novotechnik
Siedle Group

Angle Sensor non-contacting

Series RSC2800
Model 100

Special features

- non-contacting, magnetic
- electrical range 30° up to 180° in 10°-steps programmable
- available with push-on coupling or marked shaft
- simple mounting
- protection class IP54 or IP65
- long life
- 5V-variant fullfills e1-standard
- internal resolution 13 Bit
- independent linearity ±0.5 %

The contactless sensor utilizes the orientation of a magnetic field for the determination of the measurement angle. Therefore, a magnet is attached to the sensor shaft, the magnetic field orientation is captured with an integrated circuit. An analogue output signal represents the calculated angle.

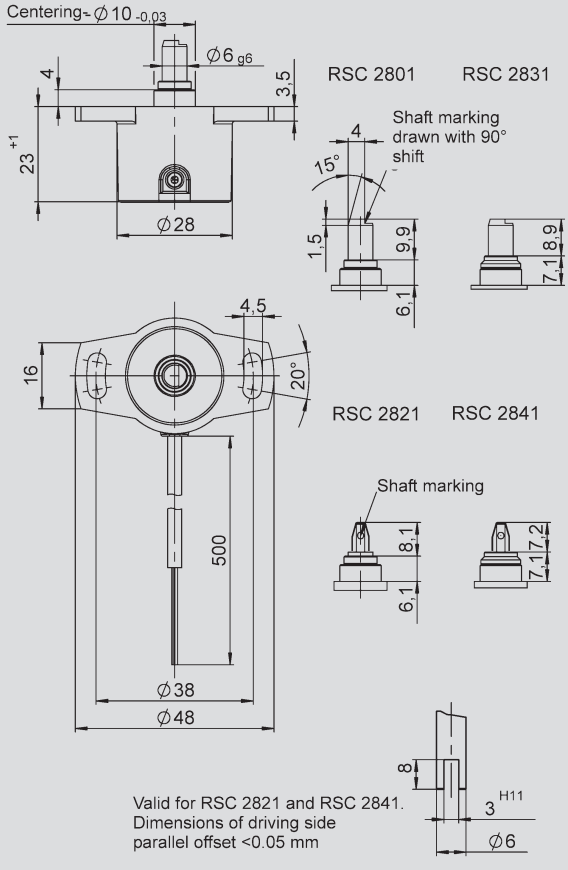
The housing is made of a special high grade temperature-resistant plastic material. Fixings are in the form of elongated slots which allow simplicity in mounting together with ease of mechanical adjustment.

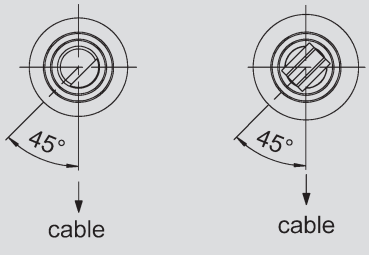
The special backlash-free push-on coupling ensures extremely quick and simple installation. The transducer is not sensitive to either dirt or dampnes.

Electrical connection is made via a shielded cable which is sealed into the housing.

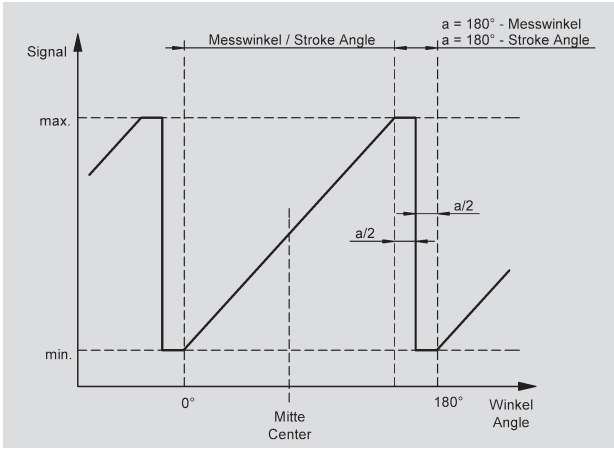
Description	
Housing	high grade, temperature resistant plastic
Shaft	stainless steel
Bearings	bronze sleeve bearing
Electrical connections	shielded cable with lead wires, AWG28-7, outer diameter 3,4 ±0,1 mm
	Cable
Ground	green
Supply voltage	brown
Output signal	white

Connect shield of conneting cable to ground.





When the shaft marking is set off by 45° from the cable outlet, the output signal is at the start position (min. voltage or min. current).
Exception: When using a RSC with 30° active travel, the above position of shaft marking is indicating 50 % output signal.



Mechanical Data			
Dimensions	see dimension drawing		
Mounting	2 M4 fillister-head screws and washer		
Starting torque of mounting clamps at housing flange	400		Ncm
Mechanical travel	360 continuous		°
Permitted shaft loading (axial and radial) static or dynamic force	20		N
Torque	0.5 (IP65) 0.15 (IP54)		Ncm
Maximum operational speed	120		min^{-1}
Weight	ca. 50		g

Electrical Data			
Supply voltage Ub	5 ±0.5 24 ±6		VDC VDC
Ripple	Ub = 5V -> no ripple definable in case of ratiometric output Ub = 24V/ output 0...10 V Ub = 24V/ output 0/4...20 mA	 ≤20 ≤20	 % %
No-load supply current	Ub = 5V Ub = 24V/ output 0...10 V Ub = 24V/ output 0/4...20 A	typ. 15 typ. 15 typ. 20	mA mA mA
Reverse voltage	Ub = 5V no Ub = 24V yes		
Short circuit protection	yes		
Measuring range	0 ... 30, 0...180 (10° steps)		°
Repeatability	≤ 0.03 of signal range		%
Independent linearity	±0.5 of signal range		%
Output signal	5.5...94.5 % Ub (ratiometric, supply voltage 5V ±0,5V) load ≥ 470 kΩ 0...10V (supply voltage 24V ±6V) load >10 kΩ 0/4...20 (supply voltage 24 ±6V, load 0...500 Ω)		 V mA
TC of output signal	≤ 50		ppm/K
RH of output signal	≤ 10		ppm/%
Insulation resistance (500 VDC, 1 bar, 2s)	≥ 10		MΩ
Cable length, bare, tinned	ca. 500		mm
Cable diameter	ca. 0.127		mm^2

Environmental Data		
Temperature range	-40...+125 (supply voltage 5 V) -40...+85 (supply voltage 24 V)	°C °C
Vibration (IEC 68T2-6)	5...2000 A_{max} = 0.75 a_{max} = 20	Hz mm g
Shock (IEC 68T2-27)	50 (11 ms)	g
Life	> 50 x 10^6 ! (mechanical)	movem.
Protection class (DIN 40050 / IEC 529)	IP54 or IP65	
CE-conformable	ESD EN 6100-4-2 HF-Feld EN 61000-4-3 BURST EN 61000-4-4 Conducted disturbances EN 61000-4-6 Emission test EN 55011	

Novotechnik
Messwertaufnehmer OHG

Postfach 4220
73745 Ostfildern (Ruit)
Horbstraße 12
73760 Ostfildern (Ruit)

Telefon +49 711 44 89-0
Telefax +49 711 44 89-118
info@novotechnik.de
www.novotechnik.de

© 09/2005
Art.-Nr.: 062 715/1
Printed in Germany

Ordering specifications

Electrical interface
1 Optional: Analogue interface, supply voltage 24 VDC (18.0 VDC ... 30.0 VDC)
2 Standard: Analogue interface, supply voltage 5 VDC (4.5 VDC ... 5.5 VDC)

Output signal analogue 24 VDC interface 1XX
1 Standard: 0 VDC ... 10 VDC
2 Optional: 4 mA ... 20 mA
3 Optional: 0 mA ... 20 mA

Output signal analogue 5 VDC interface 2XX
4 Standard: 5.5 % ... 94.5 % of supply voltage

Analogue interface 1XX and 2XX
1 Standard: Positve gradient CW

Electrical connections
01 Standard: NT standard cable 3-pin. 0.5 m

R S C	2 8 0 1	1 1 8	2 1 1	1 0 1

Electrical angle model 100
10 Alternative: Electrical angle 0° ... 100°
18 Standard: Electrical angle 0° ... 180°

Model
1 Standard: Model 100

Series

Mechanical version
2801 Standard: bolt plate Ø 38,0 mm; 6 mm schaft, IP54
2821 Alternative: bolt plate Ø 38,0 mm; push-on-coupling, IP 54
2831 Alternative: bolt plate Ø 38,0 mm; 6 mm shaft, IP 65
2841 Alternative: bolt plate Ø 38,0 mm; push-on-coupling, IP 65

Recommended accessories
Process-controlled indicators
MAP... with display

Subject to changes