High Reliable Sensor Dedicated to Aeronautic Applications

FEATURES

- Conductive plastic potentiometer technology
- Very robust version
- Precious metal contacts, stainless steel shaft and bearings, anodized light alloy flange
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

RoHS COMPLIANT

QUICK REFERENCE DATA	
Sensor type	ROTATIONAL, conductive plastic
Output type	Output by wires
Market appliance	Industrial, avionics
Dimensions	22.1 mm

ELECTRICAL SPECIFICATIONS	
PARAMETER	
Number of cup	1
Total electrical travel	90° ± 3° (more on request)
Useful electrical travel	≥ 70° (more on request)
Electrical continuity	≥ 340°
Rated resistance	5 kΩ ± 20 % (± 10 % on request)
Independent linearity standard	± 1 %
Independent linearity optional	± 0.5 % (± 0.4 % on request)
Rated power dissipation	0.25 W at 70 °C
Temperature coefficient	-300 ppm/°C ± 300 ppm/°C
Output smoothness	≤ 0.1 %
Resolution	Infinite
Insulation resistance	≥ 1 GΩ at 500 V_{DC}
Dielectric strength	Leakage current ≤ 1 mA under conditions 750 V_{AC}, 50 Hz, 1 min
Wiper current	≤ 1 mA (≤ 10 mA on request)
Output voltage hysteresis	≤ 0.08 % of U_{supply}

MECHANICAL SPECIFICATIONS	
PARAMETER	
Mechanical travel	360° (continuous rotation)
Mechanical backlash	< 0.1°
Running torque	≤ 20 cN cm
Recommended mounting	Flexible coupling between customer motor element and potentiometer shaft

PERFORMANCE	
PARAMETER	
Life	25M cycles

Note

- Nothing stated herein shall be construed as a guarantee of quality or durability

ENVIRONMENTAL SPECIFICATIONS	
PARAMETER	
Operating temperature	-55 °C to +125 °C
Operational shocks	50 *g* - 11 ms - 1/2 sinus (on each direction of the three major axis)
Vibration	1.5 mm peak to peak between 10 Hz to 60 Hz (on the three major axis)
	20 *g* between 60 Hz to 2000 Hz (on the three major axis)
Applicable specification	NFC 93-255 / MIL R 39023

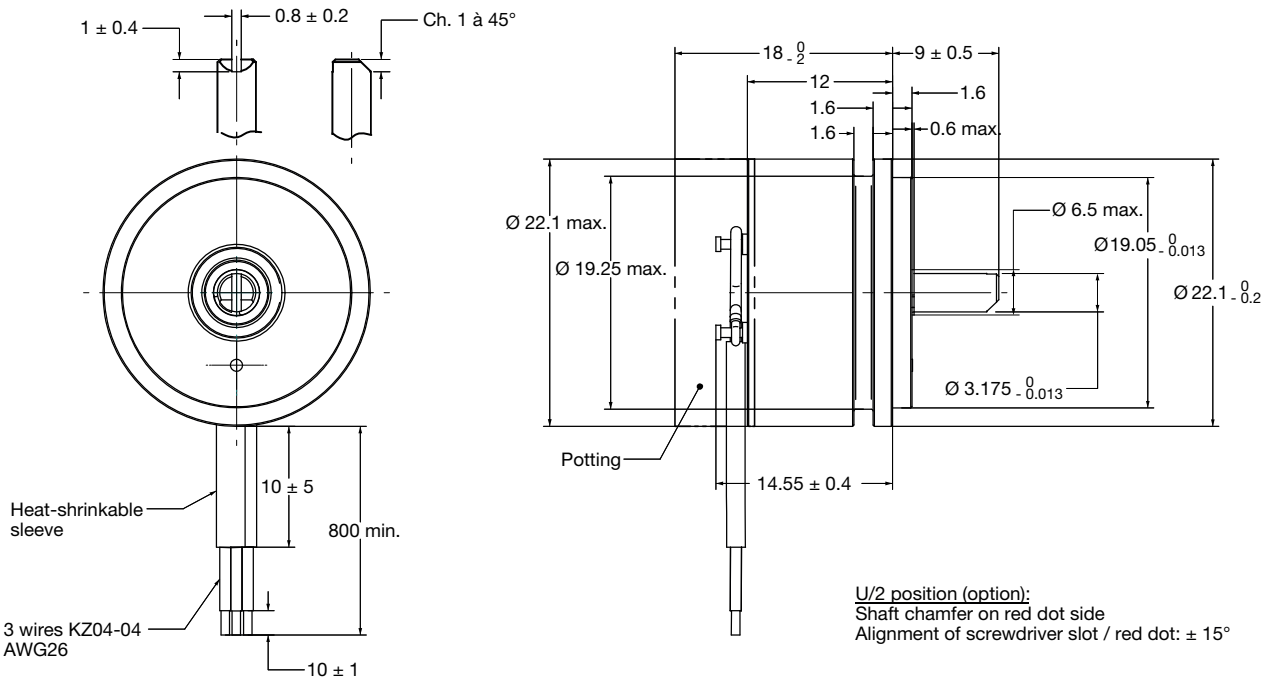
For technical questions, contact: mcbprecisionpot@vishay.com

SAP PART NUMBERING GUIDELINES

MODEL	MOUNTING	TYPE	VALUE	LINEARITY	ANGLE	PACKAGING
PP22	S = servo	A = aeronautic (including ball bearing)	502 = 05K	A = 1 % B = 0.5 %	090	B = box

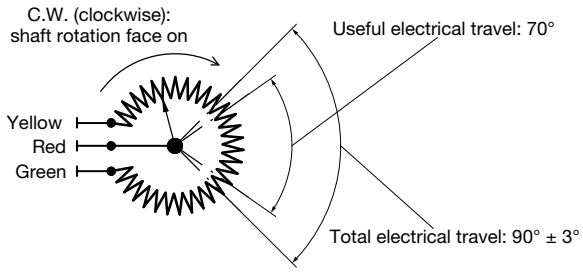
DIMENSIONS in millimeters

MECHANICAL INTERFACE DESCRIPTION



DIMENSIONS in millimeters

ELECTRICAL INTERFACE DESCRIPTION



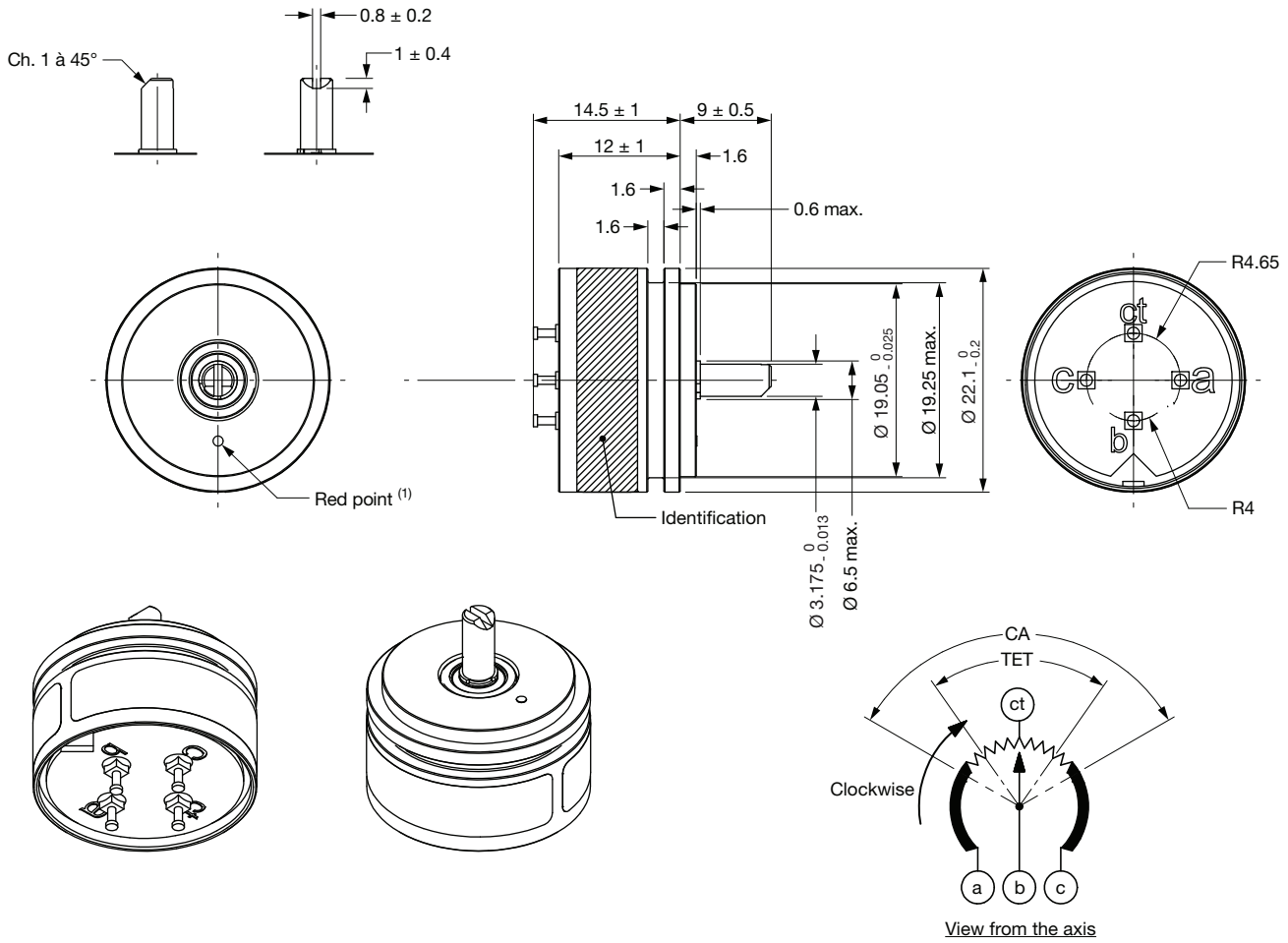
OPTIONS (on request)

- Other ohmic value (example: 10 kΩ) and tolerances on this ohmic value (examples: 20 % or 10 %)
- Other linearity and absolute function
- Other total and useful electrical travel between 0° and 360° (consult us for feasibility)
- Other shaft designs
- Mechanical phasing
- Intermediate tap and middle tap feasible (example: center tap of 3°)
- Electrical reference: 0.5 U ± 0.1 % U (at middle of electrical travel)
- Output by turrets

DESIGN ON REQUEST

DIMENSIONS in millimeters

OPTION 1: DESIGN 4 TURRETS INCLUDING INTERMEDIATE TAP



Note

(1) The reference point (0°) is obtained when the chamfer and the slot of the shaft are aligned with the red point ± 15°

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