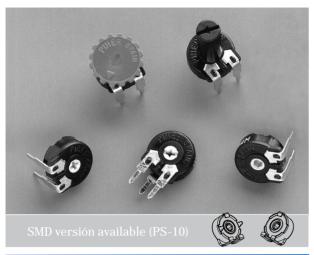
PIHER



MECHANICAL SPECIFICATIONS

- Mechanical rotation angle: $235^{\circ} + 5^{\circ}$ - 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) -Life*: Up to 10.000 cycles

* Others upon request

PT-10

10 mm Carbon Potentiometer

- · Carbon resistive element
- Dust proof enclosure
- Polvester 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 torque version
 - · Special switch option
 - 3% Linearity and 100K cycles mechanical life

ELECTRICAL SPECIFICATIONS

- Range of values (*)

 $100\Omega \le Rn \le 5 M \text{ (Decad. } 1.0 - 2.0 - 2.2 - 2.5 - 4.7 - 5.0)$

- Tolerance (*): $100\Omega \le Rn \le 1M \Omega = 20\%$ $1M\Omega$ < Rn \leq 5M Ω ± 30%

- Max. Voltage: 200 VDC (lin) 100 VDC (no lin)

- Nominal Power 50°C (122°F) (see power rating curve) 0.15 W (lin) 0.07 W (no lin)

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

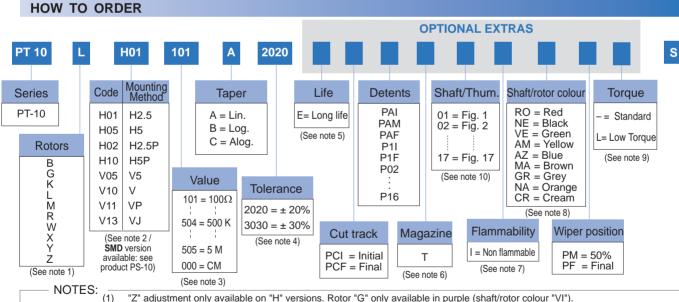
- Residual resistance(*): $\leq 0.5 \%$ Rn (5Ω min.)

- Equivalent Noise Resistance: \leq 3% Rn (3 Ω min.)

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

negative tolerance

** Up to 85°C depending on application (*) Others upon request



- Terminals styles: "P" & "J" are crimped. V=Vertical adjust; H=Horizontal Adjust (2)
- (3) Example: Code: 10 100 Ω 000 = CM = Switch version (contact us) Numb of zeros First two digits of the value. (4) Non standard tolerance, upon request. Example: +7%

Code: 07

- Up to 10.000 cycles. (5) Others upon request positive tolerance
- (6)Magazines: not available with the H10, V05 and V13 models, nor with adjustment types X, W, Y, Z. (7) Non flammable: housing, rotor and shaft. According to UL 94V-0
- Colour shaft/rotor: • Potentiometer without shaft: only rotor · Potentiometer with shaft: only shaft (8)
 - · Cream colour only available in standard plastic.
- (9)Low Torque: < 1 Ncm 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.



HOW TO ORDER CUSTOM DRAWING

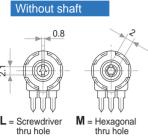
STANDARD OPTIONS

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

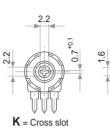
This way of ordering should be used for options which are not included in the "How to order" standard and optional extras.

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

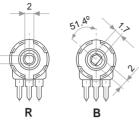
ROTORS

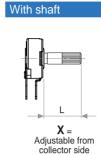


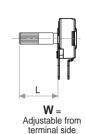




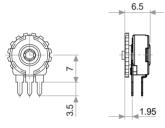
thru hole



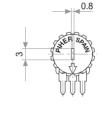


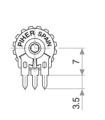


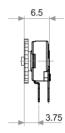
With thumbwheel

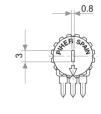


thru hole









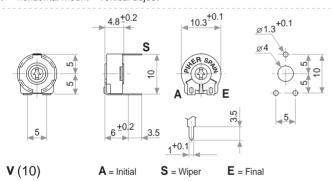
E = Final

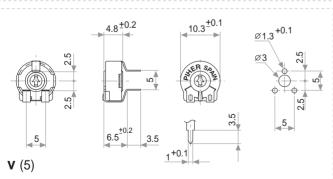
Y = Adjustable from terminal side

Z = Adjustable from collector side

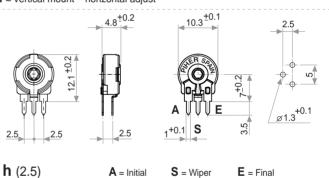
MOUNTING METHODS

V = horizontal mount - vertical adjust

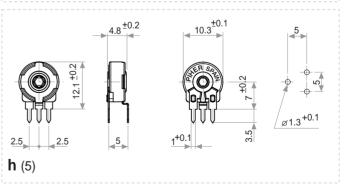




h = vertical mount – horizontal adjust



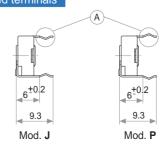
A = Initial

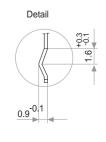


S = Wiper

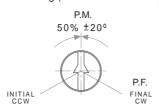
NOTE = Please note relative terminal positions when ordering non linear tapers.

Crimped terminals

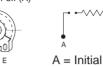




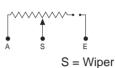
Positioning (Std. Position = CCW)





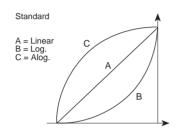


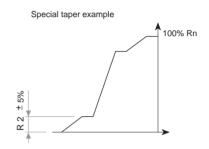
E = Final





TAPERS





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

TESTS TYPICAL VARIATIONS

ELECTRICAL LIFE
MECHANICAL LIFE (CYCLES)
TEMPERATURE COEFFICIENT
THERMAL CYCLING
DAMP HEAT

VIBRATION (for each plane X,Y,Z)

1.000 h. @ 50°C; 0.15 W 500 @ 10 CPM ...15 CPM -25°C; +70°C 16 h. @ 85°C; 2h. @ -25°C 500 h. @ 40°C @ 95% HR

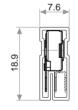
2 h. @ 10 Hz. ... 55 Hz.

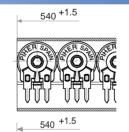
±5 % ±3 % (Rn < 1 M Ω) ±300 ppm (Rn <100 K) ±2.5 % ±5 % ±2 %

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



-41-

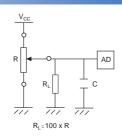


Magazines for PT-10 V

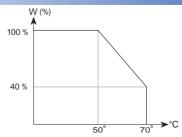
Also crimped term. VP

RECOMMENDED CONNECTION

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

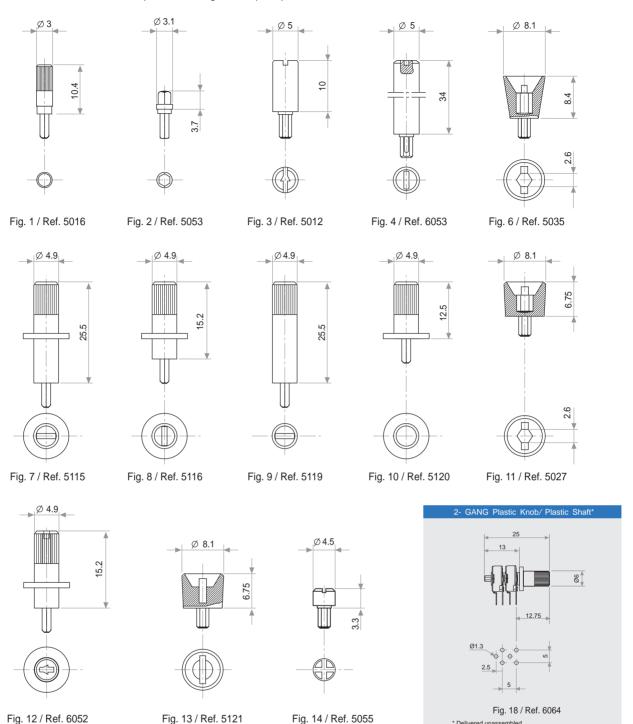


POWER RATING CURVE



SHAFTS (for G and M rotor types, top view)

Shafts, knobs & thumbweels are delivered at random position. Positioning available upon request.



THUMBWHEELS (for G and M rotor types, top view)

Shafts, knobs & thumbweels are delivered at random position. Positioning available upon request.

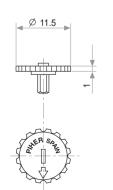
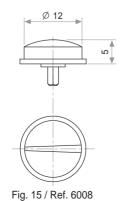


Fig. 5 / Ref. 5034



Ø 9.5 Fig. 16 / Ref. 5039

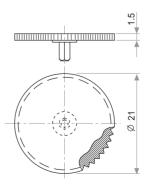
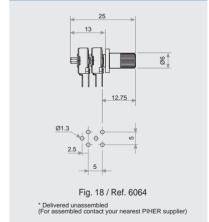
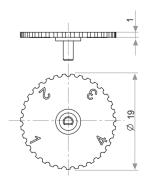


Fig. 17 / Ref. 5062



THUMBWHEEL

Marking: configurable number of positions. Example of four positions marking:



Upon request

DETENT CONFIGURATIONS EXAMPLES

This innovative PT's with detents family has been specifically developed to allow the integration of otherwise large and expensive external mechanisms into the body of the majority of the 10 & 15 mm. PS/PT/PTC potentiometer series thus allowing a high range of configurations: special tapers, torque, tolerances, linearity, cut track, etc.

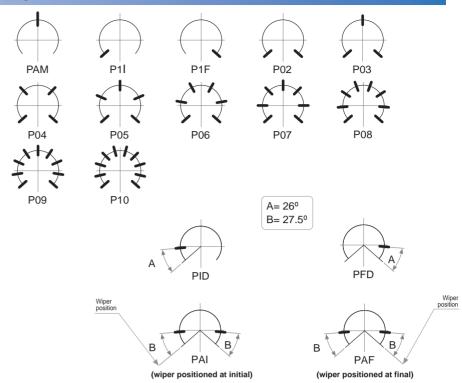
This detent design not only adds a "click" sensation of position, but also offers enormous savings in both cost and space for any given application.

Strong and weak detents can be mixed as per cutomer's request.

Detent number and positions can be made or fitted to the customer needs or preferences.

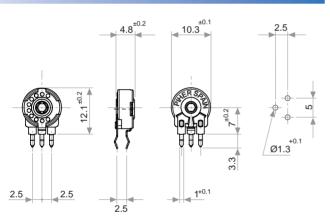
 Relative detent positions along the total mechanical travel.
 Unless otherwise specified the detents are evenly spaced (using the end points as reference)

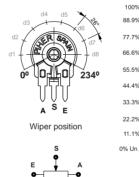
*For more than 10 detents versions please contact your nearest PHER distributor. Mechanical and/or electrical features may be affected by detents. Please see our separate PTs with detents datasheet at www.piher.net

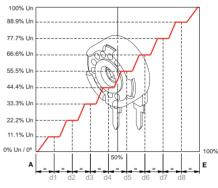


DETENT DETAILS

DETENTS COMBINED WITH SILVER ZONES

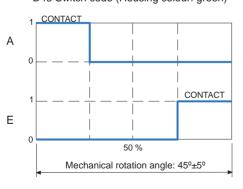




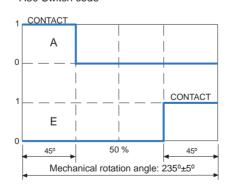


STANDARD SWITCH VERSIONS

D48 Switch code (Housing colour: green)



A80 Switch code





SW Standard specs.

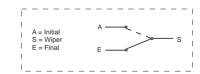
Power Rating: 24V / 15mA

ON position resistance

ON position resistance: $\leq 5~\Omega$ Insulation Resistance: $\geq 30~\text{M}\Omega$

Please contact Piher for ordering information.

(Rotor at Final Position)



Disclaimer

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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