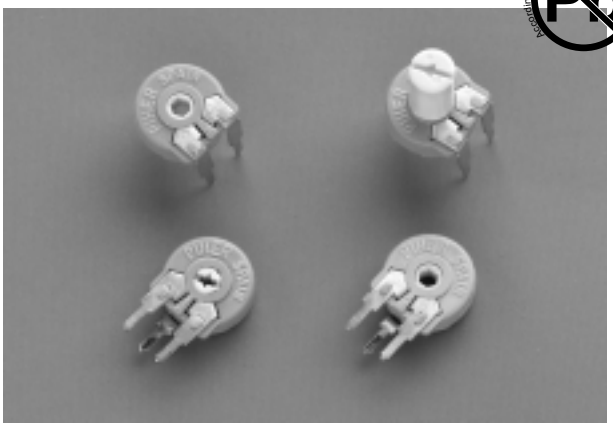
PIHER

PTC-10 10 mm Cermet Potentiometer



FEATURES

- Cermet resistive element.
- Dust proof enclosure.
- Plastic material according to UL94V-0
- Alumina substrate.
- Also upon request:
  - Wiper positioned at 50% or fully clockwise.
  - Supplied in magazines for automatic insertion.
  - Long life model for low cost control pot. applications
  - Special tapers
  - Mechanical detents
  - Low & extra low torque versions
  - Available as SPDT switch
  - Laser trimming for tighter tolerances

MECHANICAL SPECIFICATIONS

– Mechanical rotation angle:	235° ± 5°
– Electrical rotation angle:	220° ± 20°
– Torque:	0.4 to 2 Ncm. (0.6 to 2.7 in-oz)
– Stop torque:	> 5 Ncm. (>7 in-oz)

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: 200 VDC (lin) 100 VDC (no lin)

– Nominal Power 70°C (158°F) (see power rating curve)
0.33 W (lin) 0.17 W (no lin)

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

– Residual resistance: ≤ 5.10^{-3} Rn (2 Ω min.)

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

– Operating temperature: –40°C + 90°C (–40°F + 194°F)

(*) Others upon request

HOW TO ORDER

STANDARD | OPTIONAL EXTRAS

PTC-10	L	H01	101	A	2020								
Series	Rotors	Code / Mounting Method	Value	Taper	Tolerance	Life	Detent	Magazine	Shaft /Thum.	Shaft / rotor colour	Wiper position	Torque
PTC-10	G L M K X W Y Z R (See note 1)	H01 H2.5 H05 H5 H02 H2.5P H10 H5P V05 V5 V10 V V11 VP V13 VJ (See note 2)	101 = 100Ω 504 = 500 K 505 = 5 M 000 = C M (See note 3)	A = Lin. B = Log. C = Alog.	2020 = ± 20% 3030 = ± 30% (See note 4)	E= Long life (See note 5)	See PT`s with detents data sheet	T (See note 6)	01 = Fig. 1 02 = Fig. 2 17 = Fig. 17	RO= Red NE= Black VE= Green AM= Yellow AZ= Blue MA= Brown GR= Grey NA= Orange (See note 7)	PM = 50% PF = Final	– = Standard L= Low Torque X = Extra Low Torque (See note 8)

NOTES:

(1) "Z" adjustment only available on "H" versions. Rotor "G" only available in purple (shaft/rotor colour "VI").

(2) Terminal styles: "P" & "J" are crimped terminals

(3) Value Example: Code: 10 1 = 100 Ω
10 → First two digits of the value.
1 → Numb of zeros
000 = CM: SPDT switch 45°

(4) Non standard tolerance, upon request. Example: +7% -5% Code: 07 05
07 → negative tolerance
05 → positive tolerance

(5) Life • Standard 100 cycles
• Long life 10000 cycles

(6) Magazines: not available with the H10, V05 and V13 models, nor with adjustment types X, W, Y, Z.
Non flammable: housing, rotor and shaft.

(7) Colour shaft/rotor: • Potentiometer without shaft: only rotor • Potentiometer with shaft: only shaft

(8) Low Torque: 0.25 to 1 Ncm (per pot.)
Extra Low Torque: 0.1 to 0.4 Ncm (per pot.). Only available on "H" models without crimping
No detent option available for low and extra low torque models. No shaft or thumbwheel option for extra low torque models.

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

HOW TO ORDER CUSTOM DRAWING

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

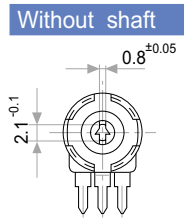
This way of ordering should be used for options which are not included in the "How to order" standard and optional extras.

STANDARD OPTIONS

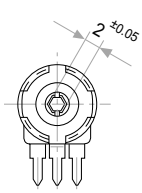
Mechanical Life	100 cycles
Detents	None
Packing	Bulk
Rotor colour	Natural
Shaft colour	Natural
Wiper position	Initial
Torque	Standard

ROTORS

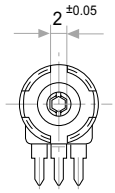
Without shaft



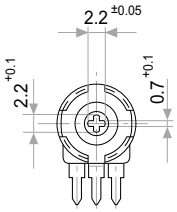
L = Screwdriver thru hole



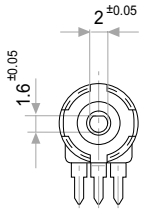
M = Hexagonal thru hole



G = Hexagonal thru hole



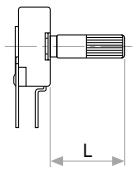
K = Cross slot thru hole



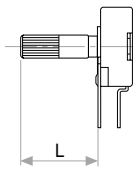
R

Wipers positioned at 50%

With shaft

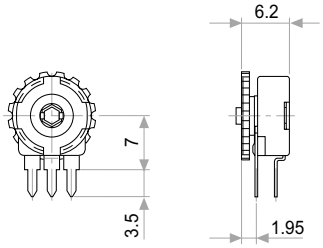


X = Adjustable from collector side

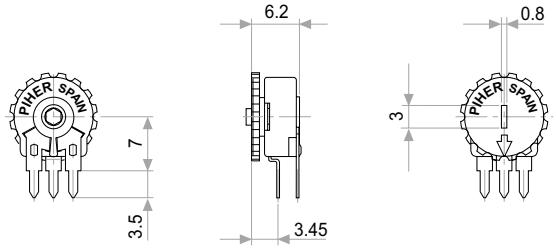


W = Adjustable from terminal side

With thumbwheel



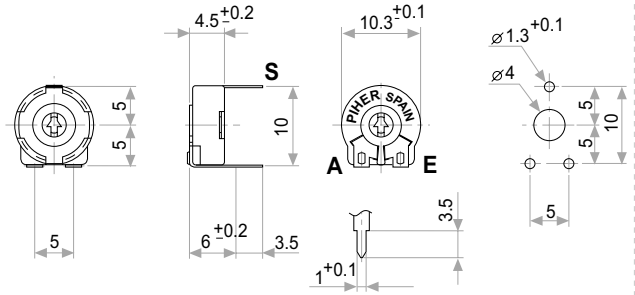
Y = Adjustable from terminal side



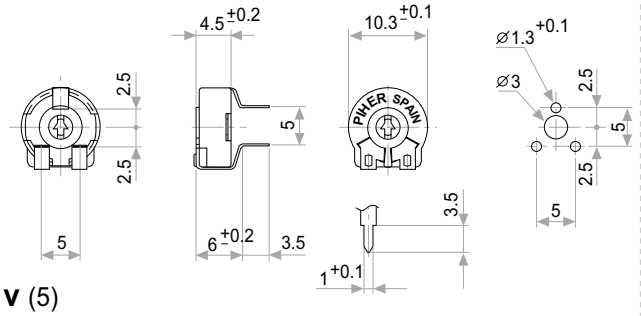
Z = Adjustable from collector side

MOUNTING METHODS

v = horizontal mount – vertical adjust

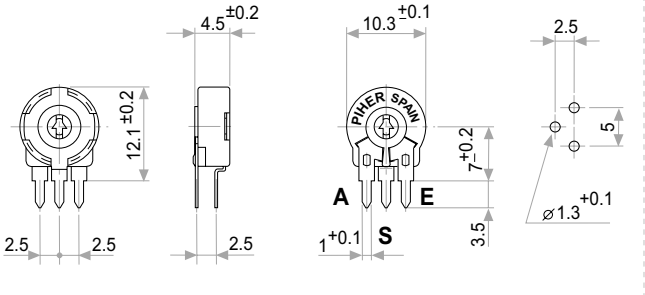


v (10) **A** = Initial **S** = Wiper **E** = Final

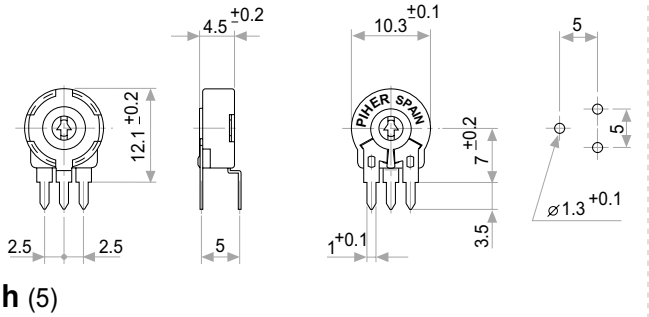


v (5)

h = vertical mount – horizontal adjust



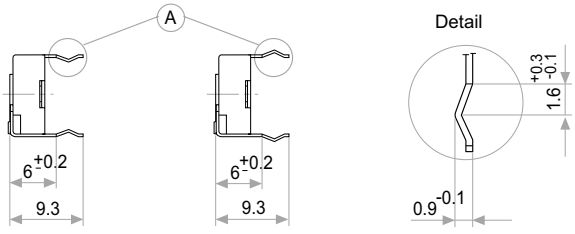
h (2,5) **A** = Initial **S** = Wiper **E** = Final



h (5)

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

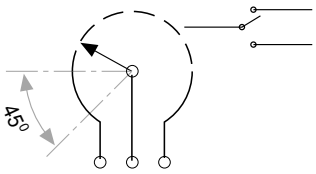
Crimped terminals



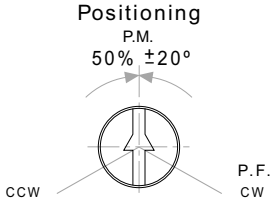
Mod. **J** Mod. **P**

OPTIONS

SPDT SWITCH

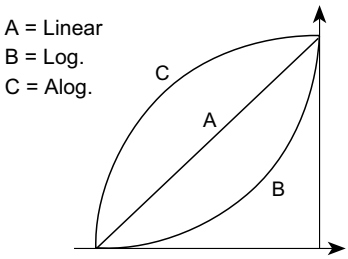


Positioning

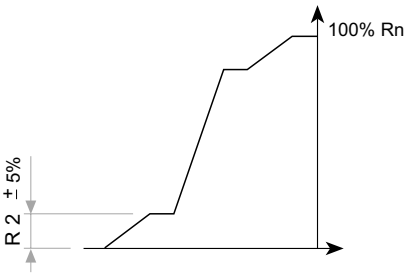


Std. Position = CCW

TAPERS

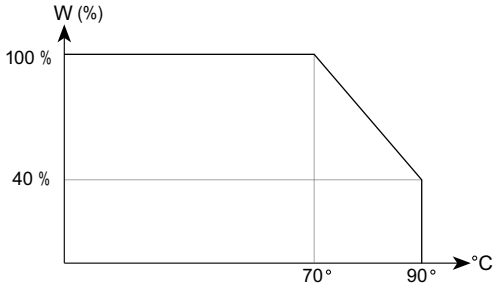


Standard



Special example

POWER RATING CURVE



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

TESTS — TYPICAL VARIATIONS

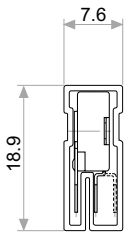
ELECTRICAL LIFE	1.000 h. @ 70°C; 0.33 W	±5 %
MECHANICAL LIFE (CYCLES)	100 @ 10 CPM ...15 CPM	±3 % (Rn < 1 MΩ)
TEMPERATURE COEFFICIENT	–40°C; +90°C	±100 ppm (Rn <100 ±K)
THERMAL CYCLING	16 h. @ 90°C; 2h. @ –40°C	±2.5 %
DAMP HEAT	500 h. @ 40°C @ 95% HR	±5 %
VIBRATION (for each plane X,Y,Z)	2 h. @ 10 Hz. ... 55 Hz.	2 %

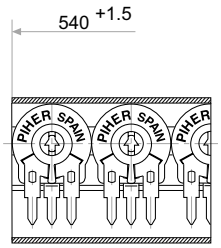
NOTE: Out of range values may not comply these results.

PACKAGING

BOXES

Model	Units
Without shaft	500 (40 x 85 x 185 mm.)
With thumbwheel	400 (40 x 85 x 185 mm.)
With shaft	200 (40 x 85 x 185 mm.)



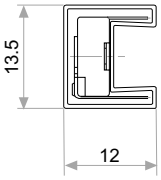


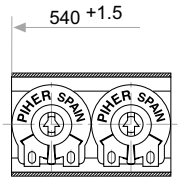
Magazines for PTC-10 h 2.5; h 5

Also crimped term. h 2.5 P

AUTOMATIC INSERTION

Magazines	Units
PTC-10H & PTC-10V	50 Pieces





Magazines for PTC-10 V

Also crimped term. VP

SHAFTS

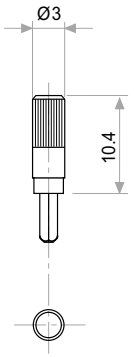


Fig. 1 / Ref. 5016

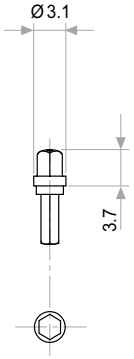


Fig. 2 / Ref. 5053

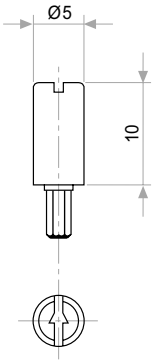


Fig. 3 / Ref. 5012

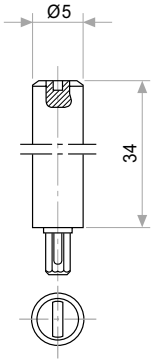


Fig. 4 / Ref. 6053

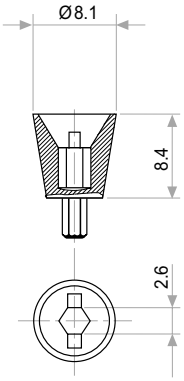


Fig. 6 / Ref. 5035

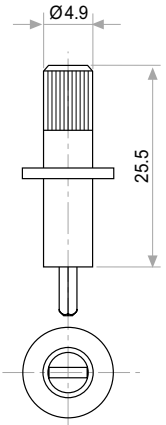


Fig. 7 / Ref. 5115

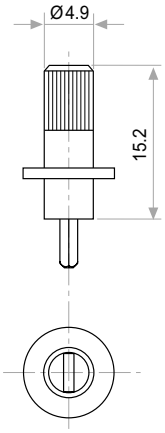


Fig. 8 / Ref. 5116

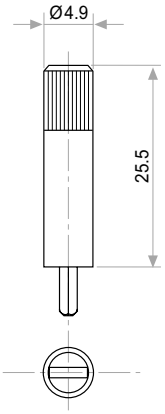


Fig. 9 / Ref. 5119

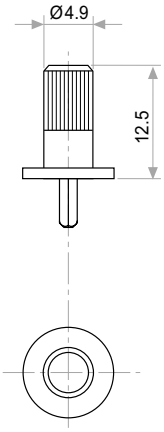


Fig. 10 / Ref. 5120

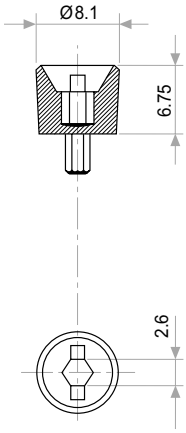


Fig. 11 / Ref. 5027

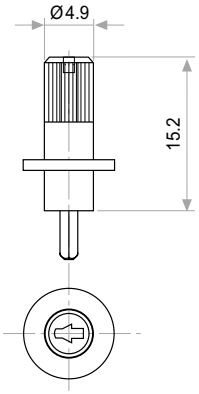


Fig. 12 / Ref. 6052

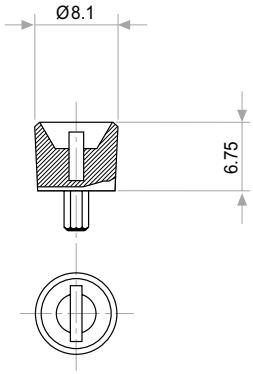


Fig. 13 / Ref. 5121

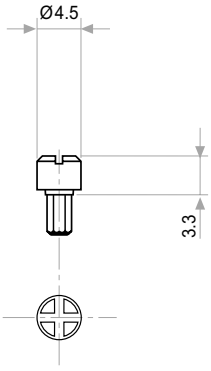


Fig. 14 / Ref. 5055

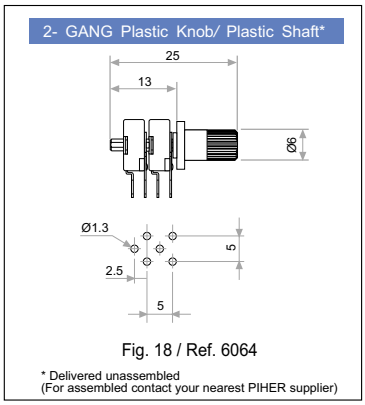


Fig. 18 / Ref. 6064

* Delivered unassembled
(For assembled contact your nearest PIHER supplier)

THUMBWHEELS

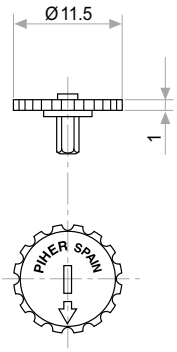


Fig. 5 / Ref. 5034

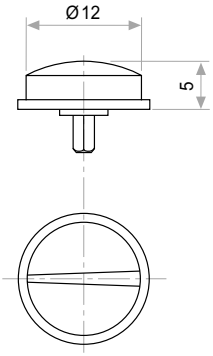


Fig. 15 / Ref. 6008

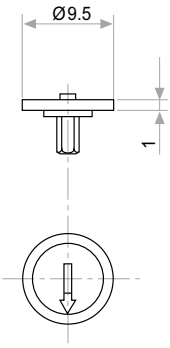


Fig. 16 / Ref. 5039

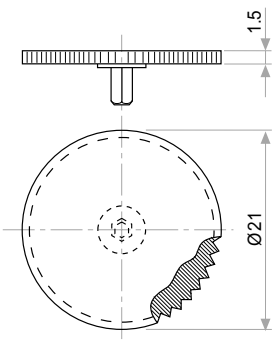


Fig. 17 / Ref. 5062