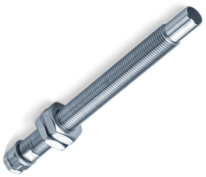
ROTEC
TORSIONAL VIBRATION PROFESSIONALS

Differential sensors
(opt. with direction recognition)

The magneto-resistive (MR) differential sensors from ROTEC are used to detect rotational speeds on ferromagnetic gears and are available in various designs. The two-part design of sensor TYP A allows the sensor alignment and the frontal sensor distance to the encoder wheel to be adjusted independently of each other. It is optionally available with direction recognition. Sensor TYP B is particularly suitable for measurements in confined spaces due to its short sensor length. For measurements in places that are difficult to access, sensor TYP C with its 90° angled sensor surface is the ideal choice. The differential sensors cover a wide temperature range and are insensitive to external influences such as oil and dirt. Sensor TYP B is also available for the high temperature range.

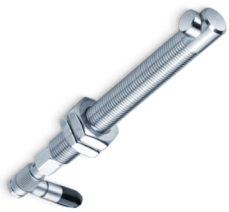
Features TYP A

- Two-part design - the preferred direction is adjustable after the sensor is mounted
- Suitable for the standard temperature range
- Insensitive to external influences such as oil and dirt
- Optional with direction recognition



Features TYP B

- Short sensor length
- Standard temperature sensor with detachable connection cable
- High temperature sensor with molded cable connection
- Insensitive to external influences such as oil and dirt



Features TYP C

- Angled sensor head
- Standard temperature sensor with detachable connection cable
- High temperature sensor with molded cable connection
- Insensitive to external influences such as oil and dirt

Measurement solution

- Speed Sensor (optional with direction recognition)
- Differential Sensor Adapter or Inline Electronics (for mobile use)
- RASdelta Speed Board
- RAS Software

Technical drawings

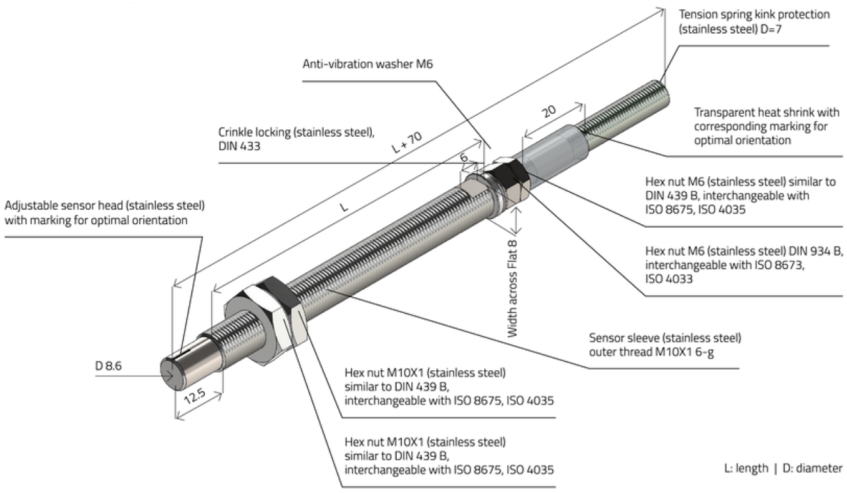


Fig. 1: Speed sensor TYP A (opt. with direction recognition)

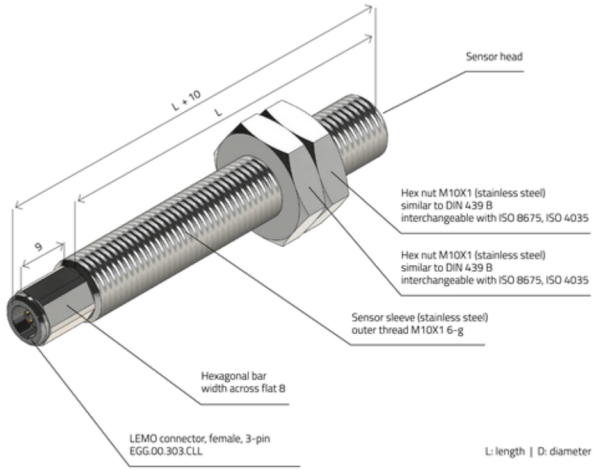


Fig. 2: Speed sensor TYP B

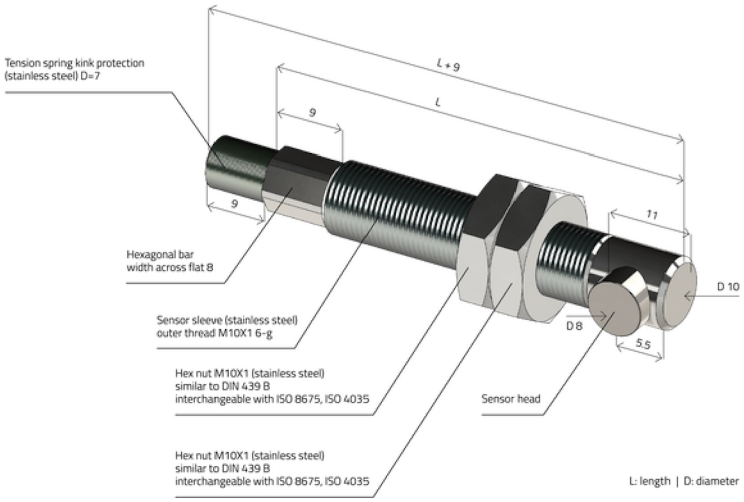


Fig. 3: Speed sensor TYP C

Technical Data			
	Speed sensor TYP A (SEFP001-003) / Speed sensor with direction recognition (SE4FP)	Speed sensor TYP B (SEFP004-009 / SEHFP001-003)	Speed sensor TYP C (SEFP010-015 / SEHFP004-006)
Sensor head	two-part, for separate adjustment of sensor distance and preferred direction	single piece; standard temperature sensor with connector/high temperature sensor with potted cable	single piece, with removable cable
Sensor surface	face side	face side	90° angled
Sensor length	• with 30 mm thread length: 80 mm • with 60 mm thread length: 110 mm • with 90 mm thread length: 140 mm	Standard temperature sensor with connector: • with 30 mm thread length: 70 mm sensor length • with 60 mm thread length: 100 mm sensor length • with 90 mm thread length: 130 mm sensor length High temperature sensor with potted cable: • with 30 mm thread length: 50 mm sensor length • with 60 mm thread length: 80 mm sensor length • with 90 mm thread length: 110 mm sensor length	• with 20 mm thread length: 40 mm • with 40 mm thread length: 80 mm • with 70 mm thread length: 90 mm
Sensor type	passive, requires downstream ROTEC Differential Sensor Adapter or ROTEC Inline Electronics (for mobile applications)	passive, requires downstream ROTEC Differential Sensor Adapter or ROTEC Inline Electronics (for mobile applications)	passive, requires downstream ROTEC Differential Sensor Adapter
Sensor housing	• stainless steel • external thread M10x1 • thread length 30/60/90 mm	• stainless steel • external thread M10x1 • thread length 30/60/90 mm	• stainless steel • external thread M10x1 • thread length 20/40/70 mm
Pins	• integrated cable (1 m) • extension cable (2m) available separately	• integrated or removable cable (2m); plug straight or 90° • extension cable (2m) available separately	• integrated or removable cable (2m); plug straight or 90° • extension cable (2m) available separately
Maximum gearwheel frequency	20 kHz with downstream ROTEC Differential Sensor Adapter or ROTEC Inline Electronics	20 kHz with downstream ROTEC Differential Sensor Adapter or ROTEC Inline Electronics	20 kHz with downstream ROTEC Differential Sensor Adapter
Requirements encoder wheel/shaft	• ferromagnetic, soft magnetic • module 0,6 bis 2,4 • pitch 1,9 mm bis 7,7 mm	• ferromagnetic, soft magnetic • module 0,6 bis 2,4 • pitch 1,9 mm bis 7,7 mm	• ferromagnetic, soft magnetic • module 0,6 bis 2,4 • pitch 1,9 mm bis 7,7 mm
Sensing gap	0,5-2x module [mm]	0,5-2x module [mm]	0,5-2x module [mm]
Temperature range	-15 °C to +100 °C	Standard temperature -15 °C bis +100 °C High temperature -40 °C bis +160°C	Standard temperature -15 °C bis +100 °C High temperature -40 °C bis +160 °C