

HOW TO ORDER CUSTOM DRAWING

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

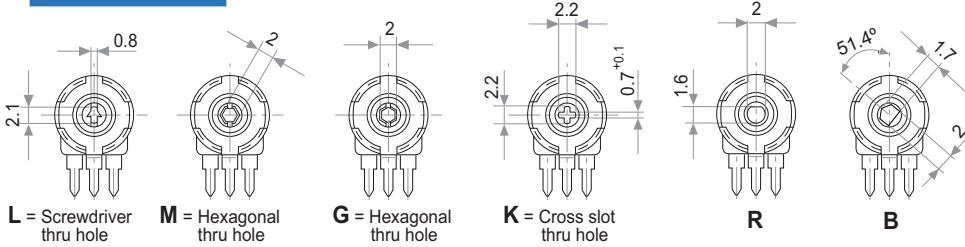
This way of ordering should be used for options which are not included in the "How to order" standard and optional extras.

STANDARD OPTIONS

Cut track	-----	No
Detents	-----	None
Packing	-----	Bulk
Non flammable	-----	No
Rotor colour	-----	White
Shaft colour	-----	Natural
Wiper position	-----	Initial
Torque	-----	Standard
Life	-----	500 cycles

ROTORS

Without shaft



L = Screwdriver thru hole

M = Hexagonal thru hole

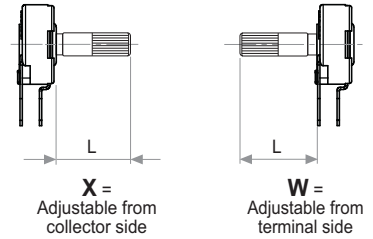
G = Hexagonal thru hole

K = Cross slot thru hole

R

B

With shaft

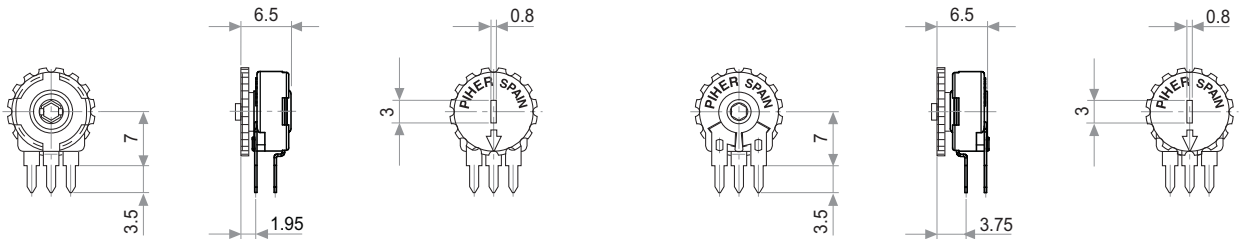


X = Adjustable from collector side

W = Adjustable from terminal side

Wipers positioned at 50%

With thumbwheel



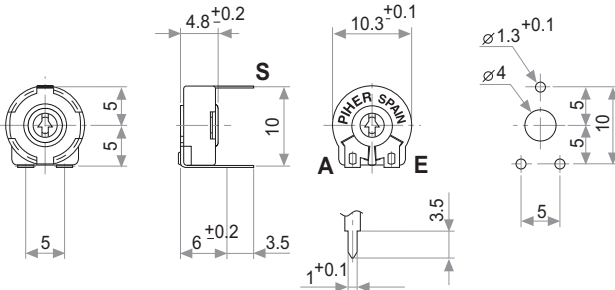
Y = Adjustable from terminal side

Z = Adjustable from collector side

MOUNTING METHODS

v = horizontal mount – vertical adjust

h = vertical mount – horizontal adjust

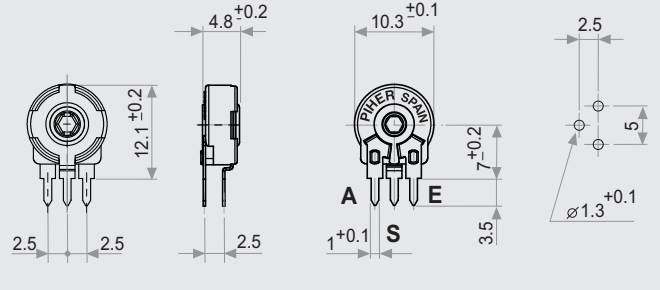


v (10)

A = Initial

S = Wiper

E = Final

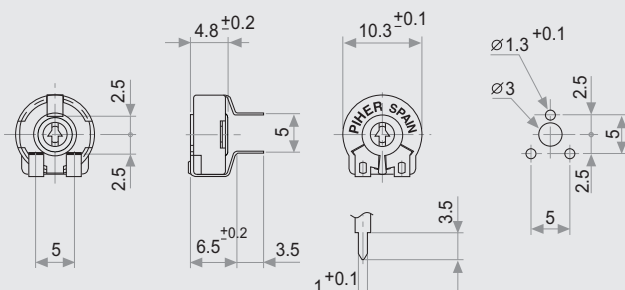


h (2.5)

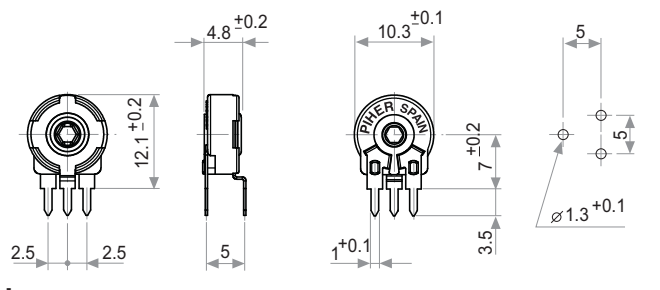
A = Initial

S = Wiper

E = Final



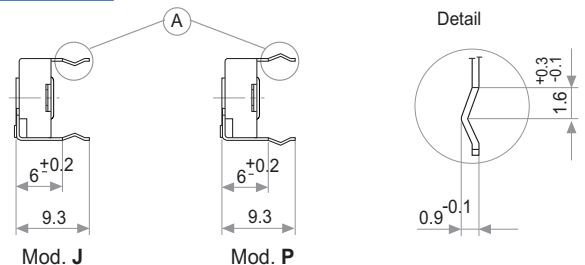
v (5)



h (5)

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

Crimped terminals



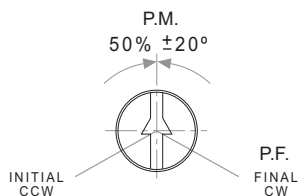
Mod. J

Mod. P

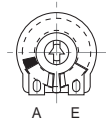
Detail

OPTIONS

Positioning (Std. Position = CCW)



CUT TRACK
CCW on-off (A)

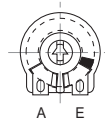


A = Initial

E = Final

S = Wiper

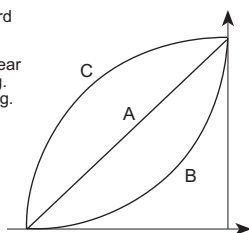
CW on-off (E)



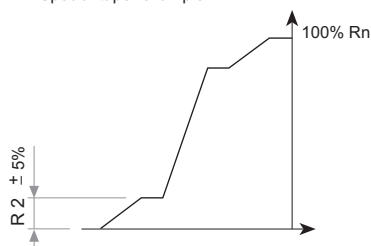
TAPERS

Standard

A = Linear
B = Log.
C = Alog.



Special taper example



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

TESTS

TYPICAL VARIATIONS

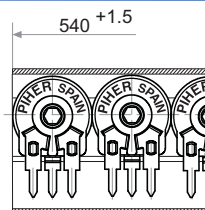
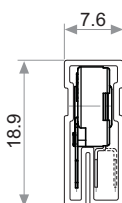
ELECTRICAL LIFE	1.000 h. @ 50°C; 0.15 W	±5 %
MECHANICAL LIFE (CYCLES)	500 @ 10 CPM ...15 CPM	±3 % (Rn < 1 MΩ)
TEMPERATURE COEFFICIENT	-25°C; +70°C	±300 ppm (Rn <100 K)
THERMAL CYCLING	16 h. @ 85°C; 2h. @ -25°C	±2.5 %
DAMP HEAT	500 h. @ 40°C @ 95% HR	±5 %
VIBRATION (for each plane X,Y,Z)	2 h. @ 10 Hz. ... 55 Hz.	±2 %

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

PACKAGING

BOXES

Model	Units
Without shaft	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.)

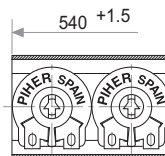
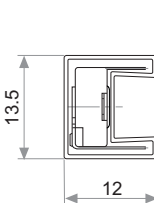


Magazines for PT-10 h 2.5; h 5

Also crimped term. h 2.5 P

AUTOMATIC INSERTION

Magazines	Units per magazine
PT-10H & PT-10V	50 Pieces

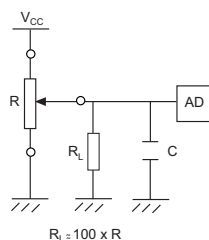


Magazines for PT-10 V

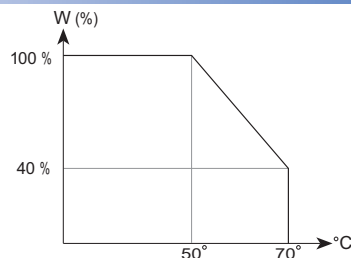
Also crimped term. VP

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

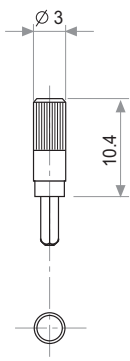


Fig. 1 / Ref. 5016

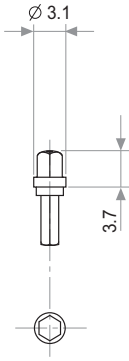


Fig. 2 / Ref. 5053

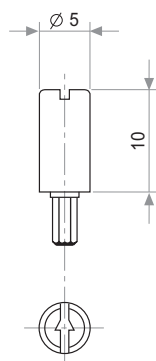


Fig. 3 / Ref. 5012

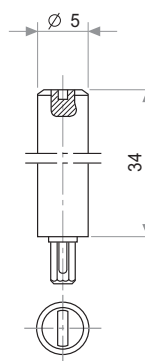


Fig. 4 / Ref. 6053

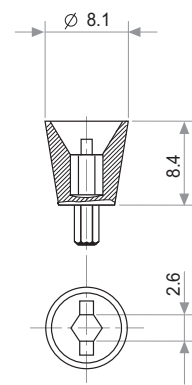


Fig. 6 / Ref. 5035

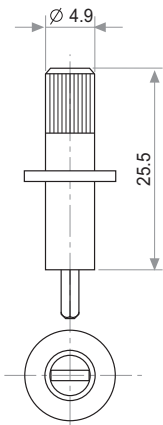


Fig. 7 / Ref. 5116

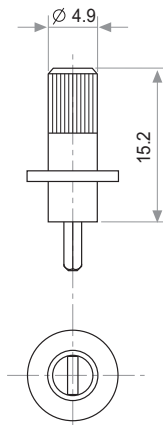


Fig. 8 / Ref. 5116

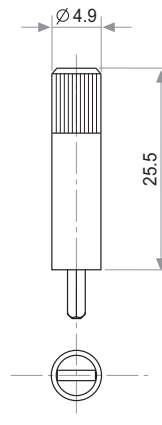


Fig. 9 / Ref. 5119

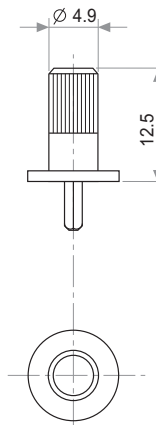


Fig. 10 / Ref. 5120

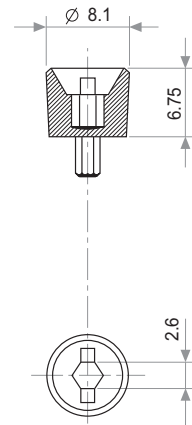


Fig. 11 / Ref. 5027

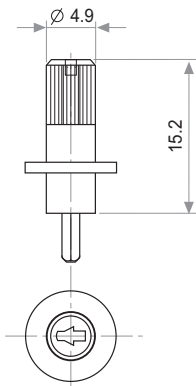


Fig. 12 / Ref. 6052

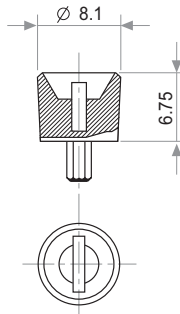


Fig. 13 / Ref. 5121

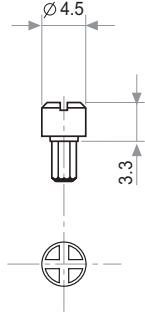
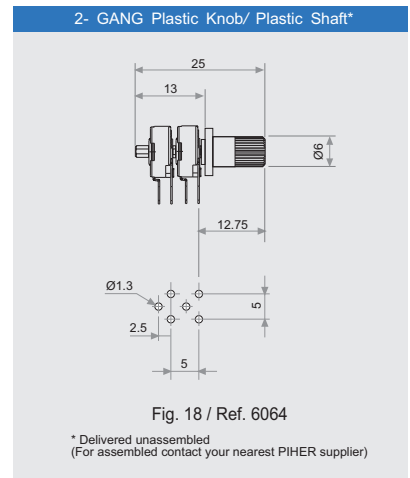


Fig. 14 / Ref. 5055



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

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

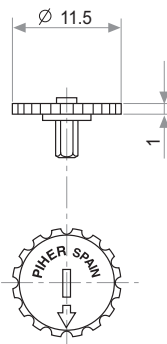


Fig. 5 / Ref. 5034

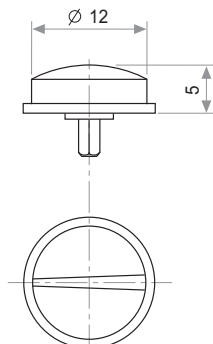


Fig. 15 / Ref. 6008

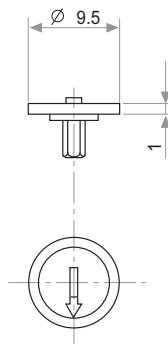


Fig. 16 / Ref. 5039

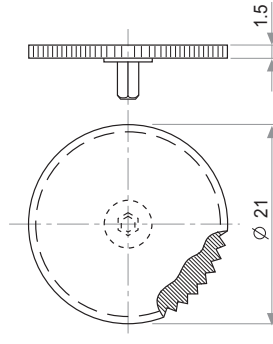
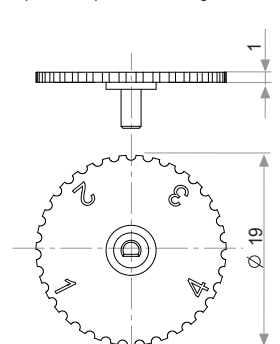


Fig. 17 / Ref. 5062



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.

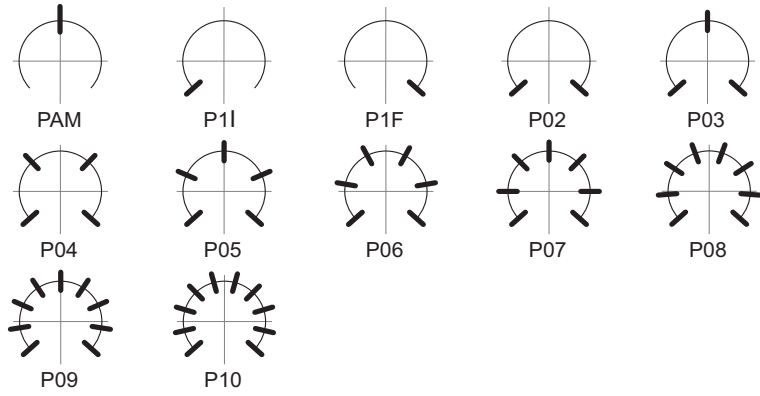
This detent design not only adds a "click" sensation of position, but also offers enormous savings in both cost and space for any given application.

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

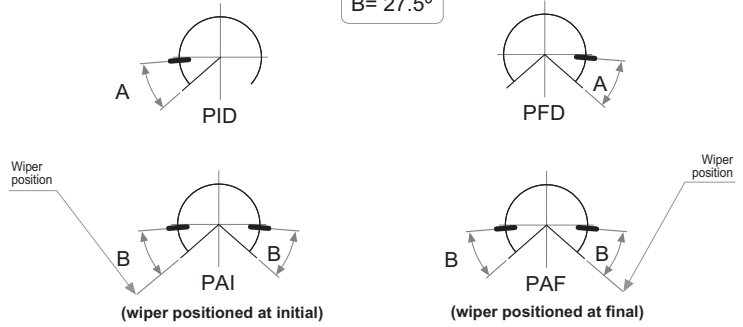
Detent number and positions can be made or fitted to the customer needs or preferences.

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

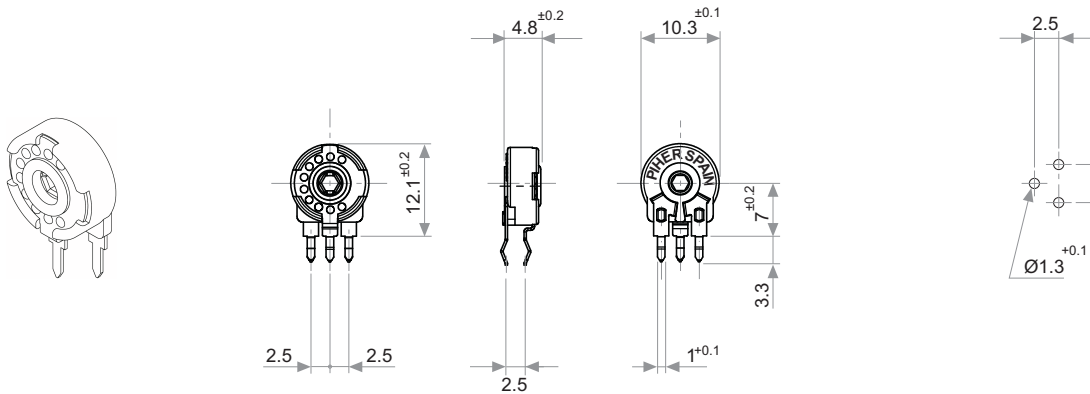
*For more than 10 detents versions please contact your nearest PIHER distributor. Mechanical and/or electrical features may be affected by detents. Please see our separate PTs with detents datasheet at www.piher.net



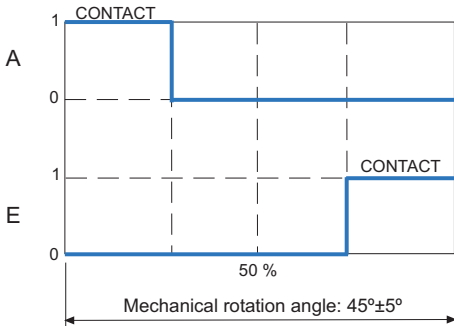
A = 26°
B = 27.5°



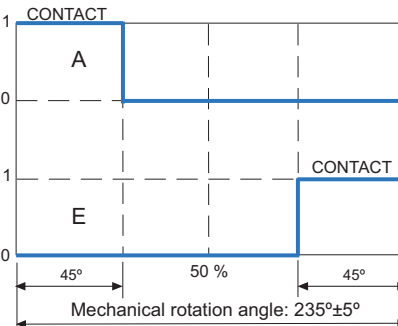
DETENT DETAILS



STANDARD SWITCH VERSIONS



D48 Switch code (Housing colour: green)



A80 Switch code

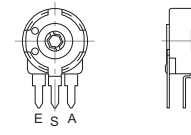
SW Standard specs.

Power Rating:
24V / 15mA

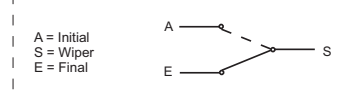
ON position resistance:
 $\leq 5 \Omega$

Insulation Resistance:
 $\geq 30 M\Omega$

Please contact Piher for ordering information.



(Rotor at Final Position)



A = Initial
S = Wiper
E = Final

PIHER's potentiometers may feature special stepped outputs or 'constant voltage zones' for the 10mm and 15mm product families.

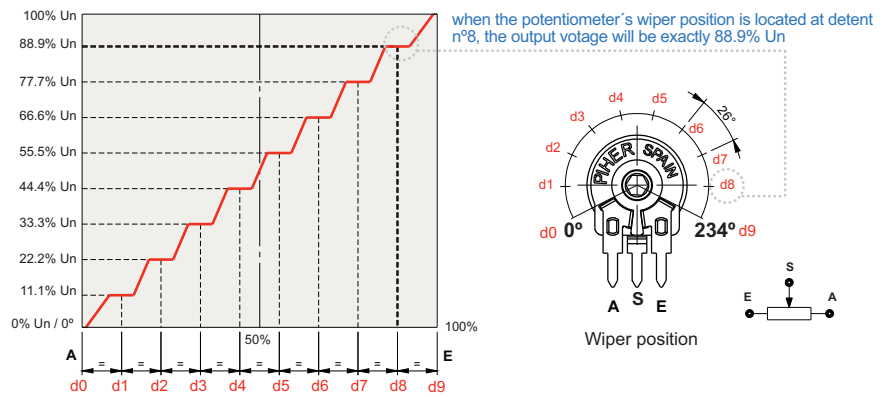
These constant voltage zones can be combined with PIHER's mechanical detents to provide exact alignment between the electrical output (flat areas) and the mechanical detent's positions. The result is a higher level of precision in controlling lighting, temperature, motor or other electronic control systems.

In addition to established catalogue detent configurations, we will design and manufacture any other configuration on our tried-and-tested carbon/cermet & THM/SMD potentiometer technology and processes.

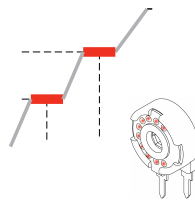
With its exacting control capabilities, our 10mm and 15mm potentiometers series are well suited for many consumer applications such as ovens, ranges, dishwashers, lighting (dimmers), power hand tools, washing machines and HVAC systems.

Constant value zones can be combined with strategically located stops matching the flat areas of the output.

10 stepped outputs version example:



Improved repeatability



By combining the constant value zones with the detents, engineers can align the same voltage values with each of the detent stops when rotating the control both forward and backward.

This provides clear mechanical positions that are not only repeatable, but perfectly aligned electrical outputs at each of the (detent) angles.

Piher's detents also prevent output values from changing due to vibration or accidental rotor movements, furthering reliable control consistency.

Design tip. Cost-effectiveness

Absolute encoders can easily be replaced connecting the potentiometer to the microprocessor's analogue input.



Main advantages

- ✓ Unique, non-overlapping values at each stop (detent position)
- ✓ Prevents output value change due to light vibration or accidental rotor micro-movements
- ✓ Fully customisable according to customer's needs
- ✓ Cost effective replacement for absolute encoders

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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