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*
- *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 with max. switching power: ≥ 10^6 operations
K12G & K12GO; operating life of second switch 5×10^4 operations, operating life K12C and version with more than 6N (7N, 9N 20N) please consult factory.
CONTACT RESISTANCE: Initial ≤ 50 mΩ
INSULATION RESISTANCE: ≥ 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.

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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

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

LED Color

NONE	No LED
GN	Green
YE	Yellow
OG	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**

Standard LED Code

NONE	No LED
LV306	Green
LV327	Yellow
LV315	Orange
LV352	Red
LV302	White
LV328	Blue

Contact Arrangement

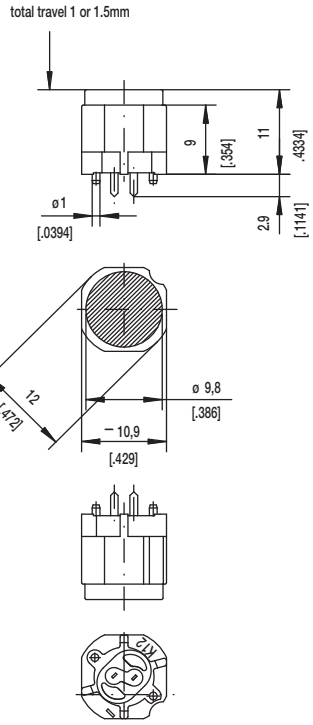
NONE	SPST NO (STD)
1R	SPST NC (Special request)

* K12C – 1mm MAX
K12 with LED – 1.5 mm MAX
** K12G & K12GO version only
*** Additional operating force: 7N, 9N available on request

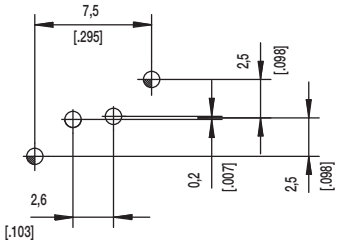
D Key Switches

SERIES

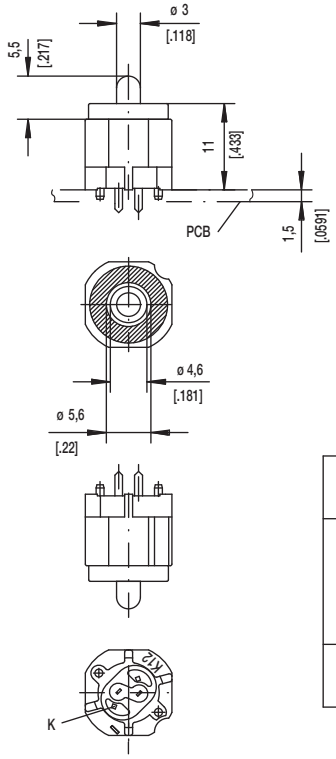
K12A without snap in



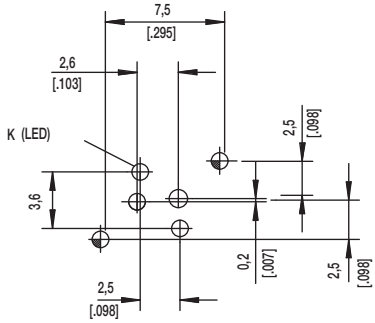
PCB LAYOUT, MOUNTING SIDE



K12AL



PCB LAYOUT, MOUNTING SIDE



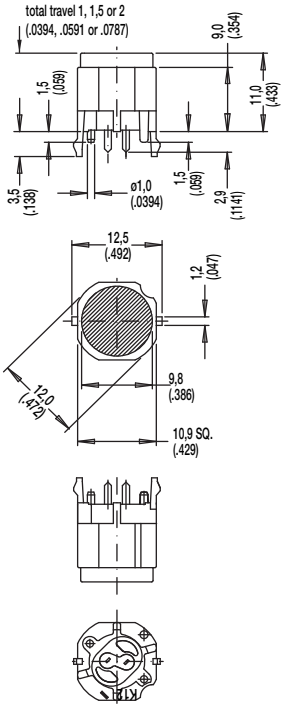
⊕	$1,1^{+0,05}$	2x	2x	center hole		
⊕	$0,9^{\pm0,05}$		2x	LED	ø0,5 (.020)	Sn
		2x	2x	switch	0,7x0,2 (.028x.081)	Sn
Hole	ø	Without	with LED	Discription	Terminal Section	Surface

First Angle Projection

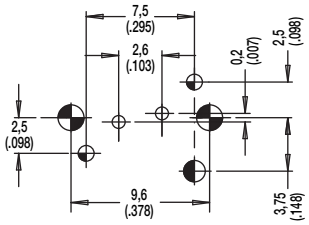
Dimensions are shown: mm
Specifications and dimensions subject to change

SERIES

K12P with snap in



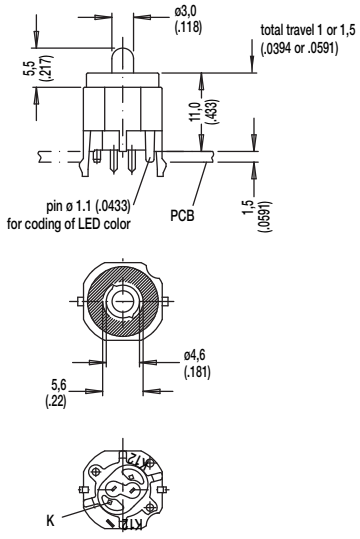
PCB LAYOUT, MOUNTING SIDE



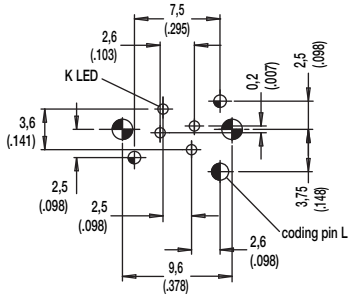
center of actuation area (notice LED)

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	switch	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)	

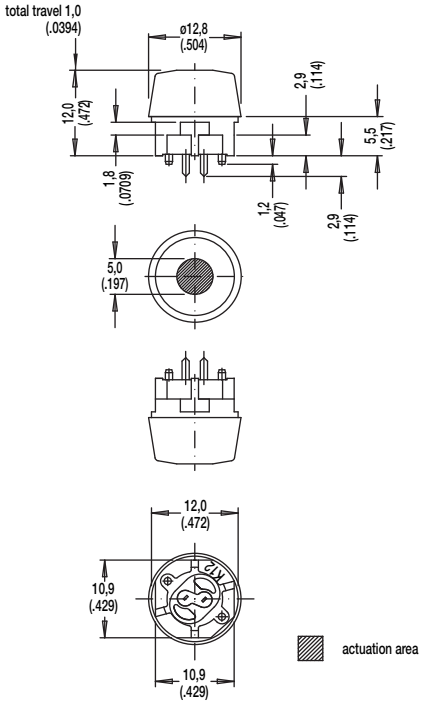
First Angle Projection

Dimensions are shown: mm
Specifications and dimensions subject to change

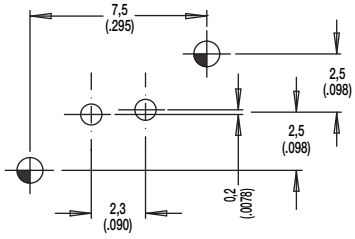
K12
High Performance Key Switches

SERIES

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

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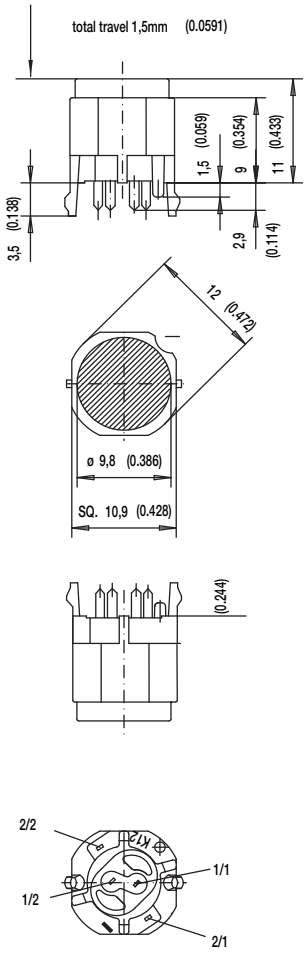
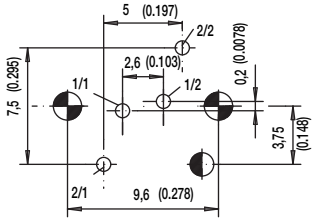
Specifications and dimensions subject to change

SERIES

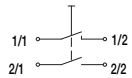
K12GO



PCB LAYOUT, MOUNTING SIDE



SCHEMATIC K12G



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

First Angle Projection

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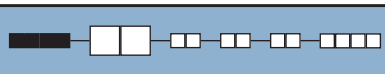
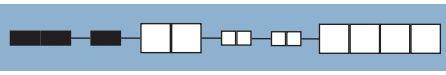
CAP COLOR



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

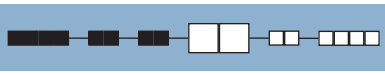
LED COLOR



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

STANDARD LED CODE	COLOR
NONE	Models without LED
LV306	Green
LV327	Yellow
LV315	Orange
LV352	Red
LV302	White
LV328	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

CONTACT ARRANGEMENT OPTION

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

First Angle Projection

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