



# PRODUCT SPECIFICATION

June 2011

## K12 Series

Rev. B

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### Approvals:

Laurent Kubat  
Engineering Manager

Date

### Revision record:

| Revision | Date                            | Comments                                                                                                                                                                                                    |
|----------|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| -        | October 28 <sup>th</sup> , 2009 | Creation                                                                                                                                                                                                    |
| Rev. A   | January 5 <sup>th</sup> 2011    | Update : <i>(according to ECR 5845)</i> <ul style="list-style-type: none"><li>▪ K12 GO YE 1.5 6/12N version added</li><li>▪ Frr : min value specified</li></ul>                                             |
| Rev. B   | June 15 <sup>th</sup> 2011      | Update : <i>(according to ECR 6684, 6724 &amp; 6733)</i> <ul style="list-style-type: none"><li>▪ K12 GO BK 1.5 6/12N PAL, K12 CN 1.3 9N .5, K12 BN 1.3 9N .5 &amp; K12 P YE 2 3.5N versions added</li></ul> |
|          |                                 |                                                                                                                                                                                                             |

### Summary:

1. Description / Main Features
2. Designation
3. Construction
4. Electrical data
5. Mechanical data
6. Physical data
7. Operating environment
8. Additional data : storage and handling environment
9. Additional data : process environment
10. Applicable norms

**Note:** This specification, attached documents and attached drawings cannot be communicated to anybody without written agreement of C&K.

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### 1 - Description

#### K12A: No snap-in pegs

- **K12AH:** K12A with long cross plunger
- **K12AK:** K12A with short cross plunger
- **K12AL:** K12A with central Led



K12A



K12AL

#### K12B: Round housing (same as K12C), no snap-in pegs

- **K12BF:** K12B with specific actuator
- **K12BN:** K12B with spherical actuator

#### K12C: Sealed contact with rubber cap (IP 67), round housing, no snap-in pegs

- **K12CF:** K12C with specific actuator
- **K12CN:** K12C with spherical actuator



K12C

#### K12D: External Led attachment, with snap-in pegs

- **K12DK:** K12D with short cross plunger
- **K12DL:** K12D with central Led

#### K12G: double stroke, with snap-in pegs, with external Led attachment

- **K12GO:** K12G without external Led attachment
- **K12GOL:** K12G without external Led attachment, with central Led



K12GOL

#### K12P: With snap-in pegs

- **K12PCL :** K12P with specific actuator
- **K12PF:** K12P with specific actuator
- **K12PL:** K12P with central Led
- **K12PN:** K12P with spherical actuator
- **K12PO:** K12P with specific actuator (+ 0.5mm)



K12P



K12PL



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**Main Features**

- Self cleaning contacts
- Tactile feeling & electrical function separated
- Good tactile feedback except detect version
- Terminal plating: Pure Tin
- Compatible with lead free process (wave or hand soldering only).
- Marking :  
On product and on packaging box.

**3 - Construction**

|              |                                                                                                                                                                                                                                |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Function     | Momentary action : Single action / Double action or detect                                                                                                                                                                     |
| Contact type | <ul style="list-style-type: none"><li>• Normally open</li><li>• Normally closed contacts upon request</li><li>• Single Pole Single Throw: K12A, K12P and K12C series</li><li>• Single Pole Double Throw: K12G series</li></ul> |

|           |              |
|-----------|--------------|
| Terminals | Through hole |
|-----------|--------------|

**4 - Electrical data**

|                       |                                                                                                                                                                                      |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                       | Contact plating : Au                                                                                                                                                                 |
| Min/max power         | 0.02 mW – 3W                                                                                                                                                                         |
| Min/max voltage       | 2 Vdc – 30 Vdc                                                                                                                                                                       |
| Min/max current       | 10 $\mu$ A – 100 mA                                                                                                                                                                  |
| Dielectric strength   | $\geq 500$ Vrms - Increase of voltage/time : 500 V/s                                                                                                                                 |
| Contact resistance    | <ul style="list-style-type: none"><li>• initial measurements : <math>\leq 50</math> m<math>\Omega</math></li><li>• after test : <math>\leq 250</math> m<math>\Omega</math></li></ul> |
| Insulation resistance | $R_i \geq 10^{10}$ $\Omega$ (500 VDC - 60 s $\pm$ 5)                                                                                                                                 |
| Bounce time           | $\leq 1$ ms - operating speed: 100mm/s                                                                                                                                               |

**5 - Mechanical data**

|                      |                                  |
|----------------------|----------------------------------|
| Travel               | According to table pages 5 to 15 |
| Switching force (Fa) | According to table pages 5 to 15 |
| Return force (Frr)   | According to table pages 5 to 15 |
| Overload             | $\geq 30$ N (One cycle only)     |

**6 - Physical data**

|                     |                                                                 |
|---------------------|-----------------------------------------------------------------|
| Dimensions & layout | According to drawing<br>(drawing N° on the table pages 5 to 15) |
|---------------------|-----------------------------------------------------------------|

**7 - Operating environment**

|                        |                                  |
|------------------------|----------------------------------|
| Operating temperatures | - 40°C / + 85°C                  |
| Climatic category      | 40/085/04                        |
| Operating life         | According to table pages 5 to 15 |

**8 - Additional data : storage and handling environment**

|                      |                                       |
|----------------------|---------------------------------------|
| Packaging conditions | Box or tray                           |
| Transport conditions | According to specification NF H00-060 |
| Storage temperatures | - 40°C / + 95°C                       |

**9 - Additional data : process environment**

|                   |                                                                                                                                                                                                  |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Soldering process | <ul style="list-style-type: none"><li>• Wave soldering compatible with lead free soldering profile ( according to C&amp;K Procedure : PS-LF-002)</li><li>• Hand soldering : 350°C / 3s</li></ul> |
| Washing process   | No washing                                                                                                                                                                                       |
| IP code           | <ul style="list-style-type: none"><li>• Standard sealing grade : IP40</li><li>• High sealing grade : IP67</li><li>• K12C family : sealed cap</li></ul>                                           |

**10 - Applicable norms**

|                              |                                                                           |
|------------------------------|---------------------------------------------------------------------------|
| Testing procedure (C&K spec) | Proc-essai 16<br><b><i>Except requirements included in this spec.</i></b> |
| Legal norm (EHS)             | C&K procedure                                                             |



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| Designation         | Drawing N°  | Snap point | LED Support | LED<br>Only with central support | Switching force Fa (N) |    |                                  | Return force Frr (N) | Operating force (N)<br>(detect versions) | Operating life (cycles) | Travel (mm)                |                       |    |            |
|---------------------|-------------|------------|-------------|----------------------------------|------------------------|----|----------------------------------|----------------------|------------------------------------------|-------------------------|----------------------------|-----------------------|----|------------|
|                     |             |            |             |                                  | 1                      | 2  | Fa <sub>2</sub> -Fa <sub>1</sub> |                      |                                          |                         | End travel height/<br>PCB* | Switching travel/PCB* |    | Pre-travel |
|                     |             |            |             |                                  |                        |    |                                  |                      |                                          |                         |                            | 1                     | 2  |            |
| K12A                |             |            |             |                                  |                        |    |                                  |                      |                                          |                         |                            |                       |    |            |
| K12A BK 1 1.5N OD   | 844100-0003 | without    | without     | NA                               | NA                     | NA | NA                               | ≥ 0.8                | 1.5 ±0.5                                 | ≥ 10 <sup>6</sup>       | 9.95 -0.2                  | 10.45 ±0.15           | NA | NA         |
| K12A BK 1 2.5N      | 844100-0101 | with       | without     | NA                               | 2.5 ±0.7               | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.95 -0.2                  | 10.45 ±0.15           | NA | NA         |
| K12A BK 1 2.5N 1R** | 844100-0172 | with       | without     | NA                               | 2.5 ±0.7               | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.95 -0.2                  | 10.45 ±0.15           | NA | NA         |
| K12A YE 1 2.5N      | 844100-0103 | with       | without     | NA                               | 2.5 ±0.7               | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.95 -0.2                  | 10.45 ±0.15           | NA | NA         |
| K12A RD 1 2.5N      | 844100-0104 | with       | without     | NA                               | 2.5 ±0.7               | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.95 -0.2                  | 10.45 ±0.15           | NA | NA         |
| K12A BK 1 5N        | 844100-0201 | with       | without     | NA                               | 5 +2/-0                | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.95 -0.2                  | 10.45 ±0.15           | NA | NA         |
| K12A BK 1 5N 1R**   | 844100-0271 | with       | without     | NA                               | 5 +2/-0                | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.95 -0.2                  | 10.45 ±0.15           | NA | NA         |
| K12A GY 1 5N        | 844100-0205 | with       | without     | NA                               | 5 +2/-0                | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.95 -0.2                  | 10.45 ±0.15           | NA | NA         |
| K12A RD 1 5N        | 844100-0202 | with       | without     | NA                               | 5 +2/-0                | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.95 -0.2                  | 10.45 ±0.15           | NA | NA         |
| K12A YE 1 5N        | 844100-0203 | with       | without     | NA                               | 5 +2/-0                | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.95 -0.2                  | 10.45 ±0.15           | NA | NA         |
| K12A BK 1.5 2.5N    | 844100-1101 | with       | without     | NA                               | 2.5 ±0.7               | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.55 -0.2                  | 10.45 ±0.15           | NA | NA         |
| K12A GY 1.5 2.5N    | 844100-1103 | with       | without     | NA                               | 2.5 ±0.7               | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.55 -0.2                  | 10.45 ±0.15           | NA | NA         |
| K12A YE 1.5 2.5N    | 844100-1105 | with       | without     | NA                               | 2.5 ±0.7               | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.55 -0.2                  | 10.45 ±0.15           | NA | NA         |
| K12A RD 1.5 2.5N    | 844100-1155 | with       | without     | NA                               | 2.5 ±0.7               | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.55 -0.2                  | 10.45 ±0.15           | NA | NA         |
| K12A GN 1.5 2.5N    | 844100-1106 | with       | without     | NA                               | 2.5 ±0.7               | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.55 -0.2                  | 10.45 ±0.15           | NA | NA         |
| K12A BK 1.5 5N      | 844100-1201 | with       | without     | NA                               | 5 +2/-0                | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.55 -0.2                  | 10.45 ±0.15           | NA | NA         |



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|-------------------------|-------------|------------|-------------|----------------------------------|------------------------|----|----------------------------------|----------------------|------------------------------------------|-------------------------|------------------------|-----------------------|----|------------|
|                         |             |            |             |                                  | 1                      | 2  | Fa <sub>2</sub> -Fa <sub>1</sub> |                      |                                          |                         | End travel height/PCB* | Switching travel/PCB* |    | Pre-travel |
| K12A BK 1.5 9N          | 844100-1700 | with       | without     | NA                               | 9 ±2.25                | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>5</sup>       | 9.55 -0.2              | 10.45 ±0.15           | NA | NA         |
| K12A BK 2 1.5N          | 844100-2001 | without    | without     | NA                               | NA                     | NA | NA                               | ≥ 0.8                | 2.5 ±0.7                                 | ≥ 10 <sup>6</sup>       | 9.55 -0.2              | 10.45 ±0.15           | NA | NA         |
| K12A BK 2 2.5N          | 844100-2101 | with       | without     | NA                               | 2.5 ±0.7               | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.05 -0.2              | 10.45 ±0.15           | NA | NA         |
| K12A BK 2 3.5N          | 844100-2400 | with       | without     | NA                               | 3.5 ±1.0               | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.05 -0.2              | 10.45 ±0.15           | NA | NA         |
| K12A BK 2 5N            | 844100-2201 | with       | without     | NA                               | 5 +2/-0                | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.05 -0.2              | 10.45 ±0.15           | NA | NA         |
| <b>K12AH</b>            |             |            |             |                                  |                        |    |                                  |                      |                                          |                         |                        |                       |    |            |
| K12AH 1 2.5N            | 844100-0004 | with       | without     | NA                               | 2.5 ±0.7               | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.55 -0.2              | 10.05 ±0.15           | NA | NA         |
| K12AH 1 5N              | 844100-0204 | with       | without     | NA                               | 5 +2/-0                | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.55 -0.2              | 10.05 ±0.15           | NA | NA         |
| <b>K12AK</b>            |             |            |             |                                  |                        |    |                                  |                      |                                          |                         |                        |                       |    |            |
| K12AK 1 1.5N            | 844100-0001 | without    | without     | NA                               | NA                     | NA | NA                               | ≥ 0.8                | 1.5 ±0.5                                 | ≥ 10 <sup>6</sup>       | 9.55 -0.2              | 10.05 ±0.15           | NA | NA         |
| K12AK 1 5N              | 844100-0210 | with       | without     | NA                               | 5 +2/-0                | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.55 -0.2              | 10.05 ±0.15           | NA | NA         |
| K12AK 1.5 5N            | 844100-1202 | with       | without     | NA                               | 5 +2/-0                | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.05 -0.2              | 10.05 ±0.15           | NA | NA         |
| <b>K12AL</b>            |             |            |             |                                  |                        |    |                                  |                      |                                          |                         |                        |                       |    |            |
| K12AL BU 1 5N L328      | 844138-0200 | with       | central     | Blue                             | 5 +2/-0                | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.95 -0.2              | 10.45 ±0.15           | NA | NA         |
| K12AL RD 1 5N L352      | 844235-0201 | with       | central     | Red                              | 5 +2/-0                | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.95 -0.2              | 10.45 ±0.15           | NA | NA         |
| K12AL GN 1 5N L306      | 844236-0201 | with       | central     | Green                            | 5 +2/-0                | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.95 -0.2              | 10.45 ±0.15           | NA | NA         |
| K12AL YE 1 5N L327      | 844237-0202 | with       | central     | Yellow                           | 5 +2/-0                | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.95 -0.2              | 10.45 ±0.15           | NA | NA         |
| K12AL RD 1.3 9N .5 L352 | 844135-4700 | with       | central     | Red                              | 9 ±2.25                | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>5</sup>       | 9.75 -0.2              | 10.05 ±0.15           | NA | 0.5        |



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|------------------------|-------------|------------|-------------|----------------------------------|------------------------|----|----------------------------------|----------------------|------------------------------------------|-------------------------|------------------------|-----------------------|----|------------|
|                        |             |            |             |                                  | 1                      | 2  | Fa <sub>2</sub> -Fa <sub>1</sub> |                      |                                          |                         | End travel height/PCB* | Switching travel/PCB* |    | Pre-travel |
| K12AL GN 1.5 5N L306   | 844136-1201 | with       | central     | Green                            | 5 +2/-0                | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.45 -0.2              | 10.45 ±0.15           | NA | NA         |
| K12AL WH 1.5 5N L302   | 7G5006C0010 | with       | central     | White                            | 5 +2/-0                | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.45 -0.2              | 10.45 ±0.15           | NA | NA         |
| <b>K12B</b>            |             |            |             |                                  |                        |    |                                  |                      |                                          |                         |                        |                       |    |            |
| K12B BK 1 2.5N         | 844300-0102 | with       | without     | NA                               | 2.5 ±0.7               | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.95 -0.2              | 10.45 ±0.15           | NA | NA         |
| K12B BK 1 5N           | 844300-0201 | with       | without     | NA                               | 5 +2/-0                | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.95 -0.2              | 10.45 ±0.15           | NA | NA         |
| K12B 1 6N              | 844300-0300 | with       | without     | NA                               | 6 ±1                   | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.95 -0.2              | 10.45 ±0.15           | NA | NA         |
| K12B 1.3 9N .5         | 844300-4701 | with       | without     | NA                               | 9 ±2.25                | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>5</sup>       | 9.75 -0.2              | 10.05 ±0.15           | NA | 0.5        |
| K12B BK 1.5 2.5N       | 844300-1101 | with       | without     | NA                               | 2.5 ±0.7               | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.55 -0.2              | 10.45 ±0.15           | NA | NA         |
| K12B BK 2 1.5N         | 844300-2001 | without    | without     | NA                               | NA                     | NA | NA                               | ≥ 0.8                | 1.5 ±0.5                                 | ≥ 10 <sup>6</sup>       | 9.05 -0.2              | 10.45 ±0.15           | NA | NA         |
| K12B BK 2 3.5N         | 844300-2401 | with       | without     | NA                               | 3.5 ±1.0               | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.05 -0.2              | 10.45 ±0.15           | NA | NA         |
| K12B BK 2 5N           | 844300-2201 | with       | without     | NA                               | 5 +2/-0                | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.05 -0.2              | 10.45 ±0.15           | NA | NA         |
| <b>K12BF</b>           |             |            |             |                                  |                        |    |                                  |                      |                                          |                         |                        |                       |    |            |
| K12BF 1.3 5N .5        | 844300-4201 | with       | without     | NA                               | 5 +2/-0                | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 10.35 -0.2             | 10.65 ±0.15           | NA | 0.5        |
| K12BF 1.3 9N .5        | 844300-4700 | with       | without     | NA                               | 9 ±2.25                | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>5</sup>       | 10.35 -0.2             | 10.65 ±0.15           | NA | 0.5        |
| K12BF 1.5 2.5N OD      | 844300-1101 | without    | without     | NA                               | NA                     | NA | NA                               | ≥ 0.8                | 2.5 ±0.75                                | ≥ 10 <sup>6</sup>       | 10.15 -0.2             | 11.05 ±0.15           | NA | NA         |
| K12BF 1.5 2.5N OD 1R** | 844300-1171 | without    | without     | NA                               | NA                     | NA | NA                               | ≥ 0.8                | 2.5 ±0.75                                | ≥ 10 <sup>6</sup>       | 10.15 -0.2             | 11.05 ±0.15           | NA | NA         |
| K12BF 1.5 20N .3       | 844300-1802 | with       | without     | NA                               | 25 ±7.5                | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 5.10 <sup>4</sup>     | 10.15 -0.2             | 11.05 ±0.15           | NA | 0.3        |
| K12BF 2 1.5N OD        | 7G5006CM002 | without    | without     | NA                               | NA                     | NA | NA                               | ≥ 0.8                | 1.5 ±0.5                                 | ≥ 10 <sup>6</sup>       | 9.75 -0.2              | 11.05 ±0.15           | NA | NA         |



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|----------------------------|--------------|------------|-------------|----------------------------------|------------------------|----|----------------------------------|----------------------|------------------------------------------|-------------------------|------------------------|-----------------------|----|------------|
|                            |              |            |             |                                  | 1                      | 2  | Fa <sub>2</sub> -Fa <sub>1</sub> |                      |                                          |                         | End travel height/PCB* | Switching travel/PCB* |    | Pre-travel |
|                            |              |            |             |                                  |                        |    |                                  |                      |                                          |                         |                        | 1                     | 2  |            |
| K12BF 2 9N .3              | 7G5006CM001  | with       | without     | NA                               | 9 ±2.25                | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>5</sup>       | 9.75 -0.2              | 10.85 ±0.15           | NA | 0.3        |
| <b>K12BN</b>               |              |            |             |                                  |                        |    |                                  |                      |                                          |                         |                        |                       |    |            |
| K12BN 1.3 9N .5            | CU16H03900FP | with       | without     | NA                               | 9 ±2.25                | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>5</sup>       | 12.25 -0.2             | 12.55 ±0.15           | NA | 0.5        |
| K12BN 1.5 2.5N OD          | 844300-1100  | without    | without     | NA                               | NA                     | NA | NA                               | ≥ 0.8                | 2.5 ±0.75                                | ≥ 10 <sup>6</sup>       | 11.95 -0.2             | 12.85 ±0.15           | NA | NA         |
| K12BN 1.5 2.5N OD 1R **    | 844300-1170  | without    | without     | NA                               | NA                     | NA | NA                               | ≥ 0.8                | 2.5 ±0.75                                | ≥ 10 <sup>6</sup>       | 11.95 -0.2             | 12.85 ±0.15           | NA | NA         |
| <b>K12C</b>                |              |            |             |                                  |                        |    |                                  |                      |                                          |                         |                        |                       |    |            |
| K12C 1 2.5N                | 844500-0100  | with       | without     | NA                               | 2.5 ±0.7               | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>5</sup>       | 10.95 -0.4             | 11.45 ±0.15           | NA | NA         |
| K12 C 1 5N                 | 844500-0201  | with       | without     | NA                               | 5 +2/-0                | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>5</sup>       | 10.95 -0.4             | 11.45 ±0.15           | NA | NA         |
| K12C 1 5N KAPPE 8490023002 | 844500-0209  | with       | without     | NA                               | 5 +2/-0                | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>5</sup>       | 10.95 -0.4             | 11.45 ±0.15           | NA | NA         |
| K12C 1.3 9N .5             | 844500-4701  | with       | without     | NA                               | 9 ±2.25                | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>5</sup>       | 10.95 -0.4             | 11.45 ±0.15           | NA | 0.5        |
| <b>K12CF</b>               |              |            |             |                                  |                        |    |                                  |                      |                                          |                         |                        |                       |    |            |
| K12CF 1.3 5N .5            | 844500-4201  | with       | without     | NA                               | 6 ±1.2                 | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>5</sup>       | 10.35 -0.2             | 10.65 ±0.15           | NA | 0.5        |
| K12CF 1.3 9N .5            | 844500-4700  | with       | without     | NA                               | 9 ±2.25                | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>5</sup>       | 10.35 -0.2             | 10.65 ±0.15           | NA | 0.5        |
| K12CF 1.5 20N .3           | 844500-0802  | with       | without     | NA                               | 25 ±7.5                | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 5.10 <sup>4</sup>     | 10.15 -0.2             | 11.05 ±0.15           | NA | 0.3        |
| K12CF 2 1.5N OD            | 7G5006C0006  | without    | without     | NA                               | NA                     | NA | NA                               | ≥ 0.8                | 1.5 ±0.5                                 | ≥ 10 <sup>5</sup>       | 9.75 -0.2              | 11.05 ±0.15           | NA | NA         |
| K12CF 2 9N .3              | 7G5006C0005  | with       | without     | NA                               | 9 ±2.25                | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>5</sup>       | 9.75 -0.2              | 10.85 ±0.15           | NA | 0.3        |
| <b>K12CN</b>               |              |            |             |                                  |                        |    |                                  |                      |                                          |                         |                        |                       |    |            |
| K12CN 1.3 9N .5            | CU16L03900FP | with       | without     | NA                               | 9 ±2.25                | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>5</sup>       | 12.25 -0.2             | 12.55 ±0.15           | NA | 0.5        |



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|-----------------------------|-------------|------------|-------------------|----------------------------------|------------------------|-----------|----------------------------------|----------------------|------------------------------------------|-------------------------|------------------------|-----------------------|-------------|------------|
|                             |             |            |                   |                                  | 1                      | 2         | Fa <sub>2</sub> -Fa <sub>1</sub> |                      |                                          |                         | End travel height/PCB* | Switching travel/PCB* |             | Pre-travel |
| K12CN 1.5 2.5N OD 1R**      | 844500-1170 | without    | without           | NA                               | NA                     | NA        | NA                               | ≥ 0.8                | 2.5 ±0.75                                | ≥ 10 <sup>5</sup>       | 11.95 -0.2             | 12.85 ±0.15           | NA          | NA         |
| <b>K12D</b>                 |             |            |                   |                                  |                        |           |                                  |                      |                                          |                         |                        |                       |             |            |
| K12D BK 1 5N                | 844600-0201 | with       | lateral           | NA                               | 5 +2/-0                | NA        | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.95 -0.2              | 10.45 ±0.15           | NA          | NA         |
| K12D BK 1 5N PAL            | 844600-0203 | with       | lateral           | NA                               | 5 +2/-0                | NA        | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.95 -0.2              | 10.45 ±0.15           | NA          | NA         |
| K12D NT 1 6N 1R**           | 844600-0370 | with       | lateral           | NA                               | 6 +2/-0.5              | NA        | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.95 -0.2              | 10.45 ±0.15           | NA          | NA         |
| K12D BK 1.1 5N .3           | 844600-0202 | with       | lateral           | NA                               | 5 +2/-0                | NA        | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.95 -0.2              | 10.25 ±0.15           | NA          | 0.3        |
| <b>K12DK</b>                |             |            |                   |                                  |                        |           |                                  |                      |                                          |                         |                        |                       |             |            |
| K12DK 1 1.5N**              | 844600-0002 | without    | lateral           | NA                               | NA                     | NA        | NA                               | ≥ 0.8                | 1.5 ±0.5                                 | ≥ 10 <sup>6</sup>       | 9.55 -0.2              | 10.05 ±0.15           | NA          | NA         |
| <b>K12DL</b>                |             |            |                   |                                  |                        |           |                                  |                      |                                          |                         |                        |                       |             |            |
| K12DL OG 1 5N L105          | 844614-0202 | with       | central & lateral | Orange                           | 5 +2/-0                | NA        | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.95 -0.2              | 10.45 ±0.15           | NA          | NA         |
| K12DL YE 1 5N L327          | 844637-0202 | with       | central & lateral | Yellow                           | 5 +2/-0                | NA        | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.95 -0.2              | 10.45 ±0.15           | NA          | NA         |
| K12DL PG 1 5N L416 KAPPE WH | 844656-0202 | with       | central & lateral | Pur Green                        | 5 +2/-0                | NA        | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.95 -0.2              | 10.45 ±0.15           | NA          | NA         |
| K12DL YE 1 5N L107 PAL      | 844677-0202 | with       | central & lateral | Yellow                           | 5 ±2                   | NA        | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.95 -0.2              | 10.45 ±0.15           | NA          | NA         |
| <b>K12G</b>                 |             |            |                   |                                  |                        |           |                                  |                      |                                          |                         |                        |                       |             |            |
| K12G BK 1.5 3.5/7N          | 844900-1601 | with       | lateral           | NA                               | 3.5 ±1                 | 7 +3.5/-0 | NA                               | ≥ 1.0                | NA                                       | ≥ 5.10 <sup>4</sup>     | 9.55 -0.2              | 10.45 ±0.15           | 9.75 ± 0.15 | NA         |
| K12G BK 1.5 6/12N           | 844900-1340 | with       | lateral           | NA                               | 3.5 ±1                 | 7 +3.5/-0 | -                                | ≥ 1.3                | NA                                       | ≥ 5.10 <sup>4</sup>     | 9.55 -0.2              | 10.45 ±0.15           | 9.75 ± 0.15 | NA         |
| <b>K12GO</b>                |             |            |                   |                                  |                        |           |                                  |                      |                                          |                         |                        |                       |             |            |
| K12GO NT 1.5 3.5/7N         | 844400-1602 | with       | without           | NA                               | 3.5 ±1                 | 7 +3.5/-0 | -                                | ≥ 1.0                | NA                                       | ≥ 5.10 <sup>4</sup>     | 9.55 -0.2              | 10.45 ±0.15           | 9.75 ± 0.15 | NA         |



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|---------------------------------|-------------|------------|-------------|----------------------------------|------------------------|-----------|----------------------------------|----------------------|------------------------------------------|-------------------------|------------------------|-----------------------|-------------|------------|
|                                 |             |            |             |                                  | 1                      | 2         | Fa <sub>2</sub> -Fa <sub>1</sub> |                      |                                          |                         | End travel height/PCB* | Switching travel/PCB* |             | Pre-travel |
| K12GO BK 1.5 3.5/7N             | 844400-1603 | with       | without     | NA                               | 3.5 ±1                 | 7 +3.5/-0 | -                                | ≥ 1.0                | NA                                       | ≥ 5.10 <sup>4</sup>     | 9.55 -0.2              | 10.45 ±0.15           | 9.75 ± 0.15 | NA         |
| K12GOD BK 1.5 3.5/7N            | 844400-1604 | with       | without     | NA                               | 3.5 ±1                 | 7 +3.5/-0 | -                                | ≥ 1.0                | NA                                       | ≥ 5.10 <sup>4</sup>     | 9.55 -0.2              | 10.45 ±0.15           | 9.75 ± 0.15 | NA         |
| K12GO NT 1.5 3.5/7N PAL         | 844400-1601 | with       | without     | NA                               | 3.5 ±1                 | 7 +3.5/-0 | -                                | ≥ 1.0                | NA                                       | ≥ 5.10 <sup>4</sup>     | 9.55 -0.2              | 10.45 ±0.15           | 9.75 ± 0.15 | NA         |
| K12GO BK 1.5 6/12N              | 844400-1340 | with       | without     | NA                               | 6 ±1                   | 12 ±2     | > 4                              | ≥ 1.3                | NA                                       | ≥ 5.10 <sup>4</sup>     | 9.55 -0.2              | 10.45 ±0.15           | 9.75 ±0.15  | NA         |
| K12GO BK 1.5 6/12N PAL          | 7G5006C0015 | with       | without     | NA                               | 6 ±1                   | 12 ±2     | > 4                              | ≥ 1.3                | NA                                       | ≥ 5.10 <sup>4</sup>     | 9.55 -0.2              | 10.45 ±0.15           | 9.75 ±0.15  | NA         |
| K12GO YE 1.5 6/12N              | 7G5006C0017 | with       | without     | NA                               | 6 ±1                   | 12 ±2     | > 4                              | ≥ 1.3                | NA                                       | ≥ 5.10 <sup>4</sup>     | 9.55 -0.2              | 10.45 ±0.15           | 9.75 ±0.15  | NA         |
| K12 GO BK 1.5 9N                | 844400-1800 | with       | without     | NA                               | 9 ±1.5                 | NA        | -                                | ≥ 0.8                | NS                                       | ≥ 5.10 <sup>4</sup>     | 9.55 -0.2              | 10.45 ±0.15           | 9.75 ±0.15  | NA         |
| K12 GO BK 2 4/8.5N .5 160CN PAL | 844400-2952 | with       | without     | NA                               | 4 +1/-0.5              | 8.5 ±2    | -                                | ≥ 1.3                | NA                                       | ≥ 5.10 <sup>4</sup>     | 9.55 -0.2              | 10.45 ±0.15           | 9.75 ±0.15  | 0.5        |
| K12GO BK NT 2 4/8.5N .5 PAL     | 844400-2953 | with       | without     | NA                               | 4 +1/-0.5              | 8.5 ±2    | -                                | ≥ 1.0                | NA                                       | ≥ 5.10 <sup>4</sup>     | 9.55 -0.2              | 10.45 ±0.15           | 9.75 ±0.15  | 0.5        |
| K12GO BK 2 4/8.5N .5 130CN      | 844400-2954 | with       | without     | NA                               | 4 +1/-0.5              | 8.5 ±2    | -                                | ≥ 1.0                | NA                                       | ≥ 5.10 <sup>4</sup>     | 9.55 -0.2              | 10.45 ±0.15           | 9.75 ±0.15  | 0.5        |
| K12GO BK NT 2 4/8.5N .5         | 844400-2955 | with       | without     | NA                               | 4 +1/-0.5              | 8.5 ±2    | -                                | ≥ 1.0                | NA                                       | ≥ 5.10 <sup>4</sup>     | 9.55 -0.2              | 10.45 ±0.15           | 9.75 ±0.15  | 0.5        |
| K12GO BK 2 6/12N .5 PAL         | 844400-2340 | with       | without     | NA                               | 6 ±1                   | 12 ±2     | > 4                              | ≥ 1.3                | NA                                       | ≥ 5.10 <sup>4</sup>     | 9.55 -0.2              | 10.45 ±0.15           | 9.75 ±0.15  | 0.5        |
| K12 GO BK 2 6/12N .5            | 844400-2341 | with       | without     | NA                               | 6 ±1                   | 12 ±2     | > 4                              | ≥ 1.3                | NA                                       | ≥ 5.10 <sup>4</sup>     | 9.55 -0.2              | 10.45 ±0.15           | 9.75 ±0.15  | 0.5        |
| <b>K12GOL</b>                   |             |            |             |                                  |                        |           |                                  |                      |                                          |                         |                        |                       |             |            |
| K12GOL WH 1.5 6/12N L302        | 7G5006C0008 | with       | central     | White                            | 6 ±1                   | 12 ±2     | > 4                              | ≥ 1.3                | NA                                       | ≥ 5.10 <sup>4</sup>     | 9.55 -0.2              | 10.45 ±0.15           | 9.75 ±0.15  | NA         |
| K12GOL GN 1.5 6/12N L306        | 7G5006C0009 | with       | central     | Green                            | 6 ±1                   | 12 ±2     | > 4                              | ≥ 1.3                | NA                                       | ≥ 5.10 <sup>4</sup>     | 9.55 -0.2              | 10.45 ±0.15           | 9.75 ±0.15  | NA         |



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|-------------------------------|-------------|------------|-------------|----------------------------------|------------------------|--------|----------------------------------|----------------------|------------------------------------------|-------------------------|------------------------|-----------------------|------------|------------|
|                               |             |            |             |                                  | 1                      | 2      | Fa <sub>2</sub> -Fa <sub>1</sub> |                      |                                          |                         | End travel height/PCB* | Switching travel/PCB* |            | Pre-travel |
| K12GOL YE 1.5 6/12N L327 PAL  | 844437-1341 | with       | central     | Yellow                           | 6 ±1                   | 12 ±2  | > 4                              | ≥ 1.3                | NA                                       | ≥ 5.10 <sup>4</sup>     | 9.55 -0.2              | 10.45 ±0.15           | 9.75 ±0.15 | NA         |
| K12GOL YE 1.5 6/12N L327      | 844437-1344 | with       | central     | Yellow                           | 6 ±1                   | 12 ±2  | > 4                              | ≥ 1.3                | NA                                       | ≥ 5.10 <sup>4</sup>     | 9.55 -0.2              | 10.45 ±0.15           | 9.75 ±0.15 | NA         |
| K12GOL YE 1.5 3.5/7N L327 PAL | 844437-1601 | with       | central     | Yellow                           | 3.5 ±1                 | 7 ±3.5 | > 4                              | ≥ 0.8                | NA                                       | ≥ 5.10 <sup>4</sup>     | 9.55 -0.2              | 10.45 ±0.15           | 9.75 ±0.15 | NA         |
| K12GOL WH 1.5 4/8.5N L303     | 844432-1500 | with       | central     | White                            | 4 ±1                   | 8.5 ±2 | -                                | ≥ 1.0                | NA                                       | ≥ 5.10 <sup>4</sup>     | 9.55 -0.2              | 10.45 ±0.15           | 9.75 ±0.15 | NA         |
| <b>K12P</b>                   |             |            |             |                                  |                        |        |                                  |                      |                                          |                         |                        |                       |            |            |
| K12P DUMMY                    | 844000-9901 | without    | without     | NA – Dummy switch                |                        |        |                                  |                      |                                          |                         |                        |                       |            |            |
| K12P BK 1 1.5N                | 844000-0001 | without    | without     | NA                               | NA                     | NA     | NA                               | ≥ 0.8                | 1.5 ±0.5                                 | ≥ 10 <sup>6</sup>       | 9.95 -0.2              | 10.45 ±0.15           | NA         | NA         |
| K12P BK 1 2.5N                | 844000-0100 | with       | without     | NA                               | 2.5 ±0.7               | NA     | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.95 -0.2              | 10.45 ±0.15           | NA         | NA         |
| K12P BK 1 3.5N                | 844000-0401 | with       | without     | NA                               | 3.5 ±1                 | NA     | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.95 -0.2              | 10.45 ±0.15           | NA         | NA         |
| K12P BK 1 3.5N 1R**           | 844000-0470 | with       | without     | NA                               | 3.5 ±1                 | NA     | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.95 -0.2              | 10.45 ±0.15           | NA         | NA         |
| K12P BK 1 5N                  | 844000-0200 | with       | without     | NA                               | 5 +2/-0                | NA     | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.95 -0.2              | 10.45 ±0.15           | NA         | NA         |
| K12P BK 1 5N 1R**             | 844000-0271 | with       | without     | NA                               | 5 +2/-0                | NA     | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.95 -0.2              | 10.45 ±0.15           | NA         | NA         |
| K12P BK 1 7N                  | 844000-0801 | with       | without     | NA                               | 7 +2/-0                | NA     | NA                               | ≥ 0.8                | NA                                       | ≥ 5.10 <sup>4</sup>     | 9.95 -0.2              | 10.45 ±0.15           | NA         | NA         |
| K12P BK GY 1 7N               | 844000-0802 | with       | without     | NA                               | 7 +2/-0                | NA     | NA                               | ≥ 0.8                | NA                                       | ≥ 5.10 <sup>4</sup>     | 9.95 -0.2              | 10.45 ±0.15           | NA         | NA         |
| K12P RD 1 9N                  | 844000-0700 | with       | without     | NA                               | 9 ±2.25                | NA     | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>5</sup>       | 9.95 -0.2              | 10.45 ±0.15           | NA         | NA         |
| K12P BK NT 1.3 5N .5          | 844000-4201 | with       | without     | NA                               | 5 +2/-0                | NA     | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.75 -0.2              | 10.05 ±0.15           | NA         | 0.5        |
| K12P BK 1.5 1.5 OD            | 844000-1000 | without    | without     | NA                               | NA                     | NA     | NA                               | ≥ 0.8                | 1.5 ±0.5                                 | ≥ 10 <sup>6</sup>       | 9.45 -0.2              | 10.45 ±0.15           | NA         | NA         |



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|-------------------------|--------------|------------|-------------|----------------------------------|------------------------|----|----------------------------------|----------------------|------------------------------------------|-------------------------|------------------------|-----------------------|----|------------|
|                         |              |            |             |                                  | 1                      | 2  | Fa <sub>2</sub> -Fa <sub>1</sub> |                      |                                          |                         | End travel height/PCB* | Switching travel/PCB* |    | Pre-travel |
| K12P BK 1.5 1.5 OD 1R** | 844000-1070  | without    | without     | NA                               | NA                     | NA | NA                               | ≥ 0.8                | 1.5 ±0.5                                 | ≥ 10 <sup>6</sup>       | 9.45 -0.2              | 10.45 ±0.15           | NA | NA         |
| K12P BK 1.5 2.5N        | 844000-1101  | with       | without     | NA                               | 2.5 ±0.7               | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.55 -0.2              | 10.45 ±0.15           | NA | NA         |
| K12P BK 1.5 3.5N        | 844000-1402  | with       | without     | NA                               | 3.5+1.5/-0.5           | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.55 -0.2              | 10.45 ±0.15           | NA | NA         |
| K12P BK 1.5 5N PAL      | 844000-1201  | with       | without     | NA                               | 5 +2/-0                | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.55 -0.2              | 10.45 ±0.15           | NA | NA         |
| K12P BK 1.5 5N          | 844000-1200  | with       | without     | NA                               | 5 +2/-0                | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.55 -0.2              | 10.45 ±0.15           | NA | NA         |
| K12P BK 1.5 6N          | 844000-1301  | with       | without     | NA                               | 4 ±1                   | NA | NA                               | ≥ 1.0                | NA                                       | ≥ 10 <sup>6</sup>       | 9.95 -0.2              | 10.45 ±0.15           | NA | NA         |
| K12P BK 1.5 9N          | 844000-1700  | with       | without     | NA                               | 9+2/-0.5               | NA | NA                               | ≥ 1.0                | NA                                       | ≥ 10 <sup>5</sup>       | 9.55 -0.2              | 10.45 ±0.15           | NA | NA         |
| K12P BK 1.5 20N .3      | 844000-1801  | with       | without     | NA                               | 20 +15/-5              | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 5.10 <sup>4</sup>     | 9.55 -0.2              | 10.45 ±0.15           | NA | 0.3        |
| K12P BK 2 1.5N OD       | 844000-2001  | without    | without     | NA                               | NA                     | NA | NA                               | ≥ 0.8                | 1.5 ±0.5                                 | ≥ 10 <sup>6</sup>       | 9.05 -0.2              | 10.45 ±0.15           | NA | NA         |
| K12P BK 2 2.5N          | 844000-2101  | with       | without     | NA                               | 2.5 ±0.7               | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.05 -0.2              | 10.45 ±0.15           | NA | NA         |
| K12P BK NT 2 2.5N       | 7G5006C0007  | with       | without     | NA                               | 2.5 ±0.7               | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.05 -0.2              | 10.45 ±0.15           | NA | NA         |
| K12P BK 2 3.5N          | 844000-2501  | with       | without     | NA                               | 3.5 ±1                 | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.05 -0.2              | 10.45 ±0.15           | NA | NA         |
| K12P YE 2 3.5N          | CU16T45300FP | with       | without     | NA                               | 3.5 ±1                 | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.05 -0.2              | 10.45 ±0.15           | NA | NA         |
| K12P BK 2 5N            | 844000-2201  | with       | without     | NA                               | 5 +2/-0                | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.05 -0.2              | 10.45 ±0.15           | NA | NA         |
| K12P YE 2 5N            | 844000-2203  | with       | without     | NA                               | 5 +2/-0                | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.05 -0.2              | 10.45 ±0.15           | NA | NA         |
| K12P BK 2 9N            | 844000-2700  | with       | without     | NA                               | 9 ±2.25                | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>5</sup>       | 9.05 -0.2              | 10.45 ±0.15           | NA | NA         |
| <b>K12PCL</b>           |              |            |             |                                  |                        |    |                                  |                      |                                          |                         |                        |                       |    |            |



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|----------------------------|-------------|------------|-------------|----------------------------------|------------------------------------------------------------------------------|----|----------------------------------|----------------------|---------------------------------------|-------------------------|------------------------|-----------------------|----|------------|
|                            |             |            |             |                                  | 1                                                                            | 2  | Fa <sub>2</sub> -Fa <sub>1</sub> |                      |                                       |                         | End travel height/PCB* | Switching travel/PCB* |    | Pre-travel |
| K12PCL GN 1 5N L306        | 844036-0202 | with       | central     | Green                            | 5 +2/-0                                                                      | NA | NA                               | ≥ 0.8                | NA                                    | ≥ 10 <sup>6</sup>       | 10.55 -0.2             | 11.05 ±0.15           | NA | NA         |
| <b>K12PF</b>               |             |            |             |                                  |                                                                              |    |                                  |                      |                                       |                         |                        |                       |    |            |
| K12PF 1 5N                 | 844000-0201 | with       | without     | NA                               | 5 +2/-0                                                                      | NA | NA                               | ≥ 0.8                | NA                                    | ≥ 10 <sup>6</sup>       | 10.55 -0.2             | 11.05 ±0.15           | NA | NA         |
| K12PF NT 1.5 9N .3 1R**    | 7G5006C0004 | with       | without     | NA                               | 9 ±2.25                                                                      | NA | NA                               | ≥ 0.8                | NA                                    | ≥ 5.10 <sup>4</sup>     | 10.15 -0.2             | 10.85 ±0.15           | NA | 0.3        |
| K12PF 1.5 20N .3           | 844000-1802 | with       | without     | NA                               | 20 +15/-5                                                                    | NA | NA                               | ≥ 0.8                | NA                                    | ≥ 5.10 <sup>4</sup>     | 10.15 -0.2             | 11.05 ±0.15           | NA | 0.3        |
| K12PF 1.5 20N .3 SEL 15_25 | 844000-1803 | with       | without     | NA                               | 15 to 20                                                                     | NA | NA                               | ≥ 0.8                | NA                                    | ≥ 5.10 <sup>4</sup>     | 10.15 -0.2             | 11.05 ±0.15           | NA | 0.3        |
| K12PF 1.5 20N .3 SEL 15_35 | 844000-1804 | with       | without     | NA                               | Class A 15 to 20<br>Class B 20 to 25<br>Class C 25 to 30<br>Class D 30 to 35 | NA | NA                               | ≥ 0.8                | NA                                    | ≥ 2.10 <sup>4</sup>     | 10.15 -0.2             | 10.85 ±0.15           | NA | 0.3        |
| K12PF 1.5 20N .3 1R**      | 844000-1805 | with       | without     | NA                               | 20 +15/-5                                                                    | NA | NA                               | ≥ 0.8                | NA                                    | ≥ 2.10 <sup>4</sup>     | 10.15 -0.2             | 10.85 ±0.15           | NA | 0.3        |
| <b>K12PL</b>               |             |            |             |                                  |                                                                              |    |                                  |                      |                                       |                         |                        |                       |    |            |
| K12PL OG 1 1.5N OD L315    | 844034-0001 | without    | central     | Orange                           | NA                                                                           | NA | NA                               | ≥ 0.8                | 1.5 ±0.5                              | ≥ 10 <sup>6</sup>       | 9.95 -0.2              | 10.45 ±0.15           | NA | NA         |
| K12PL BU 1 2.5N L328       | 844038-0100 | with       | central     | Blue                             | 2.5 ± 0.7                                                                    | NA | NA                               | ≥ 0.8                | NA                                    | ≥ 10 <sup>6</sup>       | 9.95 -0.2              | 10.45 ±0.15           | NA | NA         |
| K12PL WH 1 5N L302         | 7G5006C0002 | with       | central     | White                            | 5 +2/-0                                                                      | NA | NA                               | ≥ 0.8                | NA                                    | ≥ 10 <sup>6</sup>       | 9.95 -0.2              | 10.45 ±0.15           | NA | NA         |
| K12PL GN 1 5N L306         | 844036-0201 | with       | central     | Green                            | 5 +2/-0                                                                      | NA | NA                               | ≥ 0.8                | NA                                    | ≥ 10 <sup>6</sup>       | 9.95 -0.2              | 10.45 ±0.15           | NA | NA         |
| K12PL GN 1 5N L866         | 844076-0200 | with       | central     | Green                            | 5 +2/-0                                                                      | NA | NA                               | ≥ 0.8                | NA                                    | ≥ 10 <sup>6</sup>       | 9.95 -0.2              | 10.45 ±0.15           | NA | NA         |
| K12PL RD 1 5N L354         | 844055-0201 | with       | central     | Red                              | 5 +2/-0                                                                      | NA | NA                               | ≥ 0.8                | NA                                    | ≥ 10 <sup>6</sup>       | 9.95 -0.2              | 10.45 ±0.15           | NA | NA         |
| K12PL RD 1 5N L955         | 844055-0201 | with       | central     | Red                              | 5 +2/-0                                                                      | NA | NA                               | ≥ 0.8                | NA                                    | ≥ 10 <sup>6</sup>       | 9.95 -0.2              | 10.45 ±0.15           | NA | NA         |



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| Designation             | Drawing N°  | Snap point | LED Support | LED<br>Only with central support | Switching force Fa (N) |    |                                  | Return force Frr (N) | Operating force (N) (detect versions) | Operating life (cycles) | Travel (mm)            |                       |    |            |
|-------------------------|-------------|------------|-------------|----------------------------------|------------------------|----|----------------------------------|----------------------|---------------------------------------|-------------------------|------------------------|-----------------------|----|------------|
|                         |             |            |             |                                  | 1                      | 2  | Fa <sub>2</sub> -Fa <sub>1</sub> |                      |                                       |                         | End travel height/PCB* | Switching travel/PCB* |    | Pre-travel |
| K12PL YE 1 5N L327      | 844037-0201 | with       | central     | Yellow                           | 5 +2/-0                | NA | NA                               | ≥ 0.8                | NA                                    | ≥ 10 <sup>6</sup>       | 9.95 -0.2              | 10.45 ±0.15           | NA | NA         |
| K12PL RD 1 5N L352      | 844035-0200 | with       | central     | Red                              | 5 +2/-0                | NA | NA                               | ≥ 0.8                | NA                                    | ≥ 10 <sup>6</sup>       | 9.95 -0.2              | 10.45 ±0.15           | NA | NA         |
| K12PL SR 1 5N L356      | 7G5006C0014 | with       | central     | Super Red                        | 5 +2/-0                | NA | NA                               | ≥ 0.8                | NA                                    | ≥ 10 <sup>6</sup>       | 9.95 -0.2              | 10.45 ± 0.15          | NA | NA         |
| K12PL RDGN 1 5N L801    | 844086-0200 | with       | central     | Red-Green                        | 5 +2/-0                | NA | NA                               | ≥ 0.8                | NA                                    | ≥ 10 <sup>6</sup>       | 9.95 -0.2              | 10.45 ±0.15           | NA | NA         |
| K12PL OG 1.1 3.5N L405  | 844054-3401 | with       | central     | Orange                           | 3.5 ±1                 | NA | NA                               | ≥ 0.8                | NA                                    | ≥ 10 <sup>6</sup>       | 9.95 -0.2              | 10.45 ±0.15           | NA | NA         |
| K12PL PG 1.1 3.5N L316  | 844026-0400 | with       | central     | Pur Green                        | 3.5 ±1                 | NA | NA                               | ≥ 0.8                | NA                                    | ≥ 10 <sup>6</sup>       | 9.95 -0.2              | 10.45 ±0.15           | NA | NA         |
| K12PL WH 1.1 3.5N L303  | 844032-0400 | with       | central     | White                            | 3.5 ±1                 | NA | NA                               | ≥ 0.8                | NA                                    | ≥ 10 <sup>6</sup>       | 9.95 -0.2              | 10.45 ±0.15           | NA | NA         |
| K12PL YE 1.3 5N .5 L917 | 844057-4200 | with       | central     | Yellow                           | 5 +2/-0                | NA | NA                               | ≥ 0.8                | NA                                    | ≥ 10 <sup>6</sup>       | 9.75 -0.2              | 10.05 ±0.15           | NA | 0.5        |
| K12PL WH 1.3 5N .5 L303 | 844032-4200 | with       | central     | White                            | 5 +2/-0                | NA | NA                               | ≥ 0.8                | NA                                    | ≥ 10 <sup>6</sup>       | 9.75 -0.2              | 10.05 ±0.15           | NA | 0.5        |
| K12PL GN 1.5 2.5N L306  | 844036-1100 | with       | central     | Green                            | 2.5 ±0.7               | NA | NA                               | ≥ 0.8                | NA                                    | ≥ 10 <sup>6</sup>       | 9.55 -0.2              | 10.45 ±0.15           | NA | NA         |
| K12PL WH 1.5 3.5N L303  | 844032-1400 | with       | central     | White                            | 3.5 ±1                 | NA | NA                               | ≥ 0.8                | NA                                    | ≥ 10 <sup>6</sup>       | 9.55 -0.2              | 10.45 ±0.15           | NA | NA         |
| K12PL WH 1.5 5N L302    | 844032-1200 | with       | central     | White                            | 5 +2/-0                | NA | NA                               | ≥ 0.8                | NA                                    | ≥ 10 <sup>6</sup>       | 9.55 -0.2              | 10.45 ±0.15           | NA | NA         |
| K12PL GN 1.5 5N L306    | 844036-1201 | with       | central     | Green                            | 5 +2/-0                | NA | NA                               | ≥ 0.8                | NA                                    | ≥ 10 <sup>6</sup>       | 9.55 -0.2              | 10.45 ±0.15           | NA | NA         |
| K12PL OG 1.5 5N L315    | 844034-1200 | with       | central     | Orange                           | 5 +2/-0                | NA | NA                               | ≥ 0.8                | NA                                    | ≥ 10 <sup>6</sup>       | 9.55 -0.2              | 10.45 ±0.15           | NA | NA         |
| K12PL YE 1.5 5N L327    | 844037-1201 | with       | central     | Yellow                           | 5 +2/-0                | NA | NA                               | ≥ 0.8                | NA                                    | ≥ 10 <sup>6</sup>       | 9.55 -0.2              | 10.45 ±0.15           | NA | NA         |
| K12PL RD 1.5 5N L352    | 844035-1200 | with       | central     | Red                              | 5 +2/-0                | NA | NA                               | ≥ 0.8                | NA                                    | ≥ 10 <sup>6</sup>       | 9.55 -0.2              | 10.45 ±0.15           | NA | NA         |
| <b>K12PN</b>            |             |            |             |                                  |                        |    |                                  |                      |                                       |                         |                        |                       |    |            |



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| Designation                | Drawing N°  | Snap point | LED Support | LED<br>Only with central support | Switching force Fa (N) |    |                                  | Return force Frr (N) | Operating force (N)<br>(detect versions) | Operating life (cycles) | Travel (mm)            |                       |    |            |
|----------------------------|-------------|------------|-------------|----------------------------------|------------------------|----|----------------------------------|----------------------|------------------------------------------|-------------------------|------------------------|-----------------------|----|------------|
|                            |             |            |             |                                  | 1                      | 2  | Fa <sub>2</sub> -Fa <sub>1</sub> |                      |                                          |                         | End travel height/PCB* | Switching travel/PCB* |    | Pre-travel |
| K12PN BK 1.5 1.5N OD       | 844000-1001 | without    | without     | NA                               | NA                     | NA | NA                               | ≥ 0.8                | 1.5 ±0.5                                 | ≥ 10 <sup>6</sup>       | 11.95 -0.2             | 12.85 ±0.15           | NA | NA         |
| <b>K12PO</b>               |             |            |             |                                  |                        |    |                                  |                      |                                          |                         |                        |                       |    |            |
| K12PO BK 2 4N .8           | 844000-2401 | with       | without     | NA                               | 4 ±1                   | NA | NA                               | ≥ 1.3                | NA                                       | ≥ 10 <sup>6</sup>       | 9.55 -0.2              | 10.05 ±0.15           | NA | 0.8        |
| K12PO BK 2 6N .8           | 844000-2300 | with       | without     | NA                               | 6 ±1                   | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.55 -0.2              | 10.05 ±0.15           | NA | 0.8        |
| K12PO BK 2 6N .8 PAL       | 844000-2301 | with       | without     | NA                               | 6 ±1                   | NA | NA                               | ≥ 0.8                | NA                                       | ≥ 10 <sup>6</sup>       | 9.55 -0.2              | 10.05 ±0.15           | NA | 0.8        |
| K12PO BK 2 6N .8 200CN PAL | 844000-2309 | with       | without     | NA                               | 6 ±1                   | NA | NA                               | ≥ 1.6                | NA                                       | ≥ 10 <sup>6</sup>       | 9.55 -0.2              | 10.05 ±0.15           | NA | 0.8        |
| K12PO BK 2 6N .8 200CN     | 844000-2306 | with       | without     | NA                               | 6 ±1                   | NA | NA                               | ≥ 1.6                | NA                                       | ≥ 10 <sup>6</sup>       | 9.55 -0.2              | 10.05 ±0.15           | NA | 0.8        |

\* Travel with PCB as displacement reference

\*\*NC: Normally closed