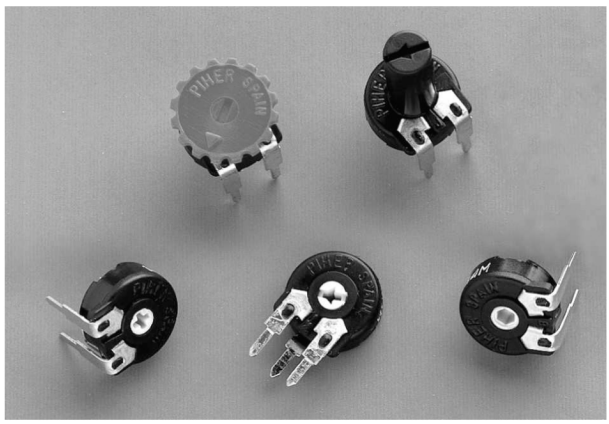
PIHER

PT-10 10 mm Carbon Potentiometer



FEATURES

- Carbon resistive element
- Dust proof enclosure
- Polyester 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 & extra low torque versions
  - Special switch option
  - 3% Linearity and 100K cycles mechanical life

MECHANICAL SPECIFICATIONS

– Mechanical rotation angle:	235° ± 5°
– 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

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%
- 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(*): ≤ 0.5 % Rn (5 Ω min.)
- Equivalent Noise Resistance: ≤ 3% Rn (3 Ω min.)
- Operating temperature**: -25°C + 70°C (-13°F + 158°F)

(*) Others upon request

** Up to 85°C depending on application

HOW TO ORDER

OPTIONAL EXTRAS

PT 10	L	H01	101	A	2020										S

Series
PT-10

Rotors
G
L
M
K
X
W
Y
Z
R
(See note 1)

Code / Mounting Method

Code	Mounting Method
H01	H2.5
H05	H5
H02	H2.5P
H10	H5P
V05	V5
V10	V
V11	VP
V13	VJ

(See note 2 / **SMD** version available: see product PS-10)

Value
101 = 100Ω
504 = 500 K
505 = 5 M
(See note 3)

Taper
A = Lin.
B = Log.
C = Alog.

Tolerance
2020 = ± 20%
3030 = ± 30%
(See note 4)

Life
E= Long life
(See note 5)

Cut track
PCI = Initial
PCF = Final

Detent
See PT's with detents data sheet

Magazine
T
(See note 6)

Shaft/Thum.
01 = Fig. 1
02 = Fig. 2
17 = Fig. 17
(See note 10)

Flammability
I = Non flammable
(See note 7)

Shaft/rotor colour
RO = Red
NE = Black
VE = Green
AM = Yellow
AZ = Blue
MA = Brown
GR = Grey
NA = Orange
CR = Cream
(See note 8)

Wiper position
PM = 50%
PF = Final

Torque
– = Standard
L= Low Torque
(See note 9)

NOTES:

(1) "Z" adjustment only available on "H" versions. Rotor "G" only available in purple (shaft/rotor colour "VI").

(2) Terminals styles: "P" & "J" are crimped. V=Vertical adjust; H=Horizontal Adjust

(3) Value Example: Code: 10 1 → 100 Ω
10 → First two digits of the value.
1 → Numb of zeros

(4) Non standard tolerance, upon request. Example: +7% -5% Code: 07 05
07 → positive tolerance
05 → negative 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.

(7) Non flammable: housing, rotor and shaft. According to UL 94V-0

(8) Colour shaft/rotor:
- Potentiometer without shaft: only rotor
- Potentiometer with shaft: only shaft
- Cream colour only available in standard plastic.

(9) Low Torque: 0.25 to 1 Ncm (per pot.)
No detent option available for low torque models.

(10) 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

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

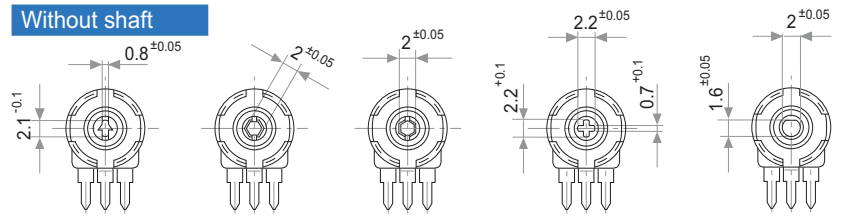
This way of ordering should be used for options which are not included in the "How to order" standard and optional extras.

STANDARD OPTIONS

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

ROTORS

Without shaft



L = Screwdriver thru hole

M = Hexagonal thru hole

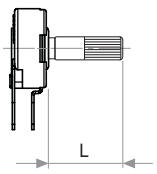
G = Hexagonal thru hole

K = Cross slot thru hole

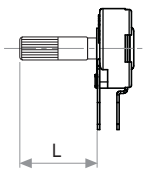
R

Wipers positioned at 50%

With shaft

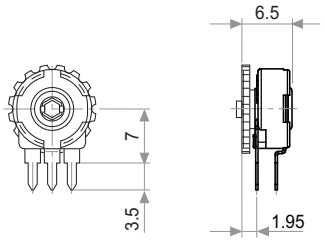


X = Adjustable from collector side

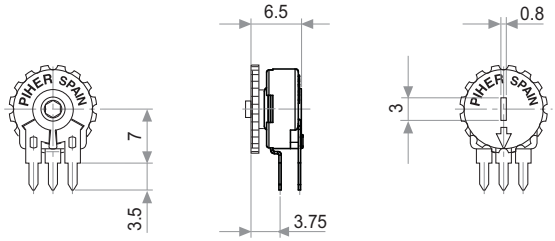


W = Adjustable from terminal side

With thumbwheel



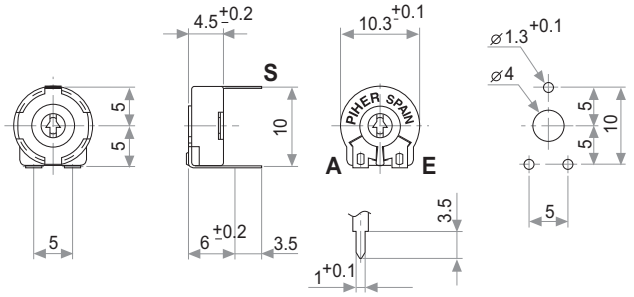
Y = Adjustable from terminal side



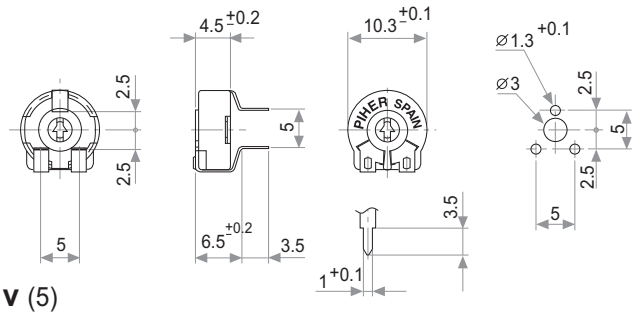
Z = Adjustable from collector side

MOUNTING METHODS

v = horizontal mount – vertical adjust

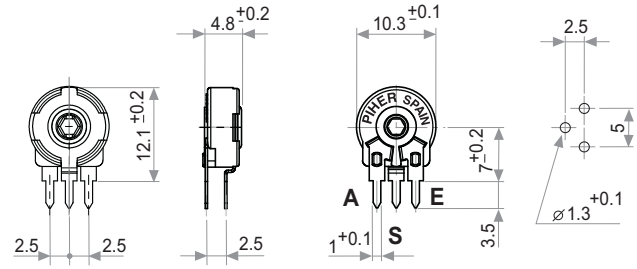


v (10) **A** = Initial **S** = Wiper **E** = Final

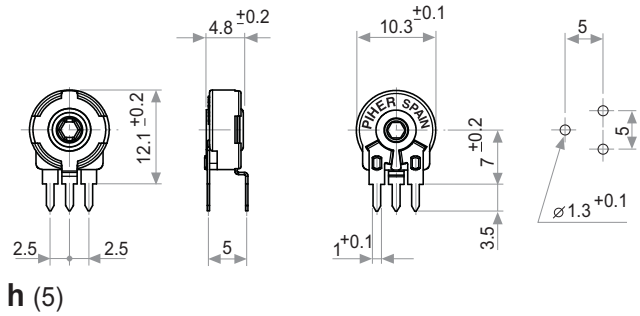


v (5)

h = vertical mount – horizontal adjust



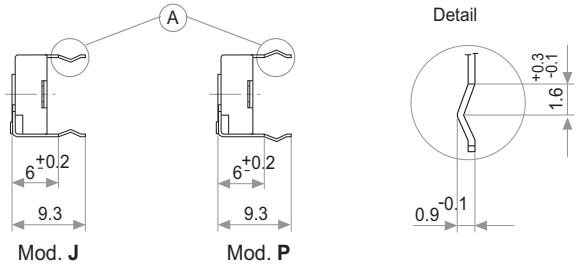
h (2.5) **A** = Initial **S** = Wiper **E** = Final



h (5)

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

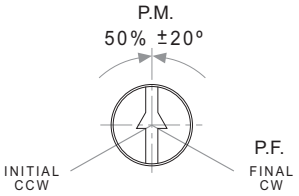
Crimped terminals



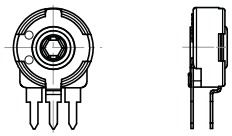
Mod. **J** Mod. **P**

OPTIONS

Positioning (Std. Position = CCW)



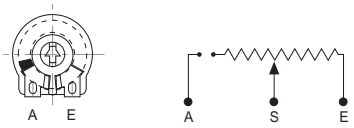
Special SWITCH (Upon request)



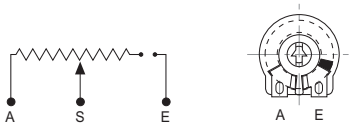
(Rotor at Final Position)

Mechanical Rotation Angle: 45º
Housing Colour: Green

CUT TRACK
CCW on-off (A)



CW on-off (E)



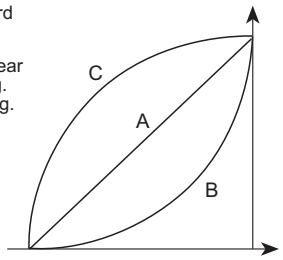
A = Initial E = Final S = Wiper

TAPERS

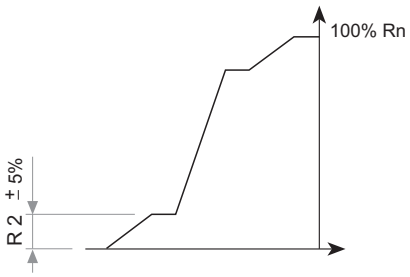
↓ Detents combined with silver zones - click here

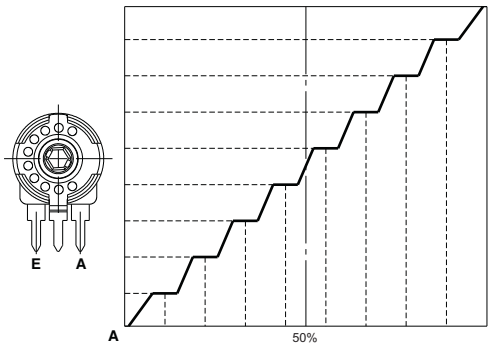
Standard

A = Linear
B = Log.
C = Alog.



Special taper example





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

TESTS — TYPICAL VARIATIONS

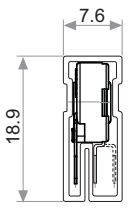
ELECTRICAL LIFE	1.000 h. @ 50°C; 0.15 W	±5 %
MECHANICAL LIFE (CYCLES)	500 @ 10 CPM ...15 CPM	±3 % (Rn < 1 MΩ)
TEMPERATURE COEFFICIENT	–25°C; +70°C	±300 ppm (Rn <100 K)
THERMAL CYCLING	16 h. @ 85°C; 2h. @ –25°C	±2.5 %
DAMP HEAT	500 h. @ 40°C @ 95% HR	±5 %
VIBRATION (for each plane X,Y,Z)	2 h. @ 10 Hz.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

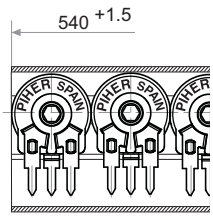
NOTE: Out of range values may not comply these results.

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.)



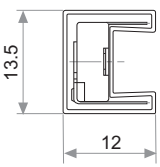


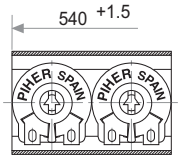
Magazines for PT-10 h 2.5; h 5

Also crimped term. h 2.5 P

AUTOMATIC INSERTION

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



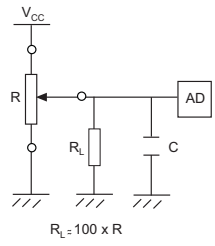


Magazines for PT-10 V

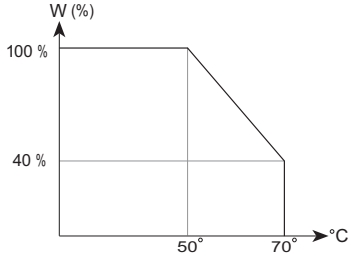
Also crimped term. VP

RECOMMENDED CONNECTION

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



POWER RATING CURVE



SHAFTS

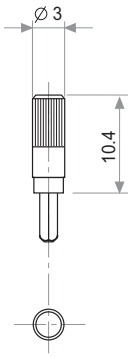


Fig. 1 / Ref. 5016

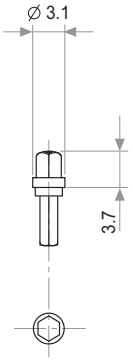


Fig. 2 / Ref. 5053

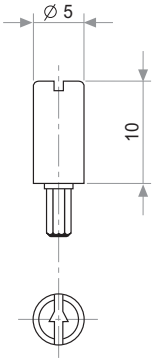


Fig. 3 / Ref. 5012

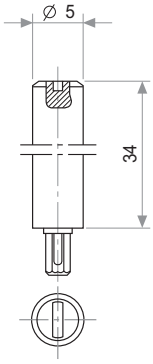


Fig. 4 / Ref. 6053

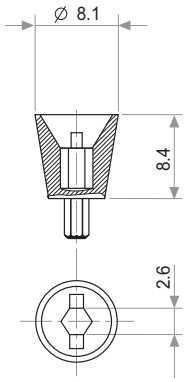


Fig. 6 / Ref. 5035

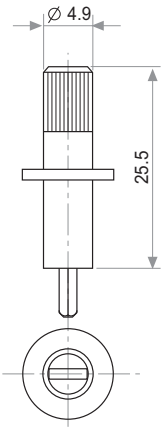


Fig. 7 / Ref. 5115

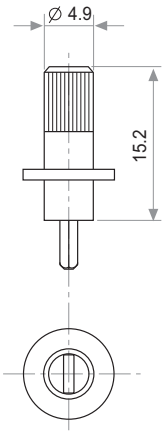


Fig. 8 / Ref. 5116

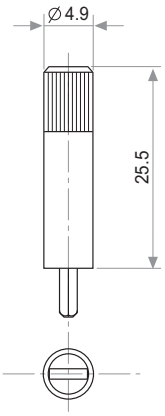


Fig. 9 / Ref. 5119

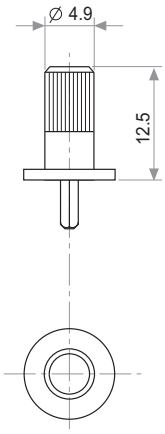


Fig. 10 / Ref. 5120

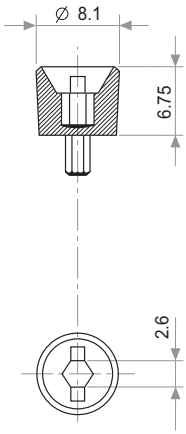


Fig. 11 / Ref. 5027

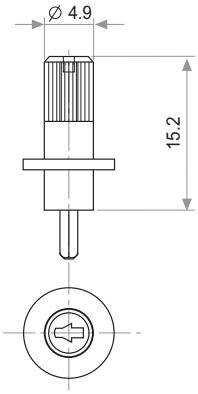


Fig. 12 / Ref. 6052

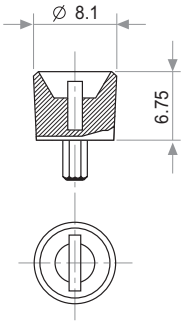


Fig. 13 / Ref. 5121

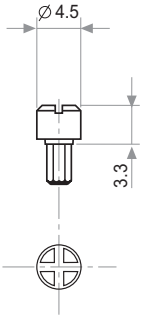


Fig. 14 / Ref. 5055

2- GANG Plastic Knob/ Plastic Shaft*

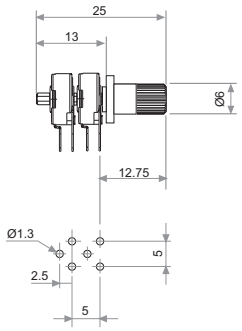


Fig. 18 / Ref. 6064

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

THUMBWHEELS

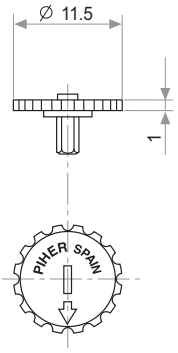


Fig. 5 / Ref. 5034

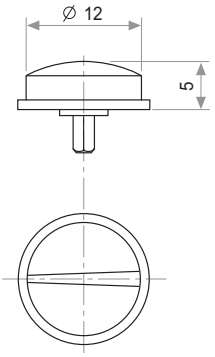


Fig. 15 / Ref. 6008

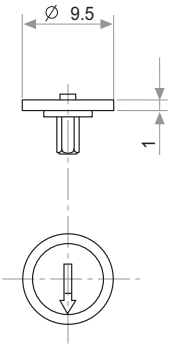


Fig. 16 / Ref. 5039

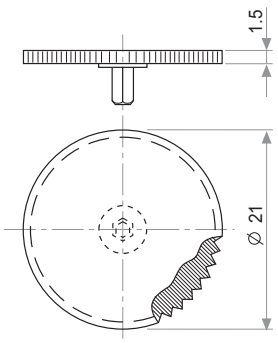


Fig. 17 / Ref. 5062