

# SKF Steering Encoder Unit

*Monitor speed and direction of the steering input device thanks to the SKF Steering Encoder Unit. The combination of reliable encoder technology with the simplicity of plug-and-play component packaging for steer-by-wire systems.*

## The SKF solution

The SKF Steering Encoder Unit is based on well-proven SKF technologies. The unit has been designed from the inside out, starting with bearing encoder technology, to precisely monitor steering direction and speed. From there, a friction torque device, a mechanical interface for mounting, and a shaft to connect the steering wheel are added to create a complete unit. The friction torque device provides the adequate feel in the steering wheel to the operator.

The unit contains a sealed SKF Explorer deep groove ball bearing to provide long service life and reliable performance. The bearing does not require any adjustment or relubrication during its expected service life. The solution reliably fulfils the demands of industrial and off-highway steer-by-wire systems.

The SKF Steering Encoder Unit can be customized to meet the needs of a particular application with different:

- torque values
- cable lengths
- connectors
- shaft interfaces

The SKF Steering Encoder Unit contains two sets of sensors to provide signal redundancy. Each unit is supplied ready to mount. Connection to a steer-by-wire system is achieved by plugs.



## Features

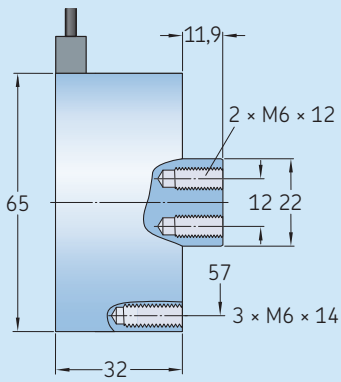
- Provides speed and direction input of the steering wheel
- Constant friction steering feel
- Redundant output signals
- Available with 64 or 256 pulses per turn
- High accuracy

## Benefits

- Plug-and-play steering input device
- Compact design enables more ergonomic systems
- Virtually maintenance-free resulting in cost savings
- Enhanced reliability
- Redundant signals and robust design provide a high level of safety

## Common applications

- Forklift trucks
- Tractors
- Harvesters
- Road rollers



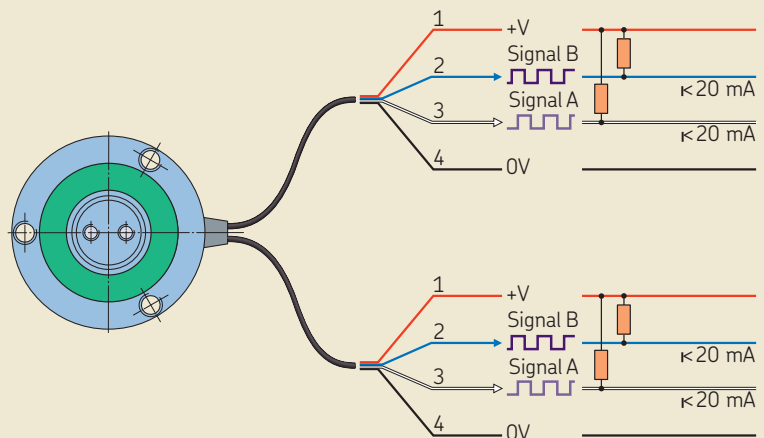
### SKF Steering Encoder Unit

Designation	Rotational speed	Electronic specifications			
		Pulses/rev	Period accuracy	Duty cycle	Phase shift
	max.				
	r/min	-	%	%	°
AHE-5401 D	300	64	±8	50±10	90±30
AHE-5701 C	300	256	±20	50±10	90±30

## Sensor technology and electrical data

The units provide two independent sets of square wave signals via open collector circuits. They require a regulated voltage supply, which can range from 5 to 24 V DC. 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.

### Circuit diagram



Scan the QR-code and find out more about  
SKF Steering Encoder Unit at  
[www.skf.com/sensorbearings](http://www.skf.com/sensorbearings)

© SKF is a registered trademark of the SKF Group

© SKF Group 2014

The contents of this publication are the copyright of the publisher and may not be reproduced (even extracts) unless permission is granted. Every care has been taken to ensure the accuracy of the information contained in this publication but no liability can be accepted for any loss or damage whether direct, indirect or consequential arising out of the use of the information contained herein.

PUB BU/S7 14468 EN · April 2014

This publication replaces publication 6290

