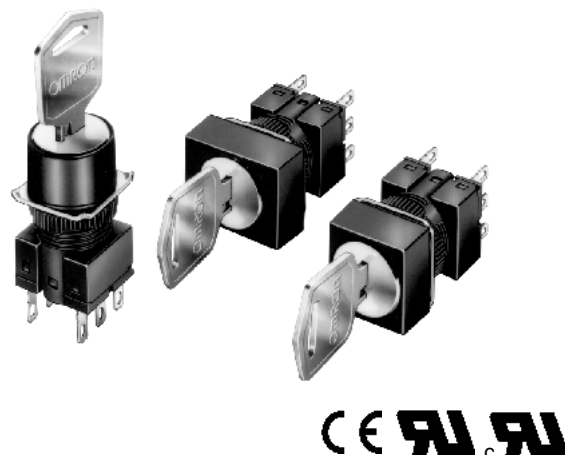


Key-Type Selector Switch

A165K

Mounting Aperture of 16 mm

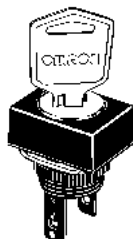
- Tool-free installation
- 2-piece construction
- Oil-resistant IP65 models
- Short mounting depth, less than 28.5 mm below panel
- Wide range of switching capacity from general to microload
- Maintained and spring return models available
- UL and CSA approved, VDE (pending)
- Conforms to EN60947-5-1, IEC947-5-1



Ordering Information

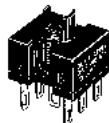
■ CONSTRUCTION

Flange Shape



Protective Case and Terminal Type

- **Protective Structure**
Oil-resistant IP65
- **Terminal Type**
Solder terminals
(tab terminals #110)



Key Types

- Four key types are available in addition to the standard key.

Number of positions and Reset Method

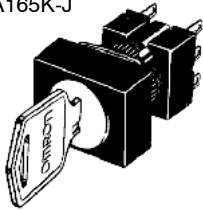
- **2 positions**
Maintained
Spring Return
- **3 positions**
Maintained
Spring Return

Switch Unit Specifications

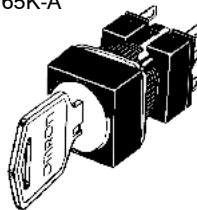
- **General-purpose Loads**
125 VAC: 5 A
250 VAC: 3 A
30 VDC 3 A
Minimum applicable load: 1 mA at 5 VDC

■ PART NUMBER NOMENCLATURE A165K ASSEMBLED KEY-TYPE SELECTOR SWITCH (COMPLETE ASSEMBLY)

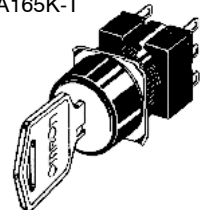
A165K-J



A165K-A



A165K-T



A165K-12345

1 Flange Shape

Code	Shape
T	Round
A	Square
J	Rectangular

4 Key Release Position

Code	Position
None	All
C	Center
R	Right
L	Left

2 Number of Positions

Code	Description
2	2 Position
3	3 Position

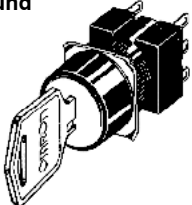
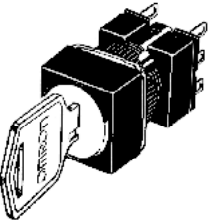
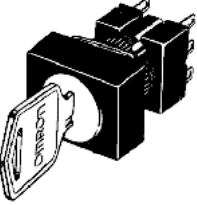
5 Contacts

Code	Description
1	SPDT
2	DPDT

3 Reset Method


Code	Description
M	Maintained
A	Spring returned

PART NUMBERS: NON-ILLUMINATED KEY-TYPE SELECTOR SWITCH (COMPLETE ASSEMBLY)



Shape	Number of positions	Contact	Reset method	Key release position	Part number
Round 	2 positions	SPDT	Maintained	Left	A165K-T2ML-1
				Right	A165K-T2MR-1
				All	A165K-T2M-1
		DPDT	Maintained	Left	A165K-T2AL-1
				Right	A165K-T2MR-2
				All	A165K-T2M-2
	3 positions	DPDT	Maintained	Left	A165K-T2AL-2
				Right	A165K-T2MR-2
				Left	A165K-T3ML-2
				All	A165K-T3M-2
				Center	A165K-T3MC-2
				Right	A165K-T3MR-2
Square 	2 positions	SPDT	Maintained	Left	A165K-A2ML-1
				Right	A165K-A2MR-1
				All	A165K-A2M-1
		DPDT	Maintained	Left	A165K-A2AL-1
				Right	A165K-A3MR-2
				All	A165K-A2M-2
	3 positions	DPDT	Maintained	Left	A165K-A2AL-2
				Center	A165K-A3MC-2
				Right	A165K-A3MR-2
				Left	A165K-A3ML-2
				All	A165K-A3M-2
				Center	A165K-A3AC-2
Rectangular 	2 positions	SPDT	Maintained	Left	A165K-J2ML-1
				Right	A165K-J2MR-1
				All	A165K-J2M-1
		DPDT	Maintained	Left	A165K-J2AL-1
				Right	A165K-J2MR-2
				All	A165K-J2M-2
	3 positions	DPDT	Maintained	Left	A165K-J2AL-2
				Center	A165K-J3MC-2
				Right	A165K-J3MR-2
				Left	A165K-J3ML-2
				All	A165K-J3M-2
				Center	A165K-J3AC-2

Accessories (Order Separately)_____

■ PANEL PLUGS

Shape	Classification	Remarks	Part number
	Rectangular	Used for covering the panel cutouts for future panel expansion.	A3BJ-3003
	Square		A3BA-3003
	Round		A3BT-3003

■ TOOLS

Name	Shape	Applicable types					Remarks	Part number
		Pushbutton Switch	Knob-type Selector Switch	Key-type Selector Switch	Emergency Stop Switch	Indicator		
Screw fitting		Yes	Yes	Yes	Yes	Yes	Convenient for ganged installation. Tighten to a torque of 0.39 N • m (5 kgf • cm) min.	A3B-3004
Extractor		Yes	Yes	Yes	Yes	Yes	Convenient for extracting the Switch Unit and Lamps.	A16Z-5080

Specifications

■ APPROVED STANDARDS

UL, cUL (File No. E41515)

5 A at 125 VAC, 3 A at 250 VAC (general use)

3 A at 30 VDC (resistive)

EN60947-5-1 (Low Voltage Directive)

■ RATINGS

AC resistive load	DC resistive load
3 A, 250 VAC 5 A, 125 VAC	3 A, 30 VDC

Minimum applicable load: 1 mA at 5 VDC

Rated values are obtained from tests conducted under the following conditions according to JIS C4505 and C4520.

1. Load: Resistive load
2. Mounting conditions: No vibration and no shock
3. Temperature: 20°±2°C
4. Operating frequency: 20 times/min

■ CONTACT

Name	Contact
SPDT	

■ CHARACTERISTICS

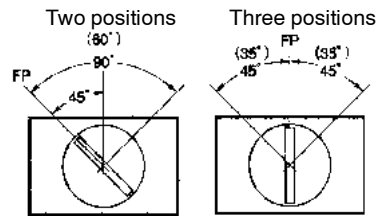
Item		Key-type Selector Switch
Allowable operating frequency	Mechanical	20 operations/min max.
	Electrical	10 operations/min max.
Insulation resistance		100 MΩ min. (at 500 VDC)
Dielectric strength		1,000 VAC, 50/60 Hz for 1 min between terminals of same polarity 2,000 VAC, 50/60 Hz for 1 min between terminals of different polarity and also between each terminal and ground
Vibration resistance	Malfunction	10 to 55 Hz, 1.5-mm double amplitude (malfunction within 1 ms)
Shock resistance	Mechanical	500 m/s ² (50G)
	Malfunction	150 m/s ² (15G) max. (malfunction within 1 ms)
Life expectancy	Mechanical	250,000 operations min. (life of key: 10,000 operations min.)
	Electrical	100,000 operations min.
Ambient temperature		Operating: -10°C to 55°C (14°F to 131°F) with no icing or condensation Storage: -25°C to 65°C (-13°F to 149°F) with no icing or condensation
Ambient humidity		Operating: 35% to 85%
Electric shock protection class		Class II
Degree of contamination		3 (IEC947-5-1)
Weight		Approx. 26.5 g (0.93 oz) in the case of a DPDT switch key

Note: Set and reset constitute one operation.

■ OPERATING CHARACTERISTICS

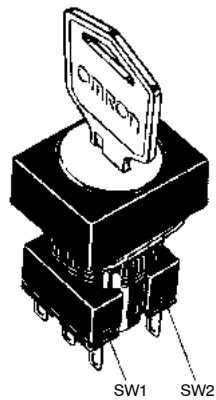
Type		Key-type Selector Switch
Features	2 positions	3 positions
	Operating force (OF) max.	9.8 N • m (1,000 gf • cm)
Set position (SP)		90±5° 45±10°

■ OPERATION ANGLE



Note: The angle used for automatic reset is shown in parentheses.

■ CONTACTS



Position	Contact				
	SPDT		DPDT		
	Position	SW	Position	SW1	SW2
2 positions					
3 positions					

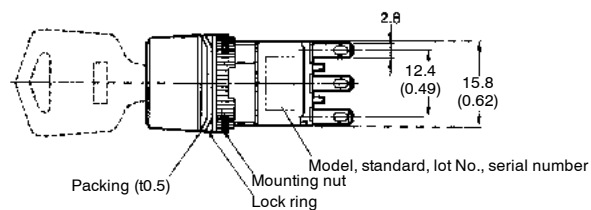
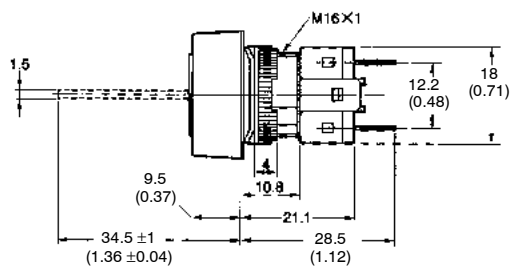
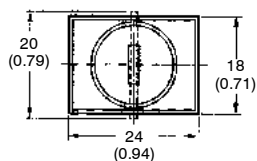
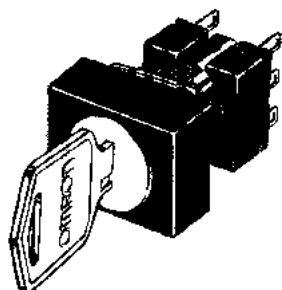
Dimensions

Unit: mm (inch)

■ KEY-TYPE SELECTOR SWITCHES

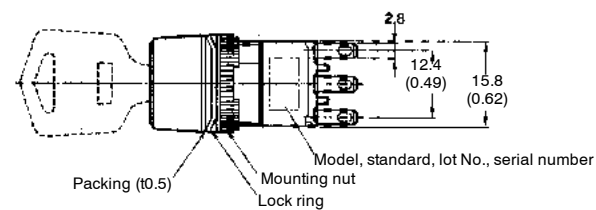
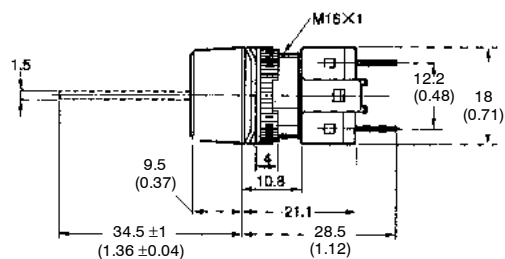
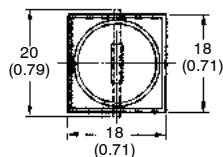
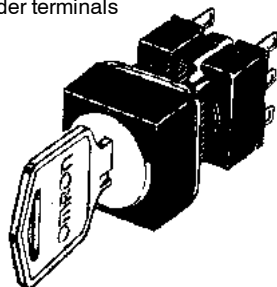
Rectangular A165K-J

Solder terminals



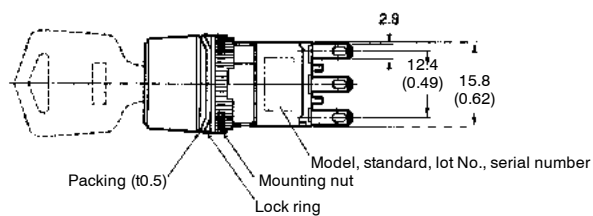
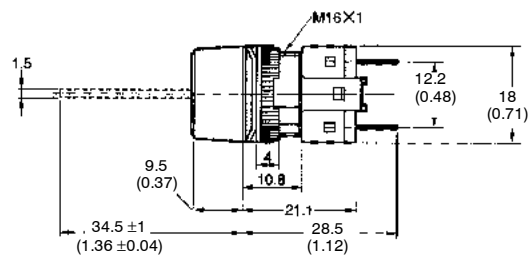
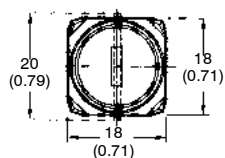
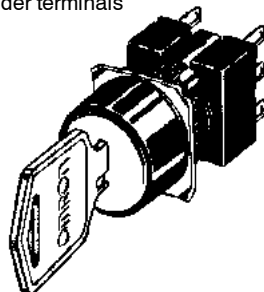
Square A165K-A

Solder terminals



Round A165K-T

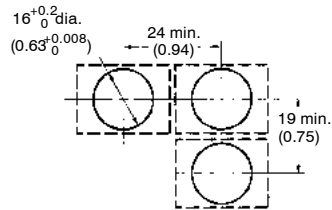
Solder terminals



PANEL CUTOUTS

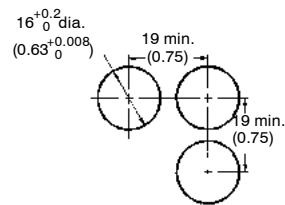
Rectangular A165□-J

(Top View)



Square A165□-A Round A165□-T

(Top View)

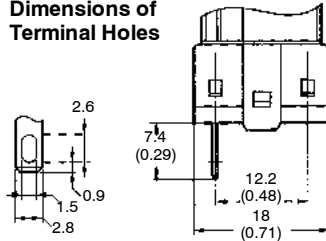


- Note: 1. Make sure the thickness of the mounting panel is between 0.5 and 3.2 mm. If, however, a Switch Guard or Dust Cover is used, the thickness of the mounting panel must be between 0.5 and 2 mm.
2. If the panel is to be finished with coating, etc., make sure that the panel meets the specified dimensions after coating.

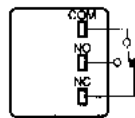
TERMINAL ARRANGEMENT

SPDT Switches

Dimensions of
Terminal Holes

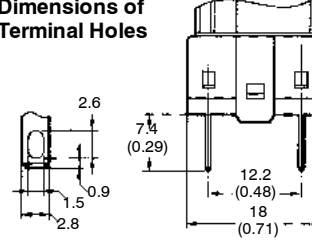


Terminal Arrangement
(Bottom View)

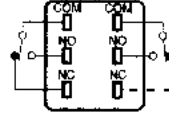


DPDT Switches

Dimensions of
Terminal Holes



Terminal Arrangement
(Bottom View)



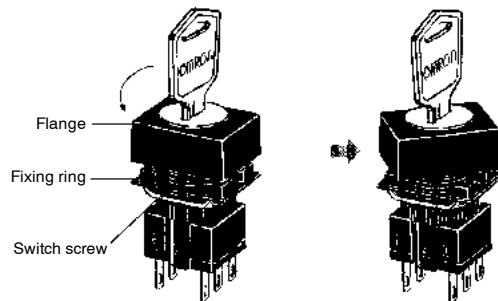
Installation

For mounting and removal instructions refer to the *Installation* section of the A16 Pushbutton switch.

FLANGE ROTATION

A165 Key-type Selector Switch

Fix the Switch screw and rotate the flange in 45° turns.



NOTE: DIMENSIONS SHOWN ARE IN MILLIMETERS. To convert millimeters to inches divide by 25.4.

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