Rotaries

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## General Specifications

## **Electrical Capacity (Resistive Load)**

Low/Logic Level: 50mA @ 24V DC

Other Ratings

**Contact Resistance:** 50 milliohms maximum

500 megohms minimum @ 250V DC **Insulation Resistance: Dielectric Strength:** 250V AC minimum for 1 minute minimum

**Mechanical Life:** 500,000 operations minimum **Electrical Life:** 500,000 operations minimum 1.96N for sculptured actuator **Nominal Operating Force:** 

2.0N for piano actuator

3.0N for square & round flush actuators

Total Travel: Flush Actuators .016" (0.4mm)

Sculptured & Piano Actuators .031" (0.8mm)

**Materials & Finishes** 

Polyamide **Actuator:** 

Glass fiber reinforced polyamide Case: Seal: Nitrile butadiene rubber Base: Glass fiber reinforced polyester Phosphor bronze with silver plating

**Movable Contact:** Brass with silver plating **Stationary Contacts:** 

Terminals: Brass with silver plating

**Environmental Data** 

-25°C through +85°C (-13°F through +185°F) **Operating Temperature Range:** 

**Humidity:** 90 ~ 95% humidity for 96 hours @ 40°C (104°F)

Vibration: 10 ~ 55Hz with peak-to-peak amplitude of 1.5mm traversing the frequency range & returning

in 1 minute; 3 right angled directions for 2 hours

Shock: 50G (490m/s<sup>2</sup>) acceleration (tested in 6 right angled directions, with 5 shocks in each direction)

**PCB Processing** 

Soldering: Wave Soldering Recommended. See Profile A in Supplement section.

Manual Soldering: See Profile A in Supplement section.

Cleaning: Automated cleaning. See Cleaning specifications in Supplement section.

**Standards & Certifications** 

The JF Series tactiles have not been tested for UL recognition or CSA certification. These switches are designed for use in a low-voltage, low-current, logic-level circuit.

When used as intended in a logic-level circuit, the results do not produce hazardous energy.

Rockers

Keylocks Programmable Illuminated PB Pushbuttons

## Distinctive Characteristics

Extremely low profile of 5mm from PCB to top of switch.

Rubber seal construction prevents contact contamination and allows automated soldering and cleaning.

Minimal operating force and short stroke permit light touch operation.

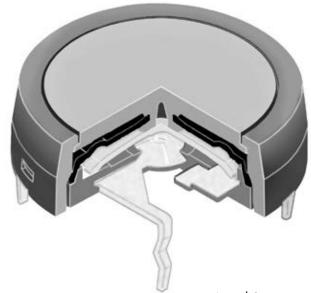
Dome contact gives crisp tactile and audible feedback to positively indicate circuit transfer and assures high reliability and long life.

Wide choice of body shapes and colors.

Crimped terminals provide a spring type action to ensure secure mounting and prevent dislodging during wave soldering.

Space saving body dimensions provide for compact, side-by-side mounting on a standard grid.

Terminal spacing conforms to standard .100" (2.54mm) PCB grid.

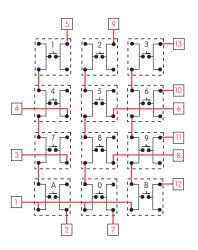


Actual Size



### Common Bus Matrix

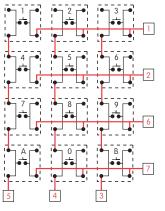
These single pole, single throw switches can be used in a keyboard matrix and, using strapped terminals, achieve a common bus electrical configuration on a single-sided PC board.



	PC Terminations													
1 2 3 4 5						6	7	8	9	10	11	12	13	
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(Switches	5		_	$\vdash$									Н	
=	6		_	$\vdash$	$\vdash$								Н	
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	0 = 011													

## X-Y Matrix

These single pole, single throw switches can be arranged on a single-sided PC board matrix with strapped terminals to achieve an X-Y type electrical interconnection.

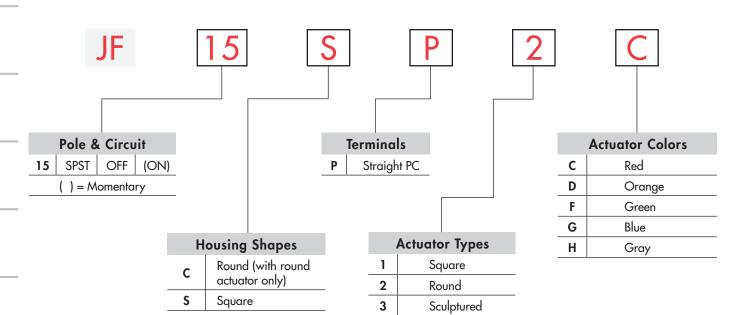


PC Terminations								
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O = ON								

Red = PCB Trace Black = Switch Circuit



## Ė Indicators Supplement Accessories



TYPICAL SWITCH ORDERING EXAMPLE

## **DESCRIPTION FOR TYPICAL ORDERING EXAMPLE**

4

Piano

JF15SP2C



POLE & CIRCUIT											
			Position omentary	Switch T	hrow & Schematic						
		Normal	Down								
Pole	Model	_	_	SPST	13	Note: Terminal numbers are					
SP	JF15	OFF	(ON)	3131	24	shown on the switch.					

## **HOUSING SHAPES & ACTUATOR TYPES**

























**Actuator Colors** Available:







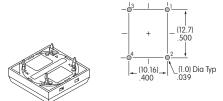


Housing is Black

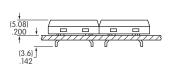
## **TERMINALS & PANEL DESIGN**

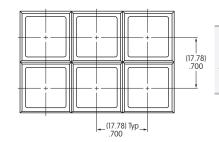
Straight PC

Additional details in Typical Switch Dimensions



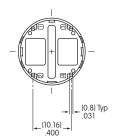
Versatile panel arrangements can be made to fit individual design needs.





## **TYPICAL SWITCH DIMENSIONS**

(16.4) Dia .646 (0.3) Typ .012 (3.6) .142 (0.3)





**Round Actuator** 

JF15CP2C



.551 .57 Dia\_\_\_ .697

Touch

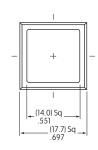
## Supplement Accessories

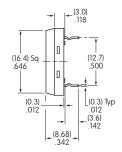
## TYPICAL SWITCH DIMENSIONS

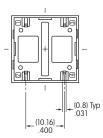
## **Square Actuator**

**Series JF** 





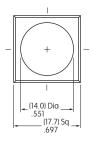


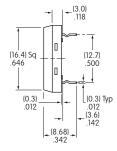


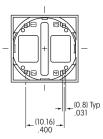
JF15SP1C

## **Round Actuator**





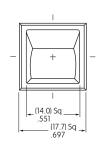


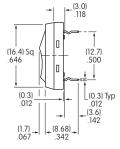


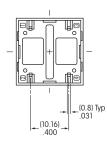
JF15SP2C

## **Sculptured Actuator**





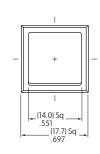


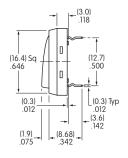


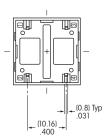
JF15SP3C

## **Piano Actuator**









JF15SP4C



# Supplement | Accessories |

## **LEGENDS**

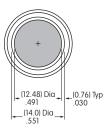
NKK Switches can provide custom legends for caps. Contact factory for more information.

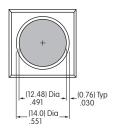
### **Shaded Areas are Printable Areas**

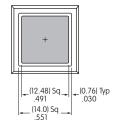




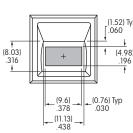




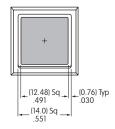












Recommended Print Methods: Screen Print or Pad Print. Epoxy based ink is recommended.

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