

Inductive distance sensor with digital interface

Do you require analog position sensing with digital processing? And both without external processing devices? Then we have another solution for your automation needs.

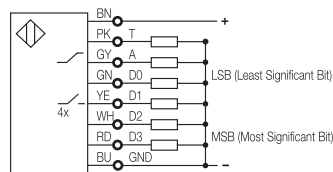
Especially useful is the ability to quickly adjust for different working ranges. Whereas this used to require replacing the geometric shape or material of the target object, now you can accomplish this in the machine controller. You simply link the bit pattern outputs as desired. The working range of the sensor can be divided into a maximum of 14 equal sub-ranges.

A sensor that outputs working points provided on the machine as ranges.

If the sensor goes outside the set distance range, it recognizes this by means of the "OUT OF RANGE" function. At this distance range the area below 1 mm is represented by the output bit pattern 0000, or 1111 for the area over 5 mm.

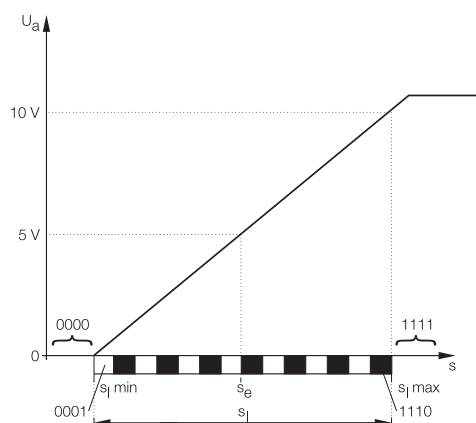
Another capability, already proven in this product family, is measurement of the temperature change around the sensor. The accuracy of all our new generation BAW sensors is due among other things to the fact that we measure the ambient temperature in the sensor on the board next to the coil and take this signal into account when generating the output signal. We also provide you with the actual temperature signal on a separate output. This gives you additional information about the change in ambient temperature. At a defined temperature it provides a typical value which changes with high linearity by -9mV/K .

Wiring diagram



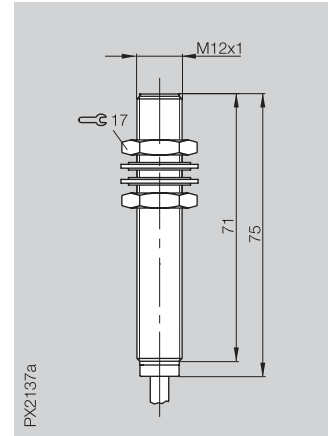
A = Analog output
T = Temperature output

Characteristic curve



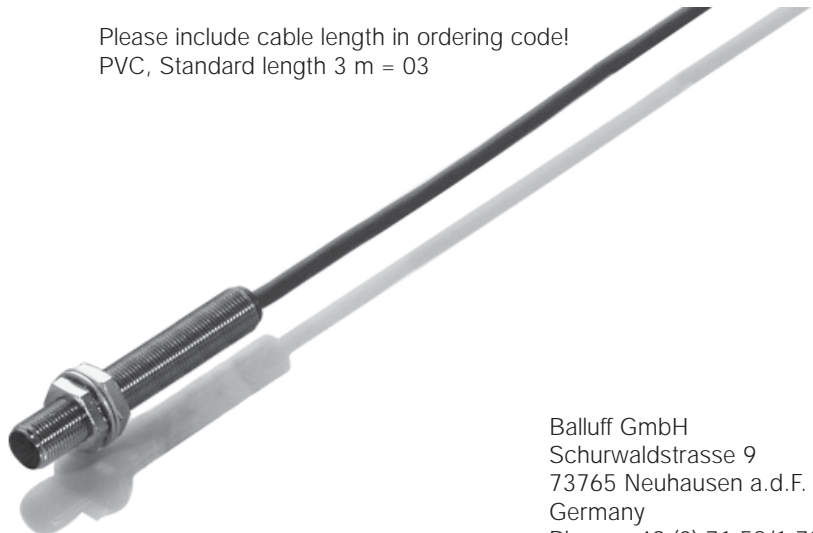
Housing size, Mounting	
Output signal	analog
	digital
Linear range s_I	

M12x1, flush
voltage 0...10 V
4 bits, BCD coded
1...5 mm



Ordering code	BAW M12MP-UAZ50B-BV_-508
Rated operational voltage U_e	24 V DC
Supply voltage U_B	15...30 V DC
Ripple	$\leq 15\%$ of U_e
Rated sensing distance s_e	3 mm
Load resistance R_L	$\geq 5\text{ k}\Omega$
No-load supply current I_0 at U_e	$\leq 20\text{ mA}$
Protected against polarity reversal	yes
Short circuit protected	yes
Ambient temperature range T_a	$-10...+70\text{ }^\circ\text{C}$
Repeat accuracy R_{BWN}	$\pm 8\text{ }\mu\text{m}$
Non-linearity	$\leq \pm 120\text{ }\mu\text{m}$
Limit frequency (-3dB)	500 Hz
Measuring speed	$\leq 30\text{ m/s}$
Response time	1 ms
Temperature coefficient TK	typical $-1.5\text{ }\mu\text{m/K}$
in the optimal range	min. $0\text{ }\mu\text{m/K}$
from $+10...+50\text{ }^\circ\text{C}$	max. $5\text{ }\mu\text{m/K}$
Degree of protection per IEC 60529	IP 67
Housing material	CuZn nickel plated
Material of sensing face	LCP
Connection	cable, PVC
No. of wires \times conductor cross section	$8 \times 0.14\text{ mm}^2$

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



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