

## Angle Sensor Touchless Technology Transmissive

Series RFC4800  
Model 600



### Special features

- touchless technology, magnetic operation
- measurements to 360°
- resolution 12 bit
- unlimited mechanical lifetime
- lateral magnet offset  $\pm 3$  mm
- independent linearity  $\pm 0.3\%$
- protection class IP69

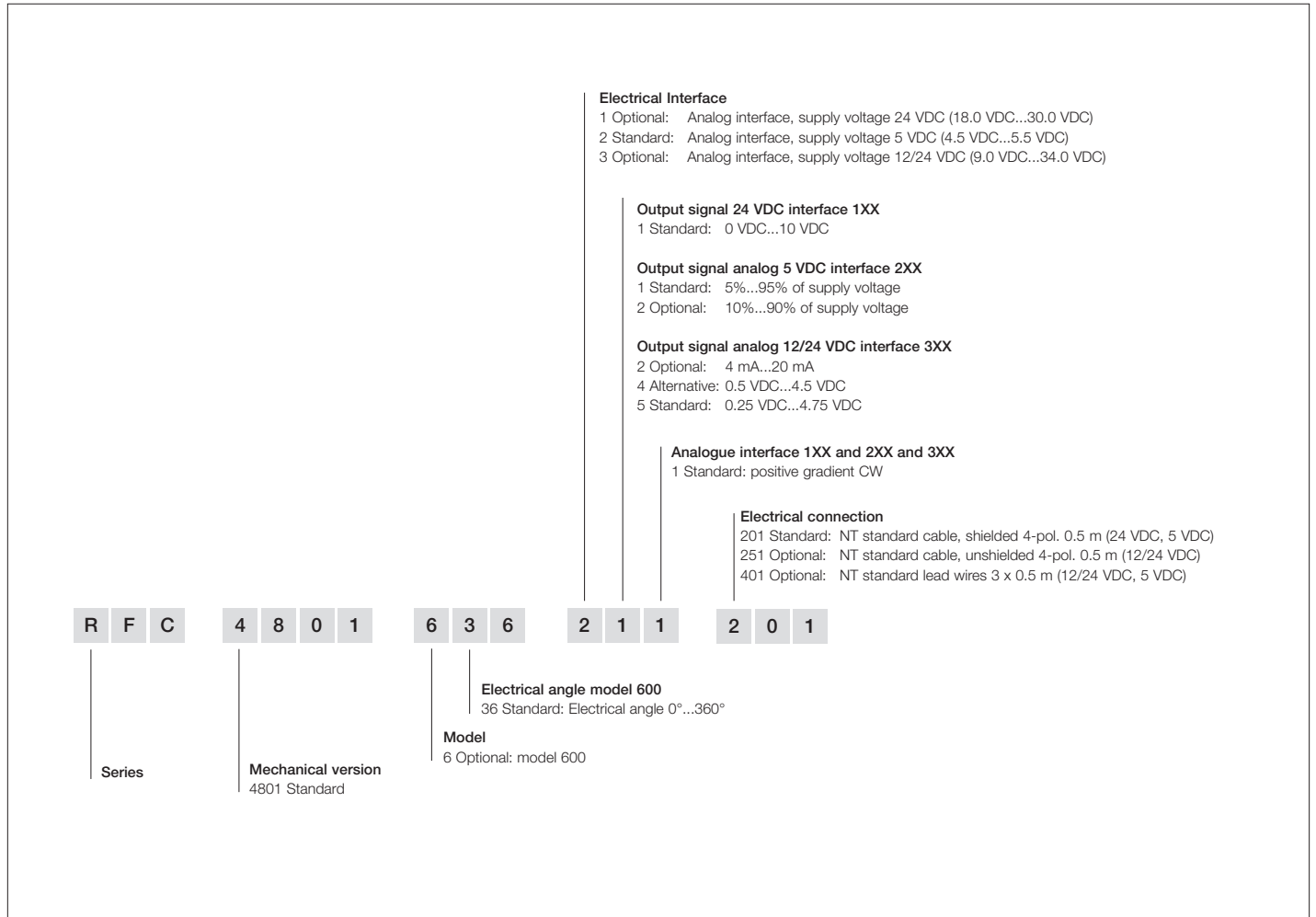
The RFC4800 Series, Model 600, utilizes the orientation of a magnetic field to determine the measurement angle. There are no moving parts. A magnetic position marker attached to the customer's shaft is physically separated from the sensor containing an integrated circuit that provides analog output representing the calculated angle.

This two-part design provides maximum flexibility when installing the sensor. The absence of a shaft and bearings means the Model 600 can operate without regard to customer application tolerances. The housing is made from a special high-grade, temperature-resistant plastic material sealed to IP69 so it is not sensitive to either dirt or dampness. Elongated slots for screws simplify mounting and alignment.

Measurements can be made transmissively through various non-magnetic materials. Electrical connections are made via a shielded cable sealed into the housing.

Description	
Housing	high grade, temperature resistant plastic
Electrical connections	shielded cable AWG 26 (0.14 mm <sup>2</sup> ) alternative lead wires AWG 22 (0.35 mm <sup>2</sup> )

**Ordering specifications**

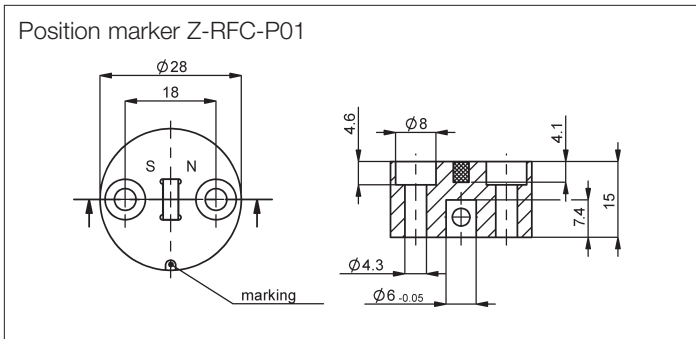
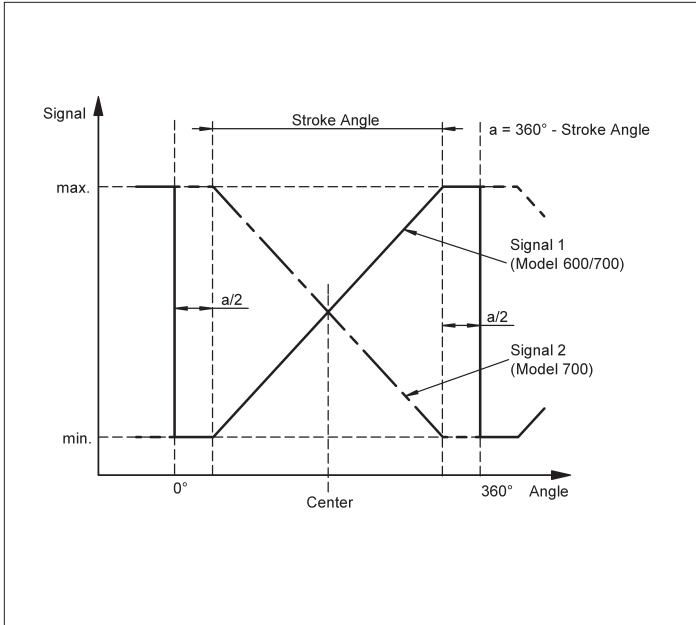


**Required accessories**

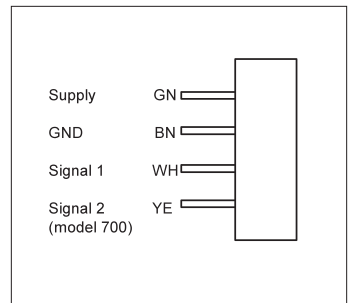
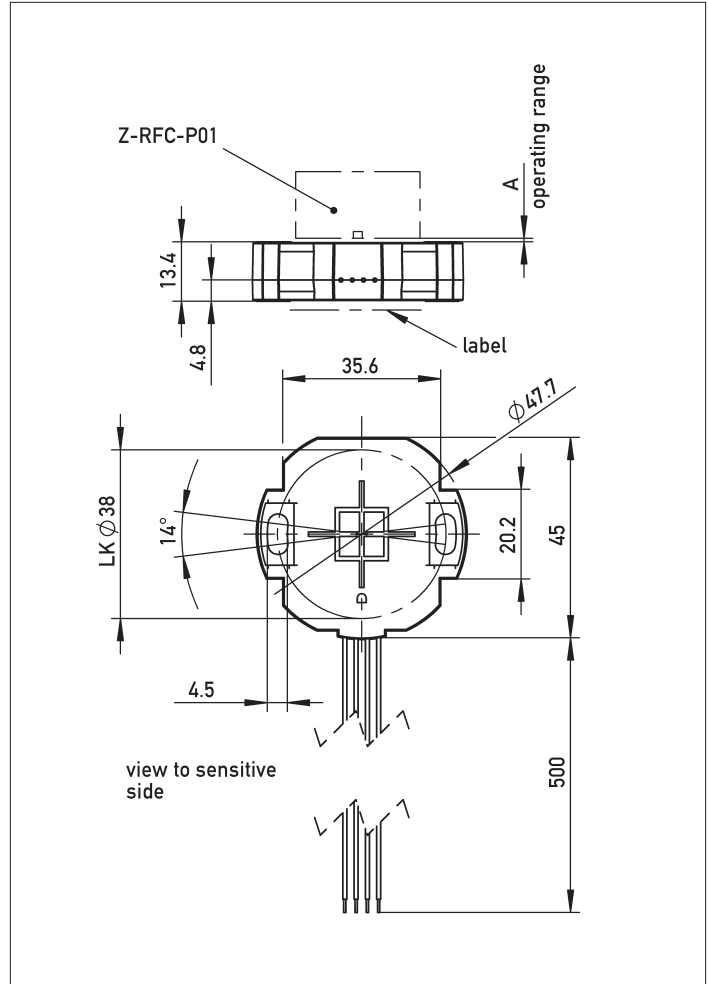
Position marker Z-RFC-P01,  
 Art. No. 005660;  
 Position marker Z-RFC-P02,  
 Art. No. 005661

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When the shaft marking is pointing to cable, the sensor is located in an electrical center position.



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Type designations	RFC 4801 636 2XX XXX supply voltage 5 V	RFC 4801 636 1XX XXX supply voltage 24 V	RFC 4801 636 3XX XXX supply voltage 12/24 V	
<b>Mechanical Data</b>				
Dimensions	see dimension drawing			
Mounting	2 M4 fillister-head screws and washer (not included)			
Tightening torque of fixing screws	300			Ncm
Mechanical travel	360 continuous			°
Maximum operational speed	unlimited			min <sup>-1</sup>
Weight	ca. 50			g
<b>Electrical Data</b>				
Supply voltage U <sub>b</sub>	4.5...5.5	18...30	9...34	VDC
No-load supply current	15 typical			mA
Reverse voltage	yes, only feeder	yes	yes	
Short circuit protection	yes, signal vs. GND only	yes	yes	
Measuring range	0...360			°
Update rate	1000 typ. (1300 max.)			measur./s
Resolution	0.09			°
Repeatability	≤ 0.03 of signal range			%
Independent linearity	≤ ±0.3 typ. (≤ ±0.5 max) of signal range			%
Output signal	ratiometric 10%...90% U <sub>b</sub> 5%...95% U <sub>b</sub> (load ≥ 1 kΩ)	0.1...10 V (load ≥ 5 k Ω)	0.25...4.75 V 0.5...4.5 V (load ≥ 5 kΩ) 4...20 mA (burden max. 250 Ω)	
TC of output signal	typical 100			ppm/K
Insulation resistance (500 VDC, 1 bar, 2s)	≥ 10			MΩ
Cable length, bare, tinned	ca. 500			mm
Wire cross-section	ca. 0.14 (alternative 0.35)	ca. 0.14	ca. 0.14 (alternative 0.35)	mm <sup>2</sup>
<b>Environmental Data</b>				
Working distance A to position marker	Z-RFC-P01: 0...3; (Z-RFC-P02): 3...10 (Z-RFC-P02)		mm	
Admissible lateral magnet offset	max. ±3 (Z-RFC-P02)			mm
Temperature range	-40...+125			°C
Vibration (IEC 68T2-6)	5...2000 A <sub>max</sub> = 0.75 a <sub>max</sub> = 20			Hz mm g
Shock (IEC 68T2-27)	100 (11 ms)			g
Life	mechanical unlimited; > 50,000 h MTBF			
Protection class (DIN 40050 / IEC 529)	IP69			
CE-conformable	EN 6100-4-2 EN 61000-4-3 EN 61000-4-4	EN 6100-4-2 EN 61000-4-3 EN 61000-4-4	ISO 11452-5 ISO 11452-2 ISO 7637-1/2/3 ISO TR10605 CISPR25 ISO 14982	

Subject to changes

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