



Measure with optical pulses

Caldaro's optical sensor bearing S09 comes with more benefits and a lower price point than laser measurement systems. It was originally developed for forklift trucks but is suitable for any application with long linear movements where the exact position is essential.



Height precision for long, linear movements

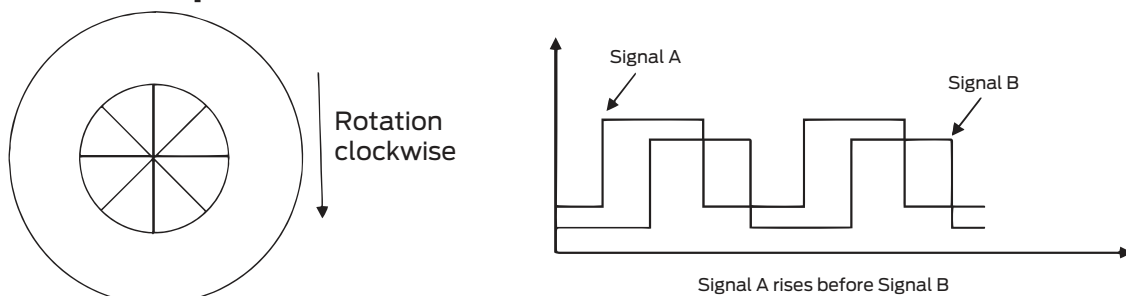
- The unique compound eliminates ESD-related problems.
- It is temperature resistant.
- The completely sealed design keeps functioning in dirty environments.
- The optical sensor bearing keeps its precision even when the machine rocks a bit, providing reliable position and speed feedback information.
- When the forklift truck is programmed for the shelves' exact heights in a storehouse, it will adjust the lifting speed to make movements safer.
- The intelligent design makes it possible to detect the rotation direction; it works both up and down.

A patented product

We have invented a new solution that solves earlier ESD-related problems while making production more cost-effective. It enables reliable position and speed feedback for the truck's forks and eliminates electro-static interference problems.

This product is based on an innovative, patented system to read optical pulses. Two optical readers work beside each other, making it possible to tell in which direction the sensor is rotating.

Electrical output characteristics



» Sensor S09 – Specification

General information

This specification is an optical sensor bearing with turning wheel

Mechanical performances

Outer appearance and dimensions As per attached drawing
 Mechanical operating angle 360° (endless)
 Starting torque 50mN × m
 Rotational speed 0 – 500 rpm
 Testing position The sensor is tested with the turning wheel
 in horizontal position.

Electrical characteristics

Sensor type Transmissive photomicrosensor
 Vcc Supply voltage 24 VDC (Min 5,5 VDC max 45 VDC)
 Vrcv Reversed polarity protection -36VDC
 Electrical rotating angle 360° endless
 Supply current 12 mA
 Signal output type Open collector, min 1MΩ at high impedance
 Number of pulses/revolution 32 / signal
 Phase shift between signal A vs B 90 electrical degrees (±30 deg.)
 Period accuracy ±4%
 Duty cycle 50% (±10%)
 ESD and EMC Immunity According to RU 0091 2.5.2.1

Mechanical and environmental performance

Operating temperature range -35°C ~ +70°C
 Storage temperature range -40°C ~ +85°C
 Vibration According to RU 0091
 Shock According to RU 0091
 Life expectancy 25 000 000 revolutions
 Maximum load on turning wheel 10N radial load
 Maximum load on turning wheel 50N axial load
 Mounting torque Tighten the fixing nut with maximum 3 Nm
 IP sealing IP65

