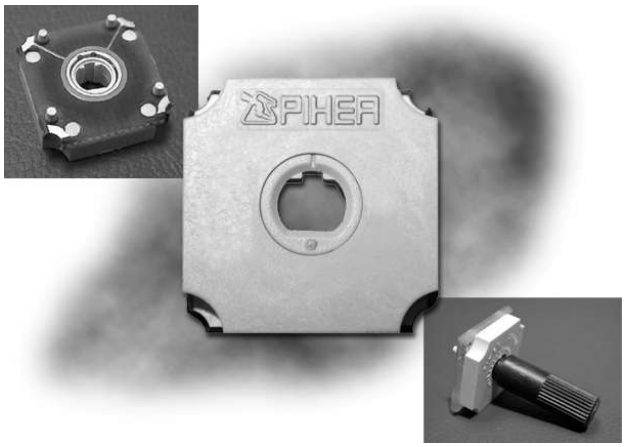
N-15 15mm Carbon Position Sensor/ Potentiometer



FEATURES

Conceived and designed for customisation
SMD or Through-hole Mount
Endless Rotation (360º)
Wide Electrical Angle (340º ± 10º)
Extended Mechanical Life (100k cycles)
Working Temperature Range (-40ºC to +120ºC)
Low Profile (4.4 mm)
Linearity ± 3% (standard), ±1.5% (max)
Embossed Tape or Bulk packaging
Reflow Soldering capability
Shaft insertable from both sides
Polarised "T" rotor (European Home Appliance standard)

STANDARD SPECIFICATIONS

Resistance values:	5k, 10k, 100k
Tolerance:	± 30%
Nominal Power:	0.15 W @ 50ºC
Linearity (absolute):	± 3%
Taper:	Linear
Mechanical Life:	100,000 cycles
Temperature Range:	-40ºC to +120ºC
Mechanical Angle:	360º
Electrical Angle:	340º ± 10º
Rotational Torque:	≤ 20 mN.m
Max. Voltage:	250 VDC

Others upon request

TYPICAL APPLICATIONS

The N15 series offers an SMD and Through Hole mount solution for the majority of Position/Rotary Sensor and multi-purpose Control applications such as:

- Automotive HVAC, Seat, Rear-view mirror actuator feedback sensors and HVAC Controls
-Temperature Control for Boilers, Wall Heaters, Showers, Radiators, Conventional and Microwave Ovens, Freezers...
- Timer & Function/Programme Select for Washing Machines, Dishwashers and all White Goods in general.
- Size and Position detectors

HOW TO ORDER

N-15	T	S	103	A	3030
Series	Rotors	Mounting Method	Value	Taper	Tolerance
N-15	T	V =Through Hole S = SMD	502 = 5 K 103 = 10 K 104 = 100 K	A = Lin.	3030 = ± 30%
(See note 1)				(See note 2)	(See note 3)

NOTES:

(1) A wide variety of custom substrates available
(2) Availability of a wide range of customised tapers and step curves
(3) Optional precision laser-trimmed voltage divider calibration

Shafts are not available mounted to the potentiometer and should be ordered separately

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

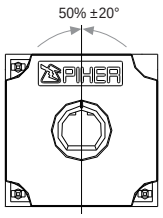
HOW TO ORDER CUSTOM DRAWING

N-15 T S + DRAWING NUMBER (Max. 16 digits)

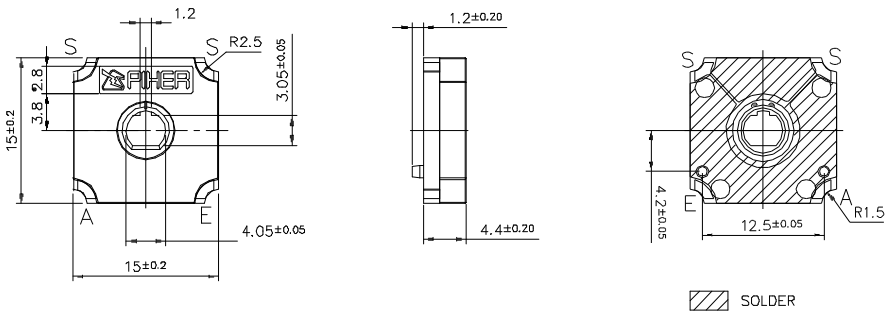
This way of ordering should be used for options which are not included in the "How to order" standard and optional extras.

STANDARD WIPER POSITION

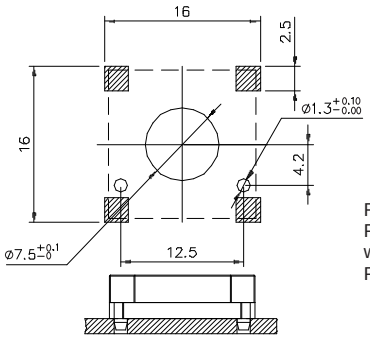
Wiper positioned at 50 % of the electrical angle.



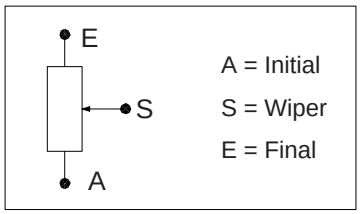
SMD MOUNT



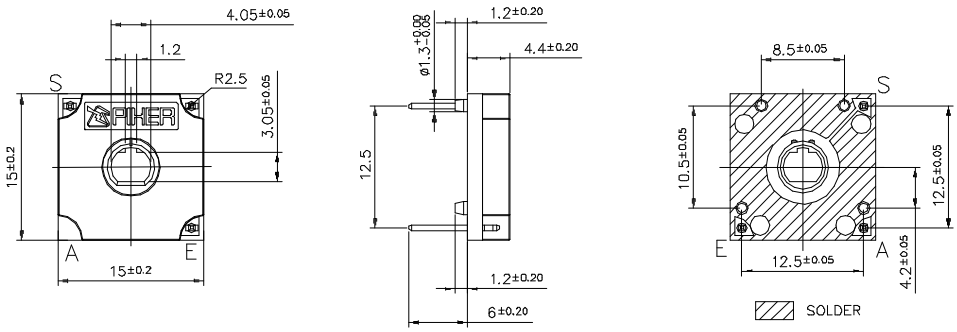
FOOT – PRINT



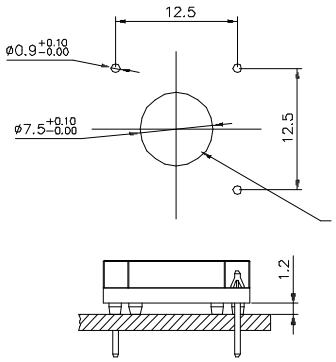
Recommended PCB hole diameter when using listed Piher shafts



THROUGH HOLE MOUNT

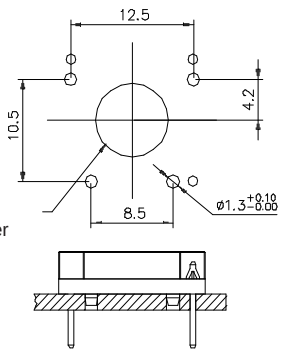


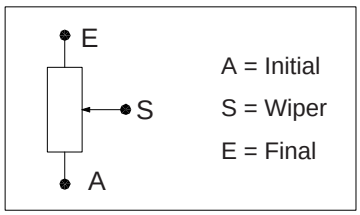
PCB HOLE LAYOUT 1



Recommended PCB hole diameter when using listed Piher shafts

PCB HOLE LAYOUT 2

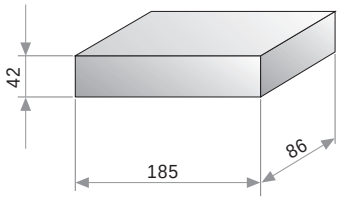




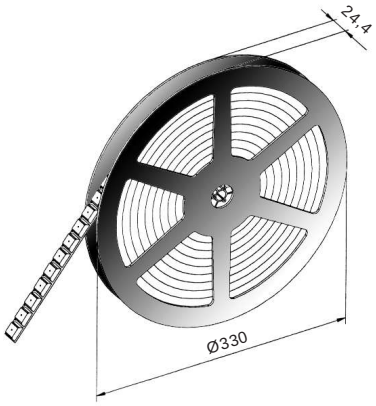
TESTS	TYPICAL VARIATIONS	
ELECTRICAL LIFE	1.000 h. @ 50°C; 0.15 W	±40 %
MECHANICAL LIFE (CYCLES)	100,000 @ 20 CPM	±40 % (Rn < 100 K)
TEMPERATURE COEFFICIENT	–40°C to +120°C	±300 ppm (Rn <100 K)
THERMAL CYCLING	10h. @ 120°C; 10h. @ -40°C	±40 %
DAMP HEAT	500 h. @ 40°C @ 95% HR	±40 %

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

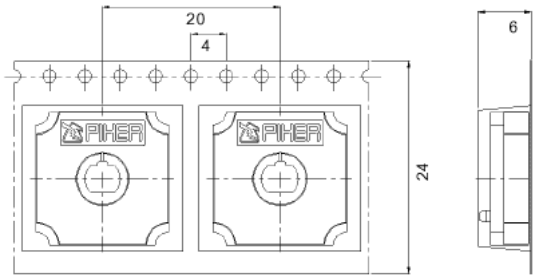
PACKAGING



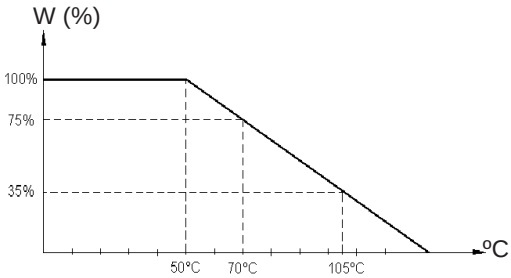
BULK
200 Units per box.
Through hole version only



EMBOSSED TAPE
500 Units per Reel
SMD version only

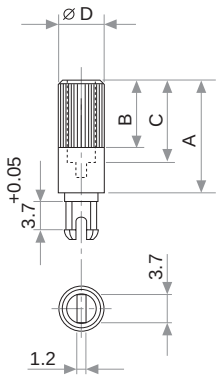


POWER RATING CURVE



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

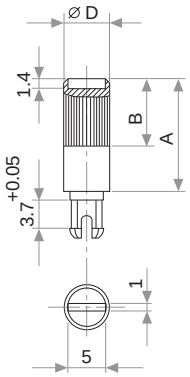


FIG.	A	B	D	Ref.
6	15	9	6	5219
7	16.8	9	6	5220
8	25.3	9	6	5207
12	46	5	6	5227

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

Other shafts

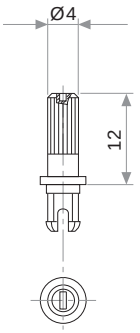


Fig. 3 / Ref. 5372

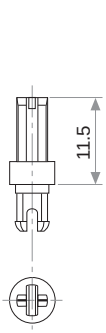


Fig. 14 / Ref. 5248

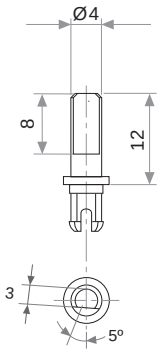


Fig. 15 / Ref. 5217

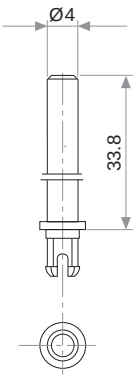


Fig. 16 / Ref. 5262

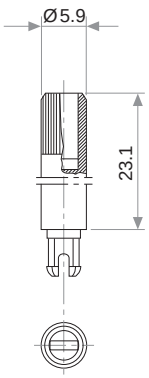


Fig. 17 / Ref. 5210

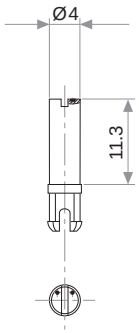


Fig. 18 / Ref. 5271

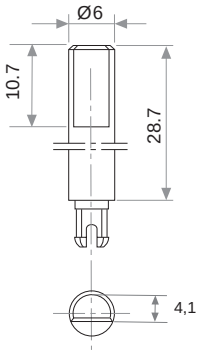


Fig. 19 / Ref. 6032

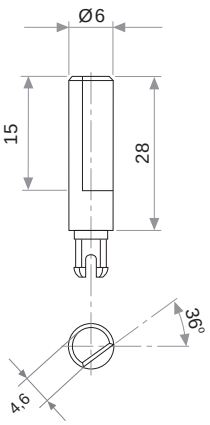


Fig. 20 / Ref. 5369

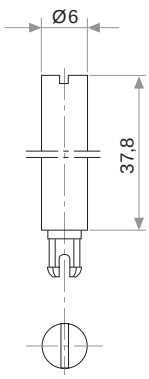


Fig. 21 / Ref. 6031

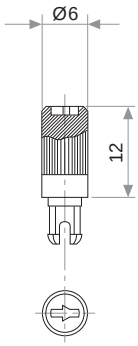


Fig. 22 / Ref. 6029

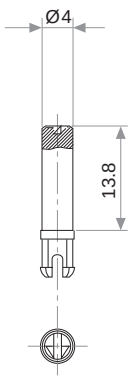


Fig. 23 / Ref. 6022

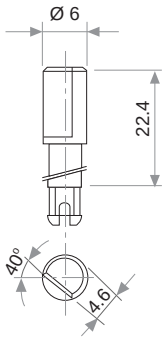


Fig. 24 / Ref. 6058

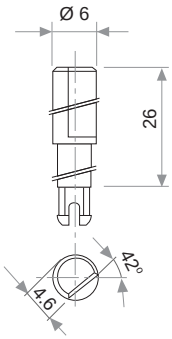


Fig. 25 / Ref. 6059

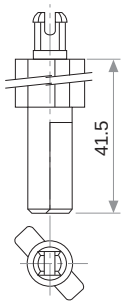


Fig. 27 / Ref. 5268

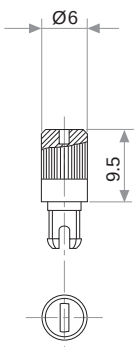


Fig. 28 / Ref. 6055