

## 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\*  
 $100\Omega \leq R_n \leq 5 M$  (Decad. 1.0 - 2.0 - 2.2 - 2.5 - 4.7 - 5.0)
- Tolerance\*:  $100\Omega \leq R_n \leq 1M \Omega$  .....  $\pm 20\%$   
 $1M\Omega < R_n \leq 5M \Omega$  .....  $\pm 30\%$
- 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 :  $-25^\circ C + 70^\circ C^{**}$  ( $-13^\circ F + 158^\circ F$ )
  - Cermet SMC-10 :  $-40^\circ C + 90^\circ C$  ( $-40^\circ F + 194^\circ F$ )

\* Others check availability.

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

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

## HOW TO ORDER

SM-10	H04	102	A	2020	OPTIONAL EXTRA	S																																							
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	<table border="1"> <tbody> <tr><td>101 = 100<math>\Omega</math></td></tr> <tr><td>102 = 1 K</td></tr> <tr><td>504 = 500 K</td></tr> <tr><td>505 = 5 M</td></tr> <tr><td>000 = C M</td></tr> </tbody> </table> <p>(See note 2)</p>	101 = 100 $\Omega$	102 = 1 K	504 = 500 K	505 = 5 M	000 = C M	<table border="1"> <tbody> <tr><td>A = Linear</td></tr> <tr><td>B = Log.</td></tr> <tr><td>C = Alog.</td></tr> </tbody> </table> <p>(Other tapers on request)</p>	A = Linear	B = Log.	C = Alog.	<table border="1"> <tbody> <tr><td>0505 = <math>\pm 5\%</math></td></tr> <tr><td>0707 = <math>\pm 7\%</math></td></tr> <tr><td>1010 = <math>\pm 10\%</math></td></tr> <tr><td>2020 = <math>\pm 20\%</math></td></tr> <tr><td>3030 = <math>\pm 30\%</math></td></tr> </tbody> </table> <p>(See note 3)</p>	0505 = $\pm 5\%$	0707 = $\pm 7\%$	1010 = $\pm 10\%$	2020 = $\pm 20\%$	3030 = $\pm 30\%$	<table border="1"> <tbody> <tr><td>-TA = Loose nut and washer</td></tr> <tr><td>MTA = Assembled nut and washer</td></tr> <tr><td>-T = Loose nut</td></tr> <tr><td>MT = Assembled nut</td></tr> </tbody> </table>	-TA = Loose nut and washer	MTA = Assembled nut and washer	-T = Loose nut	MT = Assembled nut	
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### NOTES:

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

Code: 10	1	100 $\Omega$
		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  
 $-5$  = negative tolerance  
positive tolerance
- Leave blank for SMC-10

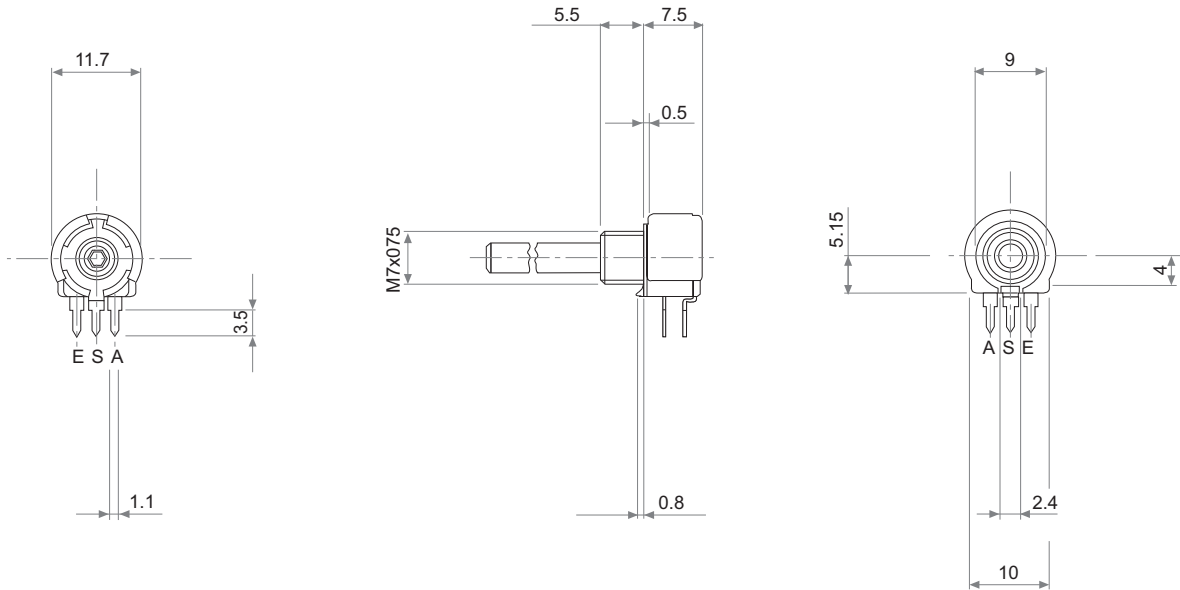
NOTE: The information contained here should be used for reference purposes only.

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

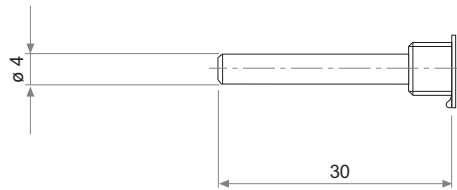
NUT AND WASHER = Without nut and washer

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**



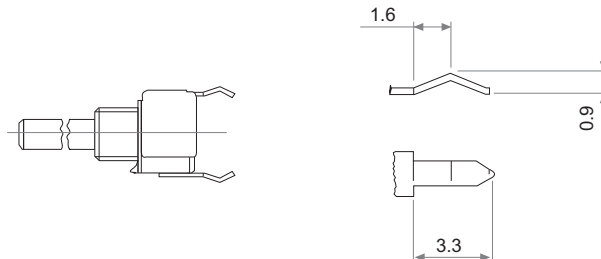
Shaft: The standard option is E4 L30 black colour.

**TERMINALS**

**NOT CRIMPED**



**CRIMPED**



**PACKAGING**

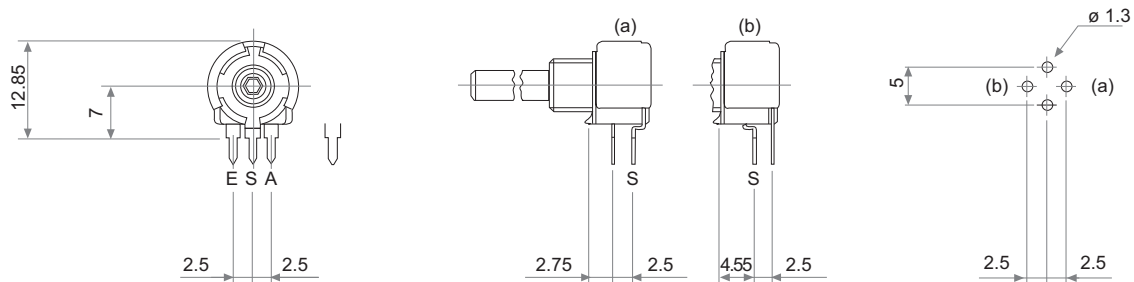
**TESTS**

QUANTITY: 200 units

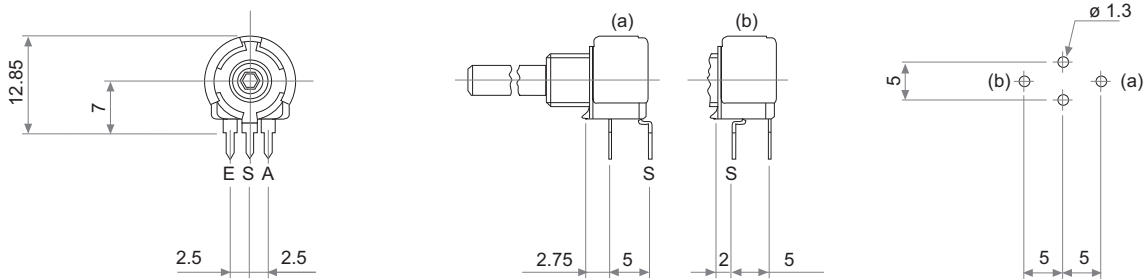
See PT-10 or PTC-10 data sheets.

## MOUNTING METHOD

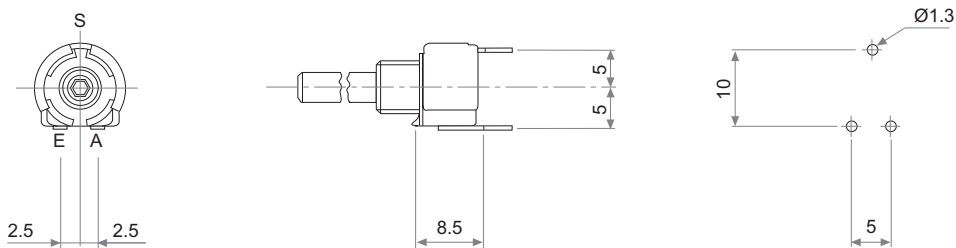
### h 2.5



### h 5

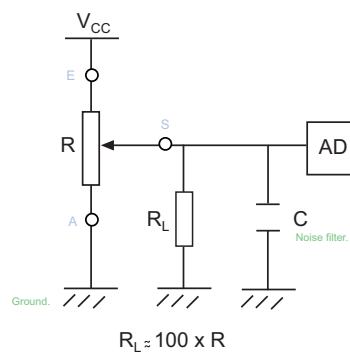


### v 10



## RECOMMENDED CONNECTIONS

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



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