Analog Displacement Sensors for Transportation Applications

FEATURES

- Conductive plastic potentiometer technology
- Use in engine compartment
- Hollow shaft coupling
- Wire outputs
- Device eliminating shaft alignment faults
- 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	Transportation
Dimensions	42 mm x 31.5 mm x 23.37 mm

ELECTRICAL SPECIFICATIONS	
PARAMETER	
Total electrical travel	94° ± 2°
Independent linearity standard	± 1.5 %
Total resistance (R_n)	3.85 kΩ ± 20 %
Output smoothness	< 0.1 % (NFC 93255)
Power rating at +40 °C	0.5 W
Power rating at +125 °C	0.05 W
Wiper current limiting resistance (R_p)	1.7 kΩ ± 20 %
Recommended wiper current	≤ 100 µA
Maximum wiper current	15 mA for 1 min
Recommended load impedance	≥ 100 R_n

MECHANICAL SPECIFICATIONS	
PARAMETER	
Mechanical travel	128° ± 4°
Running torque	< 5 Ncm
Stop strength	30 Ncm
Maximum shaft alignment fault: hollow shaft Ø 8 - L = 9.5 mm. 6 mm on flat	0.2 mm
Protection class	IP 64 for 425 type sensor
	IP 66 for 427 type sensor
Mounting screw tightening torque	2.3 Nm maximum

PERFORMANCE	
PARAMETER	
Operating temperature range	-40 °C to +125 °C
Storage temperature range	-55 °C to +135 °C
Vibrations: use in engine compartment	Severity 10 Hz to 2000 Hz, 10 mm or 50 *g*
Life (on TET)	5M cycles
Micro-movements (dither stroke)	50M cycles

Note

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

For technical questions, contact: mcbprecisionpot@vishay.com

SAP PART NUMBERING GUIDELINES - PMR427

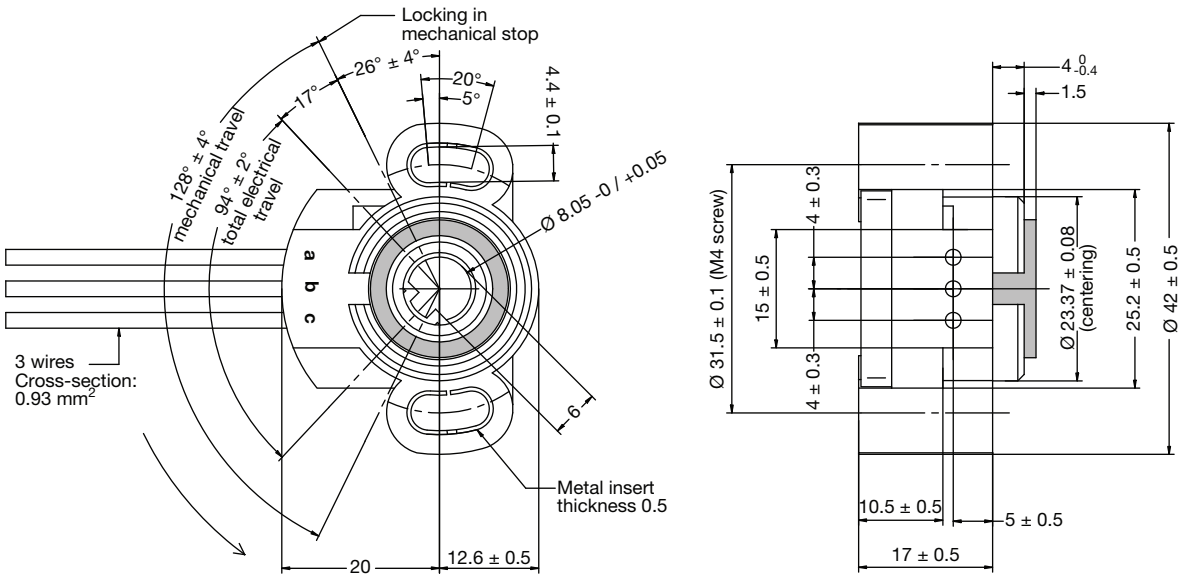
MODEL	TYPE	LEVER TYPE	VALUE	ANGLE	LEADS	PACKAGING
PMR4	27 = hollow shaft	H = hollow shaft	392 = 3K9	094	W = wire (for PMR420)	C = 20 pcs G = 100 pcs P = 500 pcs

CONNECTIONS

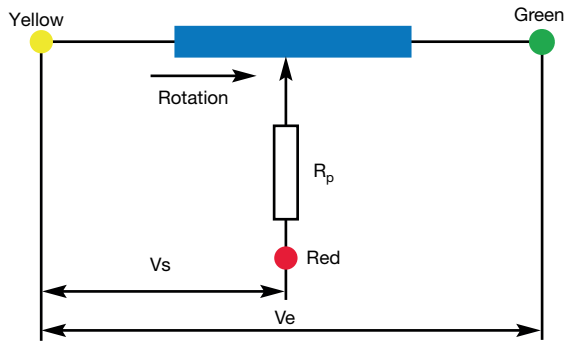
Wire Outputs: -40 °C to +105 °C (3 x 0.93 mm^2, length 300 mm)

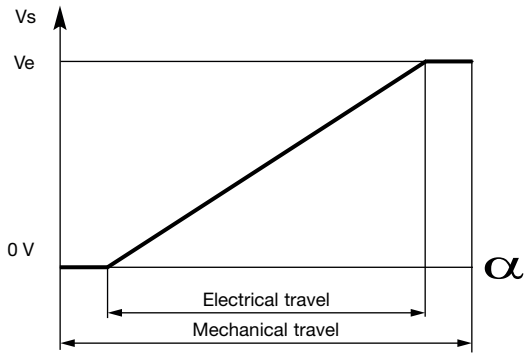
Sheathed Wire Outputs: -40 °C to +125 °C optional

DIMENSIONS in millimeters



ELECTRICAL DIAGRAM





OPTIONS (on request)

- Other total electrical travel
- Other total resistance
- Other linearity
- No protection resistance (R_p)
- High temperature sheathed wire outputs
- Specific connections

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