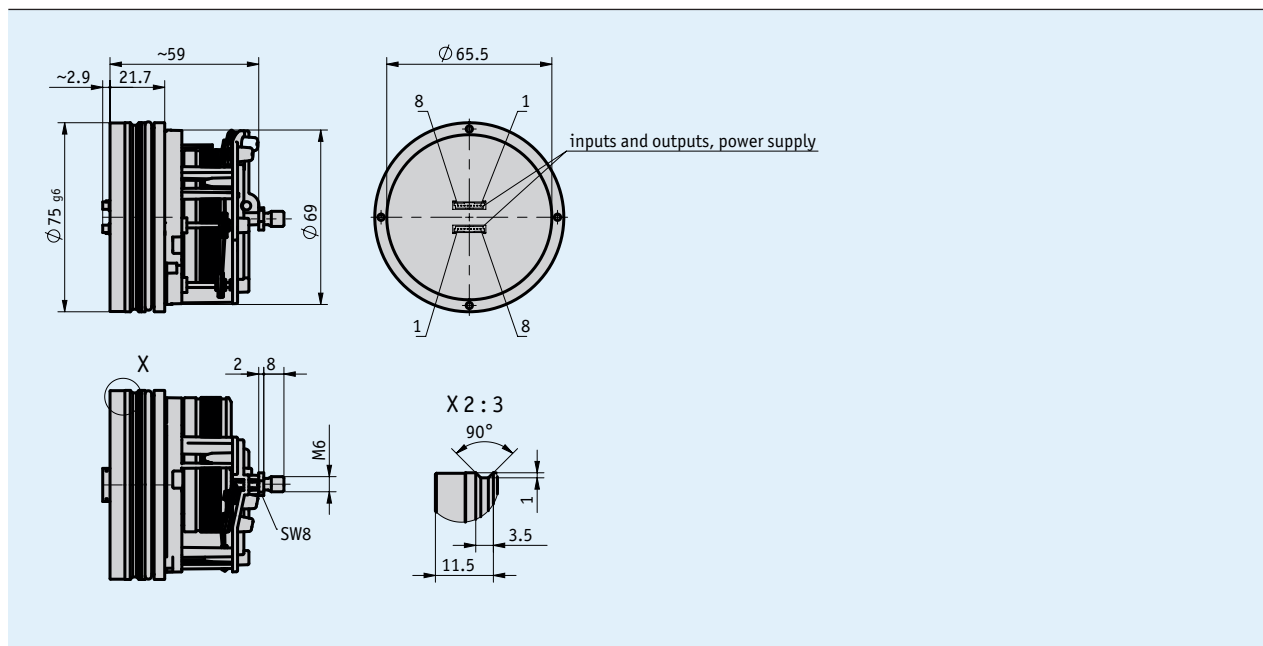
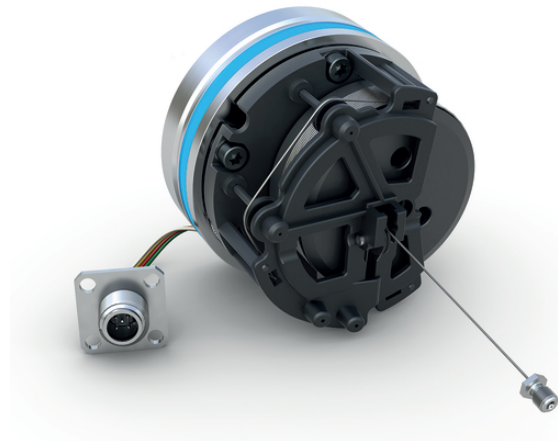


### Profile

- Measuring range 0 ... 2500 mm (98.42 inches)
- Absolute measuring system
- Pressure-resistant up to 350 bar, pressure peaks up to 450 bar
- High degree of flexibility, adjustable to all measuring lengths thanks to teach-in
- Redundant interfaces available
- Safety version usable up to Performance Level d
- Analog, CANopen, SAE J1939, CANopen Safety interfaces



### Mechanical data

Feature	Technical data	Additional information
Flange	aluminum	sealing ring (HNBR)
Housing	synthetic	PA66
Wire design	ø0.45 mm	steel rope (stainless)
Extension force	≥3.9 N	
Acceleration	≤24 m/s <sup>2</sup>	
Weight	~0.35 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	with output 0 ... 20 mA, 4 ... 20 mA, but $U_B > U_{load} + 2.0$ V, reverse polarity protected
	24 V DC $\pm 20$ %	industrial hydraulics, reverse polarity protected
Current consumption	<40 mA	at 24 V DC, per encoder
	<80 mA	at 12 V DC, per encoder
Power input	<1 W	without load, per encoder
Digital inputs	2	limit inputs (not redundant)
	4	limit inputs (redundant)
Input signal level high	>8.4 V	
Input signal level low	<2.8 V	
Output voltage	0 ... 10 V	load current <10 mA
	0 ... 5 V	load current <10 mA
	0.5 ... 4.75 V	load current <10 mA
	0.25 ... 4.75 V	load current <10 mA
	1 ... 4.9 V	load current <10 mA
Output current	0 ... 20 mA	load $\leq 500 \Omega$
	4 ... 20 mA	load $\leq 500 \Omega$
Linearity tolerance	$\pm 0.25$ %	2500 mm measurement length
Settling time	<150 ms	
Type of connection	plug connection system	KV1H accessory

### ■ CANopen interface

Feature	Technical data	Additional information
Operating voltage	9 ... 32 V DC	mobile hydraulics, reverse polarity protected
	24 V DC $\pm 20$ %	industrial hydraulics, reverse polarity protected
Current consumption	<40 mA	at 24 V DC, per encoder
	<80 mA	at 12 V DC, per encoder
Power input	<1 W	per encoder
Linearity tolerance	$\pm 0.25$ %	2500 mm measurement length
Interface	according to ISO 1189, not isolated	CANopen, CIA 406, CIA 301, CIA 305
Address	adjustable	per SDO or Layer Setting Service (LSS)
Baud rate	20 kBit/s	
	50 kBit/s	
	125 kBit/s	
	250 kBit/s	
	500 kBit/s	
	800 kBit/s	
	1 MBit/s	
Cycle time	<1.5 ms	
Settling time	<150 ms	
Type of connection	plug connection system	KV1H accessory

### ■ CANopen Safety interface

Feature	Technical data	Additional information
Operating voltage	9 ... 32 V DC	mobile hydraulics, reverse polarity protected
	24 V $\pm 20$ %	industrial hydraulics, reverse polarity protected
Current consumption	<40 mA	at 24 V DC, per encoder
	<80 mA	at 12 V DC, per encoder
Power input	<1 W	
Linearity tolerance	$\pm 0.25$ %	2500 mm measurement length
Interface	ISO 11898, not galvanically insulated	CANopen Safety (EN50325-5)
Address	adjustable	per SDO or Layer Setting Service (LSS)
Baud rate	20 kBit/s	
	50 kBit/s	
	125 kBit/s	
	250 kBit/s	
	500 kBit/s	
	800 kBit/s	
	1 MBit/s	
Cycle time	<1.5 ms	
Settling time	<150 ms	
Type of connection	plug-in connection system	KV1H accessory

## System data

Feature	Technical data	Additional information
Scanning	magnetic	
Resolution	12 Bit	analog output
	0.1 mm	CANopen, SAE J1939, CANopen Safety
Repeat accuracy	±0.15 mm	unidirectional
Measuring range	0 ... 2500 mm	measurement area can be used flexibly between 0 ... 2500 mm
Travel speed	≤2 m/s	
Failure rate	290 year(s)	analog output, at 40 °C (MTBF) EN/IEC61709 (SN29500)
	240 year(s)	CANopen, at 40 °C (MTBF) EN/IEC61709 (SN29500)
	540 year(s)	analog not redundant, at 40 °C (MTBF) EN/IEC61709 (SN29500)
	460 year(s)	CAN not redundant, at 40 °C (MTBF) EN/IEC61709 (SN29500)
	170 year(s)	CAN Safety redundant, at 40 °C (MTBF) EN/IEC61709 (SN29500)

## Ambient conditions

Feature	Technical data	Additional information
Ambient temperature	-40 ... 105 °C	electronics
	-30 ... 105 °C	mechanics
Storage temperature	-40 ... 85 °C	
Relative humidity	100 %	condensation admissible in the mounted and plugged condition
Operating pressure	<350 bar	$P_n$ based on ISO 19879
Overload pressure	<450 bar	$P_{max}$ based on ISO 19879
Test pressure	650 bar	$P_{static}$ based on ISO 19879
EMC	EN 61326-1	immunity requirement of industry, class B emission limit
Protection category	IP67	EN 60529, installed with KV1H and suitable mating plug
	IP69K	built in the cylinder (IP69K), with KV1H and suitable mating connector

### Order

#### Ordering table

Feature	Ordering data	Specification	Additional information
Measuring range	... <b>A</b>	1500, 2000, 2500 in mm	
Ambient conditions	MH CE <b>B</b>	mobil hydraulics industrial hydraulics	
Interface	0/5V 0/10V 0.25/4.75V 0.5/4.5V 1.0/4.9V 0/20mA 4/20mA CAN CANs <b>C</b>	0 ... 5 V 0 ... 10 V 0.25 ... 4.75 V 0.5 ... 4.5 V 1.0 ... 4.9 V 0 ... 20 mA 4 ... 20 mA CANopen CANopen Safety	voltage output voltage output voltage output voltage output voltage output current output current output
Redundancy	NR R <b>D</b>	not redundant redundant	

#### Order key

SGH25 -   - GW6 -   -   -   -   - M1 - DS - S

A
B
C
D

**Scope of delivery:** SGH25, Quick Start Guide

**Accessories:**  
Cable extension KV1H  
Programming Tool ProTool SGH

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