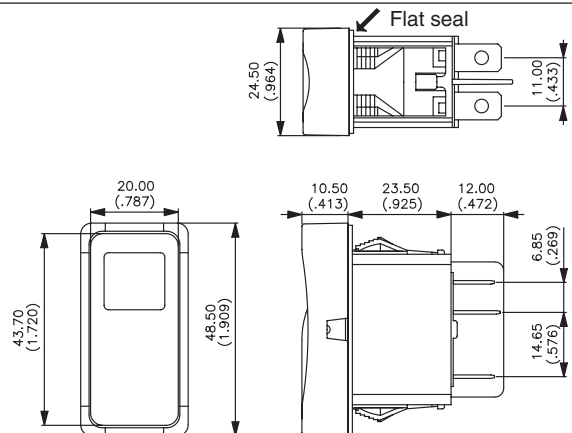
Non-illuminated - black rocker - solder lug terminals

SINGLE POLE	DOUBLE POLE	CIRCUIT	
KG312A2XXA21XX	KG412A2XXA21XX	ON	OFF
-	KG442A2XXA21XX	ON ON	ON
KG352A2XXA21XX	KG452A2XXA21XX	MOM	ON
KG362A2XXA21XX	KG462A2XXA21XX	ON	ON
KG372A2XXA21XX	KG472A2XXA21XX	MOM OFF	MOM
KG382A2XXA21XX	KG482A2XXA21XX	ON OFF	MOM
KG392A2XXA21XX	KG492A2XXA21XX	ON OFF	ON
Terminals connected:		2-3	1-2
		5-6	4-5

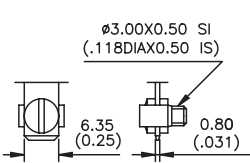


Illuminated - black rocker - red lens - 12V red L.E.D.

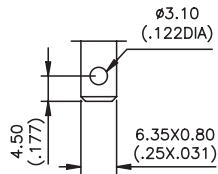
SINGLE POLE	DOUBLE POLE	CIRCUIT	
KG312A2DXA246X	KG412A2DXA246X	ON	OFF
-	KG442A2DXA246X	ON ON	ON
KG352A2DXA246X	KG452A2DXA246X	MOM	ON
KG362A2DXA246X	KG462A2DXA246X	ON	ON
KG372A2DXA246X	KG472A2DXA246X	MOM OFF	MOM
KG382A2DXA246X	KG482A2DXA246X	ON OFF	MOM
KG392A2DXA246X	KG492A2DXA246X	ON OFF	ON
Terminals connected:		2-3	1-2
		5-6	4-5



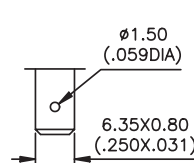
TERMINALS



0 Screw



2 Solder lug/
quick-connect

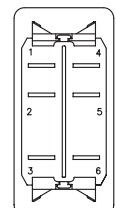


3 Quick-connect

Terminals 1 through 6 are marked on switch case

Side A: terminals 1 and 4
Side B: terminals 3 and 6

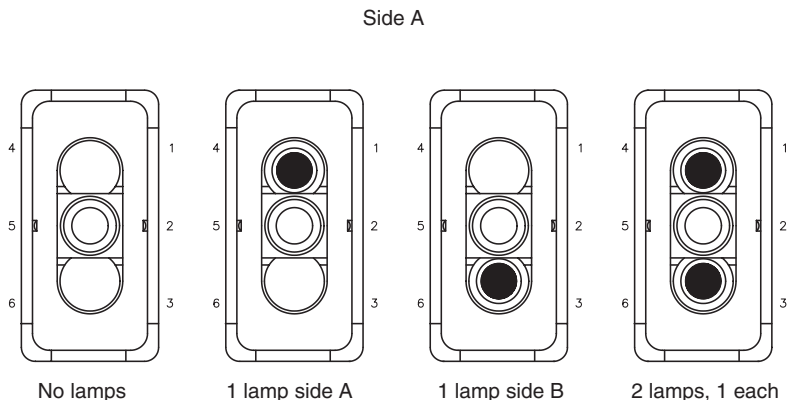
Side A



Side B

LAMPS AND LAMP PLACEMENT

- X No lamp
- A 6V LED red
- B 6V LED green
- C 6V LED yellow
- D 12V LED red
- E 12V LED green
- F 12V LED yellow
- J 24V LED red
- K 24V LED green
- L 24V LED yellow
- M Neon 125V
- N Neon 250V
- O Filament 6V
- P Filament 12V
- R Filament 24V



No lamps

1 lamp side A

1 lamp side B

2 lamps, 1 each
side A & B

Note - Lamp location for function 1 models
(ON - OFF) is always on side B

Side B

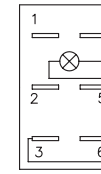
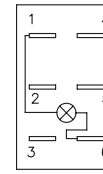
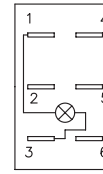
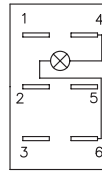
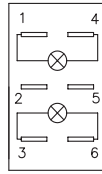
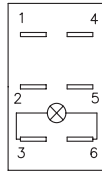
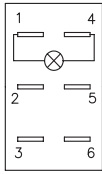
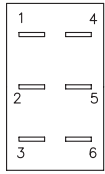
SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

B

New! KG SERIES - ILLUMINATED & NON-ILLUMINATED ROCKER SWITCHES

B

LAMP WIRING

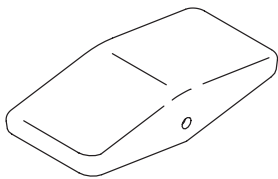


A (standard)

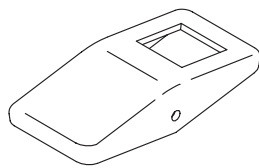
B

C

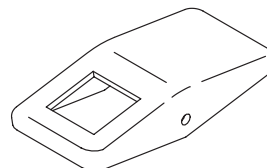
ROCKER SHAPE AND COLORS



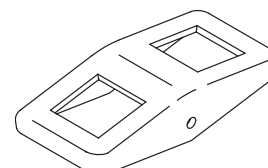
1 Full rocker



4 Opening on side A



6 Opening on side B



8 Opening on sides A and B

- 1 Blue
- 2 Black
- 3 Green
- 4 Gray
- 5 Yellow
- 6 Red
- 7 Ivory
- 9 Orange

Rocker colors

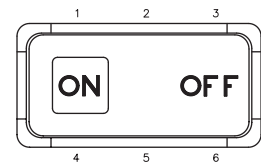
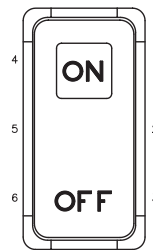
ROCKER MARKING METHOD AND ORIENTATION

MARKING METHODS

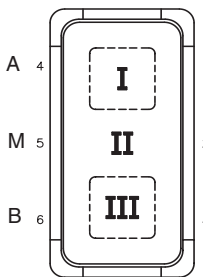
- L Laser
- C Hot stamping

- V Vertical orientation

- H Horizontal orientation



STANDARD MARKING SYMBOLS



Code XX indicates no marking

Black rockers have white marking. Colored rockers have black marking. Other marking colors - consult factory,

CODE	SYMBOL	DESCRIPTION	CODE	SYMBOL	DESCRIPTION	CODE	SYMBOL	DESCRIPTION
01	ON	-	10	▽	Down motion	19		Door opening
02	OFF	-	11		Hot	20		Windshield defroster
03	○	-	12		Cold	21		Windshield wiper
04		-	13		Hazard lights	22		Windshield washer
05		-	14		Travel lights	23		Ventilator
06	STOP	-	15		Driver lights	24		Side mirror defroster
07	A	Stop	16		Revolving light	25		Restarting pump
08	M	Motion	17		Rear ventilator	26		Front fog lights
09	△	Up motion	18		Heating	27		Rear fog lights

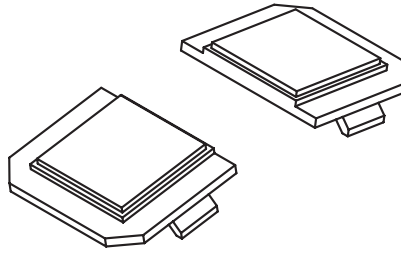
SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

New! KG SERIES - ILLUMINATED & NON-ILLUMINATED ROCKER SWITCHES

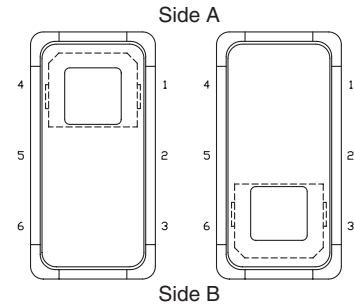
LENS COLOR AND PLACEMENT

- X No lens
- 1 Blue
- 3 Green
- 6 Red
- 9 Orange
- B White
- T Translucent

Lens colors



Lenses



Side B

Fill in boxes with selections shown below for complete model number. Allowable options are shown below each respective box.
Note: All 22 boxes below must be filled in with one exception - if no marking is required, do not use the last 8 boxes.

'BUILD YOUR OWN SWITCH' ORDER FORMAT

Series	Number of poles	Electrical functions	Terminals	Contact material	Bezel	Lamp(s) & placement		See Lamps & lamp placement on prior page.
						Side A	Side B	
K G				A	2	X	X	No lamp
	3 Single pole	1 ON - OFF	0 Screw & clamp	Silver	Color black	A	A	6V LED red
	4 Double pole	4* ON ON ON	2 Solder lug/quick-connect			B	B	6V LED green
		5 MOM - ON	3 Normalized quick-connect			C	C	6V LED yellow
		6 ON - ON				D	D	12V LED red
		7 MOM OFF MOM				E	E	12V LED green
		8 ON OFF MOM				F	F	12V LED yellow
		9 ON OFF ON				J	J	24V LED red
		* -Single pole in double pole case. Specify for double pole only - see schematic below.				K	K	24V LED green
						L	L	24V LED yellow
						M	M	Neon 125V
						N	N	Neon 250V
						O	O	Filament 6V
						P	P	Filament 12V
						R	R	Filament 24V

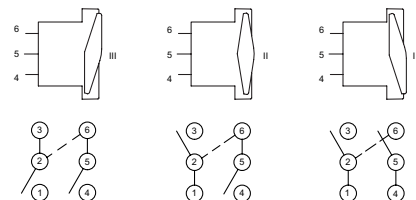
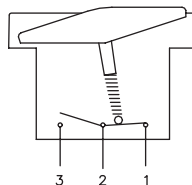
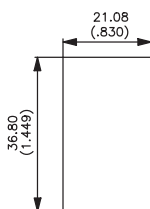
Lamp wiring	Rocker color	Rocker shape	Lens color & placement		Marking method & orientation	Marking location		
			side A	side B		side A	Middle	side B
A (Standard)	1 Blue	1 Full	X	X	L V Laser, vertical	Select from Standard Marking Symbols table on prior page.		
B	2 Black	4 Open side A	1	1	L H Laser, horizontal			
C	3 Green	6 Open side B	3	3	C V Hot stamp, vert.			
See Lamp Wiring on prior page.	4 Gray	8 Open sides A & B	6	6	C H Hot stamp, horiz.			
	5 Yellow	See Rocker Shape and Colors on prior page.	9	9				
	6 Red		B	B				
	7 Ivory		T	T				
	9 Orange							

If marking is required - fill in 8 boxes below. if no marking is required, do not use these boxes.

Example of completely specified model number:
KG310A2ACA28TTLH13XX02

PANEL CUT-OUT, SWITCH CROSS-SECTION & FUNCTION 4 SCHEMATIC

Panel thickness:
 0.8 - 4.6mm
 (.031" - .181")
 Recommended thickness:
 2 - 3.5mm
 (.078" - .138")



New!

H SERIES SNAP-IN ROCKER SWITCHES

B



FEATURES

- Higher power load ratings.
- Single and double pole models with smooth action and tactile response.
- Bezels, actuators & lenses available in a wide range of colors.
- Unique double rocker design with integral illumination.
- .248" (6.3mm) solder lug/quick-connect terminals.
- Choice of 125 or 250 volt neon indicator lamp.
- Illuminated and non-illuminated models.

SPECIFICATIONS

Contact ratings:	16 amps (resistive) at 250VAC, 4 amps inductive at 250VAC
Electrical life:	10,000 operations min. at full load
Mechanical life:	100,000 operations
Maximum working temperature:	+85°C

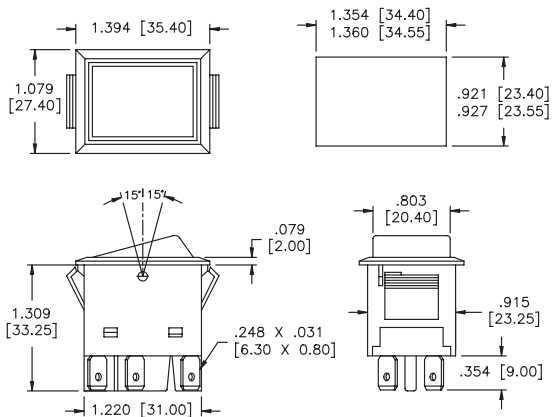
MATERIALS

Contacts:	90% silver, 10% cadmium
Terminals:	Silver plated brass
Armature:	Silver plated copper
Actuator:	Polycarbonate or ABS
Body:	Polyester
Bezel:	Polycarbonate
Lens:	Polycarbonate



SINGLE POLE MODEL NO.	DOUBLE POLE MODEL NO.	CIRCUIT
H11CG1R1	H21CG1R1	ON-OFF
H12CG1R1	H22CG1R1	ON-ON

Above models have silk chrome actuator, gun metal bezel, red lens and 125V neon lamp with resistor wired in series (see wiring diagrams). See order guide for other models.



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

New!

H SERIES SNAP-IN ROCKER SWITCHES

'BUILD YOUR OWN SWITCH' ORDER GUIDE

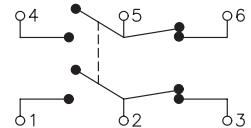
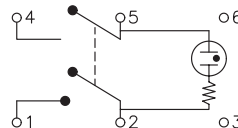
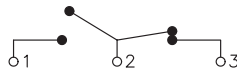
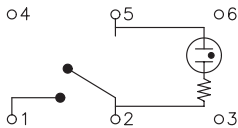
Fill in boxes with selections shown for complete model number.
 Allowable options are shown below each respective box.
 Note 'NONE' indicates box may be left empty.

Series	Number of poles	Electrical function	Actuator color	Bezel color	Terminal type	Lens color	Lamp voltage
H	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	1 Single 2 Double	1 ON/OFF 2 ON/ON Other functions on request	A White B Black C Chrome G Gun Metal Other colors on request	A White B Black G Gun Metal	1 Solder lug/ Quick-connect	NONE A Amber G Green R Red Illuminated switches only.	NONE 1 125V 2 250V Illuminated switches only.

Example of completely specified model number:

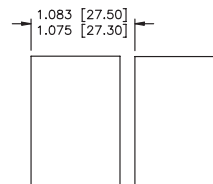
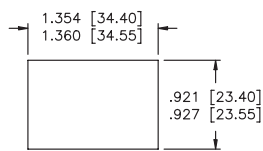
H11BB1R1

WIRING DIAGRAMS



Illuminated single pole Non-illuminated single pole Illuminated double pole Non-illuminated double pole

PANEL CUT-OUT & MINIMUM RECOMMENDED SPACING FOR ADJACENT SWITCHES



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

B