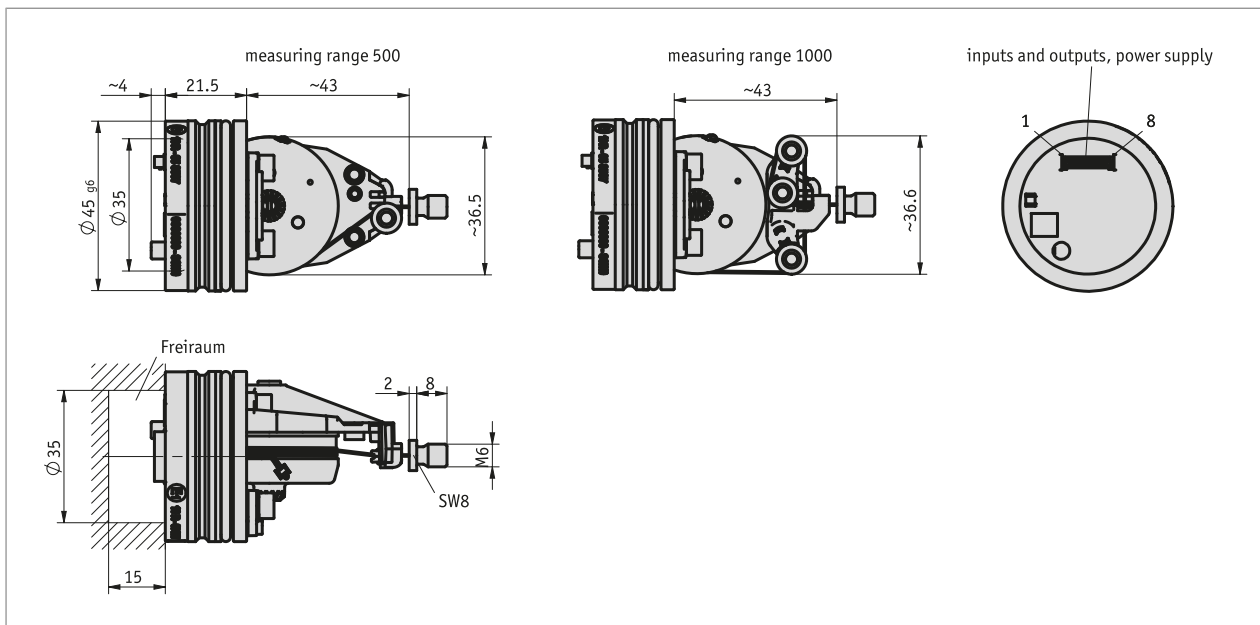
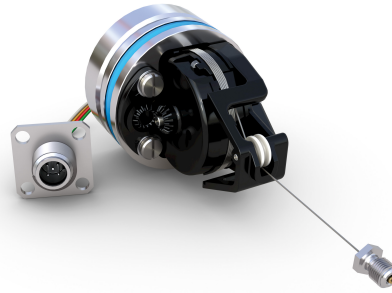


# Draw-wire encoder SGH10

Position sensor for hydraulic cylinders with measuring lengths up to 1000 mm

## Profile

- Measuring range 0 ... 1000 mm (39.37 inches)
- Absolute measuring system
- CANopen interface, analog: Current and voltage
- Operating voltage 9 ... 32 VDC
- Pressure-resistant up to 350 bar, pressure peaks up to 450 bar
- High flexibility, thanks to teach-in to any measuring length
- High EMC compatibility
- High shock and vibration resistance
- with PURE.MOBILE technology



## Mechanical data

Feature	Technical data	Additional information
Flange	aluminum	sealing ring (HNBR)
Housing	plastic	PA66
Wire design	ø0.45 mm	rustproof stainless steel
Extension force	≥2 N	
Acceleration	≤10 m/s <sup>2</sup>	
Weight	~0.15 kg	

### Electrical data

#### ■ Analog interface

Feature	Technical data	Additional information
Operating voltage	9 ... 32 V DC	with output 0 ... 5 V, 0.5 ... 4.5 V, 0.25 ... 4.75 V, 1.0 ... 4.9 V, reverse polarity protected
	12 ... 32 V DC	with output 0 ... 10 V, reverse polarity protected
	12 ... 32 V DC	at output 0 ... 20 mA, 4 ... 20 mA, but UB > Uload +2.0 V, reverse polarity protected
Current consumption	<32 mA	without load
Power input	<0.5 W	without load
Parameter storage	10 <sup>5</sup> cycles	also applies to calibration operations
Digital inputs	2	limit inputs
Input signal level high	>8.4 V	
Input signal level low	<2.8 V	
Output voltage	0 ... 10 V	load current <1 mA
	0 ... 5 V	load current <1 mA
	0.5 ... 4.5 V	load current <1 mA
	0.25 ... 4.75 V	load current <1 mA
	1 ... 4.9 V	load current <1 mA
Output current	0 ... 20 mA	load ≤500 Ω
	4 ... 20 mA	load ≤500 Ω
Linearity tolerance	±0.25 %	1000 mm measuring length, ±0.5% output value range ≤15 mV
	±0.5 %	500 mm measurement length
Settling time	<150 ms	
Type of connection	connector system	KV1H accessory

#### ■ CANopen interface

Feature	Technical data	Additional information
Operating voltage	10 ... 30 V DC	reverse polarity protection
Power input	<0.8 W	
Parameter storage	10 <sup>5</sup> cycles	also applies to calibration operations
Linearity tolerance	±0.25 %	1000 mm measuring length, ±0.5% output value range ≤15 mV
	±0.5 %	500 mm measurement length
Interface	according to ISO 11898-1, not electrically isolated	CANopen, CiA 301, CiA 305, CiA 406
Address	1 ... 127	Node ID, via SDO or Layer Setting Service (LSS)
Baud rate	≤1 Mbit/s	
Cycle time	1.5 ms, typical	
Settling time	<150 ms	
Type of connection	connector system	KV1H accessory

### System data

Feature	Technical data	Additional information
Scanning	magnetic	
Resolution	12 bit	analog output
Repeat accuracy	±0.15 mm	
	500 mm	Measuring range flexibly usable between 0 ... 500 mm
Measuring range	1000 mm	Measuring range flexibly usable between 0 ... 1000 mm
	≤1 m/s	
Travel speed	≤1 m/s	
Failure rate	235.6 Year(s)	analog output, at 60° C (MTBF) according to SN 29500
	253.3 Year(s)	CANopen, at 60° C (MTBF) according to SN 29500
Approval	E1 compliant	UN /ECE R10 approval number: E1 10 R - 05 8507

### Ambient conditions

Feature	Technical data	Additional information
Ambient temperature	-40 ... 105 °C	electronics
	-30 ... 100 °C	mechanics, optionally to 105° C
Storage temperature	-40 ... 85 °C	
Relative humidity	100 %	condensation admissible in the mounted and plugged condition
Operating pressure	<350 bar	P <sub>n</sub> based on ISO19879
Overload pressure	<450 bar	P <sub>max</sub> based on ISO 19879
Test pressure	650 bar	P <sub>static</sub> based on ISO 19879
EMC	EN 61326-3.1	immunity requirement of industrial applications, emission limit class B
	ISO 11452-1, -2, -3, -4, -5	Interference radiation ESA
	ISO 7637-1, -2	transient pulses
	ISO 10605	Electrostatic discharge (ESD)
Protection category	IP6K9K	ISO 20653, fitted with KV1H and suitable mating connector
Shock resistance	1000 m/s <sup>2</sup> , 11 ms	EN 60068-2-27
Vibration resistance	70 m/s <sup>2</sup> , 10 ... 2 kHz	EN 60068-2-64

### Order

#### ■ Ordering information

One or more system components are required:

Cable extension KV1H

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#### ■ Ordering table

Feature	Ordering data	Spezifikation	Additional information
Measuring range	A ...	500, 1000	
Interface	B 0/5V	0 ... 5 V	voltage output
	0/10V	0 ... 10 V	voltage output
	0.25/4.75V	0.25 ... 4.75 V	voltage output
	0.5/4.5V	0.5 ... 4.5 V	voltage output
	1.0/4.9V	1.0 ... 4.9 V	voltage output
	0/20mA	0 ... 20 mA	current output
	4/20mA	4 ... 20 mA	current output
	CAN	CANopen	

#### ■ Order key

SGH10 - A - GW6 - B - M1 - DS - SW



#### Scope of delivery:

SGH10, Installation Instructions



#### Accessories you can find:

Wire extension piece SVH  
 Installation tool ZB4004  
 Programming tool ProTool SGH  
 Rope swivel ZB4009  
 Socket wrench ZB4008  
 Measurement display MA50

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