Non-Contacting Angle Sensor

RSC2800 Series



Special features

- non-contacting, magnetic
- any angle available from 30° to 180° in 10° steps
- available with push-on coupling or marked shaft
- simple mounting
- protection class IP 54 or IP 65
- long life
- 5 V-Variant fulfills e1-Standard
- internal resolution 13 Bit
- independent linearity ±0.5%

The RSC2800 non-contacting sensor utilizes the orientation of a magnetic field for the determination of the measurement angle. A magnet is attached to the sensor shaft, while the magnetic field orientation is captured with an integrated circuit. An analog output signal represents the calculated angle.

The housing is made of a special high grade temperature-resistant plastic material. Elongated slots allow easy mounting.

The special backlash-free pushon coupling ensures extremely quick and simple installation. The transducer is not sensitive to either dirt or dampness.

Electrical connections are made via a shielded cable with 3 lead wires which is sealed into the housing.



Description		
Case	high-grade, temperature-resistant plastic	
Shaft	stainless steel	
Bearings	bronze sleeve bearing	
Electrical connections	shielded cable with lead wires, AWG28-7, outer diameter 3.4 ±0.1 mm	
	Cable	
Ground	green	
Supply voltage	brown	



Non-Contacting Angle Sensor

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Dimensions see dimension drawing Mounting 2 M4 filister-head screws and washer Mechanical travel 360, continuous ° Permitted shaft loading (akial and radial) static or dynamic force 20 N Torque 0.5 (IP 65) 0.15 (IP 54) Ncm Maximum operational speed 120 RPM Weight approx. 50 g Electrical Data - - Power supply voltage Ub 5 ±0.5 VDC Q4 ± 6 VDC VDC Ripple Ub = 5 V > no ripple definable in case of ratiometric output Ub = 24 V/ Output 010 V ± 20 % Ub = 24 V/ Output 010 V ± 20 % No-load supply current Ub = 5 V in 0 Ub = 24 V/ Output 010 V ± 20 mA VDE Short circuit protection yes Measuring range 30180 (10°-steps) ° Repeatability ≤ 0.1 of signal range % Independent linearity ±0.5 of signal range % Output signals 5.594.5% Ub (ratiometric of supply voltage 5 V ± 0.5 V) V Cord output signal ≤ 50 ppm/K RH of	Mechanical Data			
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Mechanical travel 360, continuous ° Permitted shaft loading (axial and radial) * faile or dynamic force 20 N Torque 0.5 (IP 65) 0.15 (IP 54) Ncm Maximum operational speed 120 RPM Weight approx. 50 g Electrical Data * * Power supply voltage Ub 5 \pm 0.5 VDC 24 \pm 6 VDC * Ripple Ub = 5 \pm 0.7 or ripple definable in case of ratiometric output Wb = 24 V/ Output 010 V \pm 20 No-load supply current Ub = 5 V Vup. 15 mA Ub = 24 V/ Output 010 V \pm 20 % Protected against wrong polarity Ub = 5 V vo typ. 15 mA Ub = 24 V/ Output 0.420 A typ. 20 mA Protected against wrong polarity Ub = 5 V vo typ. 15 mA Ub = 24 V/ Output 0.420 A typ. 20 mA typ. 20 mA Protected against wrong polarity Ub = 5 V no typ. 40.5 of signal range % typ. 40.5 of signal range % typ. 40.5 of signal range % <t< td=""><td>Mounting</td><td>2 M4 fillister-head screws and washer</td><td></td></t<>	Mounting	2 M4 fillister-head screws and washer		
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$\begin{array}{c c} 010 \ \text{V} \ \text{(supply voltage 24 V } \pm 6 \ \text{V} \\ \text{load} \ge 2.2 \ M\Omega \\ 0/420 \ \text{(supply voltage 24 } \pm 6 \ \text{V}, \\ \text{load} 0500 \ \Omega \ \text{mA} \end{array}$ $TC \ \text{of output signal} \qquad \le 50 \qquad ppm/K \\ \text{RH of output signal} \qquad \le 50 \qquad ppm/\% \\ \text{Insulation resistance (500 \ VDC, 1 \ bar, 2s)} \ge 10 \qquad M\Omega \\ \text{Conductor length, bare, tinned} \qquad approx. 500 \qquad mm \\ \text{Conductor length, bare, tinned} \qquad approx. 500 \qquad mm \\ \text{Conductor diameter} \qquad 0.127 \qquad mm^2 \\ \hline \\ $	Output signals	5.594.5% Ub (ratiometric of supply voltage 5 V \pm 0.5 V) load \geq 470 kΩ	V	
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Vibration 52000 A _{max} = 0.75 a _{max} = 20 Hz mm g Life > 50 million (mechanical) movem. Protection class DIN 40050 / IEC 529 IP 54 or IP 65 F	Temperature range	-40+125 (supply voltage 5 V) -40+85 (supply voltage 24 V)	0° 0°	
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Protection class DIN 40050 / IEC 529 IP 54 or IP 65	Life	> 50 million (mechanical)	9 movem	
	Protection class DIN 40050 / IEC 529	IP 54 or IP 65		

Ordering specifications



Standard versions

Recommended accessories

RSC 28_ _110_ _1 101 (100°) RSC 28_ _118_ _1 101 (180°) Other versions on request Process-controlled indicators MAP...with display

*Available end of 2003 **Other angles available in production quantities