

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: ≥ 10⁶
 operations
 For all K12/K12C versions from 7N to 20N with max. switching power:
 please consult factory
 For K12G & K12GO with max. switching power: ≥ 5 x 10⁴ operations
 CONTACT RESISTANCE: Initial ≤ 50 mΩ
 INSULATION RESISTANCE: ≥ 10¹⁰ 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

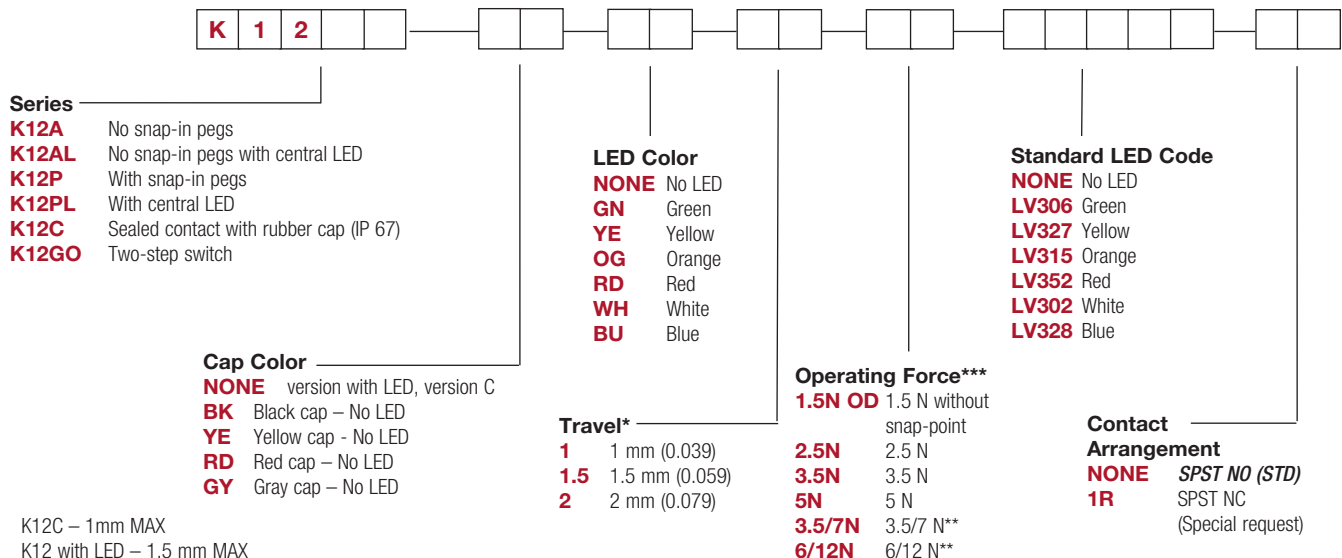
Process

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.



* 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

C&K

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D-7

www.ckswitches.com



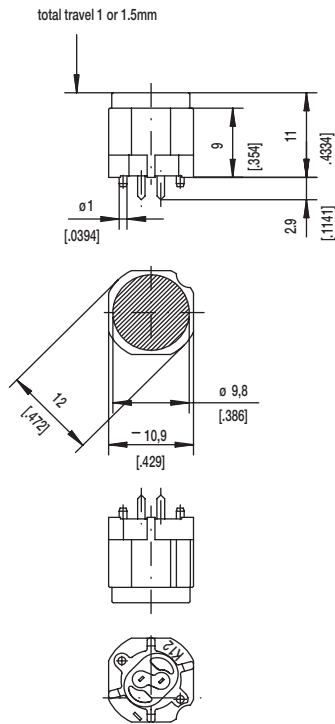
D

Key Switches

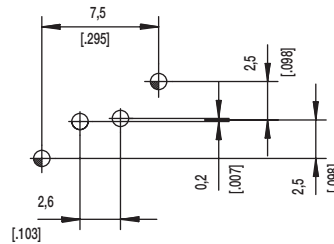
K12 Series High Performance Key Switches

SERIES

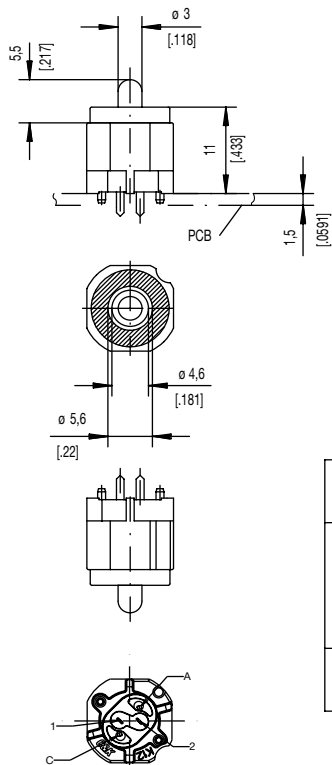
K12A without snap in



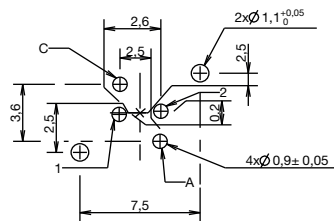
PCB LAYOUT, MOUNTING SIDE



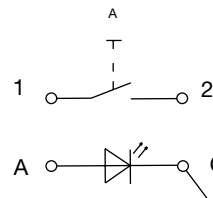
K12AL



PCB LAYOUT, MOUNTING SIDE



ELECTRICAL GRAPH



| | | | | | | |
|------|----------------|---------|----------|-------------|---------------------------------------|---------|
| | $1,1^{+0,05}$ | 2x | 2x | center hole | | |
| | $0,9 \pm 0,05$ | | 2x | LED | $\varnothing 0,5 (0,020)$ | Sn |
| | | 2x | 2x | switch | $0,7 \times 0,2 (0,028 \times 0,081)$ | Sn |
| Hole | \varnothing | Without | with LED | Description | Terminal Section | Surface |

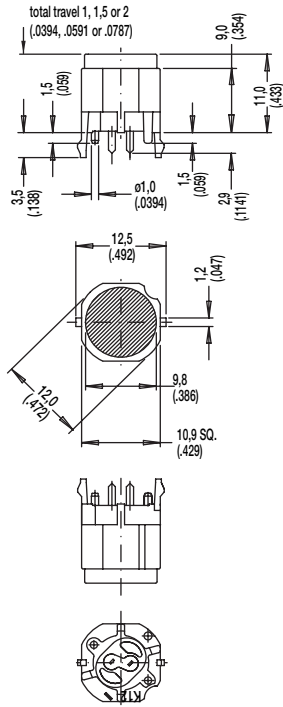


Key Switches

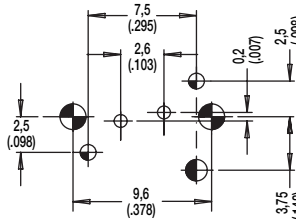
K12 Series High Performance Key Switches

SERIES

K12P with snap in



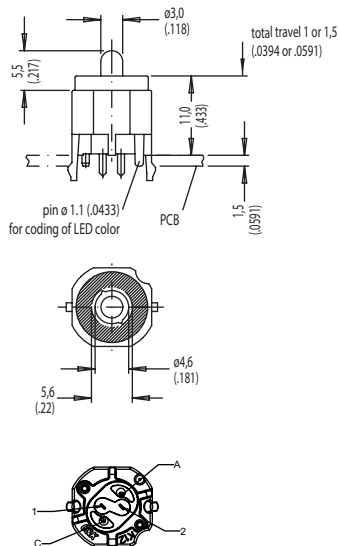
PCB LAYOUT, MOUNTING SIDE



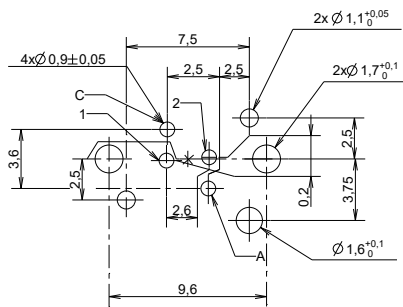
center of actuation area (notice LED)

| 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 |

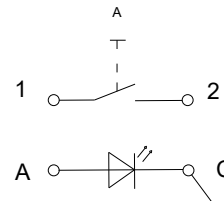
K12PL



PCB LAYOUT, MOUNTING SIDE



ELECTRICAL GRAPH



| 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 |
| | 0,9 (.035) | 2x | switch | 0.7 x 0.2 (.028 x .081) | Sn |



Dimensions are shown: mm
Specifications and dimensions subject to change

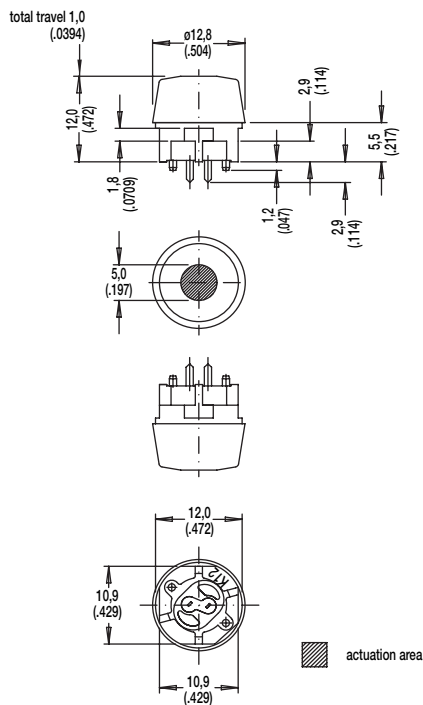


Key Switches

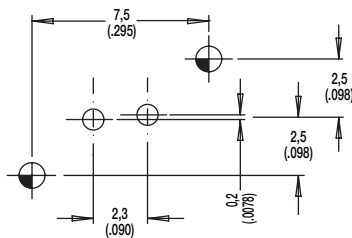
K12 Series High Performance Key Switches

SERIES

K12C SEALED CONTACT WITH RUBBER CAP (IP 67)



PCB LAYOUT, MOUNTING SIDE



| 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



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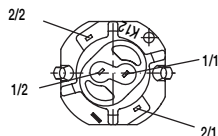
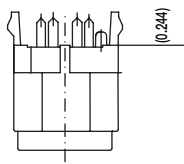
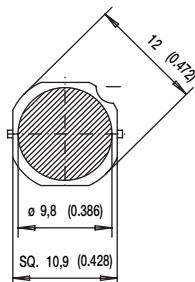
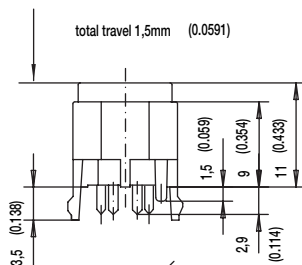
First Angle
Projection

Dimensions are shown: mm
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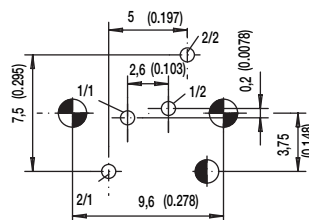
K12 Series High Performance Key Switches

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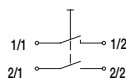
K12GO



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

Dimensions are shown: mm
Specifications and dimensions subject to change

K12 Series 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 |
| 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)



D

Key Switches



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