



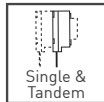
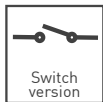
**THE DATASHEET OF
PC16SV-10IP18-104A2020-I-TA**



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

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MECHANICAL SPECIFICATIONS

Mechanical rotation angle	300° ±5°
Electrical rotation angle Only Potentiometer Potentiometer with rotary switch	280° ±20° 240° ±20°
Rotational torque ¹	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 Switch	25.000 cycles ² 10.000 cycles

1 For single models. Tandem versions have a higher torque.
2 One cycle covers forth and back the mechanical angle travel.

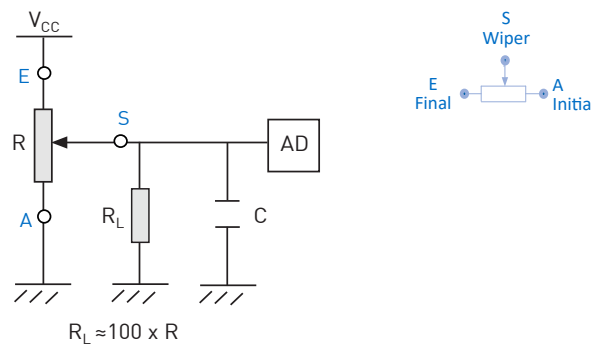
ENVIRONMENTAL TESTING

	Test method (CEI 393-1)	ΔR[%]- Piher typical test results
Electrical life	1.000h at 50°C; 0.15W	±5%
Mechanical life Potentiometer* Switch	25.000 cycles at 10 to 15 cpm 10.000 cycles at 1A and 50 VAC	±3% (Rn < 1MΩ)
Temperature coefficient	-25°C; +70°C	±300 ppm/°C (Rn < 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%

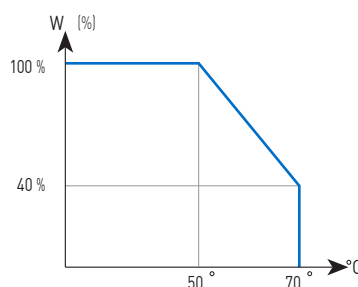
* Only applicable to values ≥ 1KΩ. For lower values please contact us.
Out of range values may not comply with these results. Standard test conditions: temperature:23°C ±2°C and 45% to 70% RH

RECOMMENDED CONNECTIONS

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



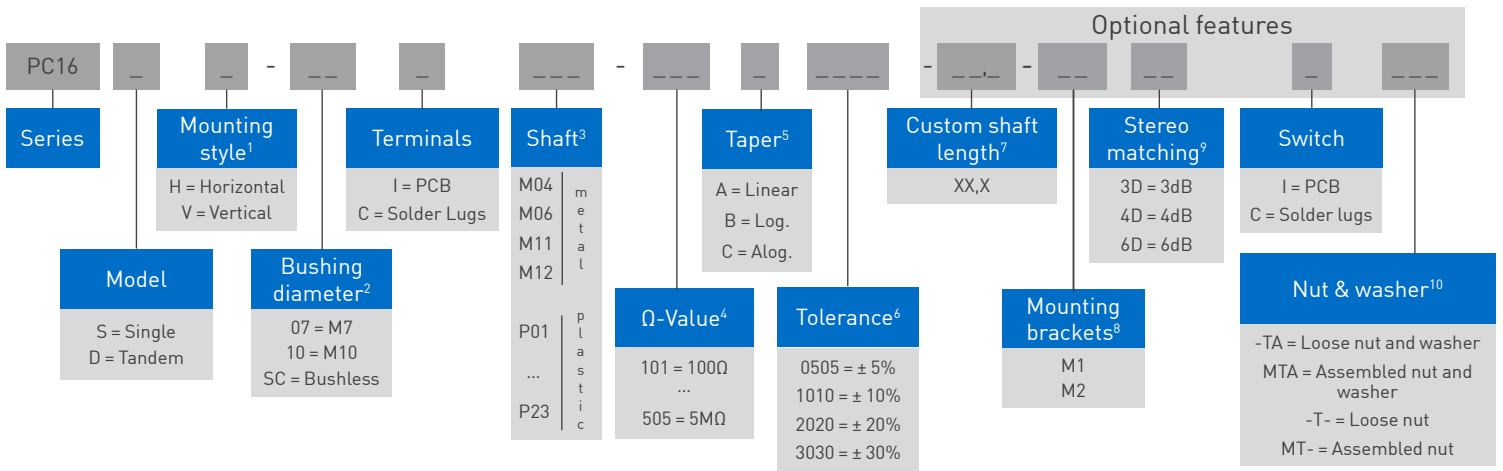
POWER RATING CURVE



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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. Ω - Value: XXX - First two digits of Ω -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: 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

ORDER CODE EXAMPLES

PC16SV-10IP16-105A2020-I-TA

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

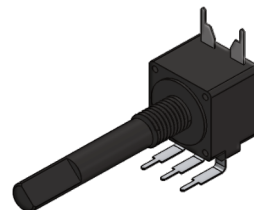
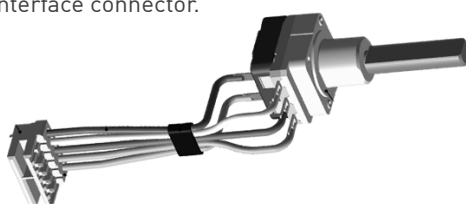
PC16DH-07CP06-103A1010-15,0-MTA

Double body horizontal adjust potentiometer with M07 bushing, solder lug leads, "P06" shaft type, 10K Ω 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.



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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.pihernet.net

METALLIC SUPPORT (MOUNTING BRACKETS)

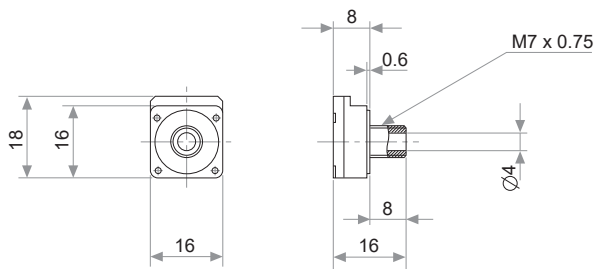
PC-16 SH.....M1	PC-16 SH.....M2

PC-16

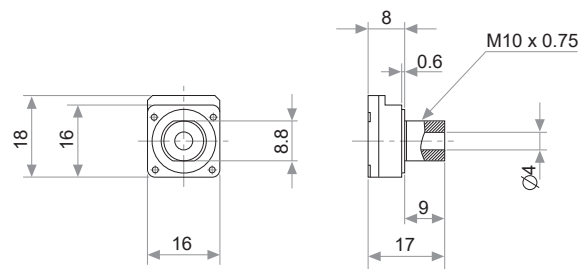
16-mm carbon panel mount potentiometer

BUSHINGS

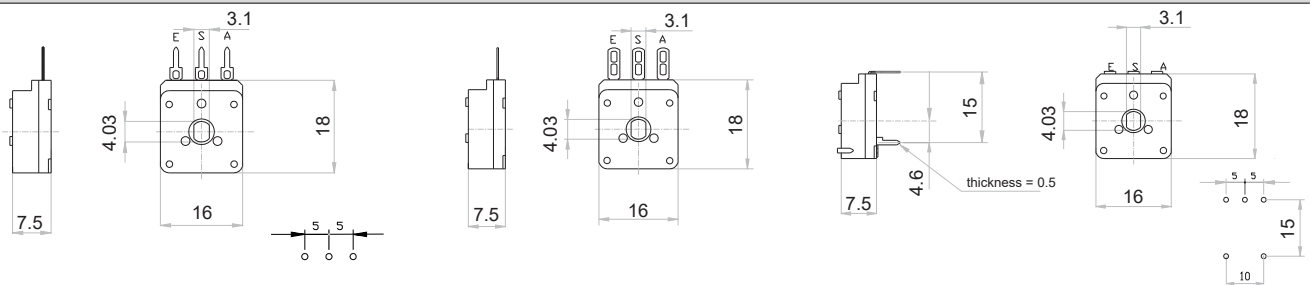
07



10

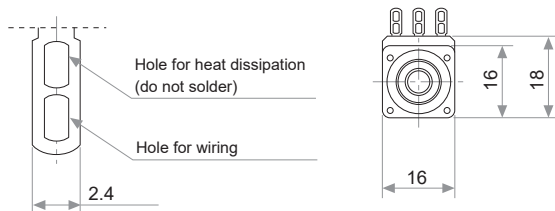


SC (BUSHLESS)

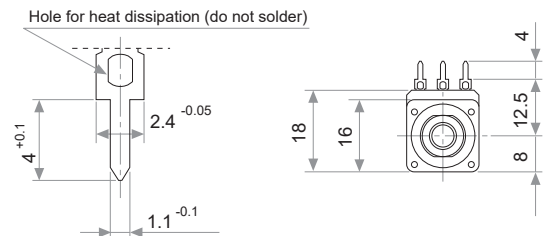


TERMINALS

C - Solder Lugs

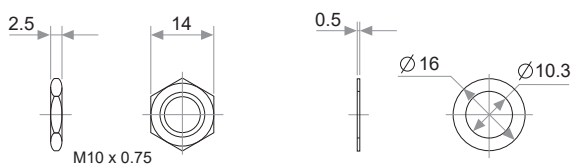


I = PCB

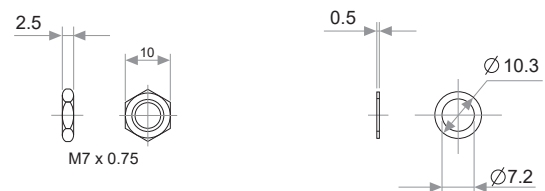


NUTS & WASHERS

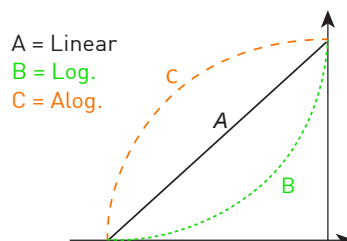
BUSHING 10



BUSHING 07



TAPERS

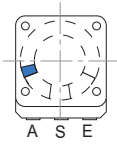


For more information on custom tapers contact Piher Sensing Systems.

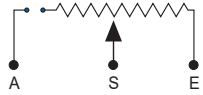
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16-mm carbon panel mount potentiometer

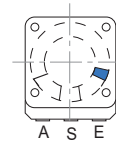
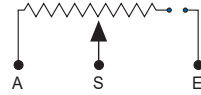
OPEN CIRCUIT FEATURE



PCI
Cut track at the beginning of the travel.



PCF
Cut track at the end of the travel



CW on-off (E)

CCW on-off (A)

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

PACKAGING

Bulk



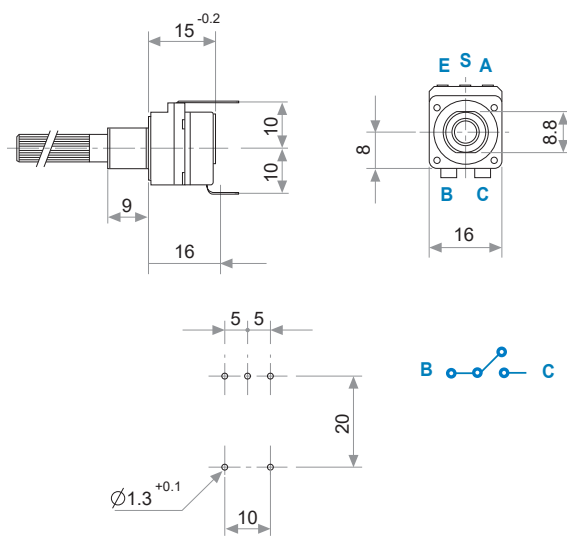
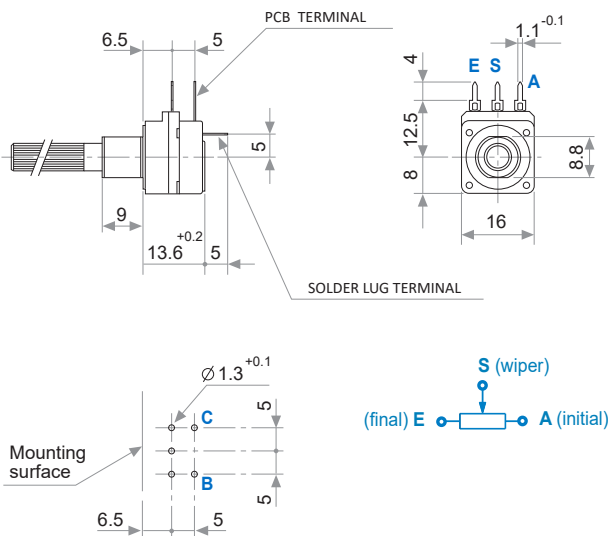
Box dimensions (mm): 250x160x95

Units per box: 100 pcs

SWITCH

PC-16S ... H I / C

PC-16SV... I



SWITCH SPECIFICATIONS

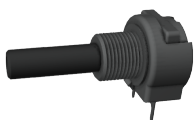
Nominal current	1A, 250 VAC
Contact resistance (initial)	10 mΩ
Operating torque	1 to 3 Ncm [1.4 to 4.2 in-oz]
Operating angle	30°±5°
Test voltage	500 V

360° CONTINUOUS ROTATION

METAL HOUSING + STOP POSITIONS

STM-15

T-16

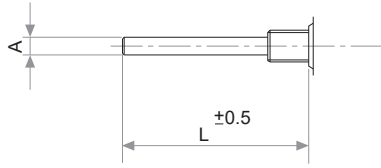


Check available models at www.piher.net

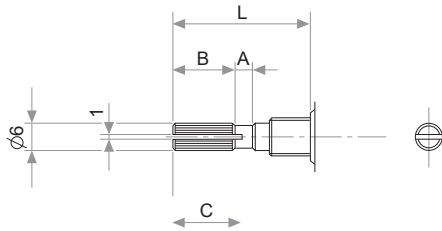
PC-16

16-mm carbon panel mount potentiometer

METALIC SHAFTS

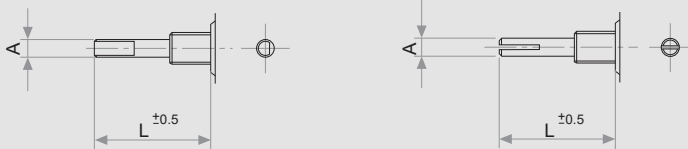


Code	A	L
M04	4	45
M06	6	45



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

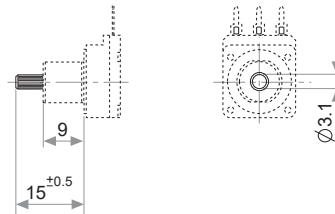
Special models (check availability)



A
Ø 4
Ø 6

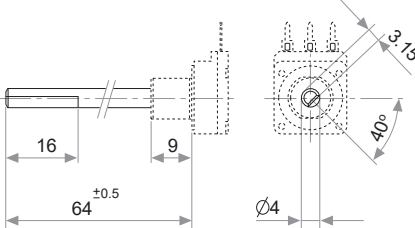
PLASTIC SHAFTS Ø3.1

P09

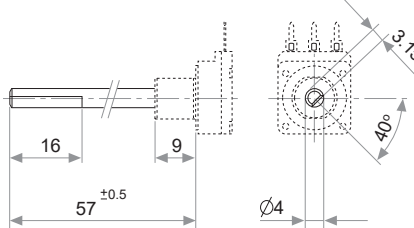


PLASTIC SHAFTS Ø4

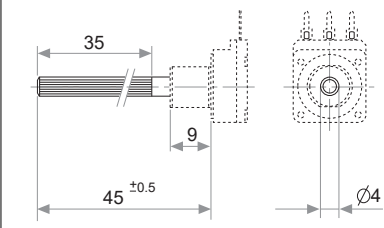
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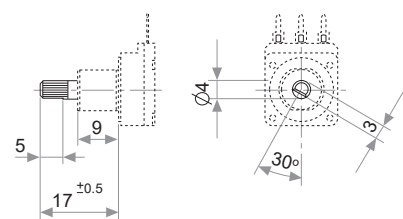
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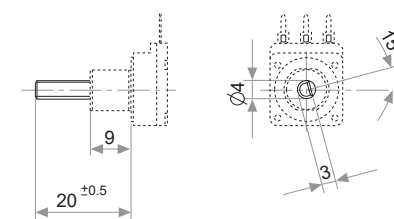
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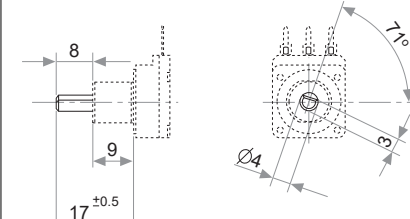
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P08



P10

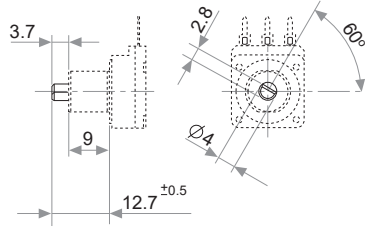


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16-mm carbon panel mount potentiometer

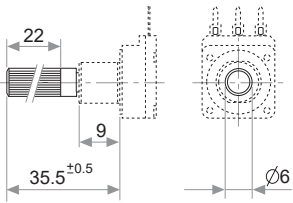
PLASTIC SHAFTS Ø4

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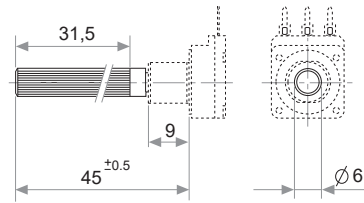


PLASTIC SHAFTS Ø6

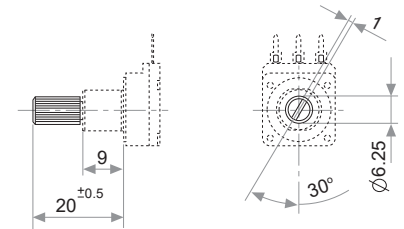
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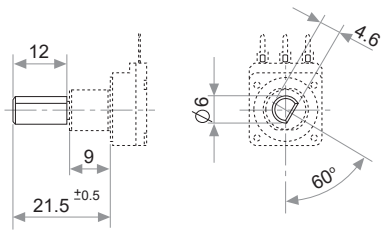
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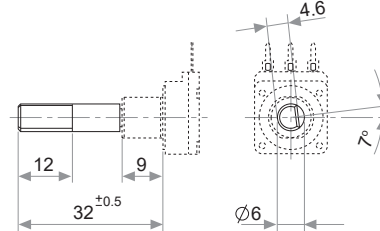
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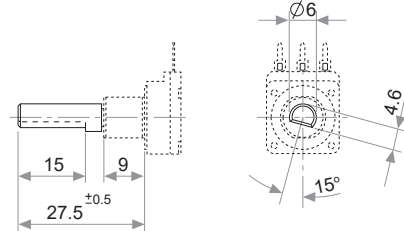
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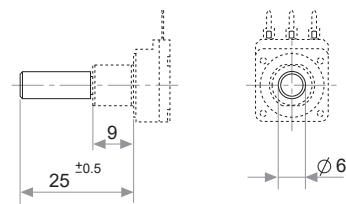
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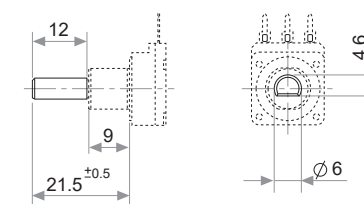
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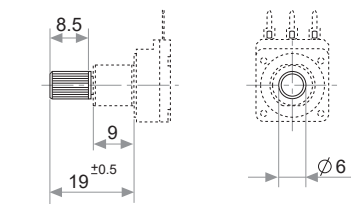
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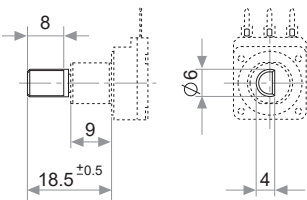
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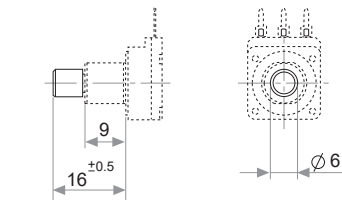
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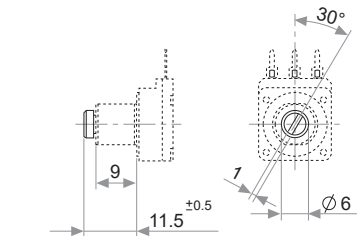
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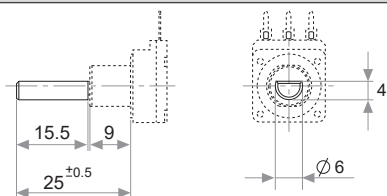
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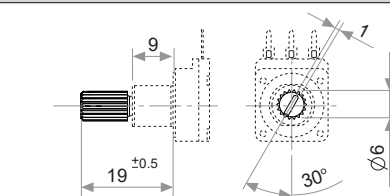
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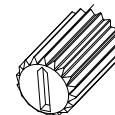
P22



P23



18 teeth knurl with arrow shape shaft



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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-  [Amphenol Information](#)

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