

HySense

Sensors for other measurands

With our HySense sensors, Hydrotechnik covers all important physical measurands of importance for diagnosis and condition monitoring of fluid-technical systems. On the following pages you can find precise and reliable sensors for

- rotational speed
- position
- force
- torque
- vibration



Connector version

The second digit of the model name indicates the connector type:

- | | |
|---|--|
| 0 | 6 pole device connector, M16 x 0.75 |
| 1 | 5 pole device connector, M16 x 0.75 |
| 2 | 5 pole device connector, M12 x 1 |
| 3 | 4 pole device connector, M12 x 1 |
| 4 | 4 pole device connector, EN 175301-803 type A, Pg9 |
| 5 | 4 pole device connector, EN 175301-803 type C, Pg7 |
| 8 | other connector versions |
| 9 | open cable ends |

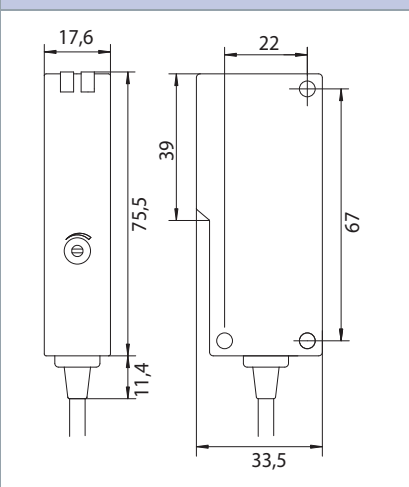
Rotational speed sensor with reflection tag detection



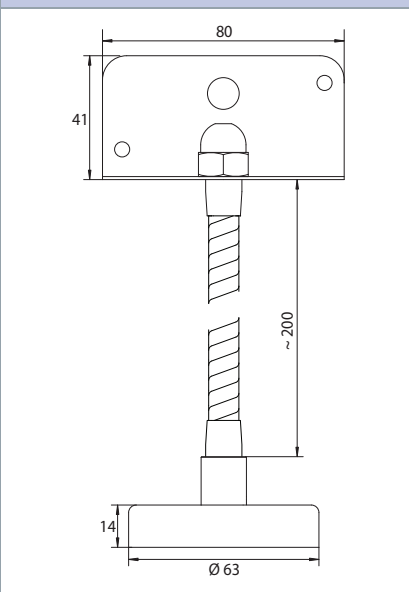
Rotational speed measurement for many applications

The rotational speed sensor RS 110 uses pulsating red light (LED) reflected by a special tag at the rotating target. By using a polarisation filter, only the reflected light impulses are evaluated, disturbing reflections (e.g. unevenness of the surface, bright metal parts, keyways or high-contrast areas) are not detected. This achieves a reliable rotational speed measurement from distances between 0 and 500 mm. 25 reflection tags are included. Enter the number of used reflection tags as calibration value into the measuring instrument.

Dimensions



Dimensions magnetic holder (option)



Applications

- Recording the hydraulic efficiency of pumps
- Rotational speed measurement of fans of hydraulic cooling devices

Qualities

Measuring principle	auto-collimation
Light source	power LED with visible red light
Supply voltage U_b	10 ... 30 VDC
Ripple	< 5 Vss
Current consumption	< 30 mA
Output current max.	< 100 mA
Response time	500 μ s
Switching sequence	1,000 Hz
Range	0 ... 500 mm
Protection type	IP 67
Signal repetition frequency	max. 500 Hz
Output signal	frequency (rectangular signal) / 4 ... 20 mA
Electrical measuring connector	5 pole device connector, M16 x 0.75
Environmental temperature	-40 ... +60 °C
Storage temperature	-40 ... +75 °C
Weight	141 g

Pin assignment

	RS 110 (frequency)	RS 110 (4 ... 20 mA)
	Pin 1 = signal +	Pin 1 = signal +
	Pin 2 = - U_b / GND	Pin 2 = signal - / GND
	Pin 3 = + U_b	Pin 3 = + U_b
	Pin 4 = free	Pin 4 = free
	Pin 5 = free	Pin 5 = free

Measuring range	Weight	Order number
	g	
Frequency	140	3130-02-01.00
4 ... 20 mA	320	3130-06-01.00



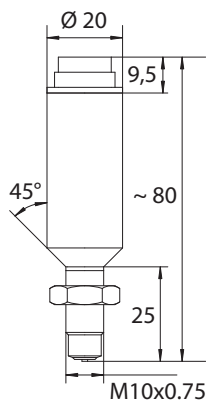
Inductive rotational speed sensor



Rotational speed measurement for special applications

The rotational speed sensor RS 210 works inductively and is able to detect the cogs of a cogwheel. After entering the number of cogs into the measuring instrument, a reliable rotational speed detection is assured. The sensor head must be mounted between 1.5 and 2 mm away from the cog wheel.

Dimensions



Qualities

Measuring principle	inductive with integrated amplifier switch
Measuring range	up to 5,000 divided by the number of cogs of the measured cog wheel
Output signal	frequency (rectangular signal)
Electrical measuring connector	5 pole device connector, M16 x 0.75
Mechanical connection thread	M 10 x 0.75
Material casing	Aluminium, anodized 20 µm, RAL 5015
Supply voltage U_b	6.5 ... 30 VDC
Current consumption	12 ... 15 mA
Overvoltage protection	36 VDC
Response time	0.1 ms
Frequency range	12.5 ... 5,000 Hz
Isolation resistor	1 MOhm
Total resistance	$R_g = U_b / 0.015 + I_L$
Load resistance	4 ... 20 kOhm
Environmental temperature	-20 ... +85 °C
Storage temperature	-20 ... +85 °C
EMV test	EN 50081-2, EN 50082-2
Mounting orientation	arbitrary
Weight	50 g

Pin assignment

Pin assignment	Frequency
	Pin 1 = signal +
	Pin 2 = - U_b / signal - / GND
	Pin 3 = + U_b
	Pin 4 = free
	Pin 5 = free

Output signal	Order number
Frequency	3107-00-09.00