

Redundant Sensor Dedicated to Aeronautic Applications



FEATURES

- Conductive plastic potentiometer technology
- Up to 4 electrical functions with possibility of mechanical segregation
- Precious metal contacts, stainless steel shaft and bearings, anodized light alloy flange
- Insulating materials (housing...): recyclable thermoplastic
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



QUICK REFERENCE DATA

Sensor type	ROTATIONAL, conductive plastic
Output type	Output by wires
Market appliance	Industrial, avionics
Dimensions	1 1/16" (27 mm)

ELECTRICAL SPECIFICATIONS

PARAMETER			
Number of cup	2, 3, or 4		
Total electrical travel	285.7°	301.6°	316.8°
Useful electrical travel	164°	164°	164°
Middle tap	$U_{supply}/2$		
Rated resistance	10 k Ω $\pm$ 20 % on request (+ 10 %; - 6 %)		
Independent linearity standard	$\pm$ 1 %		
Independent linearity optional	$\pm$ 0.5 %, $\pm$ 0.25 %		
Output smoothness	$\leq$ 0.025 %		
Resolution	Infinite		
Insulation resistance	$\geq$ 100 M Ω at 50 V _{DC}		
Dielectric strength	Leakage current $\leq$ 1 mA under conditions 500 V _{AC} , 50 Hz, 1 min		
Wiring	According customer request		

MECHANICAL SPECIFICATIONS

PARAMETER	
Mechanical angle	$\geq$ 166°
Running torque	$\leq$ 50 cN cm
Rotation speed	$\leq$ 600 rpm

PERFORMANCE

PARAMETER	
Life	10M cycles

Note

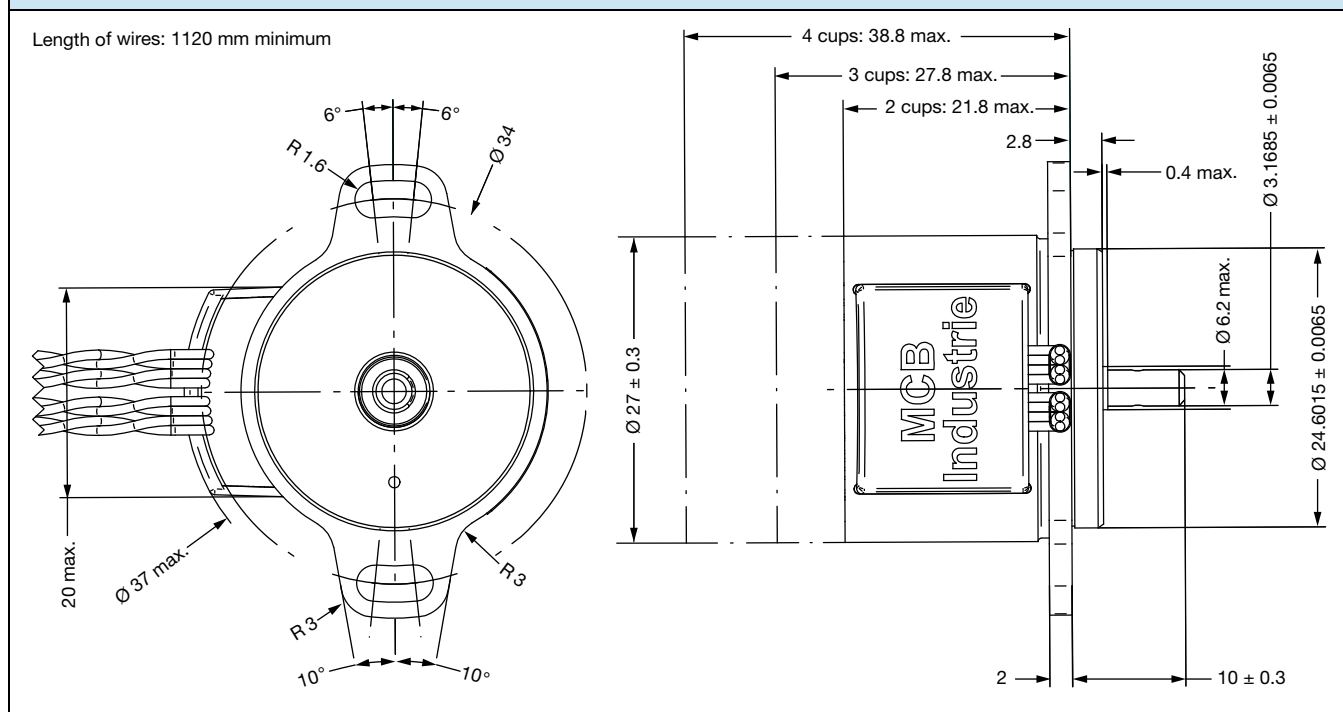
- Nothing stated herein shall be construed as a guarantee of quality or durability.

ENVIRONMENTAL SPECIFICATIONS

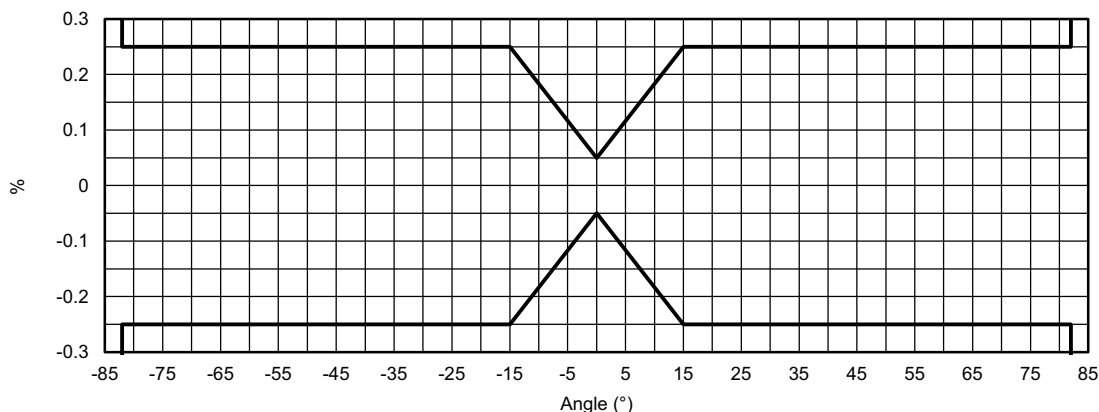
PARAMETER	
Operating temperature	-15 °C to +55 °C (RTCA DO 160F - section 4.5.2 and 4.5.4, category A1)
Short-time operating temperature	-40 °C to +70 °C (RTCA DO 160F - section 4.5.1 and 4.5.3, category A1)
Ground survival temperature	-55 °C to +85 °C (RTCA DO 160F - section 4.5.1 and 4.5.3, category A1)
Steady state altitude	2 h, 15 000 ft (RTCA DO 160F - section 4.6.1, category A1)
Decompression	10 min, 50 000 ft (RTCA DO 160F - section 4.6.2, category A1)
Overpressure	10 min, 199 kPa (RTCA DO 160F - section 4.6.3, category A1)
Temperature variation	2 °C/min (RTCA DO 160F - section 5, category C)
Humidity	RTCA DO 160F - section 6, category A
Operational shocks / crash safety	6 g - 11 ms - saw-tooth (RTCA DO 160F - section 7, category E)
Vibration	RTCA DO 160F - section 8, category S - curve S
	RTCA DO 160F - section 8, category H - curve R
Constant acceleration	ISO 2669 - category B (functional test)

SAP PART NUMBERING GUIDELINES

MODEL	MOUNTING	TYPE	GANG	VALUE	LINEARITY	ANGLE	PACKAGING
PP27	E = ears	A = aeronautic (including ball bearing)	2 3 4	103 = 10K	A = 1 % B = 0.5 % C = 0.25 %	316	B = box

DIMENSIONS in millimeters

OPTIONS (on request)

- Other ohmic value and tolerances on this ohmic value
- Other length of wires: 740 mm minimum
- Other total and useful electrical travel
- Other shaft designs
- Possibility to remove the middle tap
- Mechanical phasing ≤ 250 mV
- Phasing between gang ≤ 0.1 % U
- Independent linearity ± 0.125 %; ± 0.1 %
- Middle point $\pm 5 \pm 0.05$ U
- Other linearities and absolute functions

OUTPUT VOLTAGE ERROR




Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.