

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 μ A / 100 mA

DIELECTRIC STRENGTH (50 Hz, 1 min): $\geq$ 500 V

OPERATING LIFE with max. switching power: $\geq 10^6$ operations

K12G & K12GO; operating life of second switch 5×10^4 operations

CONTACT RESISTANCE: Initial ≤ 50 m Ω

INSULATION RESISTANCE: $\geq 10^{10}$ 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		LED Color		Standard LED Code	
K12A	No snap-in pegs	NONE	No LED	NONE	No LED
K12AL	No snap-in pegs with central LED	GN	Green	L306	Green
K12P	With snap-in pegs	YE	Yellow	L327	Yellow
K12PL	With central LED	OG	Orange	L315	Orange
K12C	Sealed contact with rubber cap (IP 67)	RD	Red	L352	Red
K12GO	Two-step switch without side LED holder	WH	White	L302	White
K12GOL	K12GO with central LED	BU	Blue	L328	Blue

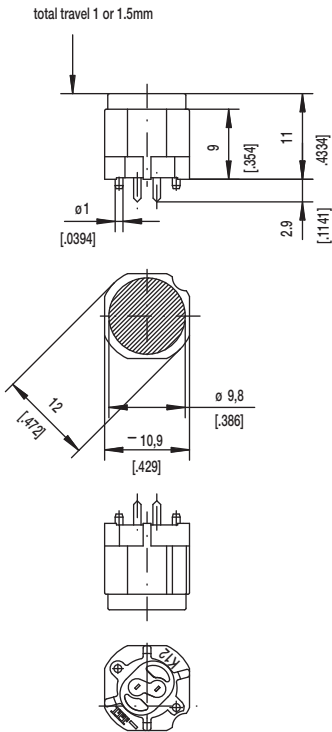
Cap Color		Travel*		Operating Force		Contact Arrangement	
NONE	version with LED	1	1 mm (0.039)	1.5N OD	1.5 N without snap-point	NONE	SPST NO (STD)
BK	Black cap – No LED	1.5	1.5 mm (0.059)	2.5N	2.5 N	1R	SPST NC (Special request)
		2	2 mm (0.079)	3.5N	3.5 N		
				5N	5 N		
				3.5/7N	3.5/7 N**		
				6/12N	6/12 N**		

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

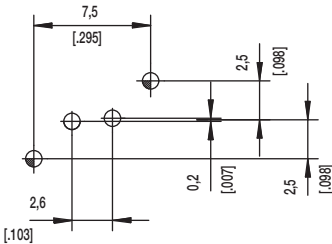
K12 High Performance Key Switches

SERIES 

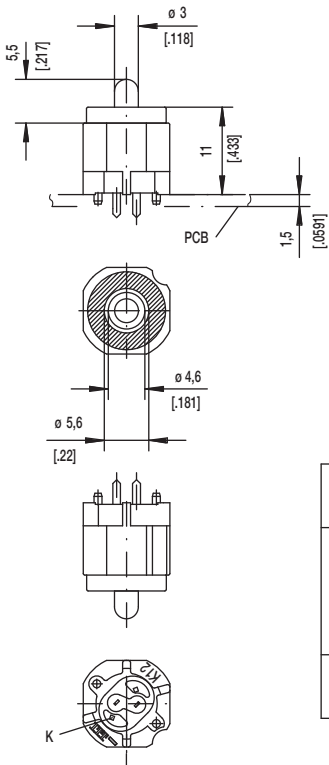
K12A



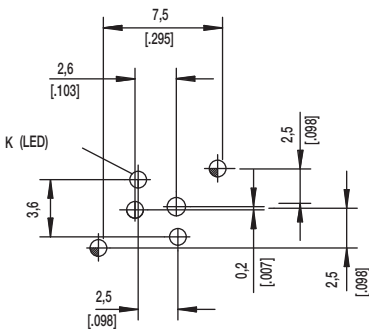
PCB LAYOUT, MOUNTING SIDE



K12AL



PCB LAYOUT, MOUNTING SIDE



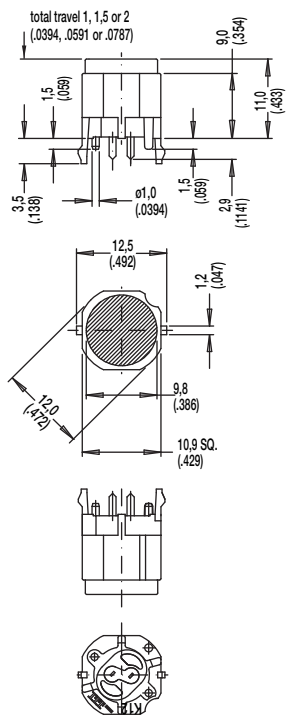
	1,1 ^{+0,05}	2x	2x	center hole		
	0,9 ±0,05		2x	LED	ø0,5 (.020)	Sn
		2x	2x	switch	0,7x0,2 (.028x.081)	Sn
Hole	ø	Without	with LED	Discription	Terminal Section	Surface

K12

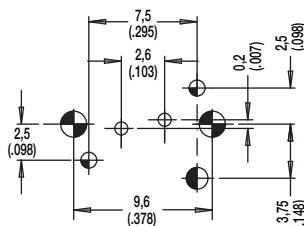
High Performance Key Switches

SERIES 

K12P



PCB LAYOUT, MOUNTING SIDE

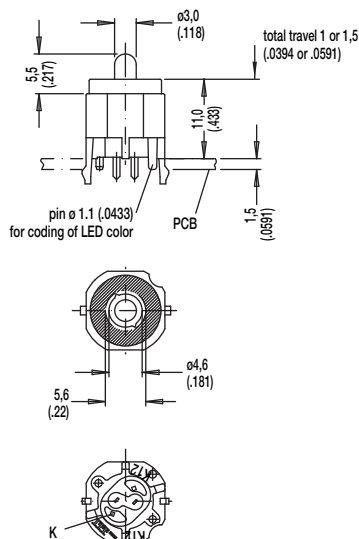


center of actuation area (notice LED)

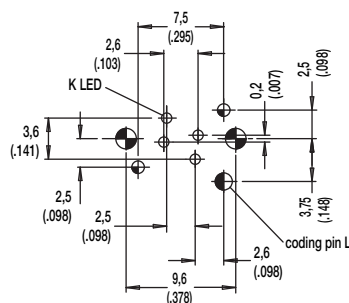


Hole	Ø	Without LED	Description	Terminal Section	Surface
	1,7 (.069)	2x	snap-in		
	1,6 (.062)	1x	coding hole (L,M,N)		
	1,1 (.043)	2x	center hole		Sn
	0,9 (.035)	2x	LED switch	m0.5 (.020) 0.7 x 0.2 (.028 x .081)	Sn

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)	



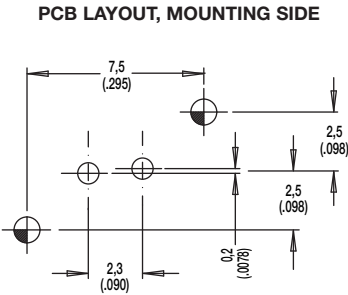
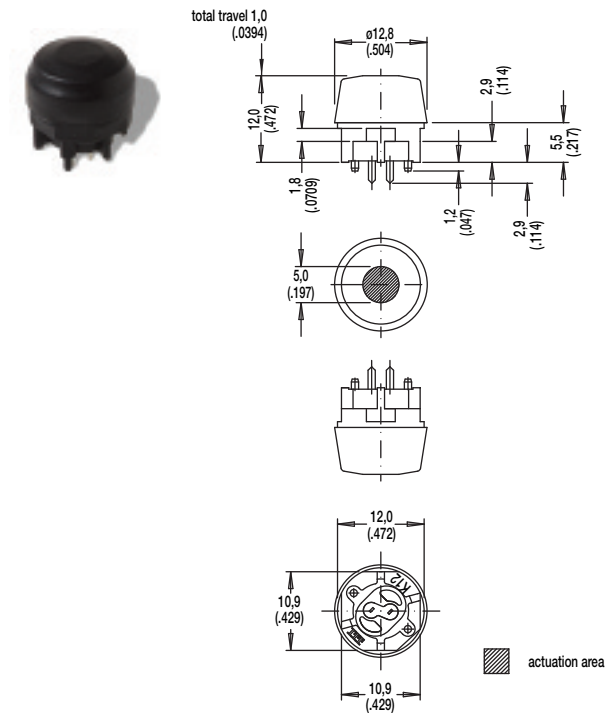
First Angle
Projection

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

K12 High Performance Key Switches

SERIES

K12C SEALED CONTACT WITH RUBBER CAP (IP 67)



SCHEMATIC	
A	R

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

K12

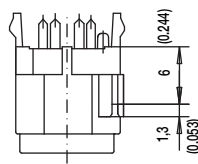
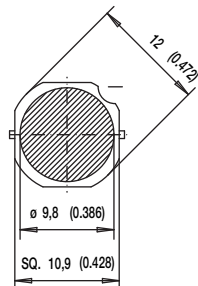
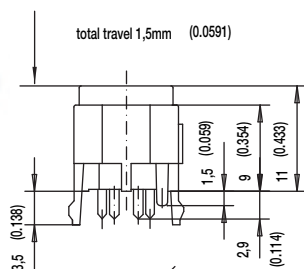
High Performance Key Switches

SERIES

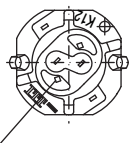
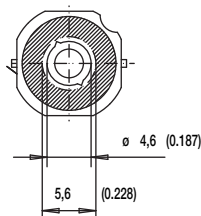
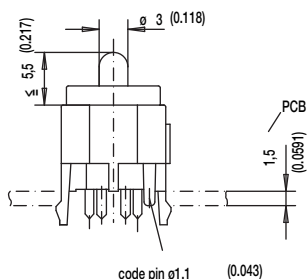
K12G0
K12GOL



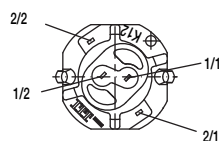
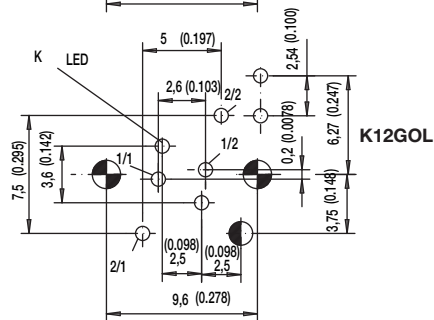
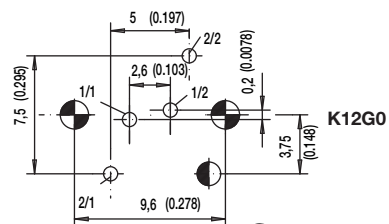
K12G0



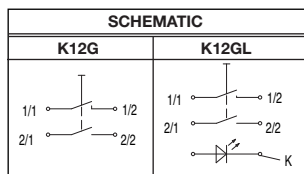
K12GOL



PCB LAYOUT, MOUNTING SIDE



actuation area



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

OPTION CODE	COLOR
NONE	Version with LED
BK	Black

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

1 1 mm
1.5 1.5 mm
2 2 mm

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



First Angle
Projection

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