

SWITCHES APPLIANCE & SPECIALTY

PUSH BUTTON CANOPY SWITCH



Mounting Hole: 0.375"

SPECIFICATIONS:

Current Rating:	3A @ 125V AC, 1A @ 250V AC
Initial Contact Resistance:	DC 2.5V-1A, 20 Meg ohm (Min.)
Insulation Resistance:	500V DC 100 Meg ohm (Min.)
Dielectric Strength:	1500V AC for 1 minute
Contact Material:	Brass - Bright Nickel Plate
Terminal Material:	6" 18 AWG 105 C° Wire
Terminal Type:	Stripped Wire Leads

Part No.	Type	Action	Actuator
30-1885	SPST	ON - OFF	METAL



PUSH BUTTON CANOPY SWITCHES



Mounting Hole: 0.400"

SPECIFICATIONS:

Current Rating:	6A @ 125V AC, 3A @ 250V AC,
Initial Contact Resistance:	6A @ 30 VDC, 3A @ 15VDC
Insulation Resistance:	50 Meg ohm (Max.)
Dielectric Strength:	100 Meg ohm (Min.) @ 500V DC
Terminal Material:	1000V AC 60/50 Hz for 1 minute
Actuator Type:	Brass/Nickel Plate
	Plastic

Part No.	Type	Action	Terminal
30-19164	SPST	ON - OFF	Solder
30-19886	SPST	ON - OFF	Wire Leads

ROTARY CANOPY SWITCH



Mounting Hole: 0.375"

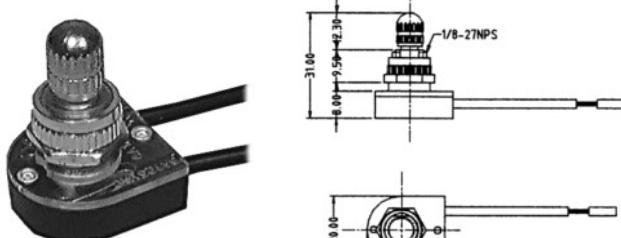
SPECIFICATIONS:

Current Rating:	3A @ 125V AC, 1A @ 250V AC
Initial Contact Resistance:	DC 2.5V-1A, 20 Meg ohm (Min.)
Insulation Resistance:	500V DC 100 Meg ohm (Min.)
Dielectric Strength:	1500V AC for 1 minute
Contact Material:	Brass - Bright Nickel Plate
Terminal Material:	6" 18 AWG 105 C° Wire
Terminal Type:	Stripped Wire Leads

Part No.	Type	Action	Actuator
30-9159	SPST	ON - OFF	Knurled Plastic



ROTARY CANOPY SWITCH



Mounting Hole: 0.406"

SPECIFICATIONS:

Current Rating:	6A @ 125V AC, 3A @ 250V AC
Initial Contact Resistance:	DC 2.5V-1A, 20 Meg ohm (Min.)
Insulation Resistance:	500V DC 100 Meg ohm (Min.)
Dielectric Strength:	1500V AC for 1 minute
Contact Material:	Brass - Bright Nickel Plate
Terminal Material:	6" 18 AWG 105 C° Wire
Terminal Type:	Stripped Wire Leads

Part No.	Type	Action	Actuator
30-9161	SPST	ON - OFF	Knurled Plastic

SWITCHES APPLIANCE & SPECIALTY

SPECIFICATIONS:

Current Rating:	6A @ 125V AC, 3A @ 250V AC
Initial Contact Resistance:	DC 2.5V-1A, 20 Meg ohm (Min.)
Insulation Resistance:	500V DC 100 Meg ohm (Min.)
Dielectric Strength:	1500V AC for 1 minute
Contact Material:	Brass - Bright Nickel Plate
Terminal Material:	6" 18 AWG 105 C° Wire
Terminal Type:	Stripped Wire Leads

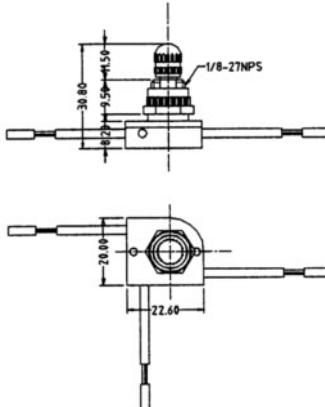
Part No.	Type	Action	Actuator
30-1887	Two Circuit	3-Way (L-1, L-2, L-1&2, OFF)	Black Nylon

PUSH BUTTON CANOPY SWITCH (Two Circuit)



Mounting Hole: 0.406"

ROTARY CANOPY SWITCH (Two Circuit)



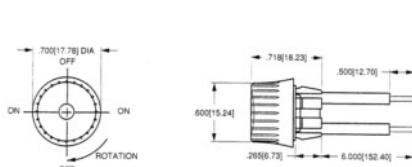
Mounting Hole: 0.400"

SPECIFICATIONS:

Current Rating:	6A @ 125V AC, 3A @ 250V AC
Initial Contact Resistance:	DC 2.5V-1A, 20 Meg ohm (Min.)
Insulation Resistance:	500V DC 100 Meg ohm (Min.)
Dielectric Strength:	1500V AC for 1 minute
Contact Material:	Brass - Bright Nickel Plate
Terminal Material:	6" 18 AWG 105 C° Wire
Terminal Type:	Stripped Wire Leads

Part No.	Type	Action	Actuator
30-9160	Two Circuit	3-Way (L-1, L-2, L-1&2, OFF)	Knurled Metal

FRONT MOUNTED ROTARY SWITCHES



Mounting Hole: 0.500"



SPECIFICATIONS:

Current Rating:	6A @ 125V AC, 3A @ 250V AC
Initial Contact Resistance:	50 Meg ohm (Max.)
Insulation Resistance:	100 Meg ohm (Min.) @ 500V DC
Dielectric Strength:	1000V AC 50/60 Hz for 1 minute
Contact Material:	Brass - 6" 18 AWG, 105 C° Wire
Terminal Material:	Brass - Bright Nickel Plate
Terminal Type:	Stripped & Tinned Wire Leads

Part No.	Type	Action	Actuator
30-1720	SPST	ON - OFF	Metal

LIGHT DUTY BALL HANDLE TOGGLE SWITCH

Mounting Hole: 0.500"

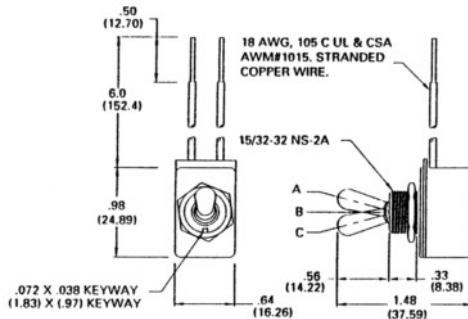


SPECIFICATIONS:

Current Rating:	8A @ 125V AC, 4A @ 250V AC
Initial Contact Resistance:	10A @ 125V AC, 1/3 HP @ 125V AC
Insulation Resistance:	50 Meg ohm (Max.)
Dielectric Strength:	100 Meg ohm (Min.) @ 500V DC
Contact Material:	1000V AC 50/60 Hz for 1 minute
Terminal Material:	Brass - 6" 18 AWG, 105 C° Wire
Terminal Type:	Brass - Bright Nickel Plate

Part No.	Type	Action	Actuator
30-350	SPST	ON - OFF	Metal

UTILITY BAT HANDLE TOGGLE SWITCH

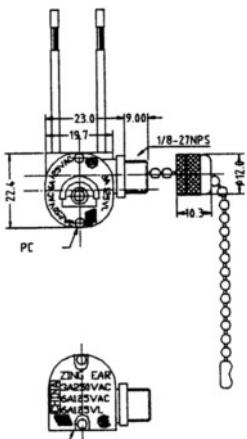


Mounting Hole: 0.500"



SWITCHES APPLIANCE & SPECIALTY

PULL CHAIN SWITCH



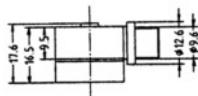
Mounting Hole: 0.406"

SPECIFICATIONS:

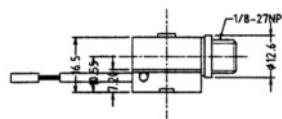
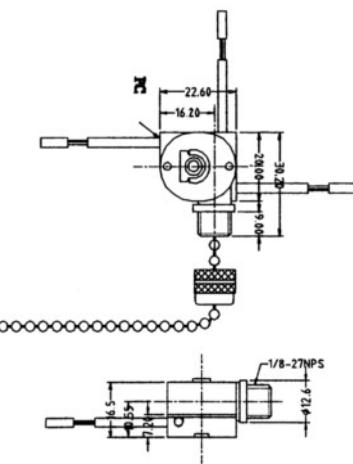
Current Rating:	6A @ 125V AC, 3A @ 250V AC
Initial Contact Resistance:	DC 2.5V-1A, 20 Meg ohm (Min.)
Insulation Resistance:	500V DC 100 Meg ohm (Min.)
Dielectric Strength:	1500V AC for 1 minute
Contact Material:	Brass - Bright Nickel Plate
Terminal Material:	6" 18 AWG 105 C° Wire
Terminal Type:	Stripped Wire Leads

Part No.	Type	Action	Actuator
30-9157	SPST	ON - OFF	Pull Chain

NOTE: Rope chain (No. 9157PCB) must be ordered separately.



PULL CHAIN SWITCH (Two Circuit)



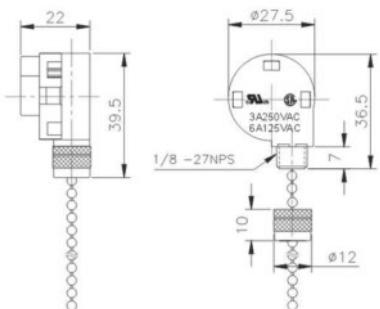
SPECIFICATIONS:

Current Rating:	6A @ 125V AC, 3A @ 250V AC
Initial Contact Resistance:	DC 2.5V-1A, 20 Meg ohm (Min.)
Insulation Resistance:	500V DC 100 Meg ohm (Min.)
Dielectric Strength:	1500V AC for 1 minute
Contact Material:	Brass - Bright Nickel Plate
Terminal Material:	6" 18 AWG 105 C° Wire
Terminal Type:	Stripped Wire Leads

Part No.	Type	Action	Actuator
30-9158	Two Circuit	3-Way (L-1, L-2, L-1&2, OFF)	Pull Chain

Mounting Hole: 0.406"

Pull Chain Switches

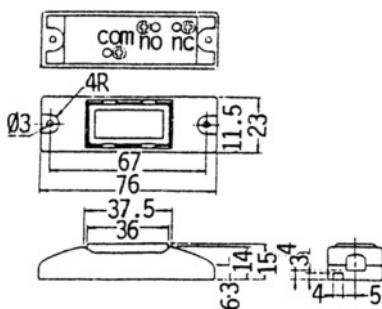


SPECIFICATIONS:

Current Rating:	6A @ 125V AC, 3A @ 250V AC
Initial Contact Resistance:	DC 2.5V-1A, 20 Meg ohm (Min.)
Insulation Resistance:	500V DC 100 Meg ohm (Min.)
Dielectric Strength:	1500V AC for 1 minute
Contact Material:	Brass - Bright Nickel Plate
Terminal Type:	Push-In Slot

Part No.	Type	Action	Actuator
30-9150	Two Circuit	OFF, L-1, L-2, L-3	Pull Chain
30-9152	Two Circuit	L-1-2-3, L-2-3, L-1-3, L-1-2	Pull Chain

SURFACE MOUNT PANIC SWITCH



SPECIFICATIONS:

Current Rating:	2A @ 125VAC, 1A @ 250VAC
Mounting Centers:	2.625"
Mounting Hole:	.12"
Dimensions:	.90" W x 3" L x .60"H
Terminal Type:	Screw

Part No.	Type	Action	Actuator
30-17076	SPST	O.N. or N.C. Momentary	Plastic

SWITCHES APPLIANCE & SPECIALTY

FEED THRU CORD SWITCH

SPECIFICATIONS:

Current Rating:	6A @ 125V AC, 3A @ 250V AC
Initial Contact Resistance:	DC 2.5V-1A, 20 Meg ohm (Min.)
Insulation Resistance:	500V DC 100 Meg ohm (Min.)
Dielectric Strength:	1500V AC for 1 minute
Contact Material:	Brass
Terminal Material:	Spring Brass
Terminal Type:	Insulation Piercing

Part No.	Type	Action		Actuator
30-10098	SPST	ON	-	OFF



HI-LO INLINE DIMMER SWITCH

SPECIFICATIONS:

Current Rating:	6A @ 125V AC, 3A @ 250V AC
Initial Contact Resistance:	DC 2.5V-1A, 20 Meg ohm (Min.)
Insulation Resistance:	500V DC 100 Meg ohm (Min.)
Dielectric Strength:	1500V AC for 1 minute
Contact Material:	Brass
Terminal Material:	Spring Brass
Terminal Type:	Insulation Piercing

Part No.	Type	Action		Actuator
30-10196	SPDT	ON	ON	OFF

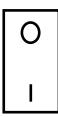
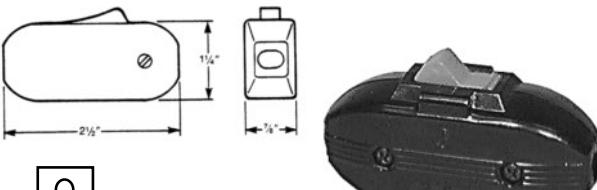


FEED THRU CORD SWITCH

SPECIFICATIONS:

Current Rating:	10A @ 125V AC
Dielectric Strength:	300 Volt
Terminal Material:	Brass
Terminal Type:	Screw
Wire Type:	Flat or round cords Flat: 18/2 & 16/2, SPT-1, SPT-2, HPN Round: 18/2 type SVT, up to 9/32" O.D.

Part No.	Type	Action		Actuator
30-9851	SPST	ON	-	OFF



CORDED INLINE DIMMER SWITCH

SPECIFICATIONS:

Current Rating:	1.2A @ 125V AC
Initial Contact Resistance:	DC 2.5V-1A, 20 Meg ohm (Min.)
Insulation Resistance:	500V DC 100 Meg ohm (Min.)
Dielectric Strength:	1500V AC for 1 minute
Contact Material:	Brass
Terminal Material:	UL SPT-1 18AWG 2 Cond. Wire, Stripped
Terminal Type:	120V AC Plug/Stripped Ends

Part No.	Type	Action		Actuator
30-10192	SPST	ON	-	OFF



(6 ft. Overall Length)

SWITCHES AUTOMOTIVE & MARINE

Automotive-Heavy Duty TOGGLE SWITCH-w/boots

A heavy switch that includes four different colored boots, use one of your choice black, blue, red, or yellow. The boot protects against dust and splashes.



Electrical Rating:

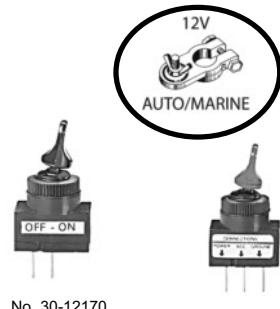
SPST snap action toggle, ON-OFF, die cast metal case. Rated at 12-14 volts DC 50 amps. Terminals: Copper with screws. Mounting hole: 1/2" diameter.

No. 30-12244



ILLUMINATED DUCKBILL TOGGLE SWITCHES

for automotive applications. Rated 20 amps at automotive (12-14 VDC) voltages, all but one in the series have illuminated handles which light when power is "on". These are three terminal devices, needing one connection for ground to power the LED "Glo" light in the handles. Actuators are the stylish "Duckbill" shape. All in this series are SPST, ON-OFF with .250" terminals for push-on lugs. Mounting hole size: 1/2"



No. 30-12170

Part No.	Illumination Color
30-12170	Not illuminated
30-12174	Red Glo
30-12176	Amber Glo
30-12178	Blue Glo
30-12179	Green Glo

Part No.	Handle Color
30-12240	Black
30-12242	Red
30-12245	Chrome



High-Current Automotive TOGGLE SWITCHES

High current switches for automotive use, ideal for autos with arrays of spot lights, heavy sound system equipment or radios. Switch body is die-cast metal, terminals pure copper. Available with red, black or bright chrome actuator.

Electrical Rating:

type: SPST Toggle, ON-OFF
50 amps at 12-14 Volts DC
Contacts: silver plated.
Terminals: Copper, screw terminals
Actuator: 1 1/16" length
Mounting hole: 1/2"

Part No.	LED Color
30-12050	Red
30-12055	Green
30-12060	Blue



LED Illuminated TOGGLE SWITCHES STYLISH NEW LOOK with LED's in actuator handle tips.

This is a SPST, ON-OFF switch and designed for use at automotive (12-14V DC) voltages: rated at 30 amps. This is a popular new look in actuator styles. The handle (actuator) is Black and tipped with an LED; three color choices. The LED will draw only 20 mA at normal automotive voltages.

Mounting hole diameter: 1/2"
Terminals will accept 1/4" push-on solderless connectors or may be soldered.

All switches in this group are
ON-OFF SPST
All rated @ 20 amps/12-14 volts DC

Part No.	Color
30-12145	BLACK
30-12147	RED
30-12149	GREEN
30-12150	AMBER
30-12153	BLUE



**AUTOMOTIVE APPLICATION
ON-OFF TOGGLE SWITCHES
WITH ILLUMINATED WEDGE HANDLES**
With plastic handles, heavy (20 amp) switch for various uses at automotive voltage of 12 to 14 volts. Choose from different colored handles. These are three terminal switches, connect to ground, power and your appliance. (The ground connection is needed for power to the light.)

SWITCHES AUTOMOTIVE & MARINE

Stylish Automotive TOGGLE SWITCH with LED

Brushed and tapered bat handle gives this switch a "classy" look; perfect for custom dash. LED (red) lights to indicate power is "on". The 20 amp rating is plenty for many automotive accessories.

Terminals accept standard .250" push-on terminals or may be soldered.

This is a three terminal switch with one connection for ground which is needed to light the LED.



Electrical Rating:
SPST snap action toggle.
Rated at 12-14 volts DC, 20 amps.
Terminals: .250" push-on terminals or solder.
Mounting hole: 1/2" diameter round.
Metal actuator 1 1/16" length
Construction: polycarbonate UL94-1 rating

Part No.	Circuit Type
30-12180	ON - OFF SPST

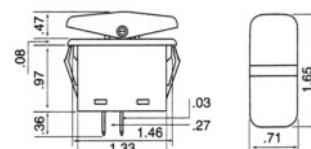


"Surf and Turf" GUARDIAN SWITCHES

The Guardian series is dust and moisture resistant, designed for use in a marine environment or dusty equipment such as construction equipment, off-road vehicles and farm equipment. This is a tough switch and designed to meet or exceed IP66 requirements. Snap-in mounting requires a rectangular cut-out



Electrical Rating:
SPST or SPDT snap action toggle
Rated: 12-14 volts DC 20 amps.
Terminals: accept .250" push-on terminals.
Mounting hole: rectangular .60 X 1.450 (+/- .004") hole in panels up to .050" thickness.



Part No.	Rocker Color	Action	no. of Terminals	Type
30-12280	Black/Black	ON-OFF	2	SPST
30-12281	Black/Red Dep.	ON-OFF	3	SPST
30-12282	Black/Black	ON-OFF-ON	3	SPDT
30-12284	Black/Black	(ON)-OFF-(ON)	3	SPDT

Note: () = Momentary

Auto Alarm Style MINIATURE TOGGLE SWITCH

A switch often used by alarm installers to set/un-set alarm systems; mounting is typically under or in the dash. The alarm switch comes with an attached "pigtail" that is 24" long, red and black insulated, stranded 20 gauge wire.

Rated at 6 amps at 12-14 VDC, this ON-OFF SPST switch could easily be used for any number of appliances, as well as for arming alarms. Included is a miniature escutcheon plate with the legends ON and OFF. Mount hole: 1/4" diameter round.

No. 30-10005



MODULAR PANELS (Switch Brackets)

Modular panels, or switch mounting brackets, permit mixing of switch types and easy mounting of switches in general. Two brackets will accommodate switches that need either round or rectangular holes.



Part No.	Description
30-12575	for switches needing a 1/2" X 1" rectangular hole
30-12585	for switches needing a 1/2" dia. round hole

Big PUSH-BUTTON SWITCH (HORN SWITCH)

Surface mounting switch commonly used for fog-horn or siren. Momentary action, horn will sound only as long as button is depressed.

The switch is designed for typical mobile and marine 12-14 volt DC applications.

The actuator is black plastic button, and the frame is chrome plated brass construction. Overall length is 2-5/8" by 1-1/2". Rated at 5 Amps 12-14 VDC. SPST, (ON)-OFF



Mounting Center 2 1/16"

No. 30-12465

* () = Momentary



Extra Heavy Duty PUSH BUTTON (Starter) SWITCH WITH WEATHER-BOOT NUT

A heavy-duty (50 amps) push-button momentary switch that is dust and moisture resistant; rubber boot-nut is included for enhanced protection. Contacts are silver/copper for long life.



Electrical and mechanical
5/8" x 32 mounting bushing, panels up to 1/2" thickness.

SPST Momentary action, (ON)-OFF

Screw Terminals (X2)

Rated 50 amps @ 12-14 VDC

Rubber dust boot/nut included.

No. 30-12475

* () = Momentary

SWITCHES AUTOMOTIVE & MARINE

Round Hole Automotive ROCKER SWITCHES Illuminated

The round hole design makes installation much easier than for most rocker switches, requiring only a 1/2" diameter hole. One of this series is non-illuminated, but the others have one extra terminal (total: 3 terminals) to connect to ground for the light. This is an attractive series; lighted switches having a "glo" that is available in four different colors. Incandescent bulb



Electrical Rating:
30 A @12-14 V DC
Mounting hole: 1/2" diameter round
SPST, ON-OFF
.250" Quick Connect Terminal

Part No.	Color	No. of Terminals
30-12310	not illuminated	2
30-12312	Red	3
30-12314	Amber	3
30-12316	Blue	3
30-12318	Green	3

HEAVY-DUTY 12 VOLT WINDOW SWITCH



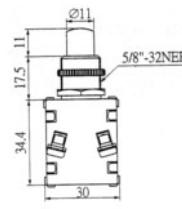
Current Rating: 20A @ 12VDC
Initial Contact Resistance: <50Meg Ohms @12VDC
Insulation Resistance: >100Meg Ohms
Dielectric Strength (Open Contacts): >1500V for 1 minute
Contact Material: Silver Plated Brass
Terminal Material: Copper Alloy
Body Material: Nylon (UL 94V-2)
Actuator & Bezel: Nylon (UL 94V-2)
Terminal Type: .187" Quick Connect

Part No.	Type	Action	Lamp / Actuator Color
30-16579	DPDT	(On)-Off-(On)	Black Actuator

Panel Cut-out: 22mm (.87") X 30mm (1.18")

() = Momentary

AUTOMOTIVE PUSH BUTTON SWITCH



15A 12V DC



Mounting Hole: .625"

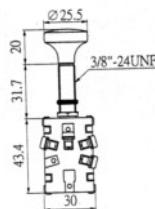
SPECIFICATIONS:

Current Rating: 15A @ 12V DC
Terminal Material: Brass
Terminal Type: Screw

Part No.	Type	Action	Actuator
30-19484	SPST	OFF - (ON)	Brass/Nickel Plate

NOTE: () = Momentary

AUTOMOTIVE PUSH/PULL SWITCH



30A 12V DC



Mounting Hole: .375"

SPECIFICATIONS:

Current Rating: 30A @ 12V DC
Terminal Material: Brass
Terminal Type: Screw

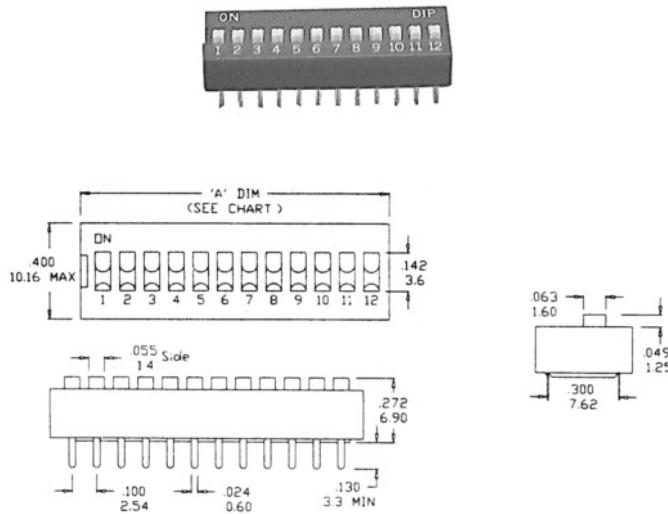
Part No.	Type	Action	Actuator
30-17408	SP3T	OFF ON ON	Brass/Nickel Plate

SWITCHES DIP AND ROTARY

DIP SWITCHES

SPECIFICATIONS:

Contact Rating:	50V DC 100mA @ Steady Situation 24V DC 25mA @ Make or Break
Initial Contact Resistance:	100mA, 30 Meg ohm @ initial 100mA, 100 Meg ohm after life test
Insulation Resistance:	500V DC 100 Meg ohm (Min.) between adjacent terminals
Dielectric Strength:	500V AC for 1 minute between adjacent terminals
Operation Life:	5,000 make-break cycles each circuit @ test speed of 72 cycles/min.
Operation Force:	500g Max.
Shock:	Withstand of 20g 11ms sawtooth waveform w/o contact opening > 10 ms (microseconds)
Vibration:	No mechanical damage or intermittent change of setting during or after test
Case & Cover Material:	UL 94V-O Polybutylene Telephthalate
Top Seal Material:	Polyester Film
Potting Material:	Epoxy
Contact Material:	Nickel, Phosphor Bronze w/Gold Plate
Terminal Material:	Nickel, Phosphor Bronze w/Gold Plate
Terminal Type:	Solder

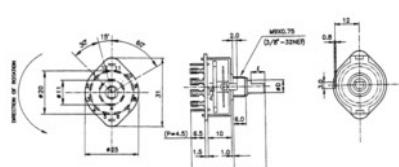


Part No.	Position	"A" Dim. in. (mm)	Actuator
30-11001	1	.147 (3.74)	White UL 94V-O PBT
30-1002	2	.260 (6.6)	White UL 94V-O PBT
30-1003	3	.360 (9.14)	White UL 94V-O PBT
30-1004	4	.460 (11.68)	White UL 94V-O PBT
30-11040	4	.452 (11.48)	White -Side Actuated
30-1005	5	.560 (14.22)	White UL 94V-O PBT
30-1006	6	.660 (16.76)	White UL 94V-O PBT
30-1007	7	.760 (19.3)	White UL 94V-O PBT
30-1008	8	.860 (21.84)	White UL 94V-O PBT
30-11080	8	.845 (21.46)	White Side Actuated
30-11081	8	.854 (21.70)	White-Right Angle
30-1009	9	.960 (24.38)	White UL 94V-O PBT
30-1010	10	1.06 (26.92)	White UL 94V-O PBT
30-1012	12	1.26 (32)	White UL 94V-O PBT

ROTARY SWITCHES

SPECIFICATIONS:

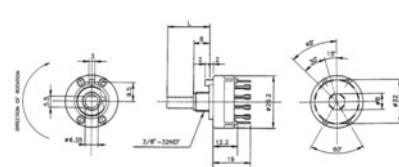
Current Rating:	0.3A @ 125V AC			
Initial Contact Resistance:	20 Meg ohm (MAX.)			
Insulation Resistance:	DC500V-100 Meg ohm (Min.)			
Withstand Voltage:	AC500V-1 minute			
Rotation Torque:	1.0 ± 0.5 kg/cm			
Shaft:	38mm Length, 6.35mm O.D.			
Terminal Type:	Solder			
Part No.	Type	No. Pole	No. Position	Style
30-15112	Shorting	1	12	Open Frame
30-15204	Shorting	2	4	Open Frame
30-15205	Non Shorting	2	5	Open Frame
30-15206	Shorting	2	6	Open Frame
30-15303	Non Shorting	3	3	Open Frame
30-15100	Non Shorting	1	12	Enclosed Contact
30-15106	Non Shorting	1	6	Enclosed Contact
30-15203	Non Shorting	2	3	Enclosed Contact
30-15304	Non Shorting	3	4	Enclosed Contact
30-15403	Non Shorting	4	3	Enclosed Contact



Mounting Hole: .375"



Open Frame



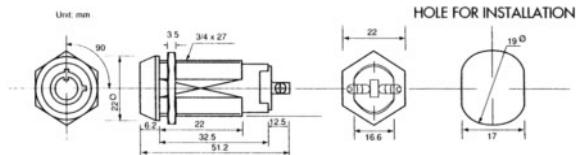
Mounting Hole: .375"



Enclosed Contact

SWITCHES KEY

KEY SWITCH

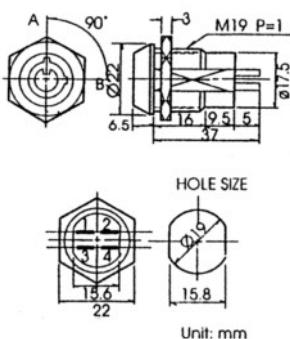


SPECIFICATIONS:

Current Rating:	4A @ 125V AC, 2A @ 250V AC
Initial Contact Resistance:	10 Meg ohm (Max.)
Insulation Resistance:	500V DC 100 Meg ohm (Min.)
Dielectric Strength:	1500V AC for 1 Minute
Contact Material:	Brass - Silver Plate
Terminal Material:	Brass - Silver Plate
Terminal Type:	Screw

Part No.	Type	Key Pull	Actuator
30-10078	SPST	ON or OFF Position	Barrel Key (All keyed Alike)

KEY SWITCHES



SPECIFICATIONS:

Current Rating:	4A @ 125V AC, 2A @ 250V AC
Initial Contact Resistance:	10 Meg ohm (Max.)
Insulation Resistance:	500V DC 100 Meg ohm (Min.)
Dielectric Strength:	1000V AC for 1 Minute
Contact Material:	Brass - Nickel Plate
Terminal Material:	Brass - Nickel Plate
Terminal Type:	Solder

Part No.	Type	Key Pull	Actuator
30-10076	DPST	OFF Position Only	Barrel (round) Key
30-10077	DPST	ON or OFF Position	Barrel (round) Key

Note: May be used as either DPST or SPST.

PLATE TUMBLER KEY SWITCHES



Mounting Hole: 0.75" (3/4")
Made in USA

SPECIFICATIONS:

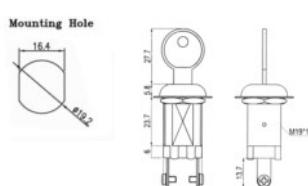
Current Rating:	2.5A @ 120V AC, 2.1A @ 46V DC
Contact Material:	Brass
Terminal Material:	Brass
Terminal Type:	Screw
Hardware:	Cylinder Ring, Hex nut, 2 Screws, 2 Keys

Part No.	Type	Key Pull	Actuator
30-1190	SPST	ON or OFF Position	Metal Key #HC530
30-1191	SPST	ON or OFF Position	Metal Key #HC531
30-1192	SPST	ON or OFF Position	Metal Key #HC540
30-1193	SPST	ON or OFF Position	Metal Key #HC550
30-1194	SPST	ON or OFF Position	Metal Key #HC553

KEY SWITCHES



Mounting Hole: 0.75" (3/4)
Made in China



SPECIFICATIONS:

Current Rating:	3A - 125 V AC, 1.5A - 250 V AC
Contact Resistance:	50m Ohm Max.
Insulation Resistance:	DC 500V 100 M Ohm Min.
Dielectric Strength:	AC 1000V 1 Minute
Terminal Type:	Screw

Part No.	Type	Key Pull	Actuator
30-1196	SPST	On or Off Position	Flat Key A2133
30-1197	SPST	On or Off Position	Flat Key A2213

SWITCHES SUB-MINIATURE PUSH BUTTON, PC MOUNT

Electrical Rating:

Rating: 3 Amps with resistive load @ 120 VAC or 28 VDC

or 1 Amp with resistive load @ 250 VAC

Life expectancy: 60,000 cycles @ full load

Contact Resistance: 20 milliohms Max, initial @ 2-4 VDC

100 mA

Insulation resistance: 1,000 Megohms minimum

Dielectric Strength: 1,000 V RMS @ sea level

Operating Temperature: -30 to 85 degrees Celsius

Right angle, horizontal
style SPST



Mechanical:

Case: Dially phthalate (DAP) UL94-0

Plunger: Thermo Plastic Polyester (Black)

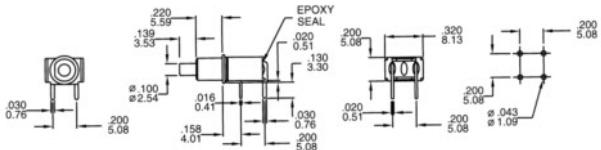
Housing: Stainless Steel

Bushing: Brass N.P.

Contacts: Silver

Terminal: Brass, Silver plated.

P.C. MOUNTING



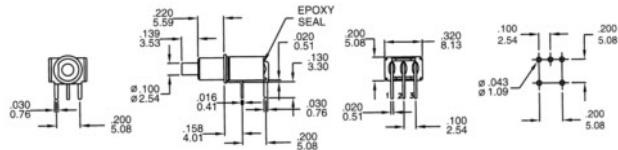
Part No.	Circuit
30-20500	SPST, OFF-(ON)

NOTE: () = Momentary

Right angle, horizontal
style SPDT



P.C. MOUNTING



Part No.	Circuit
30-20507	SPDT, ON-(ON)

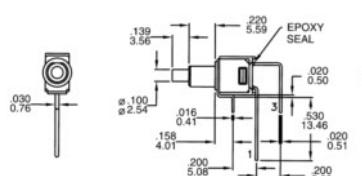
NOTE: () = Momentary

Right angle, vertical style
SPST



Part No.	Circuit
30-20512	SPST, OFF-(ON)

NOTE: () = Momentary

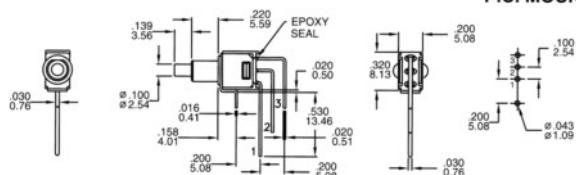


P.C. MOUNTING

Right Angle vertical style
SPDT



P.C. MOUNTING



Part No.	Circuit
30-20516	SPDT, ON -(ON)

NOTE: () = Momentary

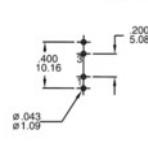
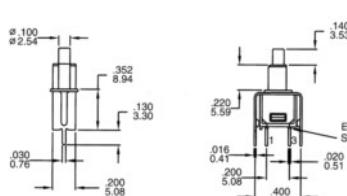
Vertical Mounting
w/bracket SPST



P.C. MOUNTING

Part No.	Circuit
30-20522	SPST, OFF- (ON)

NOTE: () = Momentary



SWITCHES PUSH BUTTON

SEALED MINIATURE PUSH BUTTON SWITCHES (M-Series)

Philmore is pleased to introduce the new fully shielded M-Series miniature push button switches. The M-Series features complete IP67 protection. IP67 (Ingress protection) is the top rating classified for the level of protection that electrical appliances provide against the intrusion of solid objects (including dust & liquids). M-series switch mounts in 0.50" mounting hole in panel up to .157" thick.

ENVIRONMENTAL:

Degree of protection:	IP67
Operating Temperature:	-40° to +85° C

ELECTRICAL & GENERAL:

Max. current / voltage rating with resistive load:	
400mA 32V AC-100mA 50V DC-125mA 125VAC	
Initial Contact Resistance:	50m ohm max
Insulation Resistance:	1G min. at 500V DC
Dielectric Strength:	1,000 V AC rms
Electrical Life at Full Load:	500,000 cycles
Panel Thickness:	.059" Min. - .157" Max.
Total Travel:	1.5mm (.59")
Operating Force:	2N - 5N
Mechanical Life:	1,000,000 cycles
Torque:	1.5Nm max. applied to nut
Soldering:	300° C max. for 3 seconds

MATERIAL:

Case:	Thermoplastic UV94-VO
Plunger:	Polyamide 6/6
Bushing / Bezel:	Polyamide 6/6
Contacts:	Silver, Gold plated
Terminal Seals:	Epoxy



Part No.	Type	Action		Actuator
		(ON)	-	
30-12630	SPST	(ON)	-	OFF Red Button
30-12632	SPST	(ON)	-	OFF Yellow Button
30-12634	SPST	(ON)	-	OFF Green Button
30-12636	SPST	(ON)	-	OFF Blue Button
30-12638	SPST	(ON)	-	OFF Black w / Red LED
30-12640	SPST	(ON)	-	OFF Black w / Yellow LED
30-12642	SPST	(ON)	-	OFF Black w / Green LED
30-12644	SPST	(ON)	-	OFF Black w / Blue LED

NOTE: () = MOMENTARY

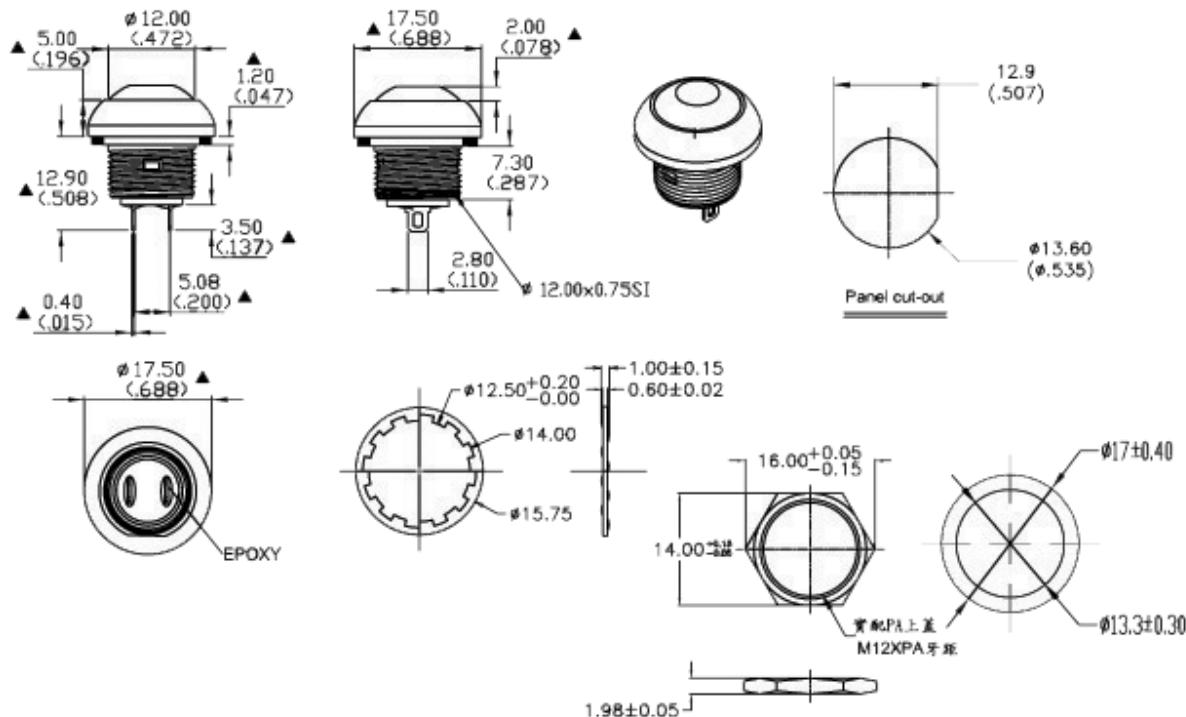
LED SPECIFICATION:

Lens Appearance	Color	Electro-optical Data (AT 20mA)				Viewing Angle 20 1/2 (deg)	
		Vf (V)		Iv (mcd)			
		Typ.	Max.	Min.	Typ.		
Water Clear	Super Red	2.1	2.6	42.0	100.0	35°	
	Super Green	2.0	2.6	42.0	80.0		
	Super Yellow	2.1	2.6	94.0	200.0		
	Super Blue	2.8	3.2	28.0	70.0		



IP 67
ACCORDING TO
EN 60529-1991+A1:2001
IEC 60529:2001

RoHS
compliant



SWITCHES PUSH BUTTON

SUB-MINIATURE PUSH BUTTON SWITCHES

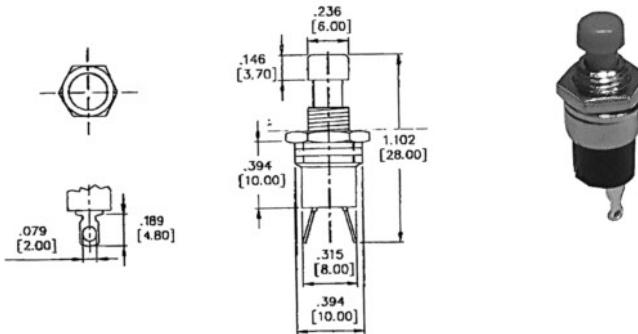
SPECIFICATIONS:

Current Rating:	1A @ 125V AC
Initial Contact Resistance:	DC 2.5V-1A, 10 Meg ohm (Min.)
Insulation Resistance:	500V DC 100 Meg ohm (Min.)
Dielectric Strength:	1000V AC for 1 minute
Contact Material:	Brass - Silver Plate
Terminal Material:	Brass - Silver Plate
Terminal Type:	Solder

Part No.	Type	Action	Actuator
*30-2289	SPST	OFF	- (ON)
*30-2299	SPST	(OFF)	ON
			Red Nylon Black Nylon

NOTE: () = Momentary

* = 2 Pieces per blister pack



Mounting Hole: 0.265"

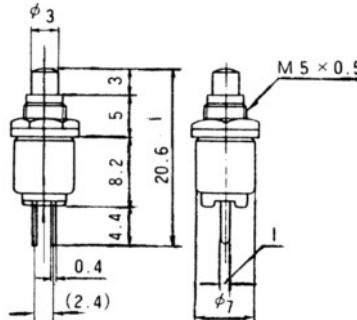
MINIATURE PUSH BUTTON SWITCH

SPECIFICATIONS:

Current Rating:	1/2A @ 125V AC
Initial Contact Resistance:	20 Meg ohm (Max.)
Insulation Resistance:	500V DC 100 Meg ohm (Min.)
Dielectric Strength:	1000V AC for 1 Minute
Contact Material:	Brass - Silver Plate
Terminal Material:	Brass - Silver Plate
Terminal Type:	Solder

Part No.	Type	Action	Actuator
30-040	SPST	OFF	- (ON)
			Black Button

NOTE: () = Momentary



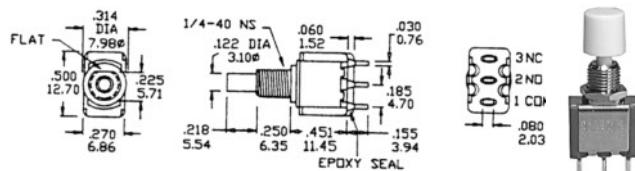
Mounting Hole: 0.250"

MINIATURE SNAP ACTION PUSH BUTTON SWITCH (SPDT)

SPECIFICATIONS:

Current Rating:	1A @ 125V AC, 38V DC
Initial Contact Resistance:	10 Meg ohm (Max.), Initial @2-4V DC
Insulation Resistance:	1000 Meg ohm (Min.)
Dielectric Strength:	1000V RMS @ Sea Level
Contact Material:	Brass w/Gold Plate over Nickel Plate
Terminal Material:	Brass - Nickel Plate
Terminal Type:	Solder

Part No.	Type	Action	Actuator
30-2700	SPDT	Snap Action Momentary	White Nylon
Terminal Connection	1-3	-	1-2



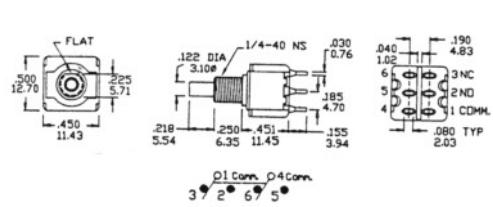
Mounting Hole: 0.250"

MINIATURE SNAP ACTION PUSH BUTTON SWITCH (DPDT)

SPECIFICATIONS:

Current Rating:	1A @ 125V AC, 38V DC
Initial Contact Resistance:	10 Meg ohm (Max.), Initial @2-4V DC
Insulation Resistance:	1000 Meg ohm (Min.)
Dielectric Strength:	1000V RMS @ Sea Level
Contact Material:	Brass w/Gold Plate over Nickel Plate
Terminal Material:	Brass - Nickel Plate
Terminal Type:	Solder

Part No.	Type	Action	Actuator
30-2750	DPDT	Snap Action Momentary	White Nylon
Terminal Connection	1-3, 4-6	-	1-2, 4-5

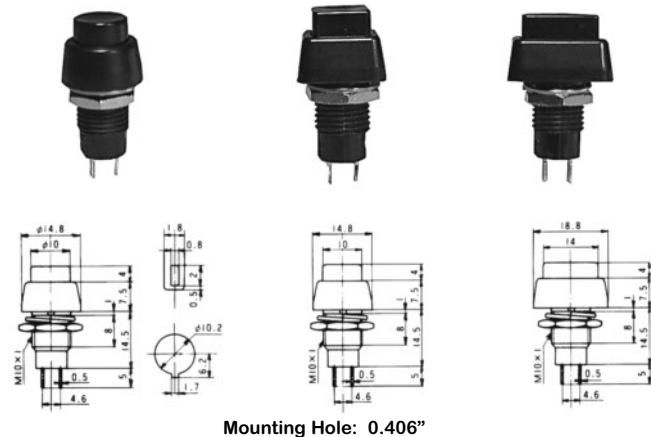


Mounting Hole: 0.250"

NOTE: Nos. 30-2700 and 30-2750 are supplied with red cap; also available black, green and yellow.

SWITCHES PUSH BUTTON

MINIATURE PUSH BUTTON SWITCHES



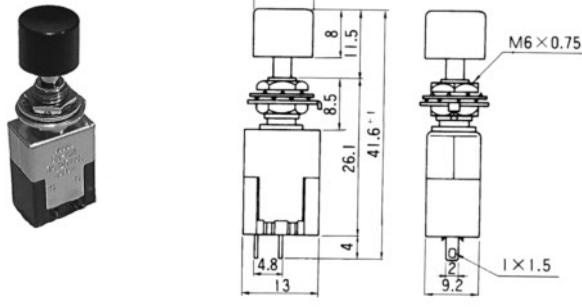
SPECIFICATIONS:

Current Rating:	3A @ 125V AC, 1A @ 250V AC
Initial Contact Resistance:	20 Meg ohm (Max.)
Insulation Resistance:	500V DC 100 Meg ohm (Min.)
Dielectric Strength:	1500V AC for 1 Minute
Contact Material:	Brass - Silver Plate
Terminal Material:	Brass - Silver Plate
Terminal Type:	Solder

Part No.	Type	Action	Actuator
30-111	SPST	OFF - (ON)	Round Black Nylon
30-112	SPST	OFF - (ON)	Square Black Nylon
30-113	SPST	OFF - (ON)	Rectangular Black Nylon
30-1414	SPST	OFF - (ON)	Rectangular Red Nylon

NOTE: () = Momentary

MINIATURE PUSH BUTTON SWITCHES



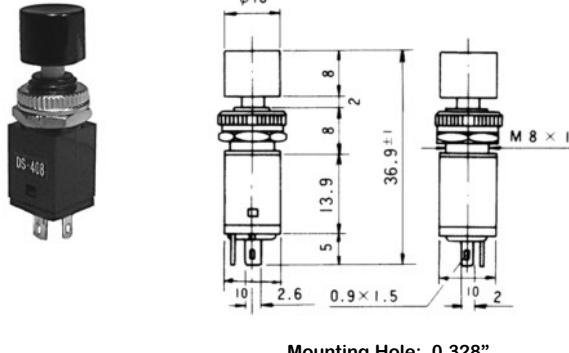
SPECIFICATIONS:

Current Rating:	3A @ 125V AC
Initial Contact Resistance:	20 Meg ohm (Max.)
Insulation Resistance:	500V DC 100 Meg ohm (Min.)
Dielectric Strength:	1000V AC for 1 Minute
Contact Material:	Brass - Silver Plate
Terminal Material:	Brass - Silver Plate
Terminal Type:	Solder

Part No.	Type	Action	Actuator
30-003	SPDT	Push ON Push ON	Black Button
30-005	DPDT	Push ON Push ON	Black Button

Mounting Hole: 0.250"

MINIATURE PUSH BUTTON SWITCHES



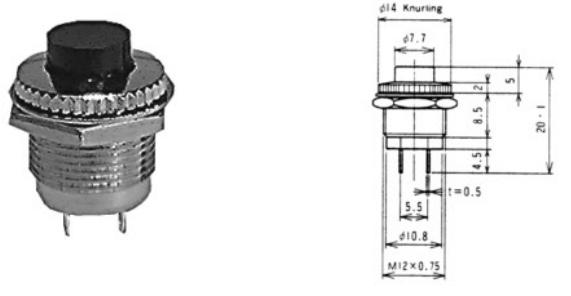
SPECIFICATIONS:

Current Rating:	3A @ 125V AC
Initial Contact Resistance:	20 Meg ohm (Max.)
Insulation Resistance:	500V DC 100 Meg ohm (Min.)
Dielectric Strength:	1000V AC for 1 Minute
Contact Material:	Brass - Silver Plate
Terminal Material:	Brass - Silver Plate
Terminal Type:	Solder

Part No.	Type	Action	Actuator
30-006	SPST	Push ON Push OFF	Black Button
30-008	SPDT	Push ON Push OFF	Black Button
30-009	SPST	OFF - (ON)	Black Button

NOTE: () = Momentary

MINIATURE PUSH BUTTON SWITCH



Mounting Hole: 0.50"

SPECIFICATIONS:

Current Rating:	1A @ 125V AC
Initial Contact Resistance:	20 Meg ohm (Min.)
Insulation Resistance:	500V DC 100 Meg ohm (Min.)
Dielectric Strength:	1500V AC for 1 minute
Contact Material:	Brass - Silver Plate
Terminal Material:	Brass - Silver Plate
Terminal Type:	Solder

Part No.	Type	Action	Actuator
30-146	SPST	OFF - (ON)	Black Plastic

NOTE: () = Momentary

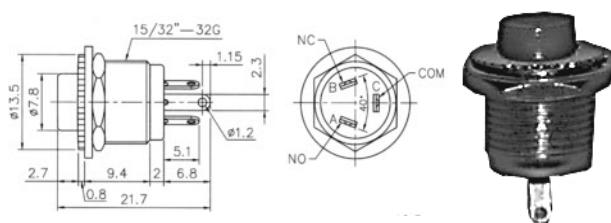
SWITCHES PUSH BUTTON

SPECIFICATIONS:

Current Rating:	1A - 125 V AC
Initial Contact Resistance:	20m Ohm (Max.)
Insulation Resistance:	DC 500V 100 M Ohm Min.
Dielectric Strength:	AC 1500V 1 Minute
Electrical Life:	30,000 Make & break cycles at full load
Terminal Type:	Solder

Part No.	Type	Action	Actuator
30-148	SPDT	Normally Open (Momentary ON) Normally Closed (Momentary OFF)	Red Plastic

N.O. / N.C. MINIATURE PUSH BUTTON SWITCH



SPECIFICATIONS:

ELECTRICAL RATINGS:		
12A	125-250V AC 85C	UL E45221
1/2HP	125V AC 1HP 250V AC	UL E45221
12A	125-250V AC	CSA LR10990
12 (2)A	250V AC T125	VDE 10032
6 (6)A	250V AC T105 5E4 (50K Operations)	VDE 10032
10A	28V DC	No Approvals

MATERIALS:

Body:	Nylon 6.6
Rocker (Opaque):	Nylon 6.6
Rocker (Lighted):	Polycarbonate
Contact Gap:	3mm (.118)
Contact Material:	Silver Alloy

Part No.	Type	Action	Actuator
30-830	SPST	ON - OFF	Red Lens Button
30-832	SPST	ON - OFF	Green Lens Button
30-836	SPST	ON - OFF	Amber Lens Button

* NOTE: User Note: The light bulb incorporated in this switch must be connected to 12 volts AC or DC and NOT to 125 volts. The 125 volt rating applies to switch contacts, NOT to the light.



SPECIFICATIONS:

Current Rating:	3A @ 125V AC, 1A @ 250V AC
Initial Contact Resistance:	DC 2.5V-1A, 20 Meg ohm (Max.)
Insulation Resistance:	500V DC 100 Meg ohm (Min.)
Dielectric Strength:	1500V AC for 1 Minute
Contact Material:	Brass - Silver Plate
Terminal Material:	Brass - Silver Plate
Terminal Type:	Solder

Part No.	Type	Action	Actuator
30-10068	SPST	OFF - (ON)	Blue Nylon
30-10070	SPST	ON - (OFF)	Red Nylon

NOTE: () = Momentary

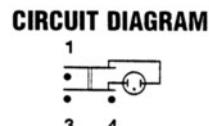
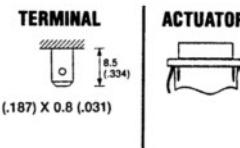
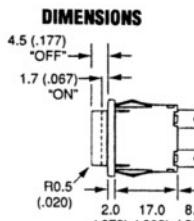
SPECIFICATIONS:

Current Rating:	3A @ 125V AC, 1A @ 250V AC
Initial Contact Resistance:	DC 2.5V-1A, 20 Meg ohm (Max.)
Insulation Resistance:	500V DC 100 Meg ohm (Min.)
Dielectric Strength:	1500V AC for 1 Minute
Contact Material:	Brass - Silver Plate
Terminal Material:	Brass - Silver Plate
Terminal Type:	Solder

Part No.	Type	Action	Actuator
30-10064	SPST	OFF - ON	Black Nylon
30-10065	SPST	OFF - ON	Red Nylon
30-10066	SPST	OFF - (ON)	Red Nylon

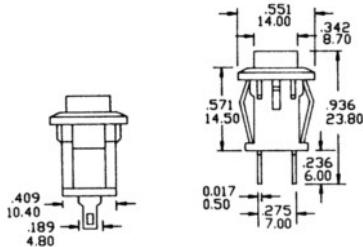
NOTE: () = Momentary

12V LIGHTED MINIATURE PUSH BUTTON SWITCHES



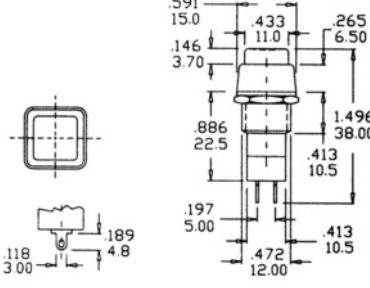
12V AC/DC Incandescent

SQUARE SNAP-IN PUSH BUTTON SWITCHES



Mounting Hole: 0.43" x 0.50"

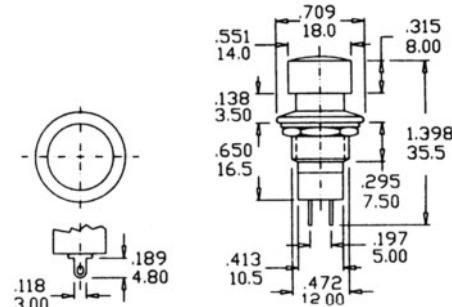
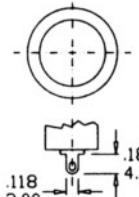
SQUARE PUSH BUTTON SWITCHES



Mounting Hole: 0.50"

SWITCHES PUSH BUTTON

ROUND PUSH BUTTON SWITCHES

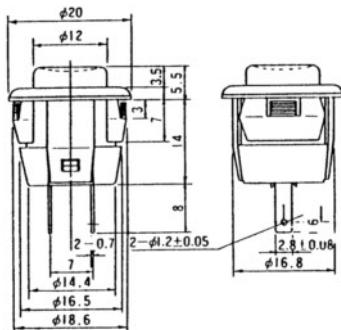


Mounting Hole: 0.50"

Part No.	Type	Action			Actuator
30-10060	SPST	OFF	-	ON	Black Nylon
30-10061	SPST	OFF	-	(ON)	Black Nylon
30-10062	SPST	OFF	-	(ON)	Red Nylon

NOTE: () = Momentary

ROUND SNAP-IN PUSH BUTTON SWITCH

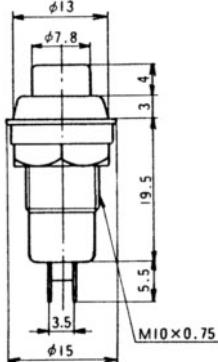


Mounting Hole: 0.71"

SPECIFICATIONS:	
Current Rating:	3A @ 125V AC, 1A @ 250V AC
Initial Contact Resistance:	DC 2.5-1A, 20 Meg ohm (Max.)
Insulation Resistance:	500V DC 100 Meg ohm (Min.)
Dielectric Strength:	1000V AC for 1 Minute
Contact Material:	Copper - Silver Plate
Terminal Material:	Copper - Silver Plate
Terminal Type:	Solder

NOTE: () = Momentary

MINIATURE PUSH BUTTON SWITCHES



Mounting Hole: 0.406"

SPECIFICATIONS:				
Part No.	Type	Action	Actuator	
30-2292	SPST	Push OFF	-	Push ON Silver Metallic

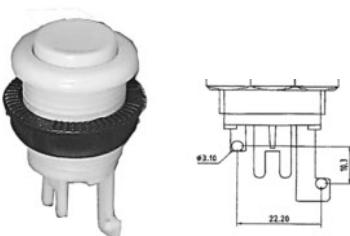
NOTE: () = Momentary

ACTION PUSH BUTTON SWITCH (MOMENTARY) & SEPARATE PUSH - BUTTON ASSEMBLY

This is a big, rugged switch assembly that was originally designed for video games and computer games, where the action is hard and frequent. The plastic button assembly is designed to accommodate any number of snap action switches; refer to the drawing of Philmore 30-2000 (in catalog) for dimensions. Switches simply snap into place in the separate assembly, or purchase a unit complete with switch. The complete assembly, including switch, is supplied with a miniature snap action MOMENTARY 10A 250VAC switch with a very light action; only 75 grams of pressure is required to activate vs, an average of more than 125 grams for most switches of this design. The switch is protected from over - pressure by the push button assembly. Available in six colors, with or without 10 amp switch.

PUSH BUTTON ASSEMBLY WITHOUT SWITCH

Catalog No.	Color
30-771	RED
30-772	WHITE
30-773	BLUE
30-774	GREEN
30-775	YELLOW
30-776	BLACK



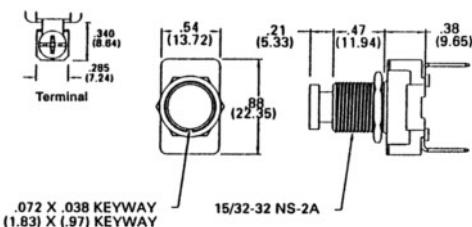
PUSH BUTTON ASSEMBLY INCLUDES SWITCH

Catalog No.	Color
30-781	RED
30-782	WHITE
30-783	BLUE
30-784	GREEN
30-785	YELLOW
30-786	BLACK

switch life cycle 100.000 (minimum)

SWITCHES PUSH BUTTON

MOMENTARY PUSH BUTTON SWITCHES



Mounting Hole: 0.500"

SPECIFICATIONS:

Current Rating:	6A @ 120V AC, 3A @ 240V AC
Initial Contact Resistance:	10 Meg ohm (Max.)
Insulation Resistance:	200 Meg ohm (Min.)
Dielectric Strength:	1000V AC
Contact Material:	Brass - Nickel Plate
Terminal Material:	Brass - Nickel Plate
Terminal Type:	Screw

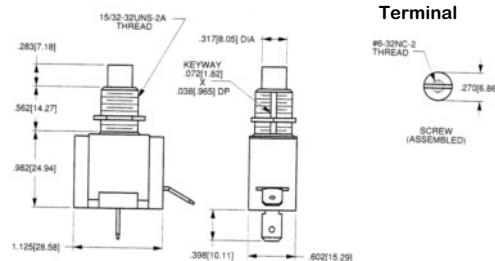
Part No.	Type	Action	Actuator
30-457	SPST	OFF	- (ON)
30-458*	SPST	(OFF)	- ON

NOTE: () = Momentary

NOTE: Switches must be installed with a hex nut behind panel to prevent damage during installation.

*30-458 Rated 3A @ 120VAC, 1.5A @ 277VAC

HEAVY DUTY PUSH BUTTON SWITCH



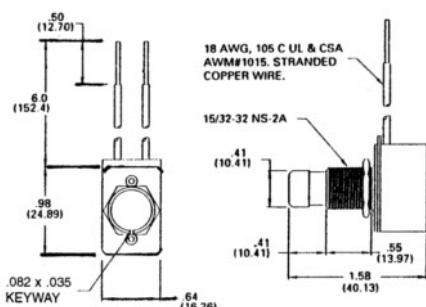
Mounting Hole: 0.500"

SPECIFICATIONS:

Current Rating:	15A @ 125V AC, 10A @ 250VAC
Insulation Resistance:	100 Meg ohms. (Min.)
Dielectric Strength:	1000V (Min.)
Base Material:	Phenolic
Bushing Material:	Brass/Nickel Plate
Terminal Type:	Screw (#6-32NC-2 Thread)

Part No.	Type	Action	Actuator
30-14455	SPST	ON	- OFF

UTILITY AC/DC PUSH BUTTON SWITCH (Snap-ON Snap-OFF)



Mounting Hole: 0.500"

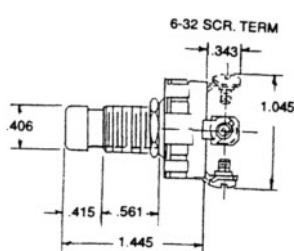
SPECIFICATIONS:

Current Rating:	8A @ 125V AC, 4A @ 250V AC
Initial Contact Resistance:	10A @ 125V AC, 1/3 HP 125V AC
Insulation Resistance:	10 Meg ohm (Max.)
Dielectric Strength:	100 Meg ohm (Min.)
Contact Material:	1000V AC
Terminal Material:	Brass - Nickel Plate
Terminal Type:	Brass - Nickel Plate
	6" 18 AWG Wire Lead

Part No.	Type	Action	Actuator
30-354	SPST	ON	- OFF

NOTE: Switches must be installed with a hex nut behind panel to prevent damage during installation.

HEAVY DUTY UTILITY AC PUSH BUTTON SWITCHES



Mounting Hole: 0.500"

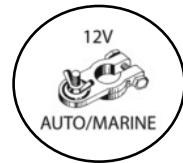
SPECIFICATIONS:

Current Rating:	15A @ 125V AC, 10A @ 250V AC
Dielectric Strength:	1000V RMS Min.
Contact Mechanism:	Slow-Make, Slow-Brak Butt Contact
Contact Material:	Copper Alloy/Silver Plate
Terminal Type:	Screw

Part No.	Type	Action	Actuator
30-1425	SPST	ON	- OFF
30-1426	SPST	OFF	- (ON)
30-1427	SPST	(OFF)	- ON
30-1428	SPDT	ON	- ON

NOTE: () = Momentary

SWITCHES PUSH BUTTON



SEALED ILLUMINATED PUSH BUTTON SWITCHES

Tamper proof push button switch mounts in 16.0 mm (5/8") hole in panel up to .50" thick. Bushing & button is made from brass, nickel plated for durability. Features IP67 protection and illuminated ring around actuator. Switches can be used in both illuminated and non-illuminated application (12V DC LED).

SPECIFICATIONS:

Contact Rating:	3A @ 250V AC, 2A @ 24V DC
Electrical Life:	50,000 cycles
Contact Resistance:	50m-ohms max (initial).
Insulation Resistance:	1,000M-ohms min @ 500V DC
Dielectric Strength:	2,000V RMS 50 ~ 60Hz
Operating Temperature:	-20° ~ +70° C
Switching Circuit:	ON - ON (latching)
IP Class:	IP67 protection
Torque:	5 ~ 14Nm max. applied to nut
Operating Force:	5.5N max.

Part No.	Type	Action			Actuator
30-12646	SPDT	(ON)	or	(OFF)	Brass w / Red LED
30-12648	SPDT	(ON)	or	(OFF)	Brass w / Green LED
30-12650	SPDT	(ON)	or	(OFF)	Brass w / Blue LED
30-12652	SPDT	Push ON	-	Push OFF	Brass w / Red LED
30-12654	SPDT	Push ON	-	Push OFF	Brass w / Green LED
30-12656	SPDT	Push ON	-	Push OFF	Brass w / Blue LED

NOTE: () = Momentary

MATERIALS:

Bushing & Button:	Brass Nickel plated
Contacts:	Silver, alloy
Nut:	Nickel plated Brass
Base:	PBT.



WHAT IS AN IP CODE?

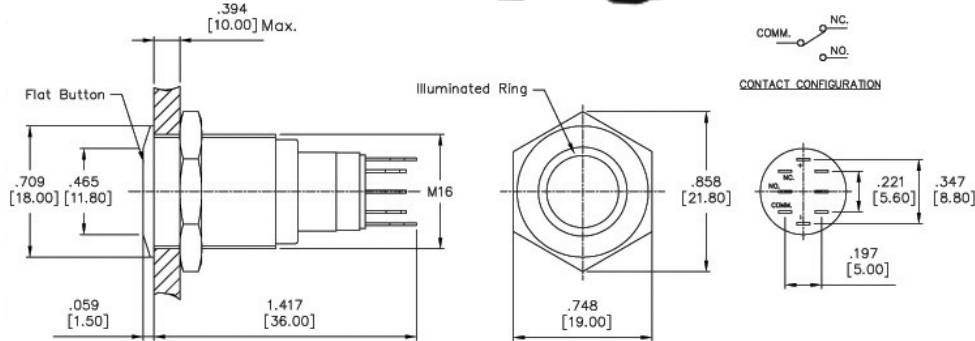
An IP code refers to the different levels of protection an enclosure provides. A worldwide standard has been established by the International Electrotechnical Commission (IEC). The code contains two separate numerals, the first numeral indicates protection against access to hazardous parts and protection of equipment against ingress of solid foreign objects, including dust. The second numeral indicates protection of equipment against harmful ingress of water.

IP67: 6 = complete protection against entry of dust (rating 1 to 6)
7 = protection against temporary immersion (rating 1 to 8)



IP 67
ACCORDING TO
EN 60529-1:1991+A1:2001
IEC 60529:2001

RoHS
compliant



Using an LED

LED wth DC (Direct Current)

An LED (light emitting diode) requires about two volts to operate and twenty millamps of current. A current limiting resistor must be used in series with an LED to prevent current over 20 mA from flowing; otherwise, your LED will be damaged. You may simply use Ohm's law to calculate the resistor value. Here is an example: We have a circuit operating at 12 volts DC, and need to know the value of a resistor to use. The LED "wants" two volts to operate; so subtract 2 from the 12 volts which, is of course, ten. Plug the "ten" in at "E" and divide by "I" or .020 amps. The result is 500 ohms for the resistor value. If you forget to subtract the two volts, the resistor value will be 600 and the LED will not be at maximum brightness. However, it will last much longer (about double normal life)! Another formula you can use is $R=50(V-2)$. The R is for resistor, the V for voltage. We like this one as it is easy to recall and do in your head.

LED with AC (Alternating Current)

When using an LED with AC, a diode must be placed in series with the LED. Because AC will only be flowing 1/2 the time, we use a variation on the easy formula shown to the left(bottom). Use $R=25(V^2/2)$, which includes the voltage drop across the diode.

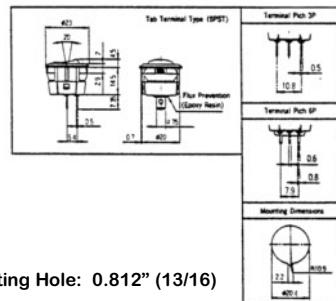
So, if you have a circuit using 28 volts AC, multiply 25.3 (or 28V $\sqrt{2}$) times 25 equals 632 ohms. We need to use a standard value resistor, so use 680 ohms for "R".

Typical voltages used in electronics and resistor values (rounded to nearest standard resistor).

DC Volts	5V	6V	12V	24V	AC Volts	6V	12V	24V	48V	117V
Resistor (ohms)	150	180	470	1200	Resistor (ohms)	82	220	560	1200	3K

SWITCHES ROCKER

ROUND ROCKER SWITCHES



SPECIFICATIONS:

Current Rating:	5A @ 125V AC, 3A @ 250V AC
Initial Contact Resistance:	<50Meg Ohms @12VDC
Insulation Resistance:	>100Meg Ohms
Dielectric Strength (Open Contacts):	>1500V for 1 minute
Contact Material:	Silver Plated Brass
Terminal Material:	Copper Alloy
Body Material:	Nylon (UL 94V-2)
Actuator & Bezel:	Nylon (UL 94V-2)
Terminal Type:	.187" Quick Connect
Mounting Hardware:	M20-P1.0

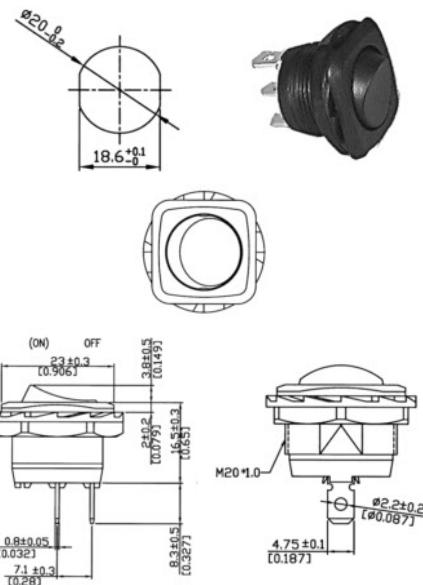
Part No.	Type	Action	Actuator
30-10055	SPDT	ON	-
30-10056	DPST	ON	-
30-10058	DPDT	ON	-
30-10059	SPST	ON	-

SQUARE BEZEL NUT MOUNTED ROUND ROCKER SWITCHES

Current Rating:	6A 250VAC, 10A 125VAC
Initial Contact Resistance:	<50Meg Ohms @12VDC
Insulation Resistance:	>100Meg Ohms
Dielectric Strength (Open Contacts):	>1500V for 1 minute
Contact Material:	Silver Plated Brass
Terminal Material:	Copper Alloy
Body Material:	Nylon (UL 94V-2)
Actuator & Bezel:	Nylon (UL 94V-2)
Terminal Type:	.187" Quick Connect
Mounting Hardware:	M20-P1.0

Part No.	Type	Action	Actuator
30-16200	SPST	On-Off	Bi-Color Actuator
30-16220	SPST	(On)-Off	Black Actuator
30-16260	SPST	On-(Off)	Black Actuator
30-16330	SPDT	On-(On)	Black Actuator
30-16340	SPDT	On-Off-(On)	Black Actuator
30-16210	SPDT	On-On	Black Actuator
30-16215	SPDT	On-Off-On	Black Actuator
30-16360	SPDT	(On)-Off-(On)	Black Actuator

Panel Cut-out: 20.2mm (.79")
Maximum Panel thickness 6.0 mm
() = Momentary

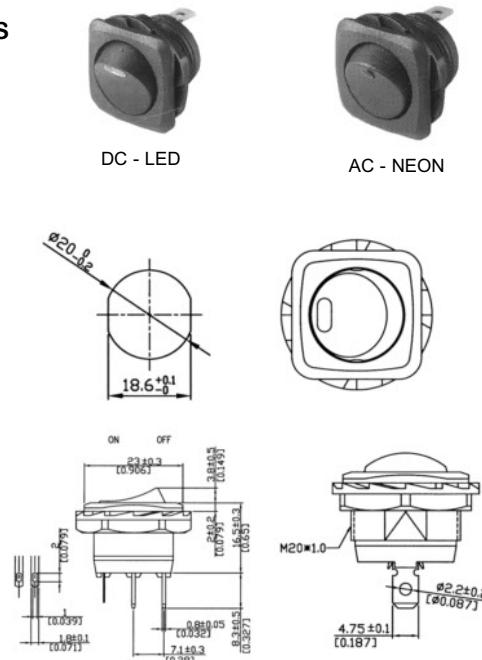


LIGHTED, SQUARE BEZEL NUT MOUNTED ROUND ROCKER SWITCHES

Current Rating:	6A 250VAC, 10A 125VAC
Initial Contact Resistance:	<50Meg Ohms @12VDC
Insulation Resistance:	>100Meg Ohms
Dielectric Strength (Open Contacts):	>1500V for 1 minute
Contact Material:	Silver Plated Brass
Terminal Material:	Copper Alloy
Body Material:	Nylon (UL 94V-2)
Actuator & Bezel:	Nylon (UL 94V-2)
Terminal Type:	.187" Quick Connect
Lamp Voltage:	AC= 110V neon, DC= LED 2V *@20mA
Mounting Hardware:	M20-P1.0

Part No.	Type	Action	Lamp / Actuator Color
30-16402	SPST	On-Off	AC Lamp, Red
30-16404	SPST	On-Off	AC Lamp, Amber
30-16405	SPST	On-Off	AC Lamp, Green
30-16422	SPST	On-Off	DC Lamp, Red
30-16423	SPST	On-Off	DC Lamp, Amber
30-16425	SPST	On-Off	DC Lamp, Green
30-16426	SPST	On-Off	DC Lamp, Blue

Panel Cut-out: 20.2mm (.79")
Maximum Panel thickness 6.0 mm



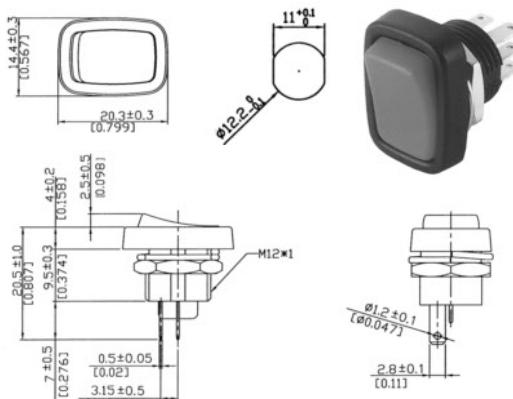
SWITCHES ROCKER

RECTANGULAR BEZEL ROUND ROCKER SWITCHES

Current Rating:	3A 250VAC, 6A 125VAC
Initial Contact Resistance:	<50Meg Ohms @12VDC
Insulation Resistance:	>100Meg Ohms @500V
Dielectric Strength (Open Contacts):	>1000V for 1 minute
Contact Material:	Silver Plated Brass
Terminal Material:	Copper Alloy
Body Material:	Nylon (UL 94V-2)
Actuator & Bezel:	Nylon (UL 94V-2)
Terminal Type:	.110" Quick Connect
Mounting Hardware:	M20-P1.0

Part No.	Type	Action	Actuator
30-16150	SPST	On-Off	Black Actuator
30-16155	SPDT	On-On	Black Actuator
30-16160	DPST	On-Off	Black Actuator

Panel Cut-out: 12.2mm (.48")
Maximum Panel thickness 6.0 mm



SNAP-IN ROUND ROCKER SWITCHES

Current Rating:	6A 250VAC, 10A 125VAC
Initial Contact Resistance:	<50Meg Ohms @12VDC
Insulation Resistance:	>100Meg Ohms
Dielectric Strength (Open Contacts):	>1500V for 1 minute
Contact Material:	Silver Plated Brass
Terminal Material:	Copper Alloy
Body Material:	Nylon (UL 94V-2)
Actuator & Bezel:	Nylon (UL 94V-2)
Terminal Type:	.187" Quick Connect

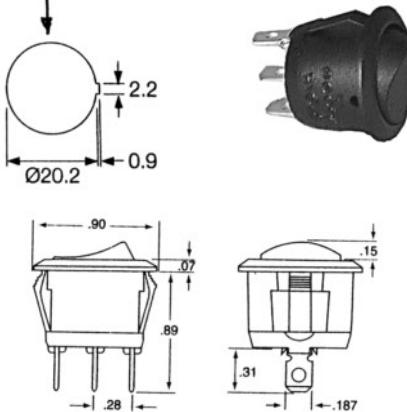
Part No.	Type	Action	Actuator
30-16060	SPST	On-Off	Bi-Color Actuator
30-16062	SPST	(On)-Off	Black Actuator
30-16066	SPST	On-(Off)	Black Actuator
30-16068	SPDT	On-(On)	Black Actuator
30-16110	SPDT	On-Off-(On)	Black Actuator
30-16070	SPDT	On-On	Black Actuator
30-16072	SPDT	On-Off-On	Black Actuator
30-16074	SPDT	(On)-Off-(On)	Black Actuator

Panel Cut-out: 20.2mm (.79")
Maximum panel thickness 3.0 mm



() = Momentary

PANEL CUT-OUT (mm)



LIGHTED SNAP-IN ROUND ROCKER SWITCHES

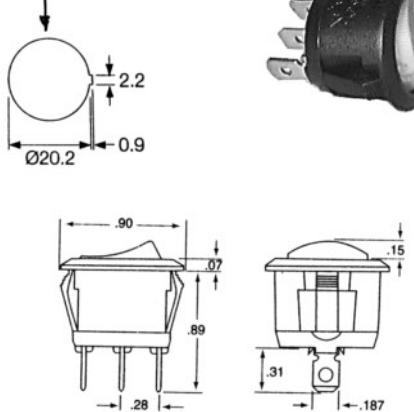
Current Rating:	6A 250VAC, 10A 125VAC
Initial Contact Resistance:	<50Meg Ohms @12VDC
Insulation Resistance:	>100Meg Ohms
Dielectric Strength (Open Contacts):	>1500V for 1 minute
Contact Material:	Silver Plated Brass
Terminal Material:	Copper Alloy
Body Material:	Nylon (UL 94V-2)
Actuator & Bezel:	Nylon (UL 94V-2)
Terminal Type:	.187" Quick Connect
Lamp Voltage:	AC= 110V, DC= 12V

Part No.	Type	Action	Lamp / Actuator Color
30-16182	SPST	On-Off	AC Lamp, Red
30-16183	SPST	On-Off	AC Lamp, Amber
30-16185	SPST	On-Off	AC Lamp, Green
30-16122	SPST	On-Off	DC Lamp, Red
30-16123	SPST	On-Off	DC Lamp, Amber
30-16125	SPST	On-Off	DC Lamp, Green
30-16126	SPST	On-Off	DC Lamp, Blue

Panel Cut-out: 20.2mm (.79")
Maximum Panel thickness 3.0 mm



PANEL CUT-OUT (mm)



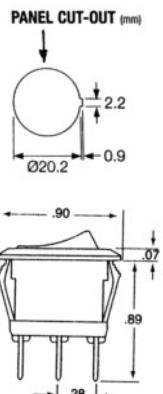
LIGHTED SNAP-IN ROUND ROCKER SWITCHES



AC - NEON



DC - LED



Current Rating:
Initial Contact Resistance:
Insulation Resistance:
Dielectric Strength (Open Contacts):
Contact Material:
Terminal Material:
Body Material:
Actuator & Bezel:
Terminal Type:
Lamp Voltage:

6A 250VAC, 10A 125VAC
<50Meg Ohms @12VDC
>100Meg Ohms
>1500V for 1 minute
Silver Plated Brass
Copper Alloy
Nylon (UL 94V-2)
Nylon (UL 94V-2)
.187" Quick Connect
AC= 110V neon, DC= LED 2V* @20mA
(*resistor needed for other voltages)

Part No.	Type	Action	Lamp / Actuator Color
30-16282	SPST	On-Off	AC Lamp, Red
30-16283	SPST	On-Off	AC Lamp, Amber
30-16285	SPST	On-Off	AC Lamp, Green
30-16222	SPST	On-Off	DC Lamp, Red
30-16223	SPST	On-Off	DC Lamp, Amber
30-16225	SPST	On-Off	DC Lamp, Green
30-16226	SPST	On-Off	DC Lamp, Blue

Panel Cut-out: 20.2mm (.79")

Maximum Panel thickness 3.0 mm



Switch Covers



No. 30-1600 - fits Round Rocker switches up to 23mm (.90") dia.



No. 30-1450 - fits SP Rocker switches up to 15mm (.59") X 21mm (.82")

No. 30-1455 - fits DP Rocker switches up to 24mm (.94") X 21mm (.82")

Using an LED

LED wth DC (Direct Current)

An LED (light emitting diode) requires about two volts to operate and twenty millamps of current. A current limiting resistor must be used in series with an LED to prevent current over 20 mA from flowing; otherwise, your LED will be damaged. You may simply use Ohm's law to calculate the resistor value.

Here is an example, We have a circuit operating at 12 volts DC, and need to know the value of a resistor to use. The LED "wants" two volts to operate ; so subtract 2 from the 12 volts which is of course, ten. Plug the "ten" in at "E" and divide by "I" or .020 amps. The result is 500 ohms for the resistor value

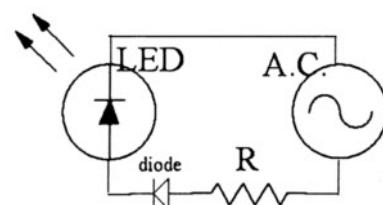
If you forget to subtract the two volts, the resistor value will be 600 and the LED will not be at maximum brightness. However, it will last much longer! (about double normal life).

Another formula you can use is $R=50(V-2)$. The R is for resistor, the V for voltage. We like this one as it is easy to recall and do in your head.

LED wth AC (Alternating Current)

When using an LED with AC, a diode must be placed in series with the LED. Because AC will only be flowing 1/2 the time, we use a variation on the easy formula shown to the left(bottom). Use $R=25(V-2.7)$, which includes the voltage drop across the diode.

So, if you have a circuit using 28 volts AC, multiply 25.3 (or 28V -2.7), times 25 equals 632 ohms. We need to use a standard value resistor, so use 680 ohms for "R".

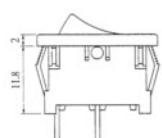
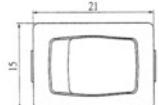


Typical voltages used in electronics and resistor values (rounded to nearest standard resistor).

DC Volts	5V	6V	12V	24V	AC Volts	6V	12V	24V	48V	117V
Resistor (ohms)	150	180	470	1200	Resistor (ohms)	82	220	560	1200	3K

SWITCHES ROCKER

MINIATURE ROCKER SWITCHES



Mounting Hole: .51" x .751"

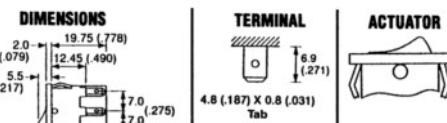


SPECIFICATIONS:

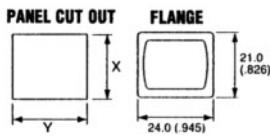
Current Rating:	10A @ 125V AC, 6A @ 250V AC
Initial Contact Resistance:	50 Meg ohm (Max.)
Insulation Resistance:	DC 500V 100 Meg ohms (Min.)
Dielectric Strength:	AC 1500V 1 min.
Base Material:	Nylon UL 94V-2
Terminal Material:	Brass/Silver Plate
Terminal Type:	.187" Quick Connect

Part No.	Type	Action	Actuator	
30-16605	SPST	ON	-	OFF
30-16606	DPDT	ON	-	ON
30-16607	SPST	ON	-	OFF
30-16608	DPST	ON	-	OFF
30-16612	SPDT	ON	-	ON

MINIATURE ROCKER SWITCH



Terminal spacing Poles 10.2 (.402) between centers.



SPECIFICATIONS:

ELECTRICAL RATINGS:

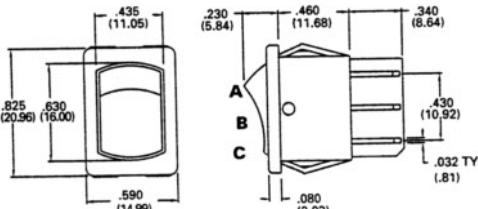
10A	125-250V AC 65C	UL E45221	CSA LR10990
1/4HP	125V AC 1/2HP 250V AC	UL/CSA	
6A	277V AC	UL	
15 (4)A	125-250V AC 90C		
	1/2HP 250V AC		
	1/4HP 125V AC		
10 (4)A	250V AC T90	VDE44375	
25A	Inrush	EN61058-1	
10A	28V DC	Approvals N/A	

MATERIALS:

Body:	Nylon 6.6
Actuator:	Nylon 6.6
Contact Gap:	3mm (.118)
Contact Material:	Silver Alloy

Part No.	Type	Action	Actuator
30-846	DPDT	ON	-

MINIATURE SNAP-IN ROCKER SWITCHES



Mounting Hole: .756" x .508"



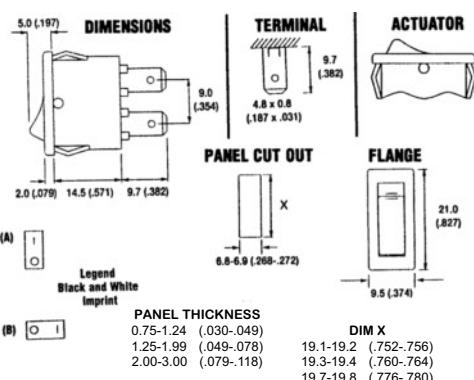
SPECIFICATIONS:

Current Rating:	*13A @ 125V AC, 10A @ 250V AC
	1/2 HP @ 125-250V AC, 5A @ 14V DC
	**16A @ 125V AC, 10A @ 250V AC
	3/4 HP @ 125-250V AC, 5A @ 14V DC
Initial Contact Resistance:	5 Meg ohm (Max.)
Insulation Resistance:	100 Meg ohm (Min.)
Dielectric Strength:	1000V AC for 1 minute
Contact Material:	Copper Alloy
Terminal Material:	Silver Plate - Copper Alloy
Terminal Type:	.187" Quick Connect

Part No.	Type	Action	Actuator
**30-002	SPDT	ON	-
*30-004	SPDT	ON	OFF
**30-042	SPST	ON	-
**30-043	DPST	ON	-

TINY ROCKER SWITCHES

Ideal for small appliances or controls with limited space. The mini rocker switch is capable of handling high currents as the traditional larger switches. This product range is electrically approved in thirteen countries.



Legend
Black and White
Imprint

(A) (B)

0.75-1.24 (.030-.049)

1.25-1.99 (.049-.078)

2.00-3.00 (.079-.118)

DIM X

19.1-19.2 (.752-.756)

19.3-19.4 (.760-.764)

19.7-19.8 (.776-.780)

SPECIFICATIONS:

ELECTRICAL RATINGS:			
12A	125-250V AC	UL E45221	
1/2HP	125V AC	UL E45221	
12A	125-250V AC	CSA LR10990	
10 (6)A	250V AC T100	VDE88662	
10A	24V DC		
Tracking resistance:		KB250	
Humidity resistance at 91-95% relative humidity:		48 hours	
Switch body/rocker:		Nylon 66	
Current carrying parts:			
Contact points:			
End terminal:			
Pivot terminal:			
Moving contact:			

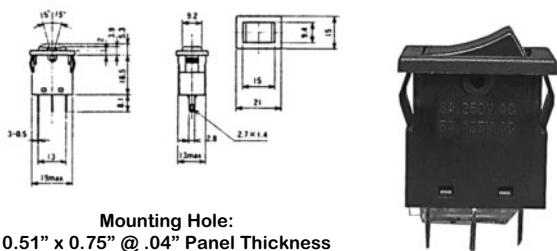
Part No.	Type	Action	Actuator
30-880	SPST	ON	-
30-882	SPST	ON	-
30-884	SPST	ON	-

SWITCHES ROCKER

STANDARD ROCKER SWITCHES

SPECIFICATIONS:

Current Rating:	5A @ 125V AC, 3A @ 250V AC
Initial Contact Resistance:	DC 2.5V-1A, 20 Meg ohm (Max.)
Insulation Resistance:	500V DC 100 Meg ohm (Min.)
Dielectric Strength:	1500V AC for 1 minute
Contact Material:	Copper - Silver Plate
Terminal Material:	Copper - Silver Plate
Terminal Type:	Solder
Part No.	Type
30-10086	SPDT
30-10088	SPDT
	Action
	ON
	-
	OFF
	ON
	Actuator
	Black Nylon
	BlackNylon



Mounting Hole:
0.51" x 0.75" @ .04" Panel Thickness
0.51" x 0.76" @ .08" Panel Thickness

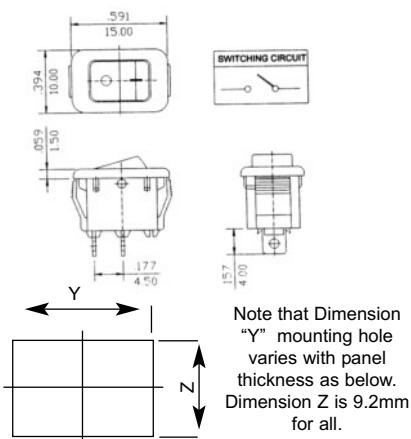
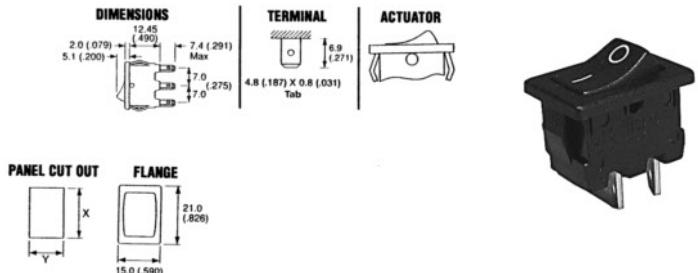
SPECIFICATIONS:

ELECTRICAL RATINGS:				
10A	125-250V AC 65C	UL E45221	CSA LR10990	
1/4HP	125V AC 1/2HP 250V AC		UL/CSA	
10 (4)A	250V AC T90		VDE 44375	
25A	Inrush		EN61058-1	
10A	28V DC		Approvals N/A	
MATERIALS:				
Body:	Nylon 6.6			
Actuator:	Nylon 6.6			
Contact Gap:	3mm (.118)			
Contact Material:	Silver			
Part No.	Type	Action		Actuator
30-860	SPST	ON	-	OFF
30-16844	SPDT	ON	-	ON
				Black Nylon



MINIATURE POWER ROCKER SWITCHES

For applications such as computers, audio, medical, office instrument and appliance products.



Note that Dimension "Y" mounting hole varies with panel thickness as below. Dimension Z is 9.2mm for all.

Electrical Ratings:
SPST snap action Rocker.
6A @125 VAC or 3A @250 VAC (UL)
3A@250 VAC (CQC)
Rating: 3A@125 VAC, 250 VAC pending for VDE
Initial Contact resistance: 20m ohm Max.
Insulation Resistance: 100 Ohm @500 VDC
Dielectric Strength: 1,000 VAC for 1 minute
Electrical/mechanical life: 10,000 cycles
Temperature range: 0 to 88 degrees centigrade
Base: Nylon66, UL rated 94V-2 min.
Spring: Piano wire
Stationary contact: Silver Alloy

Part No.	Type	Action	Actuator
30-870	SPST	On-Off	White (with o – markings in black)
30-872	SPST	On-Off	Black (with o – markings in white)
30-874	SPST	On-Off	Red (plain, no marking on actuator)

Micro Rocker Switches

A very small Rocker with a good "feel" in the action, excellent for small appliances, battery operated portable devices. This is a SPST switch and the black and white activators are marked with the "universal" digital "1" and "0" to indicated ON and OFF. The red actuator is plain, no markings.

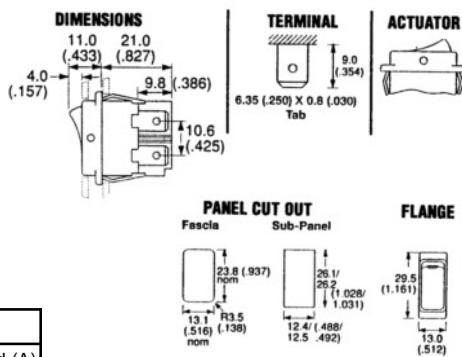


SPECIFICATIONS:

ELECTRICAL RATINGS:		
16A	125-250V AC 65C	UL E45221
1HP	30V DC	UL/CSA
1/2A	125V AC	UL/CSA
10A	125-250V AC 65C	CSA LR10990
10 (6)A	250V AC T100	VDE 75171
75A	Inrush	EN61058-1
10A	28V DC	Approvals N/A
MATERIALS:		
Body:	Nylon 6.6	
Actuator:	Nylon 6.6	
Contact Gap:	3mm (.118)	
Contact Material:	Silver Alloy	

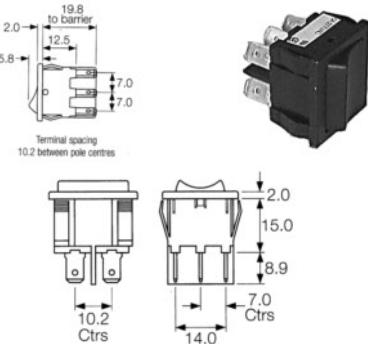
Part No.	Type	Action		Actuator
30-250	DPST	ON	-	OFF Black Nylon w/White Legend (A)
30-252	DPST	ON	-	OFF Black Nylon w/White Legend (B)
30-16705	DPST	ON	-	OFF White Nylon w/Black Legend (A)

DOUBLE POLE MINIATURE POWER ROCKER SWITCHES



SWITCHES ROCKER

MINIATURE ROCKER SWITCHES



Current Rating:	10A 250VAC, 1/2 Hp @ 277VAC, 1/4 Hp @ 125VAC
Initial Contact Resistance:	<100Meg Ohms @12VDC
Insulation Resistance:	>20Meg Ohms
Dielectric Strength (Open Contacts):	>1000V for 1 minute
Contact Material:	Silver Alloy
Terminal Material:	Copper Alloy
Body Material:	Nylon 6.6
Actuator & Bezel:	Nylon 6.6
Terminal Type:	.187" Quick Connect

Part No.	Type	Action	Actuator
30-16860*	DPDT	On-(On)	Black Nylon
30-16870	DPDT	On-Off-On	Black Nylon

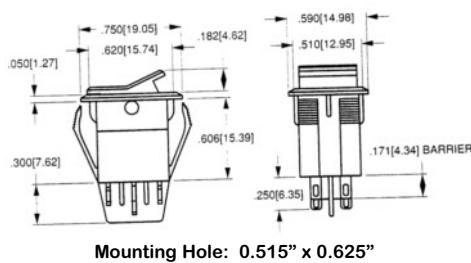
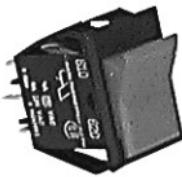
*note: 30-16860 is 6A @ 277VAC

() = Momentary



Mounting Hole: 21.9mm x 19.2mm

MINIATURE ROCKER SWITCHES



Mounting Hole: 0.515" x 0.625"

SPECIFICATIONS:

Current Rating:	8A @125 V AC, 4A @ 250 V AC		
Insulation Resistance:	100 Meg ohms (Min.)		
Dielectric Strength:	1000V (Min.)		
Base Material:	Nylon		
Terminal Type:	Solder		
Part No.	Type	Action	Actuator
30-654	DPDT	ON	-
30-656	DPDT	ON	OFF



SPECIFICATIONS:

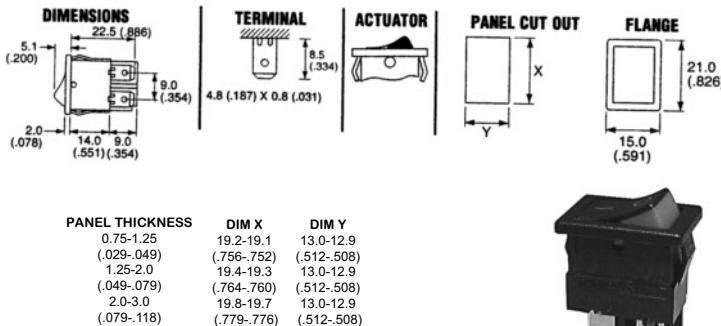
ELECTRICAL RATINGS:	
15A	125-250V AC 65C Non Ind
1/4HP	125V AC 1/2HP 250V AC
12A	125-250V AC
10 (6)A	250V AC T125
75A	Inrush
10A	28V DC
MATERIALS:	
Body:	Nylon 6.6
Rocker (Opaque):	Nylon 6.6
Contact Gap:	3mm (.118)
Contact Material:	Silver Alloy

Part No.	Type	Action	Actuator
30-850	SPST	ON - OFF	Black Nylon & Red
30-852	SPST	ON - OFF	Black Nylon & Green
30-854	SPST	ON - OFF	Black Nylon & Blue
30-855	DPST	ON - OFF	Black Nylon & White



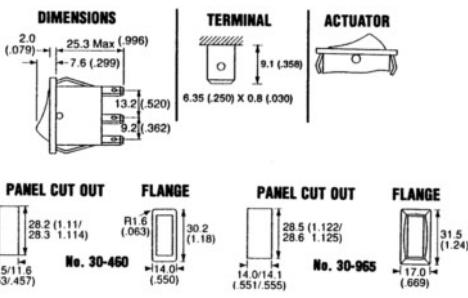
MINIATURE ROCKER SWITCHES

Two Color Actuator with Molded in Color Legend.



Industry Standard size. Snap in mounting.
Single and Double Pole. ON-OFF Circuits.

STANDARD SIZE ROCKER SWITCHES



SPECIFICATIONS:

ELECTRICAL RATINGS:	
16A	125-250V AC 85C
1/2HP	125V AC 1/2HP 250V AC 2 Position UL/CSA
16A	125-250V AC
16 (4)A	250V AC T85
20A	28V DC

MATERIALS:

Body:	Nylon 6.6
Actuator:	Nylon 6.6
Contact Gap	3mm (.118)
(On-Off SP Circuits):	3mm (.118)
Contact Material:	Silver Alloy

Part No.	Type	Action	Actuator
30-460	SPDT	ON - OFF	Black Nylon
30-965	SPDT	(ON) OFF	(ON) (ON)

NOTE: () = Momentary

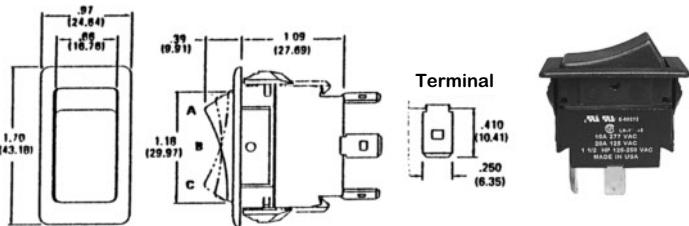
SWITCHES ROCKER

SPECIFICATIONS:

Current Rating:	20A @ 125V AC, 10A @ 277V AC 1-1/2 HP @ 125-250V AC				
Initial Contact Resistance:	5 Meg ohm (Max.)				
Insulation Resistance:	100 Meg ohm (Min.)				
Dielectric Strength:	1000V AC for 1 minute				
Gasket:	Molded Elastomer				
Case:	UL94 Flame Class, 94V-2				
Contact Material:	Brass				
Terminal Material:	Brass				
Terminal Type:	.250" Quick Connect				
Part No.	Type	Action	Actuator		
30-630	DPST	ON	-	OFF	Black Nylon
30-660	DPST	(ON)	-	OFF	Black Nylon
30-640	DPDT	ON	-	ON	Black Nylon
30-680	DPDT	ON	-	(ON)	Black Nylon
30-650	DPDT	ON	OFF	ON	Black Nylon
30-690	DPDT	ON	OFF	(ON)	Black Nylon
30-695	DPDT	(ON)	OFF	(ON)	Black Nylon

NOTE: () = Momentary

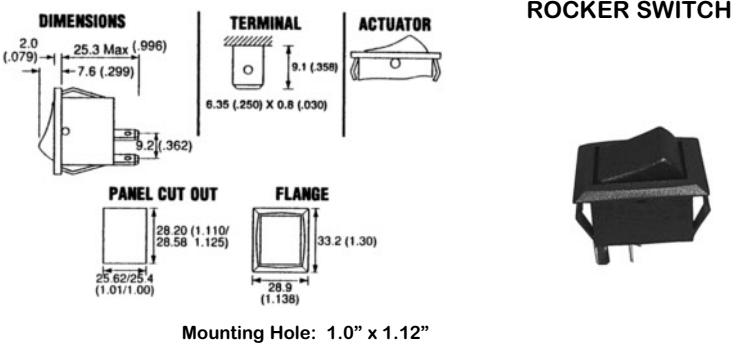
DOUBLE POLE HEAVY DUTY ROCKER SWITCHES (Moisture and Dust Resistant)



Recommended Mounting Hole:
 $\pm .015 \pm .381 \pm .005 \pm .127$
Fits .830 (21.08) x 1.450 (36.83) panel cutout in .093 (2.36), .125 (3.18), .187 (4.75) thick panels.

SPECIFICATIONS:

ELECTRICAL RATINGS:			
20A	125-250V AC 85C	UL E45221	
1/2HP	125V AC 1HP 250V AC	UL/CSA	
20A	125-250V AC	CSA LR10990	
16 (4)A	250V AC T85	VDE 62411	
16 (6)A	250V AC T125 5E4	Semko EN61058-1	
150A	Inrush	Semko IEC65	
20A	28V DC	Approvals N/A	
MATERIALS:			
Body:	Nylon 6.6		
Actuator:	Nylon 6.6		
Contact Gap:	3mm (.118)		
Contact Material:	Silver Alloy		
Part No.	Type	Action	
30-564	DPST	ON - OFF	Black Nylon



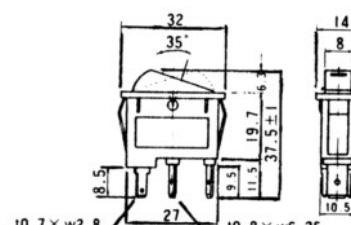
Mounting Hole: 1.0" x 1.12"

ROCKER SWITCH



SPECIFICATIONS:

Current Rating:	10A @125V AC		
Initial Contact Resistance:	20 Meg ohm (Max.)		
Insulation Resistance:	500V DC 100 Meg ohm (Min.)		
Dielectric Strength:	1000V AC for 1 minute		
Contact Material:	Brass - Bright Nickel Plate		
Terminal Material:	Brass - Bright Nickel Plate		
Terminal Type:	.250" Quick Connect		
Part No.	Type	Action	Actuator
30-084	SPST	ON - OFF	White w/ Red LED



Mounting Hole: 0.430" x 1.180"

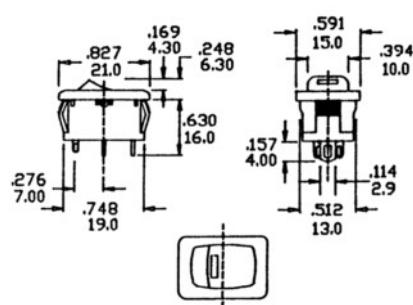
ROCKER SWITCH with LED



SPECIFICATIONS:

Current Rating:	6A @125 V AC, 3A @ 250 V AC		
Initial Contact Resistance:	DC 2.5V-1A, 20 Meg ohm (Max.)		
Insulation Resistance:	500V DC 100 Meg ohm (Min.)		
Dielectric Strength:	1500V AC for 1 minute		
Contact Material:	Copper - Silver Plate		
Terminal Material:	Copper - Silver Plate		
Terminal Type:	Solder		
Part No.	Type	Action	Actuator
30-10083	SPST	ON - OFF	Black Nylon w/ Red LED
30-10085	SPST	ON - OFF	Black Nylon w/ Green LED
30-16081*	SPST	ON - OFF	Black Nylon w/ Amber LED

*30-16081 has .187" Quick Connect Terminal

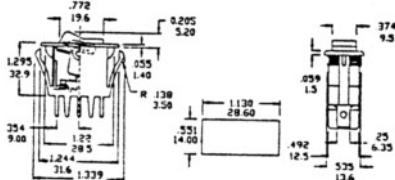


Mounting Hole: 0.51" x 0.75"



SWITCHES ROCKER

ROCKER SWITCHES



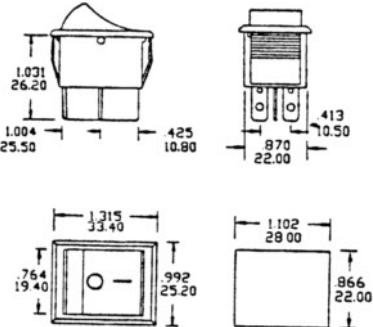
SPECIFICATIONS:

Current Rating:	16A @ 125V AC, 10A @ 250V AC
Initial Contact Resistance:	50 Meg ohm (Max.)
Insulation Resistance:	500V DC 100 Meg ohm (Min.)
Dielectric Strength:	1500V AC for 1 minute
Contact Material:	Copper - Silver Plate
Terminal Material:	Copper - Silver Plate
Terminal Type:	.250" Quick Connect

Part No.	Type	Action	Actuator
30-16091	SPST	ON - OFF	Black Nylon
30-16093	SPST	ON - OFF	Black Nylon with Red Legend
30-16703*	SPST	ON - OFF	Black Nylon with Red Legend
30-16094	SPDT	OFF ON	Black Nylon
30-10080	SPDT	ON - ON	Black Nylon

*= 3/4 HP Rating

POWER ROCKER SWITCH



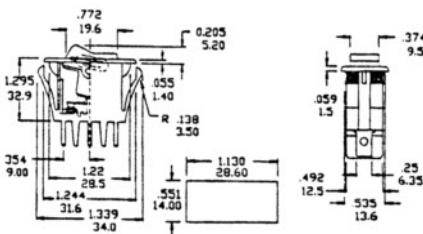
Mounting Hole: 0.87" x 1.10"

SPECIFICATIONS:

Current Rating:	16A @ 125V AC, 10A @ 250V AC
Initial Contact Resistance:	50 Meg ohm (Max.)
Insulation Resistance:	500V DC 100 Meg ohm (Min.)
Dielectric Strength:	1500V AC for 1 minute
Contact Material:	Copper - Silver Plate
Terminal Material:	Copper - Silver Plate
Terminal Type:	.250" Quick Connect

Part No.	Type	Action	Actuator
30-10082	DPDT	ON - ON	Nylon

POWER ROCKER SWITCH



SPECIFICATIONS:

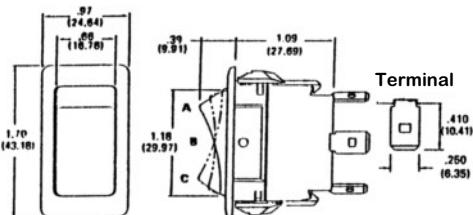
Current Rating:	16A @ 125V AC, 10A @ 250V AC
Initial Contact Resistance:	50 Meg ohm (Max.)
Insulation Resistance:	500V DC 100 Meg ohm (Min.)
Dielectric Strength:	1500V AC for 1 minute
Contact Material:	Copper - Silver Plate
Terminal Material:	Copper - Silver Plate
Terminal Type:	.250" Quick Connect

Part No.	Type	Action	Actuator
30-10084	SPST	ON - OFF	Red Nylon



Mounting Hole: 0.55" x 1.13"

SINGLE POLE HEAVY DUTY ROCKER SWITCHES (Moisture and Dust Resistant)



Recommended Mounting Hole:
±.015 ±.381 ±.005 ±.127

Fits .830 (21.08) x 1.450 (36.83) panel cutout in
.093 (2.36), .125 (3.18), .187 (4.75) thick panels.

SPECIFICATIONS:

Current Rating:	20A @ 125V AC, 10A @ 277V AC 3/4 HP @ 125-250V AC
Initial Contact Resistance:	5 Meg ohm (Max.)
Insulation Resistance:	100 Meg ohm (Min.)
Dielectric Strength:	1000V AC for 1 minute
Gasket:	Molded Elastomer
Case:	UL94 Flame Class, 94V-2
Contact Material:	Brass
Terminal Material:	Brass
Terminal Type:	.250" Quick Connect

Part No.	Type	Action	Actuator
30-600	SPST	ON - OFF	Black Nylon
30-610	SPDT	ON - ON	Black Nylon
30-620	SPDT	OFF ON	Black Nylon

SWITCHES ROCKER

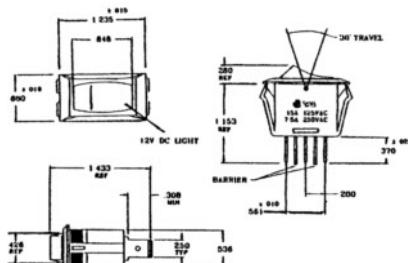
SPECIFICATIONS:

Current Rating:	15A @ 125V AC, 7.5A @ 250V AC
Initial Contact Resistance:	5 Meg ohm (Max.)
Insulation Resistance:	100 Meg ohm (Min.)
Dielectric Strength:	1000V AC for 1 minute
Contact Material:	Copper Alloy
Terminal Material:	Copper Alloy
Terminal Type:	.250" Quick Connect
Part No.	Type
30-390	SPST
30-395	SPST
30-16740*	SPST

Action	Actuator
ON - OFF	Amber Nylon
ON - OFF	Red Nylon
ON - OFF	Translucent Nylon

*30-16740 RATED 16A @ 125VAC, 10A @ 250VAC
Neon Light @ 110V AC

LIGHTED ROCKER SWITCHES



Mounting Hole: 1.125" x 0.550"



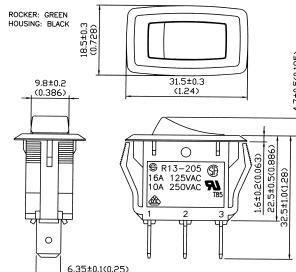
SPECIFICATIONS:

Current Rating:	16A @ 125V AC, 12A @ 250V AC
Initial Contact Resistance:	3/4 HP @ 125-250V AC, 10A @ 14V DC
Insulation Resistance:	5 Meg ohm (Max.)
Dielectric Strength:	100 Meg ohm (Min.)
Contact Material:	1000V AC for 1 minute
Terminal Material:	Copper Alloy
Terminal Type:	Copper Alloy
Part No.	Type
30-710	SPST
30-720	SPDT
30-730	SPST
30-740	SPST

Action	Actuator
ON - OFF	Black Nylon
ON - ON	Black Nylon
ON - OFF	Green Nylon*
ON - OFF	Amber Nylon*

*Lamp (is dependent) high intensity neon with 1/4 watt 22 K Ohm resistor, with 10,000 hours of life for 125 volts.

APPLIANCE ROCKER SWITCHES



Mounting Hole: 1.125" x 0.550"



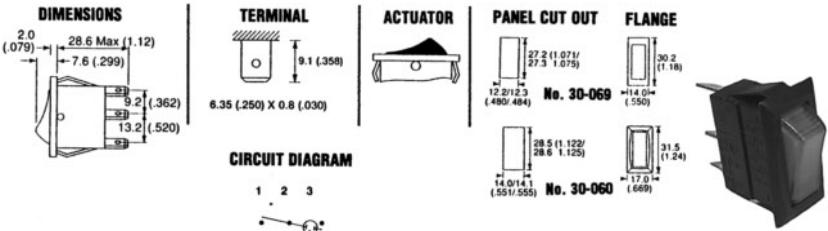
SPECIFICATIONS:

ELECTRICAL RATINGS:		
15A	125-250V AC T85	UL E45221
1/2HP	125V AC 1HP 250V	UL E45221
16A	125-250V AC Res	CSA LR10990
16 (4)A	250V AC T85	VDE 45152
20A	28V DC	Approvals N/A
MATERIALS:		
Body:	Nylon 6.6	
Actuator Transparent:	Polycarbonate	
Contact Gap:	u Micro	
Contact Material:	Silver Alloy	
Part No.	Type	Action
30-060	SPST	ON - OFF
30-069	SPST	ON - OFF

* Lamp Voltage 12V AC/DC Incandescent

** Lamp Voltage 105-130V AC Neon

LIGHTED STANDARD SIZE ROCKER SWITCHES



DE S D N FI MAA KEMA OVE E GS Y UL CSA

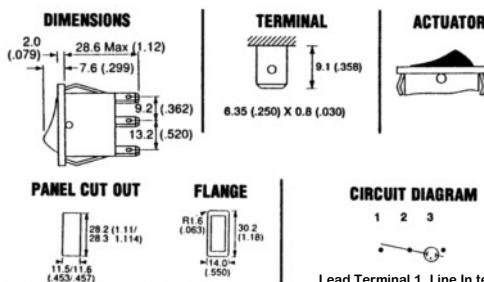
* NOTE: User Note: The light bulb incorporated in this switch must be connected to 12 volts AC or DC and NOT to 125 volts. The 125 volt rating applies to switch contacts, NOT to the light.

SPECIFICATIONS:

ELECTRICAL RATINGS:		
15A	125-250V AC T85	UL E45221
1/2HP	125V AC 1HP 250V	UL E45221
16A	125-250V AC Res	CSA LR10990
16 (4)A	250V AC T85	VDE 45152
20A	28V DC	Approvals N/A
MATERIALS:		
Body:	Nylon 6.6	
Actuator Transparent:	Polycarbonate	
Contact Gap:	u Micro	
Contact Material:	Silver Alloy	
Part No.	Type	Action
30-550	SPST	ON - OFF
30-552	SPST	ON - OFF
30-556	SPST	ON - OFF

* NOTE: User Note: The light bulb incorporated in this switch must be connected to 12 volts AC or DC and NOT to 125 volts. The 125 volt rating applies to switch contacts, NOT to the light.

LIGHTED STANDARD SIZE SNAP-IN ROCKER SWITCHES

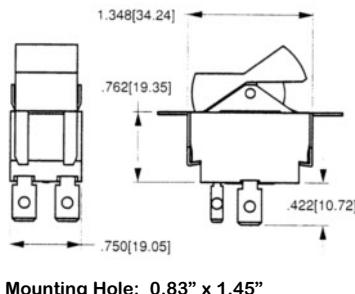


Panel Thickness .75-.25 (.029-.098)
Lead Terminal 1, Line In terminal 2, Line Out terminal 3.
Light will be ON or OFF when switch is IN ON or OFF position.
12V AC/DC Incandescent

DE S D N FI MAA KEMA OVE E GS Y UL CSA

SWITCHES ROCKER

AC/DC HEAVY DUTY ROCKER SWITCHES



Mounting Hole: 0.83" x 1.45"

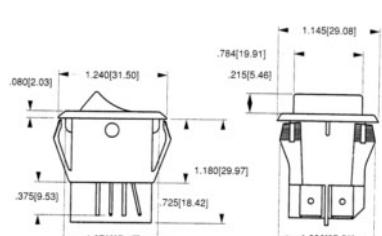
SPECIFICATIONS:

Current Rating:	15A @ 125V AC, 10A @ 250V AC 3/4 HP @ 125-250V AC
Insulation Resistance:	100 Meg ohm (Min.)
Dielectric Strength:	1000V (Min.)
Base Material:	Phenolic
Terminal Type:	.250" Quick Connect

Part No.	Type	Action	Actuator
30-16600	SPST	ON	- OFF
30-16610	SPDT	ON	- ON
30-16620	SPDT	ON	OFF ON
30-16630	DPST	ON	- OFF
30-16660	DPST	(ON)	- OFF
30-16640	DPDT	ON	- ON
30-16680	DPDT	ON	- (ON) Black Nylon

Note: () = Momentary

HEAVY DUTY ROCKER SWITCHES



Mounting Hole: 0.872" x 1.072"

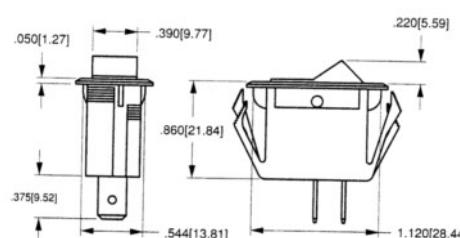
SPECIFICATIONS:

Current Rating:	20A @ 125V AC, 15A @ 250VAC, 125A Peak Inrush current
Insulation Resistance:	100 Meg ohm (Min.)
Dielectric Strength:	1000V (Min.)
Base Material:	Nylon
Terminal Type:	.250" Quick Connect

Part No.	Type	Action	Actuator
30-16564	DPST	ON - OFF	Black Nylon
30-16625*	DPST	ON - OFF	Black Nylon w/on-off Legend

* 30-16625 = 3/4HP 125-250VAC

"V" STYLE ROCKER SWITCHES



Mounting Hole: 0.55" x 1.125"

SPECIFICATIONS:

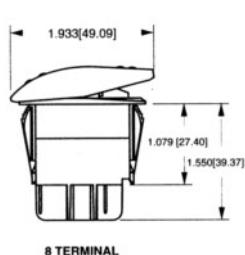
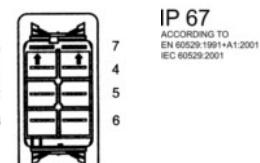
Current Rating:	10A @ 125VAC, 5A @ 250 VAC, 1/2HP 125-250VAC
Insulation Resistance:	100 Meg ohms (Min.)
Dielectric Strength:	1000V (Min.)
Base Material:	Nylon
Terminal Type:	.250" Quick Connect

Part No.	Type	Action	Actuator
30-370	SPST	ON - (OFF)	White Nylon
30-16751*	SPST	OFF - (ON)	White Nylon

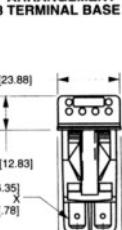
Note: () = Momentary

* 30-16751 = 15A @ 125VAC, 10A @ 250VAC, 3/4HP 125-250VAC

SEALED LIGHTED ROCKER SWITCHES



8 TERMINAL BASE W/BARRIERS



8 TERMINAL BASE W/BARRIERS

Mounting Hole: 0.83" x 1.45"

SPECIFICATIONS:

Current Rating:	20A @ 12VDC
Initial Contact Resistance:	10 Milli ohms (Max) @ 4VDC
Insulation Resistance:	50 Meg ohms
Dielectric Strength:	1500 Volts RMS
Contact Material:	Silver CAD-Oxide, Silver Tin-Oxide, Fine Silver
Terminal Material:	Brass or Copper/Silver Plate
Terminal Type:	.250" Quick Connect

Part No.	Type	Action	Actuator
30-16500	SPST	ON - OFF	Black with Amber Lens
30-16505	SPST	ON - OFF	Black with Green Lens
30-16510	SPST	ON - OFF	Black with Red Lens
30-16515	SPST	ON - OFF	Black with Blue Lens
30-16520	DPDT	ON OFF ON	Black with Amber Lens
30-16525	DPDT	ON OFF ON	Black with Green Lens
30-16530	DPDT	ON OFF ON	Black with Red Lens
30-16535	DPDT	ON OFF ON	Black with Blue Lens
30-16560	DPDT	(ON) OFF (ON)	Black with Amber Lens
30-16565	DPDT	(ON) OFF (ON)	Black with Green Lens
30-16570	DPDT	(ON) OFF (ON)	Black with Red Lens
30-16575	DPDT	(ON) OFF (ON)	Black with Blue Lens
30-16580*	SPST	ON - OFF	Black Nylon**
30-16585	DPDT	ON - ON	Black Nylon**
30-16590	DPDT	ON OFF ON	Black Nylon**

Note () = Momentary

* 30-16580 15A @ 125VAC, 10A @ 250VAC, 1/2HP 125-250VAC, UL/CSA

** = Non Lighted

Lamp is incandescent 12V Rated @ 10,000 Hrs.

SWITCHES MINIATURE SLIDE, PC MOUNT

Printed Circuit Mounting Miniature SLIDE SWITCHES Digital Circuit Service.

Gold contacts will assure constant dependability throughout the entire service life of the switch, even at very low voltage/currents. These are not power switches (see group below) but designed for digital and other low current applications.

Electrical Rating:

Contact rating: 0.40 VA max. @ 20 V max. (AC or DC)
Life expectancy: 20,000 make-break cycles
Contact Resistance: 50 milliohms Max, initial
Minimum Load: 10 mA 50 mV
Insulation resistance: 1,000 Megohms minimum
Dielectric Strength: 1,000 V RMS @ sea level.

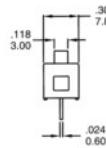
Mechanical:

Case: Nylon, white
Housing: Black Nylon. Actuator: Nylon, black
Terminals: Gold Plated.
Contact materials: Gold

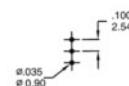
Part No.	Circuit	Application
30-20280	SPDT ON-ON	DIGITAL, low voltages
30-20284	SPDT ON-OFF-ON	DIGITAL, low voltages
30-20290	DPDT ON-ON	DIGITAL, low voltages
30-20292	DPDT ON-OFF-ON	DIGITAL, low voltages



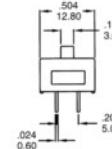
SPDT



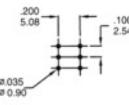
P.C. MOUNTING



DPDT



P.C. MOUNTING



Printed Circuit Mounting Miniature SLIDE SWITCHES for Power Use.

Silver coined contacts are designed to handle power. This is the same switch as above, but with contacts made for power applications, either 125 VAC or DC voltages. Use same PC layout patterns and physical dimensions; the only differences are internal to the switch.

Electrical Rating:

Contact rating: 3 Amps @ 120 VAC or 28 VDC (resistive)
1 Amps @ 250 VAC (resistive load)

Life expectancy: 20,000 make-break cycles

Contact Resistance: 50 milliohms Max, initial

Minimum Load: 100 mA 10 VDC

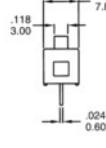
Insulation resistance: 1,000 Megohms minimum

Dielectric Strength: 1,000 V RMS @ sea level.

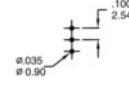
Contacts: Silver Terminals: Gold



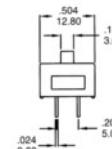
SPDT



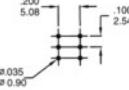
P.C. MOUNTING



DPDT



P.C. MOUNTING

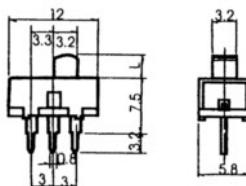


Part No.	Circuit	Application
30-20300	SPDT ON-ON	Power
30-20304	SPDT ON-OFF-ON	Power
30-20310	DPDT ON-ON	Power
30-20312	DPDT ON-OFF-ON	Power

SWITCHES SLIDE

SPECIFICATIONS:

Current Rating:	3A @125V AC
Initial Contact Resistance:	Less than 20 Meg ohms.
Insulation Resistance:	100 Meg ohms/DC500V
Withstand Voltage:	AC500V, 50-60 Hz/1 min.
Terminal Type:	Solder
Part No.	Type
30-9184	SPDT
ON	-
ON	Actuator
Black Nylon	



SUB-MINIATURE SLIDE SWITCH

Mounting Centers: 0.59"
Mounting Hole: .23" x .75"

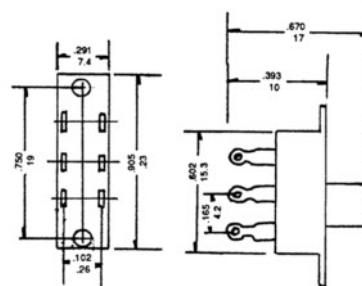
MINIATURE SLIDE SWITCH

SPECIFICATIONS:

Current Rating:	6A @ 125V AC
Initial Contact Resistance:	5 Meg ohm (Max.)
Insulation Resistance:	100 Meg ohm (Min.)
Dielectric Strength:	1000V AC for 1 Minute
Contact Material:	Bronze - Silver Plate
Terminal Material:	Copper - Silver Plate
Terminal Type:	Solder

Part No.	Type	Action	Actuator
30-9164	DPDT	ON - ON or OFF	Black Nylon

NOTE: Mounting holes tapped for 1-72 screws (supplied).

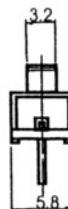
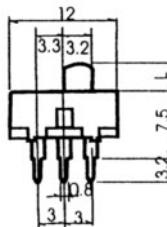


SUB-MINIATURE SLIDE SWITCH

SPECIFICATIONS:

Current Rating:	300MA @125V AC
Initial Contact Resistance:	Less than 20 Meg ohm
Insulation Resistance:	100 Meg ohm/DC500V
Terminal Material:	Copper - Silver Plate
Withstand Voltage:	AC500V, 50-60 Hz/1 min
Terminal Type:	PC Mount

Part No.	Type	Action	Actuator
30-9185	SPDT	ON - ON	Black Nylon

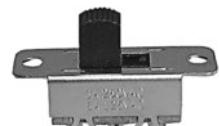
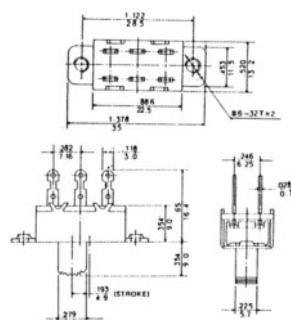


STANDARD SIZE SLIDE SWITCH

SPECIFICATIONS:

Current Rating:	6A @125V AC, 3A @ 250V AC
Initial Contact Resistance:	30 Meg ohm (Max.)
Insulation Resistance:	100 Meg ohm (Min.)
Dielectric Strength:	1000V AC for 1 minute
Contact Material:	Bronze - Silver Plate
Terminal Material:	Copper - Silver Plate
Terminal Type:	Solder

Part No.	Type	Action	Actuator
30-9182	DPDT	ON - ON	Black Nylon

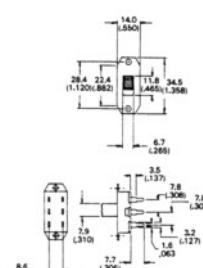


STANDARD SIZE SLIDE SWITCH

SPECIFICATIONS:

Current Rating:	6A @125V AC, 3A @ 250V AC
Initial Contact Resistance:	30 Meg ohm (Max.)
Insulation Resistance:	100 Meg ohm (Min.)
Dielectric Strength:	1000V AC for 1 minute
Contact Material:	Bronze - Silver Plate
Terminal Material:	Copper - Silver Plate
Terminal Type:	Printed Circuit

Part No.	Type	Action	Actuator
30-9186	DPDT	ON - ON	Black Nylon

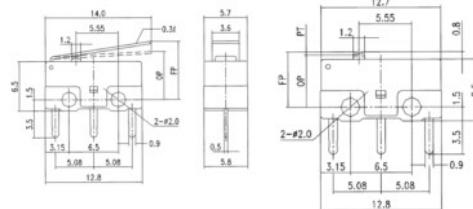
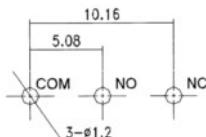


SWITCHES MICRO & SUB - MINIATURE SNAP ACTION

SPECIFICATIONS:

Current Rating:	3A @ 125V AC, 1A @ 250V AC
Insulation Resistance:	100 Meg ohm (Min.) @ 500V DC
Dielectric Strength:	1Ac 500V 50/60 Hz for 1 minute
Contact Resistance:	50 Meg Ohm
Electrical Life:	30,000 Cycles
Operating Temperature Range:	-25°C - +85°C

Part No.	OF max	RF min	PT max	OT min	MD max	OP	Actuator
30-2400	150g	20g	0.5 mm	0.25 mm	0.12 mm	5.5 ± 1.5 mm	Pin Plunger
30-2401	80g	5g	0.55 mm	0.55 mm	0.5 mm	6.8 ± 1.5 mm	Short Lever



30- 2401

30- 2400

SPECIFICATIONS:

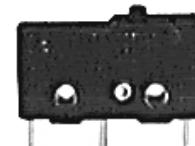
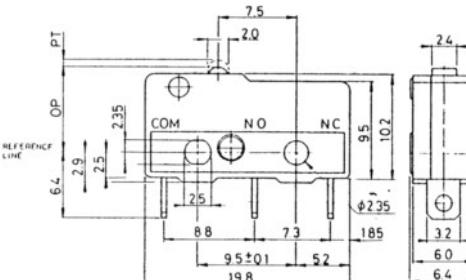
Current Rating:	5A @ 125V AC, 3A @ 250V AC
Initial Contact Resistance:	15 Meg ohm (Max.)
Insulation Resistance:	500V DC 1000 Meg ohm (Min.)
Dielectric Strength:	1000V AC for 1 Minute
Contact Material:	Silver
Terminal Material:	Brass - Silver Plate
Terminal Type:	Solder

Part No.	Type	Action	Actuator
30-2500	SPDT	Snap Action Momentary	Pin Plunger

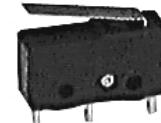
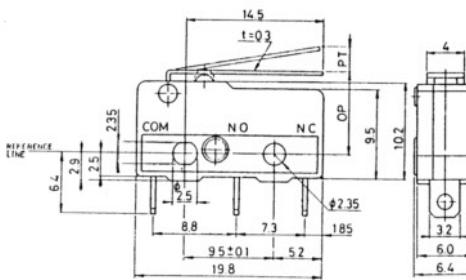
SPECIFICATIONS:

Terminal: Solder	OT Min.: 0.6mm
OF Max.: 150g	MD Max.: 0.2mm
RF Min.: 55g	FP Max.: 9.2mm
PT Max.: 0.6mm	OP: 8.4 ± 0.5mm

SUB-MINIATURE SNAP ACTION SWITCH with PIN PLUNGER



SUB-MINIATURE SNAP ACTION SWITCH with SHORT LEVER

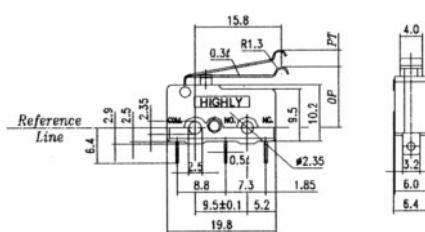


SUB - MINIATURE SNAP ACTION SWITCH WITH SIMULATED ROLLER

SPECIFICATIONS:

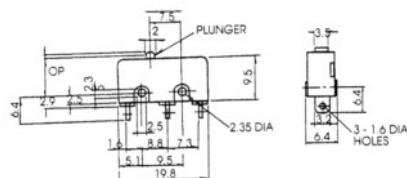
Current Rating:	5A @ 125V AC, 3A @ 250V AC
Insulation Resistance:	100 Meg ohm (Min.) @ 500V DC
Dielectric Strength:	AC 500V (50/60Hz for 1 minute)
Contact Resistance:	30 Meg Ohm max
Electrical Life:	100,000 Cycles
Operating Temperature Range:	-25°C - +85°C

Part No.	OF max	RF min	PT max	OT min	MD max	FP max	OP
30-2503	45 g	12 g	3.0 mm	1.4 mm	0.8 mm	14.0 mm	10.7 ± 0.8 mm



SWITCHES SUB- MINIATURE & MINIATURE SNAP ACTION

SUB-MINIATURE SNAP ACTION SWITCH with LONG LEVER

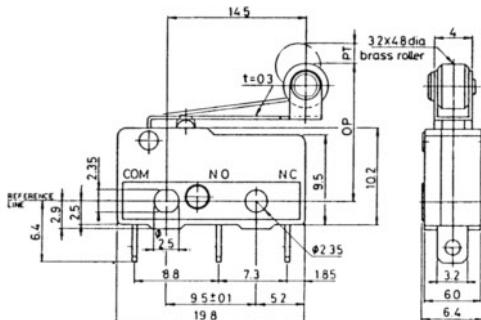


SPECIFICATIONS:

Current Rating:	5A @ 125V AC, 3A @ 250V AC
Initial Contact Resistance:	Under 30 Meg ohm
Insulation Resistance:	100 Meg ohm (Min.) at 500 VDC
Dielectric Strength:	1000V AC 50-60 Hz
Service Life:	Mechanically 30,000,000 Electrically 100,000
Terminal Type:	Solder

Part No.	Type	Action	Actuator
30-18222	SPDT	Snap Action Momentary	Long Lever

SUB-MINIATURE SNAP ACTION SWITCH with ROLLER LEVER



SPECIFICATIONS:

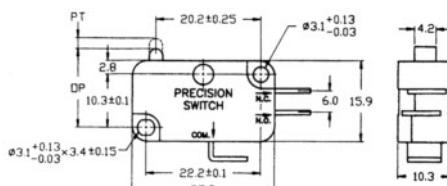
Current Rating:	5A @ 125V AC, 3A @ 250V AC
Initial Contact Resistance:	15 Meg ohm (Max.)
Insulation Resistance:	500V DC 1000 Meg ohm (Min.)
Dielectric Strength:	1000V AC for 1 Minute
Contact Material:	Silver
Terminal Material:	Brass - Silver Plate
Terminal Type:	Solder

Part No.	Type	Action	Actuator
30-2505	SPDT	Snap Action Momentary	Roller Lever

SPECIFICATIONS:

Terminal: Solder	OT Min.: 1.4mm
OF Max.: 45g	MD Max.: 0.8mm
RF Min.: 12g	FP Max.: 17.6mm
PT Max.: 2.8mm	OP: 14.5 ± 0.8mm

MINIATURE SNAP ACTION SWITCHES with PIN PLUNGER



Terminal



SPECIFICATIONS:

Current Rating:	16A @ 125V/250V AC
Initial Contact Resistance:	15 Meg ohm (Max.)
Insulation Resistance:	500V DC 1000 Meg ohm (Min.)
Dielectric Strength:	1000V AC for 1 Minute
Contact Material:	Silver
Terminal Material:	Brass - Silver Plate
Terminal Type:	.187" Quick Connect

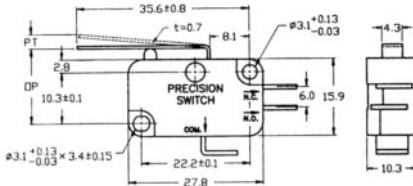
Part No.	Type	Action	Actuator
30-2000	SPDT	Snap Action Momentary	Pin Plunger
30-18230*	SPDT	Snap Action Momentary	Pin Plunger

* 30-18230 Rated 10A @ 125V/250VAC with .250" Quick Connect Terminal

SPECIFICATIONS:

Terminal: Quick Connect	OT Min.: 0.8mm
OF Max.: 230g	MD Max.: 0.15-0.4mm
RF Min.: 56g	FP Max.: 14.7 ± 0.4mm
PT Max.: 1.2mm	OP: 14.7 ± 0.4mm

MINIATURE SNAP ACTION SWITCH WITH SHORT LEVER



Terminal



SPECIFICATIONS:

Current Rating:	16A @ 125/250V AC
Initial Contact Resistance:	15 Meg ohm (Max.)
Insulation Resistance:	500V DC 1000 Meg ohm (Min.)
Dielectric Strength:	1000V AC for 1 Minute
Contact Material:	Silver
Terminal Material:	Brass - Silver Plate
Terminal Type:	.187" Quick Connect

Part No.	Type	Action	Actuator
30-2020	SPDT	Snap Action Momentary	Lever

SPECIFICATIONS:

Terminal: Quick Connect	OT Min.: 1.6mm
OF Max.: 115g	MD Max.: 1.2mm
RF Min.: 14g	FP Max.: 15.2 ± 1.2mm
PT Max.: 3.3mm	OP: 15.2 ± 1.2mm

SWITCHES MINIATURE SNAP ACTION

SPECIFICATIONS:

Current Rating:	16A @ 125/250V AC
Initial Contact Resistance:	15 Meg ohm (Max.)
Insulation Resistance:	500V DC 1000 Meg ohm (Min.)
Dielectric Strength:	1000V AC for 1 Minute
Contact Material:	Silver
Terminal Material:	Brass - Silver Plate
Terminal Type:	.187" Quick Connect

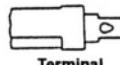
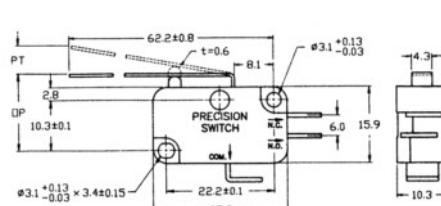
Part No.	Type	Action	Actuator
30-2040	SPDT	Snap Action Momentary	Long Lever
30-18205*	SPDT	Snap Action Momentary	Long Lever

* 30-18205 Rated 10A @ 125V/250VAC with .250" Quick Connect Terminal

SPECIFICATIONS:

Terminal: Quick Connect	OT Min.: 3mm
OF Max.: 60g	MD Max.: 2.2mm
RF Min.: 7g	OP: 15.2 ± 2.6mm
PT Max.: 7.6mm	

MINIATURE SNAP ACTION SWITCHES with LONG LEVER



SPECIFICATIONS:

Current Rating:	16A @ 125/250V AC
Initial Contact Resistance:	15 Meg ohm (Max.)
Insulation Resistance:	500V DC 1000 Meg ohm (Min.)
Dielectric Strength:	1000V AC for 1 Minute
Contact Material:	Silver
Terminal Material:	Brass - Silver Plate
Terminal Type:	.187" Quick Connect

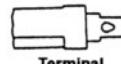
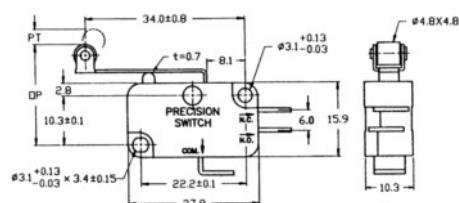
Part No.	Type	Action	Actuator
30-2060	SPDT	Snap Action Momentary	Roller Lever
30-18236*	SPDT	Snap Action Momentary	Roller Lever

* 30-18236 Rated 10A @ 125V/250VAC with .250" Quick Connect Terminal.

SPECIFICATIONS:

Terminal: Quick Connect	OT Min.: 1.6mm
OF Max.: 115g	MD Max.: 1.2mm
RF Min.: 14g	OP: 20.7 ± 1.2mm
PT Max.: 3.3mm	

MINIATURE SNAP ACTION SWITCHES with ROLLER LEVER



SPECIFICATIONS:

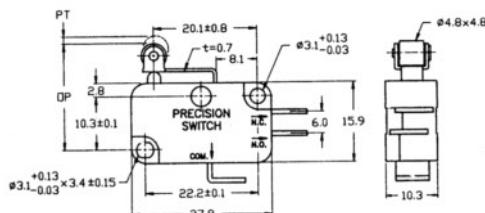
Current Rating:	16A @ 125/250V AC
Initial Contact Resistance:	15 Meg ohm (Max.)
Insulation Resistance:	500V DC 1000 Meg ohm (Min.)
Dielectric Strength:	1000V AC for 1 Minute
Contact Material:	Silver
Terminal Material:	Brass - Silver Plate
Terminal Type:	.187" Quick Connect

Part No.	Type	Action	Actuator
30-2080	SPDT	Snap Action Momentary	Short Roller Lever

SPECIFICATIONS:

Terminal: Quick Connect	OT Min.: 0.6mm
OF Max.: 230g	MD Max.: 0.5mm
RF Min.: 45g	OP: 20.7 ± 0.6mm
PT Max.: 1.5mm	

MINIATURE SNAP ACTION SWITCH with SHORT ROLLER LEVER



SPECIFICATIONS:

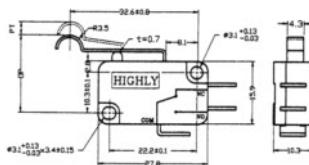
Current Rating:	10A @ 125/250V AC
Initial Contact Resistance:	15 Meg ohm (Max.)
Insulation Resistance:	100 Meg ohm (Min.) at 500VDC
Dielectric Strength:	1000V AC 50/60 Hz for 1 Minute
Contact Material:	Silver
Terminal Material:	Brass - Silver Plate
Terminal Type:	.250" Quick Connect

Part No.	Type	Action	Actuator
30-18203	SPDT	Snap Action Momentary	Simulated Roller

SPECIFICATIONS:

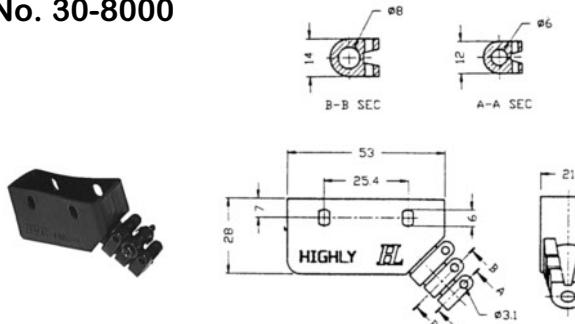
OF Max.: 115g	OT Min.: 1.6mm
RF Min.: 14g	MD Max.: 1.2mm
PT Max.: 3.7mm	OP: 18.7 ± 1.2mm

MINIATURE SNAP ACTION SWITCH with SIMULATED ROLLER

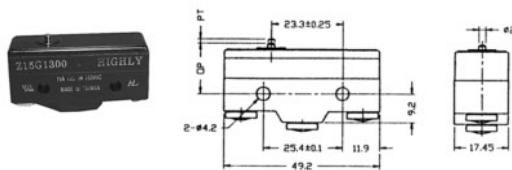


SWITCHES HEAVY DUTY SNAP ACTION

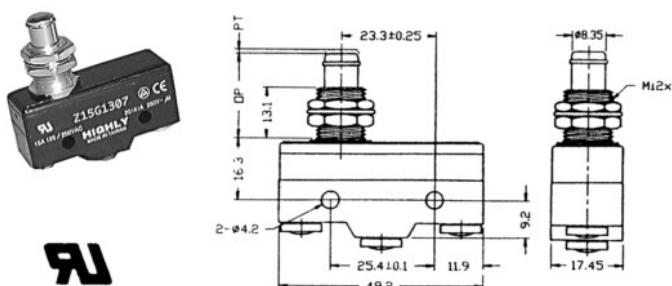
TERMINAL ENCLOSURE for Heavy Duty Snap Action Switches No. 30-8000



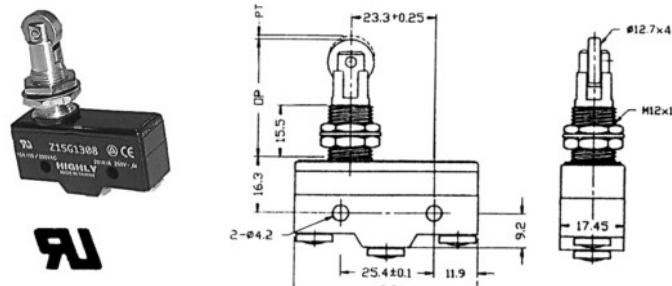
HEAVY DUTY SNAP ACTION SWITCHES with PIN PLUNGER



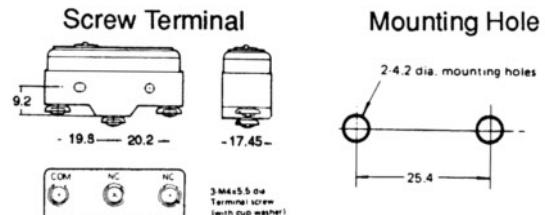
HEAVY DUTY SNAP ACTION SWITCH with PLUNGER



HEAVY DUTY SNAP ACTION SWITCH with ROLLER PLUNGER



MOUNTING HOLES for Heavy Duty Snap Action Switches



SPECIFICATIONS:

Current Rating: 15A @ 125/250V AC
1/2A @ 125V DC, 1/4 HP @ 250V DC
1/8 HP @ 125V AC, 1/4 HP @ 250V AC

AC

Initial Contact Resistance: 15 Meg ohm (Max.)
Insulation Resistance: 500V DC 1000 Meg ohm (Min.)
Dielectric Strength: 1000V AC for 1 Minute
Contact Material: Silver
Terminal Material: Brass - Silver Plate
Terminal Type: Screw

Part No.	Type	Action	Actuator
30-1300	SPDT	Snap Action Momentary	Pin Plunger
30-18144	SPDT	Snap Action Momentary	Extended Pin Plunger (14mm H.)

SPECIFICATIONS:

Terminal: Screw	OT Min.: 0.13mm
OF Max.: 250-350g	MD Max.: 0.05mm
RF Min.: 114g	OP: 5.9 ± 0.4mm
PT Max.: 0.4mm	

SPECIFICATIONS:

Current Rating: 15A @ 125/250V AC
1/2A @ 125V DC, 1/4 HP @ 250V DC
1/8 HP @ 125V AC, 1/4 HP @ 250V AC

Initial Contact Resistance: 15 Meg ohm (Max.)
Insulation Resistance: 500V DC 1000 Meg ohm (Min.)
Dielectric Strength: 1000V AC for 1 Minute
Contact Material: Silver
Terminal Material: Brass - Silver Plate
Terminal Type: Screw

Part No.	Type	Action	Actuator
30-1307	SPDT	Snap Action Momentary	Plunger

SPECIFICATIONS:

Terminal: Screw	OT Min.: 5.5mm
OF Max.: 250-350g	MD Max.: 0.05mm
RF Min.: 114g	OP: 21.8 ± 0.8mm
PT Max.: 0.4mm	

SPECIFICATIONS:

Current Rating: 15A @ 125/250V AC
1/2A @ 125V DC, 1/4 HP @ 250V DC
1/8 HP @ 125V AC, 1/4 HP @ 250V AC

Initial Contact Resistance: 15 Meg ohm (Max.)
Insulation Resistance: 500V DC 1000 Meg ohm (Min.)
Dielectric Strength: 1000V AC for 1 Minute
Contact Material: Silver
Terminal Material: Brass - Silver Plate
Terminal Type: Screw

Part No.	Type	Action	Actuator
30-1308	SPDT	Snap Action Momentary	Roller Plunger

SPECIFICATIONS:

Terminal: Screw	OT Min.: 3.58mm
OF Max.: 250-350g	MD Max.: 0.05mm
RF Min.: 114g	OP: 32.5 ± 1mm
PT Max.: 0.4mm	

SWITCHES HEAVY DUTY SNAP ACTION

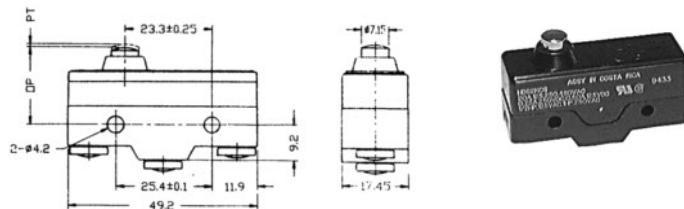
SPECIFICATIONS:

Current Rating:	15A - 125/250V AC 1/2A @ 125V DC 15 Meg ohm (Max.)
Initial Contact Resistance:	100 Meg ohm (Min.) at 500VDC
Dielectric Strength:	1000V AC 50/60 Hz for 1 Minute
Contact Material:	Silver
Terminal Material:	Brass - Silver Plate
Terminal Type:	Screw

Part No.	Type	Action	Actuator
30-18130	SPDT	Snap Action Momentary	Screw
30-18135	SPDT	Snap Action Momentary	Solder

SPECIFICATIONS:	
OF Max.: 250-350g	OT Min.: 1.6mm
RF Min.: 114g	MD Max.: 0.05mm
PT Max.: 0.4mm	OP: 21.5 ± 0.5mm

HEAVY DUTY SNAP ACTION SWITCHES with BUTTON ACTUATOR



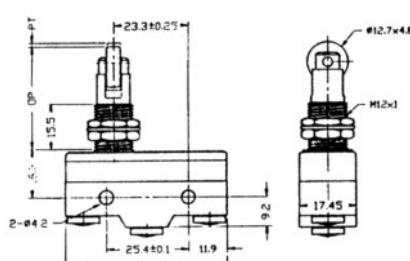
SPECIFICATIONS:

Current Rating:	15A @ 125/250V AC 1/2A @ 125V DC, 1/4 HP @ 250V DC 1/8 HP @ 125V AC, 1/4 HP @ 250V AC
Initial Contact Resistance:	15 Meg ohm (Max.)
Insulation Resistance:	500V DC 1000 Meg ohm (Min.)
Dielectric Strength:	1000V AC for 1 Minute
Contact Material:	Silver
Terminal Material:	Brass - Silver Plate
Terminal Type:	Screw

Part No.	Type	Action	Actuator
30-1318	SPDT	Snap Action Momentary	Side Roller Plunger

SPECIFICATIONS:	
Terminal: Screw	OT Min.: 3.58mm
OF Max.: 250-350g	MD Max.: 0.05mm
RF Min.: 114g	OP: 32 ± 1mm
PT Max.: 0.4mm	

HEAVY DUTY SNAP ACTION SWITCH with SIDE ROLLER PLUNGER



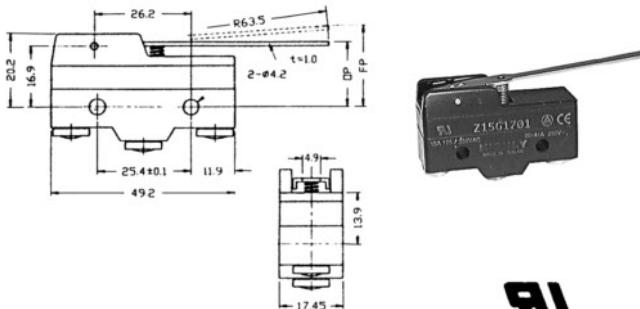
SPECIFICATIONS:

Current Rating:	15A @ 125/250V AC 1/2A @ 125V DC, 1/4 HP @ 250V DC 1/8 HP @ 125V AC, 1/4 HP @ 250V AC
Initial Contact Resistance:	15 Meg ohm (Max.)
Insulation Resistance:	500V DC 1000 Meg ohm (Min.)
Dielectric Strength:	1000V AC for 1 Minute
Contact Material:	Silver
Terminal Material:	Brass - Silver Plate
Terminal Type:	Screw

Part No.	Type	Action	Actuator
30-1701	SPDT	Snap Action Momentary	Long Lever

SPECIFICATIONS:	
Terminal: Screw	OT Min.: 5.6mm
OF Max.: 70g	MD Max.: 1.27mm
RF Min.: 14g	FP Max.: 28.2mm
PT Max.: 10mm	OP: 19 ± 0.8mm

HEAVY DUTY SNAP ACTION SWITCH with LONG LEVER



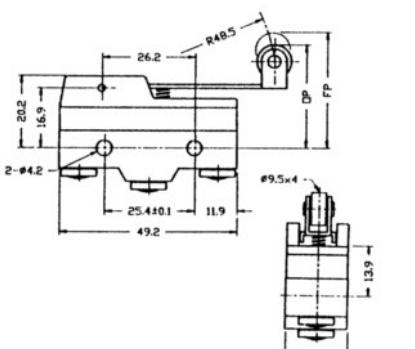
SPECIFICATIONS:

Current Rating:	15A @ 125/250V AC 1/2A @ 125V DC, 1/4 HP @ 250V DC 1/8 HP @ 125V AC, 1/4 HP @ 250V AC
Initial Contact Resistance:	15 Meg ohm (Max.)
Insulation Resistance:	500V DC 1000 Meg ohm (Min.)
Dielectric Strength:	1000V AC for 1 Minute
Contact Material:	Silver
Terminal Material:	Brass - Silver Plate
Terminal Type:	Screw

Part No.	Type	Action	Actuator
30-1703	SPDT	Snap Action Momentary	Long Roller Lever

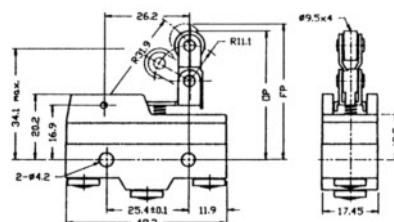
SPECIFICATIONS:	
Terminal: Screw	OT Min.: 4mm
OF Max.: 100g	MD Max.: 1.02mm
RF Min.: 22g	FP Max.: 36.5mm
PT Max.: 7.1mm	OP: 30.2 ± 0.8mm

HEAVY DUTY SNAP ACTION SWITCH with LONG ROLLER LEVER



SWITCHES HEAVY DUTY SNAP ACTION

HEAVY DUTY SNAP ACTION SWITCH with HINGED ROLLER LEVER



SPECIFICATIONS:

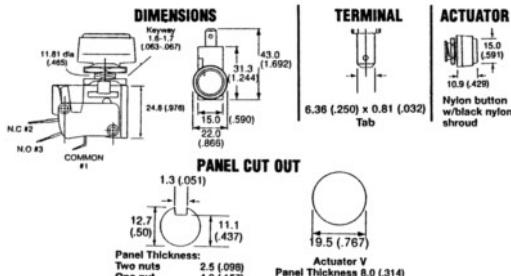
Current Rating:	15A @ 125/250V AC 1/2A @ 125V DC, 1/4 HP @ 250V DC 1/8 HP @ 125V AC, 1/4 HP @ 250V AC
Initial Contact Resistance:	15 Meg ohm (Max.)
Insulation Resistance:	500V DC 1000 Meg ohm (Min.)
Dielectric Strength:	1000V AC for 1 Minute
Contact Material:	Silver
Terminal Material:	Brass - Silver Plate
Terminal Type:	Screw

Part No.	Type	Action	Actuator
30-1744	SPDT	Snap Action Momentary	Short Roller Lever

SPECIFICATIONS:

Terminal:	Screw	OT Min.: 5.5mm
OF Max.:	250-350g	MD Max.: 0.05mm
RF Min.:	114g	OP: 21.8 ± 0.8mm
PT Max.:	0.4mm	

MOMENTARY PUSH BUTTON SNAP ACTION SWITCH

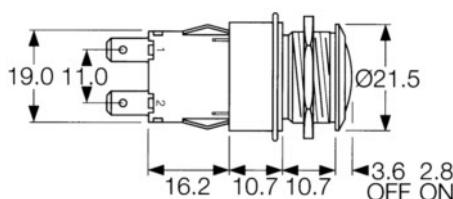


SPECIFICATIONS:

ELECTRICAL RATINGS:	
15A	125-250V AC 65C
1/2HP	125-250V AC
15A	250V AC T125
MATERIALS:	
Operating Force (Nom):	
Endurance (Mech):	
Flame Retardancy:	
Actuator:	
Mounting Bracket:	
Contacts:	

Part No.	Type	Action	Actuator
30-383	SPDT	Normally Open/Closed	Red w/ Black Shroud

VANDAL RESISTANT SWITCHES



Current Rating:	12A 250VAC DP, 13A 250VAC SP
Initial Contact Resistance:	<100Meg Ohms @12VDC
Insulation Resistance:	>20Meg Ohms
Dielectric Strength (Open Contacts):	>1000V for 1 minute
Contact Material:	Silver Alloy
Terminal Material:	Copper Alloy
Body Material:	Nylon 6.6
Actuator & Bezel:	Stainless Steel
Terminal Type:	.187" Quick Connect

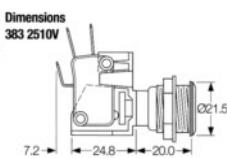
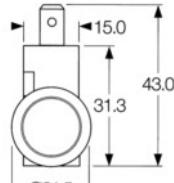
Part No.	Type	Action	Actuator
30-14300	SPST	On-Off	Stainless Steel
30-14350	DPST	On-Off	Stainless Steel
30-14310	SPST	(On)-Off	Stainless Steel
30-14360	DPST	(On)-Off	Stainless Steel

() = Momentary



Mounting Hole: 19.5mm (.76")
Panel thickness up to 3.0 mm

VANDAL RESISTANT SNAP ACTION SWITCH



Current Rating:	22A 125-250VAC 1Hp @ 65° C
Mechanical Life:	>10 Milli ohms Operations
Insulation Voltage:	>1250V
Tracking Force:	120g
Contact Material:	Fine Silver
Terminal Material:	Copper Alloy
Body Material:	Nylon 6.6 VO
Actuator & Bezel:	Stainless Steel
Terminal Type:	.250" Quick Connect

Part No.	Type	Action	Actuator
30-14340	SPDT	On -(On)	Stainless Steel

() = Momentary



Mounting Hole: 19.5mm (.76")
Panel thickness up to 8.0 mm

SWITCHES SPECIALTY & SECURITY

AC PLUG-IN DIMMER SWITCH



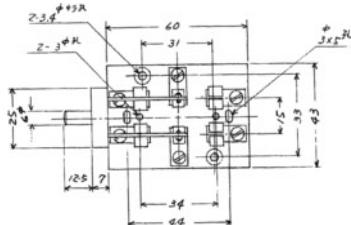
SPECIFICATIONS:

Current Rating:	1.2A @ 125V AC For Devices up to 150 Watts
Contact Material:	Nickel Plated Brass
Terminal Material:	Brass
Terminal Type:	120V AC Plug & Jack

Part No.	Type	Action	Actuator
30-10194	SPST	ON - OFF	Round Plastic Knob

Note: Not for inductive load, only for resistive load.

KNIFE SWITCH



SPECIFICATIONS:

Current Rating:	300MA @50V AC, 500MA @ 6V DC
Initial Contact Resistance:	15MW (Max.)
Terminal Material:	Nickel Plated Steel
Contact Material:	Nickel Plated Steel
Terminal Type:	Screw
Base Material:	ABS

Part No.	Type	Action	Actuator
30-9730	DPDT	ON OFF ON	Plastic Handle

Dimensions: 43mm x 60mm
Mounting Centers: 44mm

MERCURY TILT SWITCH

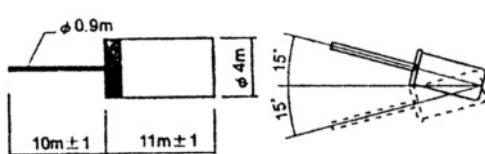


SPECIFICATIONS:

Current Rating:	1A @ 250V AC
Tilt Angle:	12°
Contact Material:	Iron Alloy/Mercury
Terminal Material:	Copper Wire

Part No.	Type	Action	Actuator
30-10074	SPST	Normally open or closed. Dependent upon tilt angle.	Iron Alloy/Mercury

NON MERCURY TILT SWITCH



SPECIFICATIONS:

Current Rating:	.5A @ 24V AC
Tilt Angle:	15°
Terminal Type:	.35" Leads

Part No.	Type	Action
30-17072	SPST	Normally open or closed. Dependent upon tilt angle.

SWITCHES SPECIALTY & SECURITY

MAGNETIC REED SWITCH

SPECIFICATIONS:

Current Rating:	.5A @ 100VDC		
Initial Contact Resistance:	300 Meg ohm (Max.)		
Operating Gap:	.125" Max		
Mounting Centers:	2.094" (2-3/32")		
Mounting Hole:	.15" (Max.)		
Terminal Type:	Screw		
Part No.	Type	Action	Actuator
30-17050	SPST	N.C (Normally closed) when magnet is within actuation range	Magnet



SPECIFICATIONS:

Current Rating:	0.5A @ 20V DC, 10 Watts (Max.)
Voltage Rating:	120V AC (Max.) @ 0.08A 80V DC (Max.) @ 0.1A
Operating Gap:	.90" Max
Contact Material:	Iron Alloy - Gold Plate
Terminal Material:	Plated Steel
Terminal Type:	Screw

N.O./N.C. MAGNETIC REED SWITCH



Mounting Center: 2.125"

MAGNETIC REED SWITCH

SPECIFICATIONS:

Current Rating:	.5A @ 100VDC/125VAC		
Initial Contact Resistance:	300 Meg ohm (Max.)		
Operating Gap:	.90" Max		
Mounting Centers:	1.56" (1-9/16")		
Mounting Hole:	.134" (Max.)		
Terminal Type:	Screw		
Part No.	Type	Action	Actuator
30-17051	SPST	N.O. (Normally Open) when magnet is within actuation range	Magnet



LOW PROFILE MAGNETIC REED SWITCH

SPECIFICATIONS:

Current Rating:	.5A @ 100VDC/125VAC		
Initial Contact Resistance:	300 Meg ohm (Max.)		
Operating Gap:	.60"-1.5"		
Mounting Centers:	1"		
Mounting Hole:	.125" (Max.)		
Terminal Type:	10" Leads, 24 AWG		
Part No.	Type	Action	Actuator
30-17054	SPST	N.O. (Normally Open) when magnet is within actuation range	Magnet



SWITCHES SPECIALTY & SECURITY

OPEN REED SWITCH



Sizes
Glass Length: 19.5mm
Overall Length: 52mm

SPECIFICATIONS:

Current Rating:	1A @ 200VDC	
Power Rating:	10W	
Breakdown Voltage:	350V DC	
Operating Time (MS):	0.8	
Contact Material:	Rhodium	
Pull-In Range (AT):	9-60	
Terminal Type:	Leads	
Part No.	Type	Action
30-17152	SPST	ON - OFF

OPEN REED SWITCH

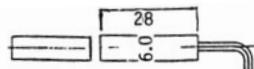


Sizes
Glass Length: 14.5mm
Overall Length: 55mm

SPECIFICATIONS:

Current Rating:	1A @ 150VAC	
Power Rating:	20W	
Breakdown Voltage:	200V DC	
Operating Time (MS):	2.5	
Contact Material:	Rhodium	
Pull-In Range (AT):	15-30	
Terminal Type:	Leads	
Part No.	Type	Action
30-17154	SPDT	Normally Open or Normally Closed

RECESSED MAGNETIC REED SWITCH



Mounting Hole: 0.25"

SPECIFICATIONS:

Current Rating:	.2A @ 12VDC	
Terminal Type:	12" Leads, 22 AWG	
Part No.	Type	Action
30-17060	SPST	N.C. (Normally Closed) When Magnet is within actuation Range.

SPST N.C. Door Jam Reed Switch.

Designed for use with alarm systems. The switch will remain closed as long as the magnet is within 1/2" of the switch. Magnet is mounted in the door. Both magnet and switch will fit tightly in 3/8" holes in wood or aluminum door jams and doors (may not work at all with steel doors). Fits flush with surface; glue in place with adhesive.

Pigtail lead wires are 11" long. Switch case is high impact plastic. Contacts (reed switch) rated at 0.2 amps at 12 VDC. Life approximately two million cycles.

Part No.	CIRCUIT	NOTES
30-17059	SPST Normally Closed reed switch	Normally closed when magnet is within 1/2" or closer



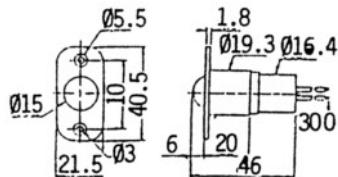
SWITCHES SPECIALTY & SECURITY

ROLLER BALL SWITCH

SPECIFICATIONS:

Current Rating:	.2A @ 12VDC
Mounting Centers:	1.16"
Mounting Hole:	.765" (49/64")
Dimensions:	.85" W x 1.6" L x 1.8"H
Terminal Type:	10" Leads, 24 AWG
Part No.	Type
30-17070	SPST
Action	
-	(ON)
Actuator	Roller Ball

Note: () = Momentary

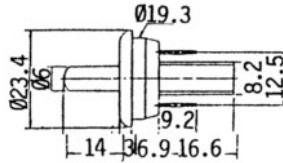


SPECIFICATIONS:

Current Rating:	1A @ 125VAC
Terminal Type:	.250" Quick Connect
Part No.	Type
30-17074	SPST
Action	
-	(ON)
Actuator	Plastic (.55" H.)

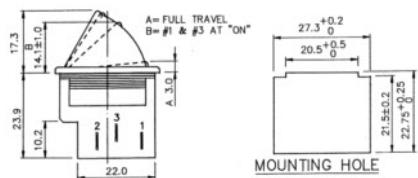
Note: () = Momentary

SNAP-IN TAMPER SWITCH



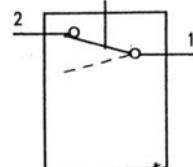
Mounting Hole: 0.75"

ELECTRICAL RATING: UL Listed SPST Switch.
Current Rating: 5A @125 VAC
Insulation Resistance: @DC 500V 100 Megohms
Withstand Voltage: AC 1500V 1 minute
Contact Resistance: DC 2-4V 1A 100 milliohms-ohms or less.
Life: 100,000 cycles at 5 Amps
Minimum stroke to open contacts is 0.5mm from full open position
Action: SPST, (OFF) - ON
Note: () = Momentary



FRIG SWITCH

Designed for use in a refrigerator as a light switch, turning "on" when the door is opened. Switch is normally on until the activator is depressed; or pushed down by a closing door. For mounting in metal panel. Can be used in "dead mans" switch applications. Applications could include alarm systems, hood up indicator switch etc.



No. 30-17065

FOOT OPERATED SWITCHES

Foot operated switches may be used for starting and stopping light-weight motors, keying paging systems or intercoms and transceivers; useful just about anywhere that a person hands are occupied. Also for applications in music.

These two switches are fundamentally the same, but one is push-on, push-off. The other is 'momentary' and the switch will be closed only as long as the user keeps the switch pressed down with his foot.

Both units are supplied with a ten foot, two conductor wire terminated in a standard 1/4" phone plug. Color black, momentary unit has red foot pad on top.



Part No.	Type	Action	Actuator
30-17090	SPST	(ON)	Foot Pedal
30-17092	SPST	Toggle	Foot Pedal

Note: () = Momentary

Electrical Rating:

5 Amps @125 VAC, 3 Amps @250 VAC
Initial contact resistance: less than 50 milliohms
Insulation resistance: >100 Megohms
@ 500 Volts.

SWITCHES PRINTED CIRCUIT TACTILE

SPECIFICATIONS:

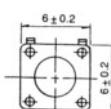
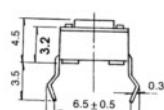
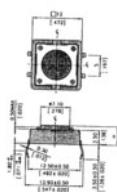
Current Rating:	50mA @ 125VDC
Initial Contact Resistance:	100 Meg ohm (Max.)
Insulation Resistance:	100 Meg ohm (Min.) @ 500 VDC
Dielectric Strength:	250V AC/ 1 minute
Contact Material:	Phosphor Bronze w/Silver Cladding
Terminal Material:	Brass with Silver Cladding

Part No.	Housing	Type	Action	Terminal
30-14411	6 x 6mm - 4.5mm H.	SPST	OFF - (ON)	Through Hole Mt.
30-14412	6 x 6mm - 7.0mm H.	SPST	OFF - (ON)	Surface Mt.
30-14414	6 x 6mm - 7.0mm H.	SPST	OFF - (ON)	Through Hole Mt.
30-14415	6 x 6mm - 9.5mm H.	SPST	OFF - (ON)	Surface Mt.
30-14416	12 x 12mm - 4.3mm H.	SPST	OFF - (ON)	Surface Mt.
30-14418*	6 x 6mm - 11.8mm H.	SPST	OFF - (ON)	Through Hole Mt.

No. 30-14410 Designer Kit

Kit contains No. 30-14411, No. 30-14412, No. 30-14414, No. 30-14415, and No. 30-14418

NOTE: () = Momentary
*30-14418 is Right Angle



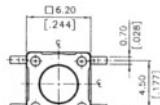
No. 30-14416



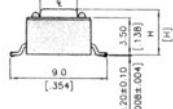
No. 30-14411



No. 30-14418



No. 30-14414



No. 30-14412
No. 30-14415



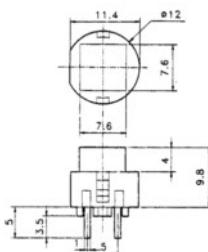
No. 30-14418

SPECIFICATIONS:

Current Rating:	10mA @ 35V DC
Stroke:	0.8mm
Operating Force:	130 ± 30 gf.
Terminal Type:	PCB Mount

Part No.	Type	Action	Actuator
30-14420	SPST	OFF - (ON)	Square Black

NOTE: () = Momentary



PUSH BUTTON KEY SWITCH



SPECIFICATIONS:

Current Rating:	50mA @ 24V AC
Initial Contact Resistance:	20 Meg ohm Max (AC 12UV/5mA)
Insulation Resistance:	100 Meg ohms. (Min.)
Dielectric Strength:	250V/AC (Min.)
Electrical Life:	200,000 Operations
Shock Resistance:	30G
Terminal Type:	PCB Mount

Part No.	Type	Action	Actuator
30-14419	SPST	OFF - (ON)	White Plastic

NOTE: () = Momentary



PUSH BUTTON KEYBOARD SWITCH



Electrical Rating:

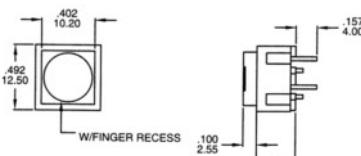
RATING: 25MA @50VDC
Electrical Life: 1million cycles typical.
Insulation resistance: minimum of 1,000 megohms.
Contact Resistance: 10m max @ 2-4VDC, 100mA.
Dielectric strength: >1,000V rms @ sea level.
Operating force:120+/-50 gf
Housing: 6/6 Nylon.
Cap: ABS or polycarbonate.
Dome contact: gold over stainless.
Terminals and contacts: Silver plated over copper alloy.

Part No.	Type	Action	Actuator Color
30-14424	SPST	OFF - (ON)	RED
30-14425	SPST	OFF - (ON)	WHITE
30-14426	SPST	OFF - (ON)	BLACK

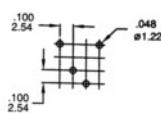
NOTE: () = Momentary

* Display pack of 2

SPST Momentary Printed Circuit Push Button Switch
Attractive, low profile SPST push-button switches. A dull click provides tactile feedback when contact has been made.



P.C. MOUNTING



SWITCHES MINIATURE TOGGLE, PC mount

Printed Circuit-vertical mounting Miniature TOGGLE SWITCHES UL E 187490

Vertical mounting PC board switches with either a plain (smooth) bushing or with a threaded bushing and assembled hardware. Integral mounting brackets provide strength and prevent switching action from stressing PC board pads

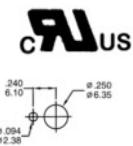
Electrical Rating:

Contact rating: 5 amps @ 120 VAC or 28 VDC
2 amps @ 250 VAC resistive load
Life expectancy: 40,000 make-break cycles @ full load.
Contact Resist.: 10 m ohm Max, initial @ 2-4 volts @100 mA
Insulation resistance: 1,000 Megohms minimum
Dielectric Strength: 1,000 V RMS @ sea level.
Operating temperature range: -30 to +85 degrees Celsius

Mechanical:

Case: Dially phthalate (DAP) (UL94V-0), epoxy sealed terms.
Actuator: Brass, Chrome plated.
Bushing: Brass, nickel plated
Housing: Stainless steel.
Switch support: Brass, tin plated
Terminals: Gold plated
Contact materials: coin silver.

Part No.	Circuit	Bushing
30-20038	SPDT ON-ON	1/4"-20 threaded
30-20037	SPDT ON-ON	Smooth
30-20048	DPDT ON-ON	1/4"-20 threaded
30-20047	DPDT ON-ON	Smooth

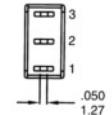
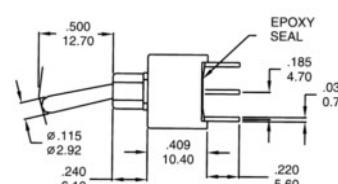
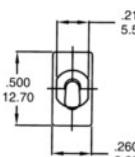


Panel mounting dimensions for PC board miniature switches



Part No.	Circuit
30-20150	SPDT ON-ON
30-20153	SPDT ON-(ON)
30-20156	SPDT ON-OFF-ON
30-20160	SPDT ON-OFF-(ON)

NOTE: () = Momentary



Printed Circuit Sealed Miniature Toggle Switches Vertical Mounting

Vertical mounting PC board switches with a (smooth) bushing. This series is SEALED with special "O" rings in the actuator neck and EPOXY is applied around terminals where they enter the switch case. Switches sealed with epoxy around the terminals are impervious to solder fluxes and cleaners. The "O" rings provide very good, long term resistance to environmental contamination.

Electrical Rating:

Contact rating: 5 amps @ 120 VAC or 28 VDC
2 amps @ 250 VAC resistive load
Life expectancy: 30,000 make-break cycles @ full load.
Contact Resistance: 10 m ohms Max, @ 2-4 volts. @100 mA
Insulation resistance: 1,000 Megohms minimum
Dielectric Strength: 1,000 V RMS @ sea level.
Operating temperature range: -30 to +85 degrees Celsius

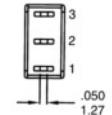
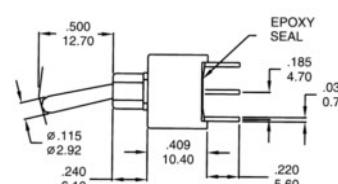
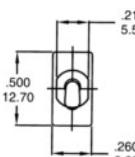
Mechanical:

Case: Glass-filled Nylon 66 (UL94V-0)
Actuator: Brass, Chrome plated w/internal "O" ring seal.
Switch support retainer: Stainless steel.
Terminals: Gold Plated.
Contact materials: coin silver.
Special: Epoxy seal at contacts (against solder, flux remover)



Part No.	Circuit
30-20170	SPDT ON-ON
30-20172	SPDT ON-(ON)

NOTE: () = Momentary

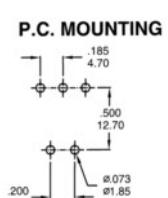
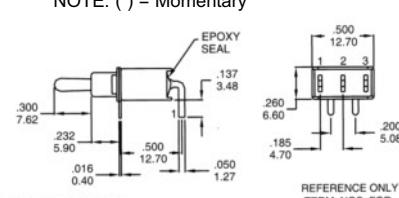
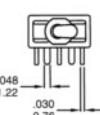


HORIZONTAL RIGHT ANGLE MOUNTING - SEALED



Part No.	Circuit
30-20170	SPDT ON-ON
30-20172	SPDT ON-(ON)

NOTE: () = Momentary



SWITCHES MINIATURE TOGGLE, PC mount

Printed Circuit Miniature Toggle Switches

Philmore PC mounting miniature switches are available in two bushing styles. When offered with a threaded bushing, hardware (nut and washers) are included and assembled. Smooth, non-threaded bushings are also offered and the buyer needs to watch for this distinction to be sure to get the correct style.

Philmore Printed Circuit board layout patterns include both conductor mounting holes and the mounting holes for mechanical supports which are an integral part of toggles and some of the other styles, where they are needed.

Printed Circuit-horizontal mounting Miniature TOGGLE SWITCHES

Right angle and horizontal mounting PC board switches with either a plain (smooth) bushing or with a threaded bushing and assembled hardware. Coin silver contacts for current capacity; gold plated terminals.

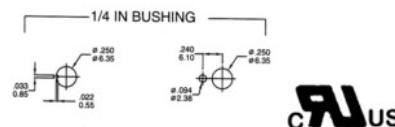
Part No.	Circuit	Bushing
30-20004	SPDT ON-ON	1/4"-20 threaded
30-20003	SPDT ON-ON	Smooth
	SPDT	
30-20006	ON-NONE (ON)	1/4"-20 threaded
30-20005	SPDT ON-(ON)	Smooth
30-20010	DPDT ON-NONE (ON)	1/4"-20 Threaded
30-20009	DPDT ON-NONE (ON)	Smooth

NOTE: () = Momentary

Contact rating: 5 amps @ 120 VAC or 28 VDC
2 amps @ 250 VAC resistive load
Life expectancy: 40,000 make-break cycles @ full load.
Contact Resist: 10 m ohms Max, initial @ 2-4 volts @100 mA
Insulation resistance: 1,000 Megohms minimum
Dielectric Strength: 1,000 V RMS @ sea level.
Operating temperature range: -30 to +85 degrees Celsius



SPDT



Panel mounting dimensions for PC board miniature switches

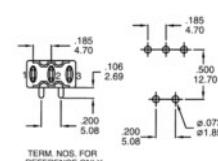


Mechanical:

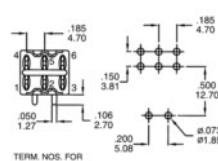
Case: Dially phthalate (DAP) (UL94V-0), epoxy sealed terms.
Actuator: Brass, Chrome plated.
Bushing: Brass, nickel plated
Housing: Stainless steel.
Switch support: Brass, tin plated
Terminals: Gold plated
Contact materials: coin silver.



DPDT



TERM NOS. FOR
REFERENCE ONLY



TERM NOS. FOR
REFERENCE ONLY



Panel mounting dimensions for PC board miniature switches

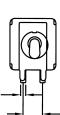
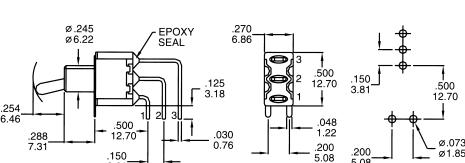
Part No.	Circuit	Bushing
30-20018	SPDT ON-ON	1/4"-20 threaded
30-20017	SPDT ON-ON	Smooth
30-20026	DPDT ON-ON	1/4"-20 Threaded
30-20025	DPDT ON-ON	Smooth

Printed Circuit-vertical mounting Miniature TOGGLE SWITCHES

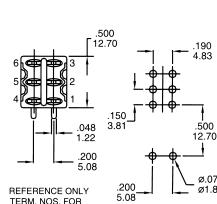
Right angle and vertical mounting PC board switches with either a plain (smooth) bushing or with a threaded bushing and assembled hardware. Gold plated terminals, contacts are coin silver. UL Listed E187490



SPDT



DPDT



Electrical Rating:

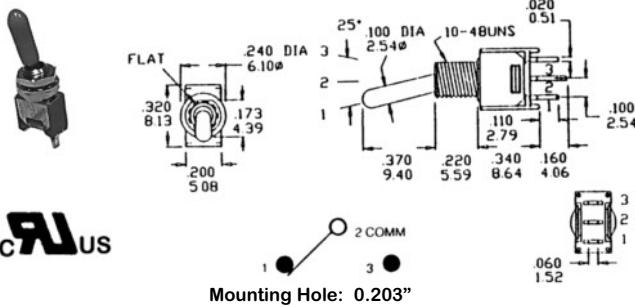
Contact rating: 5 amps @ 125 VAC
2 amps @ 250 VAC
Life expectancy: 40,000 make-break cycles @ full load.
Contact Resistance: 10 milliohms Max, initial @ 2-4 volts.
@100 mA for both silver and gold plated contacts.
Insulation resistance: 1,000 Megohms minimum
Dielectric Strength: 1,000 V RMS @ sea level.
Operating temperature range: -30 to +85 degrees Celsius

Mechanical:

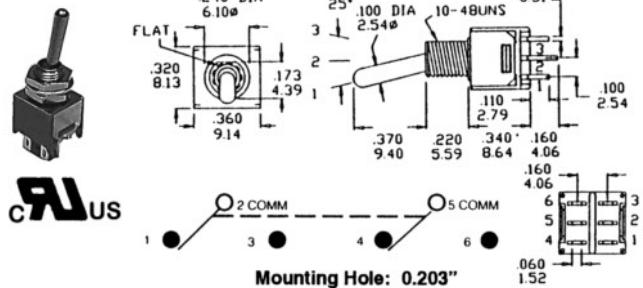
Case: Dially phthalate (DAP) (UL94V-0)
Actuator: Brass, Chrome plated.
Bushing: Brass, nickel plated
Housing: Stainless steel.
Switch support: Brass, tin plated
Terminals: Gold plated
Contact materials: Coin Silver.

SWITCHES SUB-MINIATURE & MINIATURE TOGGLE

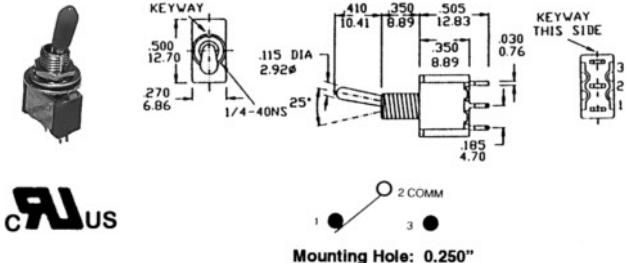
SUB-MINIATURE TOGGLE SWITCHES - SPST & SPDT



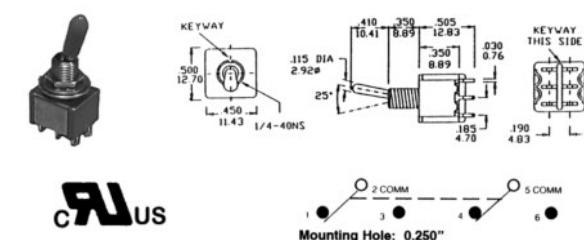
SUB-MINIATURE TOGGLE SWITCHES - DPDT



MINIATURE TOGGLE SWITCHES - SPST & SPDT



MINIATURE TOGGLE SWITCHES - DPDT



SPECIFICATIONS:

Current Rating:	3A @ 120V AC, 28V DC
Initial Contact Resistance:	2-4V DC 1A 10m ohm
Insulation Resistance:	1000 Meg ohm (Min.)
Dielectric Strength:	1000V RMS @ Sea Level
Contact Material:	Coin Silver - Silver Plate
Terminal Material:	Brass - Silver Plate
Terminal Type:	Solder

Part No.	Type	Action		Actuator
30-10030	SPST	ON	-	OFF
30-10042	SPDT	ON	-	ON
30-10044	SPDT	ON	OFF	ON
30-10046	SPDT	ON	-	(ON)
Terminal Connection	2-3	Open	2-1	

NOTE: () = Momentary

SPECIFICATIONS:

Current Rating:	3A @ 120V AC, 28V DC
Initial Contact Resistance:	2-4V DC 1A 10m ohm
Insulation Resistance:	1000 Meg ohm (Min.)
Dielectric Strength:	1000V RMS @ Sea Level
Contact Material:	Coin Silver - Silver Plate
Terminal Material:	Brass - Silver Plate
Terminal Type:	Solder

Part No.	Type	Action		Actuator
30-10048	DPDT	ON	-	ON
30-10050	DPDT	ON	OFF	ON
30-10052	DPDT	ON	-	(ON)
Terminal Connection	2-3, 5-6	Open	2-1, 5-4	

NOTE: () = Momentary

SPECIFICATIONS:

Current Rating:	5A @ 120V AC/28V DC, 2A @ 250V AC
Initial Contact Resistance:	2-4V DC 1A 10m ohm
Insulation Resistance:	1000 Meg ohm (Min.)
Dielectric Strength:	1000V RMS @ Sea Level
Contact Material:	Coin Silver - Silver Plate
Terminal Material:	Brass - Silver Plate
Terminal Type:	Solder

Part No.	Type	Action		Actuator
30-10002	SPDT	ON	-	ON
30-10004	SPDT	ON	-	(ON)
30-10006	SPDT	ON	OFF	ON
30-10007	SPST	ON	-	OFF
30-10008	SPDT	(ON)	OFF	(ON)
30-10010	SPDT	ON	OFF	(ON)
Terminal Connection	2-3	Open	2-1	

NOTE: () = Momentary

SPECIFICATIONS:

Current Rating:	5A @ 120V AC/28V DC, 2A @ 250V AC
Initial Contact Resistance:	2-4V DC 1A 10m ohm
Insulation Resistance:	1000 Meg ohm (Min.)
Dielectric Strength:	1000V RMS @ Sea Level
Contact Material:	Coin Silver - Silver Plate
Terminal Material:	Brass - Silver Plate
Terminal Type:	Solder

Part No.	Type	Action		Actuator
30-10012	DPDT	ON	-	ON
30-10014	DPDT	ON	-	(ON)
30-10016	DPDT	ON	OFF	ON
30-10018	DPDT	(ON)	OFF	(ON)
30-10020	DPDT	ON	OFF	(ON)
30-090*	DPDT	ON	ON	ON
Terminal Connection	2-3, 5-6	Open	2-1, 5-4	
30-090*	DPDT	2-3, 5-6	2-3, 5-4	2-1, 5-4

NOTE: () = Momentary

SWITCHES MINIATURE & TOGGLE

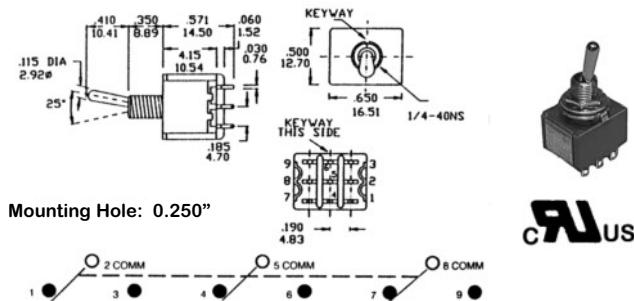
SPECIFICATIONS:

Current Rating:	5A @ 120V AC/28V DC, 2A @ 250V AC
Initial Contact Resistance:	2-4V DC 1A 10m ohm
Insulation Resistance:	1000 Meg ohm (Min.)
Dielectric Strength:	1000V RMS @ Sea Level
Contact Material:	Coin Silver - Silver Plate
Terminal Material:	Brass - Silver Plate
Terminal Type:	Solder

Part No.	Type	Action	Actuator
30-10022	3PDT	ON - ON	Metal
30-10024	3PDT	ON OFF ON	Metal
30-10026	3PDT	(ON) OFF (ON)	Metal
30-10028	3PDT	ON OFF (ON)	Metal
Terminal Connection	2-3, 5-6, 8-9	Open	2-1, 5-4, 8-7

NOTE: () = Momentary

MINIATURE TOGGLE SWITCHES - 3PDT

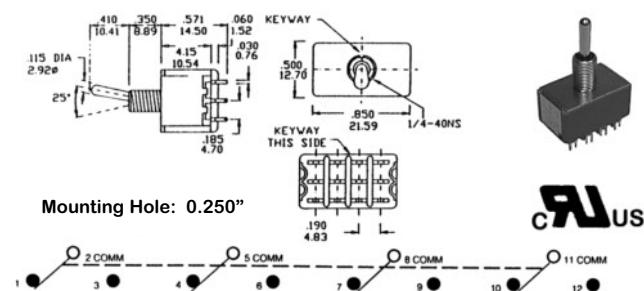


SPECIFICATIONS:

Current Rating:	5A @ 120V AC/28V DC, 2A @ 250V AC
Initial Contact Resistance:	2-4V DC 1A 10m ohm
Insulation Resistance:	1000 Meg ohm (Min.)
Dielectric Strength:	1000V RMS @ Sea Level
Contact Material:	Coin Silver - Silver Plate
Terminal Material:	Brass - Silver Plate
Terminal Type:	Solder

Part No.	Type	Action	Actuator
30-10032	4PDT	ON OFF ON ON	Metal
30-10034	4PDT	ON - ON ON	Metal
Terminal Connection	2-3, 5-6, 8-9, 11-21	Open	2-1, 5-4, 8-7, 11-10

MINIATURE TOGGLE SWITCHES - 4PDT

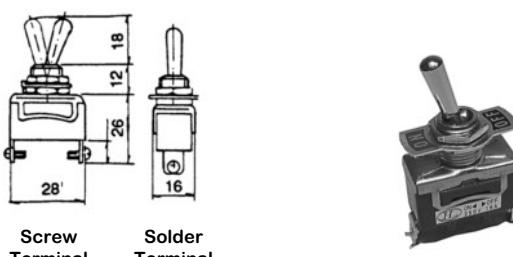


SPECIFICATIONS:

Current Rating:	15A @ 125/250V AC
Initial Contact Resistance:	50 Meg ohm
Insulation Resistance:	100 Meg ohm (Min.) @ 500V DC
Dielectric Strength:	1000V AC 50/60 Hz for 1 minute
Contact Material:	Brass - Nickel Plated
Terminal Material:	Brass - Nickel Plated
Actuator Type:	Metal

Part No.	Type	Action	Actuator
30-1100	SPST	ON - OFF	Solder
30-1104	SPST	ON - OFF	Screw
30-1110	SPDT	ON - ON	Solder
30-1114	SPDT	ON - ON	Screw
30-1120	SPDT	ON OFF ON	Solder
30-1124	SPDT	ON OFF ON	Screw

SPST & SPDT STANDARD SIZE TOGGLE SWITCHES



Mounting Hole: 0.500"

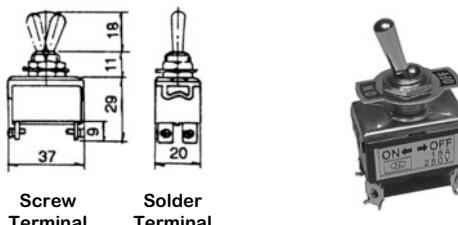


SPECIFICATIONS:

Current Rating:	15A @ 125/250V AC
Initial Contact Resistance:	50 Meg ohm (Max.)
Insulation Resistance:	100 Meg ohm (Min.) @ 500V DC
Dielectric Strength:	1000V AC 50/60 Hz for 1 minute
Contact Material:	Brass - Nickel Plated
Terminal Material:	Brass - Nickel Plated
Actuator Type:	Metal

Part No.	Type	Action	Actuator
30-1130	DPST	ON OFF	Solder
30-1134	DPST	ON OFF	Screw
30-1140	DPDT	ON ON	Solder
30-1144	DPDT	ON ON	Screw
30-1150	DPDT	ON OFF ON	Solder
30-1154	DPDT	ON OFF ON	Screw

DPST & DPDT STANDARD SIZE TOGGLE SWITCHES



Mounting Hole: 0.500"



SWITCHES ROUND PADDLE LEVER TOGGLE

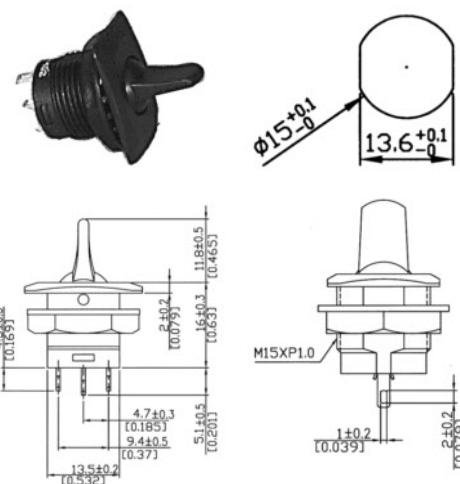
Current Rating:	3A 250VAC, 6A 125VAC
Initial Contact Resistance:	<50Meg Ohms @12VDC
Insulation Resistance:	>100Meg Ohms
Dielectric Strength (Open Contacts):	>1500V for 1 minute
Contact Material:	Silver Plated Brass
Terminal Material:	Copper Alloy
Body Material:	Nylon (UL 94V-2)
Actuator & Bezel:	Nylon (UL 94V-2)
Terminal Type:	Solder Connection
Mounting hardware:	M15 P1.0

Part No.	Type	Action	Actuator Color
30-10320	SPST	On-Off	Black Paddle
30-10322	SPDT	On-On	Black Paddle
30-10324	SPDT	On-(On)	Black Paddle
30-10326	SPDT	On-Off-On	Black Paddle
30-10328	SPDT	On-Off-(On)	Black Paddle
30-10329	SPDT	(On)-Off-(On)	Black Paddle

Panel Cut-out: 15mm (.59") () = Momentary
Maximum panel thickness 6.0 mm



ROUND PADDLE LEVER TOGGLE SWITCHES



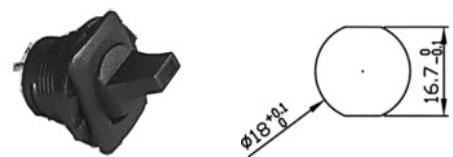
Current Rating:	6A 250VAC, 10A 125VAC
Initial Contact Resistance:	<50Meg Ohms @12VDC
Insulation Resistance:	>100Meg Ohms
Dielectric Strength (Open Contacts):	>1500V for 1 minute
Contact Material:	Silver Plated Brass
Terminal Material:	Copper Alloy
Body Material:	Nylon (UL 94V-2)
Actuator & Bezel:	Nylon (UL 94V-2)
Terminal Type:	Solder Connection
Mounting Hardware:	M18 P1.0
Lamp Voltage:	LED 3V* @20ma (*resistor needed for other voltages)

Part No.	Type	Action	Lamp / Actuator Color
30-10440	DPST	On-Off	Black Paddle
30-10442	DPDT	On-On	Black Paddle
30-10444	DPDT	On-Off-On	Black Paddle
30-10522	SPST	On-Off	LED Lamp, Red
30-10523	SPST	On-Off	LED Lamp, Amber
30-10525	SPST	On-Off	LED Lamp, Green
30-10622	SPDT	On-On	LED Lamp, Red
30-10623	SPDT	On-On	LED Lamp, Amber
30-10625	SPDT	On-On	LED Lamp, Green
30-10722	SPDT	On-Off-On	LED Lamp, Red
30-10723	SPDT	On-Off-On	LED Lamp, Amber
30-10725	SPDT	On-Off-On	LED Lamp, Green

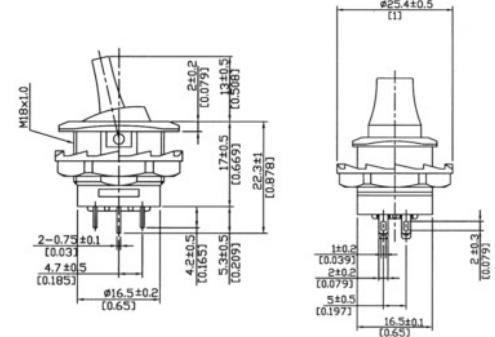
Panel Cut-out: 18mm (.70")
Maximum panel thickness 5.0 mm



ROUND PADDLE LEVER TOGGLE SWITCHES



LED indicator on top of lever



Using an LED

LED wth DC (Direct Current)

An LED (light emitting diode) requires about two volts to operate and twenty millamps of current. A current limiting resistor must be used in series with an LED to prevent current over 20 mA from flowing; otherwise, your LED will be damaged. You may simply use Ohm's law to calculate the resistor value. Here is an example, we have a circuit operating at 12 volts DC, and need to know the value of a resistor to use. The LED "wants" two volts to operate ; so subtract 2 from the 12 volts which is of course, ten. Plug the "ten" in at "E" and divide by "I" or .020 amps. The result is 500 ohms for the resistor value. If you forget to subtract the two volts, the resistor value will be 600 and the LED will not be at maximum brightness. However, it will last much longer! (about double normal life). Another formula you can use is $R=50(V-2)$. The R is for resistor, the V for voltage. We like this one as it is easy to recall and do in your head.

Typical voltages used in electronics and resistor values (rounded to nearest standard resistor).

DC Volts	5V	6V	12V	24V	AC Volts	6V	12V	24V	48V	117V
Resistor (ohms)	150	180	470	1200	Resistor (ohms)	82	220	560	1200	3K

LED wth AC (Alternating Current)

When using an LED with AC, a diode must be placed in series with the LED. Because AC will only be flowing 1/2 the time, we use a variation on the easy formula shown to the left(bottom). Use $R=25(V^2)$, which includes the voltage drop across the diode.

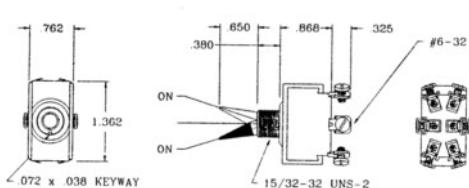
So, if you have a circuit using 28 volts AC, multiply 25.3 (or 28V -2.7), times 25 equals 632 ohms. We need to use a standard value resistor, so use 680 ohms for "R".

SWITCHES PADDLE HANDLE TOGGLE

AUTOMOTIVE/MARINE TOGGLE SWITCHES

SPECIFICATIONS:

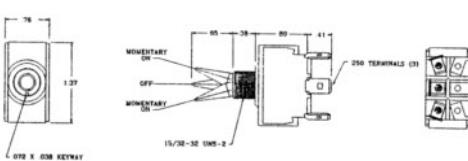
Current Rating:	20A @ 125V AC, 10A @ 250V AC		
Initial Contact Resistance:	20 Meg ohm (Max.)		
Insulation Resistance:	100 Meg ohm (Min.)		
Dielectric Strength:	1000V AC for 1 minute		
Contact Material:	Brass		
Terminal Material:	Brass		
Terminal Type:	Screw		
Part No.	Type	Action	Actuator
30-160	SPST	ON - OFF	Nylon
30-166	DPDT	ON - ON	Nylon



AUTOMOTIVE/MARINE TOGGLE SWITCHES

SPECIFICATIONS:

Current Rating:	20A @ 125V AC, 10A @ 250V AC		
Initial Contact Resistance:	20 Meg ohm (Max.)		
Insulation Resistance:	100 Meg ohm (Min.)		
Dielectric Strength:	1000V AC for 1 minute		
Contact Material:	Brass		
Terminal Material:	Brass		
Terminal Type:	.250" Quick Connect		
Part No.	Type	Action	Actuator
30-150	SPDT	ON OFF	Nylon
30-152	SPDT	(ON) OFF	(ON)

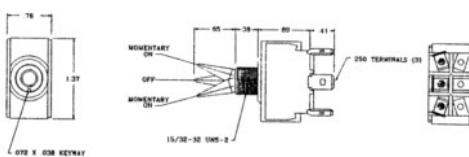


NOTE: () = Momentary

AUTOMOTIVE/MARINE TOGGLE SWITCHES

SPECIFICATIONS:

Current Rating:	20A @ 125V AC, 10A @ 250V AC		
Initial Contact Resistance:	20 Meg ohm (Max.)		
Insulation Resistance:	100 Meg ohm (Min.)		
Dielectric Strength:	1000V AC for 1 minute		
Contact Material:	Brass		
Terminal Material:	Brass		
Terminal Type:	.250" Quick Connect		
Part No.	Type	Action	Actuator
30-156	DPDT	ON - OFF	Nylon
30-158	DPDT	ON (ON) OFF	Nylon
30-159	DPDT	OFF (ON) ON	Nylon



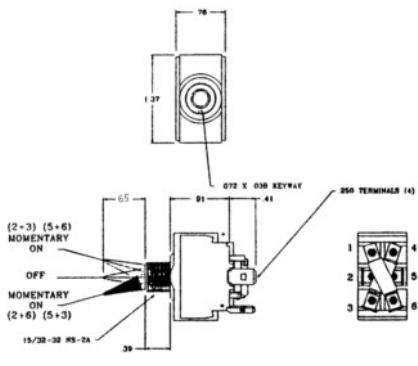
NOTE: () = Momentary

REVERSING TOGGLE SWITCH

SPECIFICATIONS:

Current Rating:	21A @ 14V DC		
Initial Contact Resistance:	20 Meg ohm (Max.)		
Insulation Resistance:	100 Meg ohm (Min.)		
Dielectric Strength:	1000V AC for 1 minute		
Contact Material:	Brass		
Terminal Material:	Brass		
Terminal Type:	.250" Quick Connect		
Part No.	Type	Action	Actuator
30-125	DPDT	(ON) OFF (ON)	Nylon

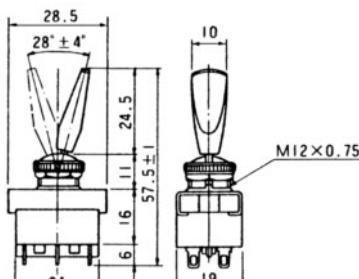
NOTE: () = Momentary



Mounting Hole: 0.500"

SWITCHES PADDLE HANDLE TOGGLE

STANDARD SIZE PADDLE HANDLE TOGGLE SWITCH

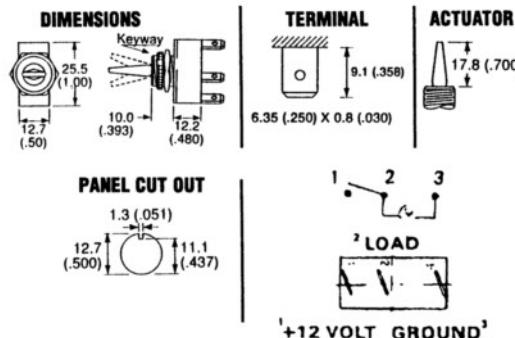


SPECIFICATIONS:

Current Rating:	10A @125V AC, 6A @ 250V AC
Initial Contact Resistance:	20 Meg ohm (Max.)
Insulation Resistance:	500V DC 100 Meg ohm (Min.)
Dielectric Strength:	1500V AC for 1 minute
Contact Material:	Brass - Bright Nickel Plate
Terminal Material:	Brass - Bright Nickel Plate
Terminal Type:	Solder

Part No.	Type	Action	Actuator
30-089	DPDT	ON OFF ON	Black Plastic

LIGHTED PADDLE HANDLE TOGGLE SWITCHES

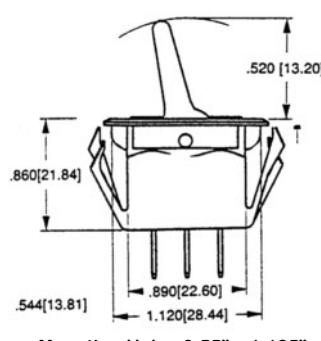
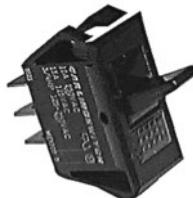


SPECIFICATIONS:

ELECTRICAL RATING:	16A 12V DC
MATERIALS:	Silver - Silver Plated
Contact Material:	Silver - Silver Plated
Terminal Material:	12V, 55mA, 10,000 Hr Avg. Life
Lamp:	5 Milliohms (Max.)
Initial Contact Resistance:	100 Megaohms
Insulation Resistance:	1500V AC (Min.)
Dielectric Strength:	

Part No.	Type	Action	Actuator
30-890	SPST	ON - OFF	Red
30-892	SPST	ON - OFF	Green
30-894	SPST	ON - OFF	Amber

MINI TIPPETTE PADDLE HANDLE TOGGLE SWITCHES



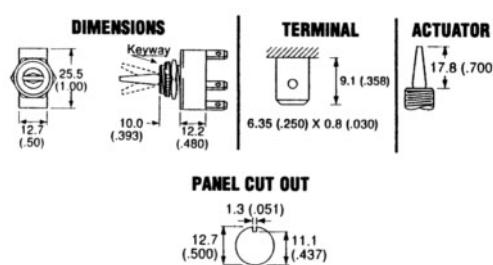
SPECIFICATIONS:

Current Rating:	15A @ 125VAC, 10A @ 250VAC 3/4 HP 125-250VAC
Insulation Resistance:	100 Meg ohm (Min.)
Dielectric Strength:	1000V (min.)
Base Material:	Nylon
Terminal Type:	.250" Quick Connect

Part No.	Type	Action	Actuator
30-10308	SPST	ON - OFF	Black Nylon
30-10318	SPST	ON - OFF	Black Nylon with Amber Lens
30-10319	SPST	ON - OFF	Black Nylon with Red Lens

NOTE: Lamp Voltage 125Volt/Neon

STANDARD SIZE PADDLE HANDLE TOGGLE SWITCHES



Mounting Hole: 0.500"

SPECIFICATIONS:

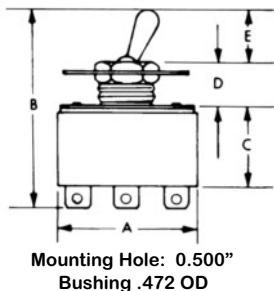
ELECTRICAL RATINGS:	20A 125-250V AC 85C Single Pole	UL E45221
1/4HP	125V AC 1/2HP 250V AC 3 Pos.	UL/CSA
1/2HP	125V AC 1HP 250V AC 2 Pos.	UL/CSA
16A	125-250V AC	CSA LR10990
16 (4)A	250V AC T85	VDE 89254
20A	28V DC	Approvals N/A

Part No.	Type	Action	Actuator
30-170	SPST	ON - OFF	Black Nylon
30-171	SPDT	ON - ON	Black Nylon
30-172	SPDT	ON OFF ON	Black Nylon



SWITCHES STANDARD TOGGLE

STANDARD SIZE BAT HANDLE TOGGLE SWITCHES



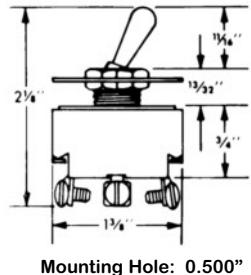
SPECIFICATIONS:

Current Rating:	3A @ 125V AC, 1A @ 250V AC
Initial Contact Resistance:	5 Meg ohm (Max.)
Insulation Resistance:	100 Meg ohm (Min.) @ 500V DC
Dielectric Strength:	1000V AC 50/60 Hz for 1 minute
Contact Material:	Brass - Nickel Plate
Terminal Material:	Brass - Nickel Plate
Terminal Type:	Solder

Part No.	Type	Action			Actuator
30-219	SPST	ON	-	OFF	Metal
30-221	DPDT	ON	-	ON	Metal

Part No.	Type	A	B	Depth	C	D	E
30-219	SPST	1"	1-21/32"	9/16"	9/16"	13/32"	1/2"
30-221	DPDT	1-5/32"	1-13/16"	22/32"	11/16"	13/32"	1/2"

STANDARD SIZE BAT HANDLE TOGGLE SWITCH

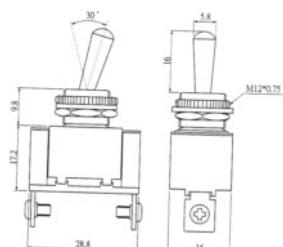


SPECIFICATIONS:

Current Rating:	6A @ 125V AC, 3A @ 250V AC
Initial Contact Resistance:	5 Meg ohm (Max.)
Insulation Resistance:	100 Meg ohm (Min.) @ 500V DC
Dielectric Strength:	1000V AC 50/60 Hz for 1 minute
Contact Material:	Brass - Nickel Plate
Terminal Material:	Brass - Nickel Plate
Terminal Type:	Screw

Part No.	Type	Action			Actuator
30-226	DPDT	ON	OFF	ON	Metal

STANDARD SIZE BAT HANDLE TOGGLE SWITCHES



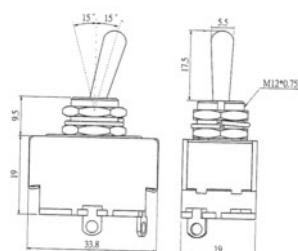
SPECIFICATIONS:

Current Rating:	10A @ 125V AC, 6A @ 250V AC
Initial Contact Resistance:	50 Meg ohm (Max.)
Insulation Resistance:	DC 500V 100 Meg ohm (Min.)
Dielectric Strength:	AC 1500V 1 minute
Bushing Material:	Brass - Nickel Plate,M12-.75 Threads
Terminal Material:	Brass - Nickel Plate
Terminal Type:	Screw

Part No.	Type	Action			Actuator
30-10124	SPDT	ON	-	ON	Brass Nickel Plate
30-10126*	SPDT	ON	-	ON	Brass Nickel Plate

(* 30-10126 has .250" Quick connect terminal.)

STANDARD SIZE BAT HANDLE TOGGLE SWITCHES



SPECIFICATIONS:

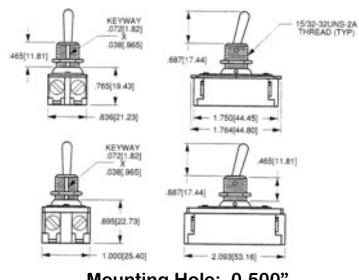
Current Rating:	15A @ 125V AC, 10A @ 250V AC
Initial Contact Resistance:	50 Meg ohm (Max.)
Insulation Resistance:	DC 500V 100 Meg ohm (Min.)
Dielectric Strength:	AC 1500V 1 minute
Bushing Material:	Brass - Nickel Plate,M12-.75 Threads
Terminal Material:	Brass - Nickel Plate
Actuator Type:	Metal (Brass Nickel Plate)

Part No.	Type	Action			Terminal
30-10099	SPDT	(ON)	OFF	(ON)	Solder
30-10351	SPDT	(ON)	OFF	(ON)	Screw

NOTE: () = Momentary

SWITCHES STANDARD TOGGLE

HEAVY DUTY TOGGLE SWITCHES, AC/DC MOTOR CONTROL



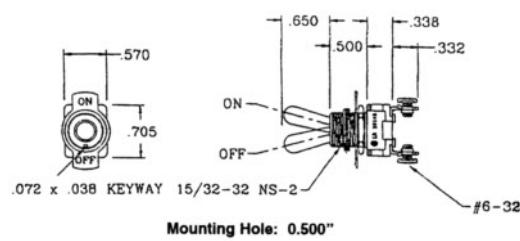
SPECIFICATIONS:

Current Rating:	16A @ 125V AC, 8A @ 250V AC
Insulation Resistance:	1 HP @ 125-250V AC
Dielectric Strength:	100 Meg ohm (Min.)
Base Material:	1000V 1 minute
Bezel Material:	Phenolic
Terminal Type:	Brass/Nickel Plate
	.Screw (#6-32NC-2 Thread)

Part No.	Type	Action	Actuator
30-10341	SPST	ON	- OFF
30-10131	DPST	ON	- OFF
30-10342*	DPST	ON	- OFF

* = Rating for 30-10342 is 20A @ 125VAC, 10A @ 250VAC, 1-1/2 HP 125-250VAC

STANDARD SIZE BAT HANDLE TOGGLE SWITCH



SPECIFICATIONS:

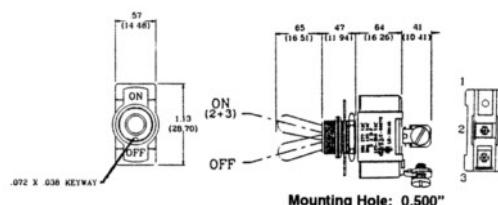
Current Rating:	15A @ 125V AC, 10A @ 277V AC
Initial Contact Resistance:	50 Meg ohm (Max.)
Insulation Resistance:	100 Meg ohm (Min.) @ 500V DC
Dielectric Strength:	1000V AC 50/60 Hz for 1 minute
Contact Material:	Brass - Silver Plate
Terminal Material:	Brass
Terminal Type:	Screw

Part No.	Type	Action	Actuator
30-067	SPST	ON	- OFF
30-10360*	DPST	ON	- OFF

* = 3/4 HP 125-250VAC



STANDARD SIZE BAT HANDLE TOGGLE SWITCHES

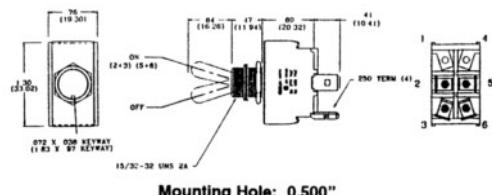


SPECIFICATIONS:

Current Rating:	20A @ 125V AC, 10A @ 277V AC
Initial Contact Resistance:	1-1/2 HP @ 125/277V AC
Insulation Resistance:	50 Meg ohm (Max.)
Dielectric Strength:	100 Meg ohm (Min.) @ 500V DC
Contact Material:	1000V AC 50/60 Hz for 1 minute
Terminal Material:	Brass - Nickel Plate
Terminal Type:	Brass
	Screw

Part No.	Type	Action	Actuator
30-020	SPST	ON	- OFF

STANDARD SIZE BAT HANDLE TOGGLE SWITCHES



SPECIFICATIONS:

Current Rating:	6A @ 125V AC, 3A @ 277V AC
Initial Contact Resistance:	50 Meg ohm (Max.)
Insulation Resistance:	100 Meg ohm (Min.) @ 500V DC
Dielectric Strength:	1000V AC 50/60 Hz for 1 minute
Contact Material:	Brass - Nickel Plate
Terminal Material:	Brass
Terminal Type:	.250" Quick Connect

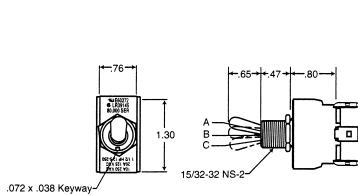
Part No.	Type	Action	Actuator
30-019	DPST	ON	- OFF

SWITCHES STANDARD TOGGLE

SEALED HEAVY DUTY BAT HANDLE TOGGLE SWITCHES (Splash Proof)

SPECIFICATIONS:

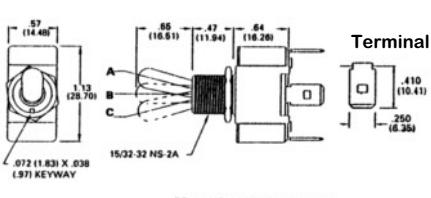
Current Rating:	20A @ 125V AC, 10A @ 277V AC 21A @ 12-14V DC,
Initial Contact Resistance:	50 Meg ohm (Max.)
Insulation Resistance:	100 Meg ohm (Min.) @ 500V DC
Dielectric Strength:	1,000V AC for (Min)
Base Material:	Phenolic
Actuator & Bushing:	Brass Nickle Plated
Terminal Type:	.250" Quick Connect
Part No.	Type
30-3050	SPST
30-3057	DPST
	Action
	ON - OFF
	ON - OFF
	Actuator
	Metal



SPECIFICATIONS:

HEAVY DUTY BAT HANDLE TOGGLE SWITCHES - SPST & SPDT

Current Rating:	20A @ 125V AC, 10A @ 277V AC 3/4 HP @ 125/250V AC
Initial Contact Resistance:	50 Meg ohm (Max.)
Insulation Resistance:	100 Meg ohm (Min.) @ 500V DC
Dielectric Strength:	1000V AC 50/60 Hz for 1 minute
Contact Material:	Brass - Bright Nickel Plate
Terminal Material:	Brass
Terminal Type:	.250" Quick Connect
Part No.	Type
30-300	SPST
30-305	SPST
30-310	SPDT
30-315	SPDT
30-335	SPDT
	Action
	(ON) - OFF
	ON - OFF
	ON - ON
	OFF - ON
	(ON) - OFF
	OFF - (ON)
	Actuator
	Metal

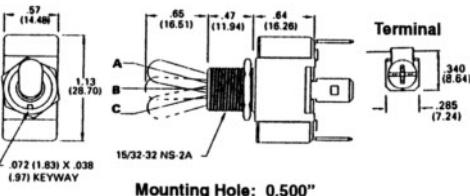


NOTE: () = Momentary

SPECIFICATIONS:

Current Rating:	20A @ 125V AC, 10A @ 277V AC 3/4 HP @ 125/250V AC
Initial Contact Resistance:	50 Meg ohm (Max.)
Insulation Resistance:	100 Meg ohm (Min.) @ 500V DC
Dielectric Strength:	1000V AC 50/60 Hz for 1 minute
Contact Material:	Brass - Bright Nickel Plate
Terminal Material:	Brass
Terminal Type:	Screw
Part No.	Type
30-080	SPST
30-355	SPST
30-013	SPDT
30-116	SPDT
30-010	SPDT
30-053	SPDT
30-055	SPDT
	Action
	ON - OFF
	(ON) - OFF
	ON - ON
	- (ON)
	ON - OFF
	OFF - (ON)
	Actuator
	Metal

HEAVY DUTY BAT HANDLE TOGGLE SWITCHES - SPST & SPDT

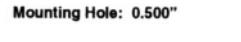
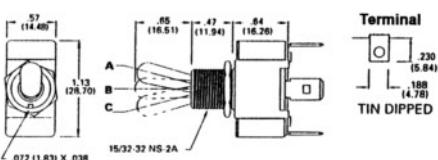


NOTE: () = Momentary

SPECIFICATIONS:

Current Rating:	20A @ 125V AC, 10A @ 277V AC 3/4 HP @ 125/250V AC
Initial Contact Resistance:	50 Meg ohm (Max.)
Insulation Resistance:	100 Meg ohm (Min.) @ 500V DC
Dielectric Strength:	1000V AC 50/60 Hz for 1 minute
Contact Material:	Brass - Bright Nickel Plate
Terminal Material:	Brass - Tin Dipped
Terminal Type:	Solder
Part No.	Type
30-078	SPST
30-076	SPST
30-014	SPDT
30-016	SPDT
30-086	SPDT
	Action
	ON - OFF
	(ON) - OFF
	ON - ON
	- (ON)
	OFF - (ON)
	ON - OFF
	OFF - (ON)
	Actuator
	Metal

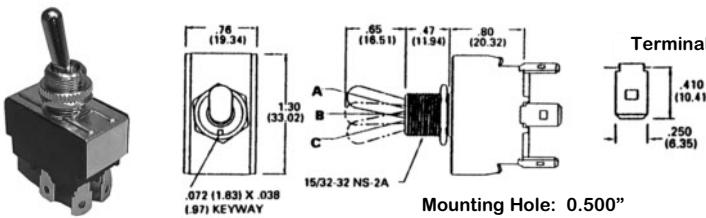
HEAVY DUTY BAT HANDLE TOGGLE SWITCHES - SPST & SPDT



NOTE: () = Momentary

SWITCHES STANDARD TOGGLE

HEAVY DUTY BAT HANDLE TOGGLE SWITCHES - DPST & DPDT



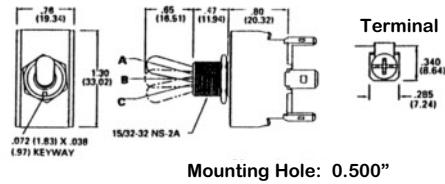
SPECIFICATIONS:

Current Rating:	20A @125V AC, 10A @ 277V AC 1-1/2 HP @ 125-250V AC
Initial Contact Resistance:	50 Meg ohm (Max.)
Insulation Resistance:	100 Meg ohm (Min.) @ 500V DC
Dielectric Strength:	1000V AC 50/60 Hz for 1 minute
Contact Material:	Brass - Bright Nickel Plate
Terminal Material:	Brass
Terminal Type:	.250" Quick Connect

Part No.	Type	Action	Actuator
30-345	DPST	ON	- OFF Metal
30-320	DPDT	ON	- ON Metal
30-325	DPDT	ON	OFF ON Metal
30-330	DPDT	(ON)	OFF (ON)

NOTE: () = Momentary

HEAVY DUTY BAT HANDLE TOGGLE SWITCHES - DPST & DPDT



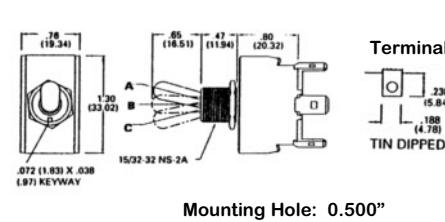
SPECIFICATIONS:

Current Rating:	20A @125V AC, 10A @ 277V AC 1-1/2 HP @ 125-250V AC
Initial Contact Resistance:	50 Meg ohm (Max.)
Insulation Resistance:	100 Meg ohm (Min.) @ 500V DC
Dielectric Strength:	1000V AC 50/60 Hz for 1 minute
Contact Material:	Brass - Bright Nickel Plate
Terminal Material:	Brass
Terminal Type:	Screw

Part No.	Type	Action	Actuator
30-312	DPST	ON	- OFF Metal
30-365	DPDT	ON	- (OFF) Metal
30-046	DPDT	ON	- ON Metal
30-048	DPDT	ON	OFF ON Metal
30-051	DPDT	ON	OFF (ON) Metal
30-050	DPDT	(ON)	OFF (ON) Metal

NOTE: () = Momentary

HEAVY DUTY BAT HANDLE TOGGLE SWITCHES - DPST & DPDT



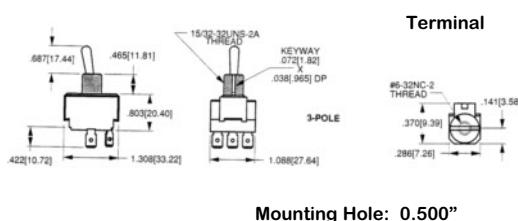
SPECIFICATIONS:

Current Rating:	20A @125V AC, 10A @ 277V AC 1-1/2 HP @ 125-250V AC
Initial Contact Resistance:	50 Meg ohm (Max.)
Insulation Resistance:	100 Meg ohm (Min.) @ 500V DC
Dielectric Strength:	1000V AC 50/60 Hz for 1 minute
Contact Material:	Brass - Bright Nickel Plate
Terminal Material:	Brass
Terminal Type:	Solder - Tin Dipped

Part No.	Type	Action	Actuator
30-012	DPST	ON	- OFF Metal
30-052	DPDT	ON	- ON Metal
30-049	DPDT	ON	OFF ON Metal

NOTE: () = Momentary

HEAVY DUTY BAT HANDLE TOGGLE SWITCHES - 3PST & 3PDT



SPECIFICATIONS:

Current Rating:	17A @125V AC, 12A @ 250V AC 1-1/2 HP 250V AC 1, 2 or 3 Phase
Insulation Resistance:	100 Meg ohms
Dielectric Strength:	1000V (min.)
Base Material:	Phenolic
Actuator & Bushing Material:	Brass/Nickel Plate
Terminal Type:	Screw (#6-32 NC-2 Thread)

Part No.	Type	Action	Actuator
30-10239	3PST	ON	- OFF Metal
30-10240	3PDT	ON	OFF ON Metal
30-10241	3PDT	ON	- ON Metal

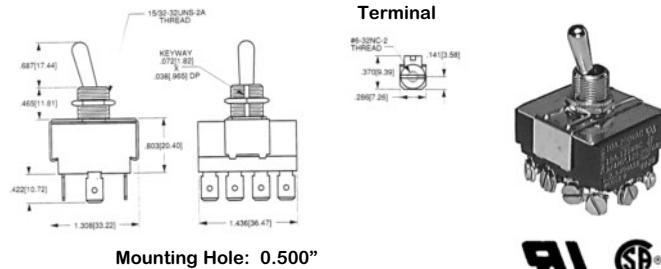
SWITCHES STANDARD TOGGLE

SPECIFICATIONS:

Current Rating:	15A @ 125V AC, 10A @ 250V AC
Insulation Resistance:	100 Meg ohms
Dielectric Strength:	1000V (min.)
Base Material:	Phenolic
Actuator & Bushing Material:	Brass/Nickel Plate
Terminal Type:	Screw (#6-32 NC-2 Thread)

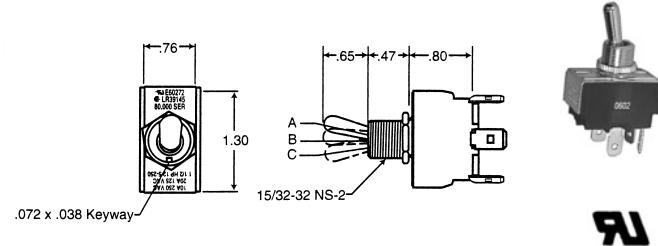
Part No.	Type	Action	Actuator
30-10243	4PDT	ON OFF ON	Metal
30-10245	4PST	ON - OFF	Metal
30-10376	4PDT	ON - ON	Metal

HEAVY DUTY BAT HANDLE TOGGLE SWITCHES - 4PDT



HEAVY DUTY BAT HANDLE TOGGLE SWITCH SPDT, TWO CIRCUIT

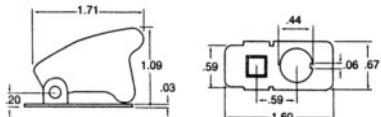
Current Rating:	15A @ 125V AC, 10A @ 250V AC		
Initial Contact Resistance:	3/4 HP @ 125-250V AC,		
Insulation Resistance:	50 Meg ohm (Max.)		
Dielectric Strength:	100 Meg ohm (Min.)		
Base Material:	1,000V for (Min)		
Actuator & Bushing:	Phenolic		
Terminal Type:	Brass Nickle Plated		
	.250" Quick Connect		
Part No.	Type	Action	Actuator
30-340	SPDT	(ON) ON OFF	Metal



TOGGLE SWITCH SAFETY GUARD

Features

Rugged Spring-loaded Design, Black Steel Base w/ Red urea Plastic Cover
Fits ALL Metal Lever toggles w/ 15/32 X 32 Bushing

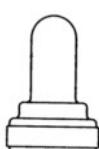


No. 30-1250 Toggle Switch Guard

TOGGLE SWITCH HARDWARE



Part No.
30-1320
Rubber Boot
Thread Size: 15/32-32



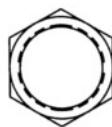
Part No.
30-1200
Rubber Boot
Thread Size: M12 x 1.0



Part No.
30-2200B
ON - OFF PLATE
* Available in Bulk only.

Switch & Control Mounting Nuts

Size	Part Number
3/8-32 x 1/2 x 3/32"	10-133
15/32-32 X 9/16 x 5/64"	10-137



These nuts are Nickel plated brass and are used on controls, switches, capacitors, and tip jacks.

Size	Part Number
15/32-32 x 5/8"	10-135

