

## FEATURES

- Excellent low price control potentiometer.
- Available in Carbon (SM-10) and Cermet (SMC-10).
- Based on the PT-10 / PTC-10 series.
- Enclosed in plastic housing.
- IP54 protection according to IEC 60529.

## MECHANICAL SPECIFICATIONS

- Mechanical angle:  $235^\circ \pm 5^\circ$
- Electrical angle:  $220^\circ \pm 20^\circ$
- Torque: 0.5 to 2.5 Ncm.  
(0.71 to 3.5 in-oz)
- Stop torque: > 25 Ncm. (> 35.5 in-oz)
- Nut Torque: > 40 Ncm. (56.6 in-oz)
- Mechanical life\*\*\*:  $\geq 10K$  cycles

## ELECTRICAL SPECIFICATIONS

- Range of values\*  
 $100\Omega \leq R_n \leq 5\text{ M}$  (Decad. 1.0 - 2.0 - 2.2 - 2.5 - 4.7 - 5.0)
- Tolerance\*:  $100\Omega \leq R_n \leq 1\text{M}\Omega$  .....  $\pm 20\%$   
 $1\text{M}\Omega < R_n \leq 5\text{M}\Omega$  .....  $\pm 30\%$
- Max. Voltage: 200 VDC (lin) 100 VDC (no lin)
- Nominal Power :
  - Carbon SM-10 (50°C-122°F): 0.15W (lin), 0.07W (no lin)
  - Cermet SMC-10 (70°C-158°F): 0.33W(lin), 0.17 W (no lin)
- Taper\* (Log. & Alog. only  $R_n > 1K$ ): Lin; Log; Alog.
- Residual resistance\*:  $\leq 0.5\%$   $R_n$  (5  $\Omega$  min.)
- Equivalent noise resistance:  $\leq 3\%$   $R_n$  (3  $\Omega$  min.)
- Operating temperature:
  - Carbon SM-10 : -25°C + 70°C\*\* (-13°F + 158°F)
  - Cermet SMC-10 : -40°C + 90°C (-40°F + 194°F)

\* Others check availability.

\*\* Up to 85°C depending on application.

\*\*\* For Ohmic values  $\geq 1\text{ K}\Omega$ . Lower values check availability.

## HOW TO ORDER

<b>SM-10</b>	<b>H04</b>	<b>102</b>	<b>A</b>	<b>2020</b>	<b>OPTIONAL EXTRA</b>	<b>S</b>																						
Series	Code	Value	Taper	Tolerance	Nut and Washer	(See note 4)																						
SM-10 SMC-10	<table border="1"> <thead> <tr> <th>Code</th> <th>Mounting Method</th> </tr> </thead> <tbody> <tr><td>H04</td><td>H 2.5A</td></tr> <tr><td>H14</td><td>H 5A</td></tr> <tr><td>H12</td><td>H 2.5PA</td></tr> <tr><td>H20</td><td>H 5PA</td></tr> <tr><td>V10</td><td>V</td></tr> <tr><td>V11</td><td>V P</td></tr> <tr><td>H03</td><td>H 2.5B</td></tr> <tr><td>H13</td><td>H 5B</td></tr> <tr><td>H22</td><td>H 2.5PB</td></tr> <tr><td>H30</td><td>H 5PB</td></tr> </tbody> </table> <p>(See note 1)</p>	Code	Mounting Method	H04	H 2.5A	H14	H 5A	H12	H 2.5PA	H20	H 5PA	V10	V	V11	V P	H03	H 2.5B	H13	H 5B	H22	H 2.5PB	H30	H 5PB	<p>101 = 100<math>\Omega</math></p> <p>102 = 1 K</p> <p>504 = 500 K</p> <p>505 = 5 M</p> <p>000 = C M</p> <p>(See note 2)</p>	<p>A = Linear</p> <p>B = Log.</p> <p>C = Alog.</p> <p>(Other tapers on request)</p>	<p>0505 = <math>\pm 5\%</math></p> <p>0707 = <math>\pm 7\%</math></p> <p>1010 = <math>\pm 10\%</math></p> <p>2020 = <math>\pm 20\%</math></p> <p>3030 = <math>\pm 30\%</math></p> <p>(See note 3)</p>	<p>-TA = Loose nut and washer</p> <p>MTA = Assembled nut and washer</p> <p>-T = Loose nut</p> <p>MT = Assembled nut</p>	
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H04	H 2.5A																											
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### NOTES:

- Mount. Method:
  - Position with "P" will be with crimped terminals.
  - Denominations (a), (b) (see Mounting Methods)
- Value:
 

10	1	100	Number of zeros
			2 first digits of the value.

  - Standard values: Decades of 10, 20, 22, 25, 47, 50. Other values as specials.
  - 000 = CM = Switch 45° (only SMC-10)
- Tolerance (non standard). check availability.. Code eg.:
 

+7	=	07	05	negative tolerance
				positive tolerance
- Leave blank for SMC-10

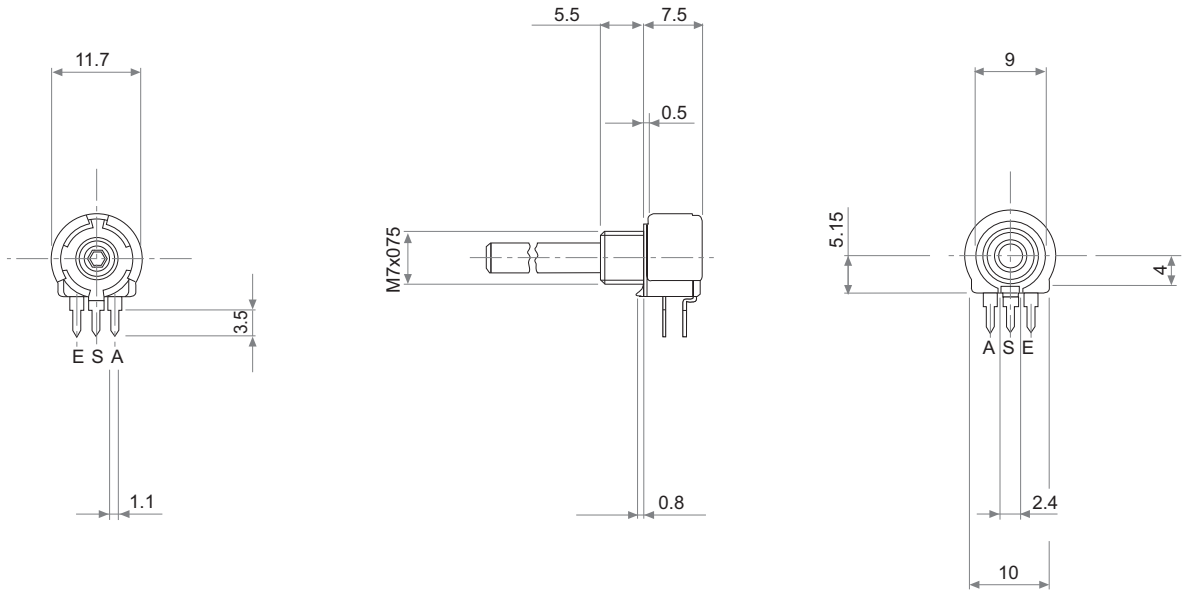
NOTE: The information contained here should be used for reference purposes only.

SM-10 H04 + DRAWING NUMBER (Max. 16 digits)

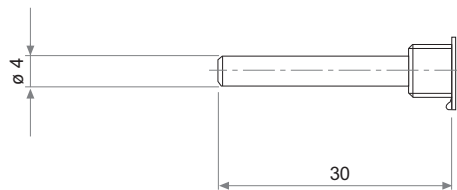
NUT AND WASHER = Without nut and washer

This way of ordering should be used for options which are not included in the "How to order" standard and optional extras.

**COMMON DIMENSIONS**



**STANDARD SHAFT**



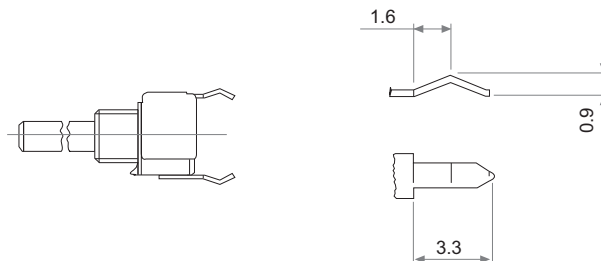
Shaft: The standard option is E4 L30 black colour.

**TERMINALS**

**NOT CRIMPED**



**CRIMPED**



**PACKAGING**

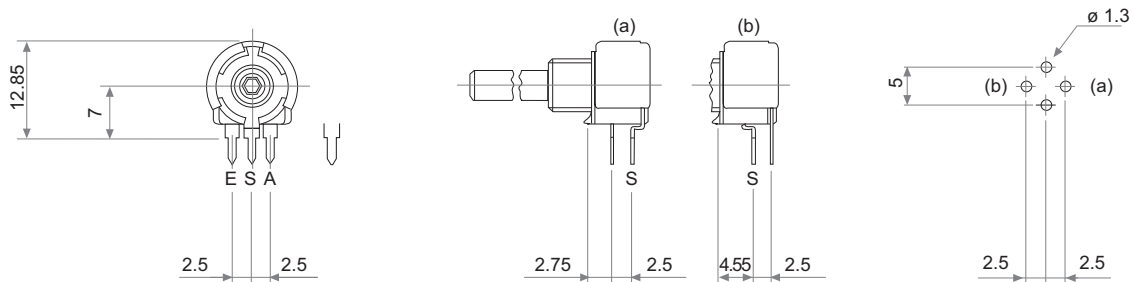
**TESTS**

QUANTITY: 200 units

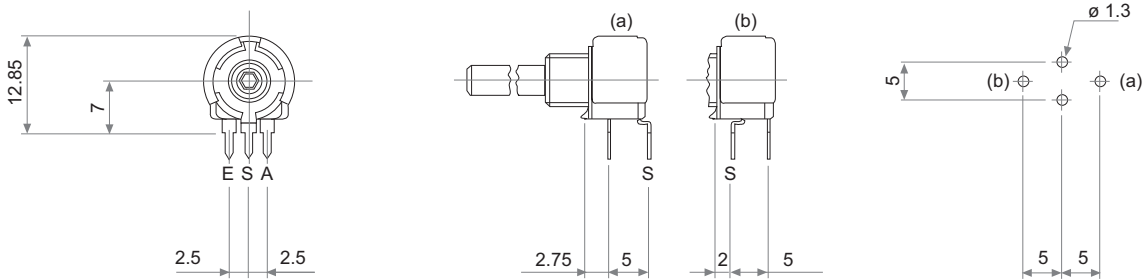
See PT-10 or PTC-10 data sheets.

## MOUNTING METHOD

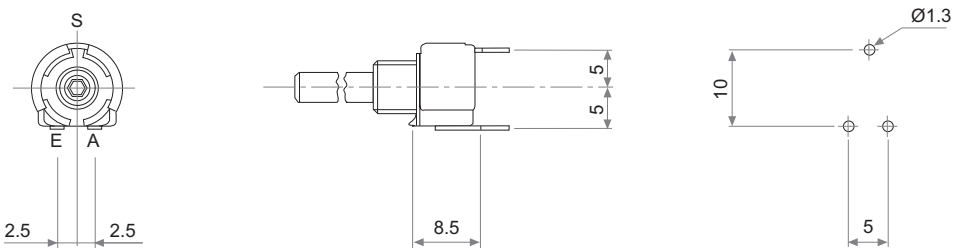
### h 2.5



### h 5

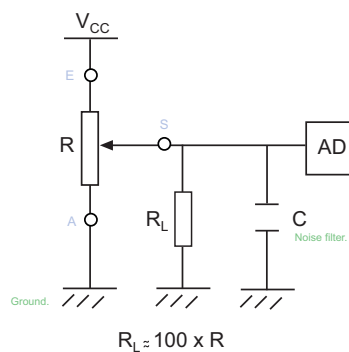


### v 10



## RECOMMENDED CONNECTIONS

Piher potentiometer's recommended connection circuit for a position sensor or control application. (voltage divider circuit electronic design).



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