

**general characteristics**

product description      Wear-free, programmable, magnetic Hall sensors for measuring angles. A magnetic field generated by a permanent magnet is outputted according to the rotation in a linear output voltage.  
Available with connecting cable with or without M8 Connector.

highlights

- > High tolerance to misalignment
- > Max. Air gap of 5.2mm
- > Different magnets available
- > Custom programming available
- > Detection face side and longitudinal side possible
- > Sensor in normal and supine mountable

- # Position sensing in vehicles
- # throttle valves
- # pivot points
- # alternative for encoders

electrical characteristics		5V variants	36V variants
min. operating voltage		4,5V	9V
max. operating voltage <85°C		5,5V	36V
max. operating voltage <125°C		5,5V	25V
max. current draw	at operating voltage not burdened output	VDD=5V 10mA	V+=24V 10mA
output signal	ratiometrisches, analoges Spannungssignal		
min. output signal	10 kΩ load resistor (PULL- Down)	10%VDD	0,5V
max. output signal	10 kΩ load resistor (PULL- Down)	90%VDD	4,5V
diagnostic ranges	10 kΩ load resistor (PULL- Down)	0 - 4 / 96 - 100%VDD	0-0,2/ 4,8-5V
max. output current		5mA	5mA
min. load output		∞Ω	∞Ω
max. load output		4,7kΩ	4,7kΩ
output short circuit protected		✓	✓
output overload protected		✓	✓
reverse polarity safety on the supply side		✓	✓
max. overvoltage on the supply side		24V	40V
max. reverse polarity voltage on the supply side		-12V	-40V
max. overvoltage on the output side		18V	18V
max. reverse polarity voltage on the output side		-0,3V	-0,3V
max. signal deviation	measuring range 360°/eccentricity sensor - magnet ± 1mm/HIS - ring magnet/-40°C ... 85°C	depending on the magnet; typ. ±7,5%VDD	depending on the magnet; typ. ± 8%5V
ESD- resistance	air discharge	8kV	8kV
ESD- resistance	contact discharge	8kV	8kV
ESD- resistance	contact discharge pins	6kV	6kV
fulfilled EMC-standards		EN13309:2010	EN13309:2010 EN60947-5-2:2007

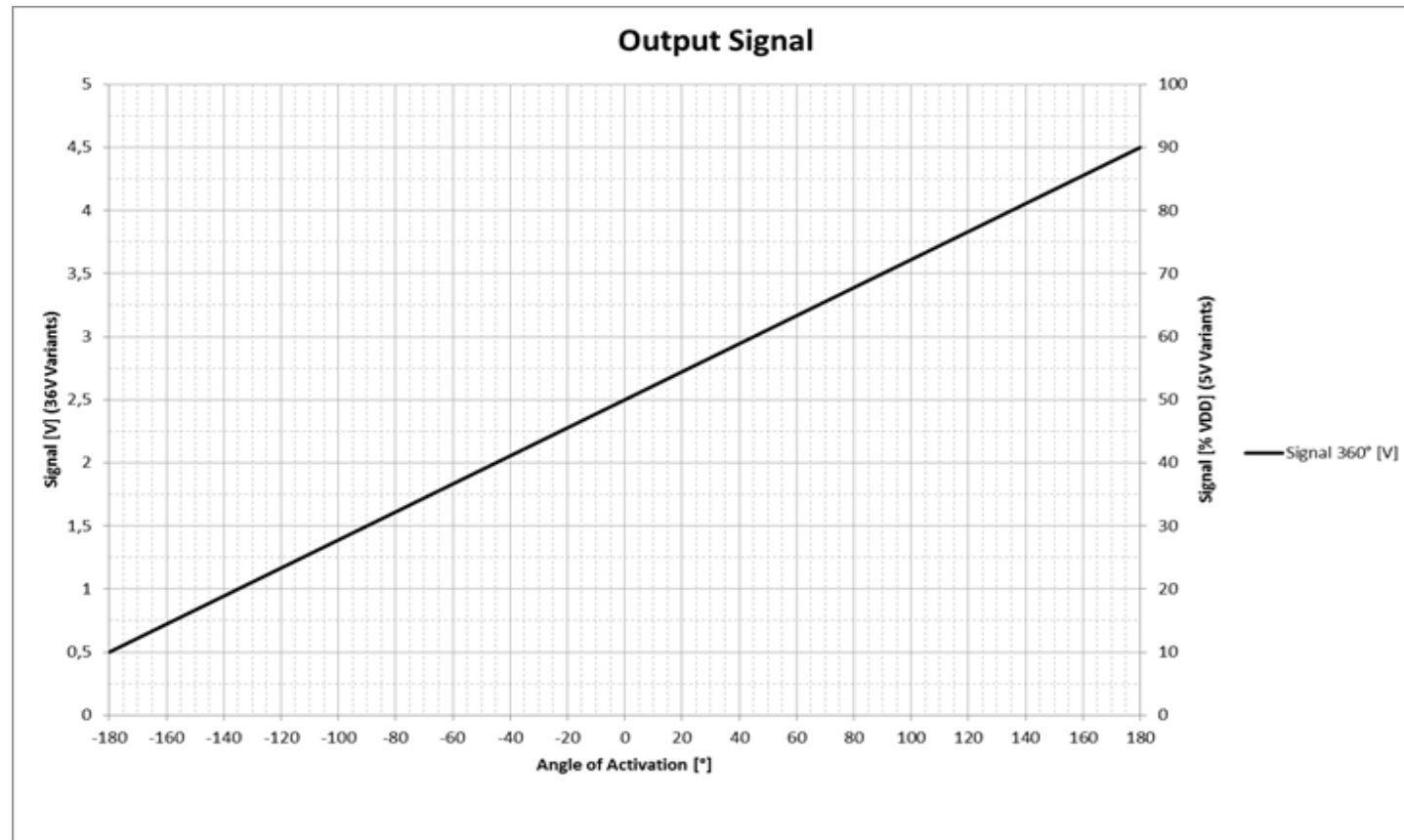
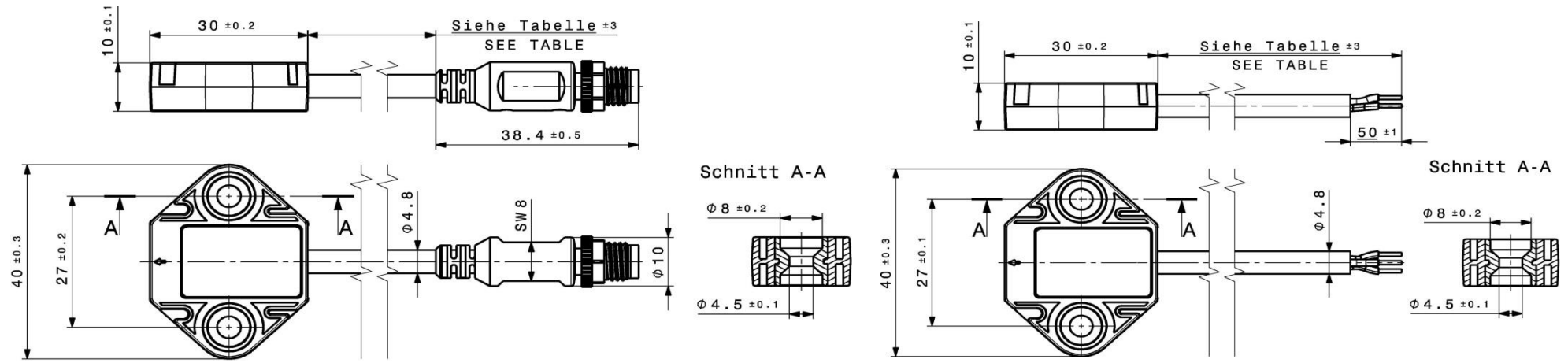
**mechanical characteristics: sensor**

length	30 mm
width	40 mm
height	10 mm
cable diameter D max.	4,8 mm
cable length with M8 connector	200 oder 1000 mm
cable length without M8 connector	1022,9 oder 3022,9 mm
type of connector	M8x1
housing material	PA-6 GF30
cable jacket material	TPE, PUR
protection class with M8 connector	IP66 / IP67 / IPx9k
protection class without M8 connector	IP66 / IPx9k
vibration resistance	DIN EN 60947-5-2
min. ambient temperature	-40 °C
max. ambient temperature	125°C

On request custom connectors, output signal programming, shielding and custom magnet designs are possible.

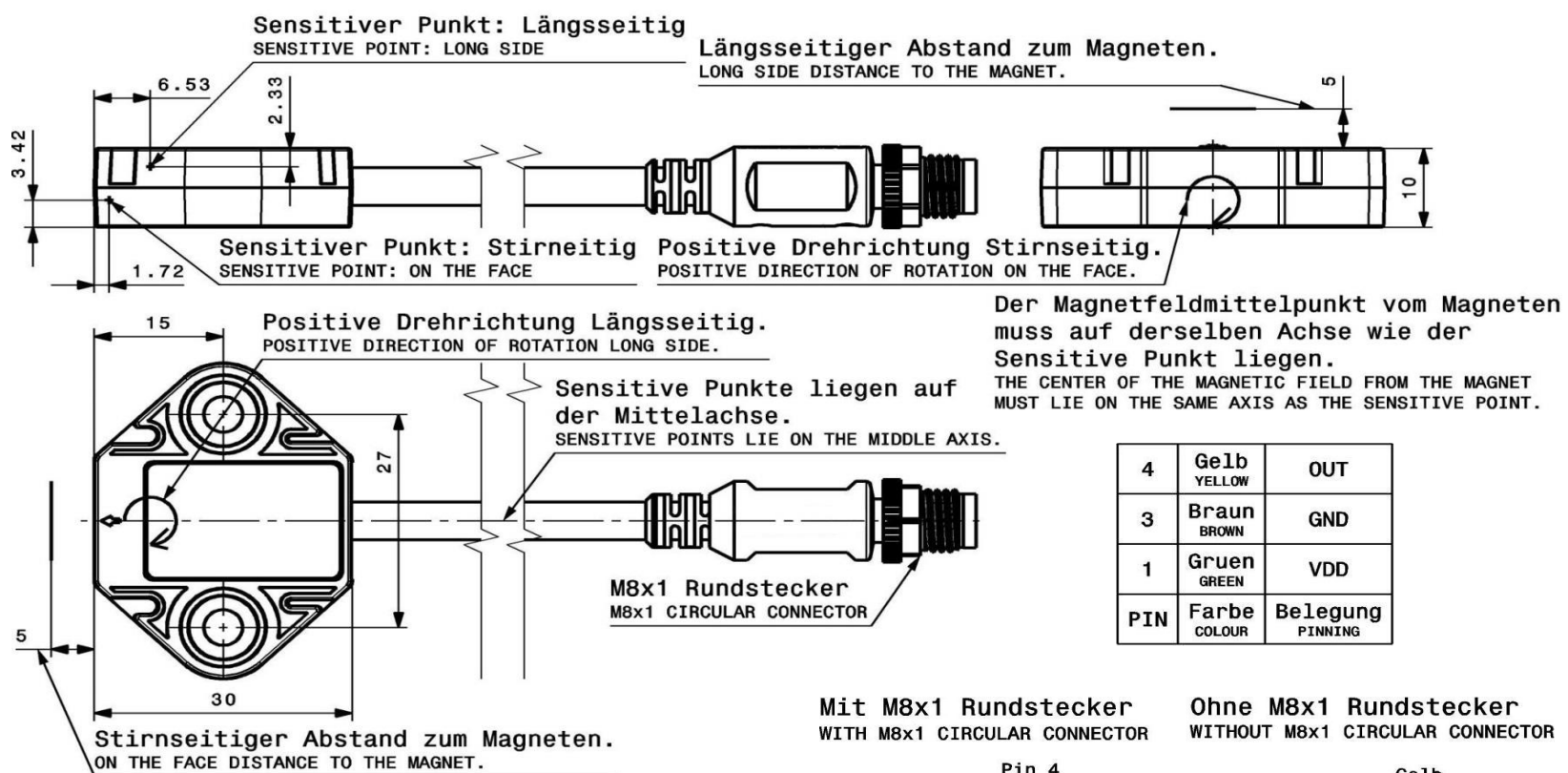
The sensor is programmed before delivery with a master magnet. The magnetic flux density in the sensitive area of the sensor is approx. 25 mT. This flux density can be achieved, for example, by installing a ring magnet with the dimensions  $D_a = 17\text{mm}$ ,  $D_i = 11\text{mm}$ ,  $h = 4\text{mm}$  out of the material N42SH. The magnet used, determines the accuracy of the sensor signal.

**PRODUCT DRAWING**

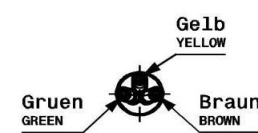
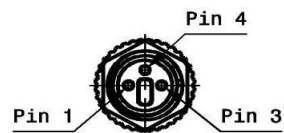


**MOUNTING DESCRIPTION**

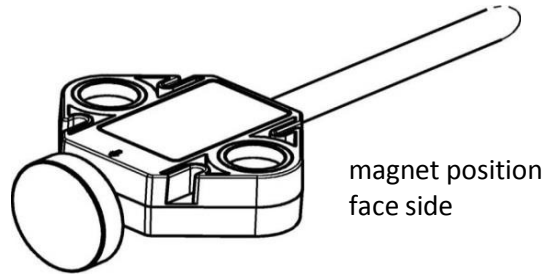
Dargestellt ist nur der Sensor ohne Magnet.  
SHOWN IS THE SENSOR WITHOUT THE MAGNET.



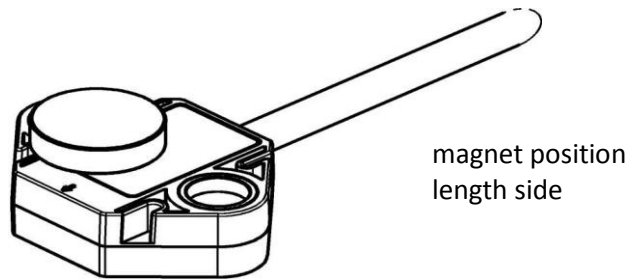
Befestigung Sensor:  
-M4 Senkschraube (8.8)  
MOUNTING SENSOR:  
-M4 FLAT HEAD SCREWS (8.8)



**PRODUCT OVERVIEW**



art. Nr.:	detection side	cable end	measuring range
HISA-0101-V11-W02-CM8-00	face side	with connector 200 mm	360°
HISA-0101-V11-W10-CM8-00	face side	with connector 1000 mm	360°
HISA-0101-V11-W30-001-00	face side	without connector 3022,9 mm	360°
HISA-0101-V11-W10-001-00	face side	without connector 1022,9 mm	360°
HISA-0101-V12-W02-CM8-00	face side	with connector 200 mm	360°
HISA-0101-V12-W10-CM8-00	face side	with connector 1000 mm	360°
HISA-0101-V12-W30-001-00	face side	without connector 3022,9 mm	360°
HISA-0101-V12-W10-001-00	face side	without connector 1022,9 mm	360°



art. Nr.:	detection side	cable end	measuring range
HISA-0201-V11-W02-CM8-00	length side	with connector 200 mm	360°
HISA-0201-V11-W10-CM8-00	length side	with connector 1000 mm	360°
HISA-0201-V11-W30-001-00	length side	without connector 3022,9 mm	360°
HISA-0201-V11-W10-001-00	length side	without connector 1022,9 mm	360°
HISA-0201-V12-W02-CM8-00	length side	with connector 200 mm	360°
HISA-0201-V12-W10-CM8-00	length side	with connector 1000 mm	360°
HISA-0201-V12-W30-001-00	length side	without connector 3022,9 mm	360°
HISA-0201-V12-W10-001-00	length side	without connector 1022,9 mm	360°

