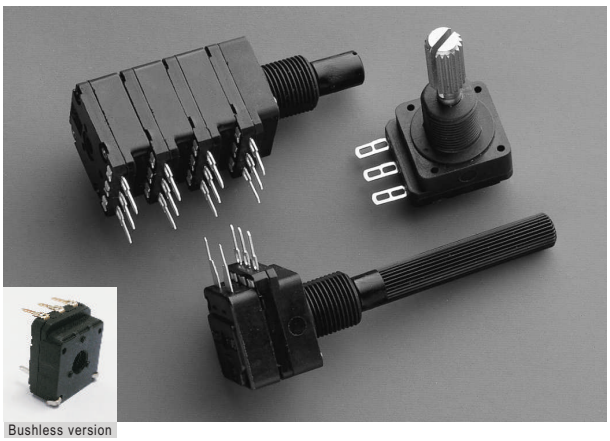
PC-16 16 mm Carbon Potentiometer



Bushless version

FEATURES

- Carbon resistive element
- IP54 protection according to IEC 60529
- Polyester substrate
- Modular gang type (up to 4)
- Self extinguishable material UL 94-V0
- Upon request:
  - Metalic support
  - Stereo matching
  - Switch
  - Nut & washer
  - Bushless option available

MECHANICAL SPECIFICATIONS

– Mechanical rotation angle:	300° ± 5°
– Electrical rotation angle:	280° ± 20°
– Torque:	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)
– Thrust and pull in the shaft:	> 25 N

ELECTRICAL SPECIFICATIONS

– Range of values (*)
100Ω ≤ Rn ≤ 5 M (Decad. 1.0 - 2.0 - 2.2 - 2.5 - 4.7 - 5.0)

– Tolerance (*): 100Ω ≤ Rn ≤ 1M Ω ------ ± 20%
1MΩ < Rn ≤ 5M Ω ------ ± 30%

– Max. Voltage: 250 VDC (lin) 125 VDC (no lin)

– Nominal Power 50°C (122°F) (see power rating curve)
0.2 W (lin) 0.1 W (no lin)

– Taper (*) (Log. & Alog. only Rn > 1K) Lin ; Log; Alog.

– Residual resistance(*): ≤ 0.5% Rn (5 Ω min.)

– Equivalent Noise Resistance: ≤ 3% Rn (3 Ω min.)

– Operating temperature**: –25°C + 70°C (–13°F + 158°F)

* Others upon request

** Up to 85°C depending on application

HOW TO ORDER

STANDARD

PC-16	D	H	10	I	M06	203	A	2020
Serie: PC-16	Model: S =Single, D =Tandem, T =Triple, C =Quad.	Mounting style: H= Horizontal, V = Vertical (See note 1)	Bushing diameter: 07 = M7, 10 = M10, SC = Bushless (See note 2)	Terminals: I = PCB, C = Solder Lugs	Shafts: M04, M06, M07, M11, M17, P01, P22, --- (See note 3)	Value: 101 = 100 Ω, 203 = 20 K, 504 = 500 K, 505 = 5M (See note 4)	Taper: A = Linear, B = Log., C = Alog. (See note 10) Others tapers on request	Tolerance: 2020 = +/- 20%, 3030 = +/- 30% (See note 5)

OPTIONAL EXTRAS

0				
Shafts spec. leng.: XX.X (See notes 6,9)	Mounting brackets: M1, M2 (See note 7)	Stereo matching: 3D = 3dB, 4D = 4dB, 6D = 6dB (See note 8)	Switch: I = PCB, C = Solder lugs (See note 9)	Nuts & Washers: -TA = loose nut & washer, MTA=assembled nut & washer, -T- = loose nut, MT- = assembled nut (See note 9)

NOTES:

(1) Mounting style: Type "V" is only available in model "S" potentiometer and with printed circuit terminals.
(2) Bushings: Type "10" has two paralell flat surfaces for avoiding rotation. Bushless option only available for single model.
(3) M07 shaft is only available with M10 bushing. --- = no shaft
(4) Value: • Code: 10 1 100 Ω
10 → 2 first digits of the value.
1 → Number of zeros
• In models "D", "T", "C", with different values, they will be asked by drawings.
(5) Tolerance (non standard), upon request. Example: +7% -5% Code: 07 05
07 → negative tolerance
05 → positive tolerance
(6) Shaft special length:
• Only for special length and plain shafts (not knurled). Example: Shaft Ø6.35 L= 24.5 M07 ..... 24.5
• NOTE: Maximun length recommended: L = 45
M07 → special length shafts
24.5 → special length shafts
(7) Mounting brackets: Only applicable for model "S", mounting "H" and without switch.
(8) Stereo matching: not available for single models. Maximun will be: •3dB for model "D" •4dB for model "T" •6dB for model "C"
(9) Not available for Bushless version.
(10) Switch option not available with antilog taper.

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

HOW TO ORDER CUSTOM DRAWING

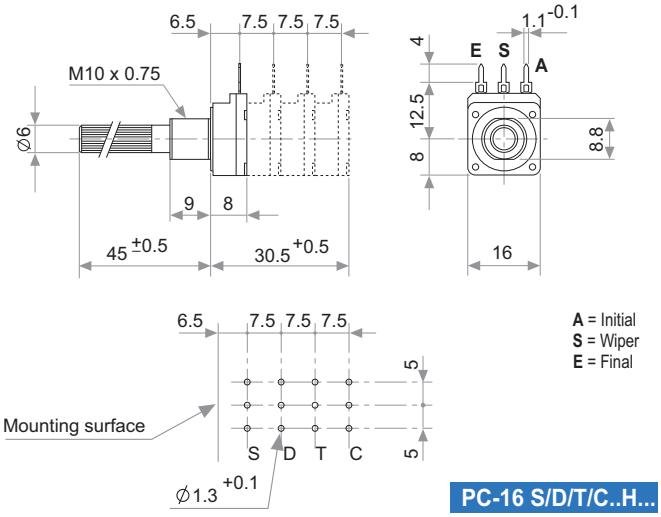
PC-16 S V + DRAWING NUMBER (Max. 16 digits)

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

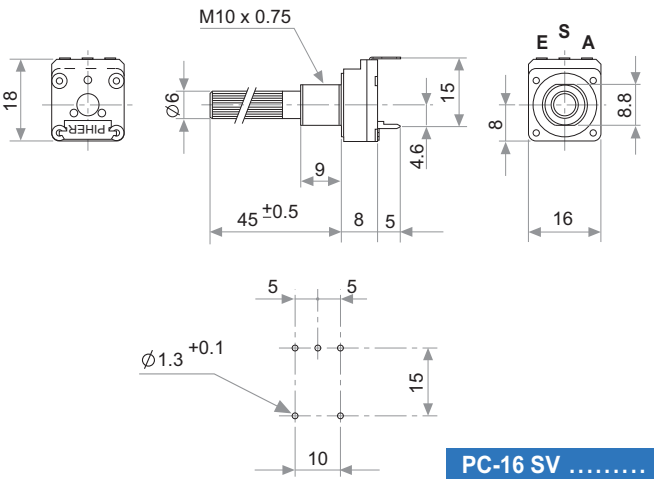
STANDARD OPTIONS

Shaft length ..... 0 Standard Length
Mounting brackets ..... Without mounting brackets
Stereo matching ..... Only on request (see note 8)
Switch ..... No switch
Nut & washer ..... Without nut and washer

MODELS

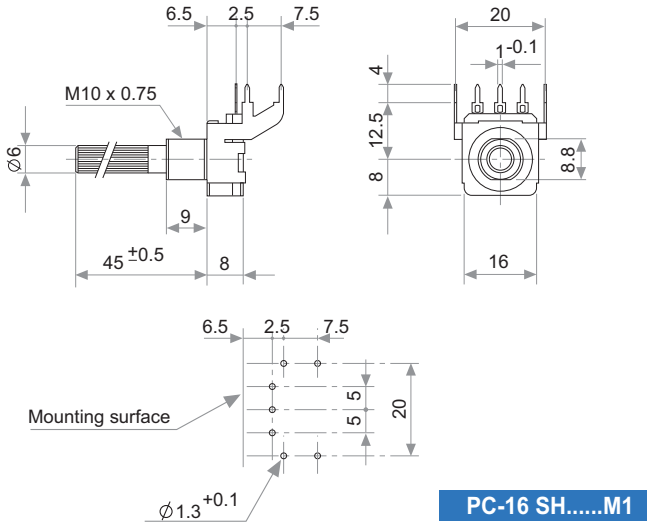


PC-16 S/D/T/C..H...

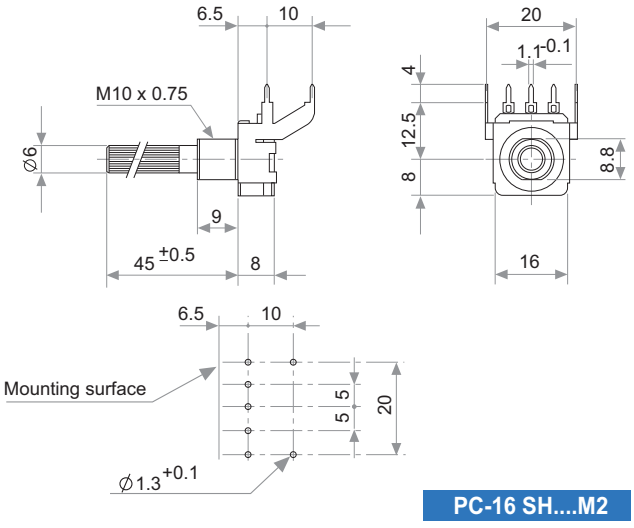


PC-16 SV .....

METALLIC SUPPORT

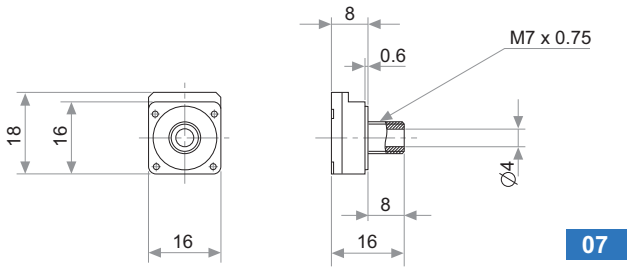


PC-16 SH.....M1

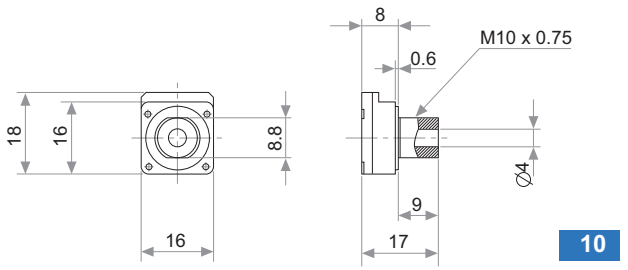


PC-16 SH....M2

BUSHINGS

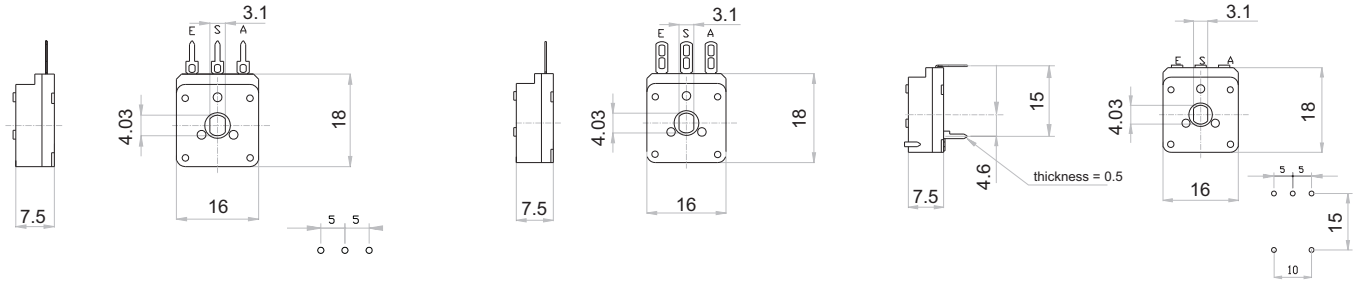


07

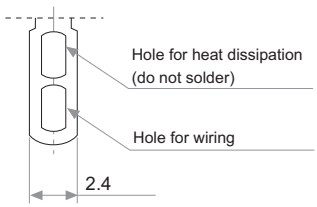


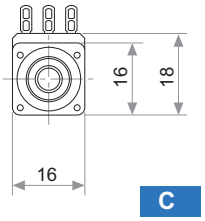
10

EXAMPLES OF BUSHLESS VERSION



TERMINALS





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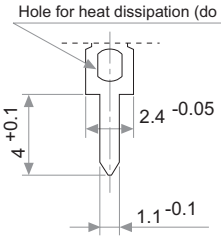
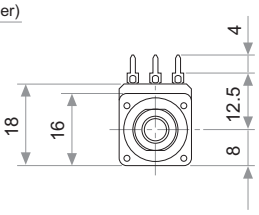


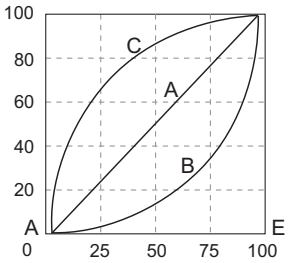


I

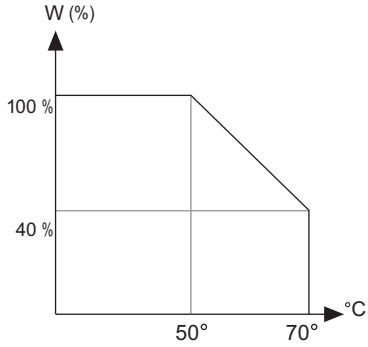
TAPERS

Standard

A = Linear
B = Log.
C = Alog.

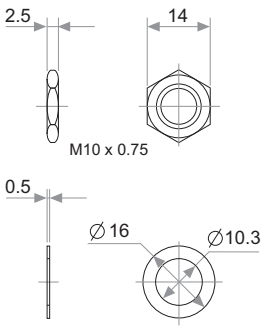


POWER RATING CURVE

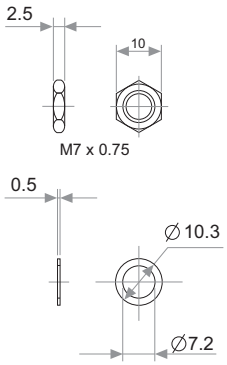


NUTS & WASHERS

Bushing 10



Bushing 07



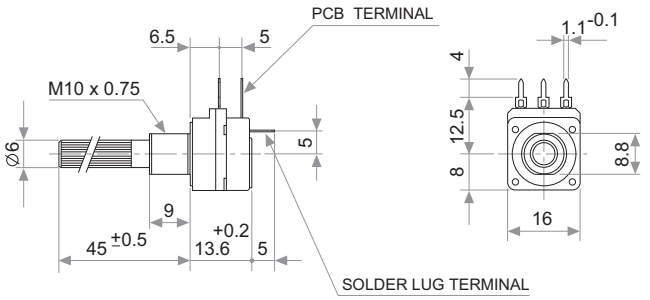
NOTE = Please note relative terminal positions when ordering non linear tapers.

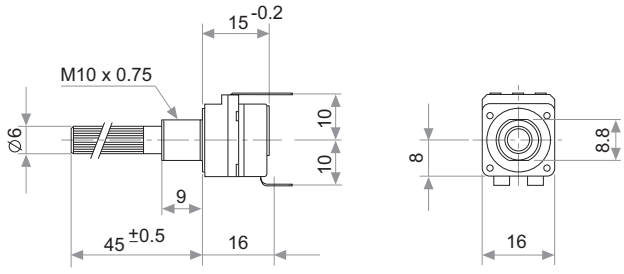
TESTS

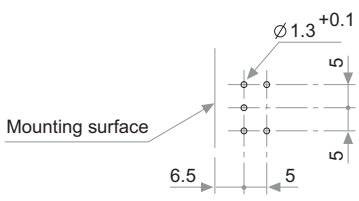
		TYPICAL VARIATIONS
ELECTRICAL LIFE	1.000 h. @ 50°C; 0.2 W	±5 %
MECHANICAL LIFE : POT.* SWITCH	25.000 (10-15 CPM) 10.000 (1 A, 50 VAC)	±3 % (Rn < 1 MΩ)
TEMPERATURE COEFFICIENT	–25°C; +70°C	±300 ppm/°C (Rn < 100 KΩ)
THERMAL CYCLING	16 h. @ 85°C; 2h. @ –25°C	±2.5 %
DAMP HEAT	500 h. @ 40°C @ 95% HR	±5 %
VIBRATION (for each plane X,Y,Z)	2 h. @ 10 Hz. ... 55 Hz.	±2 %

(*) only applicable to values ≥1K. For lower values please consult.

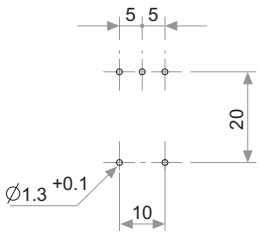
SWITCH







PC-16S . . . H . . . . I / C



PC-16SV . . . I

SWITCH SPECIFICATIONS

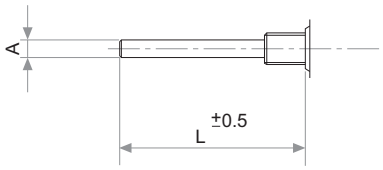
NOMINAL CURRENT	1A, 250 VAC
CONTACT RESISTANCE (initial)	10 m Ω
OPERATING TORQUE	1 to 3 Ncm (1.4 to 4.2 in oz)
OPERATING ANGLE	30° ± 5°
TEST VOLTAGE	500 V

PACKAGING

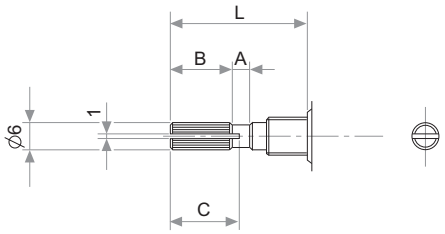
Boxes of 100 pieces (single body model): Inner dimensions 250 x 160 x 95 mm

METALIC SHAFTS

STANDARD

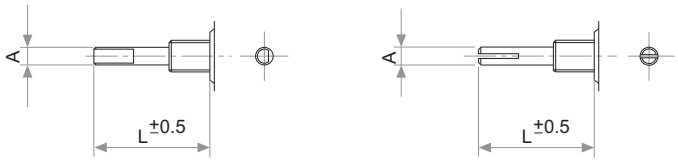


A	L	CODE
4	45	M04
6	45	M06
6.35	45	M07



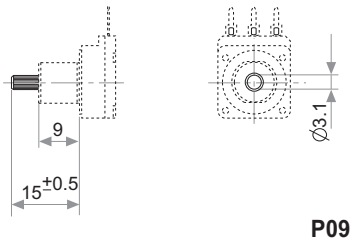
A	B	C	L	CODE
2	5	7	15	M11
2	10	11	20	M12
4	12	14	25	M13
4	12	14	30	M14
4	12	14	35	M15
4	12	14	40	M16
4	12	14	45	M17

SPECIAL



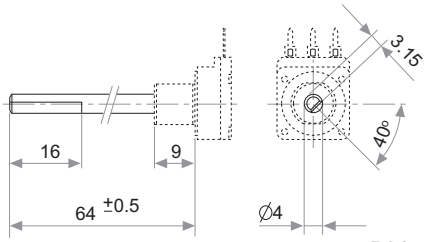
A
4
6
6.35

PLASTIC SHAFTS Ø3.1



P09

PLASTIC SHAFTS Ø4



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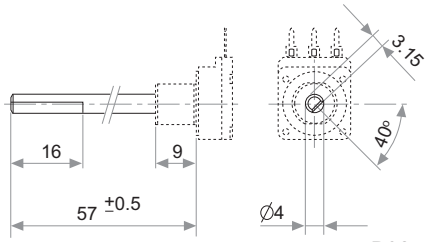

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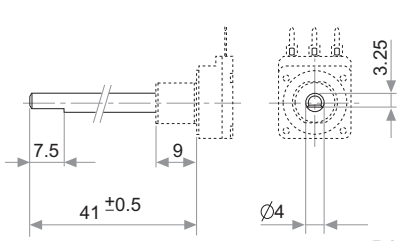
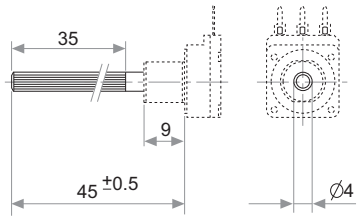


P03

PLASTIC SHAFTS Ø4



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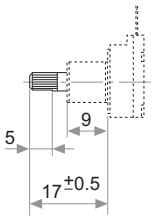

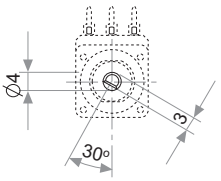

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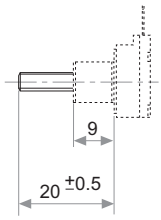

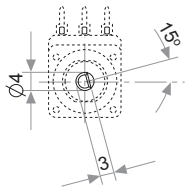

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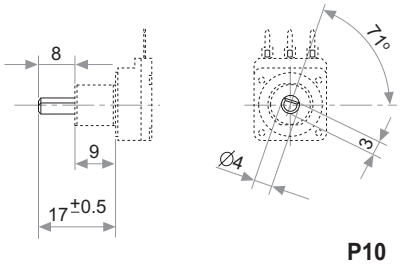

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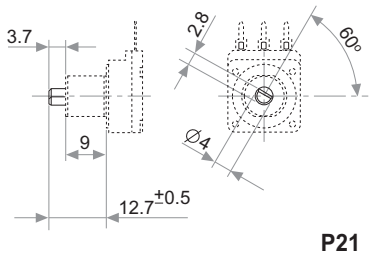

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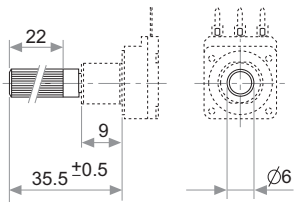
PLASTIC SHAFTS Ø6



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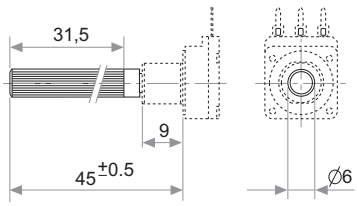

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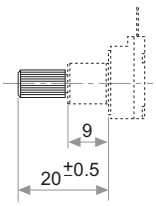

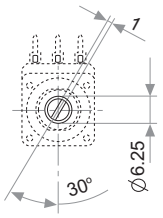

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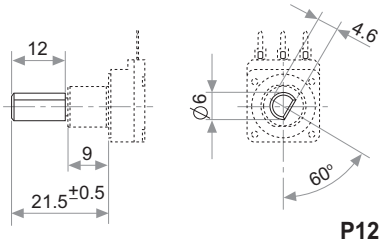

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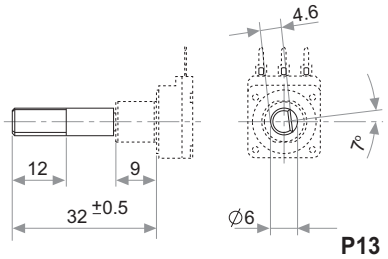

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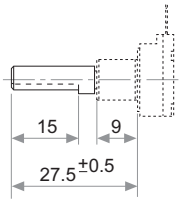

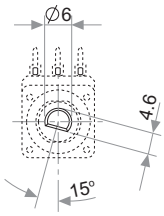

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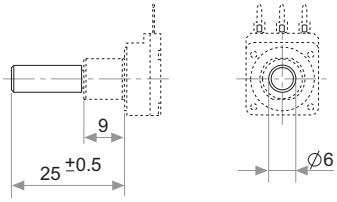

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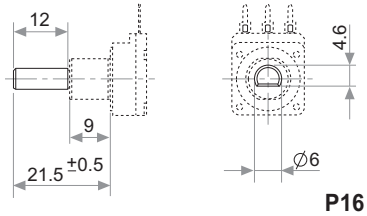

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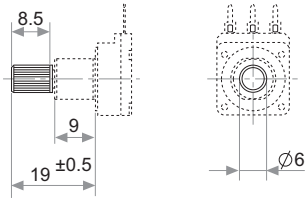

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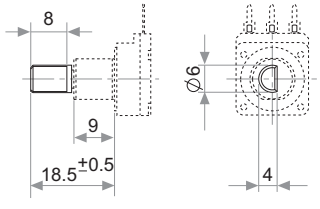

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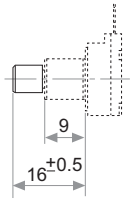

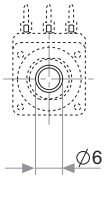

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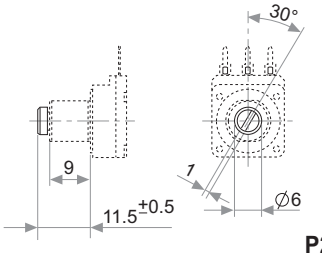

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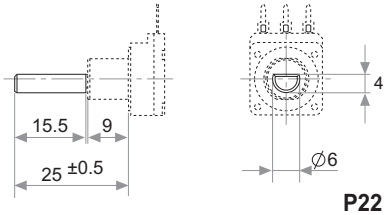
NOTE: Shaft position shown full CCW. Any other position for plastic shafts has to be shiftted n times 24°
Other positions upon request.



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