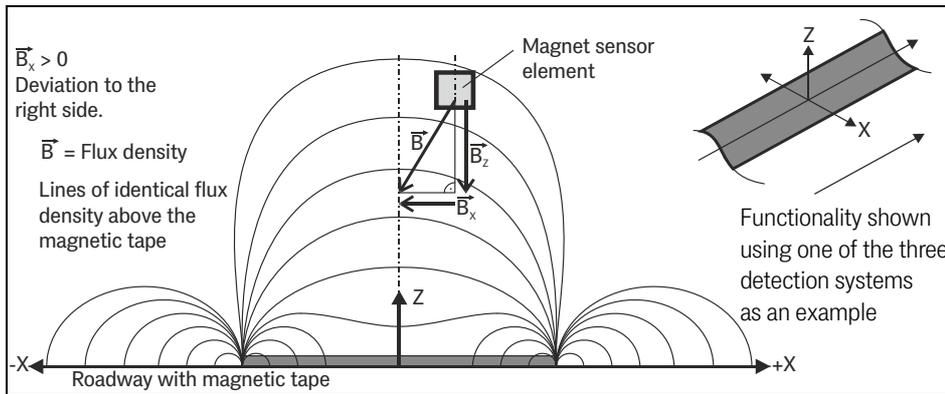


Functional Description



The magnet sensor HG G-19600ZA detects the magnetic field above a magnetic tape in horizontal and vertical direction and continuously calculates the actual deviation diagonally to the direction of travel. The deviation is then output as an analog voltage.

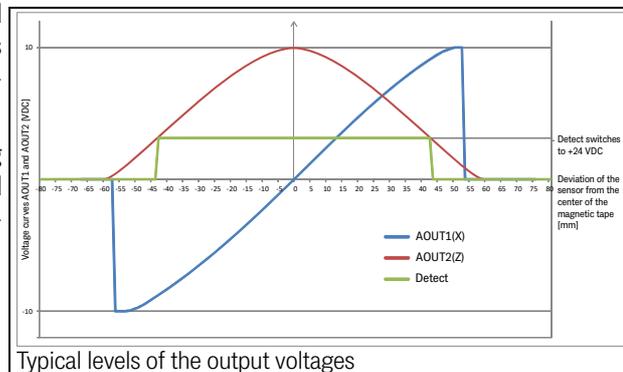
The sensor is based on digital magnetometer technology for the detection of the magnetic field above the magnetic tape. This technology is robust and maintenance free. The magnetic tape is easy to install and unaffected by dirt.

The sensor contains three independent detection systems. It can thus detect junctions (second track) and follow turnoffs. Via the two digital inputs DIN1 and DIN2 one of max. two tracks underneath the sensor is dynamically selected.

Five LEDs show the operating state (PWR), errors (ERR) and a track underneath the individual systems (TR1, TR2, TR3).

The detection range depends on the reading height (mounting position of the sensor) and the type of the magnetic tape. As shown in the image above the sensor uses the magnetic flux density to calculate the deviation X of the center of the track. The higher the deviation the higher the voltage generated in the sensor.

The image below shows typical levels of the output voltages: Via two analog outputs the deviation from the track as well as the current level of the magnetic field are output. Additionally a detect signal is generated when a magnetic tape is detected underneath the sensor.



Typical levels of the output voltages

Main Features

- Magnet sensor for AGV guidance
- Indoor / IP 54
- Digital Magnetometer Technology
- For axially polarized magnet tapes, nominal reading height 60 mm
- Three independent systems for the detection of turnoffs, track selection via digital inputs
- Analog outputs: Flux density Z (0 to 10 VDC), flux density X (-10 to +10 VDC)
- Digital output: Magnet tape detected within reading area (Detect, +24 VDC)
- Display of operating status via 5 LEDs

Pin Assignment			
ST1	M12, 5 pin	ST2	M12, 8 pin
1	+24V (PWR)	1	+24V
2	-	2	GND
3	TxD (RS232)	3	Dig. IN 1
4	RxD (RS232)	4	Dig. IN 2
5	GND	5	AOUT 1 (X)
		6	AOUT 2 (Z)
		7	Dig. OUT 1
		8	-

Mounting

- Sensor is designed for reading distance of 60 mm above magnet tape
- Please avoid strong magnetic fields near the sensor.

Adjustments / Trimming

- Configuration of the output parameters (voltage range, offset) as well as the sensitivity (reading height) and thresholds via RS232.
- Track selection:

Dig. IN 1	Dig. IN 2	Track
1	0	Left
0	1	Right
0	0	Straight
1	1	Straight

Factory Settings

- 60 mm reading distance to magnet tape
- OUT Z (vertical field): 0 to 10 VDC
- OUT X (horizontal field): -10 to +10 VDC

Corresponding Products

Magnetic tape	see table to the right
HW CAB00001	Cable PUR, 5m with M12-elbow plug, 5 pins, A-coded
HW CAB00007	Cable PUR, 5m with M12-elbow plug, 8 pins, A-coded

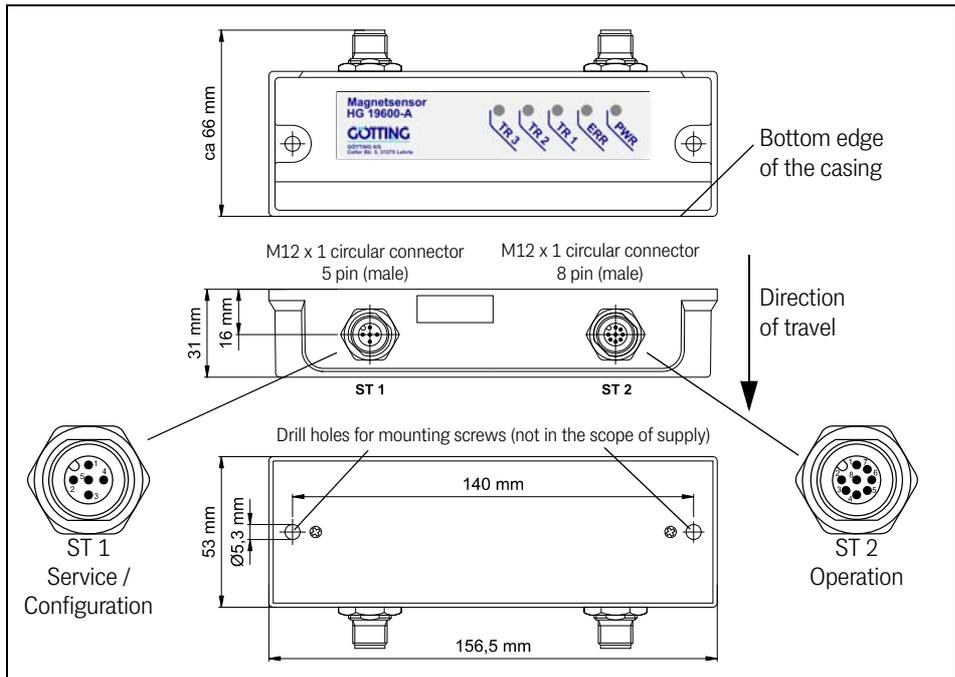
Götting Product IDs (order codes)

HG G-19600ZA

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    |
    | Production series
    | (no functional relevance)
    | Functional Model / Version
    | Identification Number / Type
    | G: Device | K: Component |
    | S: System | W: Software
    | HG: Götting | HW: Resale
    
```

Casing Dimensions



Götting magnetic tape types

Order No.	Description	Order No.	Description
HW MAT00003	Magnetic tape on a roll, W X H 50 x approx. 1.2 mm, length 15.2 m	HW MAT00007	Magnetic tape curve segment, 30° segment of circle, radius 1.000 mm
HW MAT00004	Embedded magnetic bar, W X H 6 x 10 mm, quote length	HW MAT00008	Magnetic tape junction, right, radius 1.000 mm
HW MAT00005	Magnetic tape curve segment, 30° segment of circle, radius 600 mm	HW MAT00009	Magnetic tape junction, left, radius 1.000 mm
HW MAT00006	Magnetic tape curve segment, 30° segment of circle, radius 800 mm		

Technical Data

Nominal reading distance	60 mm when using the Götting magnetic tape HW MAT00003
Dimensions	156 mm x 31 mm x 53 mm (W x H x D)
Casing	Polycarbonate
Weight	150 g
Protection class	IP 54
Relative humidity	95 % at 25° C (without condensation)
Operating temperature	-20° to +50° C
Storage temperature	-20° to +70° C
Supply voltage	+ 24 VDC
Current consumption	< 100 mA
Analog outputs	Z: 0 to 10 VDC, X: -10 to +10 VDC
Digital output	Track Detect: +24 VDC (Ub)
Connectors	2 circular connectors M12 male 1 x 5 pin / 1 x 8 pin