

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



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 \pm 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 | \pm 1.2° on 359° (0.33 %) |
| Absolute accuracy at -25 °C to +85 °C | \pm 2.1° on 359° (0.58 %) |
| Resolution | 0.09° (~ 12 bits) |
| Startup time | \leq 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 $\Delta U <$ 1° |

MECHANICAL SPECIFICATIONS

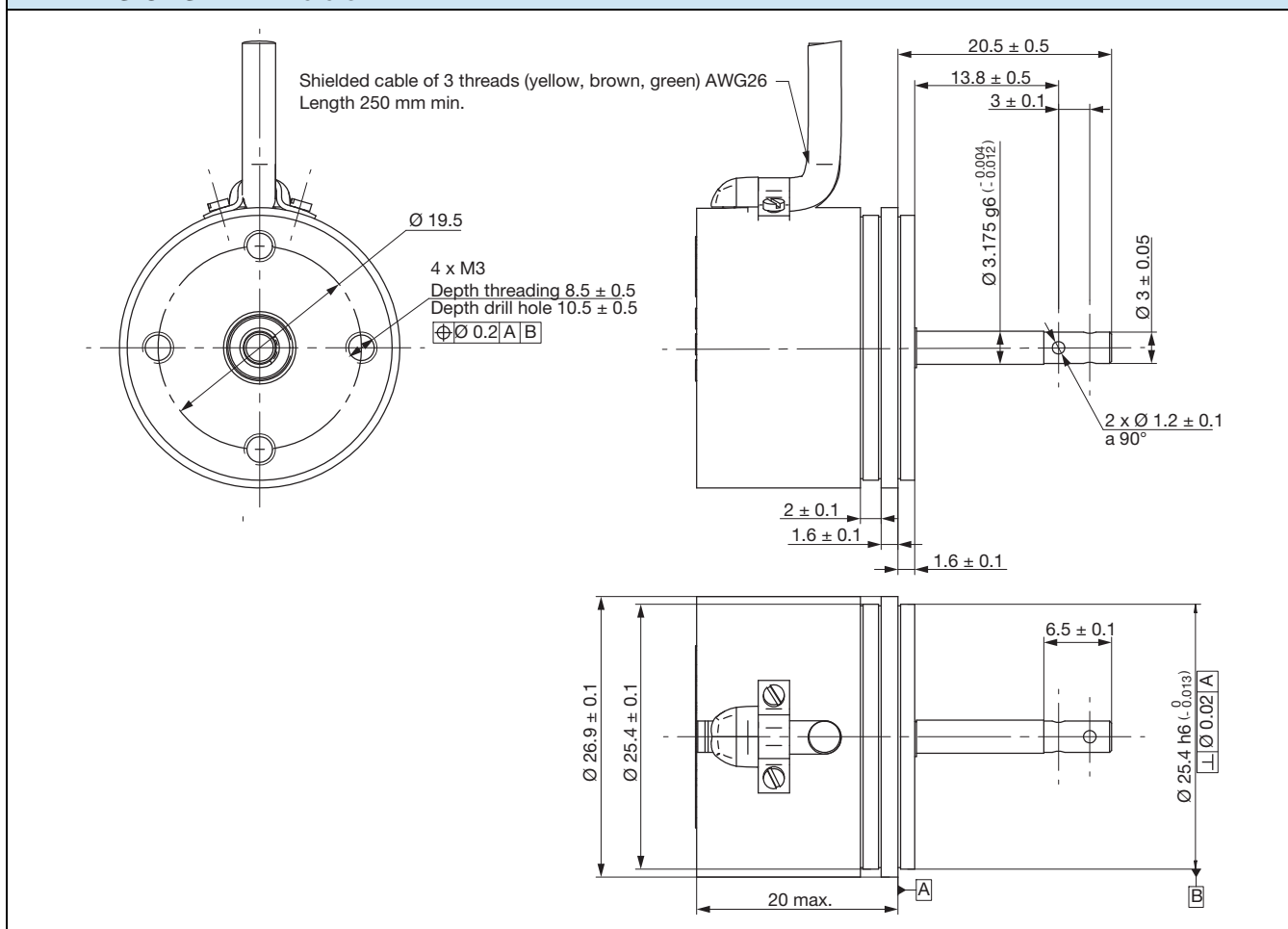
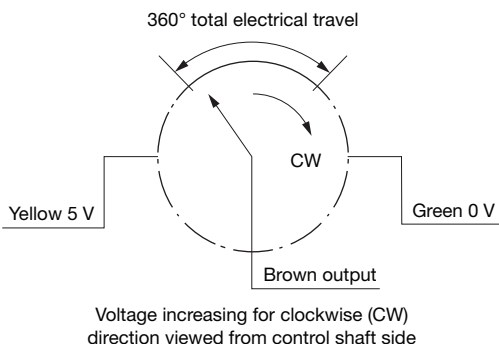
| PARAMETER | |
|------------------|------------------------------------|
| Mechanical angle | 360° |
| Axial charge | 3 N |
| Radial charge | 3 N |
| Weight | \leq 50 g (with cable of 250 mm) |

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 |

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

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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