

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	$90^\circ \pm 3^\circ$ (more on request)
Useful electrical travel	$\geq 70^\circ$ (more on request)
Electrical continuity	$\geq 340^\circ$
Rated resistance	$5 \text{ k}\Omega \pm 20 \% (\pm 10 \% \text{ on request})$
Independent linearity standard	$\pm 1 \%$
Independent linearity optional	$\pm 0.5 \% (\pm 0.4 \% \text{ on request})$
Rated power dissipation	0.25 W at 70°C
Temperature coefficient	$-300 \text{ ppm}/^\circ\text{C} \pm 300 \text{ ppm}/^\circ\text{C}$
Output smoothness	$\leq 0.1 \%$
Resolution	Infinite
Insulation resistance	$\geq 1 \text{ G}\Omega$ at $500 \text{ V}_{\text{DC}}$
Dielectric strength	Leakage current $\leq 1 \text{ mA}$ under conditions $750 \text{ V}_{\text{AC}}$, 50 Hz, 1 min
Wiper current	$\leq 1 \text{ mA} (\leq 10 \text{ mA on request})$
Output voltage hysteresis	$\leq 0.08 \% \text{ of } U_{\text{supply}}$

MECHANICAL SPECIFICATIONS

PARAMETER	
Mechanical travel	360° (continuous rotation)
Mechanical backlash	$< 0.1^\circ$
Running torque	$\leq 20 \text{ cN cm}$
Recommended mounting	Flexible coupling between customer motor element and potentiometer shaft

PERFORMANCE

PARAMETER	
Life	25M cycles

Note

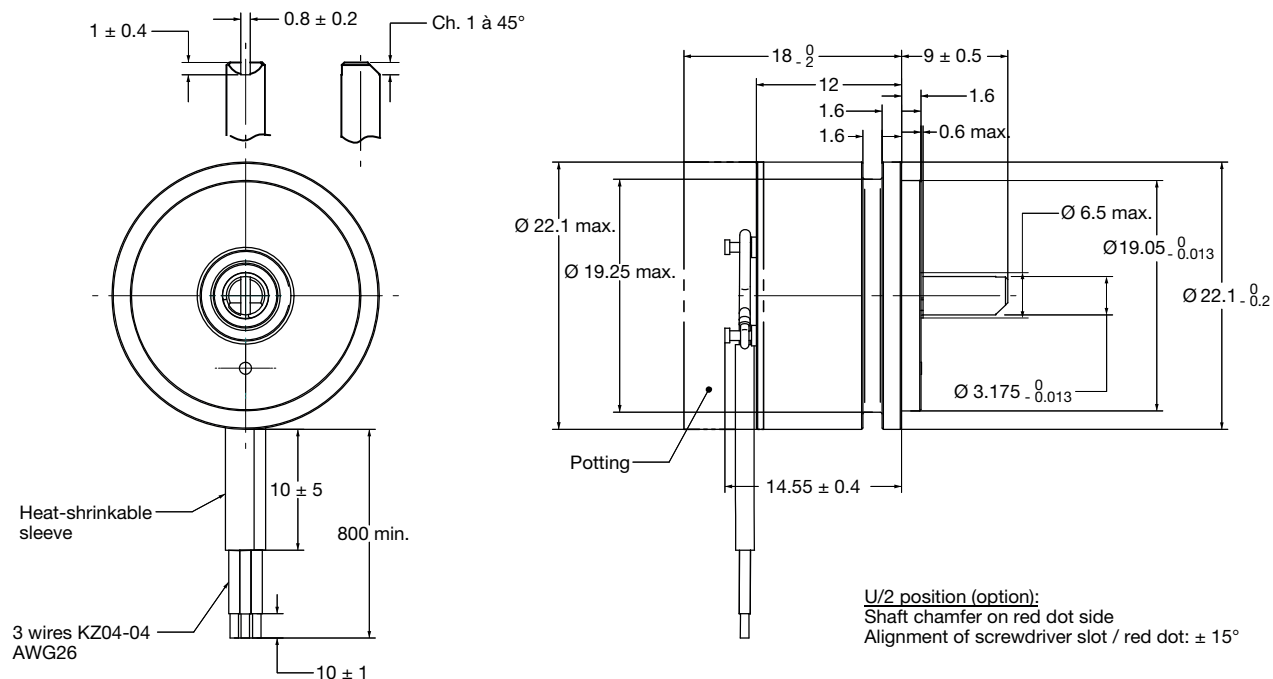
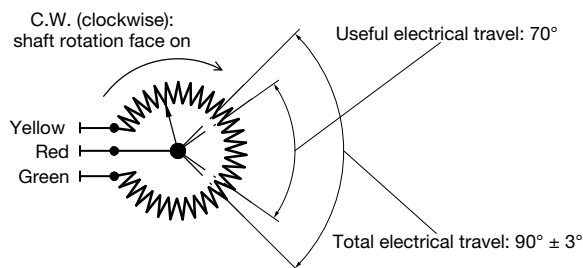
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ENVIRONMENTAL SPECIFICATIONS

PARAMETER	
Operating temperature	-55°C to $+125^\circ \text{C}$
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

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



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