

MAIN FEATURES

- Specifically designed for leadfree reflow soldering processes (excellent performance).
- Up to 10K cycles mechanical life.
- Cermet resistive element.
- Dust proof enclosure.
- Alumina substrate.
- 10mm version available (PSC-10).
- Full traceability.
- Also upon request:
 - Long life model for low cost control potentiometer applications.
 - Mechanical detents.
 - Low torque version.
 - Centering pins.
 - Wiper positioned at initial, 50% or fully clockwise.

MECHANICAL SPECIFICATIONS

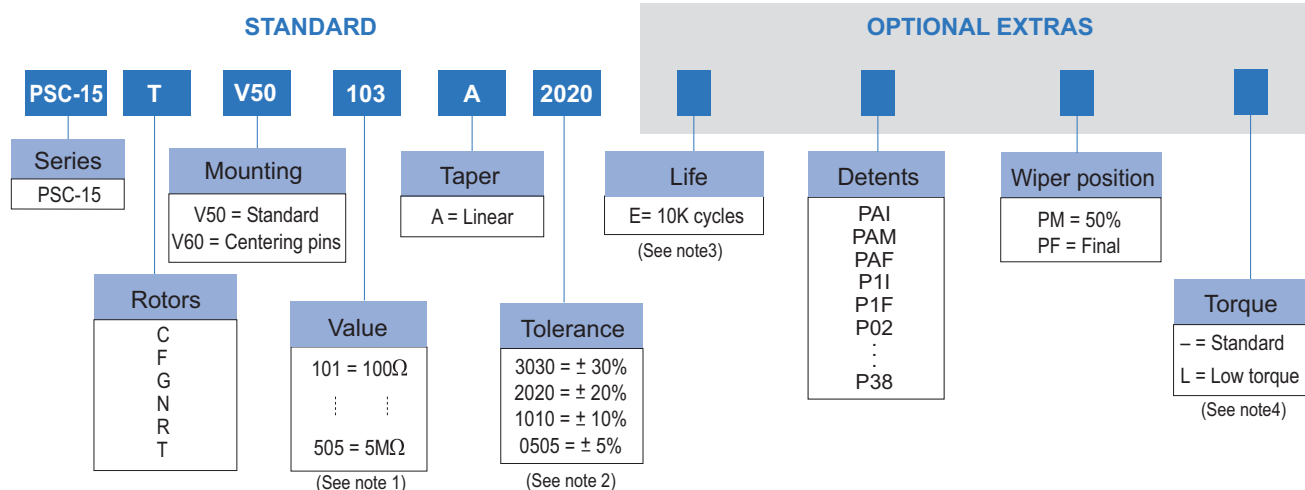
– Mechanical life*:	up to 10k cycles
– Mechanical rotation angle:	265° ± 5°
– Electrical rotation angle:	240° ± 20°
– Torque:	0.5 to 2.5 Ncm. (0.7 to 3.4 in-oz)
– Stop torque:	> 10 Ncm. (>14 in-oz)

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%
- Taper*: Linear
- Nominal Power: 0.50W @ 70°C (158°F)
- Operating temperature*: –40°C + 90°C
- Residual resistance: ≤ 0.5 % Rn
- Equivalent Noise Resistance: ≤ 3% Rn
- Max. Voltage: 250 VDC

* Others upon request

HOW TO ORDER



NOTES:

- (1) Value Example: $\overbrace{10}^{\text{Numb of zeros}} \overbrace{1}^{\text{First two digits of the value.}} 100 \Omega$
- (2) Non standard tolerance, upon request. Example: $\overbrace{07}^{+7\%} \overbrace{05}^{-5\%}$ negative tolerance
- (3) 100k cycles version available (to be studied case by case)
- (4) Low Torque: ≤1.5Ncm. *No detent option available for low torque models*

Shafts are not available mounted to the potentiometer and should be ordered separately

HOW TO ORDER CUSTOM DRAWING

PSC15 TV50 + DRAWING NUMBER (Max. 16 digits)

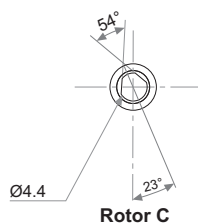
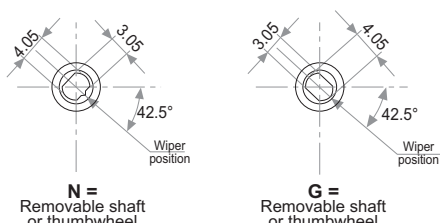
This way of ordering should be used for options which are not included in the "How to order" standard and optional extras.

STANDARD OPTIONS

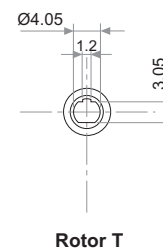
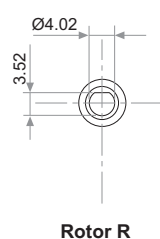
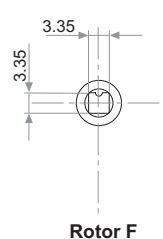
Mechanical Life.....	1000 cycles
Detents	None
Rotor colour	Brown
Housing colour	Brown
Wiper position	Initial
Torque	Standard
Packaging	Reel

ROTORS (collector side view)

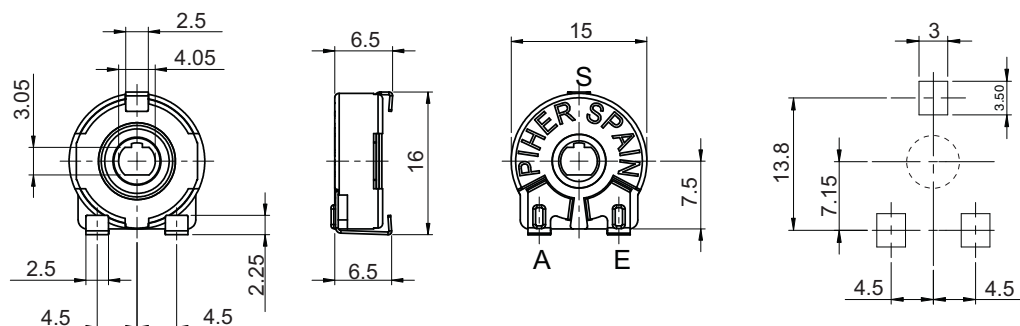
Wipers positioned at initial



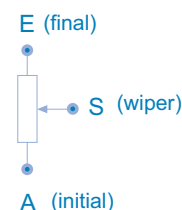
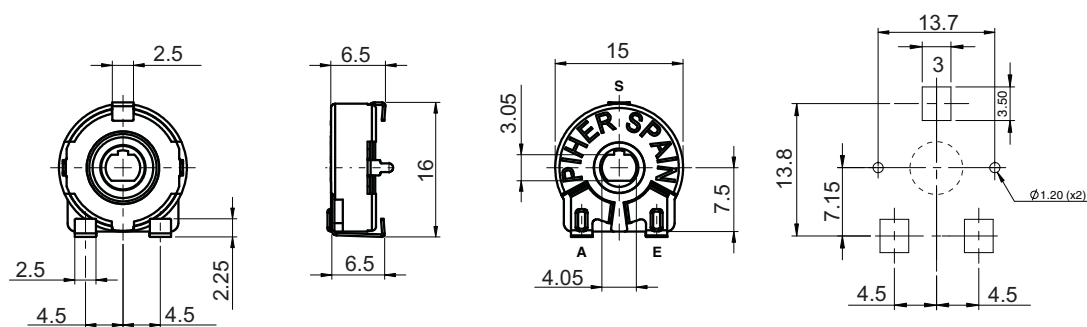
Wipers positioned at 50%



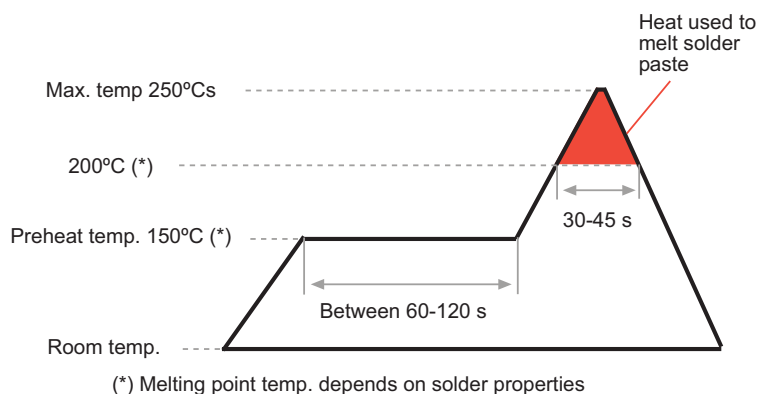
DIMENSIONS (V50 version)



DIMENSIONS (V60 version - with centering pins)



RECOMMENDED REFLOW PROFILE

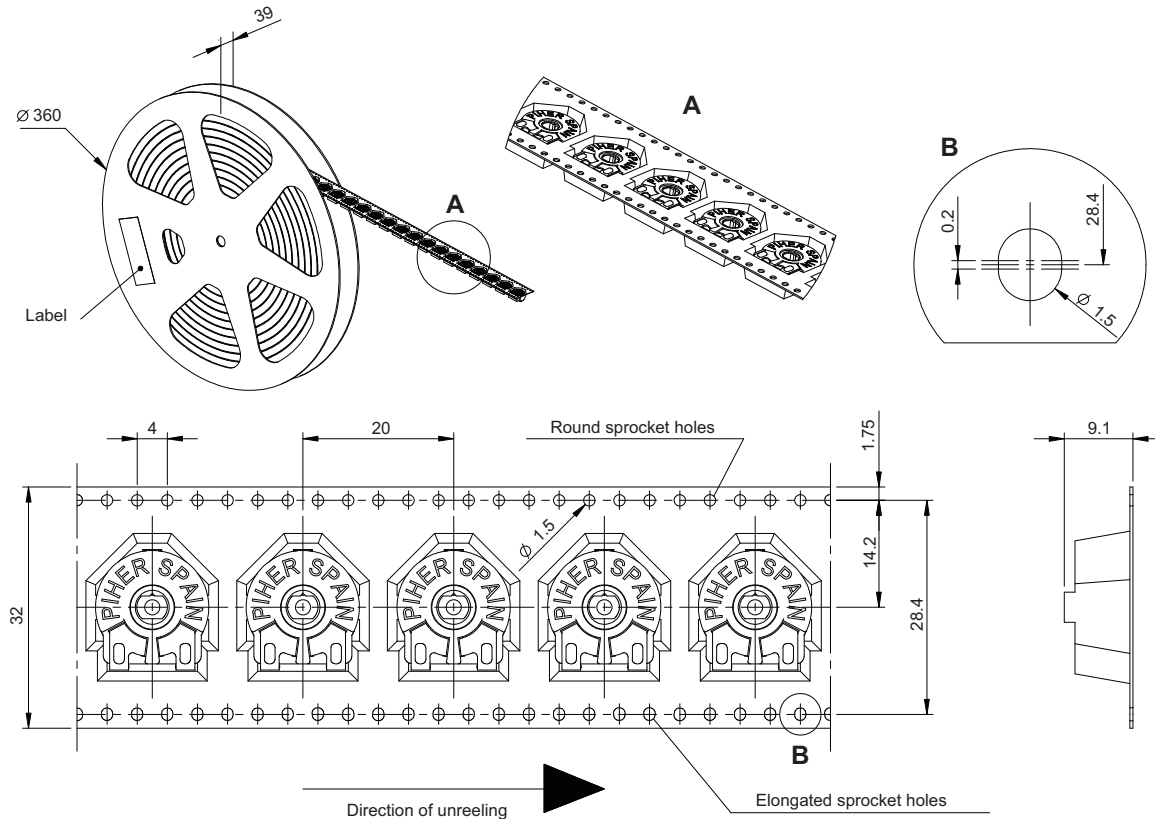


TESTS		TYPICAL VARIATIONS
ELECTRICAL LIFE	1.000 h. @ 70°C; 0.5 W	± 5 %
MECHANICAL LIFE (CYCLES)	1000 @ 10 CPM ...15 CPM	± 3 % (Rn < 1 MΩ)
TEMPERATURE COEFFICIENT	-40° C; +90° C	± 100 ppm (Rn <100 K)
THERMAL CYCLING	16 h. @ 90° C; 2h. @ -40° C	± 2.5 %
DAMP HEAT	500 h. @ 40° C @ 95% HR	± 5 %
VIBRATION (for each plane X,Y,Z)	2 h. @ 10 Hz. ... 55 Hz.	± 2 %

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

PACKAGING

BULK: 500pcs per box (80 x 85 x 185 mm.).
EMBOSSED TAPE: 400pcs per reel.



SHAFTS (for N, G and T rotor types, top view)

Hollow model shafts

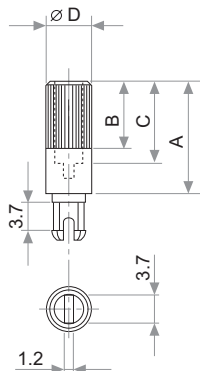


FIG.	A	B	C	D	Ref.
1	12	9	8	6	5272
2	19	9	15	6	5214
5	9.5	6.5	5.5	6	5208
9	35	9	31	6	5216
10	37.8	9	33.8	6	5218
11	35	25	15	6	5209
13	7.8	4.8	3.8	6	5265

A = Length (FRS)
B = Knurling length
C = Hollow depth
D = Shaft diameter
FRS = From rotor surface

Solid model shafts

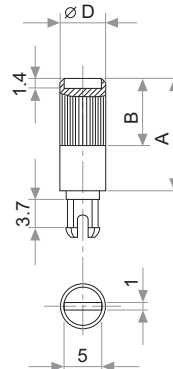


FIG.	A	B	D	Ref.
6	15	9	6	5219
7	16.8	9	6	5220
8	25.3	9	6	5207
12	46	5	6	5227

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

Shafts, knobs & & thumbwheels are delivered unassembled.

SHAFTS (for N, G and T rotor types, top view)

If you wish to use your own custom plastic shaft/knob/actuator please contact Piher for advice about compatible materials.
Shafts, knobs & & thumbwheels are delivered unassembled.

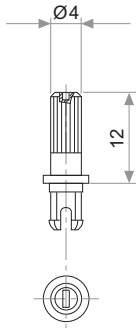


Fig. 3 / Ref. 5372

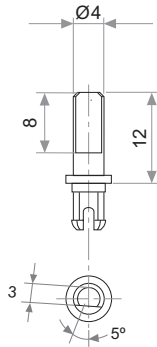


Fig. 15 / Ref. 5217

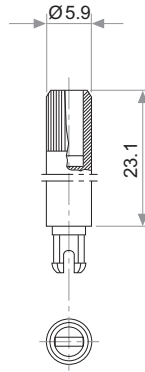


Fig. 17 / Ref. 5210

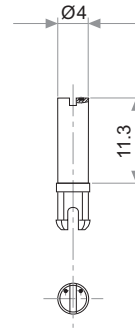


Fig. 18 / Ref. 5271

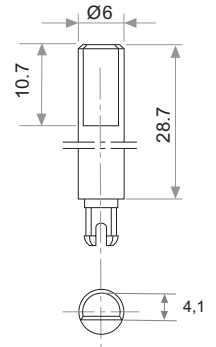


Fig. 19 / Ref. 6032*

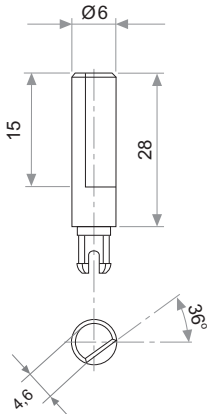


Fig. 20 / Ref. 5369*

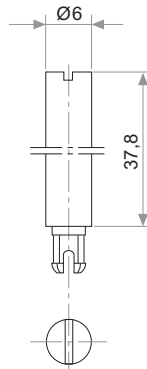


Fig. 21 / Ref. 6031*

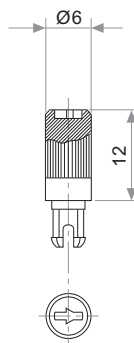


Fig. 22 / Ref. 6029

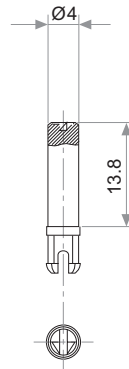


Fig. 23 / Ref. 6022

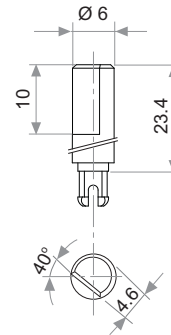


Fig. 29 / Ref. 6162

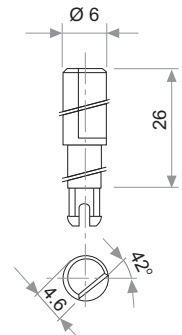


Fig. 25 / Ref. 6059

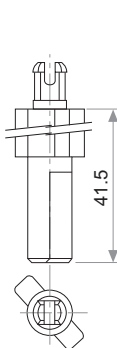


Fig. 27 / Ref. 5268*

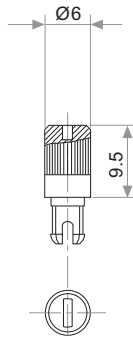


Fig. 28 / Ref. 6055

* Not available in self extinguishable plastic

THUMBWHEEL (for N, G and T rotor types, top view)

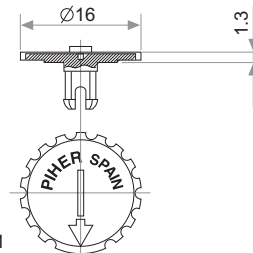
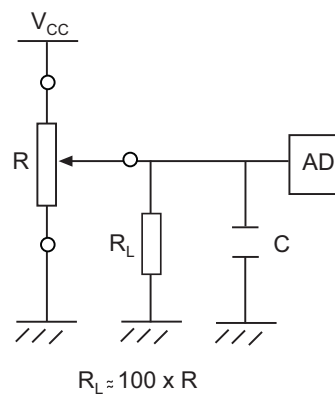


Fig. 4 / Ref. 5371

* Not available in self extinguishable plastic

RECOMMENDED CONNECTIONS

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




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 customer'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



PAM



P1I



P1F



P02



P03



P04



P05



P06



P07



P08



P09



P10



P11



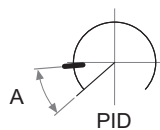
P12



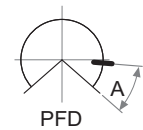
P13

$$A = 32.625^\circ$$

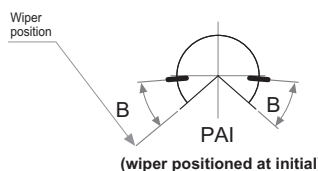
$$B = 34.5^\circ$$



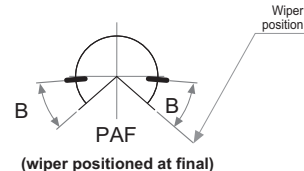
PID



PFD



(wiper positioned at initial)



(wiper positioned at final)

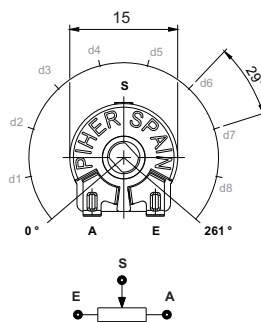
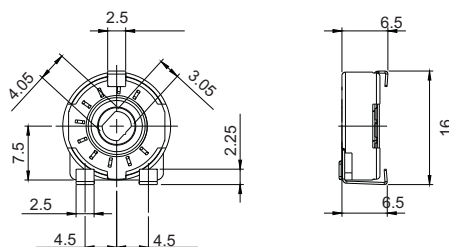
NOTES FOR DETENTED VERSIONS:

- (1) Some configurations may have a longer leadtime.
- (2) Standard mechanical life is 500 cycles.
- (3) 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
- (4) Detent torque can vary from 1.2 to 2.5 times the standard potentiometer torque.
- (5) Please consult your nearest Piher supplier if unique non-overlapping values at each detent position or LOG/ALOG tapers are required.
- (6) Different output voltage values can be matched at each detent position (under request).

DETENT DETAILS

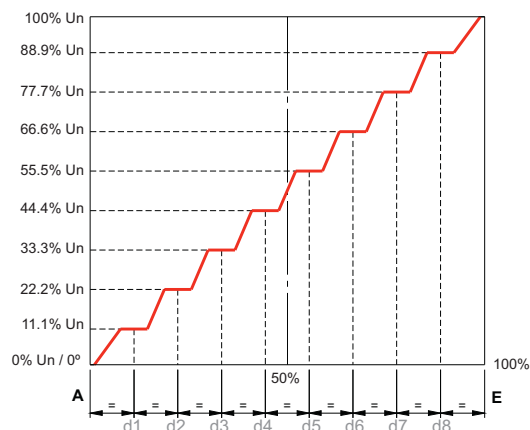
DETENTS & STEPPED OUTPUTS

10 detents example



Our potentiometers can feature flattened 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.



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

Piher Sensors & Controls S.A., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Piher"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained herein or in any other disclosure relating to any product described herein.

Piher disclaims any and all liability arising out of the use or application of any product described herein or of any information provided herein to the maximum extent permitted by law. The product specifications do not expand or otherwise modify Piher's terms and conditions of sale, including but not limited to the warranty expressed therein, which apply to these products.

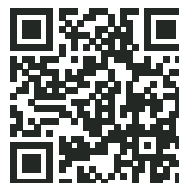
No licence, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Piher.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications unless otherwise expressly indicated. Customers using or selling Piher products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify Piher for any damages arising or resulting from such use or sale. Please contact authorised Piher personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.

Information contained in and/or attached to this catalogue may be subject to export control regulations of the European Community, USA, or other countries. Each recipient of this document is responsible to ensure that usage and/or transfer of any information contained in this document complies with all relevant export control regulations. If you are in any doubt about the export control restrictions that apply to this information, please contact the sender immediately. For any Piher Exports, Note: All products/ technologies are EAR99 Classified commodities. Exports from the United States are in accordance with the Export Administration Regulations. Diversion contrary to US law is prohibited.

Piher is an Amphenol™ company.



All Piher products can be adapted to meet customer's requirements.
Due to continuous process improvement, specifications are subject to change without notice.
Please always use the datasheets published at our website www.piher.net for the most up-to-date information.

v160818

Contact

Piher Sensors & Controls SA

Polígono Industrial Municipal
Vial T2 N°22
31500 Tudela - Spain
Tel: +34-948-820450

sales@piher.net

www.piher.net