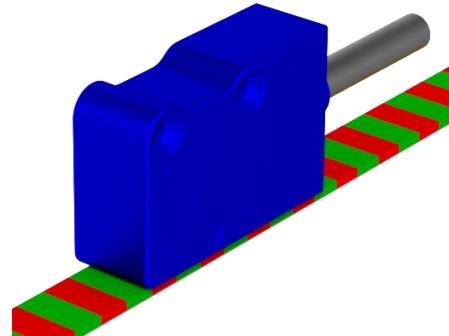# Magnetic Sensor - Incremental
IMS5

Datasheet

- Magnetic sensor for very small measurements
- Resolutions up to 0.5 µm programmable (Pr) through the serial interface
- Mounting of the magnetic sensor through wide alignment tolerances
- As a cable standard with low friction coefficient and oil resistant
- Protected against inversion of power supply polarity
- IP-Rating: IP67

Mechanical Data

Materia							
	Housing	Aluminium; die-cast					
	Cable[1]	PVC, Ø6,1 (=8-wire)					
	Power Supply	0,35 mm^2					
	Signals	0,14 mm^2					
	Length	2 m (standard)					
	Bending Radius	> 60 mm					
Weight		40 g					
Pole Pitch		5+5 mm					
Resolution [µm]		250	100[2]	50	25	10	5	1
Accuracy		±50 µm		± 30 µm			
Repeatability		± 1 Increment					
Distance Sensor - Magnetic Scale		0,3 … 4 mm (with magnetic scale WM5) 0,35 … 2 mm (with WM5 / Reference index)					
Reference Index		C = at constant distance (5 mm)[2] Z = positioned on magnetic scale E = external					
Traversing Speed[3]		< 1,2 m/s (resolution: 1 µm) < 30 m/s (resolution: 25 µm)					
Relative Humidity		100%					
Operating Temperature		0 °C … +50 °C					
Storage Temperature		-20 °C … +80 °C					

[1] PUR cable or cable with reduced section on request
[2] With 100 µm resolution, the constant step is 4 mm.
[3] The indicated speeds are referred to a maximum frequency of 300 kHz.

Electrical Data

Power Supply		5 VDC … 28 VDC ±5%
Power Consumption		
	unload	< 60 mA
	load	< 140 mA (with 5 V and R = 120 Ω)
		< 90 mA (with 28 V and R = 1,2 kΩ)
Frequency		< 300 kHz
		< 500 kHz (on request)
Output		Line Driver (ABZ, $\overline{ABZ}$)
		Push-Pull (ABZ)
Vibration	EN 60068-2-6	300 m/s^2 [55 … 2.000 Hz]
Shock	EN 60068-2-27	1.000 m/s^2 (11 ms)
IP-Rating		IP67

Measure Indicate Control Sensors Mechanics Accessory

Datasheet

Dimensions
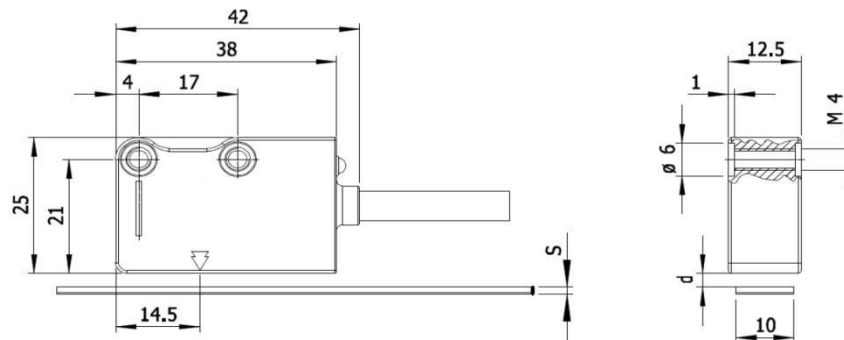
Value in mm	**WM5**	**WM5 + DB50**	**WM5 + PS1**
s	1,3	1,6	2,1
d IMS5	0,3 … 4	< 3,7	< 3,2
d IMS5/Z	0,35 … 2	< 1,7	< 1,2

s = width
d = distance to be observed between the sensor and the surface of the magnetic tape
(or rather cover tape/ Support)

Ordering Example

Type	IMS5 -	10 -	C -	528V -	Y -	M02/N -	SC

Resolution [µm]
250 / 100 / 50 / 25 / **10** / 5 / 1

Reference Index
C = at constant pitch (5 mm)
Z = positioned on magnetic scale
E = external

Output Voltage
528V = 5 VDC … 28 VDC

Output Circuit
Y = Push-Pull (ABZ)
L = Line Driver (ABZ, $\overline{ABZ}$)

Cable[1) 2)]
M01/N = 1m
M02/N = 2m
M03/N = 3m

Connection
SC = open Cable
C3 = C3
C4 = C4

[1)] Different lengths are available in the following version
L_{MAX} = 10 m sensor cable
L_{MAX} = 100 m sensor cable (2m) + extension cable (power supply 0.5 mm^2)
[2)] With a traversing speed about 1 m / s, a cable for continuous movements recommended

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