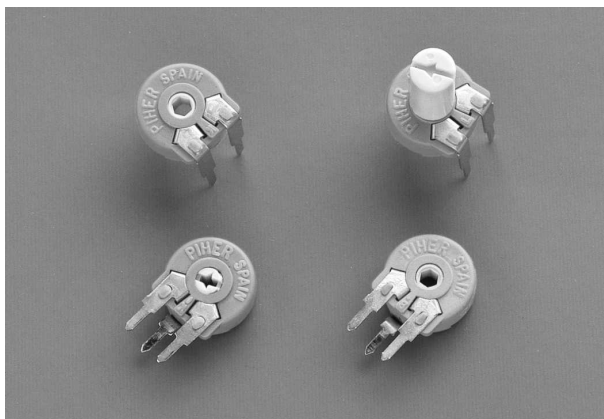




MECHANICAL SPECIFICATIONS

- 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

FEATURES

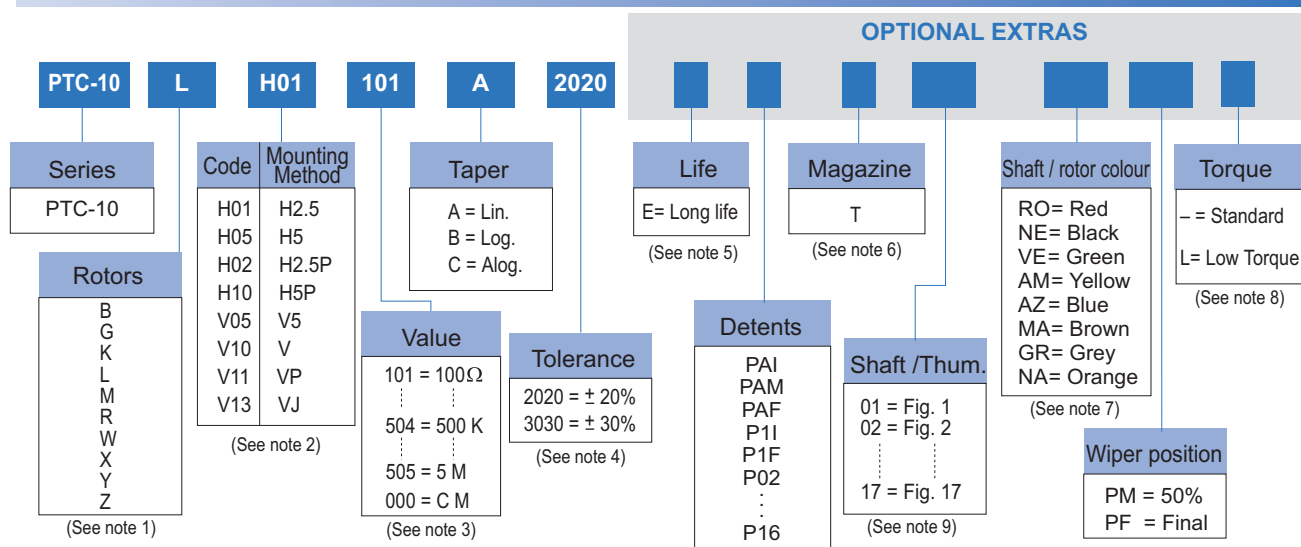
- Cermet resistive element.
- IP54 protection according to IEC 60529
- Plastic material according to UL94V-0
- Alumina substrate.
- Also upon request:
 - Low torque version
 - Available as SPDT switch
 - Laser trimming for tighter tolerances
 - Wiper positioned at 50% or fully clockwise.
 - Supplied in magazines for automatic insertion.
 - Long life model for low cost control pot. applications
 - Special tapers
 - Mechanical detents

ELECTRICAL SPECIFICATIONS

- Range of values (*)
 $100\Omega \leq R_n \leq 5\text{ M}$ (Decad. 1.0 - 2.0 - 2.2 - 2.5 - 4.7 - 5.0)
- Tolerance (*): $100\Omega \leq R_n \leq 1\text{ M}\Omega$ $\pm 20\%$
 $1\text{ M}\Omega < R_n \leq 5\text{ M}\Omega$ $\pm 30\%$
- 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 $R_n \geq 1\text{ K}$) Lin ; Log; Alog.
- Residual resistance(*): $\leq 0.5\%$ R_n (5 Ω min.)
- Equivalent Noise Resistance: $\leq 3\%$ R_n (3 Ω min.)
- Operating temperature: $-40^\circ\text{C} + 90^\circ\text{C}$ ($-40^\circ\text{F} + 194^\circ\text{F}$)

(*) Others upon request

HOW TO ORDER



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. V=Vertical adjust; H=Horizontal Adjust
- (3) Value Example: Code: 10 1 = 100 Ω
 10 → Numb of zeros
 1 → First two digits of the value. 000 = CM: SPDT switch 45°
- (4) Non standard tolerance, upon request. Example: +7% Code: 07 05
 -5% → negative tolerance
 → positive tolerance
- (5) Up to 10.000 cycles.
Others upon request.
- (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: $\leq 1\text{ Ncm}$
No detent option available for low torque models.
- (9) 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

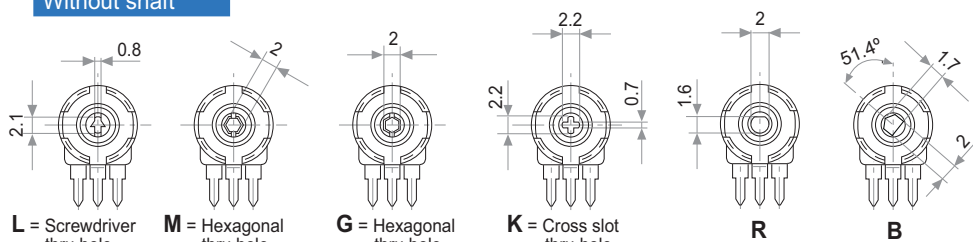
PTC-10 LH 01 + DRAWING NUMBER (Max. 16 characters)

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
Rotor colour	Natural
Shaft colour	Natural
Wiper position	Initial
Torque	Standard

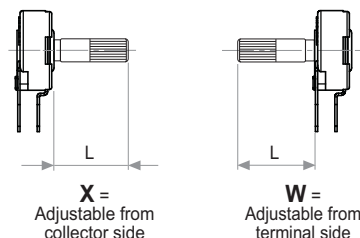
ROTORS

Without shaft

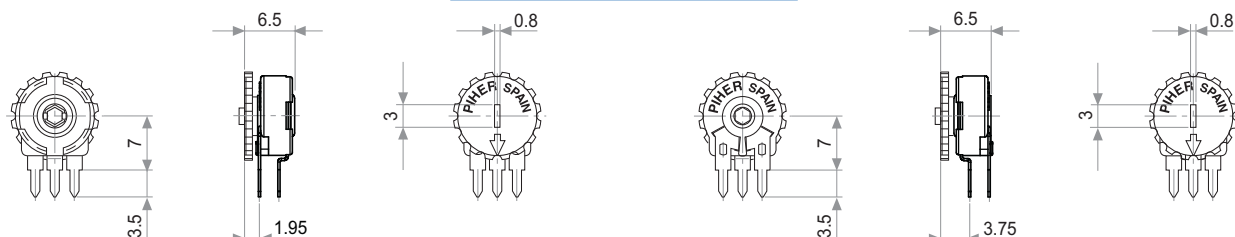


Wipers positioned at 50%

With shaft



With thumbwheel



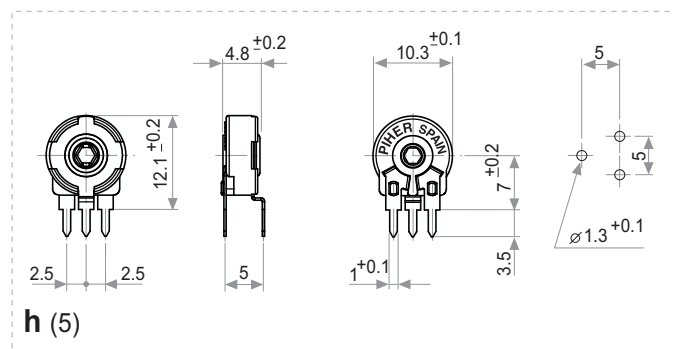
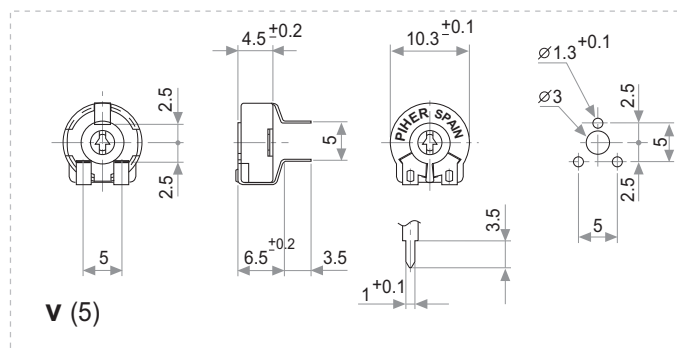
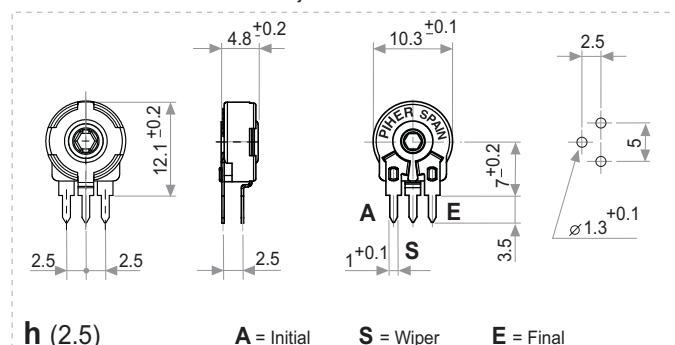
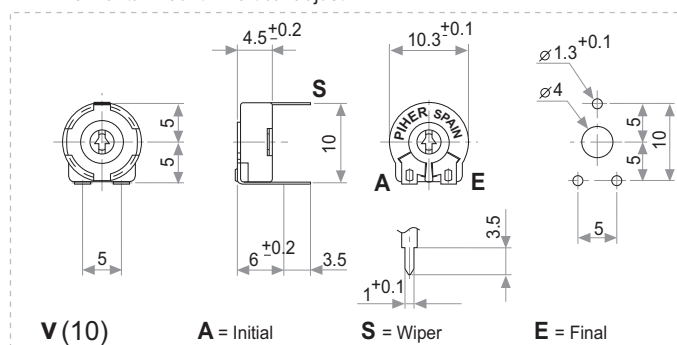
Y = Adjustable from terminal side

Z = Adjustable from collector side

MOUNTING METHODS

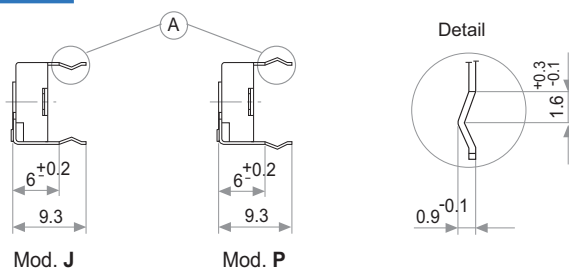
V = horizontal mount – vertical adjust

h = vertical mount – horizontal adjust



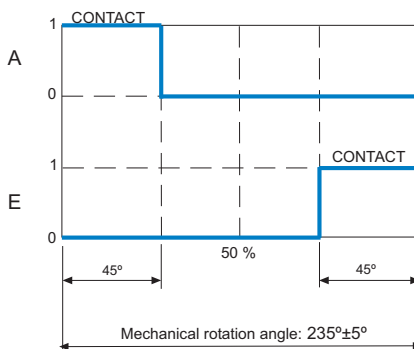
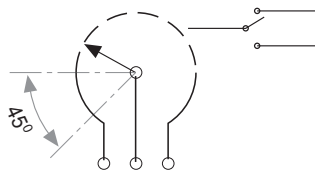
NOTE = Please note relative terminal positions when ordering non linear tapers.

Crimped terminals



OPTIONS

SPDT SWITCH



SW Standard specs.

Power Rating:
24V / 15mA

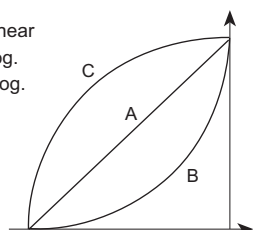
ON position resistance:
≤ 5 Ω

Insulation Resistance:
≥ 30 MΩ

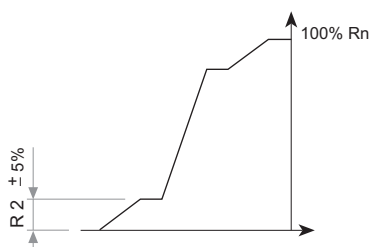
Please contact Piher
for ordering information.

TAPERS

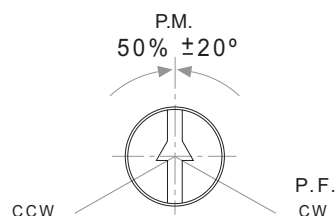
A = Linear
B = Log.
C = Alog.



Standard



Special example



Std. Position = CCW

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

TESTS

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 %

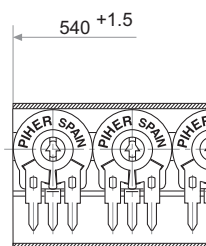
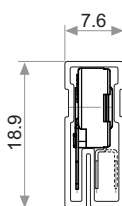
NOTE: Out of range values may not comply these results.

TYPICAL VARIATIONS

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.)

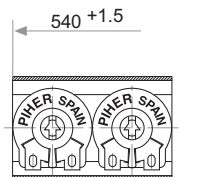
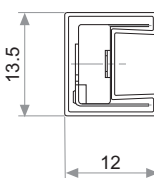


Magazines for PTC-10 h 2.5; h 5

Also crimped term. h 2.5 P

AUTOMATIC INSERTION

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

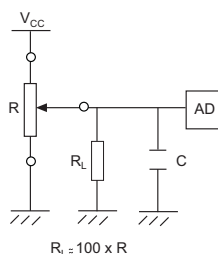


Magazines for PTC-10 V

Also crimped term. VP

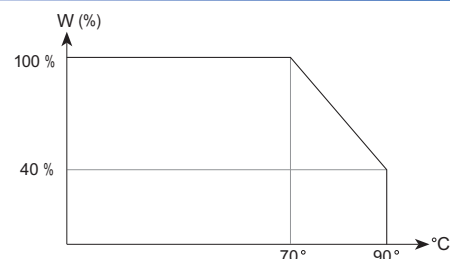
RECOMMENDED CONNECTION

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



$$R_L = 100 \times R$$

POWER RATING CURVE



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

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

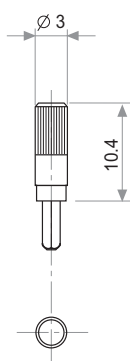


Fig. 1 / Ref. 5016

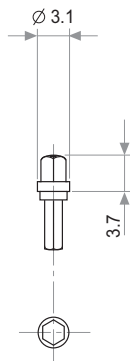


Fig. 2 / Ref. 5053

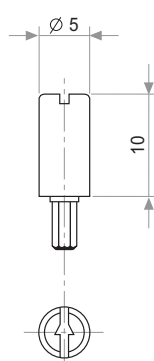


Fig. 3 / Ref. 5012

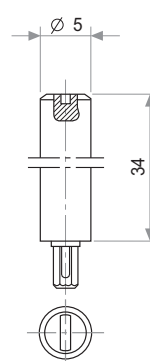


Fig. 4 / Ref. 6053

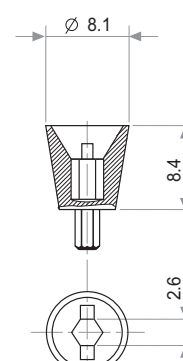


Fig. 6 / Ref. 5035

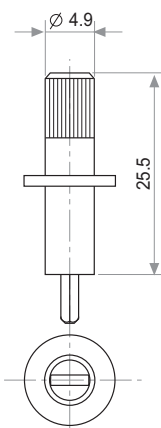


Fig. 7 / Ref. 5115

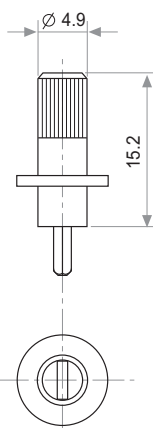


Fig. 8 / Ref. 5116

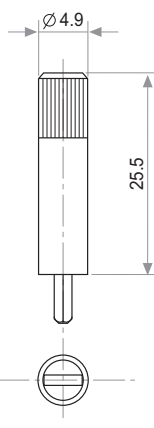


Fig. 9 / Ref. 5119

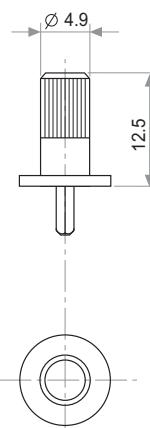


Fig. 10 / Ref. 5120

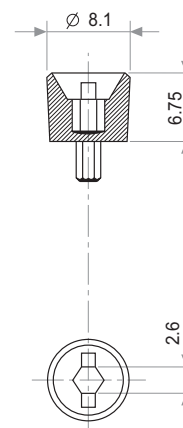


Fig. 11 / Ref. 5027

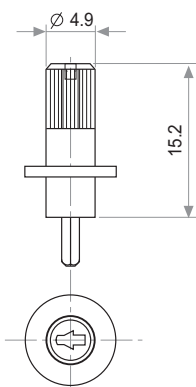


Fig. 12 / Ref. 6052

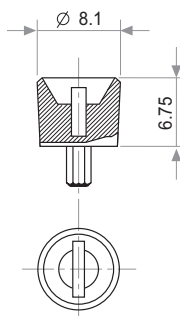


Fig. 13 / Ref. 5121

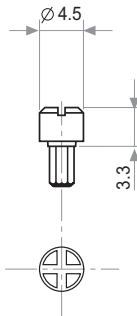


Fig. 14 / Ref. 5055

2- GANG Plastic Knob/ Plastic Shaft*

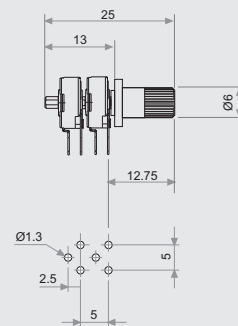


Fig. 18 / Ref. 6064

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

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

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

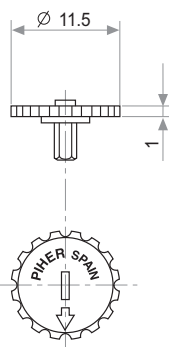


Fig. 5 / Ref. 5034

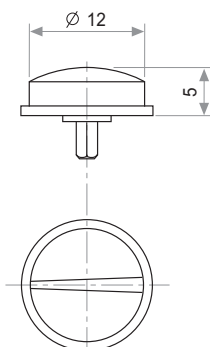


Fig. 15 / Ref. 6008

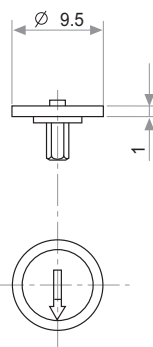


Fig. 16 / Ref. 5039

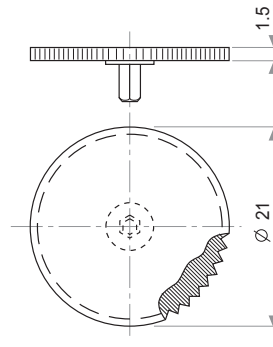
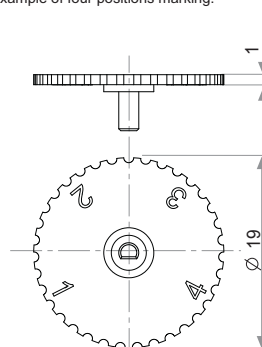


Fig. 17 / Ref. 5062



Upon request

THUMBWHEEL

For R rotor type only

Marking: configurable number of positions.

Example of four positions marking:

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.

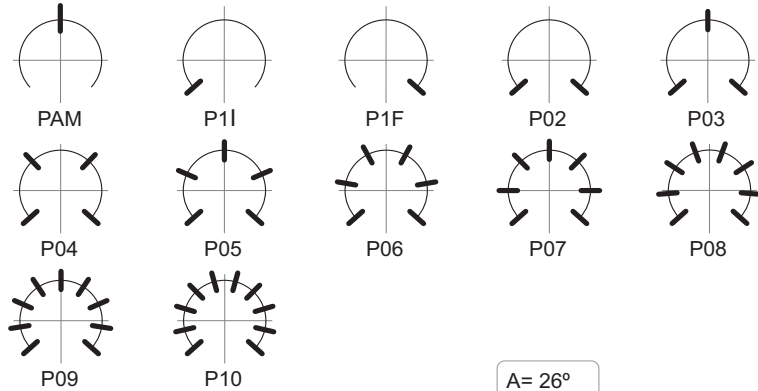
This detent design not only adds a "click" sensation of position, but also offers enormous savings in both cost and space for any given application.

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

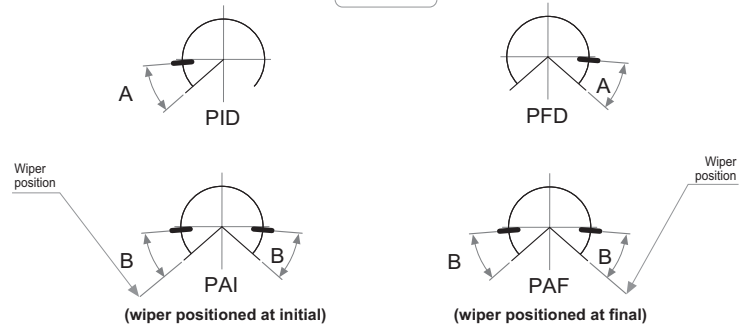
Detent number and positions can be made or fitted to the customer needs or preferences.

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

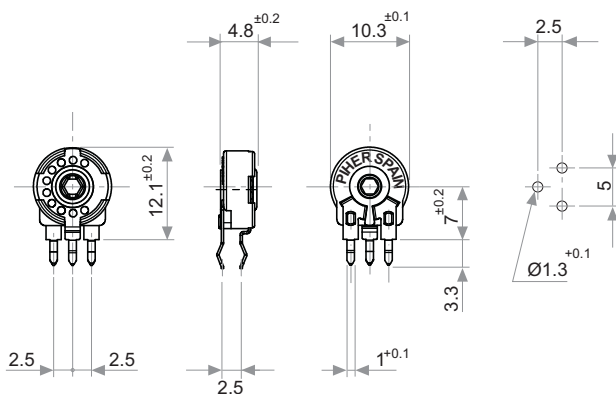
*For more than 10 detents versions please contact your nearest PIHER distributor. Mechanical and/or electrical features may be affected by detents. Please see our separate PTs with detents datasheet at www.piher.net



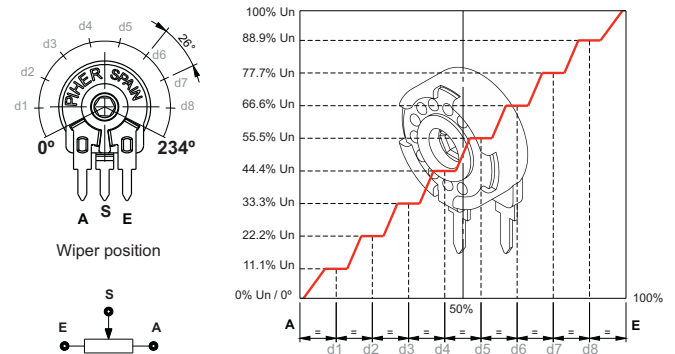
A = 26°
B = 27.5°



DETENT DETAILS



DETENTS COMBINED WITH SILVER ZONES



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