

ATTRACTIVE & RUGGED FOR WET & DUSTY ENVIRONMENTS

The OTTO K5 series is a quality, precision switch designed to comply with standards established for appliance, marine (ignition protection) and off-road vehicles along with other demanding applications where rugged rocker switches are required.

K5 series sealed rocker switches snap into industry-standard panel cutouts. Choose illuminated and printed legends, thru-panel drain option and switching compatibility from low level up to 20 amps.

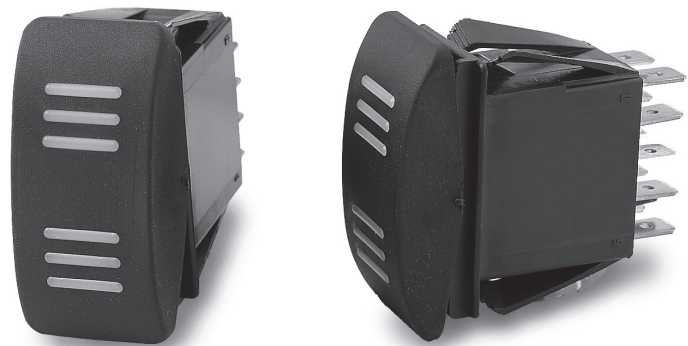
The K5 series offers a choice of LED, incandescent and neon illumination. Legends can be stamped onto a non-illuminated button, stamped onto an illuminated lens or laser etched into the lens and backlit.

Available in standard and logic level contact ratings, the K5 rockers will fit a wide range of applications. Expect a minimum of 25,000 cycles at a full rated load of 20 amps resistive or 15 amps inductive. 100,000 cycles mechanical. A full complement of switch operation is available including momentary and maintained action in 2 or 3-position switches in SPST, SPDT, SPTT, DPST and DPDT circuit arrangements.

OTTO can provide custom colors upon request. Value-added assemblies with wire leads are also available. Please consult the factory for assistance.

## Features:

- Sealed watertight per IP68S and IP69K
- Snap-in panel mounting into industry standard panel cutout
- Optional panel seal gasket
- LED, neon & incandescent lighting
- 0.250" Quick Connect terminals
- Optional one-piece connector
- Optional terminal barriers
- Logic level up to 20 amp switch
- Configurable Single Pole Triple Throw (SPTT) with external jumpers
- Soft Touch button available
- RoHS/WEEE/Reach compliant



Raised Bars Shown

Standard Characteristics/Ratings:		
<b>ELECTRICAL RATINGS:</b>		
Load	Sea Level @ 28VDC	Sea Level @ 125VAC, 60/400Hz
Resistive	20A	16A
Inductive	15A	15A
Lamp	5A	5A
Motor	0.5HP @ 110VAC	
DWV	1000Vrms except across light terminals	
Logic Level	10-100mA @ 3-28V, max D.C. logic level ratings (void if logic level load(s) exceeded at any time)	
<b>Electrical Life:</b>	25,000 cycles	
<b>LIGHTING:</b>		
Light Source	Rating	
Incandescent	(VDC) 6V, 12V, 24V	
Neon	(VAC) 125V, 250V	
LED	(VDC) 2V, 6V, 12V, 24V	
<b>Mechanical Life:</b>	100,000 cycles	
<b>Seal:</b>	IP68S and IP69K	
<b>Operating Temp Range:</b>	-40°C to +85°C	
<b>MATERIALS:</b>		
<b>Case:</b>	Thermoplastic	
<b>Button:</b>	Thermoplastic	
<b>Terminals/Contact:</b>	Brass, silver alloy with silver plate, gold flash for low level	
<b>Terminal Hardware:</b>	K5 series recommended Quick Connect terminals: AMP 60253-2 for 12-16 AWG AMP 42100-2 for 14-18 AWG	
<b>Mounting Hardware:</b>	None provided	

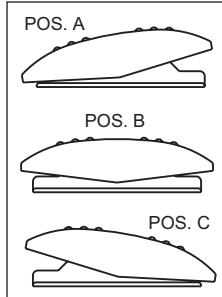
# SEALED, ILLUMINATED ROCKER SWITCHES

## SNAP-IN PANEL MOUNTING

### K5 SERIES PART NUMBER CODE

Part Number Code Continued Below

K5		X		X		XX		XX		X		X	
Base Options		Rocker Color*/Style		Rocker Features		Switch Action/Circuit		Light Source Type*		Light Circuit		Terminal Connections	
<b>A.</b> With Keying Pin Only Standard Rating Silver Plate	<b>A.</b> Black Plastic Rocker	<b>B.</b> Black "Soft Touch" Rocker	<b>C.</b> Red Plastic Rocker	<b>1.</b> No Feature	<b>1A.</b> 3-4	<b>2A.</b> 3-4/8-9	<b>1B.</b> 3-4	<b>2B.</b> 3-4/8-9	<b>A.</b> No Illumination	<b>A.</b> NONE	<b>1(-) &amp; 4(+)</b>	<b>B.</b> Dep. in "A"	<b>1(-) &amp; 4(+)</b>
<b>B.</b> Without Barriers or Pin Standard Rating Silver Plate	<b>D.</b> Red "Soft Touch" Rocker	<b>E.</b> White Plastic Rocker	<b>F.</b> White "Soft Touch" Rocker	<b>2.</b> Lens	<b>2A.</b> (3-4)/(8-9)	<b>1B.</b> 3-4	<b>2B.</b> (3-4)/(8-9)	<b>3.</b> Raised Bars	<b>B.</b> 6V Incandescent	<b>C.</b> Dep. in "C"	<b>2(+)</b> & <b>5(-)</b>	<b>D.</b> Ind. in "A"	<b>1(-) &amp; 6(+)</b>
<b>C.</b> With Terminal Barriers Only Standard Rating Silver Plate	<b>H.</b> Green Plastic Rocker	<b>J.</b> Orange Plastic Rocker	<b>L.</b> Gray "Soft Touch" Rocker	<b>3.</b> Raised Bars	<b>1C.</b> (3-4)	<b>2C.</b> (3-4)/(8-9)	<b>1D.</b> (3-4)	<b>4.</b> Raised Lit Bars	<b>C.</b> 12V Incandescent	<b>E.</b> Ind. in "C"	<b>5(-) &amp; 10(+)</b>	<b>F.</b> Dep. in "A"	<b>1(-) &amp; 4(+)</b>
<b>D.</b> With Keying Pin Only Logic Level Rating Gold Plate	<b>M.</b> Gray Plastic Rocker	NOTE: Soft Touch rockers require same color lenses/lit bars for both positions.		<b>4.</b> Raised Lit Bars	<b>2D.</b> (3-4)/(8-9)	<b>1E.</b> (3-4)	<b>2E.</b> (3-4)/(8-9)		<b>D.</b> 24V Incandescent	<b>G.</b> Dep. in "C"	<b>2(+)</b> & <b>5(-)</b>	<b>H.</b> Ind. in "A"	<b>1(-) &amp; 6(+)</b>
<b>E.</b> Without Barriers or Pin Logic Level Rating Gold Plate	*Additional colors available. Contact factory.				<b>1E.</b> (3-4)	<b>2F.</b> 3-4	<b>1F.</b> 3-4		<b>H.</b> 2V Green LED	<b>J.</b> Ind. in "A"	<b>5(-) &amp; 10(+)</b>	<b>K.</b> 6V Red LED	<b>2(+)</b> & <b>5(-)</b>
<b>F.</b> With Terminal Barriers Only Logic Level Rating Gold Plate					<b>2F.</b> 3-4/8-9	<b>1G.</b> (3-4)	<b>2G.</b> (3-4)/(8-9)		<b>J.</b> 2V Amber LED	<b>G.</b> Dep. in "A"	<b>1(-) &amp; 4(+)</b>	<b>L.</b> 6V Green LED	<b>5(-) &amp; 10(+)</b>
<b>G.</b> With Keying Pin Only Standard Rating No Plate					<b>1G.</b> (3-4)	<b>2G.</b> (3-4)/(8-9)			<b>K.</b> 6V Red LED	<b>H.</b> Ind. in "A"	<b>1(-) &amp; 6(+)</b>	<b>M.</b> 6V Amber LED	<b>2(+)</b> & <b>5(-)</b>
<b>H.</b> Without Barrier or Pin Standard Rating No Plate					<b>2G.</b> (3-4)/(8-9)				<b>L.</b> 6V Green LED	<b>J.</b> Ind. in "A"	<b>1(-) &amp; 6(+)</b>	<b>N.</b> 12V Red LED	<b>2(+)</b> & <b>5(-)</b>
<b>J.</b> With Terminal Barriers Only Standard Rating No Plate									<b>P.</b> 12V Green LED	<b>K.</b> Ind. in "C"	<b>5(-) &amp; 10(+)</b>	<b>O.</b> 12V Amber LED	<b>1(-) &amp; 6(+)</b>
									<b>Q.</b> 12V Amber LED	<b>L.</b> Ind. in "C"	<b>5(-) &amp; 10(+)</b>	<b>R.</b> 24V Red LED	<b>1(-) &amp; 6(+)</b>
									<b>S.</b> 24V Green LED	<b>M.</b> Ind. in "C"	<b>5(-) &amp; 10(+)</b>	<b>T.</b> 24V Amber LED	<b>1(-) &amp; 6(+)</b>
									<b>T.</b> 24V Amber LED	NOTE: Polarity only applies to LED circuits.			



### Special Circuits

Position "A"	Position "B"	Position "C"	Special Circuits
<b>1H.</b> 3-4/8-9	8-9	OFF	ON/ON/OFF
<b>1J.</b> 3-4/8-9	8-9	NONE	ON/ON/NONE
<b>1K.</b> (3-4)/(8-9)	8-9	OFF	(ON)/ON/OFF
<b>1L.</b> (3-4)/(8-9)	8-9	NONE	(ON)/ON/NONE
<b>1M.</b> 3-4/8-9	3-2/8-9	3-2/8-7	ON/ON/ON
<b>1N.</b> (3-4)/(8-9)	3-2/8-9	3-2/8-7	(ON)/ON/ON
<b>1P.</b> (3-4)/(8-9)	3-2/8-9	(3-2)/(8-7)	(ON)/ON/(ON)
<b>2R.</b> 3-4/8-9	OFF/8-9	OFF/OFF	ON/OFF/OFF
			ON/ON/OFF
<b>2S.</b> (3-4)/8-9	OFF/8-9	OFF/OFF	(ON)/OFF/OFF
			ON/ON/OFF

\*See appendix for complete voltage/ratings table

NOTE: All code combinations are not feasible. Consult factory for product availability.

NOTE: ( ) denotes momentary action.

### K5 PART NUMBER CODE - CONTINUED FROM ABOVE

X		X		XX		XX		X		X		X	
Lens Color		Legend Style		Legend Color		Legend Orientation		Legend Color		Legend Orientation		Legend Orientation	
<b>1.</b> Transparent Red	<b>1.</b> Transparent Red	<b>ZZ.</b> No Legend	<b>ZZ.</b> No Legend	<b>1.</b> Red	<b>1.</b> Red	<b>1.</b> Std.	<b>A</b>	<b>C</b>	<b>1.</b> Red	<b>1.</b> Red	<b>1.</b> Std.	<b>A</b>	<b>C</b>
<b>2.</b> Transparent Green	<b>2.</b> Transparent Green			<b>2.</b> Black	<b>2.</b> Black	<b>2.</b> 90°	<b>A</b>	<b>C</b>	<b>2.</b> Black	<b>2.</b> Black	<b>2.</b> 90°	<b>A</b>	<b>C</b>
<b>3.</b> Transparent Amber ①	<b>3.</b> Transparent Amber ①			<b>9.</b> White	<b>9.</b> White	<b>3.</b> 180°	<b>A</b>	<b>C</b>	<b>9.</b> White	<b>9.</b> White	<b>3.</b> 180°	<b>A</b>	<b>C</b>
<b>4.</b> Clear ①	<b>4.</b> Clear ①			<b>B.</b> Backlight/Daylight White ③	<b>B.</b> Backlight/Daylight White ③	<b>4.</b> 270°	<b>A</b>	<b>C</b>	<b>B.</b> Backlight/Daylight White ③	<b>B.</b> Backlight/Daylight White ③			
<b>5.</b> Translucent White ②	<b>5.</b> Translucent White ②			<b>D.</b> Backlight/Deadfront ③	<b>D.</b> Backlight/Deadfront ③				<b>D.</b> Backlight/Deadfront ③	<b>D.</b> Backlight/Deadfront ③			
<b>Z.</b> No Lens	<b>Z.</b> No Lens			<b>Z.</b> No Legend	<b>Z.</b> No Legend				<b>Z.</b> No Legend	<b>Z.</b> No Legend			

NOTE: It is not recommended to use green LEDs with translucent white lenses. This will reduce light intensity. Use clear lenses with green LEDs for maximum light intensity.

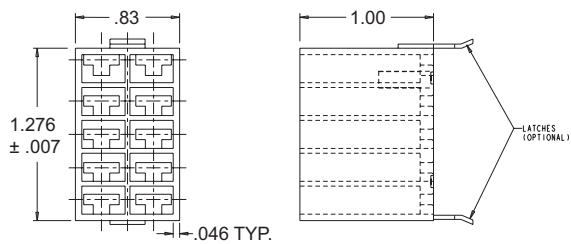
NOTE: For all other legend options, refer to the legend table on page 183, find the two digit code and enter the code in the appropriate position(s).

STOP HERE for lighted switches without legends.

Example: K5AA331FNH-44

STOP HERE for unlighted switches without legends.

Example: K5AA331BAA



**K5 Connector**  
P/N 801775-2A Without Latches  
P/N 801775-2B With Latches

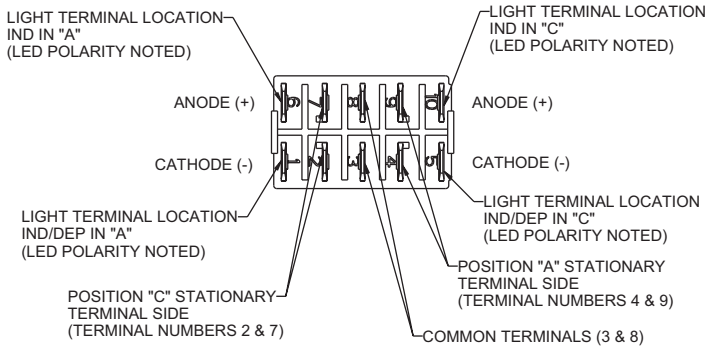
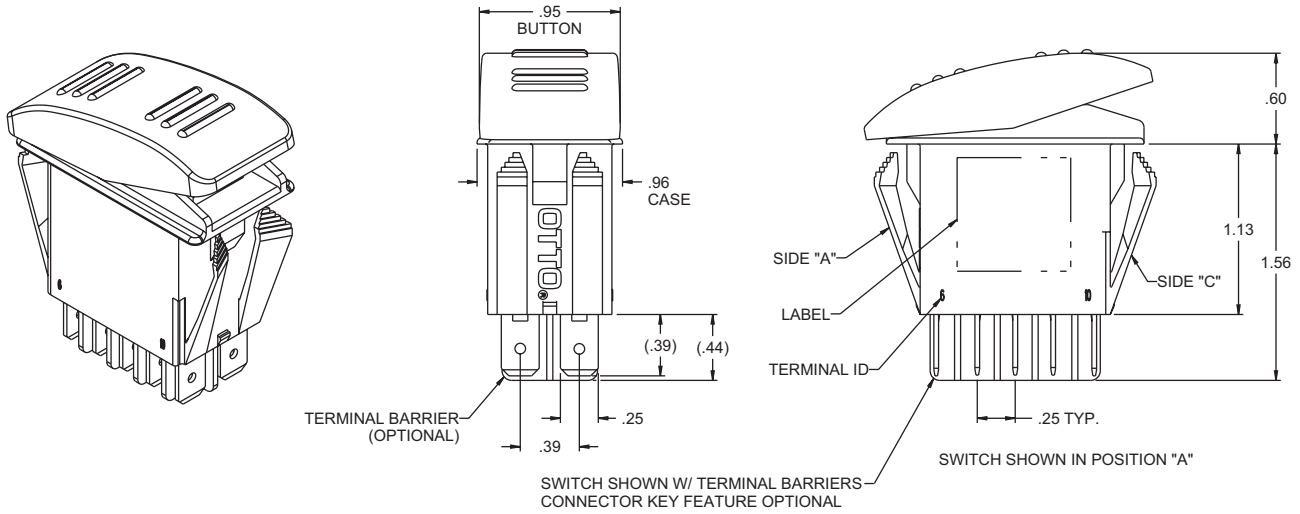
**Recommended Quick Connect Terminals**  
AMP 60253-2 for 12-16 AWG  
AMP 42100-2 for 14-18 AWG

**Panel Seal Gasket**  
P/N 807109

• K5 panel plugs available as shown on page 188.

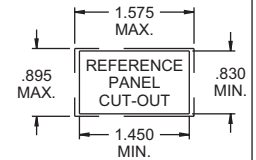
# SEALED, ILLUMINATED ROCKER SWITCHES

ATTRACTIVE & RUGGED FOR WET & DUSTY ENVIRONMENTS



TERMINAL LOCATIONS AS VIEWED FROM BOTTOM OF SWITCH (CASE REMOVED FOR CLARITY)  
CONTACT MADE IN OPPOSITE DIRECTION OF ROCKER TRAVEL






















MOUNTING OPENING:  
PANEL THICKNESS RANGE OF .025 - .105 A GASKET IS RECOMMENDED  
PANEL THICKNESS RANGE OF .105 - .187 W/O GASKET  
PANEL OPENING: MIN. TYP. MAX.  
WIDTH .830 .863 .895  
LENGTH 1.450 1.513 1.575



<p>POS "A"</p> <p>POS "B"</p> <p>POS "C"</p> <p>SPECIAL CIRCUIT - ON-ON SCHEMATIC</p>	<p>K5....2A....</p> <p>DPST-ON-NONE-OFF SCHEMATIC</p>	<p>K5....2B....</p> <p>DPDT-ON-NONE-ON SCHEMATIC</p>	<p>K5....2C....</p> <p>DPST-(ON)-NONE-OFF SCHEMATIC</p>	<p>K5....2D....</p> <p>DPDT-(ON)-NONE-ON SCHEMATIC</p>	
<p>GENERAL SCHEMATIC INFORMATION</p> <p>○—○ INDICATES MAINTAIN ACTION (FIXED POSITION)</p> <p>▼—○ INDICATES MOMENTARY ACTION (AUTOMATIC RETURN POSITION)</p> <p>FOR OTHER LIGHTING SCHEMATICS REPLACE FOLLOWING SYMBOLS:</p> <p> INCANDESCENT (REPLACE RESISTOR &amp; LED)</p> <p> NEON (REPLACE LED)</p>	<p>K5....2E....</p> <p>DPDT-(ON)-OFF-(ON) SCHEMATIC</p>	<p>K5....2F....</p> <p>DPDT-ON-OFF-ON SCHEMATIC</p>	<p>K5....2G....</p> <p>DPDT-(ON)-OFF-ON SCHEMATIC</p>	<p>K5....2BND-Z</p> <p>DPDT-ON-NONE-ON SCHEMATIC W/DEPENDENT LED IN "A"</p>	<p>K5....2BNC-Z</p> <p>DPDT-ON-NONE-ON SCHEMATIC W/DEPENDENT LED IN "C"</p>
<p>K5....2BND-Z</p> <p>DPDT-ON-NONE-ON SCHEMATIC W/INDEPENDENT LED IN "A"</p>	<p>K5....2BNE-Z</p> <p>DPDT-ON-NONE-ON SCHEMATIC W/INDEPENDENT LED IN "C"</p>	<p>K5....2BNF...</p> <p>DPDT-ON-NONE-ON SCHEMATIC W/DEPENDENT LED IN "A" &amp; "C"</p>	<p>K5....2BNG...</p> <p>DPDT-ON-NONE-ON SCHEMATIC W/DEPENDENT LED IN "A" &amp; INDEPENDENT LED IN "C"</p>	<p>K5....2BNH...</p> <p>DPDT-ON-NONE-ON SCHEMATIC W/INDEPENDENT LED IN "A" &amp; DEPENDENT LED IN "C"</p>	<p>K5....2BNJ...</p> <p>DPDT-ON-NONE-ON SCHEMATIC W/INDEPENDENT LED IN "A" &amp; "C"</p>

### SNAP-IN PANEL MOUNTING

## Standard Legends Per SAE Specifications

STANDARD LEGENDS PER SAE SPECIFICATIONS								
A1		ANCHOR	K2		UNLOCK	P5		BILGE BLOWER
B1		BATTERY	L1		LIGHT	R1		LIFT
B2		ELECTRIC POWER	L2		MASTER LIGHTING SWITCH	R2		LOWER
C1		AC/COOLING SYSTEMS	L3		HEADLIGHTS	R3		UP
C2		DEHUMIDIFIER	L4		HEADLIGHTS-LOW / DIPPED BEAM	R4		DOWN
C3		HEATER/INTERIOR HEATING	L5		HEADLIGHTS-HIGH / UPPER BEAM	R5		RIGHT
D1		WINDSHIELD DEFROSTER	L6		PARKING LIGHT	R6		LEFT
D2		REAR WINDOW DEFROSTER	L7		WORK LAMP	R7	FWD	FORWARD
D3		MIRROR DEFROSTER	L8		WORK LAMP	R8	REV	REVERSE
E1		ENGINE/START	L9		INTERIOR DOME LIGHT	S1		RADIO
E2		ENGINE/STOP	M1		BEACON	S2		MUTE
E3		ON/START	M2		HAZARD/POSITION LIGHTS	T1		FAST
E4	○	OFF/STOP	M3		CLEARANCE LIGHTS	T2		SLOW
E5	ON	ON	M4		SIDE MARKER LIGHT	T3		TRIM TAB / TRIMMING OPERATION
E6	OFF	OFF	M5		RUNNING LIGHTS (UNDER POWER)	T4		TRANSMISSION
E7		ENGINE ELECTRIC PREHEAT	M6		ANCHOR LIGHT	V1		VENTILATING / AC FAN
E8		ENGINE-GAS INJECTION	M7		RUNNING/ANCHOR LIGHTS	W1		WINDSHIELD WIPER
F1		FRONT FOG LIGHTS	M8		SEARCH LIGHT	W2		WINDSHIELD-WASHER
F2		REAR FOG LIGHTS	M9		LEFT TURN SIGNAL	W3		WINDSHIELD-WASHER/WIPER
G1		FUEL	MA		RIGHT TURN SIGNAL	W4		REAR WINDOW WIPER
H1		HORN	P1		BILGE PUMP #1	W5		REAR WINDOW-WASHER
H2		HORN REAR	P2		BILGE PUMP #2	W6		REAR WINDOW-WASHER/WIPER
K1		LOCK	P3		BILGE PUMP #3	ZZ		NO LEGEND
			P4		BILGE PUMP			

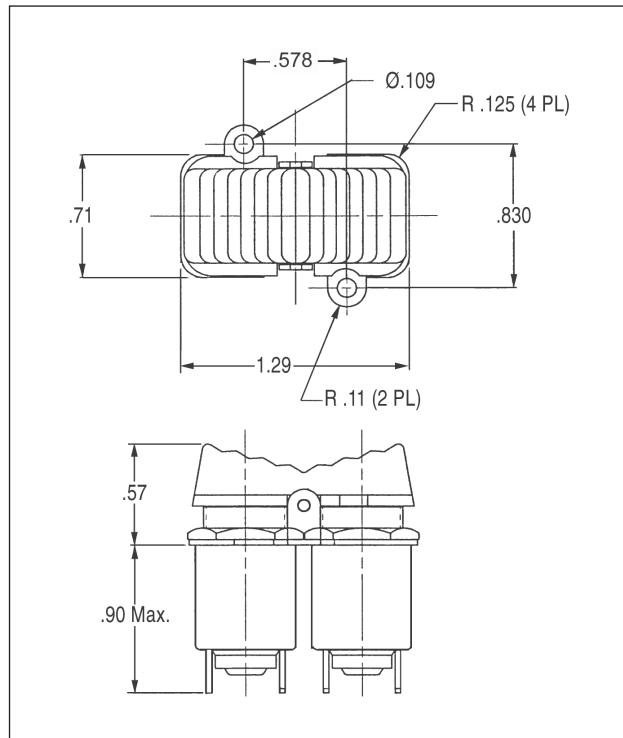
For legends not shown, please consult an OTTO representative.

## ONE MILLION CYCLE SEALED ROCKER SWITCH

The U2-277 (low level) and U2-278 rocker switches are designed to run a minimum of one million mechanical cycles and withstand extreme environmental conditions. Ideal for use in material handling, heavy equipment, off-road and construction equipment, and other outdoor applications where severe conditions are typically encountered. These momentary action, ON-OFF-ON switches provide crisp tactile feedback and are moistureproof and dusttight to IP64. Watertight to IP68S option is also available. The optional watertight seal will withstand direct water spray and the durable construction provides protection against extreme shock and vibration.

### Features:

- **One million cycle life**
- **Moistureproof & dusttight to IP64**
- **Optional IP68S watertight seal available**
- **Momentary action (ON-OFF-ON)**
- **Crisp tactile feedback**
- **Vibration & shock resistant**
- **Low level up to 10 amps switching capability**
- **RoHS/WEEE/Reach compliant**



### Standard Characteristics/Ratings:

#### ELECTRICAL RATINGS:

Load	Sea Level @ 28VDC or 115VAC
Resistive	10A
Inductive	5A
Lamp	3A
Low Level	10mA @ 30mV

**Electrical Life:** 100,000 cycles

**Mechanical Life:** 1,000,000 cycles

**Seal:** IP64 or IP68S

**Operating Temp Range:** -55°C to +85°C

**Operating Force:** 2.5 +0.5/-1.0 lb.

**Reset Force:** 0.75 lb. min

**Total Travel:** 0.080 inches max

**Overtravel:** 0.012 inches min

#### MATERIALS:

**Button:** Nylon black

**Bracket:** Stainless steel

**Contacts:** Silver, standard  
Silver, gold for low level

**Terminal Hardware:** None provided

**Mounting Hardware:** None provided