RAME027



Vishay MCB

Rotational Absolute Magnetic Encoder Displacement Sensor



DESIGN SUPPORT TOOLS AVAILABLE



QUICK REFERENCE DATA				
ROTATIONAL, magnetic technology				
Cable				
Industrial, railway				
1 1/16" (27 mm)				

FEATURES

- Hall effect principle
- OTP (one time programmable) technology
- Plug and play
- Good magnetic immunity
- Ball bearings
- · Stainless steel shaft
- Housing protected
- Material categorization: for definitions of compliance please see <u>www.vishay.com/doc?99912</u>

ELECTRICAL SPECIFICATIONS					
PARAMETER					
Voltage supply	5 V ± 0.25 V				
Current supply	\leq 20 mA at 5 V (with a load > 5 k Ω)				
Output	From 0.5 V_{DC} to 4.5 V_{DC}				
Connection	Shielded cable				
Useful electrical angle	360°				
Absolute accuracy at 25 °C	± 1.2° on 359° (0.33 %)				
Absolute accuracy at -25 °C to +85 °C	± 2.1° on 359° (0.58 %)				
Resolution	0.09° (~ 12 bits)				
Startup time	≤ 10 ms				
Response time	1 ms (for an angle of 20° in 6 ms)				
Dielectric strength	1000 V _{AC} / 1 min				
Insulation resistance	$>$ 50 M Ω / 500 V _{DC}				
Magnetic field	< 10 mT with ΔU < 1°				

MECHANICAL SPECIFICATIONS				
PARAMETER				
Mechanical angle	360°			
Axial charge	3 N			
Radial charge	3 N			
Weight	\leq 50 g (with cable of 250 mm)			

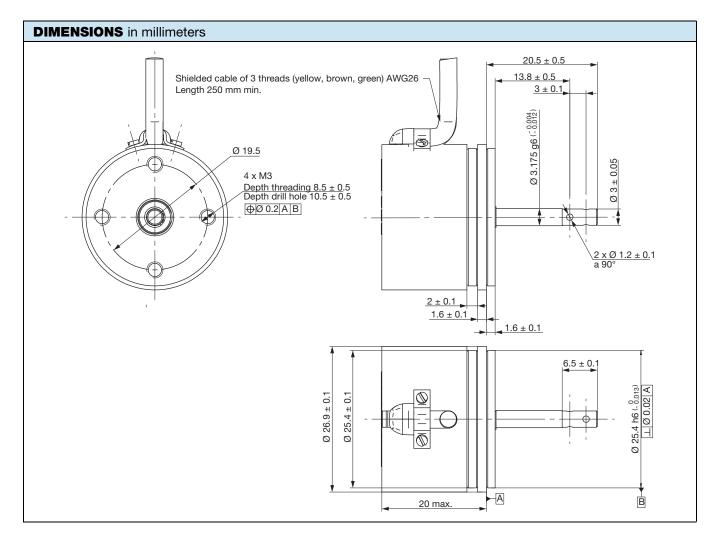
SAP PART NUMBERING GUIDELINES									
TYPE	MODEL	DESIGN	SIZE (mm)	TYPE	FUNCTION	ACCURACY (BITS)	RESOLUTION (BITS)	OUTPUT	PACKAGING
R = rotational	AM	E = encoder with housing	027	R	1	07	12	A = analog CW	B = box



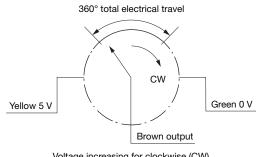
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PERFORMANCE PARAMETER					
Storage temperature range	-40 °C to +85 °C				
Protection class	IP55				
Life	50M cycles				
Vibration	CEI 61373, cat1, class B				
Shock					



ELECTRICAL DIAGRAM



Voltage increasing for clockwise (CW) direction viewed from control shaft side

OPTIONS (on request)

- Other accuracy
- Other resolution
- Other mechanical dimensions and mechanical interfaces
- Other electrical interface (for example: PWM, SSI, ...)
- · Possibility of function redundant
- Increasing of temperature range

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For technical questions, contact: <u>mcbprecisionpot@vishay.com</u> THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT <u>www.vishay.com/doc?91000</u>



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