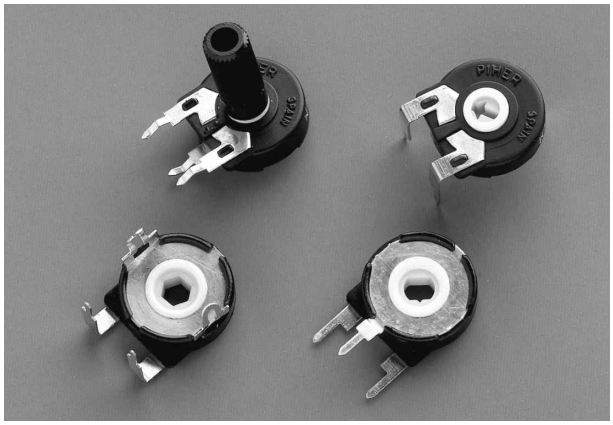
PIHER

PT-15 15 mm Carbon Potentiometer



FEATURES

- Carbon resistive element.
- Dust proof enclosure.
- Polyester substrate.
- Also upon request:
  - Wiper positioned at 50% or fully clockwise.
  - Long life model for low cost control pot. applications
  - Low torque option
  - Supplied in magazines for automatic insertion.
  - Self extinguishable plastic UL 94V-0
  - Cut track option
  - Special Tapers
  - Mechanical detents

MECHANICAL SPECIFICATIONS

– Mechanical rotation angle:	265° ± 5°
– Electrical rotation angle:	250° ± 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 ------ ± 30%
- Max. Voltage: 250 VDC (lin) 125 VDC (no lin)
- Nominal Power 50°C (122°F) (see power rating curve)
  0.25 W (lin) 0.12 W (no lin)
- Taper (*) (Log. & Alog. only Rn > 1K) Lin ; Log; Alog.
- Residual resistance: ≤ 5.10^{-3} Rn (2 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

STANDARD | OPTIONAL EXTRAS

PT-15	L	H01	223	A	2020										
Series: PT-15	Rotors: C F G L M N R T X W Y Z (See note 1)	Code / Mounting Method: H01 H2.5; H05 H5; H25 HC5; H06 B; H02 H2.5P; H10 H5P; V02 V12.5; V12 VA; V15 V15; V17 V17.5; V18 D; V24 VD15; V21 V12.5P; V22 VAP; V23 V15P (See note 2)	Value: 101 = 100 Ω; 223 = 22 K; 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	Shaft Thum.: 01 – Fig. 1 … 28 – Fig. 28	Flammability: I= non flammable (See note 6)	Shaft/rotor colour: RO=Red NE=Black VE=Green AM=Yellow AZ=Blue MA=Brown GR=Grey NA=Orange CR=Cream. (See note 7)	Wiper position: PM = 50% PF = Final	Torque: – = Standard L = Low torque (See note 8)	Magazine: T (See note 9)

NOTES:

(1) "Z" adjustment only available on "H" versions. Standard colour for the "T" rotor: Orange

(2) Terminal styles: "P" are crimped terminals

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

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

(5) Life • Standard 500 cycles
• Long life 10000 cycles

(6) Non flammable: housing, rotor and shaft.

(7) Colour shaft/rotor: • Potentiometer without shaft: only rotor • Potentiometer with shaft: only shaft
Cream colour only available in standard plastic

(8) Low Torque: ≤1.5Ncm. *No detent option available for low torque models*

(9) 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.

NOTE: The information contained here in may be changed without prior notice.

HOW TO ORDER CUSTOM DRAWING

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

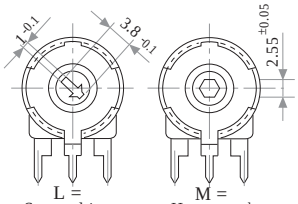
This way of ordering should be used for options which are not included in the "How to order" standard and optional extras.

STANDARD OPTIONS

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

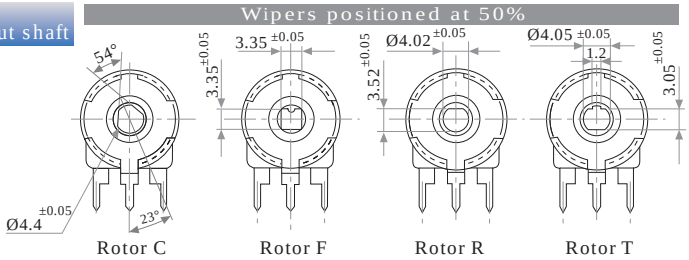
ROTORS

Wipers positioned at initial

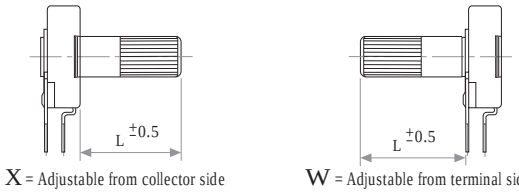


Without shaft

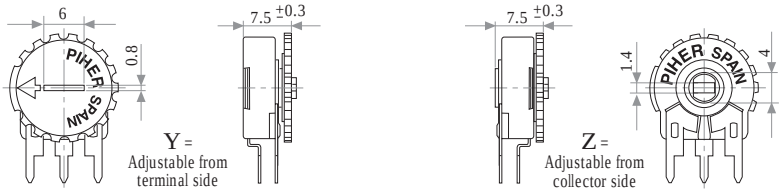
Wipers positioned at 50%



With shaft

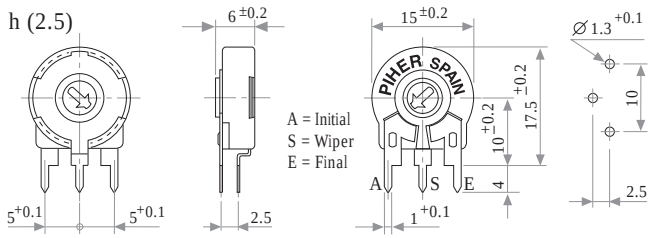


With thumbwheel

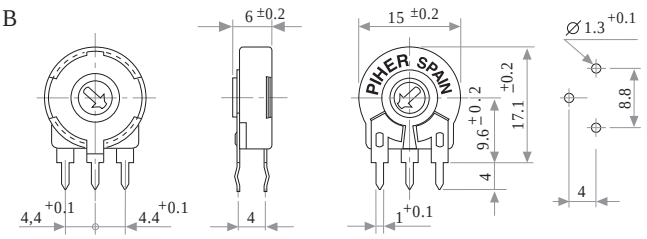


VERTICAL MOUNT - HORIZONTAL ADJUST

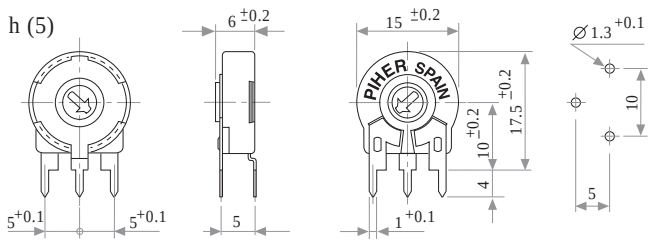
h (2.5)



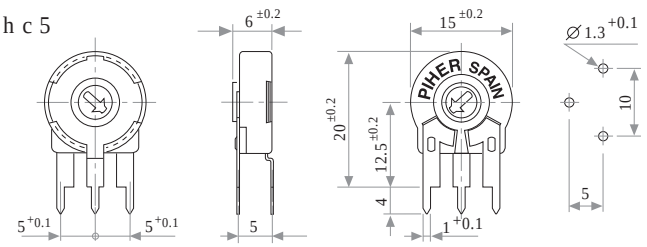
B



h (5)

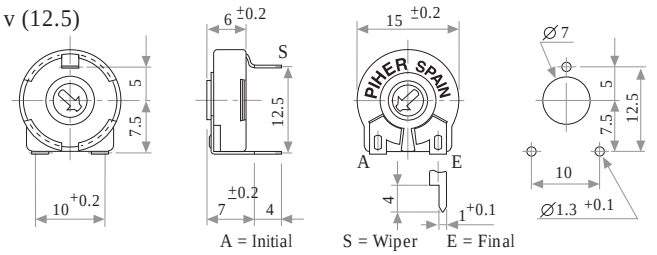


h c 5

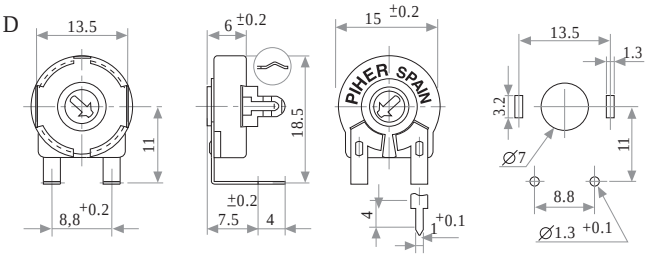


HORIZONTAL MOUNT - VERTICAL ADJUST

v (12.5)

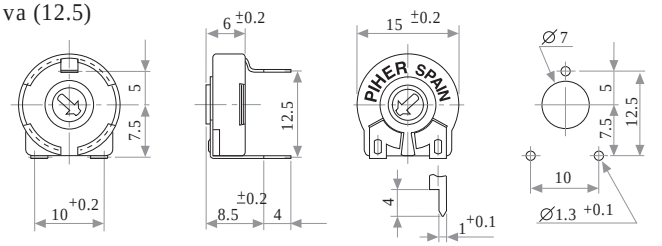


D

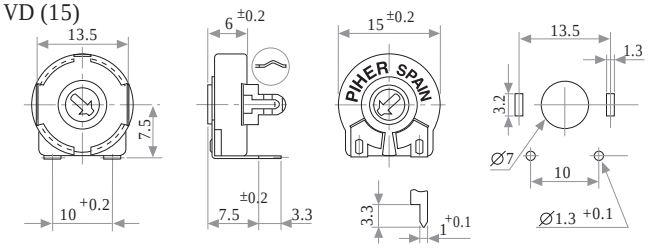


HORIZONTAL MOUNT - VERTICAL ADJUST

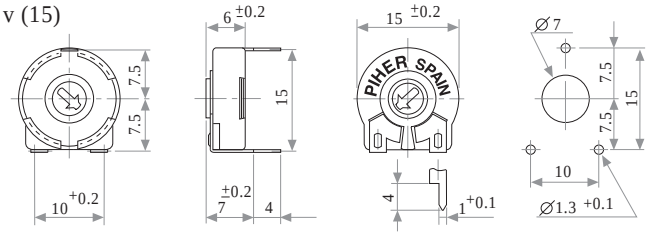
va (12.5)



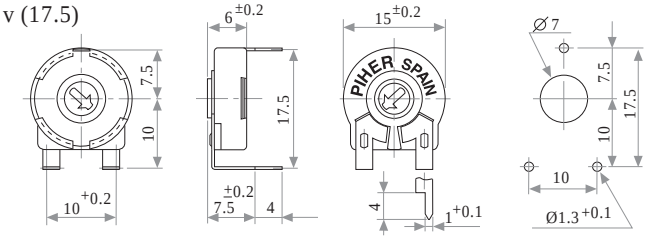
VD (15)



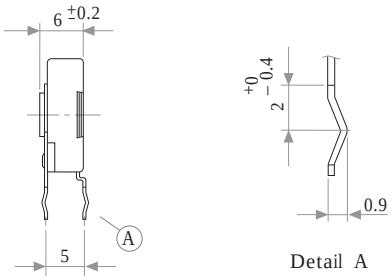
v (15)



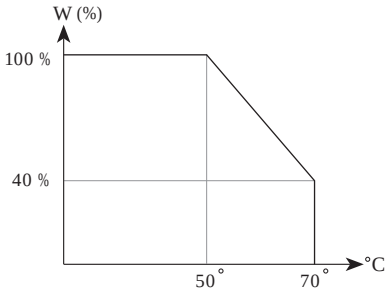
v (17.5)



CRIMPED TERMINALS (DETAIL)

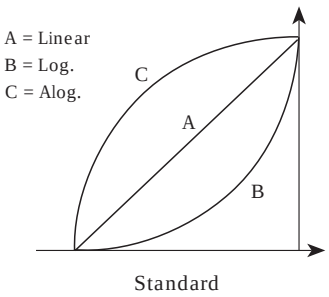


POWER RATING CURVE

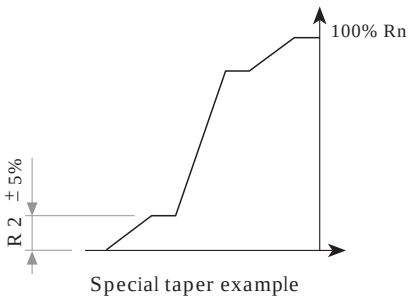


TAPERS

NOTE: Please note terminals disposition when ordering non linear curves.

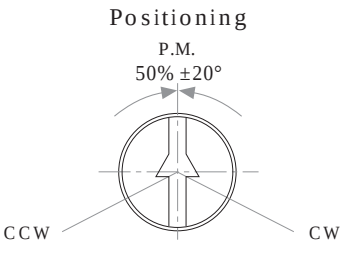


Standard



Special taper example

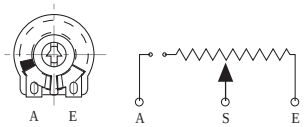
OPTIONS



Std. Position = CCW

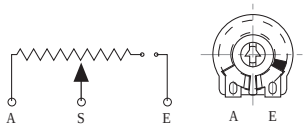
Cut Track

CCW on-off (A)



A = Initial
S = Wiper
E = Final

CW on-off (E)



TESTS	TYPICAL VARIATIONS	
ELECTRICAL LIFE	1.000 h. @ 50°C; 0.25 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 %

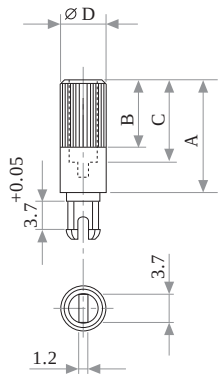
NOTE : Out of range values may not comply these results.

PACKAGING

MODEL	PIECES / BOX
No thumbwheel / shaft	200 (40 x 85 x 185 mm.)
With thumbwheel / shaft up to 19 mm.	100 (40 x 85 x 185 mm.)
With shaft exceeding 19 mm.	50 (40 x 85 x 185 mm.)

SHAFTS

Hollow model shafts



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

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	15	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

Solid model shafts

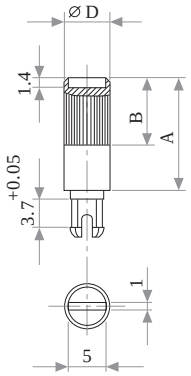


FIG.	A	B	D	Ref.
6	15	9	6	5219
7	16.8	9	6	5220
8	25.3	9	6	5207
12	46	5	6	5227

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

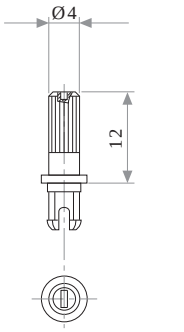


Fig. 3 / Ref. 5372

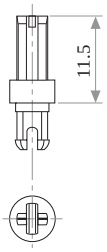


Fig. 14 / Ref. 5248

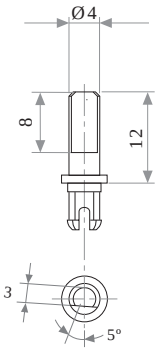


Fig. 15 / Ref. 5217

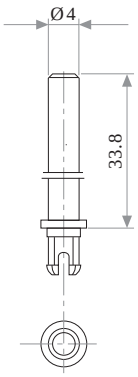


Fig. 16 / Ref. 5262

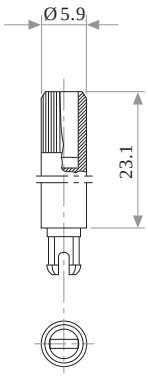


Fig. 17 / Ref. 5210

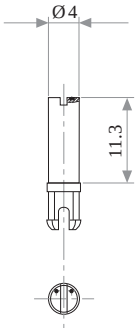


Fig. 18 / Ref. 5271

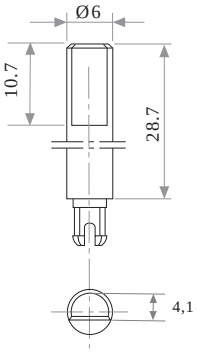


Fig. 19 / Ref. 6032

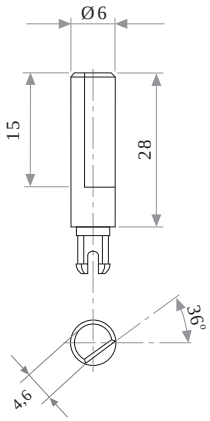


Fig. 20 / Ref. 5369

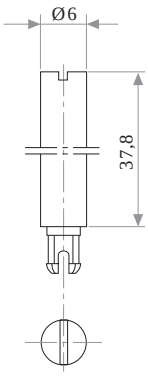


Fig. 21 / Ref. 6031

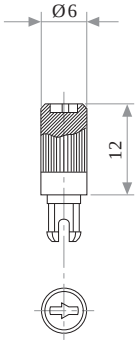


Fig. 22 / Ref. 6029

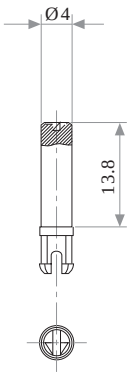


Fig. 23 / Ref. 6022

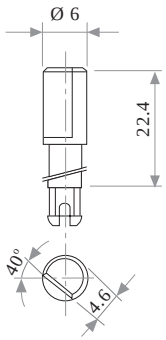


Fig. 24 / Ref. 6058

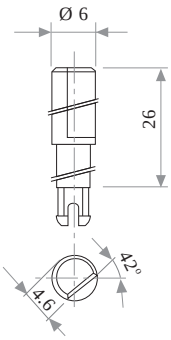


Fig. 25 / Ref. 6059

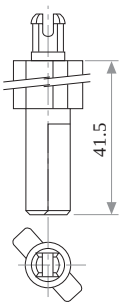


Fig. 27 / Ref. 5268

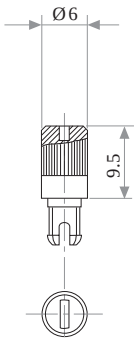


Fig. 28 / Ref. 6055

THUMBWHEEL

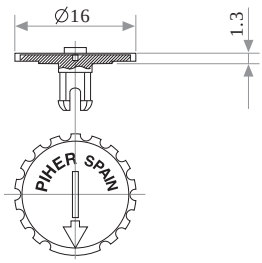


Fig. 4 / Ref. 5371