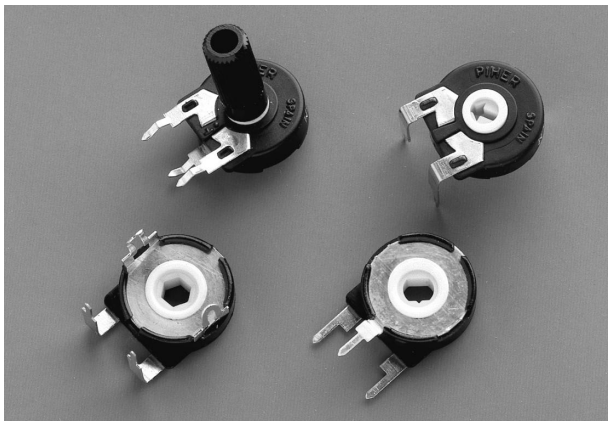
PIHER

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°
  240° ± 5° available under drawing (blue housing only)
- 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)
- Life: up to 200K cycles

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 (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-15	L	H01	223	A	2020										S

Series
PT-15

Rotors
C F G L M N R T X W Y Z
(See note 1)

Code / Mounting Method

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
U= Extra 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. V24 not available with steel terminals. V=Vertical adjust; H=Horizontal Adjust

(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
- Extra Long life 100000 cycles (to be studied case by case)

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

(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 should be used for reference purposes only.

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.

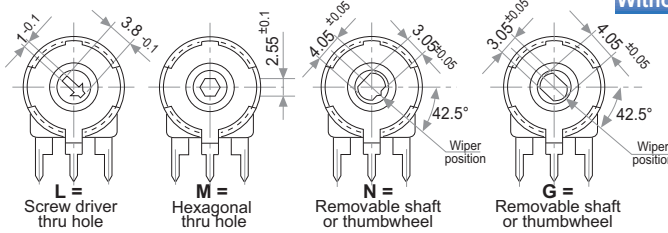
STANDARD OPTIONS

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

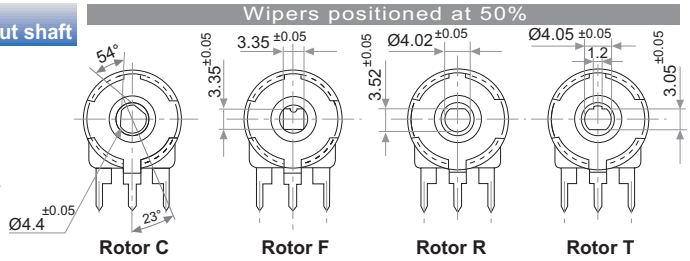
ROTORS

Wipers positioned at initial

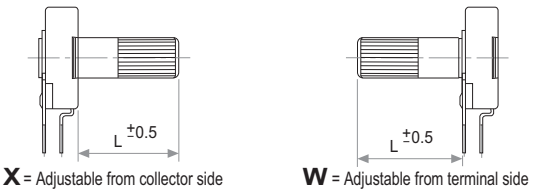
Without shaft



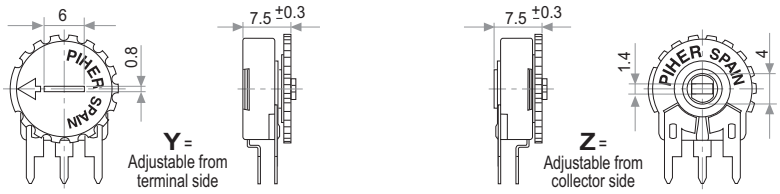
Wipers positioned at 50%



With shaft

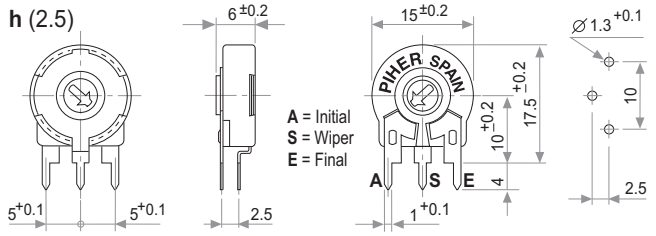


With thumbwheel

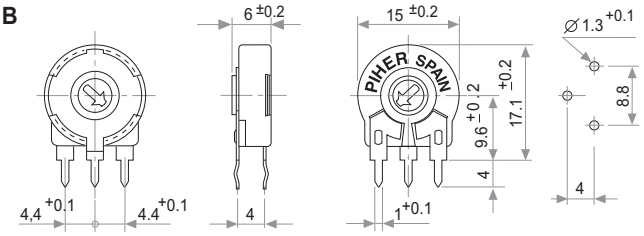


VERTICAL MOUNT - HORIZONTAL ADJUST

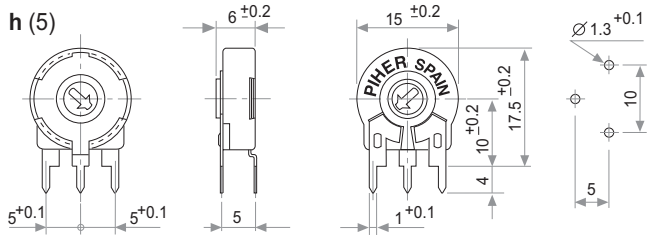
h (2.5)



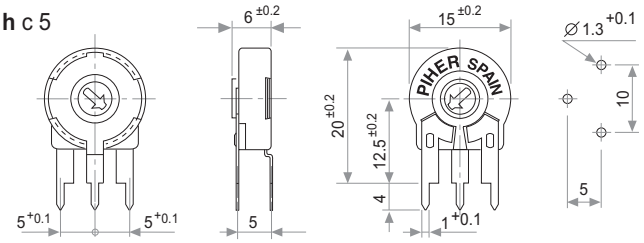
B



h (5)

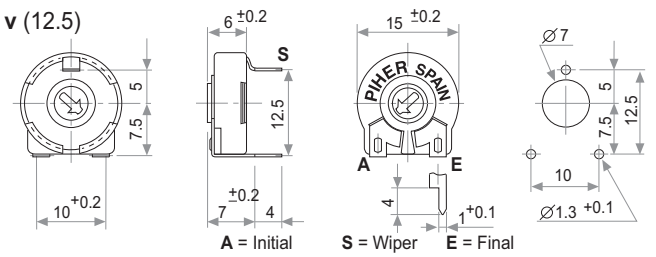


h c 5

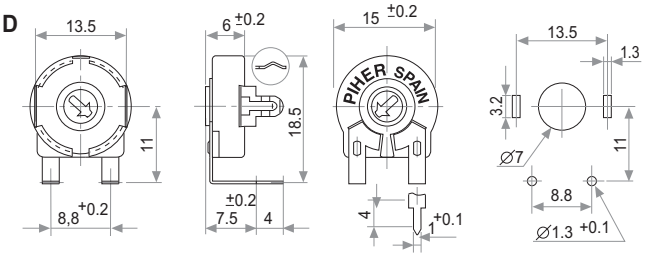


HORIZONTAL MOUNT - VERTICAL ADJUST

v (12.5)

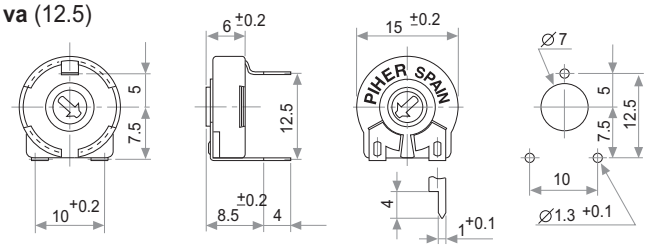


D

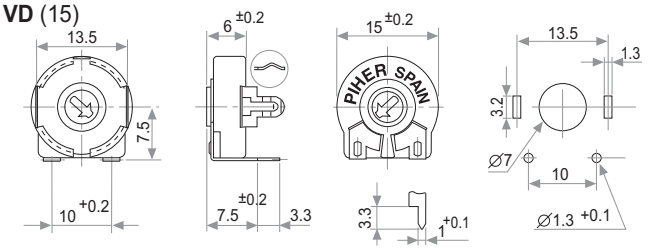


HORIZONTAL MOUNT - VERTICAL ADJUST

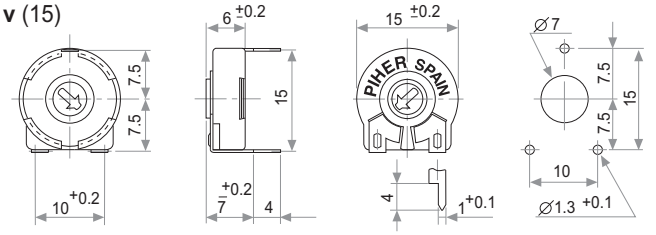
va (12.5)



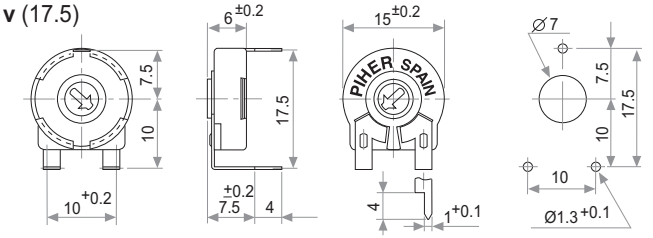
VD (15)



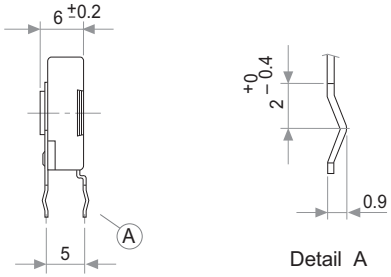
v (15)



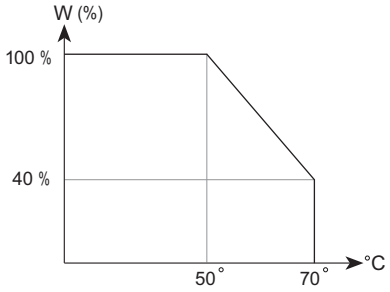
v (17.5)



CRIMPED TERMINALS (DETAIL)

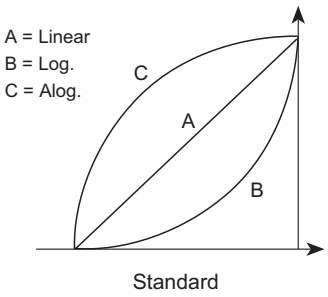


POWER RATING CURVE

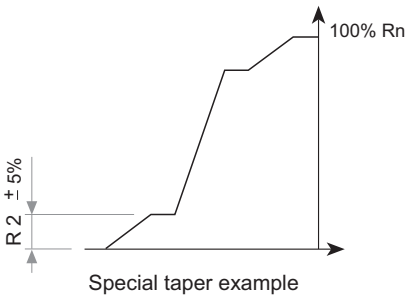


TAPERS

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

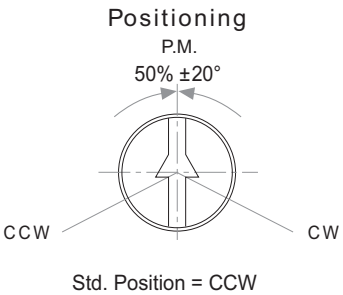


Standard



Special taper example

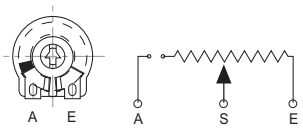
OPTIONS



Std. Position = CCW

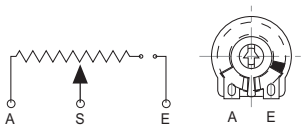
Cut Track

CCW on-off (A)



A = Initial
S = Wiper
E = Final

CW on-off (E)

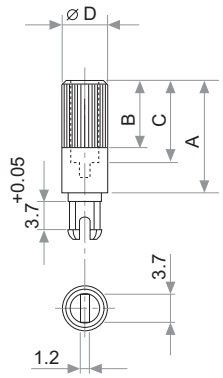


TESTS	TYPICAL VARIATIONS	
ELECTRICAL LIFE	1.000 h. @ 50°C; 0.25 W	±5 %
MECHANICAL LIFE (CYCLES)	500 @ 10 CPM ...15 CPM	±3 % (Rn < 1 MΩ)
TEMPERATURE COEFFICIENT	–25°C; +70°C	±300 ppm (Rn <100 K)
THERMAL CYCLING	16 h. @ 85°C; 2h. @¯ 25°C	±2.5 %
DAMP HEAT	500 h. @ 40°C @ 95% HR	±5 %
VIBRATION (for each plane X,Y,Z)	2 h. @ 10 Hz. ... 55 Hz.	±2 %

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

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	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

Solid model shafts

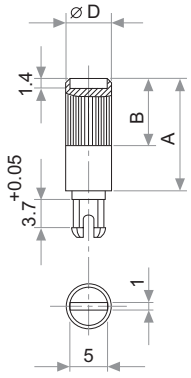


FIG.	A	B	D	Ref.
6	15	9	6	5219
7	16.8	9	6	5220
8	25.3	9	6	5207
12	46	5	6	5227

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

SHAFTS

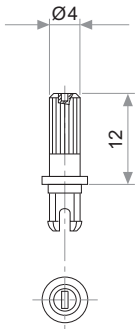


Fig. 3 / Ref. 5372

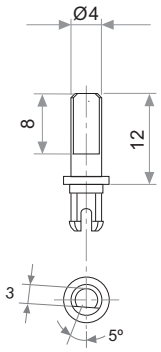


Fig. 15 / Ref. 5217

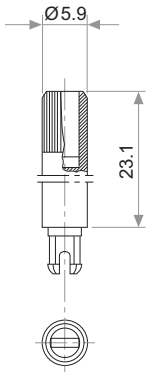


Fig. 17 / Ref. 5210

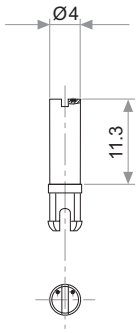


Fig. 18 / Ref. 5271

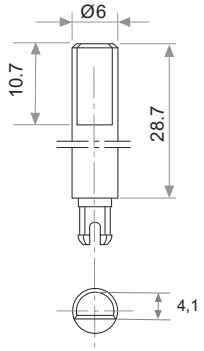


Fig. 19 / Ref. 6032*

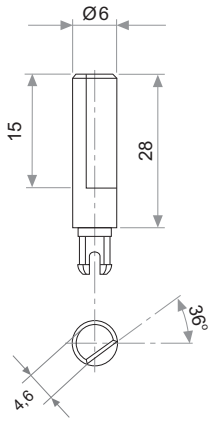


Fig. 20 / Ref. 5369*

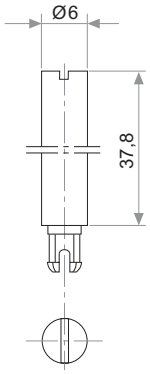


Fig. 21 / Ref. 6031*

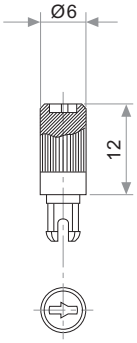


Fig. 22 / Ref. 6029

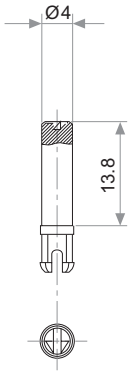


Fig. 23 / Ref. 6022

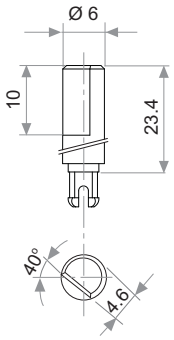


Fig. 29 / Ref.6162

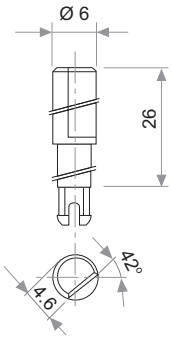


Fig. 25 / Ref. 6059

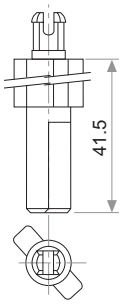


Fig. 27 / Ref. 5268*

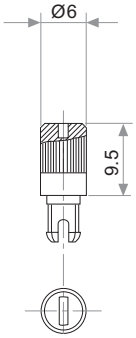


Fig. 28 / Ref. 6055

* Not available in self extinguishable plastic

THUMBWHEEL

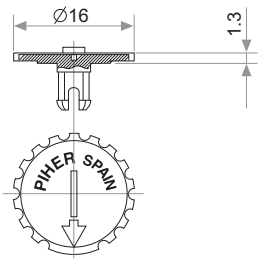


Fig. 4 / Ref. 5371