

# A15-3P

Position Sensor /  
Control

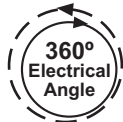


360°  
Electrical  
Angle

NO  
DEAD  
BAND



Fully  
Customisable



Reflow  
Soldering

## STANDARD SPECIFICATIONS

Resistance values*:	3.3k
Tolerance:	± 40%
Nominal Power:	0.15 W @ 50°C
Linearity (independent):	± 2%
Mechanical Life**:	100K cycles
Temperature Range:	-40°C to +120°C
Mechanical Angle:	360°
Rotational Torque:	≤ 20 mN.m
Max. Voltage:	22 VDC

(\*) Others upon request

(\*\*) 200K cycles version available upon request

## FEATURES

### Electrical angle: 360°

Designed for direct input to microprocessor.

SMD, Horizontal or Through-hole Mount

Endless Rotation

Extended Mechanical Life

Working Temperature Range (-40°C to +120°C)

Low Profile (4.4 mm)

Linearity (independent): ±2%

Embossed Tape or Bulk packaging

Reflow Soldering capability

Plug-in shafts

Shaft insertable from both sides

Polarised "T" rotor (European Home Appliance standard)

Ideal for Consumer Control and position sensing applications

IP54 protection according to IEC 60529

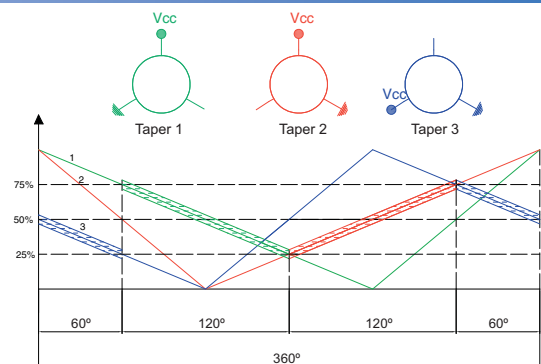
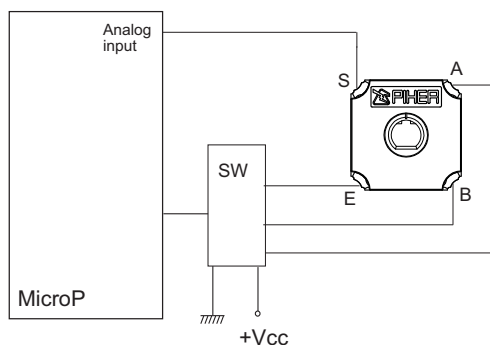
## APPLICATIONS

This device is aimed to applications that need on-field arbitrary initial and final travel reference points calibration.

Once these have been set, the A15-3P provides accurate position feedback output to the controller.

Designed to be a cost-effective replacement for absolute encoders, the A15-3P series offers an SMD, Vertical and Through Hole mount solution for the majority of **Position/Angle Rotary Sensor** and **multi-purpose Control applications** such as garage door openers, gauges, rotary actuators and robotics.

## SCHEMATIC AND FUNCTIONALITY



## HOW TO ORDER

<b>A15 3P</b>	<b>T</b>	<b>S</b>	-	<b>332</b>	<b>DDB</b>	<b>4040</b>
Series	Rotor	Mounting Method		Value	Curve code	Tolerance
A15 3P	T	V = Through Hole S = SMD		332 = 3.3 K Others upon request	DDB	4040 = ± 40%

### NOTES:

Shafts are not available mounted to the potentiometer and should be ordered separately  
Through hole versions will be studied case by case

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

## SMD MOUNT



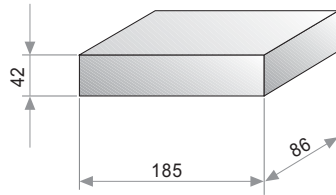
## TESTS

## 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 %

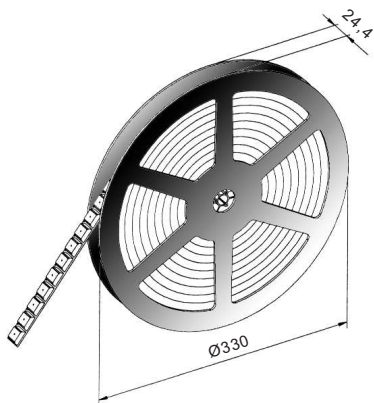
NOTE : Out of range values may not comply these results.

## PACKAGING



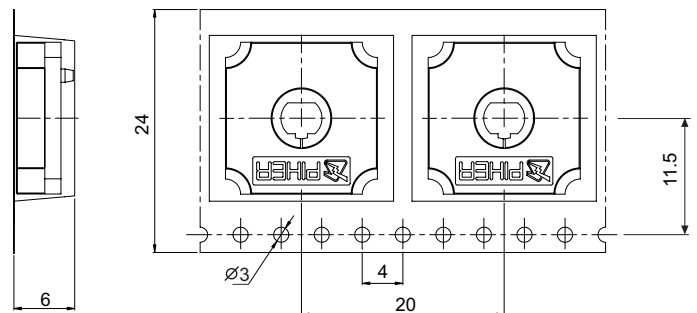
### BULK

150 Units per box.  
Through hole version only



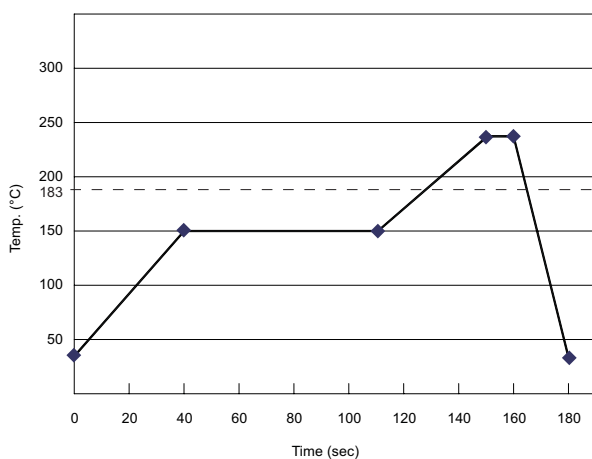
### EMBOSSED TAPE

500 Units per Reel  
SMD version only

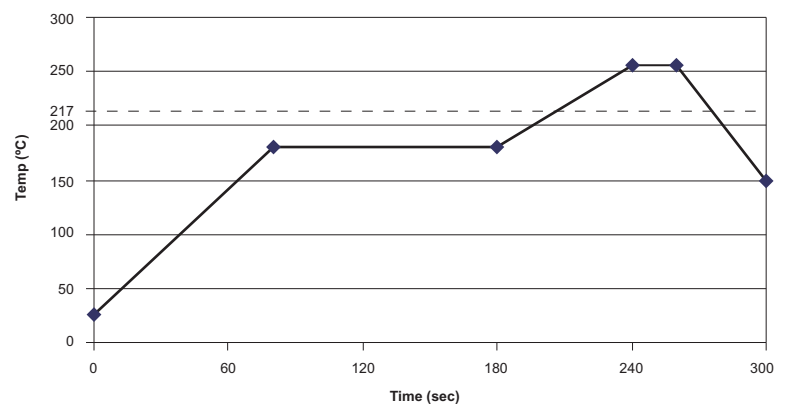


## RECOMMENDED REFLOW PROFILE (SMD types)

### SnPb Reflow Profile



### Lead Free Reflow Profile



The recommended reflow profile is provided as a guideline. Optimal profile may differ due to oven type, assembly layout or other design or process variables. Customers should verify actual device performance in their specific application and reflow process. Please contact Piher if you require additional support.

## Hollow model shafts

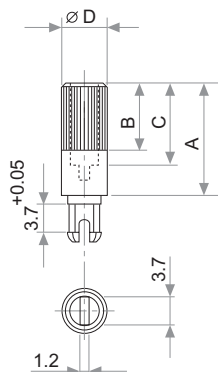


FIG.	A	B	C	D	Ref.
1	12	9	8	6	5272
2	19	9	15	6	5214
5	9.5	6.5	5.5	6	5208
9	35	9	15	6	5216
10	37.8	9	33.8	6	5218
11	35	25	15	6	5209
13	7.8	4.8	3.8	6	5265

## Solid model shafts

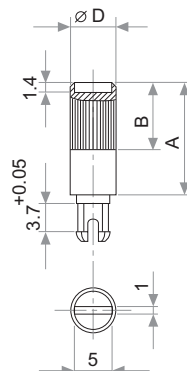


FIG.	A	B	D	Ref.
6	15	9	6	5219
7	16.8	9	6	5220
8	25.3	9	6	5207
12	46	5	6	5227

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

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

## Other shafts

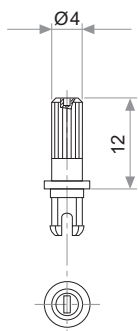


Fig. 3 / Ref. 5372

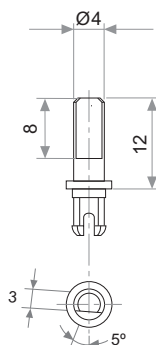


Fig. 15 / Ref. 5217

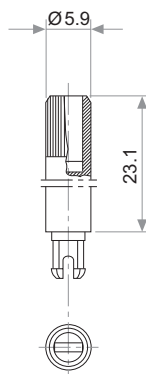


Fig. 17 / Ref. 5210

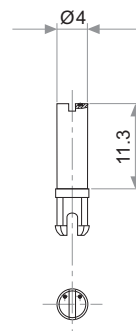


Fig. 18 / Ref. 5271

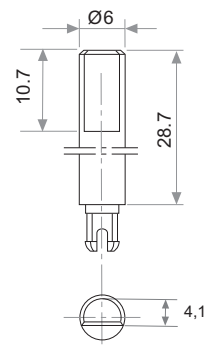


Fig. 19 / Ref. 6032\*

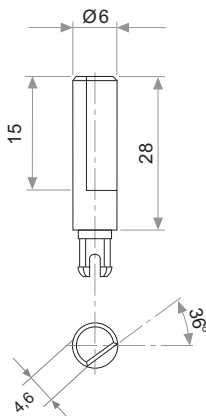


Fig. 20 / Ref. 5369\*

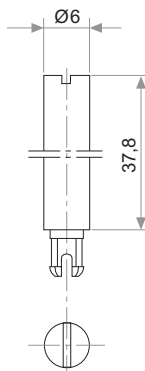


Fig. 21 / Ref. 6031\*

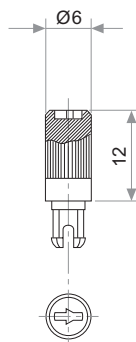


Fig. 22 / Ref. 6029

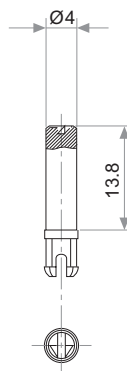


Fig. 23 / Ref. 6022

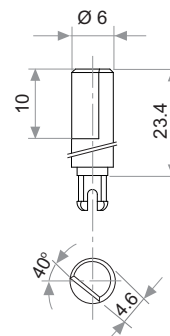


Fig. 29 / Ref. 6162

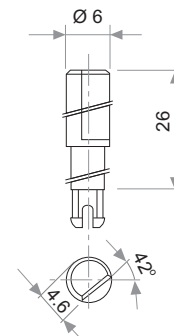


Fig. 25 / Ref. 6059

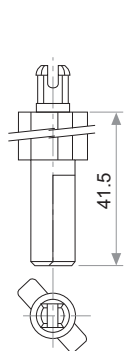


Fig. 27 / Ref. 5268\*

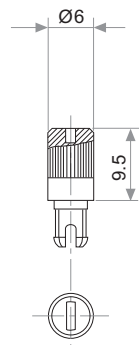
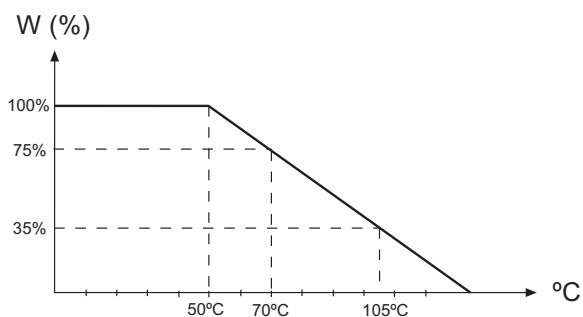


Fig. 28 / Ref. 6055

## POWER RATING CURVE



\* Not available in self extinguishable plastic

## Disclaimer

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