

MECHANICAL SPECIFICATIONS

- Mechanical rotation angle: $265^{\circ} \pm 5^{\circ}$ - Electrical rotation angle: 240° ± 20°

- Torque: 0.5 to 2.5 Ncm.

(0.7 to 3.4 in-oz)

- Stop torque: > 10 Ncm. (>14 in-oz)

PTC-15 15 mm Cermet Potentiometer

FEATURES

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

ELECTRICAL SPECIFICATIONS

- Range of values (*)

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

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

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

- Nominal Power 70°C (158°F) (see power rating curve) 0.50 W (lin) 0.25 W (no lin)

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

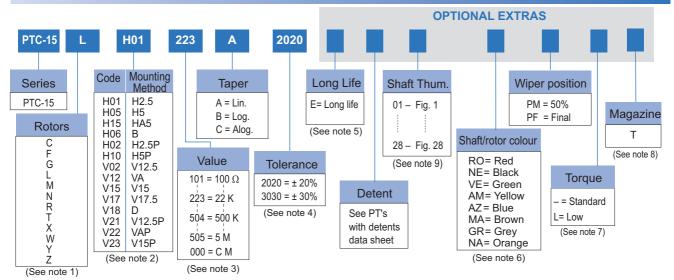
– Residual resistance(*): $\leq 0.5 \%$ Rn (5 Ω min.)

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

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

(*) Others upon request

HOW TO ORDER



NOTES:

- "Z" adjustment only available on "H" versions. Standard colour for the "T" rotor: Orange (1)
- Terminals styles: "P" are crimped terminals. V=Vertical adjust; H=Horizontal Adjust (2)
- (3)Example: Code: 100 Ω

➤ Numb of zeros First two digits of the value.

000 = CM: SPDT switch 45°

(4) Non standard tolerance, upon request. Example: +7% Code: 07 (5)

Life • Standard 100 cycles • Long life 10000 cycles

negative tolerance positive tolerance

- (6)Colour shaft/rotor: · Potentiometer without shaft: only rotor
 - Potentiometer with shaft: only shaft
- (7) Low Torque: ≤1.5Ncm. No detent option available for low torque models
- Magazines (35 pcs/mag): available for VA (12.5), V (12.5), V (12.5P), V (15), V15 (P) and H models. For more information please contact your nearest Piher supplier.
- 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

STANDARD OPTIONS

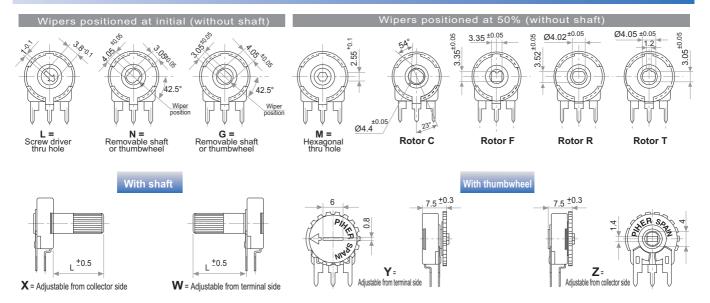
PTC-15 LH 01 + DRAWING NUMBER (Max. 16 digits)

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

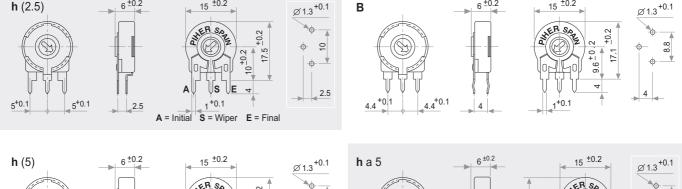
Detents	None
Rotor colour	Natural
Shaft colour	Natural
Wiper position	Initial
Torque	Standard

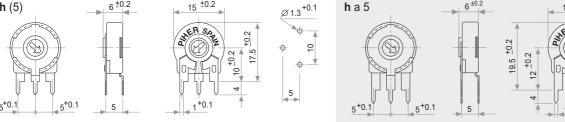
10

ROTORS

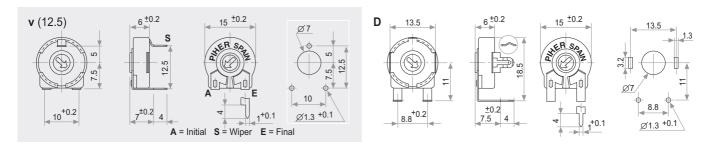


VERTICAL MOUNTING - HORIZONTAL ADJUSTMENT

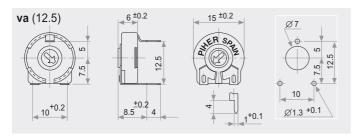


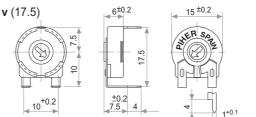


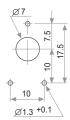
HORIZONTAL MOUNTING - VERTICAL ADJUSTMENT

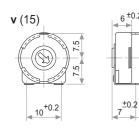


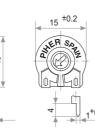
HORIZONTAL MOUNTING - VERTICAL ADJUSTMENT

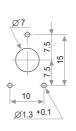






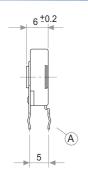


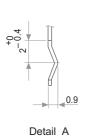


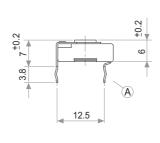


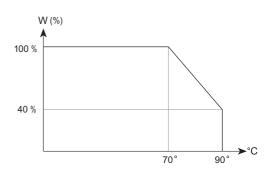
CRIMPED TERMINALS (DETAIL)

POWER RATING CURVE



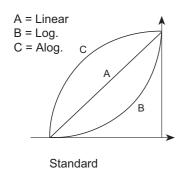


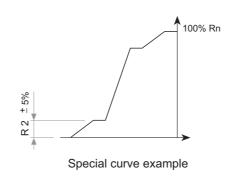


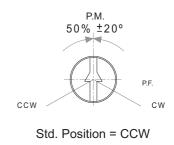


TAPER POSITIONING

Please note relative terminal positions when ordering non linear tapers.

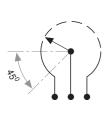




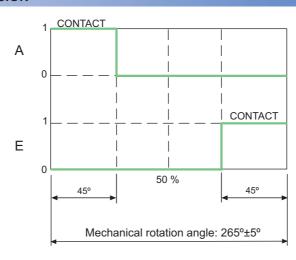


STANDARD SWITCH VERSION

SPDT Switch







SW Standard specs.

Power Rating: 24V / 15mA

ON position resistance: $\leq 5~\Omega$

Insulation Resistance: \geq 30 M Ω

Please contact Piher for ordering information.

TYPICAL VARIATIONS TESTS

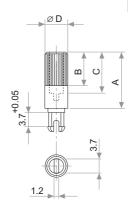
ELECTRICAL LIFE 1.000 h. @ 70°C; 0.5 W ±5% 100 @ 10 CPM ...15 CPM MECHANICAL LIFE (CYCLES) \pm 3 % (Rn < 1 M Ω) TEMPERATURE COEFFICIENT -40° C; +90° C ± 100 ppm (Rn <100 K) THERMAL CYCLING 16 h. @ 90° C; 2h. @ -40° C ± 2.5 % DAMP HEAT 500 h. @ 40° C @ 95% HR ±5%

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

VIBRATION (for each plane X,Y,Z)

SHAFTS

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



A = Length (FRS)

B = Knurling length

C = Hollow depth
D = Shaft diameter
FRS = From rotor surface

FIG.	Α	В	С	D	Ref.
1	12	9	8	6	5272
2	19	9	15	6	5214
5	9.5	6.5	5.5	6	5208
9	35	9	31	6	5216
10	37.8	9	33.8	6	5218
11	35	25	15	6	5209
13	7.8	4.8	3.8	6	5265

± 2 %

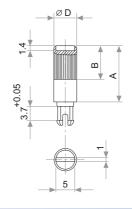
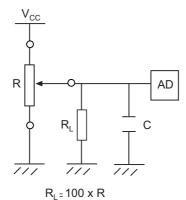


FIG.	Α	В	D	Ref.
6	15	9	6	5219
7	16.8	9	6	5220
8	25.3	9	6	5207
12	46	5	6	5227

Slott (1 x 1.4) perpendicular to wiper position. Fig. 12 slot is on line with wiper position.

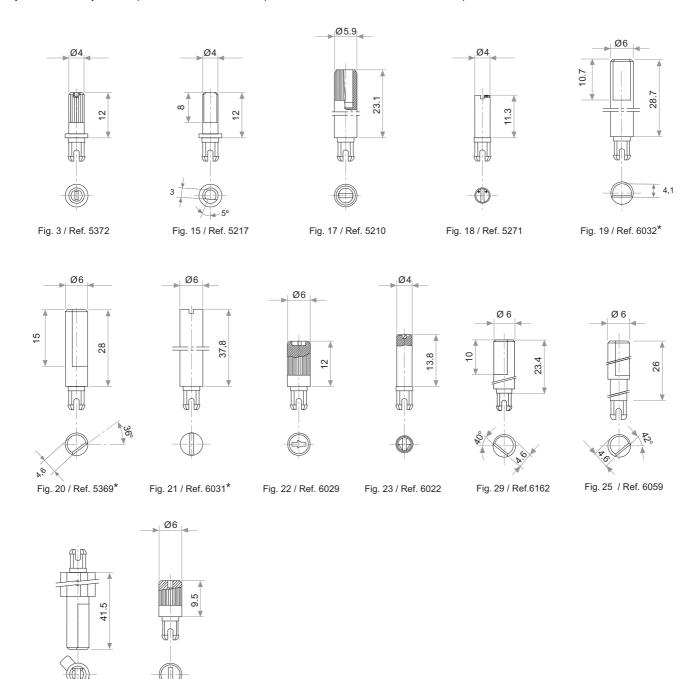
RECOMMENDED CONNECTIONS



By default shafts, knobs & & thumweels are delivered unassembled.

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

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



THUMBWHEEL

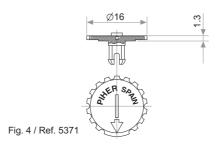
Fig. 27 / Ref. 5268*

By default shafts, knobs & & thumweels are delivered unassembled.

Fig. 28 / Ref. 6055

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

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



* Not available in self extinguishable plastic

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 potentiometer thus allowing a high range of configurations: special tapers, torque, tolerances, linearity, cut track, etc.

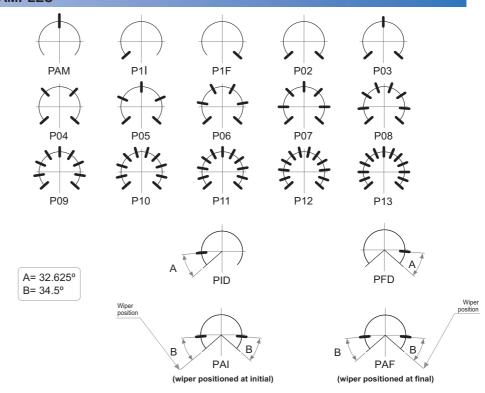
This detent design not only adds a "click" sensation of position, but also offers enormous savings in both cost and space for any given application.

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 13 detents versions please contact your nearest PIHER distributor. Mechanical and/or electrical features may be affected by detents. Detents may not be available for all mounting methods. Please see our separate PTs with detents datasheet at www.piher.net



DETENT DETAILS

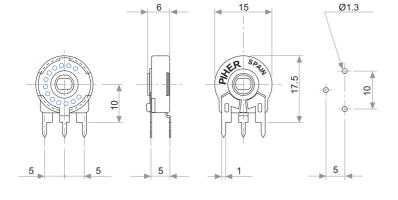
13 detents

DETENTS & STEPPED OUTPUTS

10 detents

Our potentiometer can feature flatted regions in its output curve. This allows engineers to precisely control constant voltage outputs within the normal rotational range of their potentiometer.

These regions can be combined with Piher's detent feature providing a positive mechanical action when rotating the potentiometer into these constant voltage zones.



All Piher products can be adapted to meet customer's requirements.

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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