



Sensors for motion control

Compact speed sensors with ATEX approval and IO-Link



Speed sensors



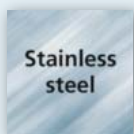
Many functions available via IO-Link, but also in SIO mode

Robust M30 metal housing:
No additional impact protection required

ATEX approval
group II, category 3D

Flush installation

Connector unit with 24 V DC
supply voltage



Compact speed monitoring with IO-Link

The evaluation electronics are integrated in the sensor housing. This allows for low-cost and easy monitoring of rotating as well as linear movements regarding overspeed and underspeed.


The limit of the speed at which the output switches is set via a potentiometer or IO-Link.

New: Sensor with M12 connector and ATEX approval

As compared to its predecessors, these new sensors feature a robust metal housing for flush mounting.

A special version with ATEX approval is available for which no additional impact protection is required.



Type	Setting range [pulses/min.]	Start-up delay [s]	Hysteresis [%]	Communication interface	ATEX approval	Order no.
Inductive sensor M30 x 1.5 · M12 connector · IO-Link						
	5...3600	15	10	–	–	DI5023
	5...3600	15	10	–	Group II, category 3D	DI521A
	5...3600	5	10	–	Group II, category 3D	DI522A
	5...3600	15 adjustable	10	IO-Link	–	DI5024
	5...3600	15 adjustable	10	IO-Link	Group II, category 3D	DI524A

Applications

Especially in the field of conveying technology the compact speed sensors can be used for various applications, for example for monitoring belt conveyors or bucket elevators. Here they are typically used to monitor underspeed, blockage or standstill.

Functions via IO-Link

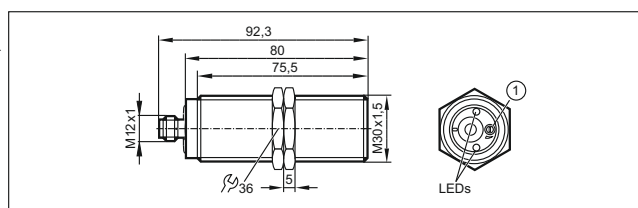
The speed sensors incorporate complete speed monitoring. The switch point is set using a multi-turn potentiometer or IO-Link. Additional values are provided via IO-Link, for example the current speed or the set switch point. Parameters such as the start-up delay can be set remotely using IO-Link. Besides, the "window mode" can be activated via IO-Link. Two switch points that can be set independently of each other provide added value. Teaching can also be done remotely via IO-Link. To increase plant transparency, a connection to the ifm SMARTOBSERVER is possible. Of course it is also possible to operate the IO-Link enabled sensor in SIO mode.

Operating principle

The integrated inductive sensor is damped by passing cams or other metallic targets. The evaluation unit determines the period duration or the frequency (actual rotational speed value) on the basis of the time interval between damping and compares it to the set switch point (preset value). The output is switched during the start-up delay and when the rotational speed exceeds the set switching value.

An LED signals underspeed and switch-off of the output.



Dimensions



1) Potentiometer

Further technical data		
Operating voltage	[V DC]	10...36
Current consumption	[mA]	< 22
Switch point adjustment		Multiturn potentiometer or IO-Link
Sensing range	[mm]	10, flush
Short-circuit protection		•
Reverse polarity / overload protection		• / •
Protection		IP 65, IP 67
Protection class		III
Switching status indication	LED	green
Housing materials		CuZn; plastic; Stainless steel (1.4308)

Accessories

Type	Description	Order no.
	Target wheel	E89010
	Clamp with damping cams	E89013
	Angle bracket for M30 designs	E10737
	Lock nuts, nickel-plated brass	E10030
	Lock nuts, high-grade stainless steel (1.4571/316Ti)	E10031
	Mounting set, free-standing M12 clamp mounting, Ø 30.2 mm	E20874
	Mounting set, aluminium profile clamp mounting, Ø 30.2 mm	E20875
	USB IO-Link master for parameter setting and analysis of units Supported communication protocols: IO-Link (4.8, 38.4 and 230 kBit/s)	E30390
	LR DEVICE (supplied on USB flash drive) Software for online and offline parameter setting of IO-Link sensors and actuators	QA0011