

Inductive Displacement Transducer

Series SM21



- Stroke up to 20 mm
- External electronic modules
- Gauge type with return spring available
- Protection class IP66/67
- Accuracy 0,5% or 0,25%

Construction and operating principle:

A nickel-iron core will be moved linear inside of a coil form. The displacement of the core leads to an inductance variation in both coils. An external electronic circuit converts the variation into a signal proportional to the displacement.

Standard measuring strokes:

5 mm	10 mm	15mm	20 mm
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Standard version:

SM210 ..S	connector output
SM210 ..K	cable output

Standard dimensions

stroke	L1 mm	L2 mm	L3 mm	L4 mm
5	35	40	~18	64
10	35	40	~18	64
15	35	50	~28	74
20	34	50	~30	74

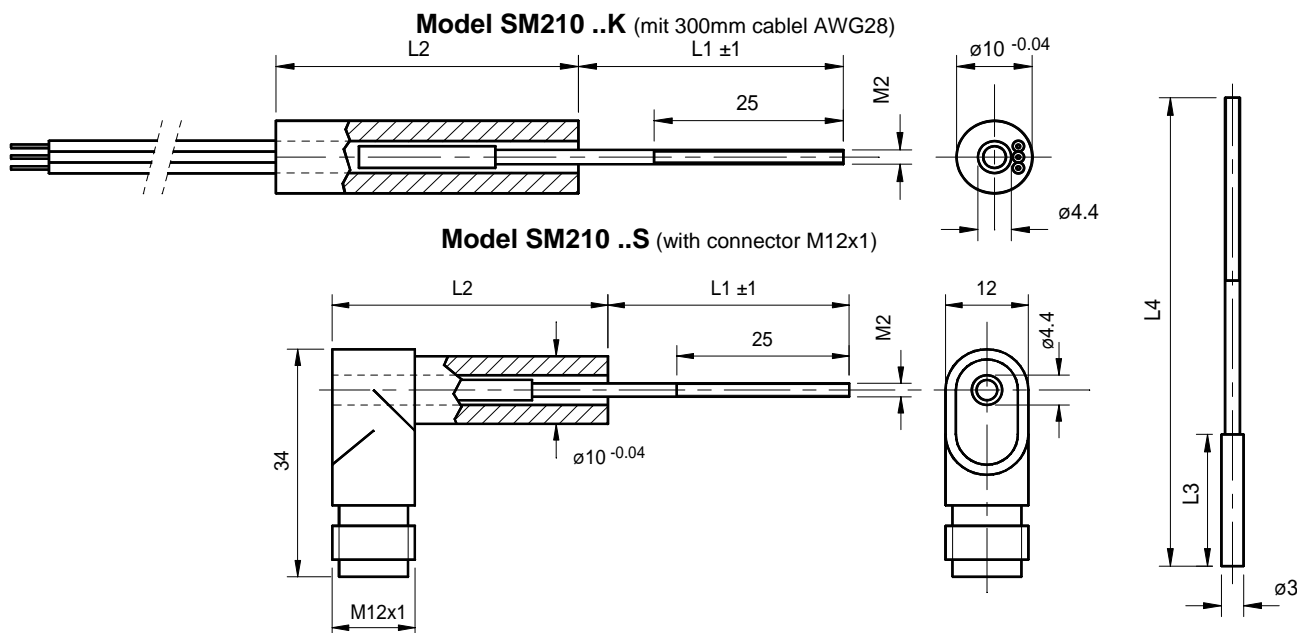
L1: plunger in centerposition

(using our electronic modules)

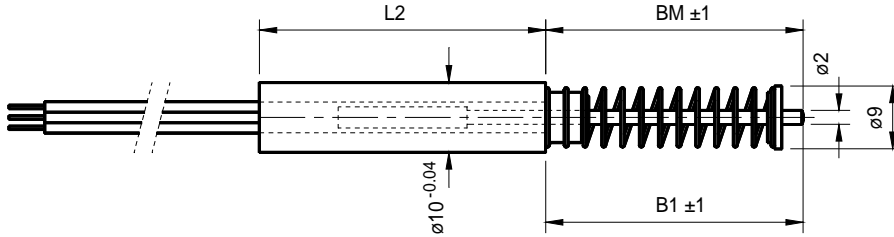
Accuracy 5/10/15mm	< 0,5% or 0,25%
Accuracy 20mm	< 0,5%
Temperature drift	< 0,005% / °C
Temperature range with connector	-40°C up to +85°C
Temperature range with cable	-30°C up to +105°C
Resistance to shock	250g SRS 20-2000Hz
Resistance to vibration	20g rms (50g peak)
Mass transducer	~20g
Mass plunger	~ 4g
Protection class	IP66*

*IP67 using mating plug with sealed cable

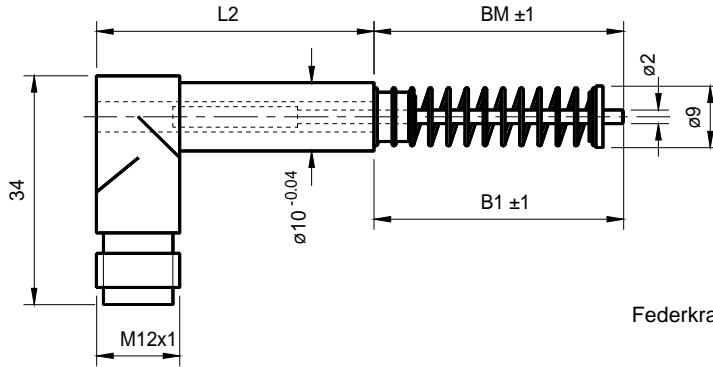
Technical data:



Model SM210 ..KT (with 300mm cable AWG 28)



Model SM210 ..ST (with connector M12x1)



Federkraft in Mittelstellung ~2N

Dimension gauge type:

Stroke mm	L2 mm	BM mm	B1 mm	mech. stroke
5	50	22	36	24
10	50	22	36	24
15	60	26	40	28
20	60	26	40	28

BM: plunger in mid-position

B1: plunger full out

Sensitivity:

stroke	mV / mm (±10%)
5mm	400
10mm	400
15mm	300
20mm	290

Excitation and signal processing

SM10: Oscillator / Demodulator in metal case

SM11: SM10 on Eurocard

SM12: Oscillator / Demodulator without case
2 channels

SM14: Eurocard up to 7 channels

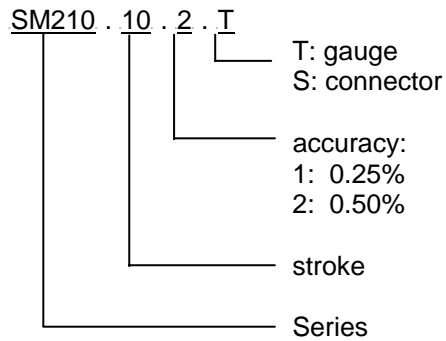
Material:

housing	Stainless nickel iron alloy
connector	Fiber reinforced polymer
Core	Stainless nickel iron alloy
Plunger	Brass
Gauge plunger	Stainless steel
Spring plate	Alu, black anodised
Spring	Stainless steel

Electrical connection

Cable output 3-pol. flatcable AWG28	4-pol. connector M12x1
<p>Cable colour</p> <p>white brown green</p>	
<p>Connection at electronic:</p> <p>white: WM brown: MS green: WP</p>	<p>Connection at electronic:</p> <p>1: WP 2: n.c. 3: WM 4: MS</p>

Order code



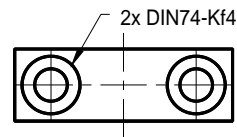
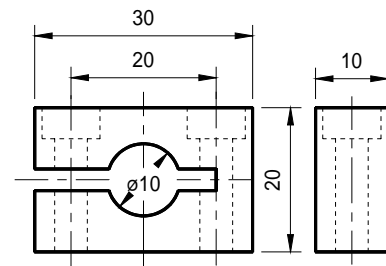
Order codes for customer specified versions will be named at plant.

Example.: SM210.10.2.ST

Gauge type series 210, 10mm stroke, accuracy 0.5%, connector M12x1

Mounting block SM906.202

(incl. 2 mounting screws M4x25 DIN912 VA)



other versions:

- Improved sensitivity difference ($\pm 1\%$)
- Stroke up to 24mm with accuracy (1%)
- Flat cable AWG28 with special connector CE100