

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; 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, GO or GOL) 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 µA /100 mA
 DIELECTRIC STRENGTH (50 Hz, 1 min): ≥ 500 V
 OPERATING LIFE with max. switching power: ≥ 10⁸ operations
 K12G & K12GO; operating life of second switch 5 x 10⁴ operations,
 operating life K12C and version with more than 6N (7N, 9N 20N)
 please consult factory.
 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:
 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.



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
- K12GOL** K12GO with central LED

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

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**

Travel*

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

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



Dimensions are shown: mm
 Specifications and dimensions subject to change



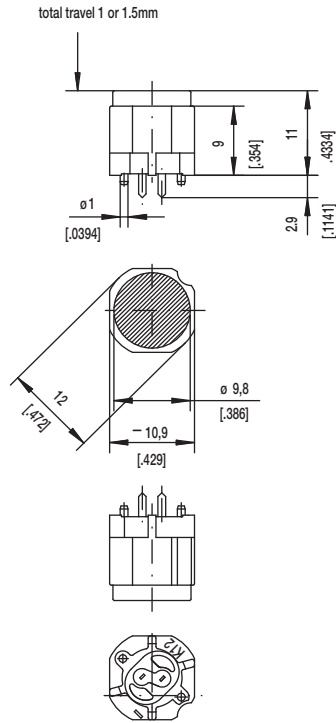
D

Key Switches

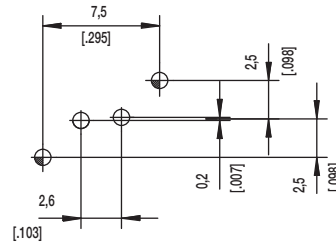
K12 High Performance Key Switches

SERIES

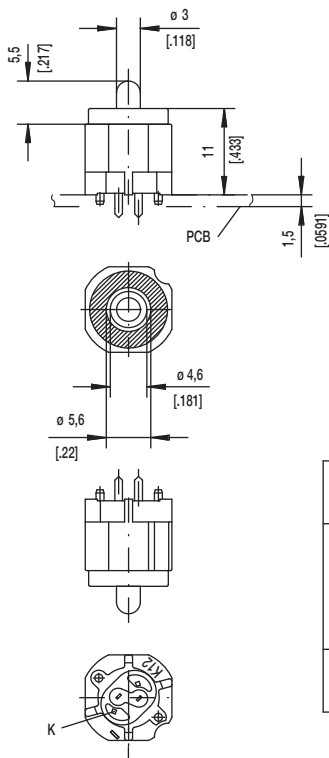
K12A without snap in



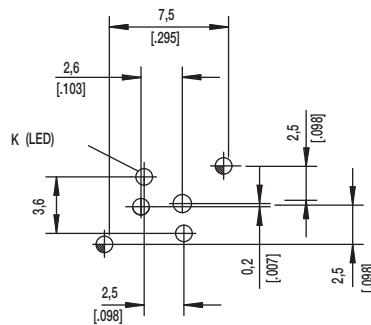
PCB LAYOUT, MOUNTING SIDE



K12AL



PCB LAYOUT, MOUNTING SIDE

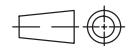


| | | | | | | |
|------|----------------------|---------|----------|-------------|---------------------|---------|
| | 1,1 ^{+0,05} | 2x | 2x | center hole | | |
| | 0,9 ±0,05 | | 2x | LED | ø0,5 (.020) | Sn |
| | | | 2x | switch | 0,7x0,2 (.028x.081) | Sn |
| Hole | ø | Without | with LED | Discription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



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Key Switches



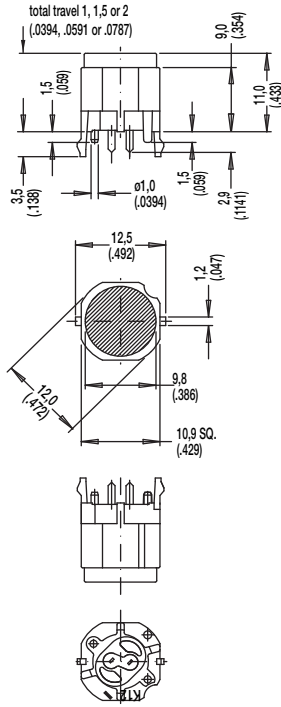
First Angle
Projection

Dimensions are shown: mm
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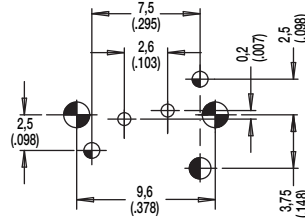
K12 High Performance Key Switches

SERIES

K12P with snap in



PCB LAYOUT, MOUNTING SIDE



center of actuation area (notice LED)

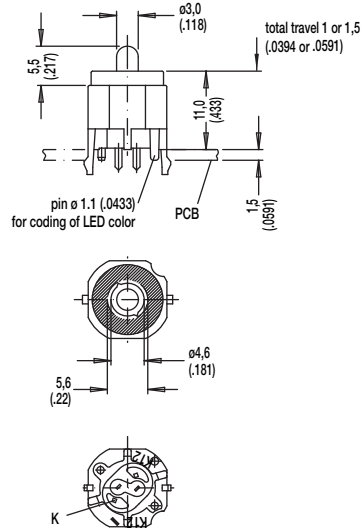


| Hole | Ø | Without LED | Description | Terminal Section | Surface |
|------|------------|-------------|---------------------|-------------------------|---------|
| | 1,7 (.069) | 2x | snap-in | | |
| | 1,6 (.062) | 1x | coding hole (L,M,N) | | |
| | 1,1 (.043) | 2x | center hole | | Sn |
| | 0,9 (.035)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

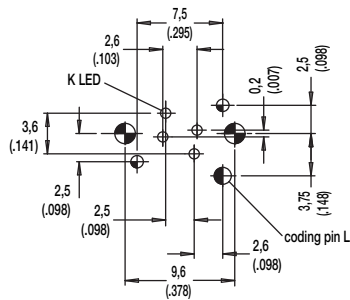
K12PL



Key Switches



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

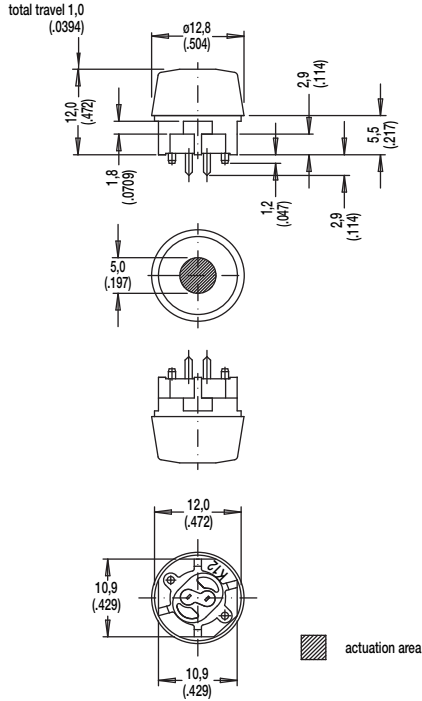
Dimensions are shown: mm
Specifications and dimensions subject to change



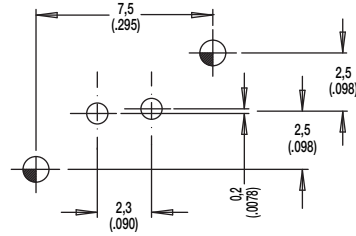
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

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 |



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Key Switches

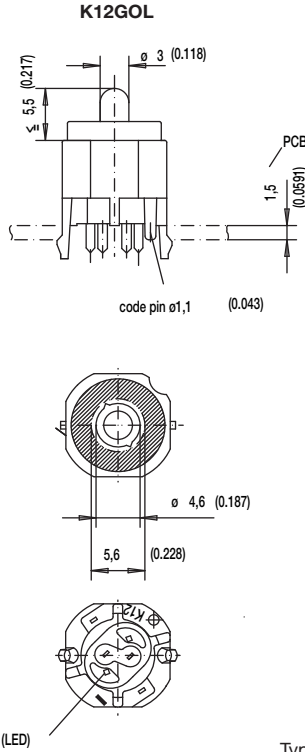
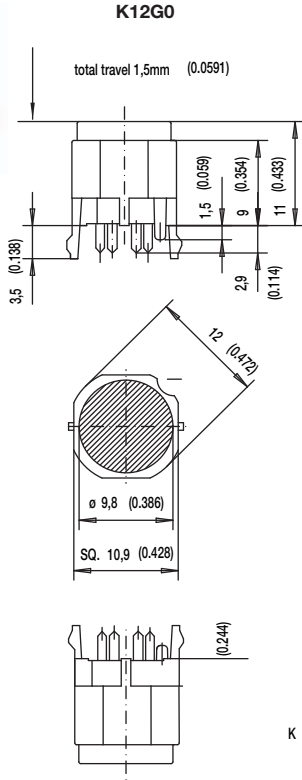


Dimensions are shown: mm
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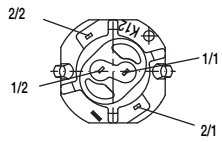
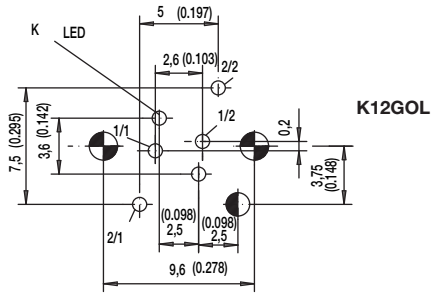
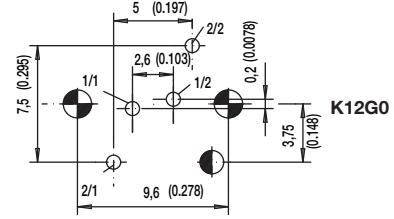
K12 High Performance Key Switches


SERIES 

K12GO
K12GOL



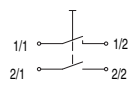
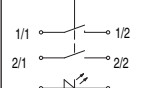
PCB LAYOUT, MOUNTING SIDE






 actuation area

Type K12G and K12GL

see drawing: 844-9001-601 or 844-900-1601 with LED holder by side

| SCHEMATIC | |
|---|---|
| K12G | K12GL |
|  |  |

| 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 | 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 |



Dimensions are shown: mm
Specifications and dimensions subject to change



K12 High Performance Key Switches

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 |
| 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 |



D

Key Switches



Dimensions are shown: mm
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