

K12 Series

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**
- **Joysticks**



Construction

FUNCTION: momentary

DISTANCE BETWEEN BUTTON CENTERS:

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

TERMINALS: PC pins, tinned

MOUNTING: Locating pins; 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. Additional operating force 7N, 9N and 20N, available on request.

PROTECTION CLASS: K12C IP 67 (dust tight, protected against the effects of immersion in water; other versions IP 40)

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

Packaging

Bulk in boxes of 250 pieces (version C or GO) or 300 pieces (version A, AL, P or PL)

Electrical

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

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

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

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

OPERATING LIFE

For all K12 versions up to 6N with max. switching power: $\geq 10^6$ operations

For all K12/K12C versions from 7N to 20N with max. switching power: please consult factory

For K12G & K12GO with max. switching power: $\geq 5 \times 10^4$ operations

CONTACT RESISTANCE: Initial ≤ 50 m Ω

INSULATION RESISTANCE: $\geq 10^{10}$ Ω

BOUNCE TIME: ≤ 1 ms; Operating speed 100 mm/s (3.94/s)

Environmental

OPERATING TEMPERATURE: -40°C to 85°C

STORAGE TEMPERATURE: -40°C to 95°C

Process

SOLDERABILITY: Wave soldering, compatible with lead free soldering profile; Hand soldering, 350°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.

Note: Some of the configurations may not be available or could require some development.

K 1 2															
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		LED Color NONE No LED GN Green YE Yellow OG Orange RD Red WH White		Standard LED Code NONE No LED LV306 Green LV327 Yellow LV315 Orange LV352 Red LV302 White		Cap Color NONE version with LED, version C BK Black cap – No LED YE Yellow cap – No LED RD Red cap – No LED GY Gray cap – No LED		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**		Contact Arrangement NONE SPST NO (STD) 1R SPST NC (Special request)			

* K12C – 1mm MAX

K12 with LED – 1.5 mm MAX

** K12G & K12GO version only

*** Additional operating force: 7N, 9N available on request



14 Jan 22



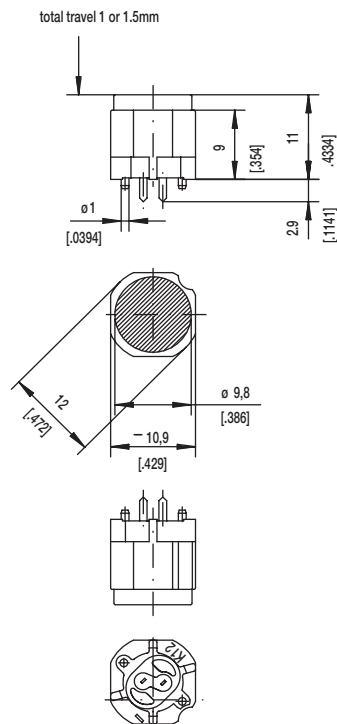
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Key Switches

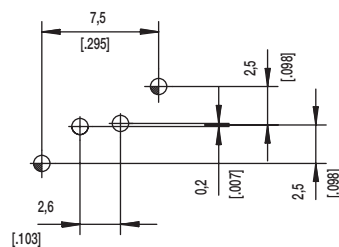
K12 Series High Performance Key Switches

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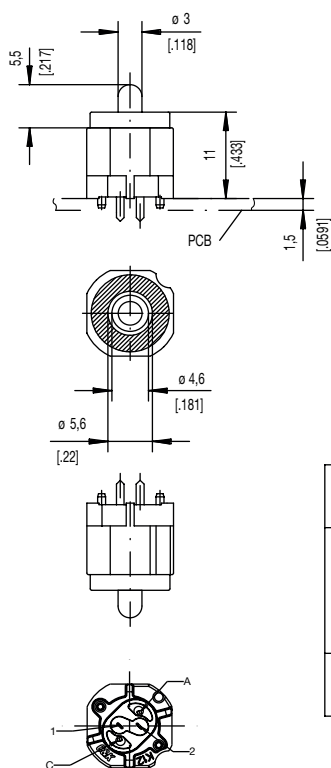
K12A without snap in



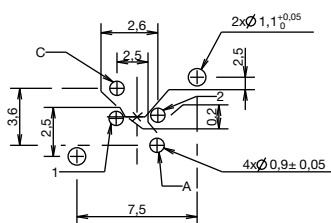
PCB LAYOUT, MOUNTING SIDE



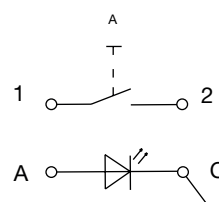
K12AL



PCB LAYOUT, MOUNTING SIDE



ELECTRICAL GRAPH



	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	Description	Terminal Section	Surface



First Angle
Projection

Dimensions are shown: mm
Specifications and dimensions subject to change

SERIES

[illegible]

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	switch	0.7 x 0.2 (.028 x .081)	Sn

Technical drawing of a mechanical part with dimensions and tolerances. The drawing shows a top view of a rectangular plate with a central hole and four smaller holes. The dimensions are as follows:

- Overall width: 9.6
- Overall height: 3.6
- Central hole diameter: $\varnothing 1.6^{+0.1}_0$
- Four small holes diameter: $4 \times \varnothing 0.9 \pm 0.05$
- Two larger holes diameter: $2 \times \varnothing 1.1^{+0.05}_0$ and $2 \times \varnothing 1.7^{+0.1}_0$
- Dimensions from the left edge to the center of the first hole: 2.5
- Dimensions from the center of the first hole to the center of the second hole: 2.5
- Dimensions from the center of the second hole to the center of the third hole: 2.5
- Dimensions from the center of the third hole to the center of the fourth hole: 2.5
- Dimensions from the center of the fourth hole to the right edge: 2.5
- Dimensions from the center of the first hole to the center of the second hole: 2.5
- Dimensions from the center of the second hole to the center of the third hole: 2.5
- Dimensions from the center of the third hole to the center of the fourth hole: 2.5
- Dimensions from the center of the fourth hole to the right edge: 2.5
- Dimensions from the center of the first hole to the center of the second hole: 2.5
- Dimensions from the center of the second hole to the center of the third hole: 2.5
- Dimensions from the center of the third hole to the center of the fourth hole: 2.5
- Dimensions from the center of the fourth hole to the right edge: 2.5
- Dimensions from the center of the first hole to the center of the second hole: 2.5
- Dimensions from the center of the second hole to the center of the third hole: 2.5
- Dimensions from the center of the third hole to the center of the fourth hole: 2.5
- Dimensions from the center of the fourth hole to the right edge: 2.5



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)	

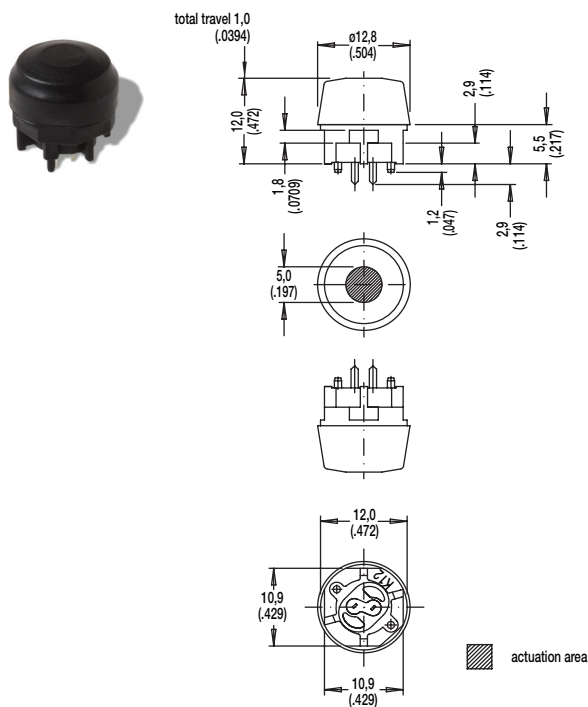


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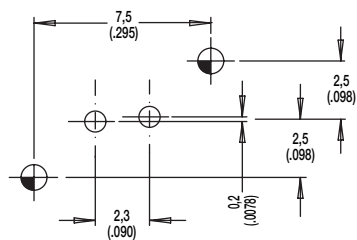
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K12C SEALED CONTACT WITH RUBBER CAP (IP 67)



PCB LAYOUT, MOUNTING SIDE



SCHEMATIC	
A	R

Hole	Ø	Without LED	Description	Terminal Section	Surface
 	1,1 (.043)	2x	center hole		
	0,9 (.035)	2x	switch	0.7 x 0.2(.0275 x .0787)	Sn

First Angle Projection

Dimensions are shown: mm
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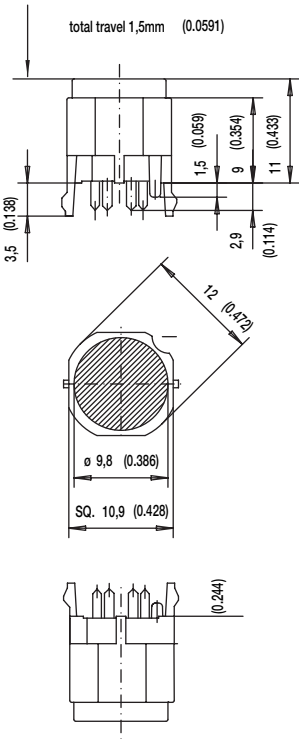
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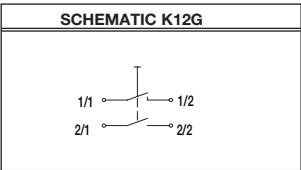
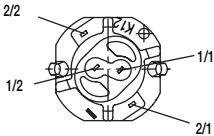
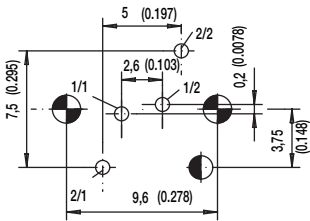
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K12GO



PCB LAYOUT, MOUNTING SIDE



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



Dimensions are shown: mm
Specifications and dimensions subject to change



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CAP COLOR

OPTION CODE	COLOR
NONE	Version with LED
BK	Black - no LED
YE	Yellow - no LED
RD	Red - no LED
GY	Gray - no LED

LED COLOR

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

STANDARD LED CODE	COLOR
NONE	Models without LED
LV306	Green
LV327	Yellow
LV315	Orange
LV352	Red
LV302	White

TRAVEL

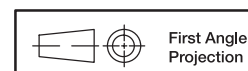
- 1** 1 mm
1.5 1.5 mm
2 2 mm

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

CONTACT ARRANGEMENT OPTION

1R SPST NC (SPECIAL REQUEST FOR NORMALLY CLOSED OPTION)



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