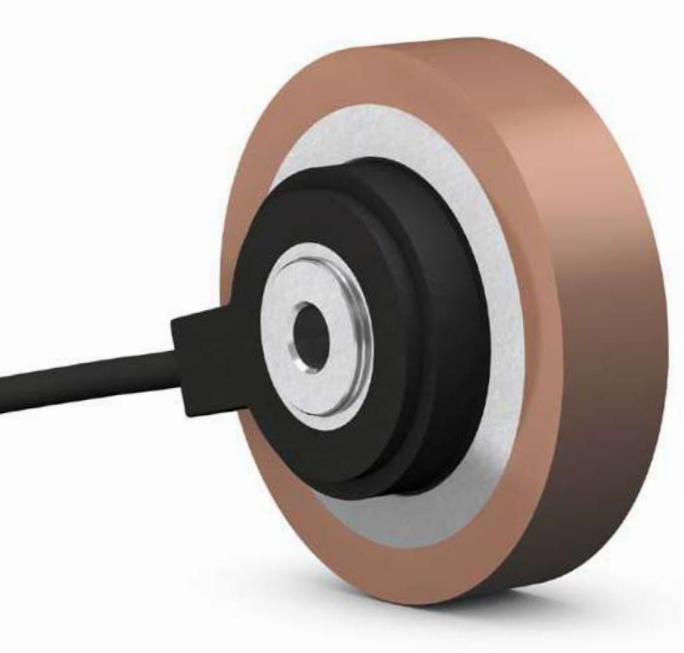
SKF Roller Encoder Unit



Monitor linear displacement with the SKF Roller Encoder Unit – the optimal solution for applications requiring outer ring rotation.

The SKF solution

The SKF Roller Encoder Unit is a plug-and-play sensor bearing unit designed for applications with outer ring rotation. It incorporates a sealed, lubricated for life 6201 SKF Explorer deep groove ball bearing. The sensor bearing unit can be easily integrated into pulleys, cams, rollers or wheels to provide a compact encoder assembly. On request, SKF can supply these sensor bearings complete with customized gears, wheels or pulleys.

Features

- Bearing and sensors integrated into a single unit
- Enables monitoring of speed, direction and linear distance traveled
- Accurate at very low speed
- Can be supplied with a user-specified gear, wheel, or pulley

Benefits

- Compact, enabling various design options
- Easy integration thanks to plug-and-play unit
- Relubrication-free
- Reduced number of components
- Enhanced system reliability

Sensor technology

The SKF Roller Encoder Unit uses compact and robust sensors that produce an incremental encoder signal. The sensors are accurate down to zero r/min. An integrated active circuit (requiring an external voltage supply) in the sensor body contains two Hall effect cells that produce an output signal consisting of two square waves. These signals can be used to determine relative position, speed, acceleration and direction of movement.

The SKF Roller Encoder Unit can provide a signal resolution ranging from 32 to 80 digital pulses per revolution.

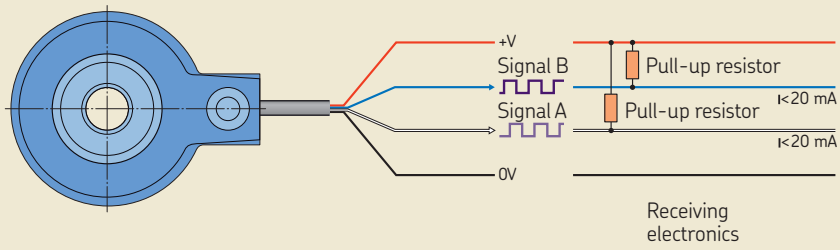
Requirements for the receiving interface

The receiving interface must be able to process the signals, which are provided via open collector circuits. A typical schematic drawing is shown in **fig. 1**.

Resistors

Pull-up resistors should be placed between the voltage supply and the conductors for the output signals to limit the output current to 20 mA. Recommended pull-up resistors for typical voltage supply values are listed in **table 1**.

Fig. 1



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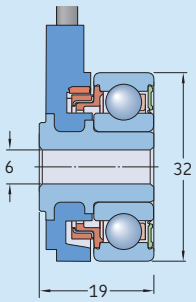

Designation	Rotational speed	Electronic specifications			
	max.	Pulses/ rev	Period accuracy	Duty cycle	Phase shift
–	r/min	–	%	%	°
AHE-5509 A	5 000	32	±4	50±10	90±30

Table 1

Recommended pull-up resistors

Voltage supply	Resistance min.	Power
V DC	Ω	W
5	270	0,25
9	470	0,25
12	680	0,25
18	1 000	0,25

www.skf.com/sensorbearings

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