BALLUFF

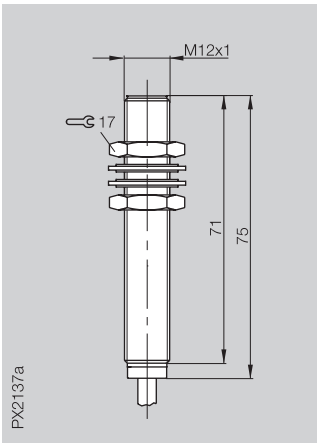
Analog Inductive Sensor with Digital Interface

... the first product in a new analog generation

Analog Inductive Sensors

Analog inductive sensor with digital interface – the first product in a new analog generation

Housing size, Mounting		**M12×1, flush**
Output signal	analog	**voltage 0...10 V**
	digital	**4 bits, BCD coded**
Linear range s_l		1...5 mm



Ordering code	BAW M12MP-UAZ50B-BV_ _-510
Rated operational voltage U_e	24 V DC
Supply voltage U_B	15...30 V DC
Ripple	≤ 15 % of U_e
Rated sensing distance s_e	3 mm
Load resistance R_L	≥ 5 kΩ
No-load supply current I_0 at U_e	≤ 20 mA
Protected against polarity reversal	yes
Short circuit protected	yes
Ambient temperature range T_a	–10...+70 °C
Repeat accuracy R_{BWN}	±8 µm
Non-linearity	≤ ±120 µm
Limit frequency (–3dB)	500 Hz
Measuring speed	≤ 30 m/s
Response time	1 ms
Temperature coefficient TK typical	–1.5 µm/K
in the optimal range min.	0 µm/K
from +10...+50 °C max.	5 µm/K
Degree of protection per IEC 60529	IP 67
Housing material	CuZn nickel plated
Sensing face material	LCP
Connection	cable, PVC
No. of wires × gauge	8×26 AWG

Please include cable length in ordering code!
PVC, Standard length 3 m = 03

Analog inductive sensor with digital interface

Do you require analog position sensing with digital processing?
Do you need to accomplish this without an external processing device?
Then we have a solution for your automation needs.

Our new analog inductive sensor with digital interface provides a 0…10 V analog output as well as a 4 bit, BCD coded digital output.

The working range (1…5mm) of the sensor can be divided into a maximum of 14 equal sub-ranges.

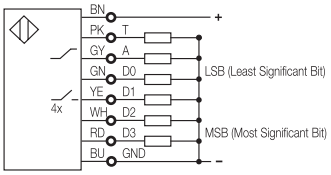
When the target goes outside the set working range, it recognizes this by means of the “Out of Range” function. When a target comes closer than 1mm to the sensor face this is represented by an output bit pattern 0000. When a target is beyond the 5mm working range of the sensor this is represented by a bit pattern 1111.

Ambient temperature compensation

The accuracy of our new generation BAW sensors is due, among other things, to the fact that we measure the ambient temperature in the sensor and we are able compensate for changes before generating the output signal.

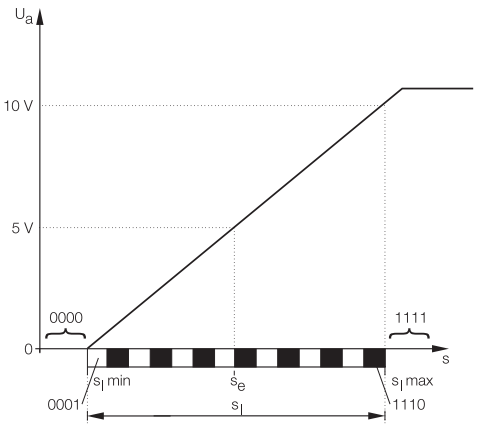
A separate temperature output signal is provided for further feedback. This value changes with high linearity by –9mV/K.

Wiring diagram



A = Analog output
T = Temperature output

Characteristic curve



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