

# K12

## High Performance Key Switches

### Features/Benefits

- Excellent tactile feel
- Wide choice of LED colors, travel and actuator forces
- High reliability / long life
- Sealed version available
- Designed for low-level switching
- Double stroke version available
- Detector version available

### Typical Applications

- Automotive
- Off-road transportation
- Industrial electronics
- Computers & network equipment



### Construction:

FUNCTION: momentary

CONTACT ARRANGEMENT:

1A (1 make contact = SPST) NO

1R (1 break contact) NC by request

2A (make contact) = 2 X SPST for K12GO

DISTANCE BETWEEN BUTTON CENTERS:

min. 11 (0.433) K12C = 13 (0.512)

TERMINALS: PC pins, tinned

MOUNTING: Locating pins; K12D, K12G and K12P additionally with snap-in housing

### Electrical

SWITCHING POWER MIN./MAX.: 0.02mW/3 W

SWITCHING VOLTAGE MIN./MAX.: 2 V DC / 30 V DC

SWITCHING CURRENT MIN./MAX.: 10 µA /100 mA

DIELECTRIC STRENGTH (50 Hz, 1 min): ≥ 500 V

OPERATING LIFE with max. switching power: ≥ 10<sup>6</sup> operations

K12G & K12GO; operating life of second switch 5 x 10<sup>4</sup> operations

CONTACT RESISTANCE: Initial ≤ 50 mΩ

INSULATION RESISTANCE: ≥ 10<sup>10</sup> Ω

BOUNCE TIME: ≤ 1 ms

Operating speed 400 mm/s (15.75/s)

### Mechanical

TOTAL TRAVEL: 1 mm, 1.5 mm, 2 mm

SWITCHING TRAVEL: 0,6 mm\*

OPERATING FORCE: 1.5 N OD without snap-point as detector switch, 2.5 N, 3.5 N, 5 N, 3.5/7 N, 6/12 N

PROTECTION CLASS: K12C IP 67 (dust tight, protected against the effects of immersion in water; other versions IP 50)

### Environmental

OPERATING TEMPERATURE: -40°C to 85°C.

STORAGE TEMPERATURE: -40°C to 95°C.

### Process

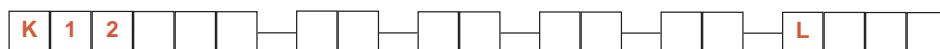
SOLDERABILITY:

Max. soldering time and temperature: 5 s at 260°C

\* Additional switching travel (with pre-travel) available by request

### How To Order

Our easy build-a-switch concept allows you to mix and match options to create the switch you need. To order, select desired option from each category and place it in the appropriate box.



#### Series

- K12P** With snap-in pegs
- K12PL** With central LED
- K12D** Snap-in peg with LED holder
- K12DL** Snap-in pegs with LED
- K12C** Sealed contact with rubber cap (IP 67)
- K12GO** Twin contacts without side LED holder
- K12A**

#### Cap Color

- NONE** version with LED
- BK** Black cap - No LED

#### LED Color\*\*

- NONE** No LED
- GN** Green
- YE** Yellow
- OR** Orange
- RD** Red
- WH** White
- BU** Blue

#### Travel

- 1** 1 mm (0.039) \*
- 1.5** 1.5 mm (0.059)
- 2** 2 mm (0.079)

#### Operating Force

- 1.5N OD** 1.5 N without snap-point
- 2.5N** 2.5 N
- 3.5N** 3.5 N
- 5N** 5 N
- 3.5/7N** 3.5/7 N \*\*\*
- 6/12N** 6/12 N \*\*\*

#### LED Reference

- L306** Green
- L327** Yellow
- L315** Orange
- L352** Red
- L302** White
- L328** Blue

\* K12P version only

\*\* Additional LED colors available by request

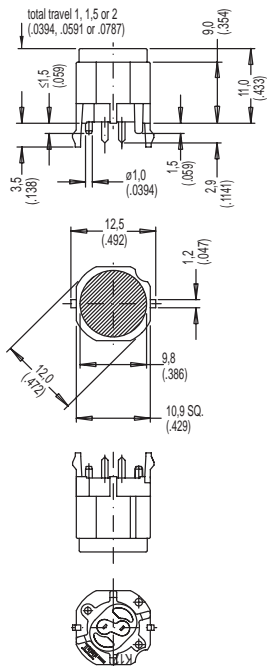
\*\*\* K12G & K12GO version only

# K12 High Performance Key Switches

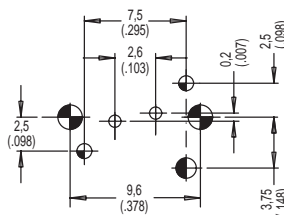
SERIES



## K12P



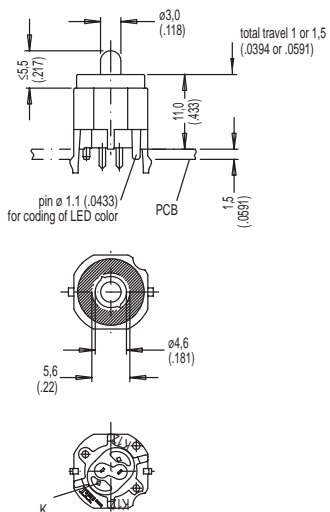
PCB layout, mounting side



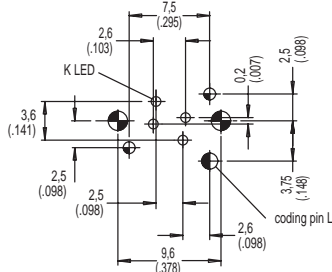
center of actuation area (notice LED)

Hole	Ø	Without LED	Description	Terminal Section	Surface
	1,7 (.069)	2x	snap-in		
	1,6 (.062)	1x	coding hole (L,M,N)		
	1,1 (.043)	2x	center hole		Sn
	0,9 (.035)	2x	LED switch	m0.5 (.020) 0.7 x 0.2 (.028 x .081)	Sn

## K12PL



PCB layout, mounting side

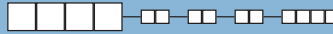


center of actuation area (notice LED)

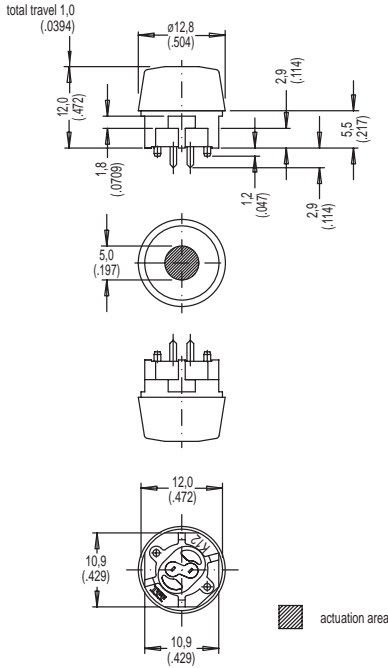
Hole	Ø	Without LED	Description	Terminal Section	Surface
	1,7 (.069)	2x	snap-in		
	1,6 (.062)	1x	coding hole (L,M,N)		
	1,1 (.043)	2x	center hole		Sn
	0,9 (.035)	2x	LED	m0.5 (.020)	Sn
		2x	switch	0.7 x 0.2 (.028 x .081)	

# K12 High Performance Key Switches

SERIES

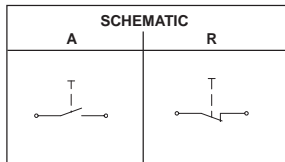
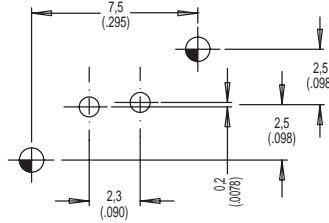


**K12C** Sealed contact with rubber cap (IP 67)



actuation area

PCB LAYOUT,  
MOUNTING SIDE

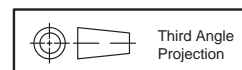


Hole	Ø	Without LED	With LED	Description	Terminal Section	Surface
	1.1 (.043)	2x	2x	center hole		
	0.9 (.035)		2x	LED	m0.5 (.0204)	Sn
		2x	2x	switch	0.7 x 0.2(.0275 x .0787)	Sn



D

Key Switches



Third Angle  
Projection

# K12 High Performance Key Switches

SERIES



K12D  
K12DL

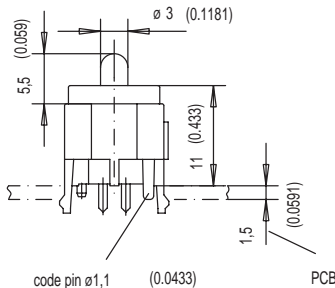
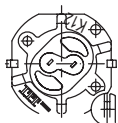
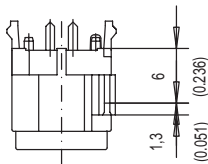
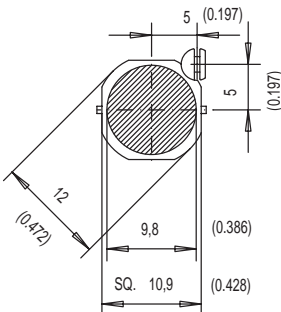
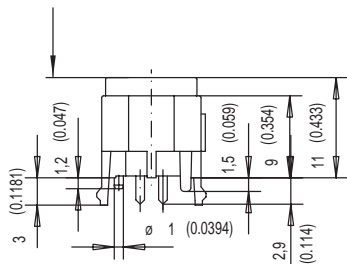


K12D

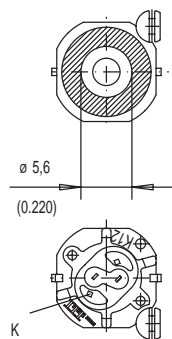
K12DL

PCB LAYOUT,  
MOUNTING SIDE

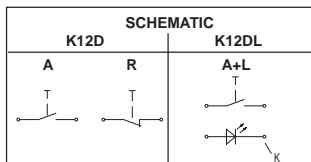
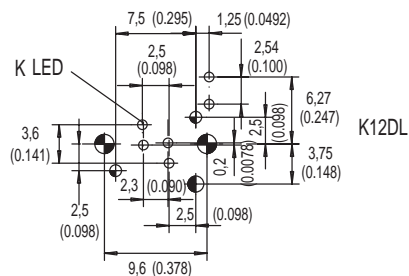
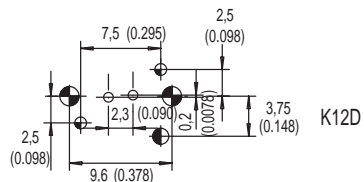
total travel 1mm, 1,5mm (0.0394, 0.0591)



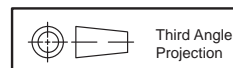
code pin  $\phi 1,1$  (0.0433) PCB



actuation area



Hole	Ø	Without LED	With LED	Description	Terminal Section	Surface
	1,7 (.069)	2x	2x	snap-in		
	1,6 (.062)	1x	1x	coding hole (L,M,N)		
	1,1 (.043)	2x	2x	center hole		
	0,9 (.035)		2x	LED	m0.5 (.020)	Sn
		2x	2x	switch	0.7 x 0.2 (.028 x .081)	Sn



# K12 High Performance Key Switches

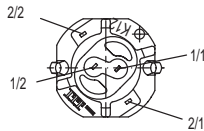
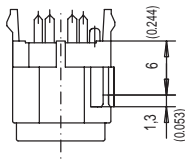
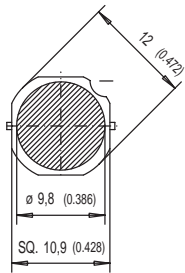
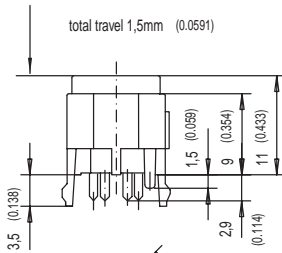
SERIES



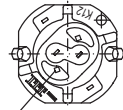
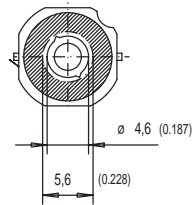
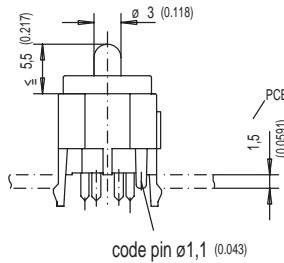
K12GO  
K12GOL



K12GO



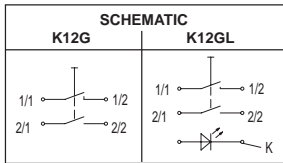
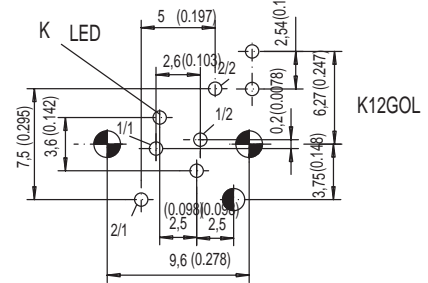
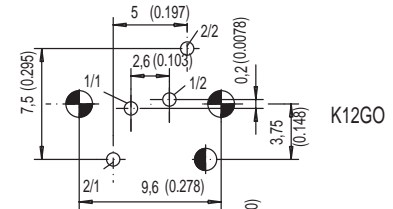
K12GOL



K (LED)

actuation area

PCB LAYOUT,  
MOUNTING SIDE



Hole	Ø	Without LED	With LED	Description	Terminal Section	Surface
	1,7 (.069)	2x	2x	snap-in		
	1,6 (.062)	1x	1x	code		
	0,9 (.035)		2x	2 LED		Sn
			2x	LED	m0.5 (.020)	Sn
		2x	2x	switch 2	0.7 x 0.3 (.028 x .012)	Sn
		2x	2x	switch 1	0.7 x 0.2 (.028 x .081)	Sn

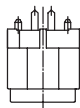
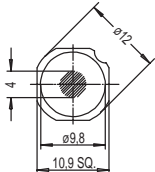
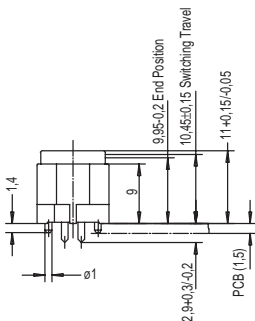


Third Angle  
Projection  
Dimensions shown in: mm (inch)  
Dimensions subject to change

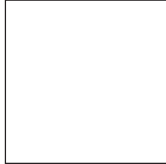
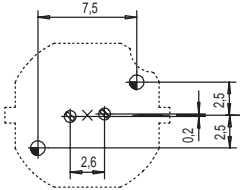
# K12 High Performance Key Switches

SERIES

K12A



PCB LAYOUT,  
MOUNTING SIDE



SCHEMATIC



Hole	∅	Without LED	With LED	Description	Terminal Section	Surface
	1,1 (.043)	2x	2x	center hole		
	0,9 (.035)	2x	2x	LED switch	m0.5 (.020) 0.7 x 0.2 (.028 x .081)	Sn Sn



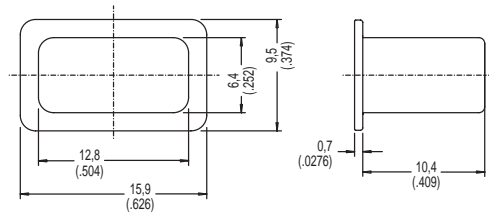
Key Switches



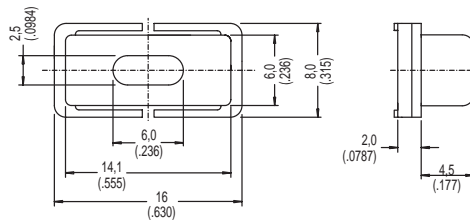
## BUTTONS AVAILABLE

Buttons must be ordered separately. Shipped in bulk.

### K12KA BK



### K12KB BK



D

Key Switches