Rotational Absolute Magnetic Encoder Displacement Sensor



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 www.vishay.com/doc?99912

DESIGN SUPPORT TOOLS AVAILABLE

3D Models

QUICK REFERENCE DATA	
Sensor type	ROTATIONAL, magnetic technology
Output type	Cable
Market appliance	Industrial, railway
Dimensions	1 1/16" (27 mm)

ELECTRICAL SPECIFICATIONS	
PARAMETER	
Voltage supply	5 V ± 0.25 V
Current supply	≤ 20 mA at 5 V (with a load > 5 kΩ)
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 MΩ / 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	≤ 50 g (with cable of 250 mm)

SAP PART NUMBERING GUIDELINES

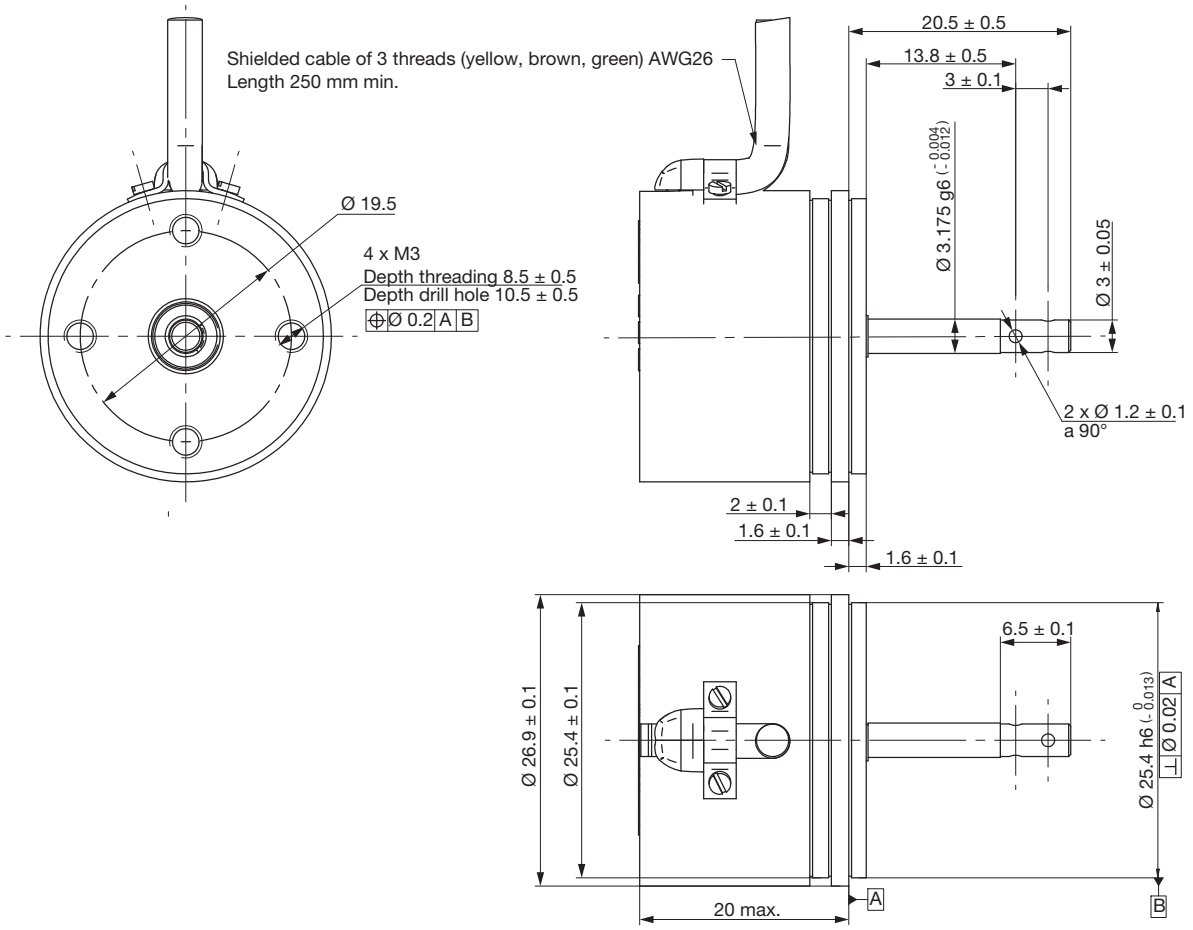
TYPE	MODEL	DESIGN	SIZE (mm)	TYPE	FUNCTION	ACCURACY (BITS)	RESOLUTION (BITS)	OUTPUT	PACKAGING
R = rotational	AM	E = encoder with housing	027	R	1	07	12	A = analog CW	B = box

For technical questions, contact: mcbprecisionpot@vishay.com

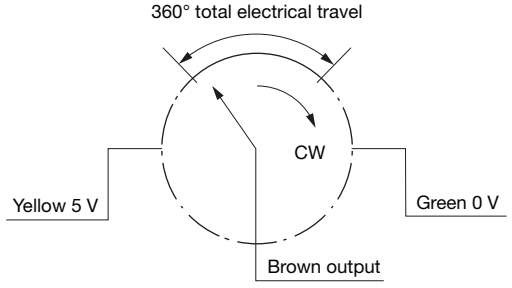
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PERFORMANCE	
PARAMETER	
Operating temperature range	-25 °C to +75 °C
Storage temperature range	-40 °C to +85 °C
Protection class	IP55
Life	50M cycles
Vibration	CEI 61373, cat1, class B
Shock	

DIMENSIONS in millimeters



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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