Non-Contacting Angle Sensor

RSC2800 Series

Special features

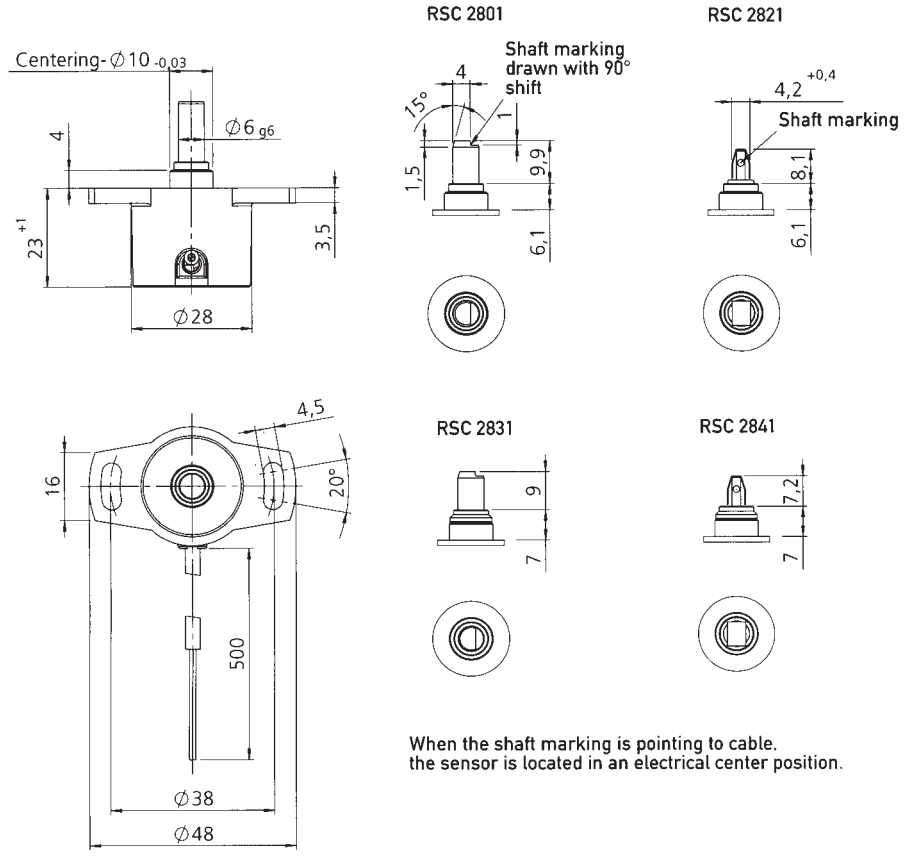
- non-contacting, magnetic
- any angle available from 30° to 180° in 10° steps
- available with push-on coupling or marked shaft
- simple mounting
- protection class IP 54 or IP 65
- long life
- 5 V-Variant fulfills e1-Standard
- internal resolution 13 Bit
- independent linearity ±0.5%

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.

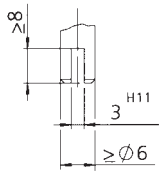
The special backlash-free push-on coupling ensures extremely quick and simple installation. The transducer is not sensitive to either dirt or dampness.

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

Dimensions of driving side
parallel offset <0,05mm



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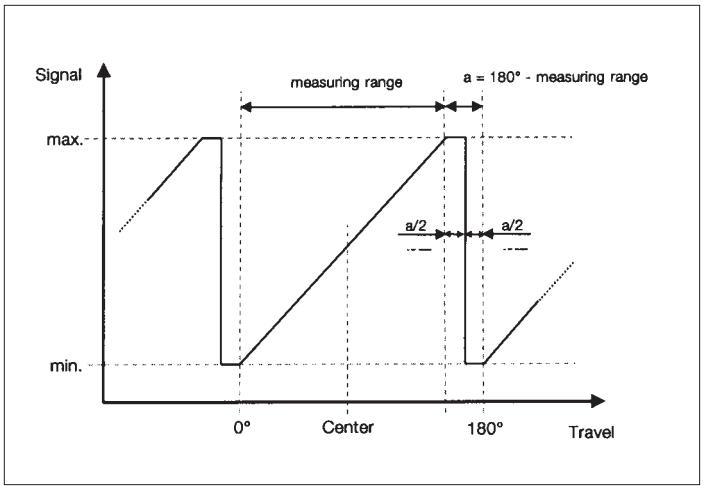
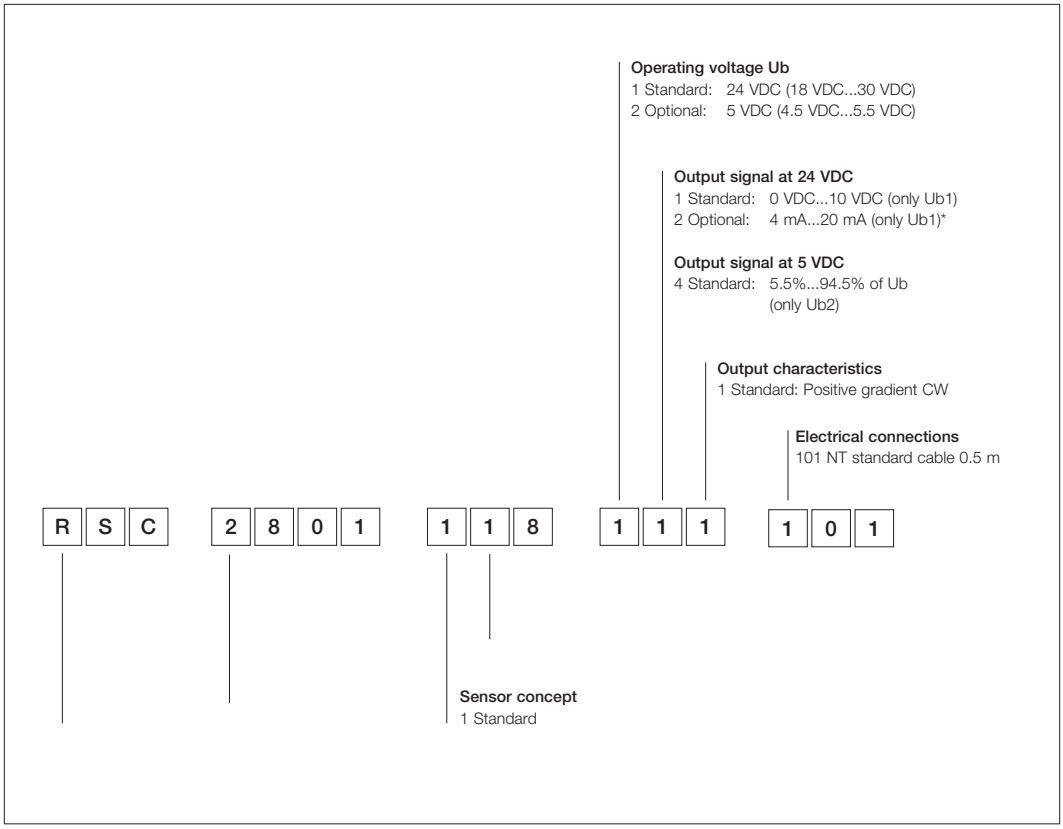


Mechanical Data		
Dimensions	see dimension drawing	
Mounting	2 M4 fillister-head screws and washer	
Mechanical travel	360, continuous	°
Permitted shaft loading (axial and radial) static or dynamic force	20	N
Torque	0.5 (IP 65) 0.15 (IP 54)	Ncm
Maximum operational speed	120	RPM
Weight	approx. 50	g

Electrical Data			
Power supply voltage Ub	5 ±0.5 24 ±6		VDC VDC
Ripple	Ub = 5 V -> no ripple definable in case of ratiometric output Ub = 24 V/ Output 0...10 V Ub = 24 V/ Output 0/4...20 mA	 ≤ 20 ≤ 20	 % %
No-load supply current	Ub = 5 V Ub = 24 V/ Output 0...10 V Ub = 24 V/ Output 0/4...20 A	typ. 15 typ. 15 typ. 20	mA mA mA
Protected against wrong polarity	Ub = 5 V no Ub = 24 V yes		
Short circuit protection	yes		
Measuring range	30...180 (10°-steps)		°
Repeatability	≤ 0.1 of signal range		%
Independent linearity	±0.5 of signal range		%
Output signals	5.5...94.5% Ub (ratiometric of supply voltage 5 V ±0.5 V) load ≥ 470 kΩ 0...10 V (supply voltage 24 V ±6 V) load ≥ 2.2 MΩ 0/4...20 (supply voltage 24 ±6 V, load 0...500 Ω)		V V mA
TC of output signal	≤ 50		ppm/K
RH of output signal	≤ 50		ppm/%
Insulation resistance (500 VDC, 1 bar, 2s)	≥ 10		MΩ
Conductor length, bare, tinned	approx. 500		mm
Conductor diameter	0.127		mm^2

Environmental Data		
Temperature range	-40...+125 (supply voltage 5 V) -40...+85 (supply voltage 24 V)	°C °C
Vibration	5...2000 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	

Ordering specifications



Standard versions

RSC 28_ _110_ _1 101 (100°)
RSC 28_ _118_ _1 101 (180°)
Other versions on request

Recommended accessories

Process-controlled indicators
MAP...with display

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