

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
 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

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)

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

NOTE: Product to be offered compliant and compatible on Q1 2006.

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: ≥ 10⁶ operations
 K12G & K12GO; operating life of second switch 5 x 10⁴ operations
 CONTACT RESISTANCE: Initial ≤ 50 mΩ
 INSULATION RESISTANCE: ≥ 10¹⁰ Ω
 BOUNCE TIME: ≤ 1 ms
 Operating speed 400 mm/s (15.75/s)

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

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

- K12A** No snap-in pegs
- K12AL** No snap-in pegs with central LED
- K12P** With snap-in pegs
- K12PL** With central LED
- K12C** Sealed contact with rubber cap (IP 67)
- K12GO** Two-step switch without side LED holder
- K12GOL** K12GO with central LED

Cap Color

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

LED Color

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

Standard LED Code

- NONE** No LED
- L306** Green
- L327** Yellow
- L315** Orange
- L352** Red
- L302** White
- L328** Blue

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**

Contact

- Arrangement**
- NONE** SPST NO (STD)
- 1R** SPST NC (Special request)

Travel*

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

* K12C – 1mm MAX
 K12 with LED – 1.5 mm MAX
 ** K12G & K12GO version only



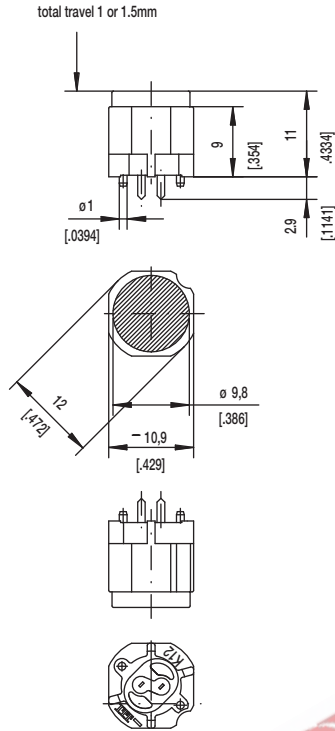
Dimensions are shown: mm (inch)
 Specifications and dimensions subject to change

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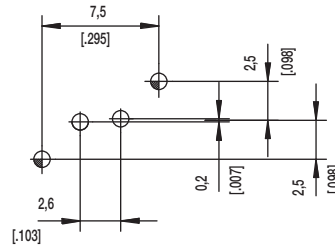
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SERIES

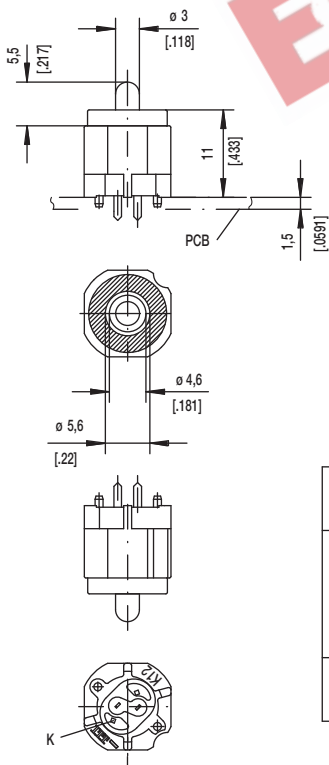
K12A



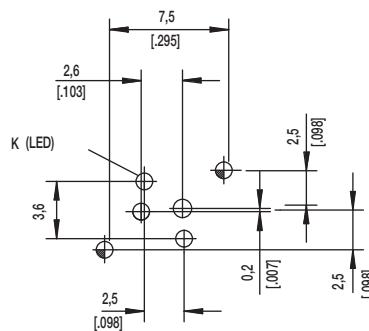
PCB LAYOUT, MOUNTING SIDE



K12AL



PCB LAYOUT, MOUNTING SIDE

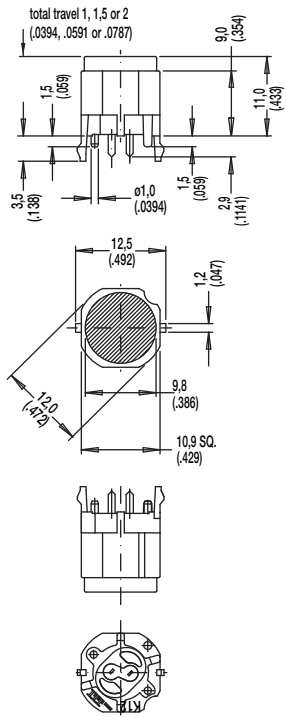


	1,1 ^{+0,05}	2x	2x	center hole		
	0,9 ±0,05		2x	LED	∅0,5 (.020)	Sn
		2x	2x	switch	0,7x0,2 (.028x.081)	Sn
Hole	∅	Without	with LED	Discription	Terminal Section	Surface

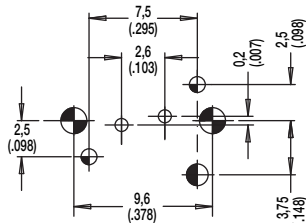
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SERIES 

K12P



PCB LAYOUT, MOUNTING SIDE

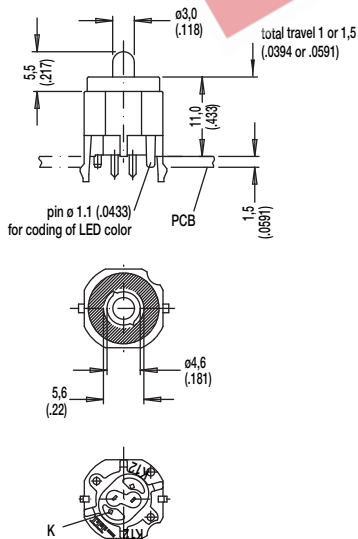


center of actuation area (notice LED)

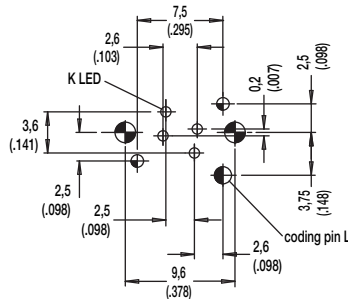


Hole	Ø	Without LED	Description	Terminal Section	Surface
	1,7 (.069)	2x	snap-in		
	1,6 (.062)	1x	coding hole (L,M,N)		
	1,1 (.043)	2x	center hole		Sn
	0,9 (.035)	2x	LED switch	m0.5 (.020) 0.7 x 0.2 (.028 x .081)	Sn

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)	



First Angle Projection

Dimensions are shown: mm (inch)
Specifications and dimensions subject to change

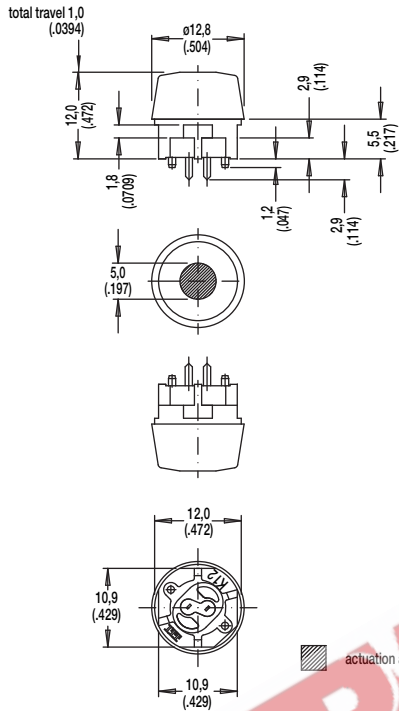


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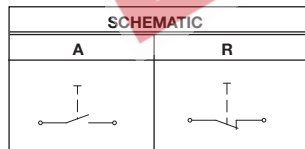
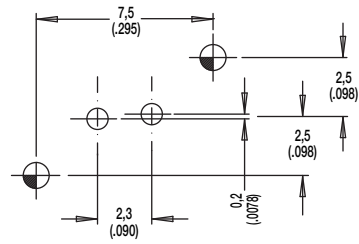
K12 High Performance Key Switches

SERIES

K12C SEALED CONTACT WITH RUBBER CAP (IP 67)



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



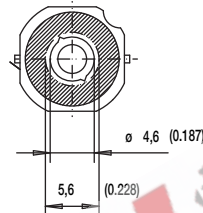
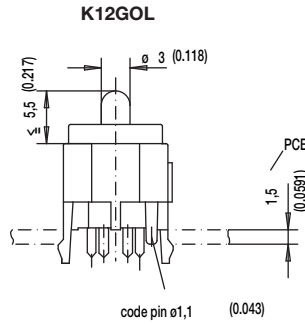
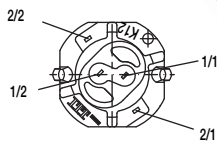
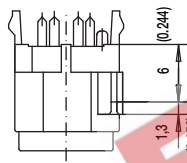
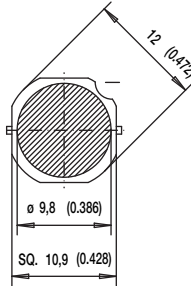
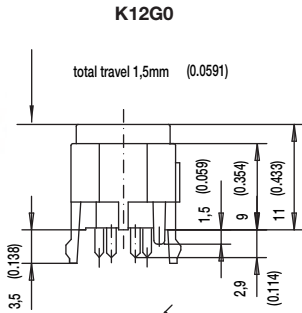
E

Key Switches

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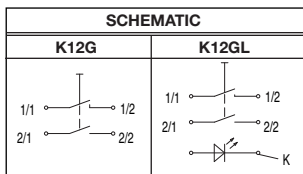
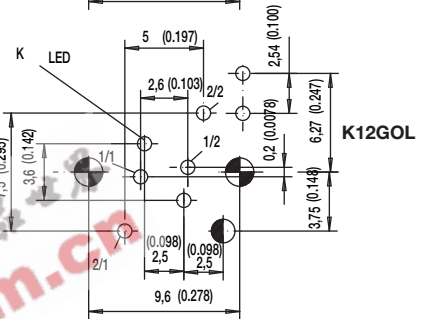
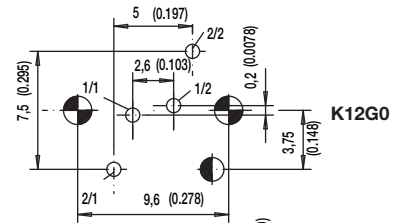
SERIES

K12GO
K12GOL



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



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K12 High Performance Key Switches

CAP COLOR

OPTION CODE	COLOR
NONE	Version with LED
BK	Black

LED COLOR

OPTION CODE	COLOR
NONE	Models without LED
GN	Green
YE	Yellow
OG	Orange
RD	Red
WH	White
BU	Blue

STANDARD LED CODE	COLOR
NONE	Models without LED
L306	Green
L327	Yellow
L315	Orange
L352	Red
L302	White
L328	Blue

TRAVEL

- 1** 1 mm
- 1.5** 1.5 mm
- 2** 2 mm

OPERATING FORCE

OPTION CODE	OPERATING FORCE
1.5N OD	1.5 N, 150g without snap-point
2.5N	2.5 N, 250g
3.5N	3.5 N, 350g
5N	5 N, 500g
3.5/7N	3.5/7 N, 350/700g
6/12N	6/12 N, 600-1200g



E

Key Switches