

PT-6

6 mm Carbon
Potentiometer



FEATURES

- Carbon resistive element.
- IP54 protection according to IEC 60529.
- Polyester substrate.
- SMD version available (see PS-6 datasheet).
- Also upon request:
 - Wiper positioned at initial, 50% or fully clockwise.
 - Supplied in magazines for automatic insertion.
 - Long life model (10K cycles).
 - Housing available in self extinguishable plastic (UL94V0).
 - Mechanical detents.

MECHANICAL SPECIFICATIONS

- Mechanical Rotation angle: $235^\circ \pm 5^\circ$
- Electrical Rotation angle: $200^\circ \pm 20^\circ$
- Torque: 0.2 to 2 Ncm.
(0.3 to 2.7 in-oz)
- Stop torque: > 4 Ncm. (> 5.6 in-oz)
- Life*: Up to 10K cycles

* Others check availability.

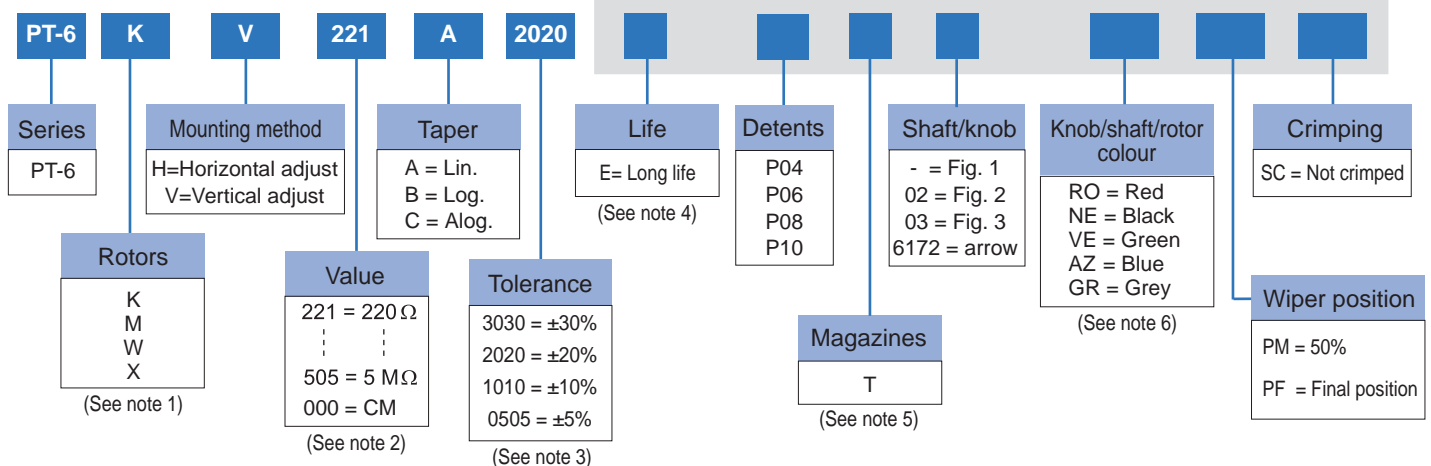
** Up to 85°C depending on application.

ELECTRICAL SPECIFICATIONS

- Range of values*
 $220\Omega \leq R_n \leq 5M$ (Decad. 1.0 - 2.0 - 2.2 - 2.5 - 4.7 - 5.0)
- Standard tolerance*: $220\Omega \leq R_n \leq 1M\Omega$ $\pm 20\%$
 $1M\Omega < R_n \leq 5M\Omega$ $\pm 30\%$
- Max. Voltage: 100 VDC (lin), 50 VDC (no lin)
- Nominal Power 50°C (122°F) (see power rating curve)
0.1 W (lin) 0.05 W (no lin)
- Taper*: Lin; Log; Alog (Log & Alog. only $R_n \geq 1K$)
- Residual resistance*: $\leq 0.5\% R_n$ (5 Ω min)
- Equivalent Noise Resistance: $\leq 3\% R_n$ (3 Ω min)
- Operating Temperature**: -25°C +70°C (-13°F +158°F)

HOW TO ORDER

OPTIONAL EXTRAS



NOTES:

(1) Adjust. type: «X» is only available with horizontal adjusting method.

(2) Value: – Code: $\overbrace{22}^{\text{First two digits.}} \overbrace{1}^{\text{Number of zeros.}} = 220\Omega$
– 000 = CM = switch version (contact us)

(3) Tolerance (non standard, custom): check availability..... Code eg.: $\begin{matrix} +7 \\ -5 \end{matrix} = \overbrace{07}^{\text{Negative tolerance}} \overbrace{05}^{\text{Positive tolerance}}$

(4) Life: • Standard = 1000 cycles • Long = 10K cycles (non-detented models)

(5) Only for "V" mounting method. "W" rotor with shaft Fig. 2 is not available in magazines.

(6) Potentiometer without knob or shaft, only the rotor. Potentiometer with knob or shaft, only the knob/shaft. Default colour for knob/shaft is cream. Shaft only available in cream or black colour.

Online product configurator: <https://piher.net/configurator/2017/08/24/pt6-6-configurator-potentiometer/>

HOW TO ORDER CUSTOM DRAWING

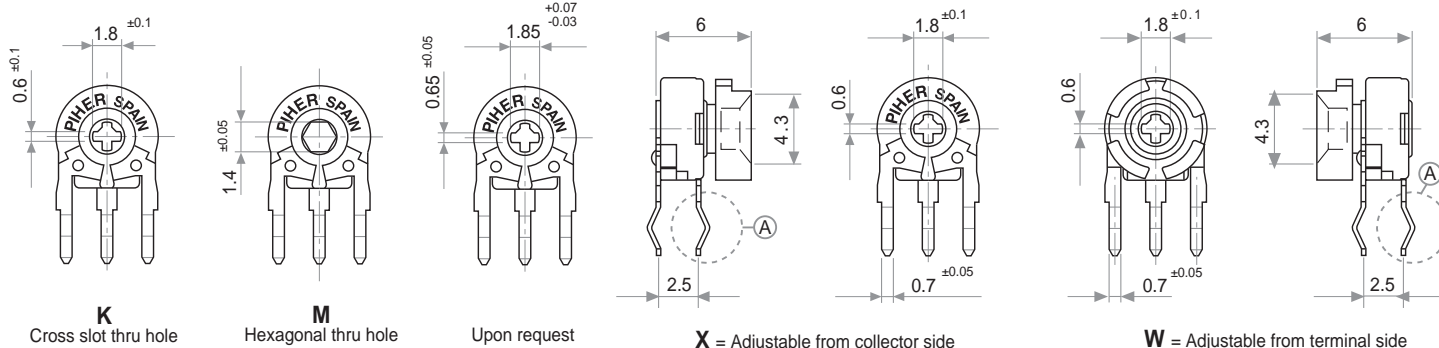
PT-6 KV + DRAWING NUMBER (Max. 16 characters)

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

STANDARD OPTIONS

Packing	Bulk
Rotor colour	White
Wiper position	Initial
Crimping	Yes
Knob colour	White
Mechanical life	1000 cycles

ROTORS

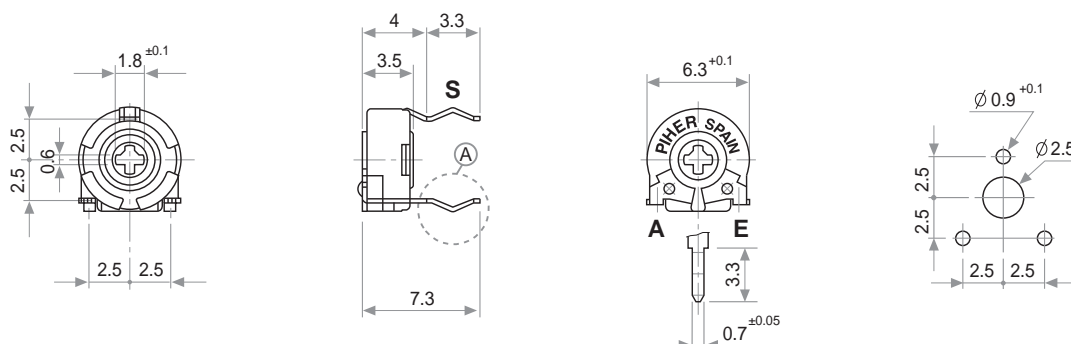


Wipers are shown positioned at 50% for the picture

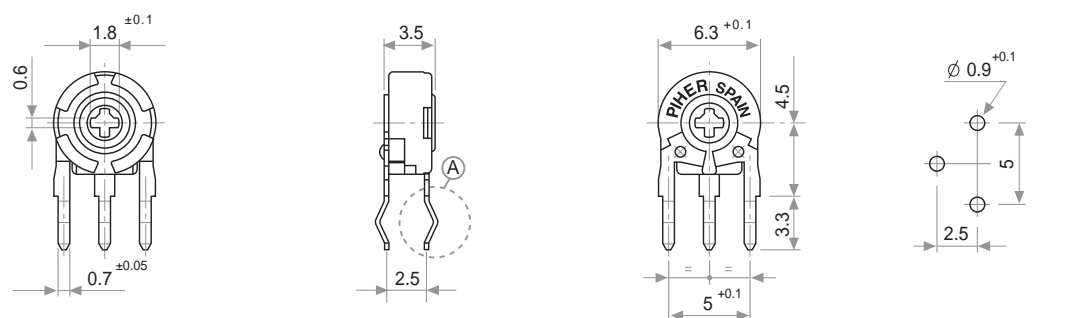
With inserted knob / shaft. Default knob is ref. 5155

MOUNTING METHODS. VARIATIONS

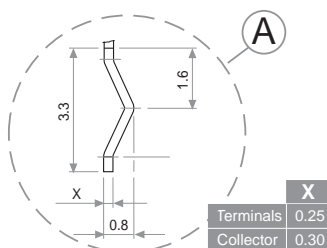
V = Horizontal mounting / Vertical adjust



H = Vertical mounting / Horizontal adjust

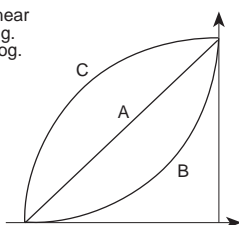


DETAIL A

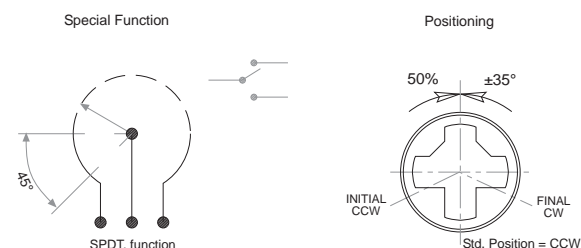


TAPERS

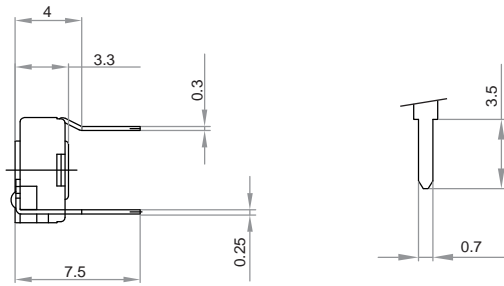
A = Linear
B = Log.
C = Alog.



OPTIONS



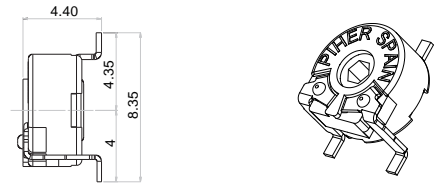
NOT-CRIMPED TERMINALS DIMENSIONS



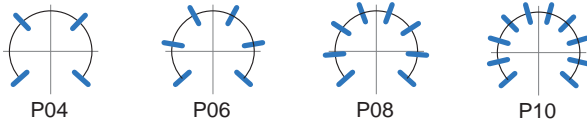
SMD VERSION

SMD / SMT version available:

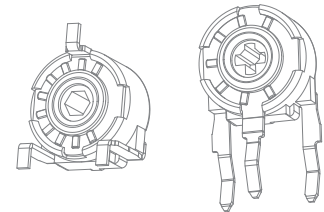
See N-6 and PS(x)-6 product datasheets at: www.piher.net



STANDARD DETENT CONFIGURATIONS



— Relative detent positions along the total mechanical travel.



Examples of custom configurations.

NOTES FOR DETENTED VERSIONS:

- (1) All detented versions will be studied case by case. Contact Piher for leadtimes and availability.
- (2) Others check availability. Unless otherwise specified the detents are evenly spaced (using the end points as reference).

For more than 10 detents versions please contact your nearest PIHER authorised distributor.

- (3) Standard mechanical life: 100 cycles.

- (4) Long life versions are available under request and have the following characteristics at T^a:
 - Potentiometers with 1 to 3 detents: up to 10K cycles.
 - Potentiometers with 4 and more detents: up to 5K cycles.

- (5) Detent torque can vary from 1.2 to 2.5 times the standard potentiometer torque.

PACKAGING

BOXES

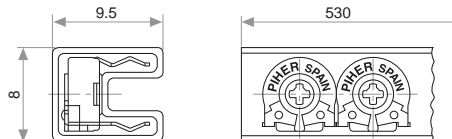
Model

All

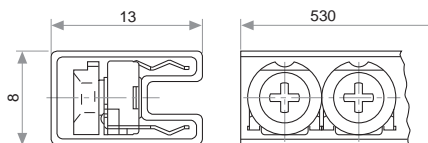
Units

1.000

Magazines for PT-6 V with or without crimp.



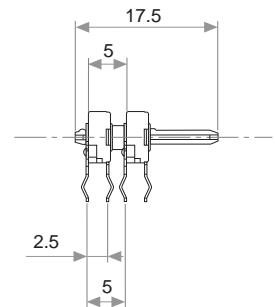
Magazines for PT-6 WV with or without crimp.



PT-6 DUAL GANG VERSION

Ref.: 6060

For PT-6 dual gang version contact your nearest PIHER supplier



AUTOMATIC INSERTION

Magazines

PT-6 V & PT-6 WV

Units per magazine

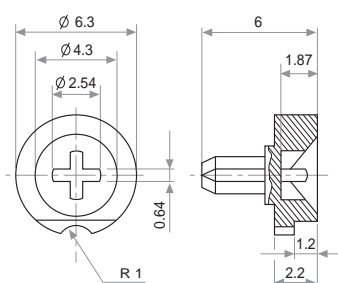
80 Pieces

KNOBS

If you wish to use your own custom plastic shaft/knob/actuator please contact Piher for advice about compatible materials.

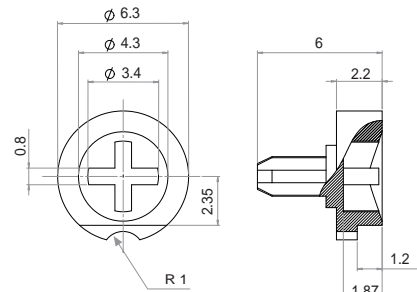
Ref.: 5155 / Fig. 1

Default knob. Standard colour: white.



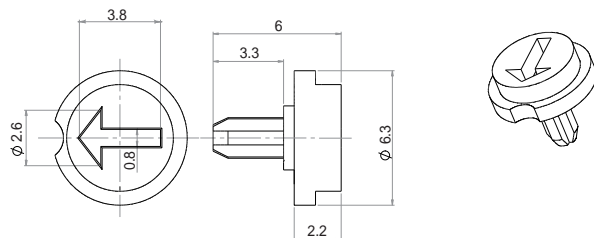
Ref.: 5141 / Fig. 3

Colour: grey. For other colours check availability.



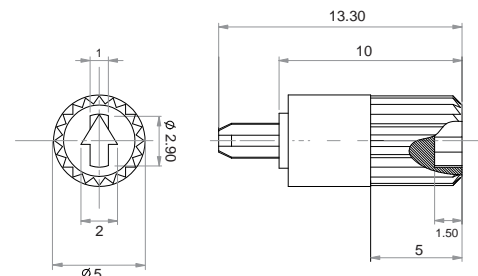
Ref.: 6172

Colour: grey. For other colours check availability.



Ref.: 6132 / Fig. 2

Shaft. Not suitable for magazine packaging



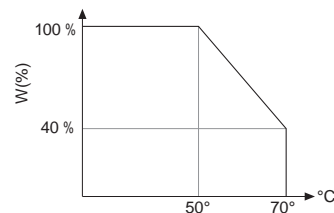
TESTS

ELECTRICAL LIFE	1.000 h. @ 50°C: 0.1 W
MECHANICAL LIFE (CYCLES)	1000 @ 10 CPM ... 15 CPM
TEMPERATURE COEFFICIENT	-25°C; +70°C
THERMAL CYCLING	16 h. @ 85°C; 2h. @ -25°C
DAMP HEAT	500 h. @ 40°C @ 95% HR
VIBRATION (for each plane X,Y,Z)	2 h. @ 10 Hz. ... 55 Hz.

TYPICAL VARIATIONS

±5 %
±4 % (Rn < 1 M Ω)
±300 ppm (Rn < 100 K)
±2.5 %
±5 %
±2 %

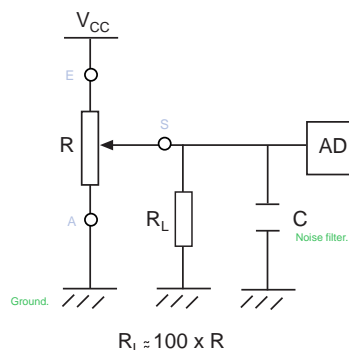
POWER RATING CURVE



NOTE: Out of range values may not comply with these results.

RECOMMENDED CONNECTIONS

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



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The product information in this catalogue is for reference purposes. Please consult for the most up to date and accurate design information.

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Note: Piher products can be adapted to meet customer's requirements.
Due to continuous process improvement, specifications are subject to change without notice.

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