

Harmony™ 9001K/SK/KX 30 mm push buttons

Catalog
2011



Harmony™ 9001K/SK/KX

30 mm push buttons

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Harmony™ 9001K/SK/KX 30 mm push buttons



Introduction

Schneider Electric's Harmony™ 9001 30 mm push buttons, pilot lights, selector switches and mushroom head operators provide robust and reliable solutions for a wide range of heavy industry applications.

- **9001K** operators are rugged and include chrome-plated bezels. (See page 5.)
- **9001SK** operators include black plastic bezels for corrosion-resistant applications. (See page 36.)
- **9001KX** operators include chrome-plated square bezels and provide multi-function operation. (See page 66.)

Product features:

- Heavy duty, oil-tight, dust-tight, and water-tight without boots. Most units are IP66 rated and are UL types 4, 4X and 13.
- FINGERSAFE™ contact blocks and light modules for improved safety
- Interchangeable light modules, contact blocks, color caps, pilot light lenses and mushroom heads reduce inventory
- Integrated earth ground connection (no ground wires required)
- Easy installation with octagonal ring nut
- Metal or plastic legend plates

Contact block features:

- Clear window for status of contact operation and troubleshooting
- Color coded for easy identification
- Single screw mounting for quick installation
- Side-by-side and/or stacked mounting to minimize enclosure space requirements

Light module features:

- Low-cost incandescent lamps or energy-efficient, long-life LED lamps
- Wide range of voltages from 24V to 600V

All products are:

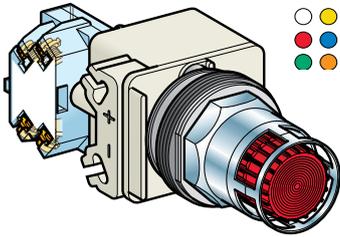
- UL listed and CSA certified
- CE declaration of conformity
- RoHS compliant

Harmony™ 9001K/SK/KX 30 mm push buttons

9001K – Complete units, components and accessories

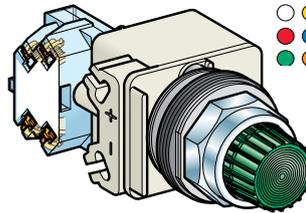
Complete units

Combined contact and light functions
Illuminated push buttons, spring return



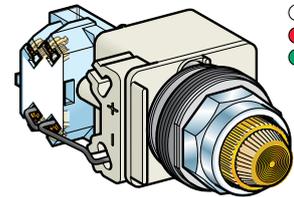
Full guard, super bright LED

9001K●L●●● See page 11



No guard

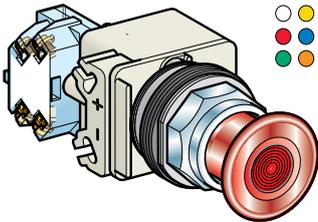
9001K2L●●● See page 11



Push-to-test, no guard,
super bright LED

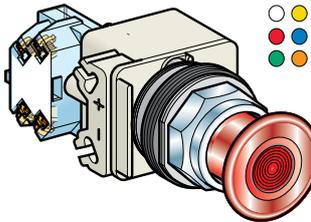
9001KT●●●31 See page 11

1-5/8 in (41 mm) mushroom head illuminated push buttons, super bright LED



2-Position, push-pull

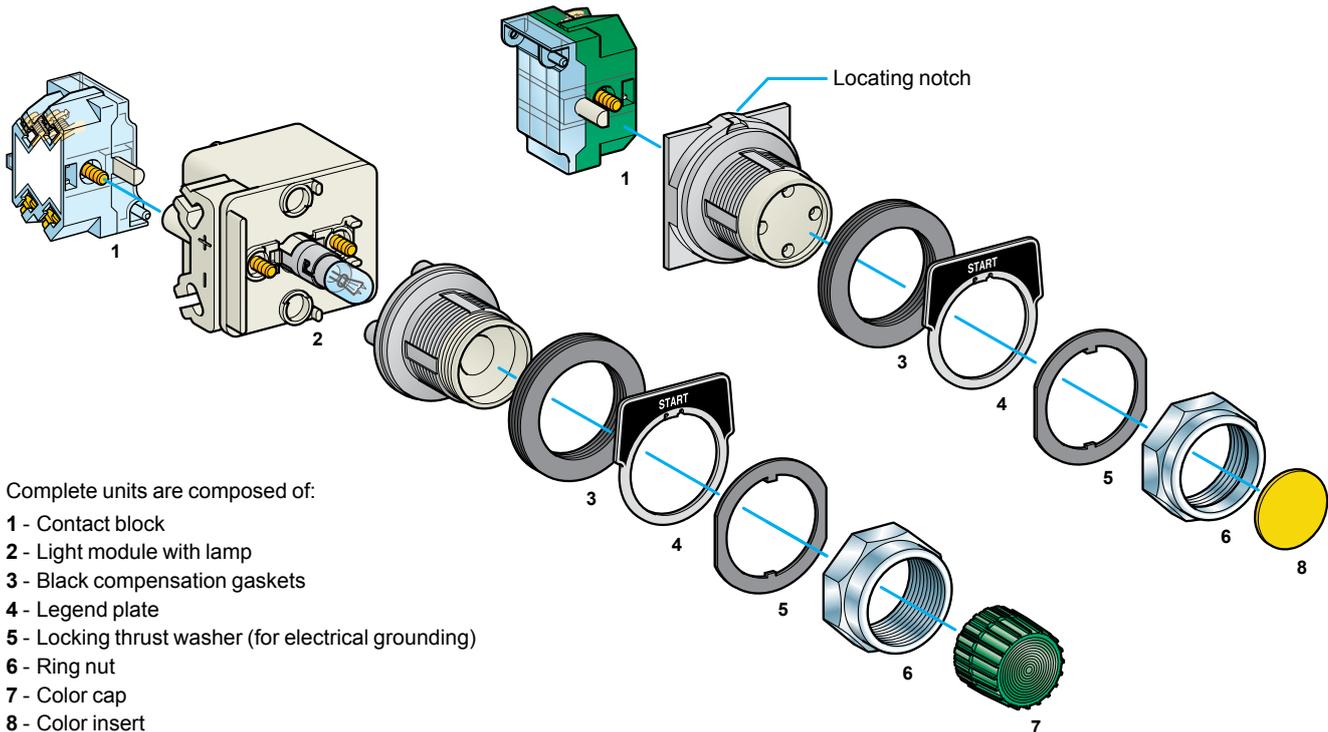
9001KR9P●●● See page 12



3-Position, push-pull

9001KR8P●●● See page 12

Separate components and accessories



Complete units are composed of:

- 1 - Contact block
- 2 - Light module with lamp
- 3 - Black compensation gaskets
- 4 - Legend plate
- 5 - Locking thrust washer (for electrical grounding)
- 6 - Ring nut
- 7 - Color cap
- 8 - Color insert

Specifications:
page 7

References:
page 10

Dimensions:
page 30

Mounting:
page 31

Harmony™ 9001K/SK/KX

30 mm push buttons

9001K

Basic Operators

(For Color Caps, Mushroom Buttons, Knobs, Selector Switch Cams, Contact Blocks, Light Modules and Legend Plates, see page 21.)

Description	UL Types/NEMA Types 4, 13
Non Illuminated Push Button (Full Guard)	9001KR1
Non Illuminated Push Button (Extended Guard)	9001KR2
Non Illuminated Push Button (No Guard)	9001KR3
Non Illuminated Push Button (Mushroom Button/screw on)	9001KR20
Non Illuminated Dual Push Button (Momentary)	9001KR6
Non Illuminated Dual Push Button (Momentary Interlocked)	9001KR67
Non Illuminated Dual Push Button (Maintained Interlocked)	9001KR7
Momentary Pull - Maintained Neutral - Momentary Push	9001KR8 (1) (4)
Maintained Pull - Maintained Push	9001KR9 (1) (4)
Illuminated Push Button (Full Guard - Plastic Top)	9001K1L (2)
Illuminated Push Button and Push-to-test (No Guard)	9001K2L (2) (3)
Illuminated Push Button (Full Guard - Metal Top)	9001K3L (2)
Standard Pilot Light	9001KP
2-Position Selector Switch	9001KS1 (1), 9001KS2 (1), 9001KS3 (1)
3-Position Selector Switch	9001KS4 (1), 9001KS5 (1), 9001KS6 (1), 9001KS7 (1)
4-Position Selector Switch	9001KS8 (1)
Trigger-Action Emergency Stop	9001KR16 (1)

(1) Operator can be converted to an illuminated operator by removing the liner (6509704901) and adding a light module.

(2) Operator can be converted to a non-illuminated operator by adding liner (6509704901).

(3) Operator includes jumper wires for push-to-test conversion.

(4) These operators can be supplied with 1-3/8" or 2-1/4" dia. mushroom buttons. For 1-3/8" Add *20 to reference number. The * refers to the color chosen - see page 10. For 2-1/4": Add *21 to reference number. The * refers to the color chosen - see page 10. Voids UL and NEMA Type 6 Rating.

Non Hazardous Locations:



Hazardous Locations (Reed contact blocks, see page 23):



Harmony™ 9001K/SK/KX 30 mm push buttons 9001K

9001K Operator Materials:

Push Button and Push-to-test Pilot Light
(9001KR and 9001KT)

- Gasket – Nitrile
- Seal – Nitrile
- Seal Cap – Amorphous Acetal
- Decorative Ring – Polyester Film
- Compensating Washer – Polypropylene
- Lock Ring – Amorphous Nylon
- Stem – Thermoplastic Polyester
- Base Cap – Thermoplastic Polyester
- Knob – Polycarbonate
- Liner – Polypropylene
- Hold Down Spring for 9001K-15 – Neoprene
- Operator Base – Zinc
- Operator Base (9001KR8) – Polyester
- Return Spring – Music Wire or Stainless Steel (9001KT only)
- Ring Nuts – Aluminum or Zinc
- Springkeeper – Steel
- Locking Thrust Washer – Zinc
- Color Insert – Polyethylene
- Boots – Silicone

Selector Switch (9001KS)

- Gasket – Nitrile
- Seal – Nitrile
- Bearing Washer – Polyester Film
- Compensating Washer – Polypropylene
- Cam Follower – Delrin 100
- Liner – Polypropylene
- Knob – Polycarbonate
- Cam Carrier – Amorphous Nylon
- Cam Rotor – Celenex 3300
- Cam Profile– Delrin 100
- Operator Base – Zinc
- Detent Spring – Stainless Steel
- Ring Nuts – Aluminum or Zinc
- Seal keeper – Stainless Steel
- Locking Thrust Washer – Zinc

Pilot Light (9001KP)

- Gasket – Nitrile
- Compensating Washer – Polypropylene
- Lens – Glass or Polycarbonate
- Light Module Housing – Thermoplastic Polyester
- Operator Base – Zinc
- Glass Lens Ring – Anodized Aluminum

Contact Block And Light Module Materials:

Contact Block (9001KA)

- Housing – Amorphous Nylon
- Contact Slider – Phenolic, Nylon or Acetal
- Terminal – Steel
- Saddle Clamp – Steel
- Spring – Stainless Steel
- Contacts – Silver and Copper
- Blade – Beryllium Copper
- Mounting Screw – Steel
- Label – Paper

Light Module (9001KM)

- Housing – Thermoplastic Polyester
- Socket – Steel
- Terminal – Steel with Tin Plate
- Saddle Clamp – Steel
- Translating Pin – Polycarbonate
- Transformer – Thermoplastic Polyester, Steel, Copper,
Polyvinyl Chloride, Polytetrafluorethylene,
Acetate, Paper
- Lamp Spring – Tin Plated Music Wire

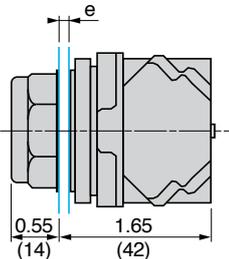
Harmony™ 9001K/SK/KX

30 mm push buttons

9001K

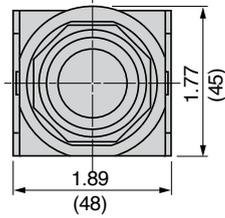
Dimensions

Push buttons

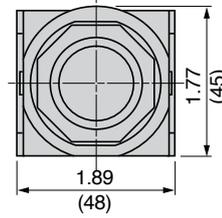


e: panel thickness 1 to 6 mm

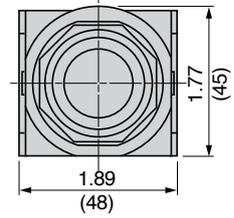
Full guard 9001KR1●●●



No guard 9001KR3●●●



No guard with extended guard 9001KR2●●●



Mushroom head push buttons

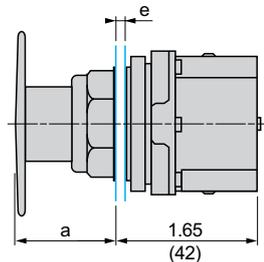
Spring return 35 mm: 9001KR24●H13, 9001KR4RH6, 9001KR9R20H6

Spring return 57 mm: 9001KR25●H13, 9001KR5RH6 Spring return 60 mm: 9001KR25●M

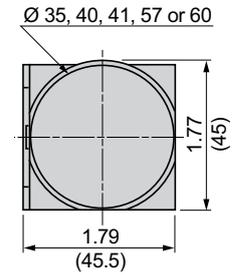
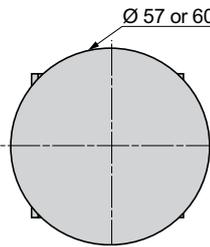
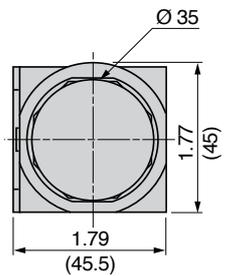
Push-pull 35 mm: 9001KR9R20H6 Push-pull 40 mm: 9001KR24●M 9001KR9●M94 Push-pull 41 mm: 9001KR9●H13, 9001KR9R94H13 9001KR9RH6 9001KR8●H25 Push-pull 57 mm: 9001KR9R21H6 Push-pull 60 mm: 9001KR9●M95

Spring return 35, 57 and 60 mm a = 28 mm

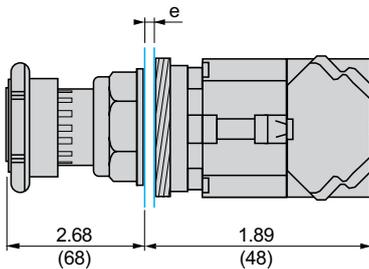
Push-pull 35 to 60 mm a = 32 mm



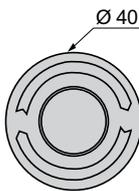
e: panel thickness 1 to 6 mm



Turn-to-release 9001KR16H13, 9001KR16H2 and 9001KR16

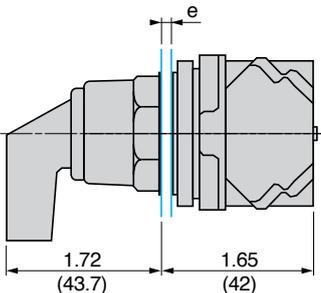


e: panel thickness 1 to 6 mm

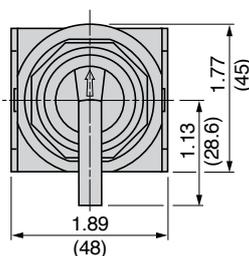


Selector switches

Gloved handle 9001KS●●FBH●●



e: panel thickness 1 to 6 mm



Dual Dimensions: in (mm)

Harmony™ 9001K/SK/KX

30 mm push buttons

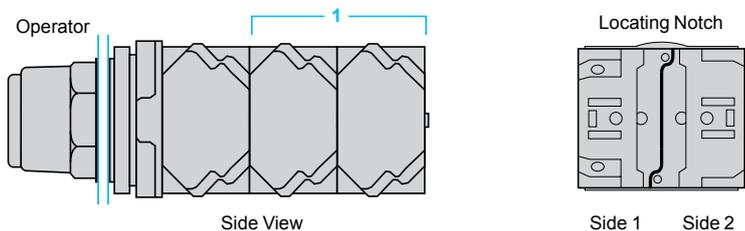
9001SK

Environmental specifications		
Conforming to standards	 	EN/IEC 60947-1, EN/IEC 60947-5-1, EN/IEC 60947-5-4, JIS C 4520 and 852, UL 508, CSA C22-2 n° 14, CE marked, RoHS compliant
Product certifications	 File E78403 CCN NKCR  File LR25490 Class 3211-03	UL File E78403, CCN NKCR and CSA File LR25490, Class 3211-03
Protective treatment standard version		“TC”
Ambient air temperature around the device	Storage	°F (°C) -40 to +158 (-40 to +70)
	Operation	°F (°C) -13 to +158 (-25 to +70)
Vibration resistance	Conforming to IEC 60068-2-6	Frequency: 2 to 500 Hz: 7gn Ford Standard EA-1
Shock resistance	Conforming to IEC 60068-2-27	Half sine wave: 50 gn
Electric shock protection	Conforming to IEC 61140	Class II
Degree of protection	Conforming to EN/IEC 60529	IP 66
	Conforming to NEMA	Types 1, 2, 3, 3R, 4, 12 and 13
Mechanical life (in millions of operating cycles)	Push buttons, spring return	5
	Illuminated push buttons	5
	Selector switches and key switches	0.5
Mounting position		All positions

Electrical characteristics of contact blocks		
Rated operational characteristics	~ AC-15	3 A, 240 V
	--- DC-13	0.55 A, 125 V
Rated insulation voltage	Conforming to EN/IEC 60947-1	V U _i = 250 degree of pollution 3 (except pilot lights with incandescent bulb: degree of pollution 2)
Rated impulse withstand voltage	Conforming to EN/IEC 60947-1	kV U _{imp} = 2.5
Contact material	Normal environment and usage	Silver alloy
Contact operation	“N/C” ou “N/O”	Slow break
Positive operation	Conforming to EN/IEC 60947-5-1	N N/C contact(s) with positive opening operation
Short-circuit protection	Conforming to EN/IEC 60947-5-1	A Cartridge fuse mounted upstream: 10
Cabling capacity (9001KA contact blocks and 9001KM light modules)	Conforming to EN/IEC 60947-1	mm² mm² Screw clamp terminals (cross headed/slotted screw) Mini: 1 x 0.22 Maxi: 2 x 1.5 Recommended tightening torque: 0.8 N.m (10 in-lbs)
Thermal current	I _{th}	A 10
Maximum operation current	a.c. supply: utilization category AC-15 NEMA A600	V Contact making capacity
		A 120 240 480 600
		VA 60 30 15 12
	d.c. supply: utilization category DC-13 NEMA Q600	VA 7200 7200 7200 7200
		V Breaking capacity
		A 120 240 480 600
		VA 6 3 1.5 1.2
		VA 720 720 720 720
		V Contact making capacity and breaking capacity
		A 125 250 600 0.1
		A 0.55 0.27

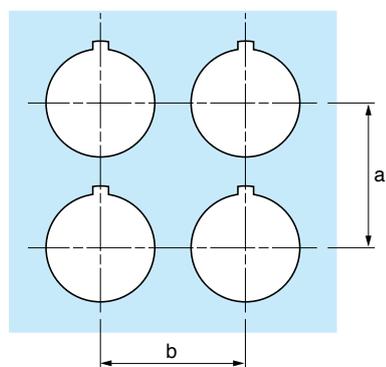
Mounting

Contact block mounting position



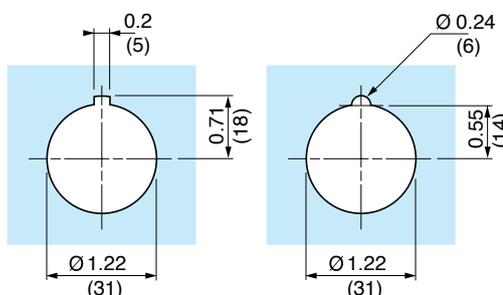
1 It is possible to mount up to 3 levels of contacts blocks (maximum of 6 contacts blocks) on 9001SK references. For Maximum Contact Block usage, see Page 50.

Panel cut-out



Individual cut-outs detail

2 alternatives



Preferred Cut-Out

Alternate Cut-Out

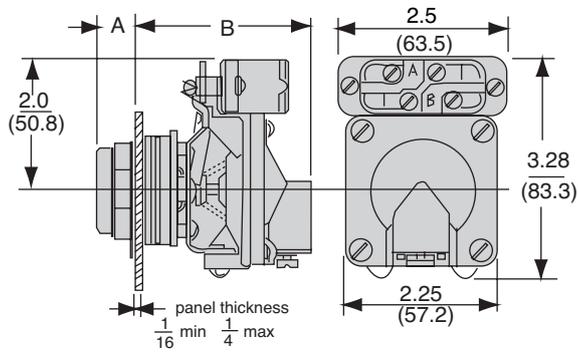
Use Greenlee Tool #60242 for punching hole and notch.

Type of 9001K unit	Legend plate	a: in (mm)	b: in (mm)
All units except 57 mm mushroom head push buttons	9001KN2●●	2.25 (57.2)	1.75 (44.5)
	9001KN3●●	2.25 (57.2)	2.00 (50.8)
57 mm mushroom head push buttons	9001KN2●●	2.25 (57.2)	2.25 (57.2)
	9001KN3●●	2.25 (57.2)	2.25 (57.2)

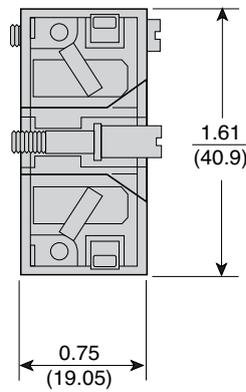
Harmony™ 9001K/SK/KX 30 mm push buttons 9001SK

Dimensions *(continued)*

Time delay push button 9001KRD

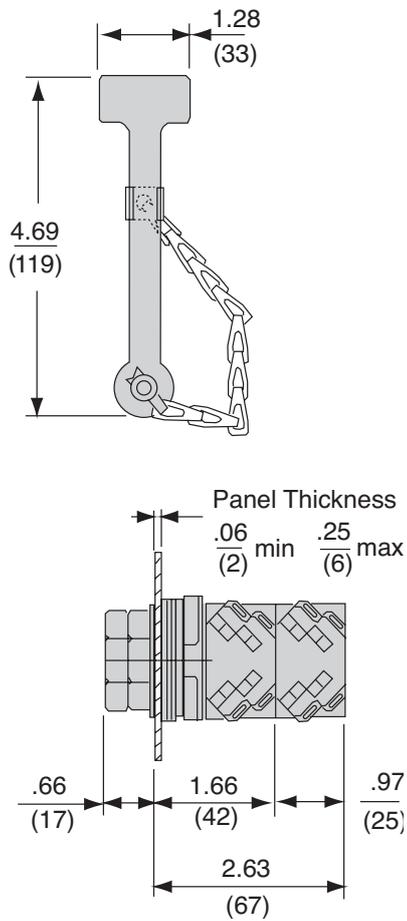


Alternate action—Push-on, push-off module 9001K85

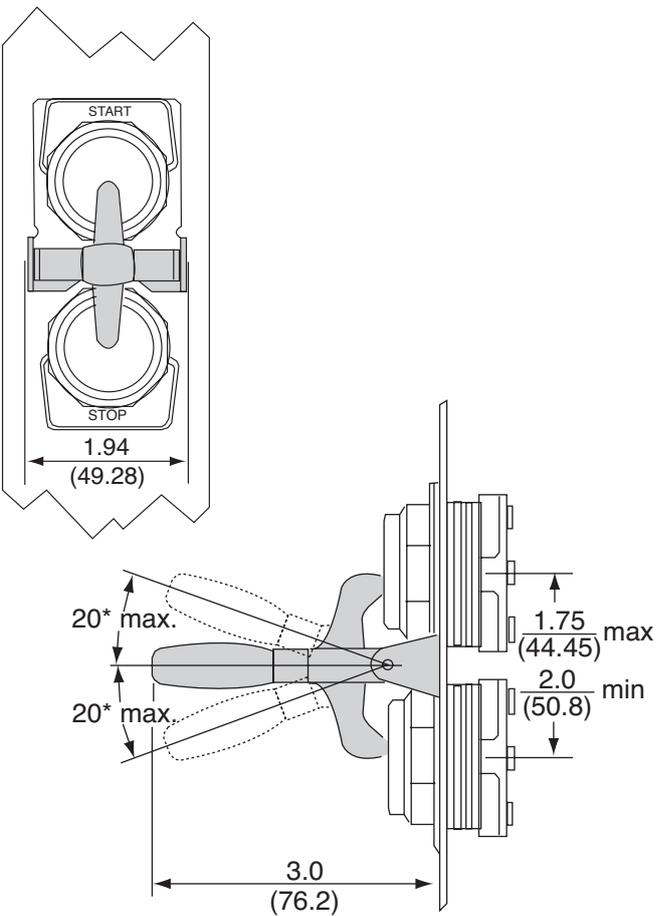


	a		b
9001KRD1UH	Full guard	9/16	2-1/2
9001KRD2UH	Extended guard	11/16	2-1/2
9001KRD3UH	No guard	9/16	2-1/2

Emergency break glass operator 9001K15



Rocker arm operating lever 9001K50



Dual Dimensions: in (mm)

Harmony™ 9001K/SK/KX 30 mm push buttons 9001SK

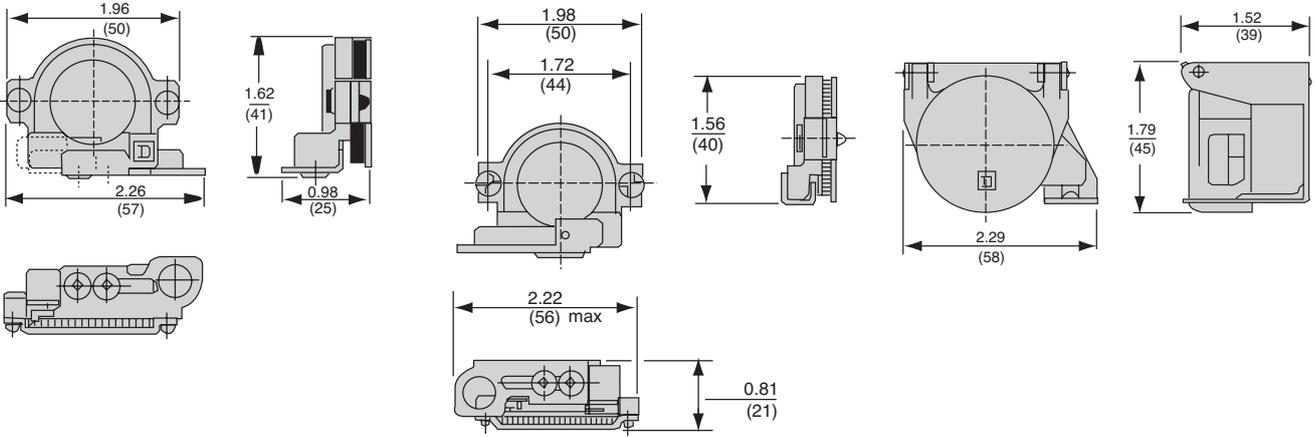
Dimensions *(continued)*

Padlock attachments

9001K4

9001K96

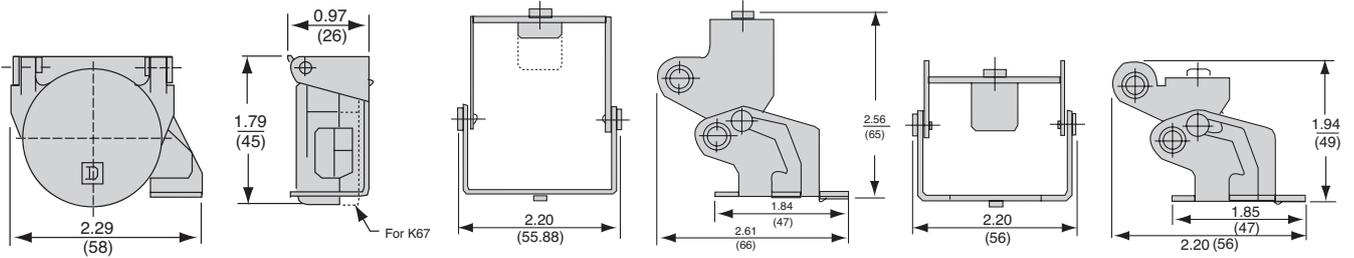
9001K7, 9001K107, 9001K108, 9001K109, 9001K113



9001K6, 9001K60, 9001K97

9001K62

9001K5

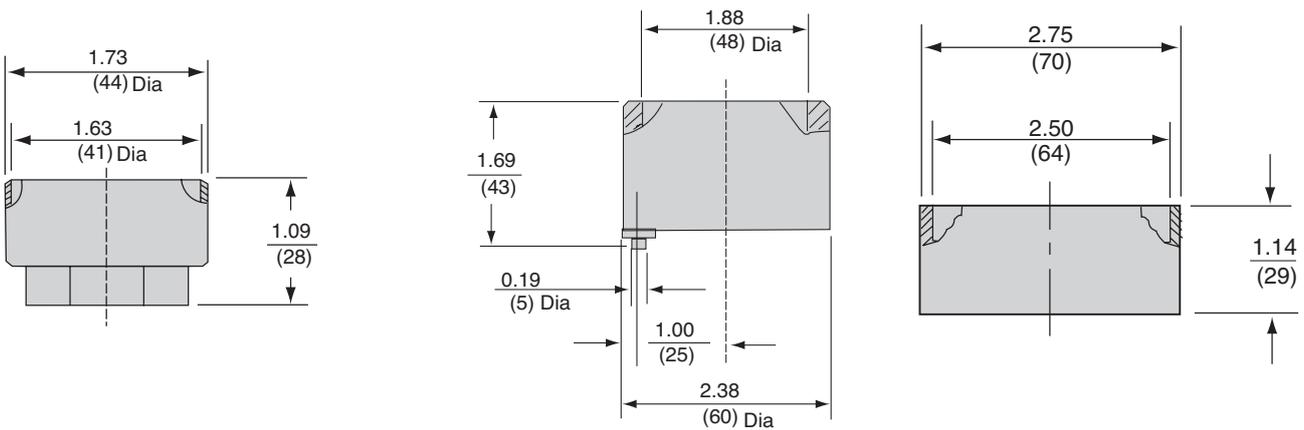


Mushroom button guards

9001K48

9001K56Y, 9001K56YM (1)

9001K68



(1) 9001K56YM includes finger holes.

Dual Dimensions: in (mm)

Harmony™ 9001K/SK/KX

30 mm push buttons

9001KX

Basic Operators

Description	UL Types/NEMA Types
Single Push Buttons	4, 4X, 13 9001KXRA, 9001KXRB
Dual Push Buttons	9001KXRC, 9001KXRD, 9001KXRE
Dual Push Buttons with One Pilot Light	9001KXRG, 9001KXRJ
Dual Push Buttons with Two Pilot Light	9001KXRL
Selector Switches	9001KXS
Potentiometers	9001KXB

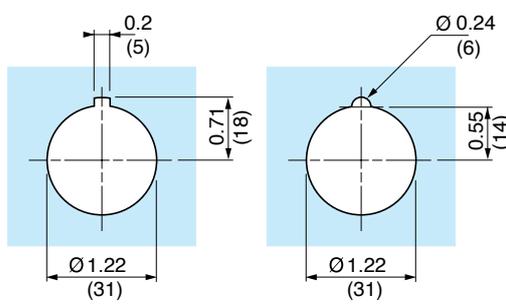
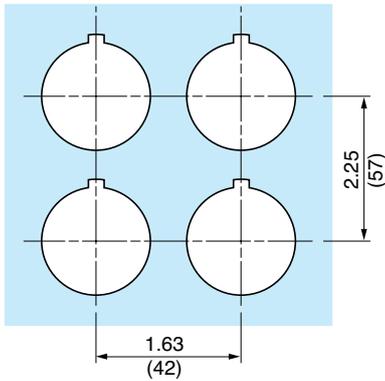
Non Hazardous Locations:



The KX operators are rated UL Types 1, 2, 3, 3R, 4, 4X, 6, 12, 13/ NEMA Types 1, 2, 3, 3R, 4X, 6, 12, 13 without the use of protective boots. Boots are recommended for dirty environments or areas that are hosed down with water under very high pressure.

Mounting

Panel cut-out Individual cut-outs detail 2 alternatives



Preferred Cut-Out

Alternate Cut-Out

Use Greenlee Tool #60242 for punching hole and notch.

Harmony™ 9001K/SK/KX

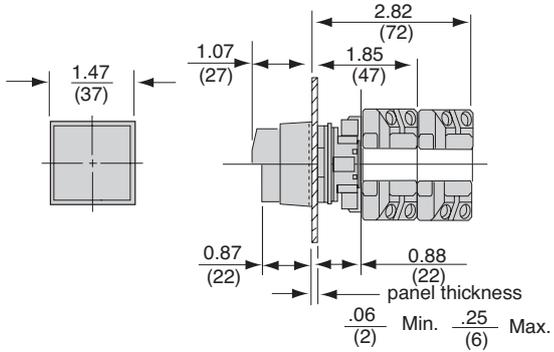
30 mm push buttons

9001KX

Dimensions

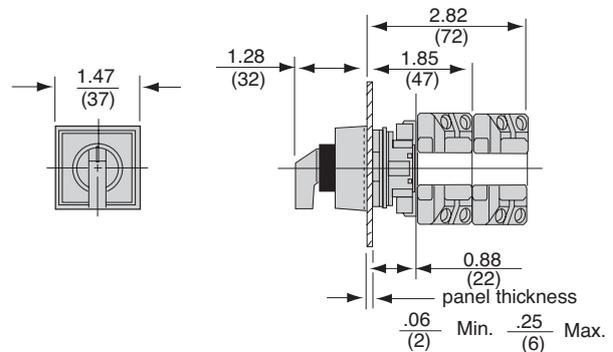
Single Push Button Operator, Non-Illuminated

9001KXRA, 9001KXRN



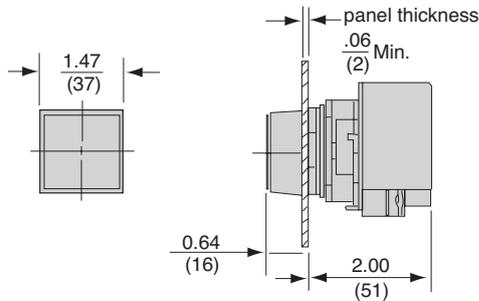
Selector Switch Operator, Non-Illuminated

9001KXS●



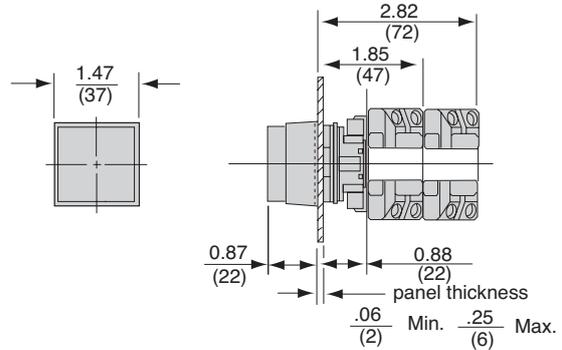
Single Pilot Light

9001KXPA35●, 9001KXPA1●



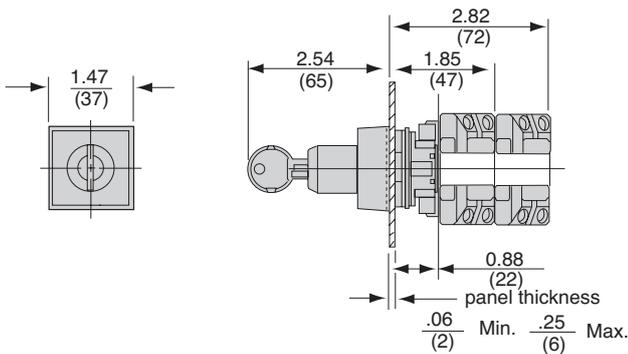
Dual Push Button Operator, Non-Illuminated

9001KXRC, 9001KXRD, 9001KXRE, 9001KXRF



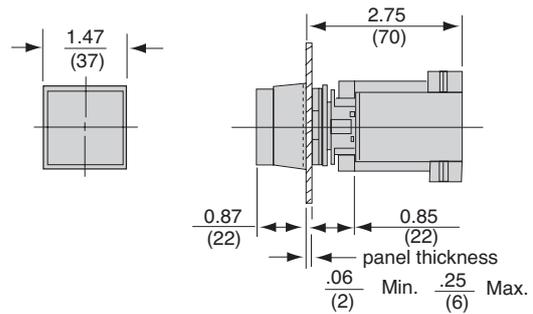
Key Operator Selector Switch

9001KXS●



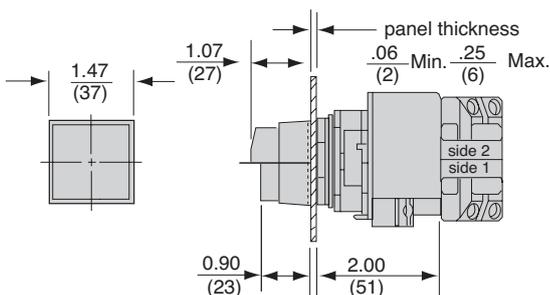
Dual Lamp Pilot Light

9001KXPB34●●, 9001KXPB1●●



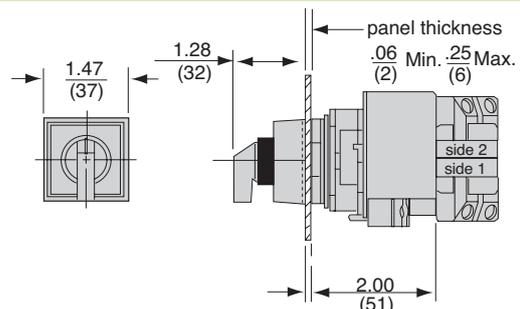
Single Push Button Operator, Illuminated

9001KXRB, 9001KXRP, 9001KXTA



Selector Switch Operator, Illuminated

9001KXS●



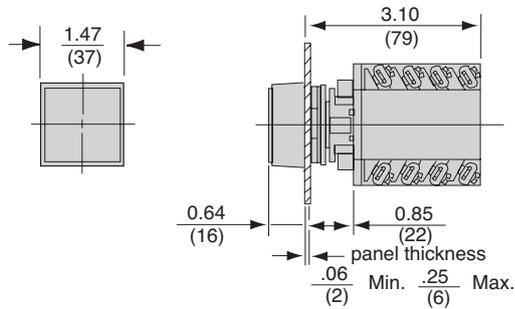
Dual Dimensions: in (mm)

Minimum Centerline Spacings For 9001KX
2-1/4" Vertically 1-5/8" Horizontally

Dimensions (continued)

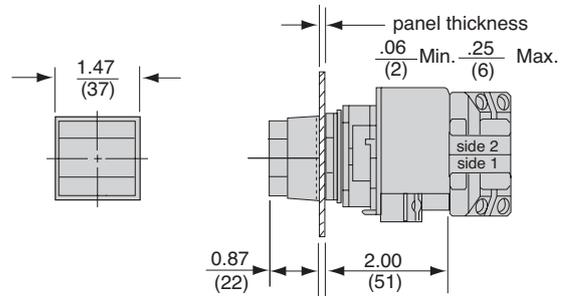
Quad Pilot Light

9001KXPC34WAGR, 9001KXPC1W•GR



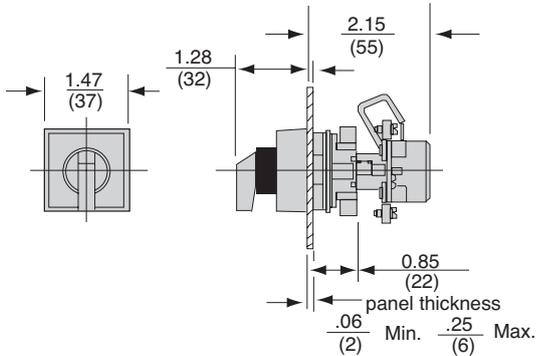
Dual Push Button Operator, Illuminated

9001KXRG, 9001KXRH, 9001KXRJ, 9001KXRK



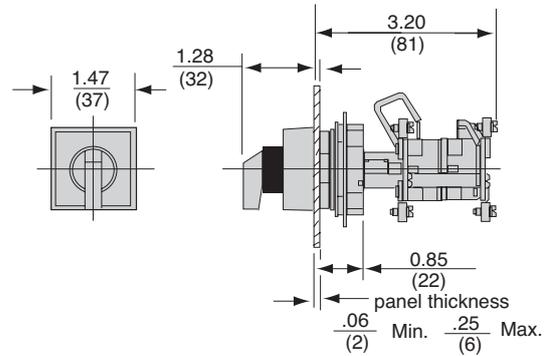
Single Potentiometer Operator

9001KXRBB••



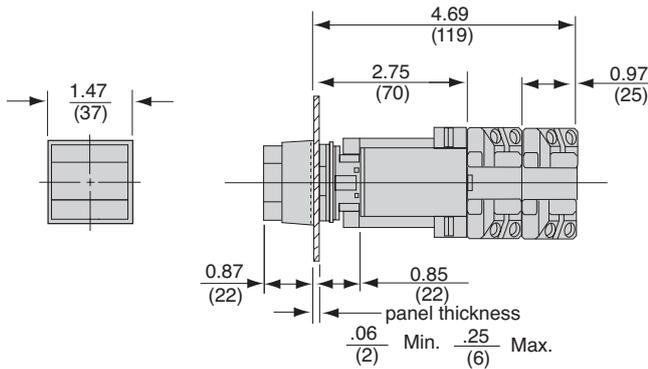
Tandem Potentiometer Operator

9001KXBD83



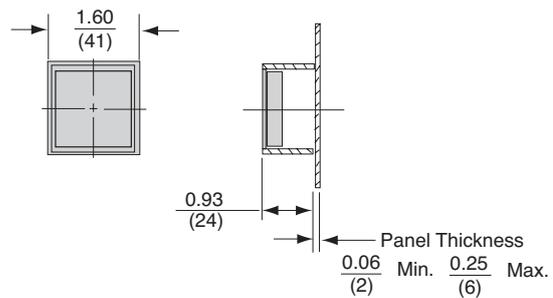
Dual Lamp Push Button Operator

9001KXRL, 9001KXRM, 9001KXTC



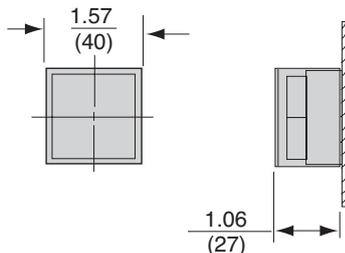
Shroud

9001KXAK41R, 9001KXAK41B, 9001KXAK40R, 9001KXAK40B



Boot

9001KXAKU7, 9001KXAKU17B



Dual Dimensions: in (mm)

Minimum Centerline Spacings For 9001KX
2-1/4" Vertically 1-5/8" Horizontally

<http://www.schneider-electric.us/>

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The information and dimensions in this catalog are provided for the convenience of our customers. While this information is believed to be accurate, Schneider Electric reserves the right to make updates and changes without prior notification and assumes no liability for any errors or omissions.

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Design: Schneider Electric
Photos: Schneider Electric



2011

Harmony™ 9001K/SK/KX 30 mm push buttons



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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