Servo-Technique
Sensors

BMI2-CP
Strip centre sensing system

Data Sheet

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Function:	Strip centre sensing system - inductive with CAN-BUS
Mechanical design:	Aluminium frame with integral supply and evaluation electronics
Connection:	internal: terminal strip / external: screwed cable gland
Weight:	between 80 and 110 kg, depending on the frame size

Application

BMI2-CP measuring frames are used for the stationary inductive sensing of the position of a metal strip (suitable for aluminium, copper, brass or austenitic chrome nickel steels) for strip centre sensing systems in strip lines. The output signal which varies with the deviation from the line centre as well as monitoring signals are transmitted to the control electronics via CAN BUS.

The strip centre sensing accuracy is ±5 mm for standard applications.

View

Structure

The measuring frames consist of a transmitting and a receiving coil at each strip edge and integrated evaluation electronics. The measuring principle is based on electro-magnetic induction. A controlled, sinusoidal voltage is fed to the transmitting coils and, depending on the lateral strip position, a voltage is induced in the receiving coils. The frame is delivered ready for connection and installation. In addition to signal evaluation, the evaluation electronics integrated in the frame is provided with self-test facilities and a signalling logic.

The sensing principle is such that the BMI2-P is

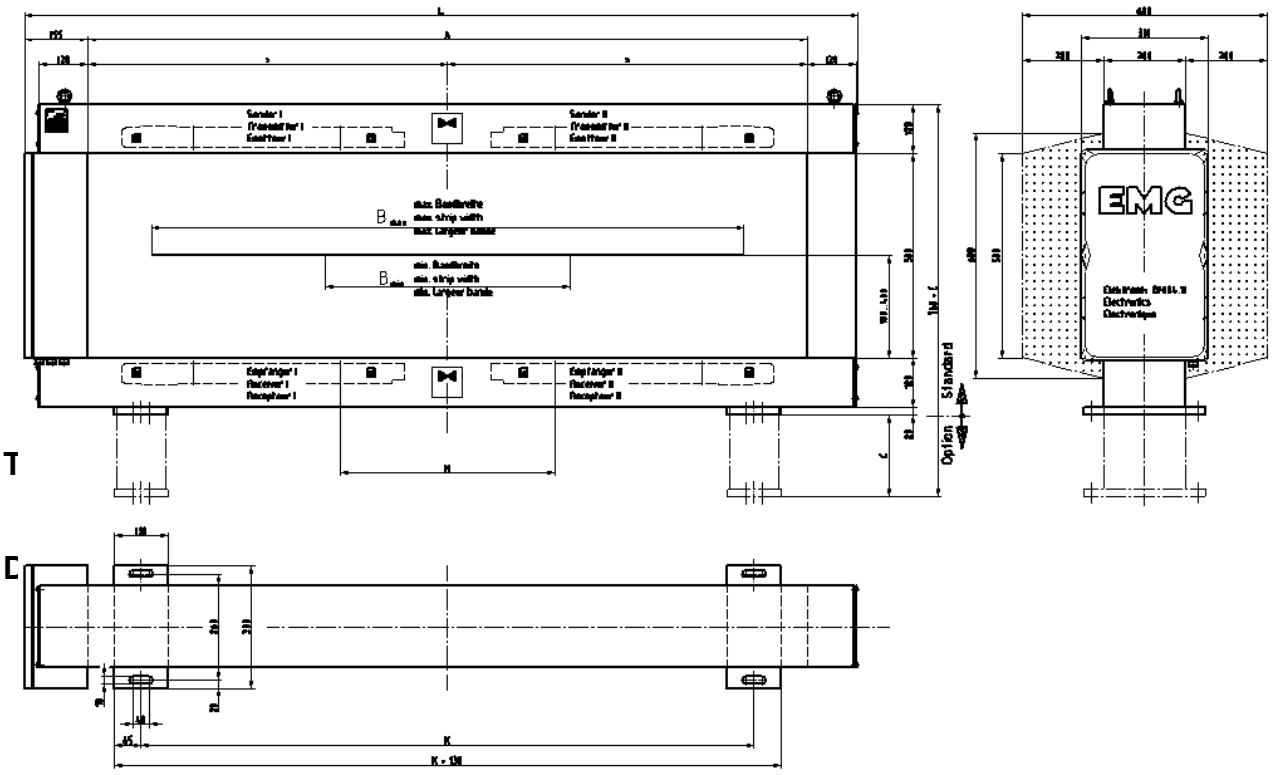
- uninfluenced by light
- insensitive to dirt (also scale)
- maintenance-free and without wearing parts
- protected against the influence of electrical noise and electrostatic fields, moisture and oil mist.
- to a large extent insensitive to wavy edges and strip level variations.

Special versions are available based on the same principle for use:

- as IMR in mist and spray areas, e. g. in cleaning and pickling lines
- as IML, IMM and IMH at temperatures of up to 1000 °C, e. g. in annealing furnaces
- as BMIH-CP for high precision measurements (better than ± 1 mm)

Please see also the data sheets relating to these components

Dimension Drawing



Type code

BMI 2 - CP / 500 / 1760 / 1350 / 0

Inductive strip centre sensing system

Series 2 2 : standard

CAN-BUS : signal exchange

300mm
500mm
800mm
Sensor measuring range

Free opening (width)

Max. strip width: ... mm

Foot height

	Strip width		Width	Mounting dimension	Overall width
	B min.	B max.	A	K	L
BMI2-CP/300	300	750	1010	750	1310
BMI2-CP/500	400	1250	1760	1500	2040
	500	1350	2060	1800	2340
	600	1450	2060	1800	2340
	700	1550	2060	1800	2340
	800	1650	2260	2000	2540
	900	1750	2260	2000	2540
BMI2-CP/800	400	1850	2260	2000	2540
	500	1950	2460	2200	2740
	600	2050	2460	2200	2740
	700	2150	2760	2500	3040
	800	2250	2760	2500	3040
	900	2350	2760	2500	3040
	1000	2450	2760	2500	3040

Technical data

Type	**BMI2-CP (BMI 2.11.1)**
Operating voltage Power consumption	110/120/220/230 V, 50/60 Hz 60 VA
Max. ambient temperature for sensors	70 °C
Max. ambient temperature for electronics	50 °C
Range of strip width	
BMI2-300	300 ... 750 mm
BMI2-500	min. strip width 400 mm, change of width 850 mm
BMI2-800	min. strip width 400 mm, change of width 1450 mm
Centre sensing accuracy	≤ ± 1.0 mm
Minimum distance for metallic deflectors	200 mm
Protective system for the complete frame	IP 54
Weight, depending on the frame size	80 ... 110 kg
CAN Open data transfer	
Strip centre deviation	CAN-BUS
Strip edge I	CAN-BUS
Strip edge II	CAN-BUS
Sensing equipment OK	CAN-BUS
Strip position OK	CAN-BUS
Degree of noise suppression VDE 0871	Limiting value class B