

## FEATURES

- Carbon resistive element
- Dust proof enclosure
- Polyester substrate
- Also upon request:
  - Wiper positioned at 50% or fully clockwise.
  - Supplied in magazines for automatic insertion.
  - Long life model for low cost control potentiometer applications
  - Self extinguishable plastic UL 94V-0
  - Cut track option
  - Special tapers
  - Mechanical detents
  - Low & extra low torque versions
  - Special switch option
  - 3% Linearity and 100K cycles mechanical life

## MECHANICAL SPECIFICATIONS

- Mechanical rotation angle:  $235^\circ \pm 5^\circ$
- Electrical rotation angle:  $220^\circ \pm 20^\circ$
- Torque: 0.4 to 2 Ncm. (0.6 to 2.7 in-oz)
- Stop torque:  $> 5$  Ncm. ( $> 7$  in-oz)
- Life\*: Up to 10.000 cycles

\* Others upon request

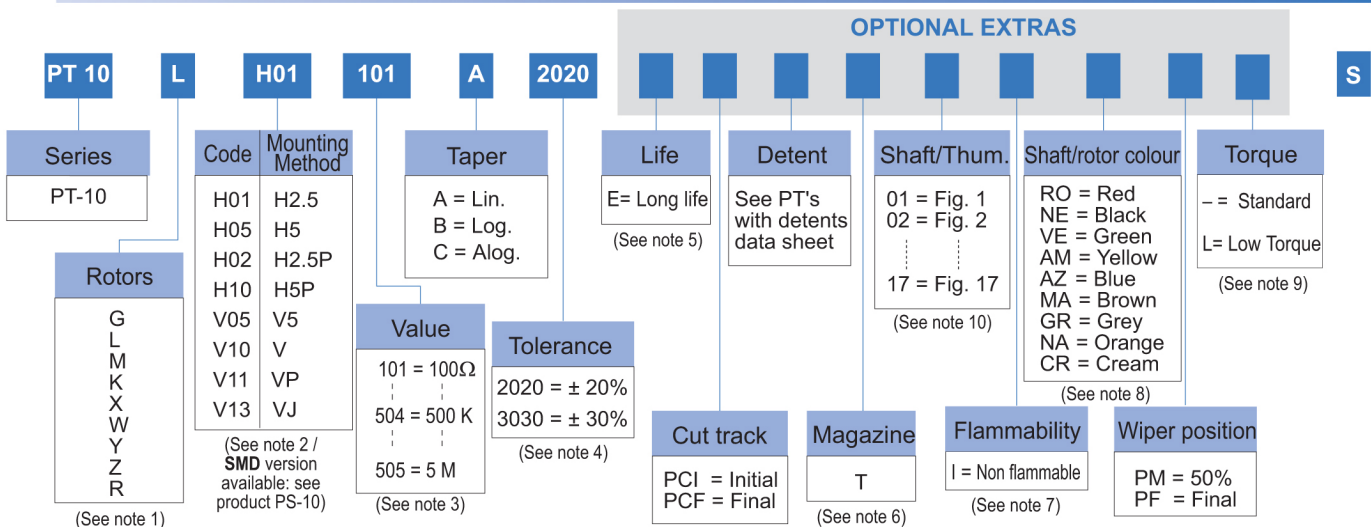
## ELECTRICAL SPECIFICATIONS

- 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  $50^\circ\text{C}$  ( $122^\circ\text{F}$ ) (see power rating curve)  
0.15 W (lin) 0.07 W (no lin)
- Taper (\*) (Log. & Alog. only  $R_n \geq 1K$ ) 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\*\*:  $-25^\circ\text{C}$  +  $70^\circ\text{C}$  ( $-13^\circ\text{F}$  +  $158^\circ\text{F}$ )

(\*) Others upon request

\*\* Up to  $85^\circ\text{C}$  depending on application

## HOW TO ORDER



### NOTES:

- "Z" adjustment only available on "H" versions. Rotor "G" only available in purple (shaft/rotor colour "VI").
- Terminals styles: "P" & "J" are crimped. V=Vertical adjust; H=Horizontal Adjust
- Value Example: Code:  $\overset{10}{\text{10}} \overset{1}{\text{1}} \overset{100}{\text{00}}$   
 ↳ Num of zeros  
 ↳ First two digits of the value.
- Non standard tolerance, upon request. Example:  $+7\%$  Code:  $\overset{07}{\text{07}} \overset{05}{\text{05}}$   
 ↳ negative tolerance  
 ↳ positive tolerance
- Up to 10.000 cycles. Others upon request.
- Magazines: not available with the H10, V05 and V13 models, nor with adjustment types X, W, Y, Z.
- Non flammable: housing, rotor and shaft. According to UL 94V-0
- Colour shaft/rotor:
  - Potentiometer without shaft: only rotor
  - Potentiometer with shaft: only shaft
  - Cream colour only available in standard plastic.
- Low Torque: 0.25 to 1 Ncm (per pot.)  
No detent option available for low torque models.
- If you wish to use your own custom plastic shaft/knob/actuator please contact Piher for advice about compatible materials.

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

## HOW TO ORDER CUSTOM DRAWING

PT-10 LH 01 + DRAWING NUMBER (Max. 16 characters)

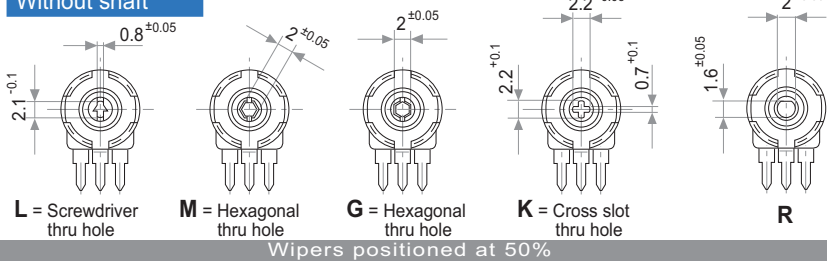
This way of ordering should be used for options which are not included in the "How to order" standard and optional extras.

## STANDARD OPTIONS

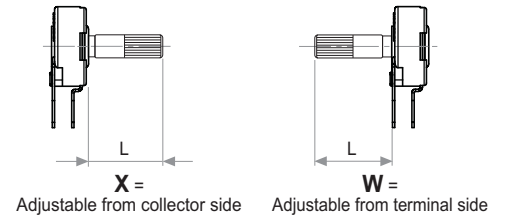
Cut track	-----	No
Detents	-----	None
Packing	-----	Bulk
Non flammable	-----	No
Rotor colour	-----	White
Shaft colour	-----	Natural
Wiper position	-----	Initial
Torque	-----	Standard

## ROTORS

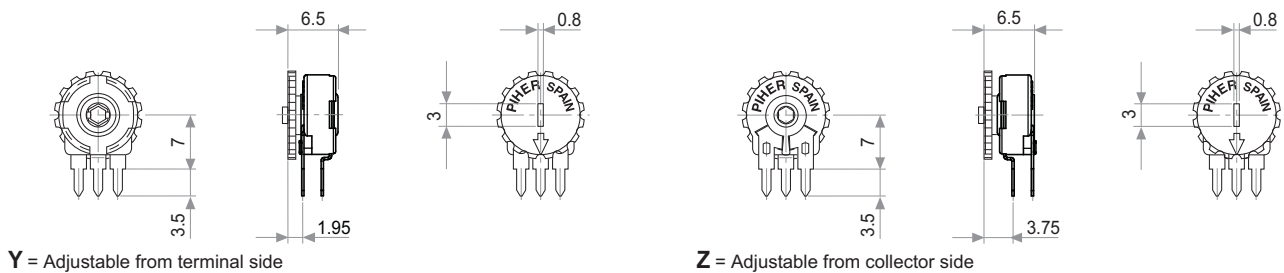
### Without shaft



### With shaft

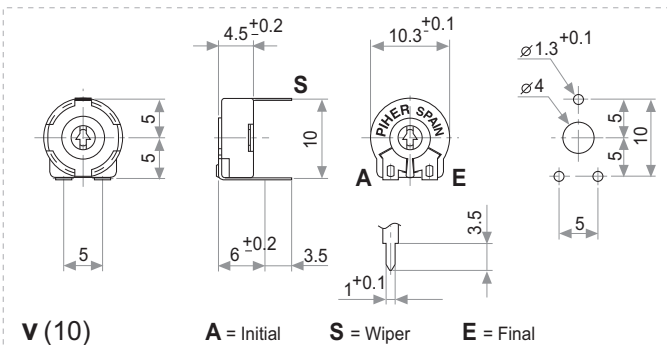


### With thumbwheel

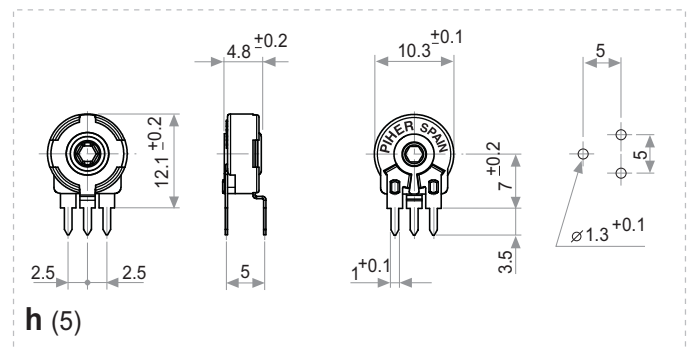
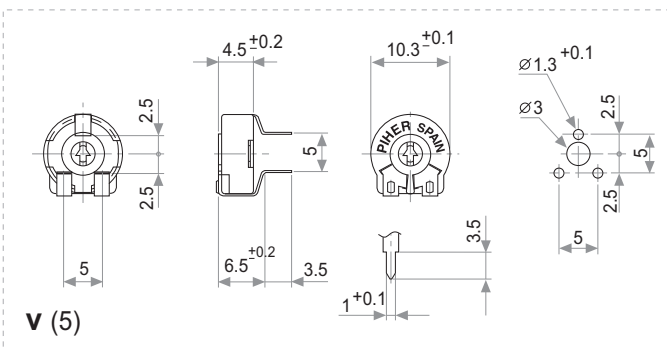
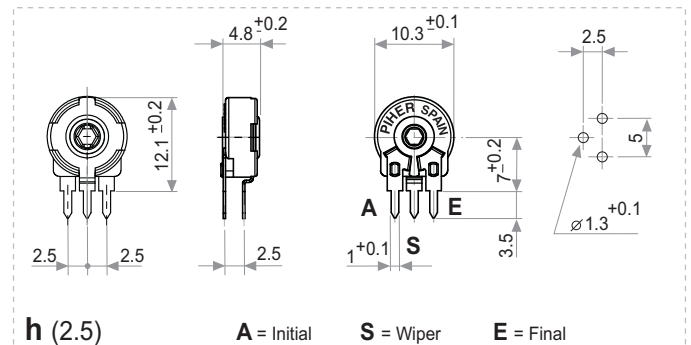


## MOUNTING METHODS

v = horizontal mount – vertical adjust

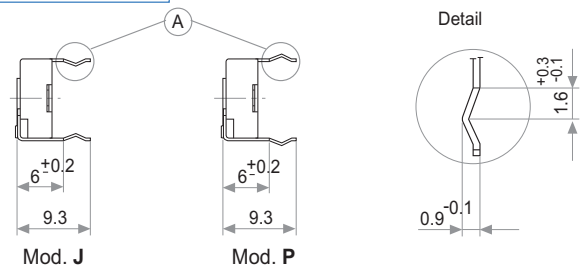


h = vertical mount – horizontal adjust



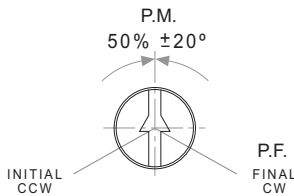
NOTE = Please note relative terminal positions when ordering non linear tapers.

### Crimped terminals

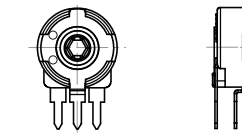


## OPTIONS

Positioning (Std. Position = CCW)



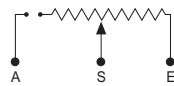
Special SWITCH (Upon request)



(Rotor at Final Position)

Mechanical Rotation Angle: 45°  
Housing Colour: Green

CUT TRACK  
CCW on-off (A)



A = Initial

E = Final

S = Wiper

CW on-off (E)

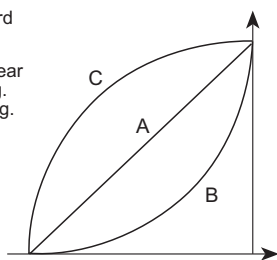


## TAPERS

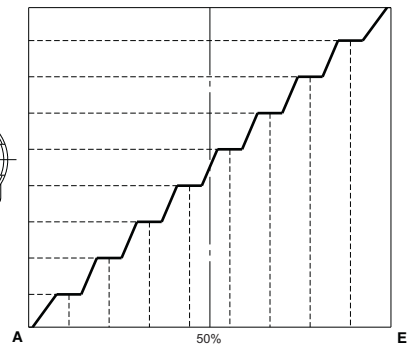
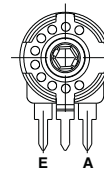
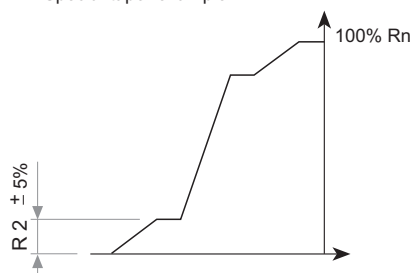
↓ Detents combined with silver zones - click here

Standard

A = Linear  
B = Log.  
C = Alog.



Special taper example



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

## TESTS

## TYPICAL VARIATIONS

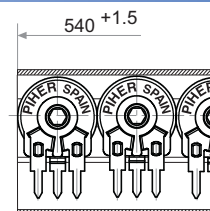
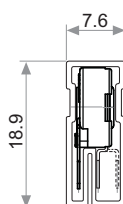
ELECTRICAL LIFE	1.000 h. @ 50°C; 0.15 W	±5 %
MECHANICAL LIFE (CYCLES)	500 @ 10 CPM ...15 CPM	±3 % (Rn < 1 M Ω)
TEMPERATURE COEFFICIENT	-25°C; +70°C	±300 ppm (Rn <100 K)
THERMAL CYCLING	16 h. @ 85°C; 2h. @ -25°C	±2.5 %
DAMP HEAT	500 h. @ 40°C @ 95% HR	±5 %
VIBRATION (for each plane X,Y,Z)	2 h. @ 10 Hz. ... 55 Hz.	±2 %

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

## PACKAGING

BOXES

Model	Units
Without shaft	1000 (80 x 85 x 185 mm.)
With thumbwheel	800 (80 x 85 x 185 mm.)
With shaft	400 (80 x 85 x 185 mm.)

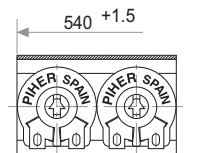
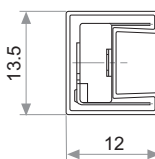


Magazines for PT-10 h 2.5; h 5

Also crimped term. h 2.5 P

AUTOMATIC INSERTION

Magazines	Units per magazine
PT-10H & PT-10V	50 Pieces

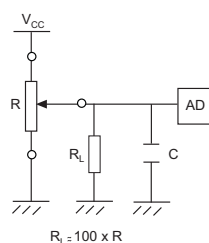


Magazines for PT-10 V

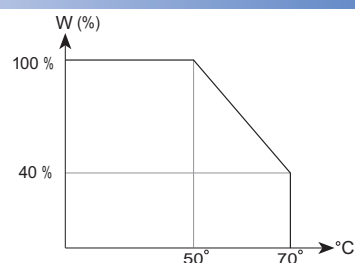
Also crimped term. VP

## RECOMMENDED CONNECTION

Recommended connection scheme for Piher's position sensors (voltage divider)



## POWER RATING CURVE



# SHAFTS

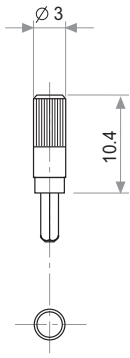


Fig. 1 / Ref. 5016

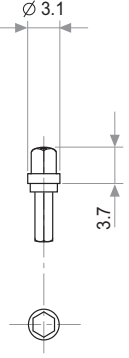


Fig. 2 / Ref. 5053

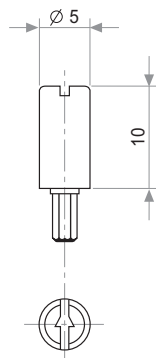


Fig. 3 / Ref. 5012

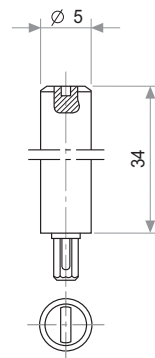


Fig. 4 / Ref. 6053

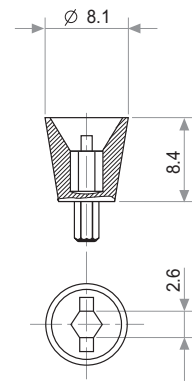


Fig. 6 / Ref. 5035

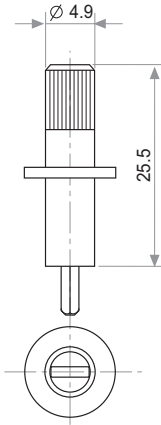


Fig. 7 / Ref. 5115

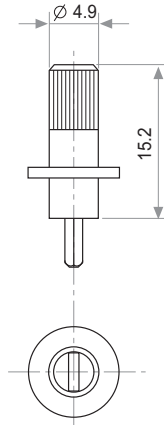


Fig. 8 / Ref. 5116

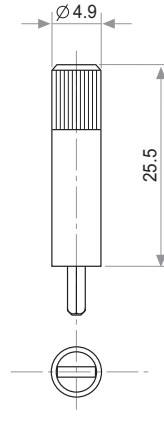


Fig. 9 / Ref. 5119

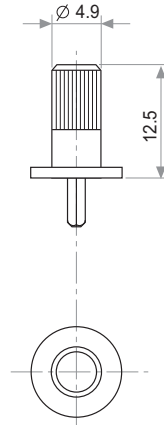


Fig. 10 / Ref. 5120

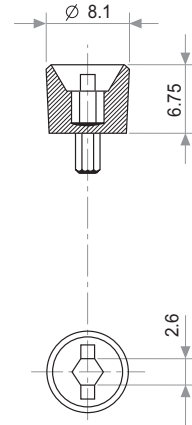


Fig. 11 / Ref. 5027

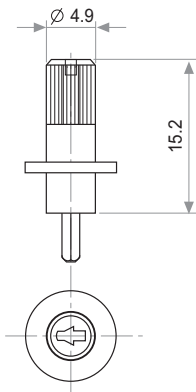


Fig. 12 / Ref. 6052

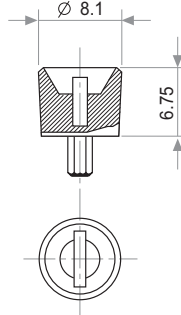


Fig. 13 / Ref. 5121

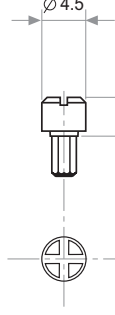
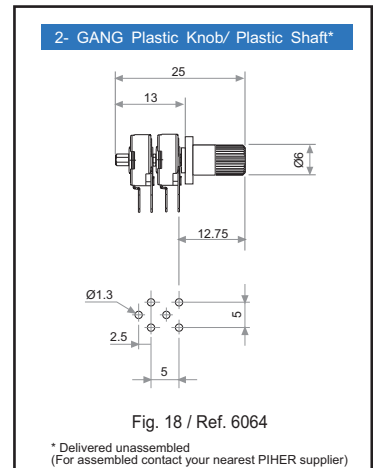


Fig. 14 / Ref. 5055



# THUMBWHEELS

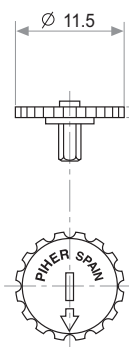


Fig. 5 / Ref. 5034

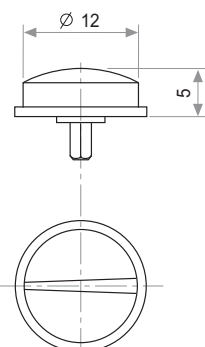


Fig. 15 / Ref. 6008

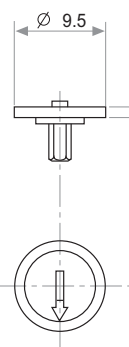


Fig. 16 / Ref. 5039

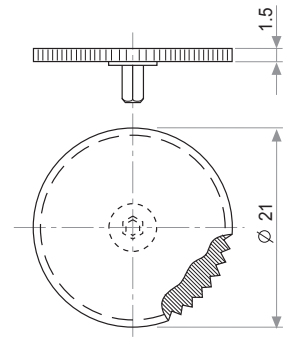


Fig. 17 / Ref. 5062

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