

## FEATURES

- Carbon resistive element.
- Dust proof enclosure.
- With or without actuating knob
- Optional SPST switch

## MECHANICAL SPECIFICATIONS

- Mechanical rotation angle:  $255^\circ \pm 5^\circ$
- Electrical rotation angle:  $220^\circ \pm 20^\circ$
- Torque: 0.5 to 1.5 Ncm.  
(0.7 to 2.1 in-oz)
- Stop torque: > 40 Ncm. (> 56 in-oz)

## 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 50°C (122°F) (see power rating curve)  
0.25 W (lin) 0.12 W (no lin)
- Taper\* (Log. & Alog. only  $R_n > 1\text{K}$ ) Lin ; Log; Alog.
- Residual resistance\*:  $\leq 0.5\% R_n$  (5  $\Omega$  min.)
- Equivalent Noise Resistance:  $\leq 3\% R_n$  (3  $\Omega$  min.)
- Operating temperature\*\*:  $-25^\circ\text{C} + 70^\circ\text{C}$  ( $-13^\circ\text{F} + 158^\circ\text{F}$ )

\* Others upon request.

\*\* Up to 85°C depending on application.

## HOW TO ORDER

### STANDARD

T-18	A	I	1	473	B	2020
Series	Terminals	Switch	Thumbwheel	Value	Taper	Tolerance
T-18	A = PCB B = Solder Lugs	I = with S = without	S = sb/st T = sb/ct 1 = Fig. 1 2 = Fig. 2 3 = Fig. 3 4 = Fig. 4 (See note 1)	101 = 100 $\Omega$ 203 = 20 K 504 = 500 K 505 = 5 M (See note 2)	A = Linear B = Log. C = Alog. (See note 4) Others tapers on request	2020 = +/-20% 3030 = +/-30% (See note 3)

### NOTES:

- (1) Thumbwheel: S = without knob, without screw  
T = without knob, with screw  
Fig. 1, 2 y 3: countersunk knob  
Fig. 4: knob with screw  
knob colour: Black

If you wish to use your own custom plastic shaft/knob/actuator please contact Piher for advice about compatible materials.

- (2) Value: • Code:  $\overbrace{10}^{\text{Number of zeros}} \overbrace{1}^{\text{2 first digits of the value.}} 100\Omega$   
Others values upon request.

- (3) Tolerance (non standard), upon request.  
Rotary switch with Alog. curve is not available.

Example code: +7 = 07 05  
-5 = negative tolerance  
positive tolerance

- (4) Switch option not available with antilog taper.

NOTE: The information contained here should be used for reference purposes only.

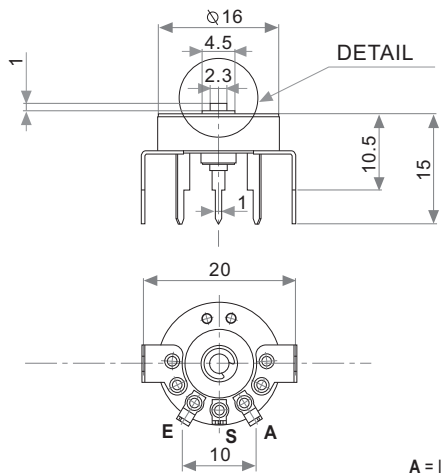
## HOW TO ORDER CUSTOM DRAWING

T-18 A I + DRAWING NUMBER (Max. 16 digits)

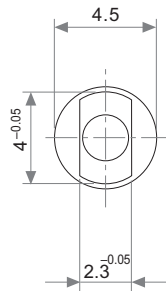
This way of ordering should be used for options which are not included in the "How to order" standard and optional extras.

### TERMINALS

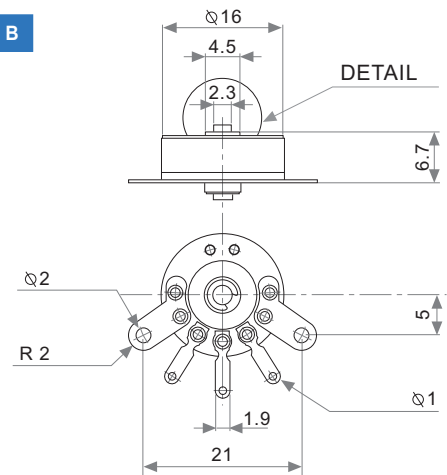
T-18 A



DETAIL

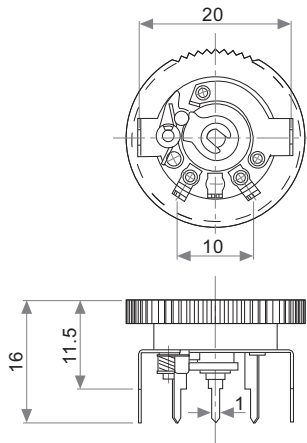


T-18 B

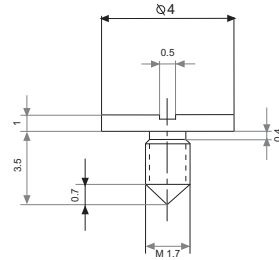


A = Initial S = Wiper E = Final

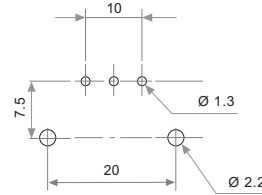
### SWITCH



ELECTRICAL AND MECHANICAL	
SWITCH RATING	0.5 A; 12V DC
SWITCH OPERATING ANGLE	25°±10°
MECHANICAL LIFE (CYCLES)	10.000

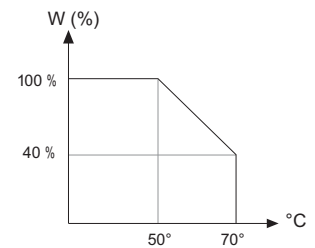


SCREW



FOOTPRINT

### POWER RATING CURVE



### THUMBWHEEL

Fig. 1 / Ref. 5950

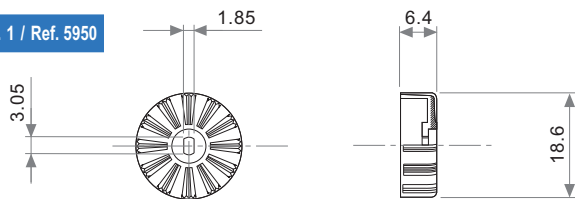


Fig. 2 / REF. 5951

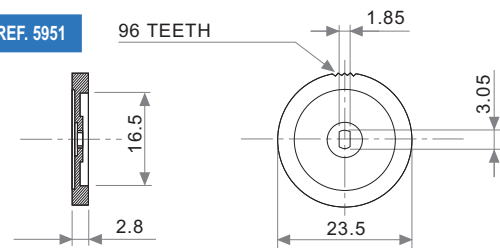


Fig. 3 / Ref. 5952

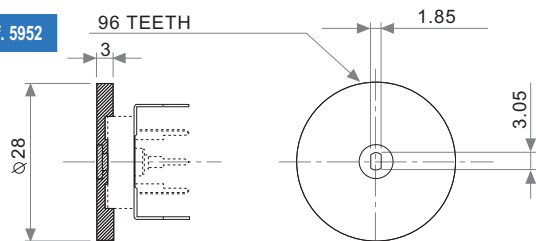
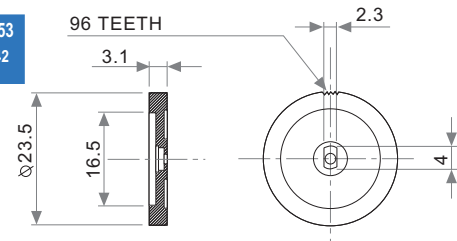


Fig. 4 / Ref. 5953  
(Screw Ref. 5342 is required)



### TESTS

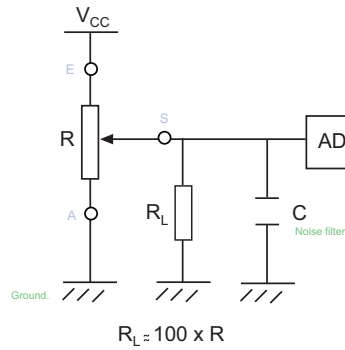
### TYPICAL VARIATIONS

ELECTRICAL LIFE	1.000 h. @ 50°C; 0.25 W	±5 %
MECHANICAL LIFE : POT.	25.000 (10-15 CPM)	±3 % (Rn < 1 M)
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.

## RECOMMENDED CONNECTIONS

Piher potentiometer's recommended connection circuit for a position sensor or control application. (voltage divider circuit electronic design).



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