

# The trick with the click: Short-stroke keys



Short-stroke keys are electromechanical keys with a 0.3 mm contact travel and which provide a clear, tactile response through the entire key operation process. They are fitted to a PCB and, in connection with a supporting plate and a customer-specific front membrane, they form a membrane keypad.

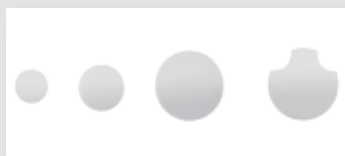
The use of different key cap lengths allows the mounting of higher components such as LCD displays on the same PCB. Different key cap diameters make it possible to choose the minimum distance – centre point – to centre point-between the individual short-stroke keys. The front panel supports the complete HMI system.

## Designation

|                       |                         |
|-----------------------|-------------------------|
| Switch travel         | approx. 0.3 mm          |
| Actuation force       | approx. 1.3 N           |
|                       | approx. 2.6 N           |
| Operating life        | ≥ 0.3 x 10 <sup>6</sup> |
| Bouncing time         | ≥ 5 msec                |
| Operating temperature | -25 °C to +70 °C        |
| Insulation resistance | 109 Ω                   |
| Volume resistivity    | 100 m Ω                 |
| Max. voltage          | 24 VDC                  |
| Min. voltage          | 0.05 VDC                |
| Switch capacity       | 50 mA / 24 VDC          |



Short-stroke keys:  
1.3 N                      2.6 N



Diameter of key caps:  
7.4 mm, 10 mm, 15 mm, 15 mm (LED)



Height of key caps:  
4.7 mm, 8.7 mm, 18.2 mm

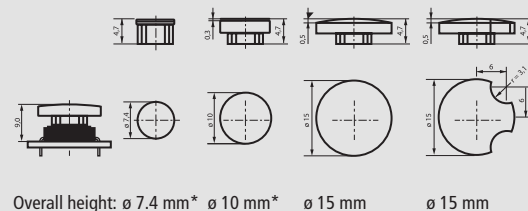
## Short-stroke key for 1.3 N

| Designation          | Order-no. consisting of: |         |
|----------------------|--------------------------|---------|
|                      | Short-stroke key         | Key cap |
| KHT 1070 TK Ø 7,4    | 70714050                 | 7007001 |
| KHT 1100 TK Ø 10     | 70714050                 | 7010001 |
| KHT 1150 TK Ø 15     | 70714050                 | 7015001 |
| KHT 1151 TK Ø 15 LED | 70714050                 | 7015011 |
|                      |                          |         |
| KHT 1070 TM          | 70714050                 | 7007002 |
| KHT 1100 TM          | 70714050                 | 7010002 |
| KHT 1150 TM          | 70714050                 | 7015002 |
| KHT 1151 TM          | 70714050                 | 7015012 |
|                      |                          |         |
| KHT 1070 TL          | 70714050                 | 7007003 |
| KHT 1100 TL          | 70714050                 | 7010003 |
| KHT 1150 TL          | 70714050                 | 7015003 |
| KHT 1151 TL          | 70714050                 | 7015013 |

## Short-stroke key for 2.6 N

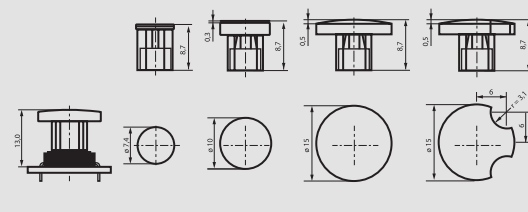
| Designation          | Order-no. consisting of: |         |
|----------------------|--------------------------|---------|
|                      | Short-stroke key         | Key cap |
| KHT 2070 TK ø 7,4    | 70714055                 | 7007001 |
| KHT 2100 TK ø 10     | 70714055                 | 7010001 |
| KHT 2150 TK ø 15     | 70714055                 | 7015001 |
| KHT 2151 TK ø 15 LED | 70714055                 | 7015011 |
|                      |                          |         |
| KHT 2070 TM          | 70714055                 | 7007002 |
| KHT 2100 TM          | 70714055                 | 7010002 |
| KHT 2150 TM          | 70714055                 | 7015002 |
| KHT 2151 TM          | 70714055                 | 7015012 |
|                      |                          |         |
| KHT 2070 TL          | 70714055                 | 7007003 |
| KHT 2100 TL          | 70714055                 | 7010003 |
| KHT 2150 TL          | 70714055                 | 7015003 |
| KHT 2151 TL          | 70714055                 | 7015013 |

## Short-stroke key, short type



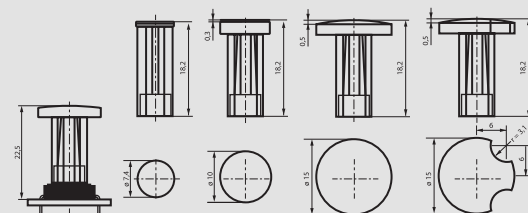
Overall height: ø 7.4 mm\* ø 10 mm\* ø 15 mm ø 15 mm

## Short-stroke key, medium type



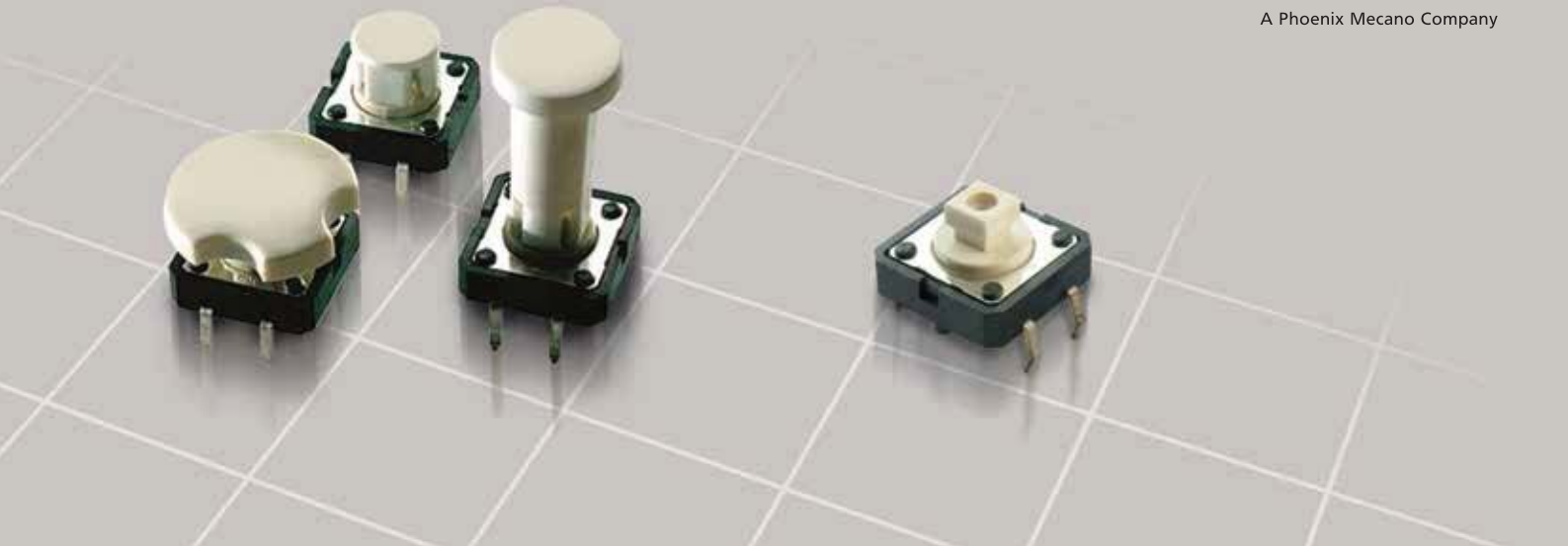
Overall height: ø 7.4 mm\* ø 10 mm\* ø 15 mm ø 15 mm

## Short-stroke key, long type



Overall height: ø 7.4 mm\* ø 10 mm\* ø 15 mm ø 15 mm

\* Short-stroke keys with ø 7.4 mm and ø 10 mm key caps can only be used with high-embossed front membrane.



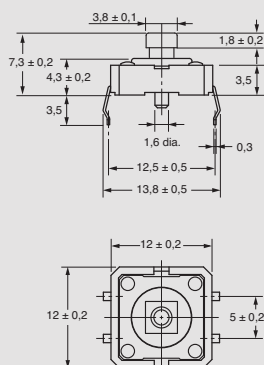
## Short-stroke keys with key caps

Short-stroke key, not illuminated, variable height by using different key caps, 12 mm

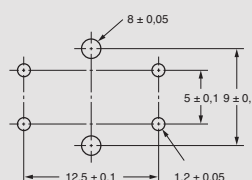
|                        |                         |                      |
|------------------------|-------------------------|----------------------|
| <b>Actuation force</b> | <b>Contact material</b> | <b>Switch travel</b> |
| 1.3 N                  | Ag                      | 0.3 mm               |
| 2.6 N                  | Ag                      | 0.3 mm               |

Washable type and gold contact type available on request.

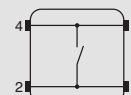
Dimension diagram



Drill-hole diagram

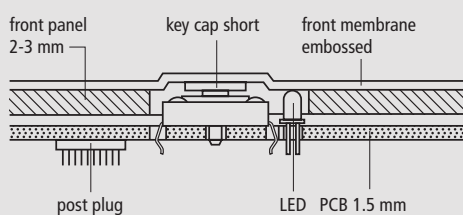


Circuit diagram

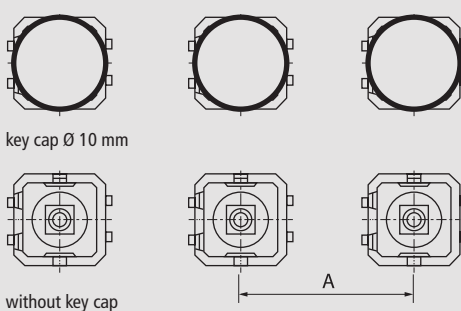


## General information on designs

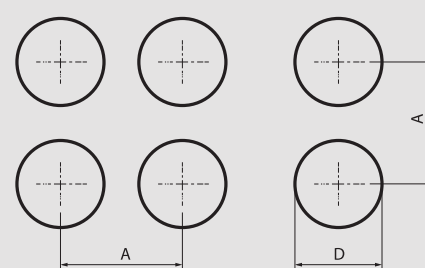
### e.g. short key



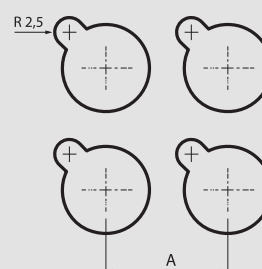
### Arrangement of the keys Standard



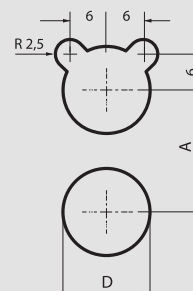
### Openings in front panel 1. without LED



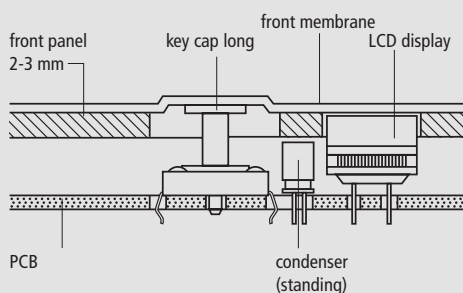
### 2. with 1 LED



### 3. with 2 LEDs



### e.g. long key



### Arrangement of the keys with separated LED

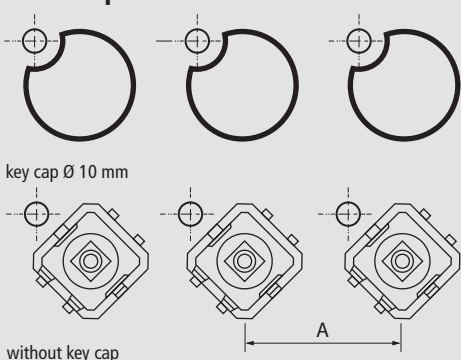


Table of dimensions

| Key cap Ø | D = Ø | A at least |
|-----------|-------|------------|
| Ø 10 mm   | 10 mm | 13 (14) mm |
| Ø 10 mm   | 12 mm | 16 mm      |
| Ø 10 mm   | 16 mm | 19 mm      |