SEALED, ILLUMINATED ROCKER SWITCHES

ATTRACTIVE & RUGGED FOR WET & DUSTY ENVIRONMENTS

Sealed to IP68S and IP69K, the OTTO K3 rocker switch 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.

K3 sealed rocker switches snap into industry-standard panel cutouts. Choose illuminated and printed legends, thru-panel drain option and switching compatibility from logic level to 20 amps.

The K3 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 K3 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
- Thru-panel drain option
- 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
- RoHS compliant



Standard Characteristics/Ratings:

ELECTRICAL RATINGS		
Load	Sea Level	Sea Level
	@ 12/28VDC	@ 125VAC, 60Hz
Resistive	20A	16A
Inductive	15A	15A
Lamp	5A	5A
Motor	0.5HP @ 110VAC	
DWV	1050Vrms except across light to	erminals
Logic Level	10mA @ 5VDC, max D.C. logic lo (void if logic level load(s) excee	evel ratings ded at any time)
Electrical Life:	25,000 cycles	
LIGHTING:		
Light Source	Rating (see appendix for compl table)	ete voltage/current ratings
Incandescent	(VDC) 6V, 12V, 24V	
Neon	(VAC) 125V, 250V	
LED	(VDC) 2V, 6V, 12V, 24V	
Mechanical Life:	100,000 cycles	
Seal:	IP68S and IP69K	
Operating Temp Range:	-40°C to +85°C	
MATERIALS:		
Case:	Thermoplastic, black	
Button:	Thermoplastic	
Terminals/Contact:	Brass, silver alloy with silver pl	ate, gold flash for logic level
Terminal Hardware:	K3 series recommended Quick	Connect terminals:
	AMP 60253-2 for 12-16 AWG	
	AIVIP 42100-2 for 14-18 AWG	
Mounting Hardware:	None provided	

SEALED, ILLUMINATED ROCKER SWITCHES

K3 SERIES PART NUMBER CODE Part Number Code Continued Below К3 Х Х XX Х Х **Base Options Case Style/Button Color** Switch Action/Circuit Light Source Type* **Light Circuit** A. Case With Drain Holes A. With Keying Pin Only Position Position Position Circuit A. No Illumination Circuit Terminal Standard Rating Button Color: Black "A" B. 6V Incandescent Connections "B" "C" Silver Plate B. Case Without Drain Holes 3-4 NONE OFF SPST C. 12V Incandescent A. None 1A. None B. Without Barriers or Pin Button Color: Black 2A. 3-4/8-9 NONE OFF DPST D. 24V Incandescent B. Dep. in "A" 1(-) & 4(+) Dep. in "C" Standard Rating C. Case With Drain Holes 1B. NONE SPDT E. 125VAC Neon 2(+) & 5(-) 3-4 3-2 C. Silver Plate Button Color: Red 3-4/8-9 NONE DPDT F. 250VAC Neon **D.** Ind. in "A" 1(-) & 6(+) 2B. 3-2/8-7 C. With Terminal Barriers Only D. Case Without Drain Holes 10 (3-4) NONE OFF SPST G. 2V Red LED E. Ind. in "C" 5(-) & 10(+) Standard Rating Button Color: Red 2C. (3-4)/(8-9) NONE OFF DPST H. 2V Green LED F. Dep. in "A" 1(-) & 4(+) E. Case With Drain Holes J. 2V Amber LED Silver Plate 1D. (3-4) NONE 3-2 SPDT Dep. in "C" 2(+) & 5(-) D. With Keying Pin Only Button Color: White (3-4)/(8-9) K. 6V Red LED 2D. NONE 3-2/8-7 DPDT G. Dep. in "A" 1(-) & 4(+) Ind. in "C" Logic Level Rating F. Case Without Drain Holes 1E. (3-4) OFF (3-2) SPDT L. 6V Green LED 5(-) & 10(+) Gold Plate Button Color: White 2E. (3-4)/(8-9) OFF (3-2)/(8-7) DPD1 M.6V Amber LED H. Ind. in "A" 1(-) & 6(+) E. Without Barriers or Pin 1F. 3-4 OFF 3-2 SPDT N. 12V Red LED Dep. in "C" 2(+) & 5(-) NOTE: Switch case is black for Logic Level Rating 2F. 3-4/8-9 OFF 3-2/8-7 DPDT P. 12V Green LED J. Ind. in "A" 1(-) & 6(+) all options below: Gold Plate 1G. (3-4) OFF 3-2 SPDT 0. 12V Amber LED Ind. in "C" 5(-) & 10(+) F. With Terminal Barriers Only 1. Case With Drain Holes (3-4)/(8-9) OFF 3-2/8-7 DPDT R. 24V Red LED 2G. Button Not Included Logic Level Rating S. 24V Green LED NOTE: Polarity only applies to T. 24V Amber LED Gold Plate 2. Case Without Drain Holes LED circuits G. With Keying Pin Only **Special Circuits** Button Not Included Standard Rating SWITCH ACTION/CIRCUIT Position Position Position Special No Plate "B" "C" Circuits "A POS. A POS H. Without Barriers or Pin 3-4/8-9 1H. 8-9 OFF ON/ON/OFF П ТГ Standard Rating 3-4/8-9 8-9 NONE ON/ON/NONE 1J. No Plate 1K. (3-4)/(8-9) OFF (ON)/ON/OFF 8-9 J. With Terminal Barriers Only 1L (3-4)/(8-9) 8-9 NONE (ON)/ON/NONE Standard Rating 1M. 3-4/8-9 3-2/8-9 3-2/8-7 ON/ON/ON No Plate (3-4)/(8-9) 3-2/8-7 (ON)/ON/ON 1N. 3-2/8-9 6 1 1P. (3-4)/(8-9) 3-2/8-9 (3-2)/(8-7) (0N)/0N/(0N) POS C ON/OFF/OFF 2R. OFF/OFF 3-4/8-9 OFF/8-9 ON/ON/OFF 2S. OFF/8-9 OFF/OFF (ON)/OFF/OFF (3-4)/8-9 ON/ON/OFF *See appendix for complete voltage/current ratings table. NOTE: () denotes momentary action. **K3 PART NUMBER CODE - CONTINUED FROM ABOVE** X XX XX Х X X X Lens Color Legend Style Legend Color Legend Orientation Position "C" Position "C" Position "C" Position "A" Position "A' Position "A' Position Position 1. Transparent Red 1. Transparent Red ZZ. No Legend ZZ. No Legend 1. Red 1. Red "A" "C" 2. Transparent Green 2. Black 2. Black 2. Transparent Green 3. Transparent Amber ① 3. Transparent Amber ① 9. White 9. White 1. Std. С Α B. Backlight/ B. Backlight/ 4. Clear ① 4. Clear ① NOTE: For all other legend options, refer 5. Translucent White 2 5. Translucent White 2 Daylight White ④ Daylight White ④ to the legend table in the appendix, find Z. No Lens 3 D. Backlight/ D. Backlight/ Z. No Lens 3 the two digit code and enter the code in **2**. 90° Deadfront @ Deadfront ④ \triangleright റ the appropriate position(s). Z. No Legend Z. No Legend NOTE: It is not recommended to use green LEDs with translucent white lenses. This will reduce light intensity. **3.** 180° C A ④ For legend color "B" and "D", please Use clear lenses with green LEDs for use button color "A" & "B" and STOP HERE for maximum light intensity. lens color "Z" for each position. lighted switches ① Recommended for neon lamps. without legends. ② Special Order: Ultra bright green 4 270° C ◢ LED to be used with translucent Example: K3AAIFNH-44 white lenses. ③ Legend colors "B" & "D" are only available on lens color "Z". 1.00 .83 **K3** Connector STOP HERE for P/N C801775-2A Without Latches ╹╫┖╴╋╴ unlighted switches P/N C801775-2B With Latches without leaends. 1.276 **Panel Seal Gasket** Example: K3AAIFAA LATCHES (OPTIONAL) ±.007 P/N C807037 Order separately for use with switches without drain holes. ╘┽╝╫╘┽╴ └──│--.046 TYP. **Panel Plug** See Panel Plug (PP) page. **Recommended Quick Connect Terminals:**

AMP 60253-2 for 12-16 AWG

AMP 42100-2 for 14-18 AWG

 K3 panel plugs available as shown in Panel Plugs (PP) section.

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POS "A"	K3IM POS "B"	POS *C*	K32A	КЗ2В	К32С	К32D
30-0 4	30-0 4	30-0 4	30-0 4	30-0 2	30-0 4	30-0 4
80-009	80-009	e	80-0-0 9	80-009	80-0 9	80-0 9
5	SPECIAL CIRCUIT - ON-ON-ON SCHEMATIC		DPST-ON-NONE-OFF SCHEMATIC	DPDT-ON-NONE-ON SCHEMATIC	DPST-(ON)-NONE-OFF SCHEMATIC	DPDT - (ON) - NONE - ON SCHEMATIC
GENERAL SCHEMATIC INFORM	MATION	K32E	K32F	КЗ2G	К 3 2 В NB Z	K32BNC-Z_
O—O INDICATES MAINTA ▼──O INDICATES MOMENT (AUTOMATIC RETUR	IN ACTION (FIXED POSITION) ARY ACTION N POSITION)	30-0-4 30-0-2	30	30-0-0 2		
FOR OTHER LIGHTING SCHEI FOLLOWING SYMBOLS:	MATICS REPLACE EPLACE RESISTOR & LED)	80-0 9 80-0 7	80	80-0-0 9 0-0 7	80-00 9	80-00 9
NEON (REPLACE L	ED)	DPDT-(ON)-OFF-(ON) SCHEMATIC	DPDT-ON-OFF-ON SCHEMATIC	DPDT-(ON)-OFF-ON SCHEMATIC	DPDT-ON-NONE-ON SCHEMATIC W/DEPENDENT LED IN "A"	DPDT-ON-NONE-ON SCHEMATIC W/DEPENDENT LED IN "C"
	K328NDZ I O O O O O O O O O O O O O O O O O O O	K328NE-Z. 30 0 2 50 0 10 9 80 0 7 DPDT-ON-NONE-ON SCHEMATIC W/INDEPENDENT LED IN "C"	K328NF IOOOOO 4 3000000000000000000000000000000000000	K32BNG IO IO 30 IO 2 IO SO IO 9 IO PDPI-ON-NONE-ON SCHEMATIC IN WYDEFENDINT LED IN "A" & INTECHNICH	K328NH I O O O O O O O O O O O O O O O O O O O	K328NJ I C C C C C C C C C C C C C C C C C C C



SNAP-IN PANEL MOUNTING, ATTRACTIVE & RUGGED FOR WET & DUSTY ENVIRONMENTS

1.89

SEALED, ILLUMINATED ROCKER SWITCHES

1.02

PANEL PLUGS FOR ROCKER & R2 SERIES

K1 THROUGH K5 & R2 PANEL PLUGS











B. Assembled Plua

K2 2

K3 (2)

K4 ② K5 ①

R2 ①

① Available in Style A only.

2 Available in Style B only.

3 Additional colors available. Contact factory.

2. Black

9. White

*K3 series only.

**Molded plug only.

2. Black*

9. White*

Z. NONE**

ROCKER AND ROTARY SWITCH VOLTAGE/CURRENT RATINGS TABLES

K1, K2, K3P and K4 LIGHTING VOLTAGE/CURRENT COMPONENTS RATINGS

LIGHT SOURCE VOLTAGE	LIGHT SOURCE	FORWARD	TYPICAL FORWARD/	MAX. FORWARD
CATEGORY	COLOR	CURRENT	NOMINAL VOLTAGE	VOLTAGE
6 VDC INCANDESCENT	WHITE	.2 AMPS	6 VDC	8 VDC
12 VDC INCANDESCENT	WHITE	.08 AMPS	12 VDC	14 VDC
24 VDC INCANDESCENT	WHITE	.04 AMPS	24 VDC	28 VDC
125 VAC NEON	AMBER	1.9 mA	125 VAC	125 VAC
250 VAC NEON	AMBER	1.9 mA	250 VAC	250 VAC
	RED	20 mA	1.9 VDC	2.5 VDC
	GREEN	20 mA	2.15 VDC	2.5 VDC
2 VEED FRODUCTS	AMBER	20 mA	1.95 VDC	2.5 VDC
	BLUE	20 mA	3.5 VDC	4.0 VDC
6 V LED PRODUCTS	SEE CHART	20 mA	6 VDC	8 VDC
12 V LED PRODUCTS	SEE CHART	20 mA	12 VDC	14 VDC
24 V LED PRODUCTS	SEE CHART	20 mA	24 VDC	28 VDC

K3/K5 LIGHTING VOLTAGE/CURRENT COMPONENTS RATINGS

LIGHT SOURCE VOLTAGE	LIGHT SOURCE	FORWARD	TYPICAL FORWARD/	MAX. FORWARD
CATEGORY	COLOR	CURRENT	NOMINAL VOLTAGE	VOLTAGE
6 VDC INCANDESCENT	WHITE	.2 AMPS	6 VDC	8 VDC
12 VDC INCANDESCENT	WHITE	.08 AMPS	12 VDC	14 VDC
24 VDC INCANDESCENT	WHITE	.04 AMPS	24 VDC	28 VDC
125 VAC NEON	AMBER	1.9 mA	125 VAC	125 VAC
250 VAC NEON	AMBER	1.9 mA	250 VAC	250 VAC
	RED	20 mA	2.0 VDC	2.5 VDC
2 V LED PRODUCTS*	GREEN	20 mA	2.2 VDC	2.6 VDC
	AMBER	20 mA	2.1 VDC	2.5 VDC
6 V LED PRODUCTS	SEE CHART	20 mA	6 VDC	8 VDC
12 V LED PRODUCTS	SEE CHART	20 mA	12 VDC	14 VDC
24 V LED PRODUCTS	SEE CHART	20 mA	24 VDC	28 VDC

R2 LIGHTING VOLTAGE/CURRENT COMPONENTS RATINGS

LIGHT SOURCE VOLTAGE	LIGHT SOURCE	FORWARD	TYPICAL FORWARD/	MAX. FORWARD
CATEGORY	COLOR	CURRENT	NOMINAL VOLTAGE	VOLTAGE
	RED	20 mA	2.0 VDC	2.5 VDC
2 V LED PRODUCTS*	GREEN	20 mA	2.2 VDC	2.6 VDC
	AMBER	20 mA	2.1 VDC	2.5 VDC
6 V LED PRODUCTS	SEE CHART	20 mA	6 VDC	8 VDC
12 V LED PRODUCTS	SEE CHART	20 mA	12 VDC	14 VDC
24 V LED PRODUCTS	SEE CHART	20 mA	24 VDC	28 VDC

*Intended for use with external resistor. The "2 volt" switches are intended to have a resistor added in series into the lighting circuit by the customer. To determine the approximate value of the resistor, use the equation below:

RESISTOR SIZE = <u>POWER SUPPLY VOLTAGE - LED FORWARD VOLTAGE</u> LED FORWARD CURRENT

LED VOLTAGE/CURRENT RATINGS TABLE

ILLUMINATED PUSHBUTTON SWITCH & INDICATOR LIGHTS VOLTAGE/CURRENT RATINGS TABLES

LP3, LP5 AND LPL SERIES LIGHTING VOLTAGE/CURRENT COMPONENTS RATINGS

LIGHT SOURCE VOLTAGE CATEGORY	LED COLOR	FORWARD CURRENT	TYP. FORWARD VOLTAGE (DC)	MAX. FORWARD VOLTAGE DC
	RED	20 mA	1.9V	2.5V
2V*	GREEN	20 m 4	2.21/	2.61/
PRODUCTS	AMBER	20 MA	2.2V	2.00
	BLUE	20 mA	3.3V	4V
	DEEP GREEN	20 1114		
6V PRODUCTS	ALL COLORS	20 mA	6V	8V
12V PRODUCTS	ALL COLORS	20 mA	12V	14.5V
24V PRODUCTS	ALL COLORS	20 mA	24 V	28.6 V

LP3S LIGHTING VOLTAGE/CURRENT COMPONENTS RATINGS

LIGHT SOURCE VOLTAGE CATEGORY	LED COLOR	FORWARD CURRENT	TYP. FORWARD VOLTAGE	MAX. FORWARD VOLTAGE
	RED			2.5 V
2V*	GREEN	20 mA	2 V	
	AMBER			
PRODUCTS	BLUE		3.2 V	4 V
	DEEP GREEN	20 mA		
	WHITE			
12V PRODUCTS	ALL COLORS	20 mA	12V	14V
24V PRODUCTS	ALL COLORS	20 mA	24 V	28.6 V

LP7-D and LP9 SERIES LIGHTING VOLTAGE/CURRENT COMPONENTS RATINGS

LIGHT SOURCE VOLTAGE CATEGORY	LED COLOR, WAVELENGTH (nm)	FORWARD CURRENT	TYP. FORWARD VOLTAGE	MAX. FORWARD VOLTAGE
2V LIGHTPIPE STYLE	RED (631) GREEN (525) AMBER (591) BLUE (470) WHITE	20 mA 20 mA 20 mA 20 mA 5 mA	2V 3.2V 2.1V 3.3V 2.9V	2.4V 3.6V 2.4V 3.8V 3.15V
2V, TRANSLUCENT FULLY ILLUMINATED STYLE	RED (630) GREEN (525) AMBER (601) BLUE (465) WHITE	20 mA 20 mA 20 mA 20 mA 5 mA	1.95V 3.3V 2.1V 3.3V 2.85V	2.5V 4.1V 2.5V 4V 3.1V
12V ALL PRODUCTS	ALL COLORS, SAME AS 2V	(20 mA)	12.0V	14.0V

LP9L SERIES LIGHTING VOLTAGE/CURRENT COMPONENTS RATINGS				
LIGHT SOURCE VOLTAGE CATEGORY	LED COLOR, WAVELENGTH (nm)	FORWARD CURRENT	TYP. FORWARD VOLTAGE	MAX. FORWARD VOLTAGE
2V PRODUCTS	RED (631) GREEN (525) AMBER (591) BLUE (470) WHITE	20 mA 20 mA 20 mA 20 mA 5 mA	2V 3.2V 2.1V 3.3V 2.9V	2.4V 3.6V 2.4V 3.8V 3.15V
12V PRODUCTS	ALL COLORS, SAME AS 2V	(20 mA)	12.0V	14.0V

*Intended for use with external resistor. The "2 volt" switches are intended to have a resistor added in series into the lighting circuit by the customer. To determine the approximate value of the resistor, use the equation below:

RESISTOR SIZE = <u>POWER SUPPLY VOLTAGE - LED FORWARD VOLTAGE</u> LED FORWARD CURRENT

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