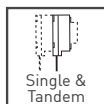
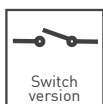


# PC-16

## 16-mm carbon panel mount potentiometer

The PC-16 is a single-turn panel control potentiometer using a carbon resistive element with plastic housing and incorporated shaft. A wide variety of configurable options, such as single or tandem models, different shaft types and tapers, make the PC-16 suitable for numerous applications in the home appliance and industrial markets.



### KEY FEATURES

- ▶ IP54 protection according to IEC 60529
- ▶ Single and tandem models
- ▶ Housing and bushing made of self extinguishable material UL 94-V0
- ▶ Selection of plastic and metal shafts
- ▶ Linear, log (audio) and antilog (reverse) tapers
- ▶ Solder lugs or PC pins

### On request

- ▶ Stereo matching
- ▶ Rotary switch
- ▶ Nut & washer
- ▶ Bushless & shaftless models
- ▶ Assemblies with wires and connectors
- ▶ Metallic support (mounting brackets)

### ELECTRICAL SPECIFICATIONS

Taper	Lin, Log, Alog
Range of values* (Decad. 1.0 - 2.0 - 2.2 - 2.5 - 4.7 - 5.0)	
Lin	$100\Omega \leq R_n \leq 5M\Omega$
Log, Alog	$1K\Omega \leq R_n \leq 5M\Omega$
Tolerance*	
$100\Omega \leq R_n \leq 1M\Omega$	$\pm 20\%$
$1M\Omega < R_n \leq 5M\Omega$	$\pm 30\%$
Max. Voltage	
Lin	250 VDC
Log, Alog	125 VDC
Nominal power 50°C (122°F)	
Lin	0.2 W
Log, Alog	0.1 W
Residual resistance	$\leq 5\% R_n$ (5Ω min.)
Equivalent noise resistance	$\leq 3\% R_n$ (3Ω min.)
Operating temperature**	-25°C to +70°C (-13°F to + 158°F)

\* Others: check availability \*\* Up to 85°C depending on application

### APPLICATIONS

- ▶ Appliance program selection
- ▶ Thermostat adjustment
- ▶ HVACR control
- ▶ Consumer electronics
- ▶ Industrial controls
- ▶ Healthcare / laboratory devices
- ▶ Home and building automation

# PC-16

## 16-mm carbon panel mount potentiometer

### MECHANICAL SPECIFICATIONS

Mechanical rotation angle	300° ±5°
Electrical rotation angle	
Only Potentiometer	280° ±20°
Potentiometer with rotary switch	240° ±20°
Rotational torque <sup>1</sup>	0.5 to 1.5 Ncm (0.7 to 2.1 in-oz)
Stop torque	> 40 Ncm (>56 in-oz)
Max. torque nut (binding out)	< 80 Ncm (<112 in-oz)
Push and pull in the shaft	> 25 N
Life	
Potentiometer	25.000 cycles <sup>2</sup>
Switch	10.000 cycles

<sup>1</sup> For single models. Tandem versions have a higher torque.

<sup>2</sup> One cycle covers forth and back the mechanical angle travel.

### ENVIRONMENTAL TESTING

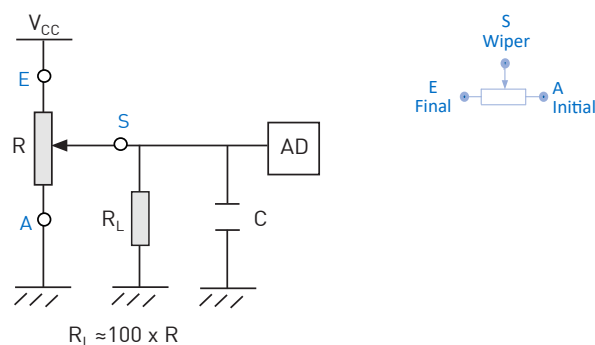
	Test method (CEI 393-1)	ΔR[%]- Piher typical test results
Electrical life	1.000h at 50°C; 0.15W	±5%
Mechanical life		
Potentiometer*	25.000 cycles at 10 to 15 cpm	±3% (R <sub>n</sub> < 1MΩ)
Switch	10.000 cycles at 1A and 50 VAC	
Temperature coefficient	-25°C; +70°C	±300 ppm/°C (R <sub>n</sub> < 100KΩ)
Thermal cycling	16h at 85°C and 2h at -25°C	±2.5%
Damp heat	500h at 40°C and 95% relative humidity (RH)	±5%
Vibration	2h each plane at 10Hz - 55Hz	±2%
Storage	6 month at 23°C ±2°C and 50% RH	±2.5%

\* Only applicable to values ≥ 1KΩ. For lower values please contact us.

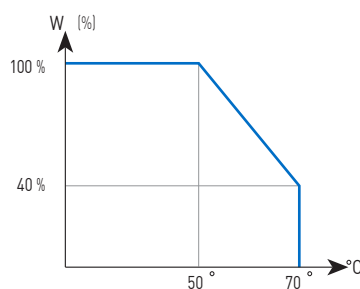
Out of range values may not comply with these results. Standard test conditions: temperature:23°C ±2°C and 45% to 70% RH

### RECOMMENDED CONNECTIONS

Recommended connection circuit for a position sensor or control application (voltage divider circuit electronic design).



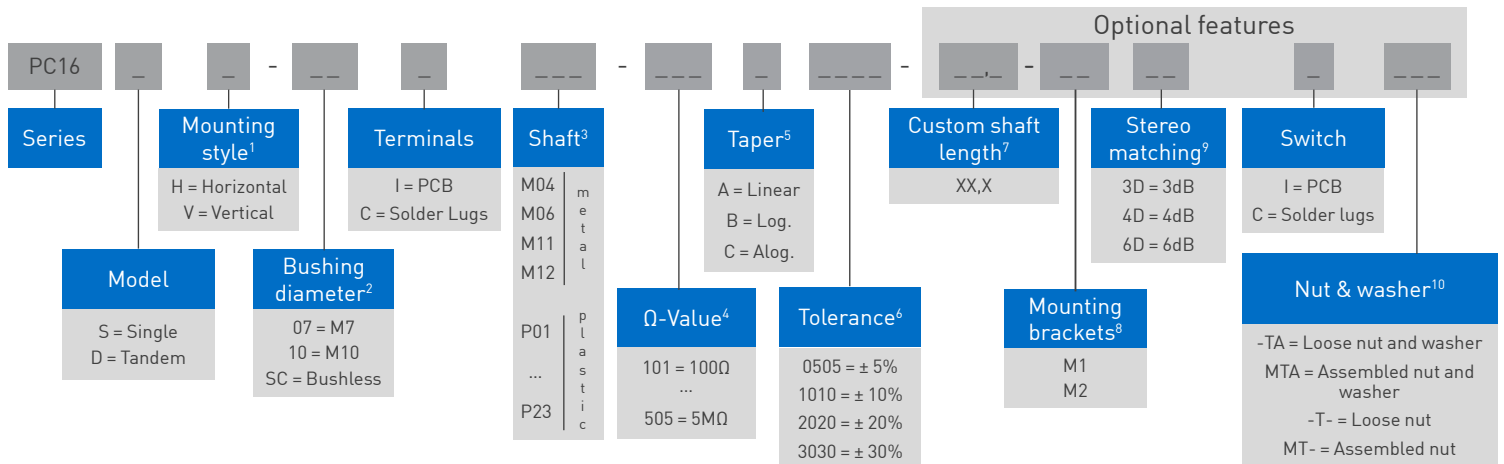
### POWER RATING CURVE



# PC-16

## 16-mm carbon panel mount potentiometer

### HOW TO ORDER



1. Mounting style: Type "V" is only available in model "S" potentiometer and with printed circuit terminals.

2. Bushings: Type "10" has two parallel flat surfaces to avoid rotation. Bushless option only available for single model

3. --- = no shaft. The material for plastic shafts has "HB" rating UL94 classification.

4. Q- Value: XXX - First two digits of Q-value  
XXX - Number of zeros

If you need tandem "D" models with several resistive values in each module, please contact Piher before ordering

5. Taper: switch option not available with Alog (reverse) taper. Log and Alog tapers available for  $R_n \geq 1K\Omega$

6. Tolerance: ±5% tolerance available for values  $1K\Omega \leq R_n \leq 1M\Omega$ . Custom tolerances available. Please contact Piher for more information

7. Custom shaft length (in mm): maximum recommended: 45mm.

8. Mounting brackets: only applicable for horizontal single models without switch

9. Stereo matching: not applicable to single models. Maximum spec.: 3dB

10. Not available for bushless type

 [check inventory](#)

### ORDER CODE EXAMPLES

PC16SV-10IP16-105A2020-I-TA

Single body vertical adjust potentiometer with M10 bushing, PCB pin leads, "P16" shaft, 1MΩ resistive value, 20% resistive tolerance, switch with PCB pin leads and loose nut and washer.

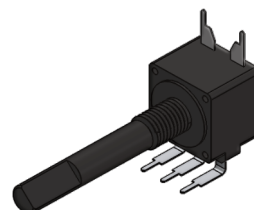
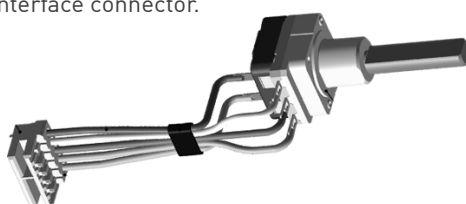
PC16DH-07CP06-103A1010-15,0-MTA

Double body horizontal adjust potentiometer with M07 bushing, solder lug leads, "P06" shaft type, 10KΩ resistive value, 10% resistive tolerance, shaft cut to L=15mm and factory-assembled nut and washer.

### CUSTOMIZATION POSSIBILITIES

Potentiometer + wires + connector

✓ Piher can deliver bespoke product design and adaptations to meet any form, fit and function, including leads, wire harness and interface connector.



# PC-16

## 16-mm carbon panel mount potentiometer

### STANDARD CONFIGURATION

Shaft length	Standard length according to shaft's drawing
Mounting brackets	None
Stereo matching	Only on request
Switch	None
Nut and washer	None

### MODELS

PC-16 S/D ...H...	PC-16 SV .....



Download STEP files here: [www.piher.net](http://www.piher.net)

### METALLIC SUPPORT (MOUNTING BRACKETS)

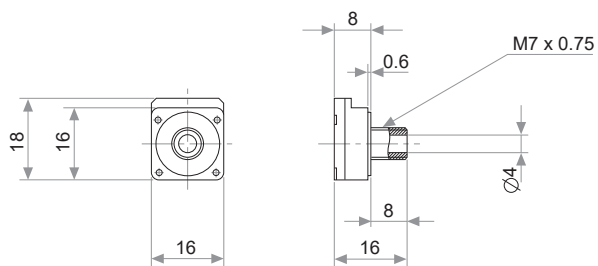
PC-16 SH.....M1	PC-16 SH.....M2

# PC-16

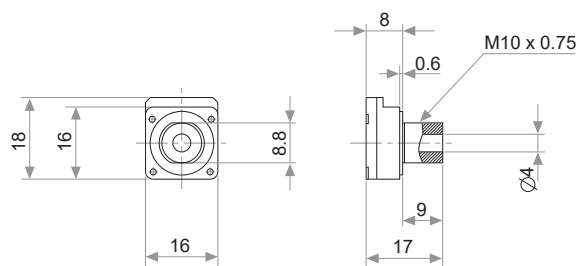
## 16-mm carbon panel mount potentiometer

### BUSHINGS

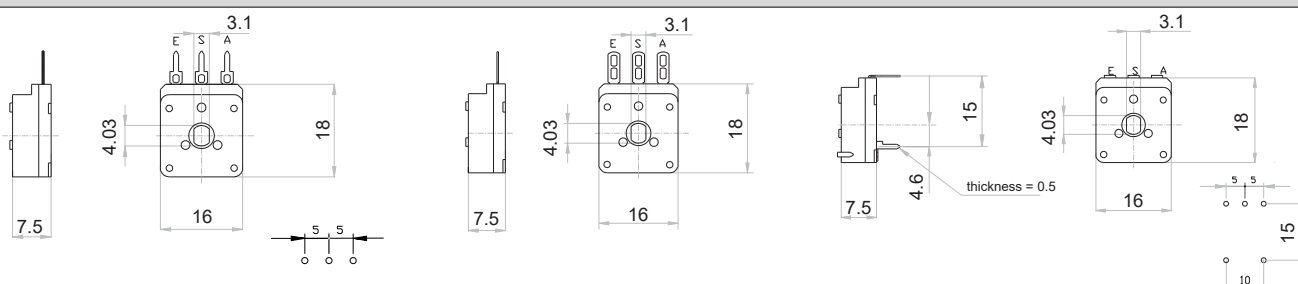
07



10

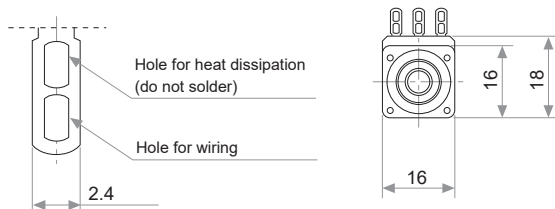


### SC (BUSHLESS)

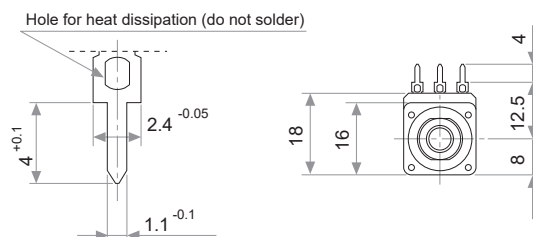


### TERMINALS

C - Solder Lugs

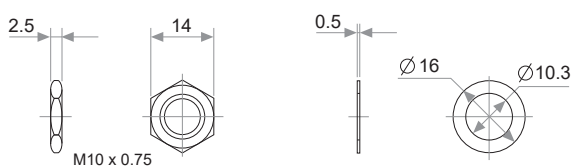


I = PCB

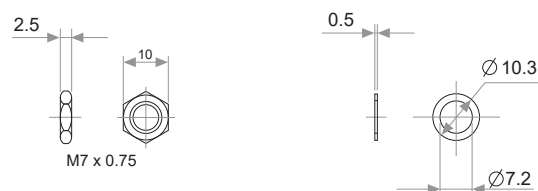


### NUTS & WASHERS

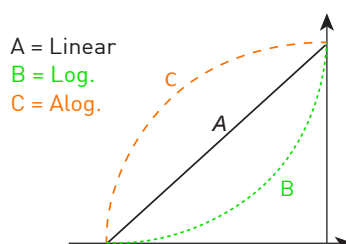
BUSHING 10



BUSHING 07



### TAPERS

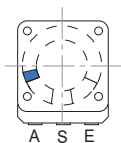


For more information on custom tapers contact Piher Sensing Systems.

# PC-16

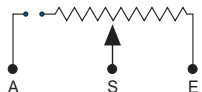
## 16-mm carbon panel mount potentiometer

### OPEN CIRCUIT FEATURE

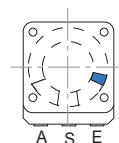
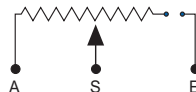


CCW on-off (A)

PCI  
Cut track at the beginning  
of the travel.



PCF  
Cut track at the end  
of the travel



CW on-off (E)

A = Initial S = Wiper E = Final.  
PCI, PCF and other configurations available upon request. Check the ordering code with Piher.

### PACKAGING

Bulk

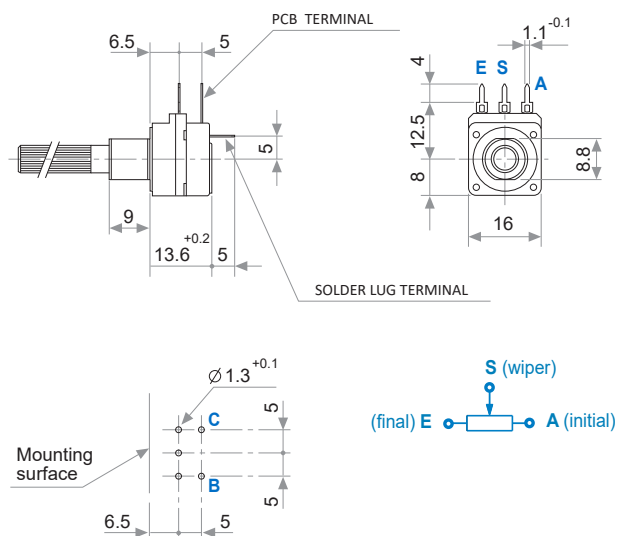


Box dimensions (mm): 250x160x95

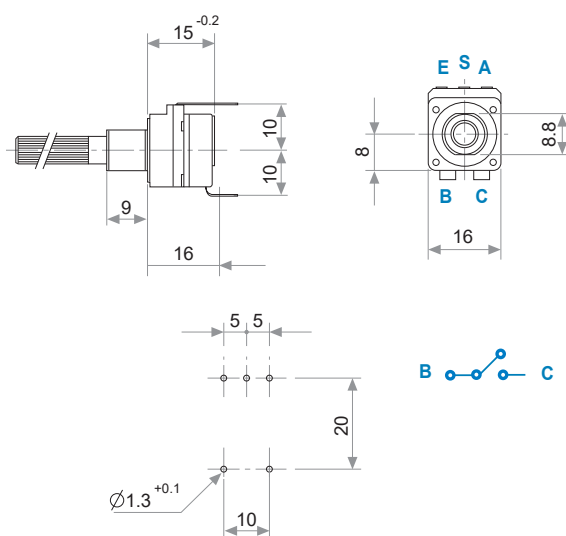
Units per box: 100 pcs

### SWITCH

PC-16S ... H I / C



PC-16SV ... I



### SWITCH SPECIFICATIONS

Nominal current	1A, 250 VAC
Contact resistance (initial)	10 mΩ
Operating torque	1 to 3 Ncm [1.4 to 4.2 in-oz]
Operating angle	30°±5°
Test voltage	500 V

### 360° CONTINUOUS ROTATION

STM-15



Check available models at [www.piher.net](http://www.piher.net)

PIHER *sensing*  
systems

[www.piher.net](http://www.piher.net)

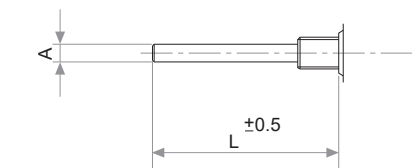
Amphenol Sensors

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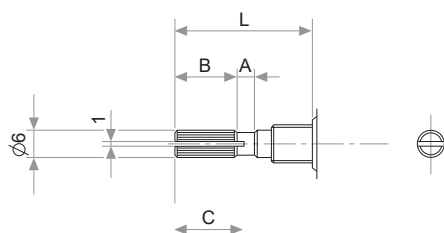
# PC-16

## 16-mm carbon panel mount potentiometer

### METALIC SHAFTS

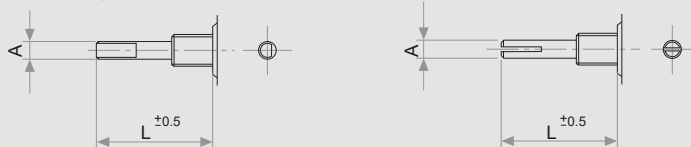


Code	A	L
M04	4	45
M06	6	45



Code	A	B	C	L
M11	2	5	7	15
M12	2	10	11	20

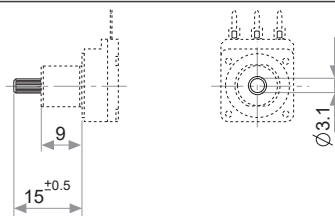
### Special models (check availability)



A
Ø 4
Ø 6

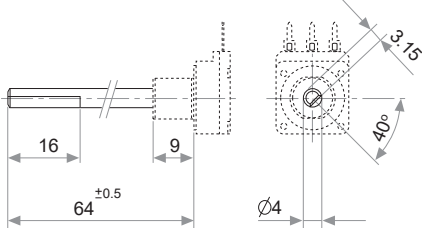
### PLASTIC SHAFTS Ø3.1

P09

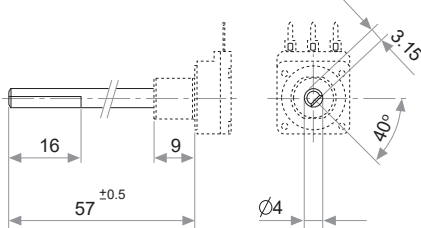


### PLASTIC SHAFTS Ø4

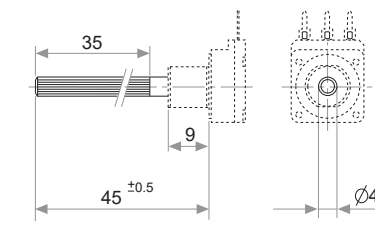
P01



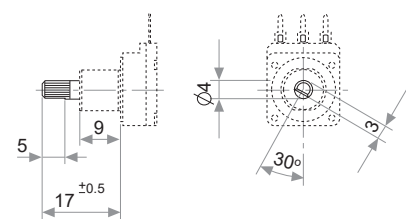
P02



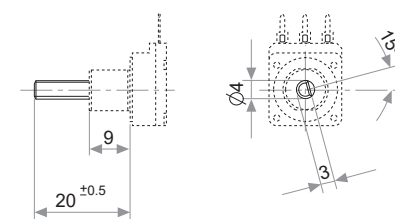
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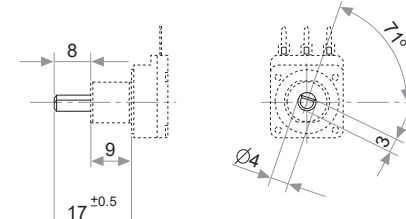
P07



P08



P10

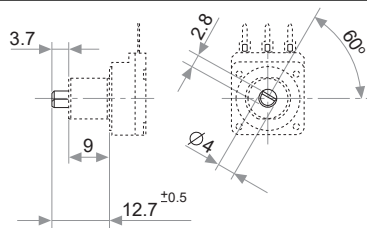


# PC-16

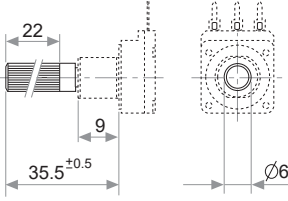
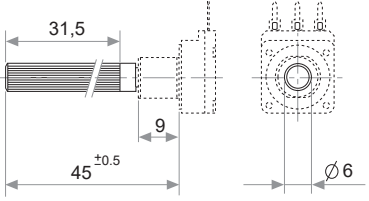
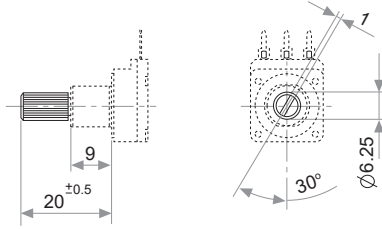
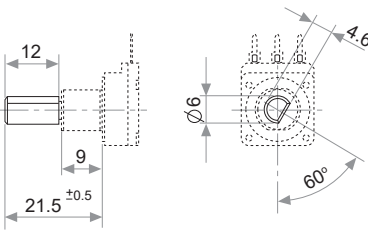
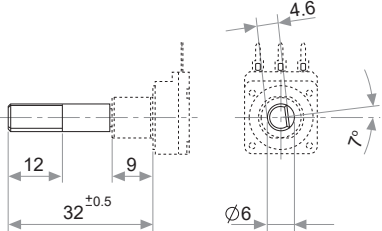
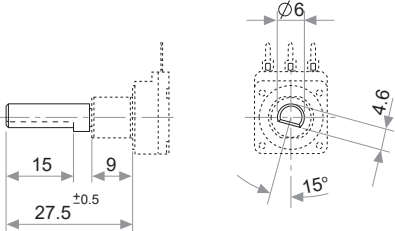
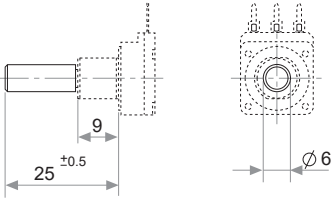
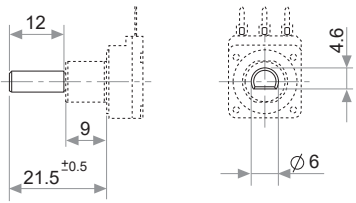
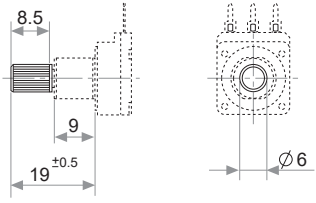
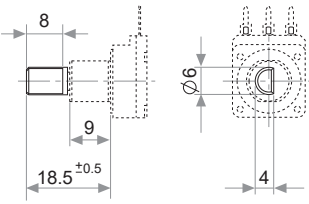
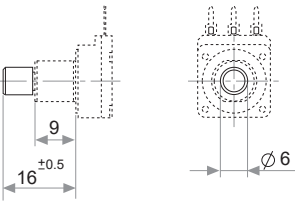
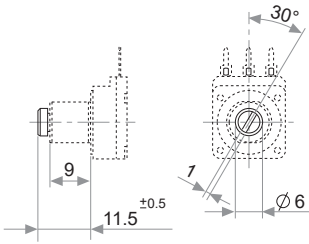
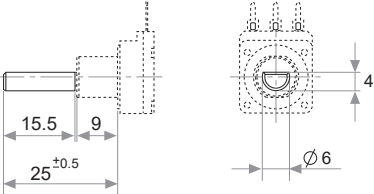
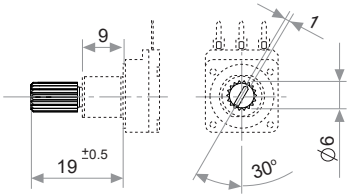
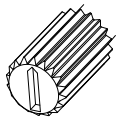
## 16-mm carbon panel mount potentiometer

### PLASTIC SHAFTS Ø4

P21



### PLASTIC SHAFTS Ø6

<p>P05</p> 	<p>P06</p> 	<p>P11</p> 
<p>P12</p> 	<p>P13</p> 	<p>P14</p> 
<p>P15</p> 	<p>P16</p> 	<p>P17</p> 
<p>P18</p> 	<p>P19</p> 	<p>P20</p> 
<p>P22</p> 	<p>P23</p>  <div><p>18 teeth knurl with arrow shape shaft</p></div>	

Shaft position shown full CCW. Any other position for plastic shafts has to be shifted n times 24°. Other positions upon request..



# PC-16

## 16-mm carbon panel mount potentiometer

### OUR ADVANTAGE

- ▶ Leading-edge innovative position sensing solutions
  - ▷ Contactless (Hall-effect and Inductive Technology)
  - ▷ Contacting (Potentiometers, Printed Electronics)
- ▶ Engineering design-in support
- ▶ All our products can be customized to fit target application and customer requirement
- ▶ Capability to move seamlessly from development to true high-volume production
- ▶ A global footprint with global engineering and commercial support
- ▶ One-stop shop not limited to position sensors (temperature, pressure, gas,...) through group collaboration
- ▶ Flexibility and entrepreneurship of a medium-sized company with the backing of Amphenol Corporation



Please always use the latest updated datasheets and 3D models published on our website.

#### Disclaimer:

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