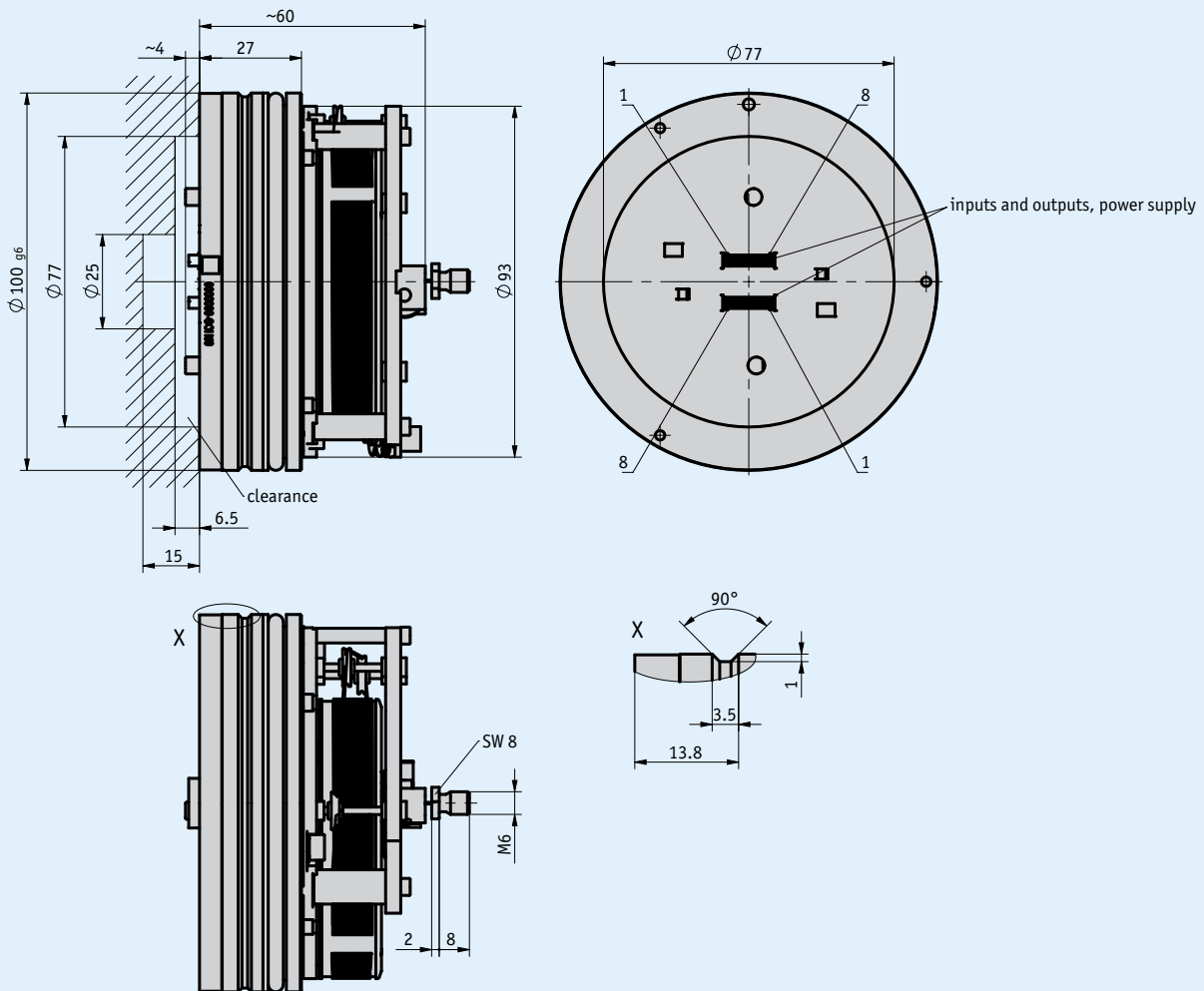
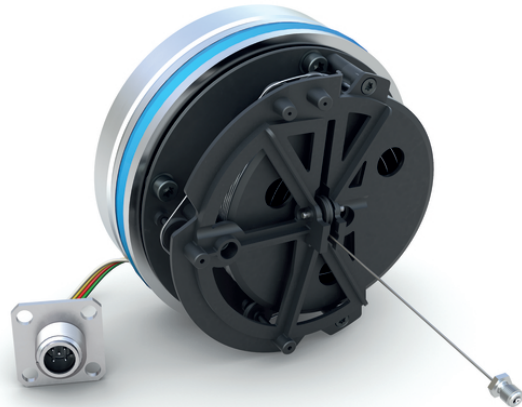


Profile

- Measuring range 0 ... 5000 mm (196.85 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 (CAT3) available
- Safety version usable up to Performance Level d
- Analog, CANopen, SAE J1939, CANopen Safety interfaces
- With PURE.MOBILE technology



Mechanical data

Feature	Technical data	Additional information
Flange	aluminum	sealing ring (HNBR)
Housing	synthetic	PA66
Wire design	ø0.45 mm	rustproof stainless steel
Extension force	≥4 N	
Acceleration	≤24 m/s ²	

Electrical data

■ Analog interface

Feature	Technical data	Additional information
Operating voltage	9 ... 32 V DC	ambient condition MH, at 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	ambient condition MH, at output 0 ... 10 V, reverse polarity protected
	12 ... 32 V DC	ambient condition MH, at output 0 ... 20 mA, 4 ... 20 mA, but UB > Uload +2.0 V, reverse-polarity protected
	24 V DC ±20%	ambient condition CE, 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
Parameter storage	10 ⁵ cycles	also applies to calibration operations
Digital inputs	4	Limit inputs (redundant)
	2	Limit inputs (not 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 ... 4.5 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 ≤500 Ω
	4 ... 20 mA	load ≤500 Ω
Linearity tolerance	±0.25 %	5000 mm measurement length
Starting time	<150 ms	
Type of connection	plug connection system	KV1H accessory

■ CANopen interface

Feature	Technical data	Additional information
Operating voltage	9 ... 32 V DC	ambient condition MH, reverse polarity protected
	24 V DC ±20%	ambient condition CE, reverse polarity protected
Current consumption	<40 mA	at 24 V DC, per encoder
	<60 mA	at 12 V DC, per encoder
Power input	<1 W	per encoder
Parameter storage	10 ⁵ cycles	also applies to calibration operations
Linearity tolerance	±0.25 %	5000 mm measurement length
Interface	ISO 11898-1/2, not galvanically isolated	CANopen, CiA 301, CiA 305, CiA 406
Address	1 ... 127	Node ID, via 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	typical 1.5 ms	
Starting 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 24 V DC $\pm 20\%$	ambient condition MH, reverse polarity protected ambient condition CE, reverse polarity protected
Current consumption	<40 mA <60 mA	at 24 V DC, per encoder at 12 V DC, per encoder
Power input	<1 W	
Parameter storage	10 ⁵ cycles	also applies to calibration operations
Linearity tolerance	$\pm 0.25\%$	5000 mm measuring length
Interface	ISO 11898-1/2, not galvanically isolated	CANopen Safety, CiA 301, CiA 305, CiA 406, EN50325-5
Address	1 ... 127	Node ID, via 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	typical 1.5 ms	
Settling time	<150 ms	
Type of connection	connector system	accessories KV1H

System data

Feature	Technical data	Additional information
Scanning	magnetic	
Resolution	12 bit 0.1 mm	analog output CANopen, SAE J1939, CANopen Safety
Repeat accuracy	± 0.15 mm	Unidirectional
Measuring range	0 ... 5000 mm	measuring range flexibly usable between 0 ... 5000 mm
Travel speed	≤ 2 m/s	
Failure rate	290 year(s) 240 year(s) 540 year(s) 460 year(s) 170 year(s) 730 year(s) 156 FIT 84 %	analog output, at 40° C (MTBF) SN29500 CANopen, at 40° C (MTBF) SN29500 analog not redundant, at 40° C (MTBF) SN29500 CAN not redundant, at 40° C (MTBF) SN29500 CAN safety redundant, at 40° C (MTBF) SN29500 CANopen Safety, bei 60° C (MTTFd) CANopen Safety, at 60° C (PFH) 1 FIT = 1.0 E - 09 1/h CANopen safety, at 60° C 13849-1, Appendix E.2 (DCavg), IS
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 -30 ... 100 °C	electronics 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 _n based on ISO19879
Overload pressure	<450 bar	P _{max} based on ISO 19879
Test pressure	650 bar	P _{static} based on ISO 19879
EMC	EN 61326-3.1 ISO 11452-1,-2,-3,-4,-5 ISO 7637-1,-2 ISO 10605	ambient condition CE, industry immunity requirement, class B emission limit ambient condition MH, interference EUB ambient condition MH, transient impulses ambient condition MH, electrostatic discharge (ESD)
Protection category	IP67 IP6K9K	EN 60529, fitted with KV1H and suitable mating connector ISO 20653, fitted with KV1H and suitable mating connector

Order

■ Ordering information

One or more system components are required:

Cable extension KV1H

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■ Ordering table

Feature	Ordering data	Specification	Additional information
Measuring range	... A	3000, 3500, 4000, 4500, 5000 in mm	
Ambient conditions	MH B CE	mobil hydraulics industrial hydraulics	
Interface	0/5V C 0/10V 0.25/4.75V 0.5/4.5V 1.0/4.9V 0/20mA 4/20mA CAN CANs	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	
Redundancy	NR D R	not redundant redundant	

■ Order key

SGH50 - A - GW6 - B - C - D - M1 - DS - S

Scope of delivery: SGH50, Quick Start Guide

Accessories:

Programming Tool ProTool.SGH

Wire extension piece SVH

Installation tool ZB4006

Socket wrench ZB4008

rope swivel ZB4009

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