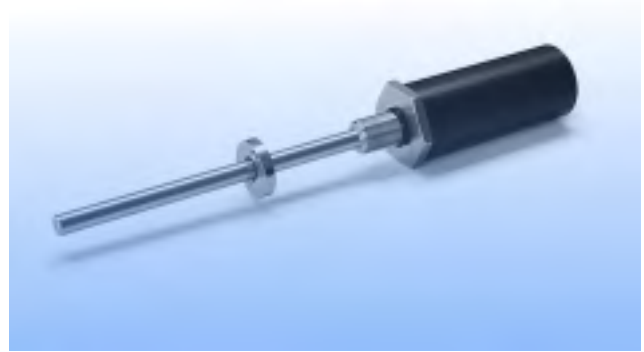


Magnetostrictive Displacement Transducer

Series SM70



- Measuring stroke up to 1500mm
- Pressure-resistant up to 300 bar
- Integrated electronic circuit
- Protection IP66
- Accuracy 0,1%

Construction and operating principle:

The transducer operates according to the principle of running time between two points of magnetostrictive waveguide. The measuring-point will be defined contactless by a magnetic ring. The distance between the ring and the initial point of the transducer will be measured.

Standard measuring stroke:

300	400	500	750	1000	1500
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Technical data:

Accuracy	< 0,5% or 0,25%
Temperature drift	< 0,01% / °C
Measurement Frequency	up to 1000mm: 1kHz above 1000mm: 0,5kHz
Frequency limit	800Hz
Temperature range	-20°C to +85°C
Resistance to shock	20g SRS 20-2000Hz
Resistance to vibration	3g rms
Mass	0,4kg + 0,02kg / 100mm
Protection class	IP66 *

* with mounted mating plug BI423

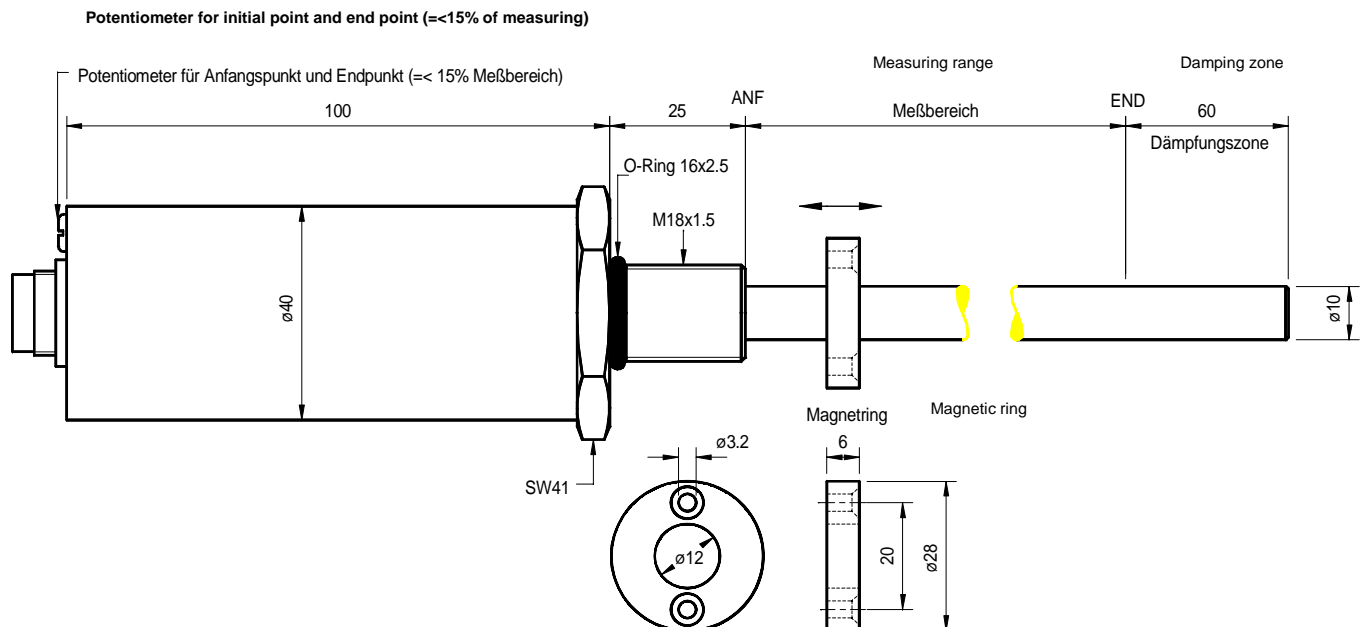
Note: Unless otherwise stated, all values are valid at +20°C ambient temperature and 30 VDC or ±15 VDC supply voltage, starting 10 minutes after switch-on.

Standard versions:

Type	output	Supply voltage U_B *	signal**	mid
SM701	0 .. 20 mA	20 .. 32 V	increasing	10 mA
SM702			decreasing	
SM703	4 .. 20 mA	20 .. 32 V	increasing	12 mA
SM704			decreasing	
SM705	± 10 V	±13 .. ±16 V	increasing	0 V
SM706			decreasing	
SM707	0..10 V	20 .. 32 V	increasing	5 V
SM708			decreasing	

* Pole reversal protection

** Increasing signal by moving the ring in the direction END to ANF (see drawing below)



Current output (SM701 .. 704):

Output signal	0..20 mA or 4..20 mA
Supply current I_B	max. 120 mA
Load resistance R_L	0..500 Ω
Residual ripple	< 0,005 mA _{SS}
Dependence on R_L	< 0,001% for $\Delta R_L = 100\Omega$
Dependence on V_s	< 0,05% for $\Delta U_B = 1V$

Voltage output (SM705 .. 708):

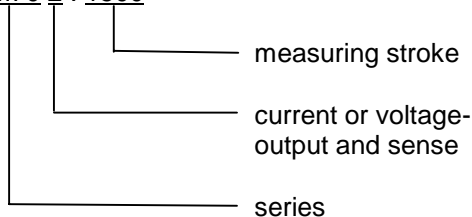
Output signal	± 10 VDC
Supply current I_B	max. 120 mA
Permissible load R_L	≥ 2 k Ω (short-circuit proof)
Residual ripple	< 5 mV _{SS}
Residual voltage SM407/408	max. 0,1VDC
Dependence on V_s	< 0,05% for $\Delta U_B = 1V$

Materials:

Measuring tube	Stainless steel
Flange	Stainless steel
Housing	Aluminium black anodized
Connector contacts	Gold plated brass

Order code

SM70 2 . 1500



Order codes for customer specified versions will be named at plant.

For example.: SM702.1500

Transducer Series 70, output 0-20 mA
1500 mm measuring stroke

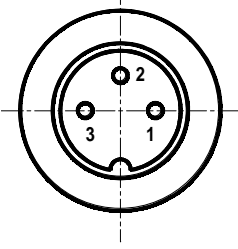
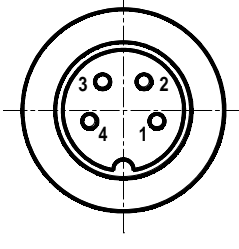
additional versions:

different measuring strokes

- different supply-voltage and output signals
-
-

Electrical connections

(View to the plug at transducer)

3-channel. output /1/2/3 /4/7/8	4-channel output /5 /6
	
1: + U_B 2: - U_B (0V) 3: I_A / U_A (output)	1: + U_B 2: 0V 3: - U_B 4: U_A (output)

Remark:

By mounting the transducer SM70 pay attention of carefully shielding against electrical and magnetic fields

Mating plugs:

- IP40: Binder Ser. 681 3PS/4PS
Metal case
(must be orderd separately)
- IP66: Binder Ser. 423 3PS/4PS
Metal case with outer ring connected to ground
(must be ordered separately)

Supply items

Magnetic ring and mounting nut M18x1,5 are included

Adjustment of measuring stroke

The measuring stroke can be changed subsequently. The initial point and the end point can be changed with two potentiometers at the rear of the housing.

Your Distributor



a.b.jödden gmbh
Europark Fichtenhain A 13a
47807 Krefeld, Germany
Phone +49 2151 516259 0
Fax +49 2151 516259 20
info@abjoedden.de
www.abjoedden.de