

## K12 Series

### High Performance Key Switches

	<b>Features/Benefits</b> <ul style="list-style-type: none"> <li>• Excellent tactile feel</li> <li>• Wide choice of LED colors, travel and actuator forces</li> <li>• Sealed version available</li> <li>• Designed for low-level switching</li> <li>• Double stroke Long life versions available</li> </ul>	<b>Typical Applications</b> <ul style="list-style-type: none"> <li>• Automotive</li> <li>• Off-Road transportation</li> <li>• Industrial electronics</li> <li>• Computers &amp; network equipment</li> <li>• Medical</li> </ul>
---	--	---

<b>Specification</b> <p><b>FUNCTION:</b> Momentary</p> <p><b>DISTANCE BETWEEN BUTTON CENTERS:</b> min. 11mm &amp; 13mm for K12C</p> <p><b>CONTACT TYPE:</b> SPST, N.O ; N.C</p> <p><b>TERMINALS:</b> PC pins, tinned</p> <p><b>MOUNTING:</b> Locating pins; additionally with snap-in housing for K12 P/PL/GO</p> <p><b>Mechanical</b></p> <p><b>SWITCHING TRAVEL:</b> 0,6 mm*</p> <p><b>PROTECTION CLASS:</b> K12C IP 67 (dust tight, protected against the effects of immersion in water; other versions IP40)</p> <p>* Additional switching travel (with pre-travel) available by request</p> <p><b>Environmental</b></p> <p><b>OPERATING TEMPERATURE:</b> -40°C to 85°C.</p> <p><b>STORAGE TEMPERATURE:</b> -40°C to 95°C.</p> <p><b>Process SOLDERABILITY</b></p> <p>Single wave soldering, compatible with lead free soldering profile Hand soldering, 350°C</p>	<b>Electrical</b> <p><b>SWITCHING POWER MIN./MAX.:</b> 0.02mW/3 W</p> <p><b>SWITCHING VOLTAGE MIN./MAX.:</b> 2 V DC / 30 V DC</p> <p><b>SWITCHING CURRENT MIN./MAX.:</b> 10 mA /100 mA</p> <p><b>DIELECTRIC STRENGTH:</b> (50 Hz, 1 min): <math>\geq</math> 500 V</p> <p><b>OPERATING LIFE:</b></p> <p>Please refer to the datasheets in the pages below</p> <p><b>CONTACT RESISTANCE:</b> Initial <math>\leq</math> 50 m<math>\Omega</math></p> <p><b>INSULATION RESISTANCE:</b> <math>\geq</math> 10<sup>10</sup><math>\Omega</math></p> <p><b>BOUNCE TIME:</b> <math>\leq</math> 1 ms Operating speed 100 mm/s (3.94/s)</p> <p><b>Packaging</b></p> <p>Bulk in boxes of 250 pieces (version C or GO) or 300 pieces (version A, AL, P or PL)</p>

#### K12 Product Range



Sub-Series	K12A	K12AL	K12P	K12PL	K12C	K12GO
<b>Size (mm) L x W x H</b>	12x12x11	12x12x11	12x12x11	12x12x11	12x12x12	12x12x11
<b>Pole / Throws</b>	SPST	SPST	SPST	SPST	SPST	Double stroke 2 x SPST momentary
<b>Snap-in pegs</b>	Without	Without	With	With	Without	With
<b>IP Rating</b>	IP40	IP40	IP40	IP40	IP67	IP40
<b>Illumination</b>	No	5 color availables	No	5 color availables	No	No

## K12 Series

### High Performance Key Switches

#### CAP COLOR

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

#### LED COLOR

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

STANDARD LED CODE	COLOR
<b>NONE</b>	Models without LED
<b>LV306</b>	Green
<b>LV327</b>	Yellow
<b>LV315</b>	Orange
<b>LV352</b>	Red
<b>LV302</b>	White
<b>LL4232</b>	Green

#### TRAVEL

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

#### OPERATING FORCE

OPTION CODE	OPERATING FORCE
<b>1.5N OD</b>	1.5 N, 150g without snap-point
<b>2.5N</b>	2.5 N, 250g
<b>3.5N</b>	3.5 N, 350g
<b>5N</b>	5 N, 500g
<b>3.5/7N</b>	3.5/7 N, 350/700g
<b>6/12N</b>	6/12 N, 600-1200g

#### CONTACT ARRANGEMENT OPTION

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

## K12 Series LED versions

	<p><b>Features/Benefits</b></p> <ul style="list-style-type: none"> <li>• Excellent tactile feel</li> <li>• Wide choice of LED colors, travel and actuator forces</li> <li>• Designed for low-level switching</li> </ul>	<p><b>Typical Applications</b></p> <ul style="list-style-type: none"> <li>• Automotive</li> <li>• Off-Road transportation</li> <li>• Industrial electronics</li> <li>• Computers &amp; network equipment</li> <li>• Medical</li> </ul>
---	---	--

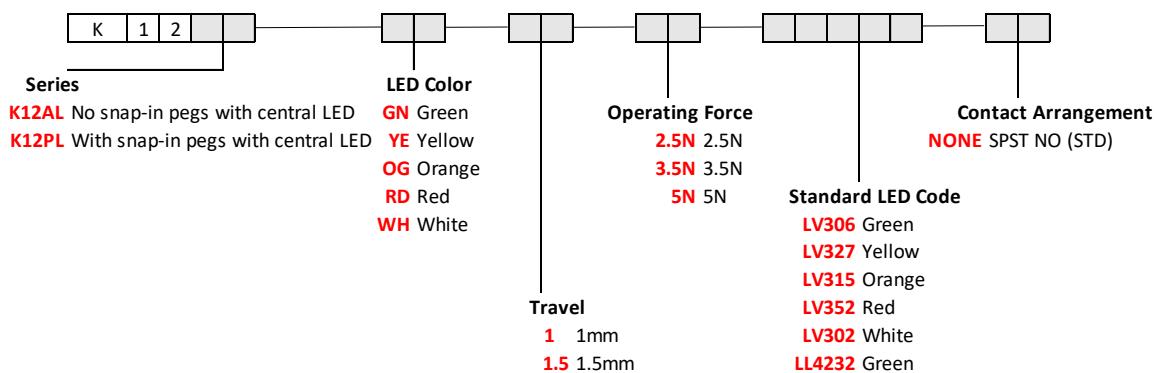
<p><b>Specification</b></p> <p><b>FUNCTION:</b> Momentary</p> <p><b>DISTANCE BETWEEN BUTTON CENTERS:</b> min. 11mm</p> <p><b>CONTACT TYPE:</b> SPST, N.O</p> <p><b>TERMINALS:</b> PC pins, tinned</p> <p><b>MOUNTING:</b> Locating pins, and K12PL additionally with snap-in housing</p>	<p><b>Electrical</b></p> <p><b>SWITCHING POWER MIN./MAX.:</b> 0.02mW/3 W</p> <p><b>SWITCHING VOLTAGE MIN./MAX.:</b> 2 V DC / 30 V DC</p> <p><b>SWITCHING CURRENT MIN./MAX.:</b> 10 mA /100 mA</p> <p><b>DIELECTRIC STRENGTH:</b> (50 Hz, 1 min): <math>\geq</math> 500 V</p> <p><b>OPERATING LIFE:</b> For all K12 AL/PL versions up to 6N with max. switching power: <math>\geq</math> 10<sup>6</sup> operations</p> <p><b>CONTACT RESISTANCE:</b> Initial <math>\leq</math> 50 m<math>\Omega</math></p> <p><b>INSULATION RESISTANCE:</b> <math>\geq</math> 10<sup>10</sup><math>\Omega</math></p> <p><b>BOUNCE TIME:</b> <math>\leq</math> 1 ms Operating speed 100 mm/s (3.94/s)</p>
<p><b>Mechanical</b></p> <p><b>SWITCHING TRAVEL:</b> 0,6 mm*</p> <p><b>PROTECTION CLASS:</b> IP40</p>	<p><b>Packaging</b> Bulk in boxes of 300 pieces</p>
<p>* Additional switching travel (with pre-travel) available by request</p>	
<p><b>Environmental</b></p> <p><b>OPERATING TEMPERATURE:</b> -40°C to 85°C.</p> <p><b>STORAGE TEMPERATURE:</b> -40°C to 95°C.</p>	
<p><b>Process SOLDERABILITY</b> Single wave soldering, compatible with lead free soldering profile Hand soldering, 350°C.</p>	

### How To Order

Our easy build-a-switch concept allows you to mix and match options to create the switch you need.

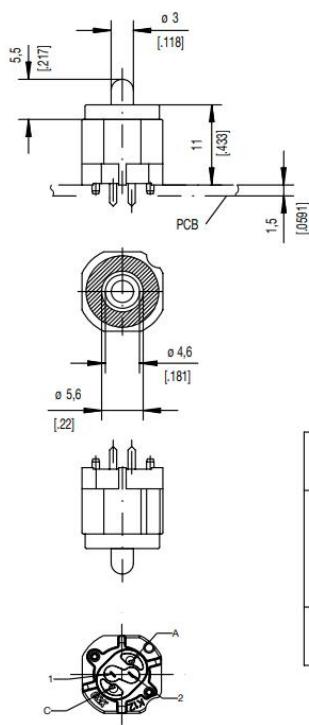
To order, select desired option from each category and place it in the appropriate box.

For any part number different from those listed above, please consult your local representative.

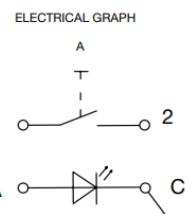
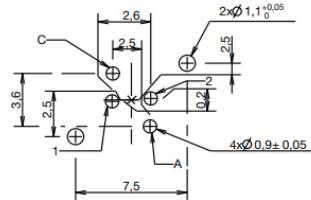


## K12 Series LED versions

### K12 AL

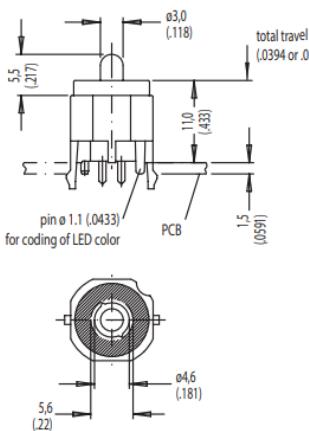


PCB LAYOUT, MOUNTING SIDE

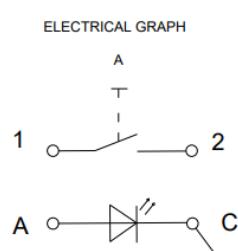
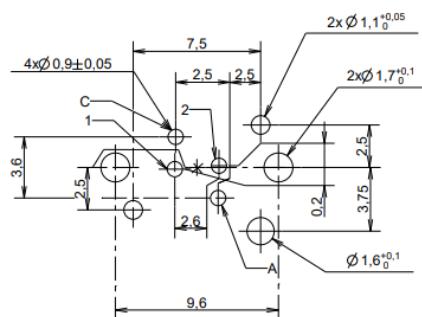


Hole	$\varnothing$	Without	with LED	Description	Terminal Section	Surface
$\oplus$	$1,1 +0,05$	2x	2x	center hole		
$\oplus$	$0,9 \pm 0,05$		2x	LED	$\varnothing 0,5 (.020)$	Sn

### K12 PL



PCB LAYOUT, MOUNTING SIDE



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

## K12 Series

### A versions

	<b>Features/Benefits</b> <ul style="list-style-type: none"><li>• Excellent tactile feel</li><li>• Wide choice of travel and actuator forces</li><li>• Designed for low-level switching</li><li>• Customization on request</li><li>• Normally closed on request</li></ul>	<b>Typical Applications</b> <ul style="list-style-type: none"><li>• Automotive</li><li>• Off-Road transportation</li><li>• Industrial electronics</li><li>• Computers &amp; network equipment</li><li>• Medical</li></ul>
---	--	---

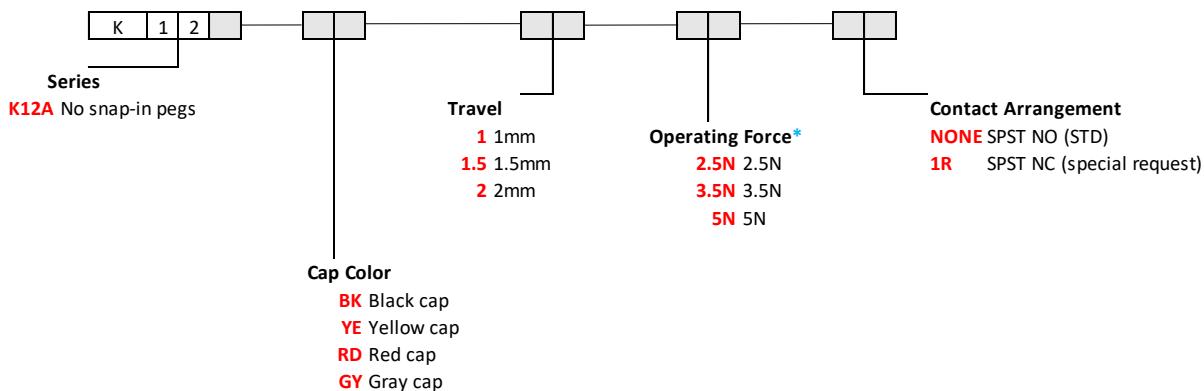
<b>Specification</b> <b>FUNCTION:</b> Momentary <b>DISTANCE BETWEEN BUTTON CENTERS:</b> min. 11mm <b>CONTACT TYPE:</b> SPST, N.O ; N.C <b>TERMINALS:</b> PC pins, tinned <b>MOUNTING:</b> Locating pins	<b>Electrical</b> <b>SWITCHING POWER MIN./MAX.:</b> 0.02mW/3 W <b>SWITCHING VOLTAGE MIN./MAX.:</b> 2 V DC / 30 V DC <b>SWITCHING CURRENT MIN./MAX.:</b> 10 mA /100 mA <b>DIELECTRIC STRENGTH:</b> (50 Hz, 1 min): $\geq$ 500 V <b>OPERATING LIFE:</b> For all K12A versions up to 6N with max. switching power: $\geq$ 10 <sup>6</sup> operations For all K12A versions from 7N to 20N with max. switching power: please consult the factory <b>CONTACT RESISTANCE:</b> Initial $\leq$ 50 m $\Omega$ <b>INSULATION RESISTANCE:</b> $\geq$ 10 <sup>10</sup> $\Omega$ <b>BOUNCE TIME:</b> $\leq$ 1 ms Operating speed 100 mm/s (3.94/s)
<b>Mechanical</b> <b>SWITCHING TRAVEL:</b> 0,6 mm* <b>PROTECTION CLASS:</b> IP 40  * Additional switching travel (with pre-travel) available by request	<b>Environmental</b> <b>OPERATING TEMPERATURE:</b> -40°C to 85°C. <b>STORAGE TEMPERATURE:</b> -40°C to 95°C.  <b>Process SOLDERABILITY</b> Single 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.

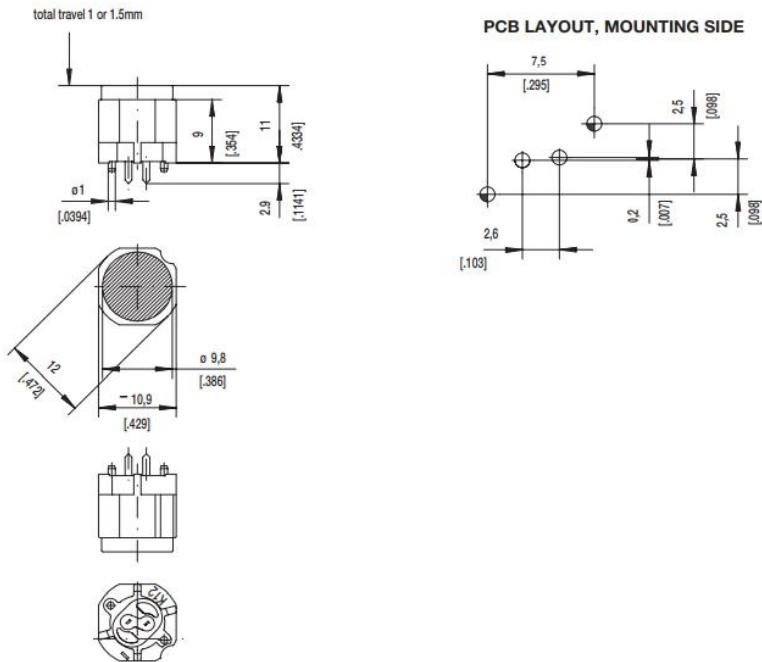
For any part number different from those listed above, please consult your local representative.



\* Additional operating force: 7N; 9N; 20N available on request

## K12 Series A versions

### K12A WITHOUT SNAP-IN



## K12 Series

### P versions

	<p><b>Features/Benefits</b></p> <ul style="list-style-type: none"> <li>• Excellent tactile feel</li> <li>• Wide choice of travel actuator forces</li> <li>• Designed for low-level switching</li> <li>• Customization on request</li> <li>• Normally closed on request</li> <li>• Detect version option</li> </ul>	<p><b>Typical Applications</b></p> <ul style="list-style-type: none"> <li>• Automotive</li> <li>• Off-Road transportation</li> <li>• Industrial electronics</li> <li>• Computers &amp; network equipment</li> <li>• Medical</li> </ul>
---	--	--

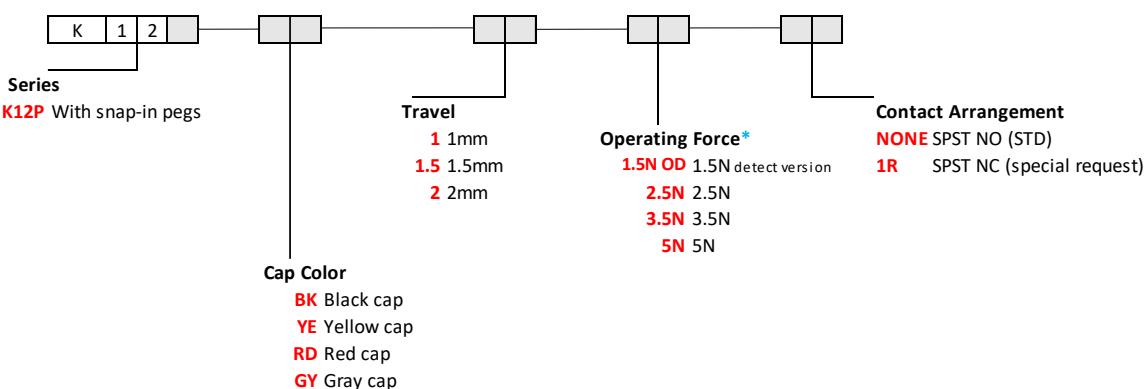
<p><b>Specification</b></p> <p><b>FUNCTION:</b> Momentary</p> <p><b>DISTANCE BETWEEN BUTTON CENTERS:</b> min. 11mm</p> <p><b>CONTACT TYPE:</b> SPST, N.O ; N.C</p> <p><b>TERMINALS:</b> PC pins, tinned</p> <p><b>MOUNTING:</b> Locating pins with snap-in housing</p> <p><b>Mechanical</b></p> <p><b>SWITCHING TRAVEL:</b> 0,6 mm*</p> <p><b>PROTECTION CLASS:</b> IP40</p> <p>* Additional switching travel (with pre-travel) available by request</p> <p><b>Environmental</b></p> <p><b>OPERATING TEMPERATURE:</b> -40°C to 85°C.</p> <p><b>STORAGE TEMPERATURE:</b> -40°C to 95°C.</p> <p><b>Process SOLDERABILITY</b></p> <p>Single wave soldering, compatible with lead free soldering profile Hand soldering, 350°C</p>	<p><b>Electrical</b></p> <p><b>SWITCHING POWER MIN./MAX.:</b> 0.02mW/3 W</p> <p><b>SWITCHING VOLTAGE MIN./MAX.:</b> 2 V DC / 30 V DC</p> <p><b>SWITCHING CURRENT MIN./MAX.:</b> 10 mA /100 mA</p> <p><b>DIELECTRIC STRENGTH:</b> (50 Hz, 1 min): <math>\geq</math> 500 V</p> <p><b>OPERATING LIFE:</b></p> <p>For all K12P versions up to 6N with max. switching power: <math>\geq</math> 10<sup>6</sup> operations</p> <p>For all K12P versions from 7N to 20N with max. switching power: please consult the factory</p> <p><b>CONTACT RESISTANCE:</b> Initial <math>\leq</math> 50 m<math>\Omega</math></p> <p><b>INSULATION RESISTANCE:</b> <math>\geq</math> 10<sup>10</sup><math>\Omega</math></p> <p><b>BOUNCE TIME:</b> <math>\leq</math> 1 ms Operating speed 100 mm/s (3.94/s)</p> <p><b>Packaging</b></p> <p>Bulk in boxes of 300 pieces</p>
--	--

### 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.

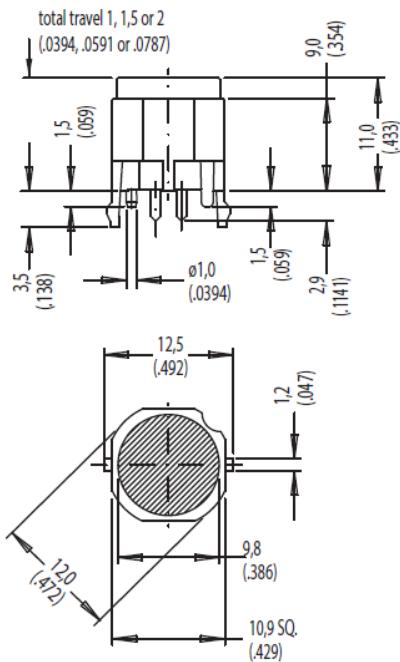
For any part number different from those listed above, please consult your local representative



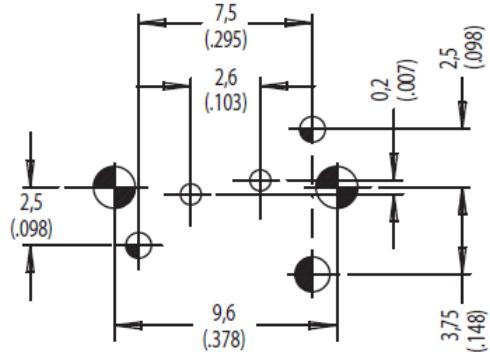
\* Additional operating force: 7N; 9N; 20N available on request

**K12 Series**  
**P versions**

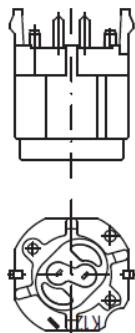
**K12 P without snap-in**



**PCB LAYOUT, MOUNTING SIDE**



center of actuation area (notice LED)



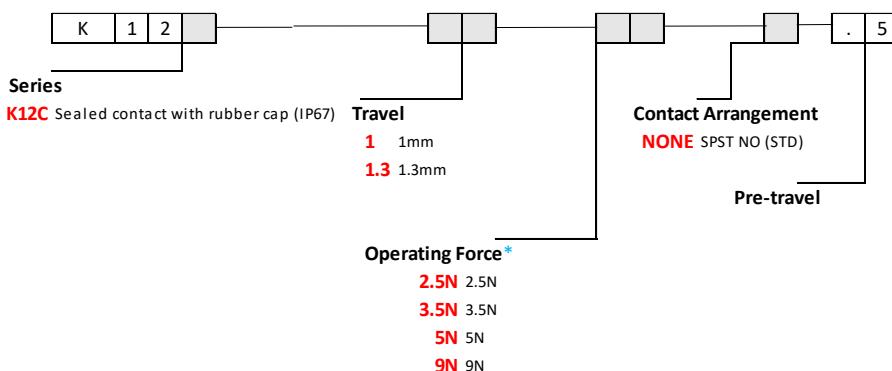
## K12 Series C versions

	<b>Features/Benefits</b> <ul style="list-style-type: none"> <li>Excellent tactile feel</li> <li>Wide choice of travel and actuator forces</li> <li>Sealed version</li> <li>Designed for low-level switching</li> </ul>	<b>Typical Applications</b> <ul style="list-style-type: none"> <li>Automotive</li> <li>Off-Road transportation</li> <li>Industrial electronics</li> <li>Computers &amp; network equipment</li> <li>Medical</li> </ul>
---	--	---

<b>Specification</b> <p><b>FUNCTION:</b> Momentary</p> <p><b>DISTANCE BETWEEN BUTTON CENTERS:</b> min. 13mm</p> <p><b>CONTACT TYPE:</b> SPST, N.O</p> <p><b>TERMINALS:</b> PC pins, tinned</p> <p><b>MOUNTING:</b> Locating pins</p> <p><b>Mechanical</b></p> <p><b>SWITCHING TRAVEL:</b> 0,6 mm*</p> <p><b>PROTECTION CLASS:</b> IP 67 (dust tight, protected against the effects of immersion in water)</p>	<p><b>Electrical</b></p> <p><b>SWITCHING POWER MIN./MAX.:</b> 0.02mW/3 W</p> <p><b>SWITCHING VOLTAGE MIN./MAX.:</b> 2 V DC / 30 V DC</p> <p><b>SWITCHING CURRENT MIN./MAX.:</b> 10 mA /100 mA</p> <p><b>DIELECTRIC STRENGTH:</b> (50 Hz, 1 min): <math>\geq</math> 500 V</p> <p><b>OPERATING LIFE:</b> For all K12C versions up to 9N with max. switching power: <math>\geq 10^5</math> operations</p> <p>For all K12C versions from 9N to 20N with max. switching power: please consult the factory</p> <p><b>CONTACT RESISTANCE:</b> Initial <math>\leq</math> 50 m<math>\Omega</math></p> <p><b>INSULATION RESISTANCE:</b> <math>\geq 10^{10}\Omega</math></p> <p><b>BOUNCE TIME:</b> <math>\leq</math> 1 ms Operating speed 100 mm/s (3.94/s)</p> <p><b>Environmental</b></p> <p><b>OPERATING TEMPERATURE:</b> -40°C to 85°C.</p> <p><b>STORAGE TEMPERATURE:</b> -40°C to 95°C.</p> <p><b>Process Solderability</b> Single wave soldering, compatible with lead free soldering profile Hand soldering, 350°C</p>
---	--

### How To Order

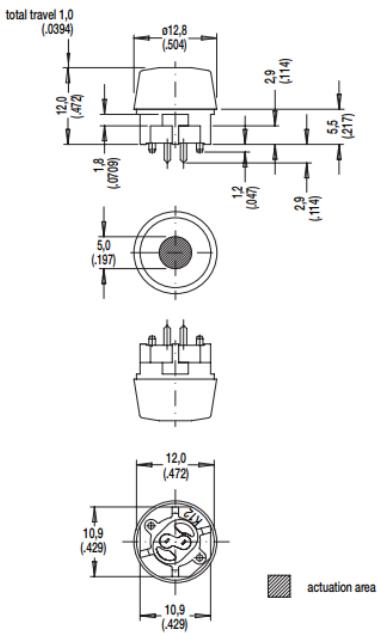
Our easy build-a-switch concept allows you to mix and match options to create the switch you need. To order, select desired option from each category and place it in the appropriate box. For any part number different from those listed above, please consult your local representative.



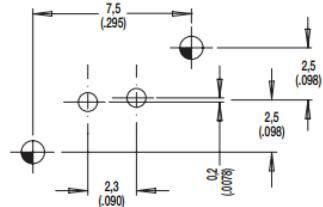
\* Additional operating force: 20N available on request

## K12 Series C versions

### K12 C SEALED CONTACT WITH RUBBER CAP (IP67)



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

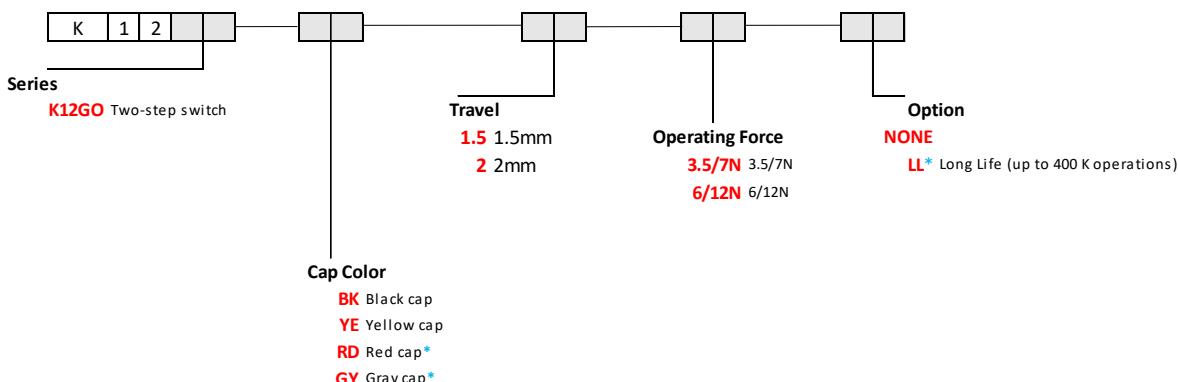
## K12 Series GO versions

	<p><b>Features/Benefits</b></p> <ul style="list-style-type: none"> <li>• Excellent tactile feel</li> <li>• Designed for low-level switching</li> <li>• Double stroke versions</li> <li>• Long life versions available</li> </ul>	<p><b>Typical Applications</b></p> <ul style="list-style-type: none"> <li>• Automotive</li> <li>• Off-Road transportation</li> <li>• Industrial electronics</li> <li>• Computers &amp; network equipment</li> <li>• Medical</li> </ul>
---	--	--

<p><b>Specification</b></p> <p><b>FUNCTION:</b> Momentary</p> <p><b>DISTANCE BETWEEN BUTTON CENTERS:</b> min. 11mm</p> <p><b>CONTACT TYPE:</b> 2xSPST, N.O</p> <p><b>TERMINALS:</b> PC pins, tinned</p> <p><b>MOUNTING:</b> Locating pins with snap peg</p> <p><b>Mechanical</b></p> <p><b>SWITCHING TRAVEL:</b> 0,6 mm*</p> <p><b>PROTECTION CLASS:</b> IP40</p> <p><b>Environmental</b></p> <p><b>OPERATING TEMPERATURE:</b> -40°C to 85°C.</p> <p><b>STORAGE TEMPERATURE:</b> -40°C to 95°C.</p> <p><b>Process SOLDERABILITY</b></p> <p>Single wave soldering, compatible with lead free soldering profile Hand soldering, 350°C</p>	<p><b>Electrical</b></p> <p><b>SWITCHING POWER MIN./MAX.:</b> 0.02mW/3 W</p> <p><b>SWITCHING VOLTAGE MIN./MAX.:</b> 2 V DC / 30 V DC</p> <p><b>SWITCHING CURRENT MIN./MAX.:</b> 10 mA /100 mA</p> <p><b>DIELECTRIC STRENGTH:</b> (50 Hz, 1 min): <math>\geq</math> 500 V</p> <p><b>OPERATING LIFE:</b> For K12GO with max. switching power: Standard version <math>\geq</math> 5 x 10<sup>4</sup> operations. Long life version up to 4 x 10<sup>5</sup>: please consult factory</p> <p><b>CONTACT RESISTANCE:</b> Initial <math>\leq</math> 50 m<math>\Omega</math></p> <p><b>INSULATION RESISTANCE:</b> <math>\geq</math> 10<sup>10</sup><math>\Omega</math></p> <p><b>BOUNCE TIME:</b> <math>\leq</math> 1 ms Operating speed 100 mm/s (3.94/s)</p> <p><b>Packaging</b> Bulk in boxes of 250 pieces</p>
---	--

### 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. For any part number different from those listed above, please consult your local representative.

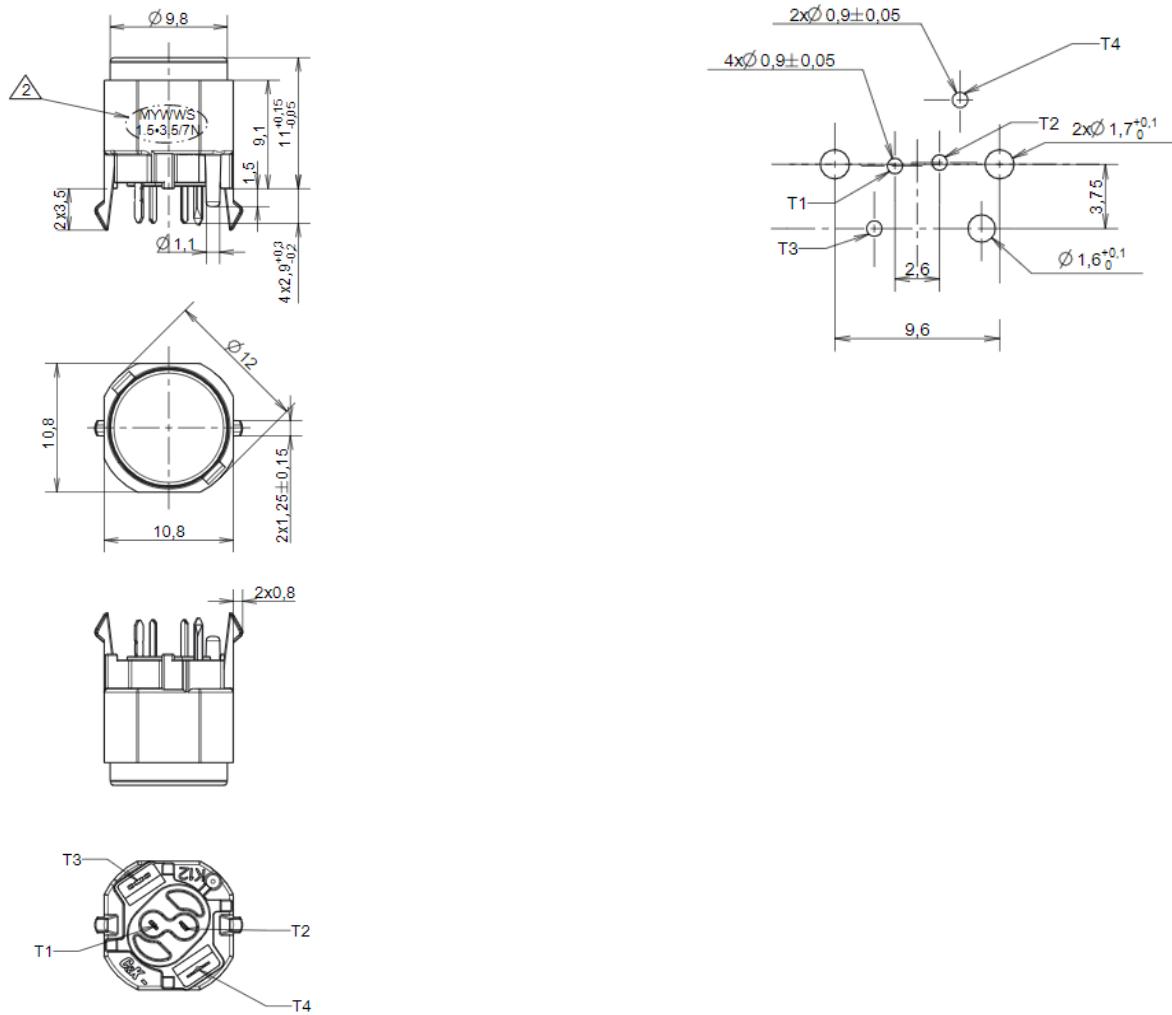


\* Please consult factory

**K12 Series  
GO versions**

**K12 GO**

**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