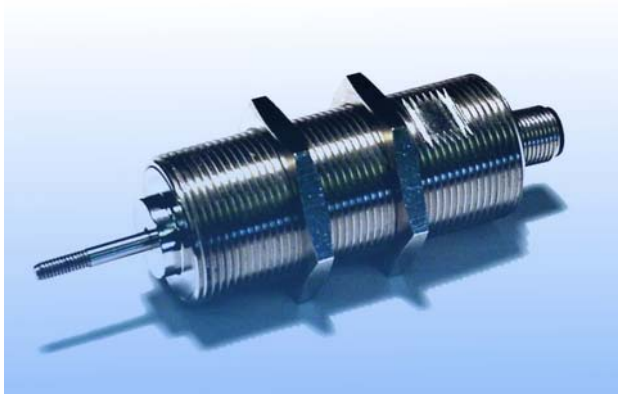
SCHREIBER MESSTECHNIK

Inductive Displacement Sensor

Series SM30



- **Thread M30x1.5**
- **Stroke up to 15mm**
- **Built in electronics**
- **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. The built in electronic circuit converts the variation into a signal proportional to the displacement.

Standard measuring stroke:

5 mm	10 mm	15 mm

Technical data:

Accuracy	< 0,5% or 0,25%
Temperature drift	< 0,01% / °C
Measurement frequency	800 Hz
Temperature range	-20°C to +85°C
Resistance to shock	250g SRS 20-2000Hz
Resistance to vibration	20g rms (50g peak)
Protection class	IP66 *

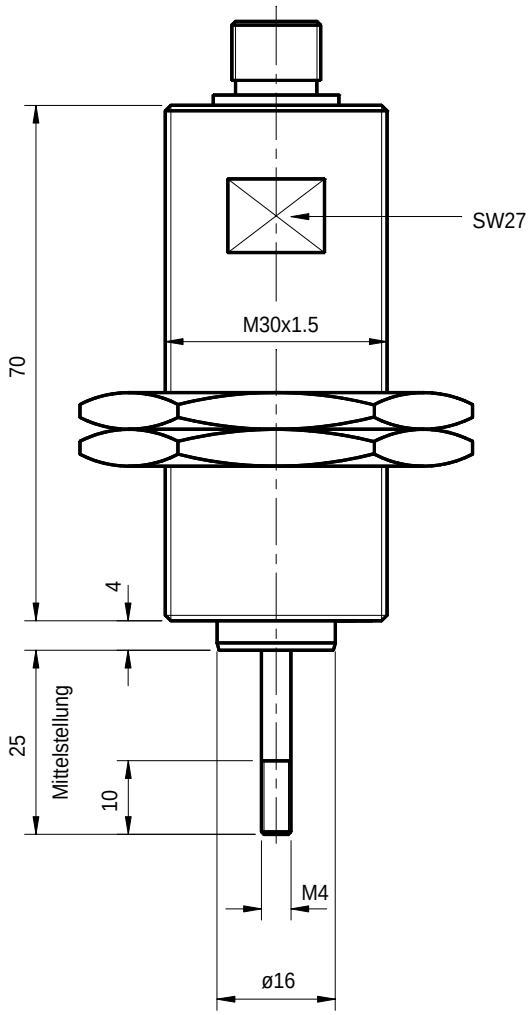
*with mounted mating plug

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
SM301	0 .. 20 mA	20 .. 32 V	increasing	10 mA
SM302			decreasing	
SM303	4 .. 20 mA	20 .. 32 V	increasing	12 mA
SM304			decreasing	
SM305	± 10 V	±13 .. ±16 V	increasing	0 V
SM306			decreasing	
SM307	0..10 V	20 .. 32 V	increasing	5 V
SM308			decreasing	

* Pole reversal protection
** Increasing signal by moving the plunger in the direction towards the plug



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Current output (SM301..304):

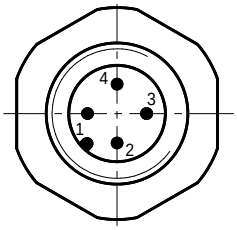
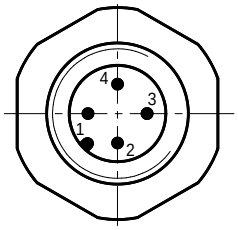
Output signal	0..20 mA or 4..20 mA
Supply current I_B	max. 60 mA
Load resistance R_L	0..500Ω
Residual ripple	< 0,005 mA_{SS}
Dependence on R_L	< 0,001% for ΔR_L = 100Ω
Dependence on U_B	< 0,05% for ΔU_B = 1V

Voltage output (SM305..308):

output signal	±10 VDC or 0..10 VDC
Supply current I_B	max. 50 mA
Permissible load R_L	≥ 2 kΩ (short-circuit proof)
Residual ripple	< 5 mV_{SS}
Residual voltage SM307/308	max. 0,1 VDC
Dependence on U_B	< 0,05% for ΔU_B = 1V

Electrical connections at plug

(view to the plug at sensor)

4-channel output /1 /2 /3 /4 /7 /8	4-channel output /5 /6
	
1: $+U_B$ 2: not connected 3: I_A / U_A (output) 4: $-U_B$ (0V)	1: $+U_B$ 2: 0V 3: U_A (output) 4: $-U_B$

Materials:

housing	nickel plated brass
plunger	stainless steel
core	stainless nickel-iron alloy
connector	nickel plated brass
contacts	gold plated brass

Options and accessories:

Version .T	gauge type
Version .B	with bellows

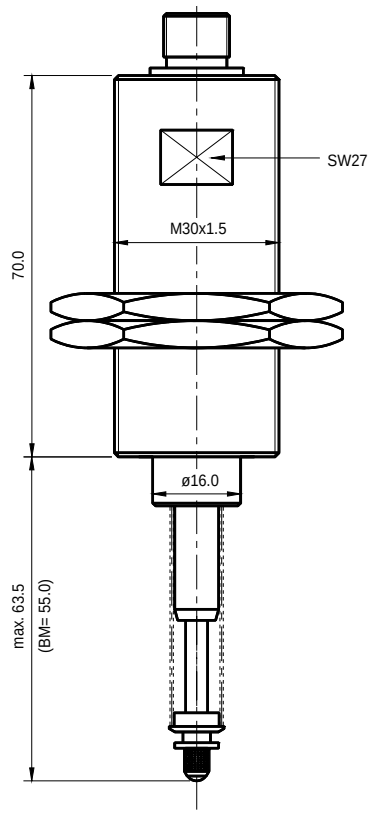
Order code

SM30 1 . 10 . 2 . T

- T: option
- 2: accuracy: 1: 0.25%, 2: 0.50%
- 10: measuring stroke
- 1: current or voltage output and sense
- SM30: series

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

example: SM303.10.2
Sensor series 30, output 4-20 mA (increasing), 10mm measuring stroke, accuracy 0,5%



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