DRAW WIRE SENSOR



SXM30 SERIES

Key-Features:

- Measurement ranges from 150 to 750 mm
- Economy version for ranges 500 and 750 mm
- Output: potentiometer 1 k Ω , 5 k Ω or 10 k Ω
- Linearity up to ±0.1% of full scale
- Protection class up to IP50
- Temperature range: -40...+80 °C
- Compact, perfect for medical application

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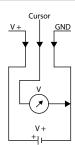
TECHNICAL DATA

		Economy version		Standard version					
Measurement range MR	[mm]	500	750	150	225	250	375	500	750
Linearity	[%]	±0	25	±0.2			±(0.1	
Resolution			see output types below						
Sensor element		Wirewound P	Wirewound Potentiometer Hybrid Potentiometer						
Connection		solder terminals							
Protection class		IP40 IP50 IP40					40		
Temperature		see output types below							
Mechanical data		extraction force, max. velocity and max. acceleration see "Mechanical Data"							
Housing		glass fibre reinforced PA							
Draw wire		stainless steel V4A with synthetic coating Ø 0.36 mm (optional: Coramid)							
Weight	[g]	approx. 50							

ELECTRICAL DATA

Economy version Standard version			
1RE	1R	5R	10R
1 kΩ	1 kΩ	5 kΩ	10 kΩ
max. 30 V			
<1 μΑ			
0.03 % theoretically unlimited, limited by the noise			
depends on the quality of the power supply			
-20+80 °C -40+80 °C			
±0.0025 %/K			
	1RE 1 kΩ 0.03 %	1RE 1R 1 kΩ 1 kΩ max. <1 0.03 % theor depends on the quality -20+80 °C	1RE 1R 5R 1 kΩ 1 kΩ 5 kΩ max. 30 V <1 μA 0.03 % theoretically unlimited, limited by the depends on the quality of the power supply -20+80 °C -40+80 °C

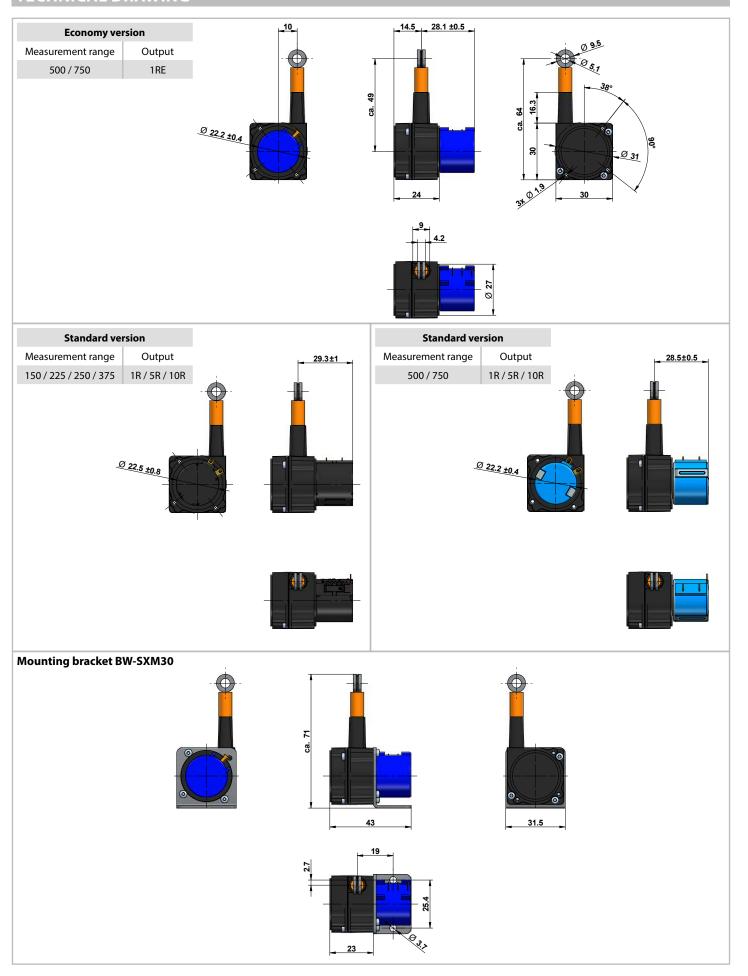
Circuit



MECHANICAL DATA

Measurement range	Extracti	on force	Retracti	Retraction force		Acceleration Ø
[mm]	F _{min} [N]	F _{max} [N]	F _{min} [N]	F _{max} [N]	V _{max} [m/s]	a _ø [m/s²]
150	1.4	2.7	1.3	1.8	3	50
225	1.1	2	0.9	1.5	4	50
250	1.7	2.8	1.3	1.9	4	50
375	1.1	2	0.9	1.3	5	50
500	1.6	3	1.2	2.4	6	50
750	1.1	2.3	0.9	1.4	7	50

TECHNICAL DRAWING





OPTIONS

Option	Order code	Description			
Synthetic wire rope	COR	Synthetic wire rope, made out of abrasion resistant and enhanced Coramid. We recommend COR at stable temperatures due to the coefficient of expansion.			
Rope fixation with clip	DS	Rope clip with drill protection.			
Rope fixation by M4 thread	M4	Optional, pivoted rope fixation with screw thread M4, length 22 mm. Ideal for attachment to through holes or thread holes M4.			
Rope fixation with cylindrical pin and M6 through bore	ZH, ZR	ZH: cylindrical pin with M6 through bore ZR: cylindrical pin with M6 through bore and carbine ring			

ACCESSORIES

Deflection pulley - UR2

The rope must be extracted from the sensor vertically. The maximum variation from the vertical is 3°. A deflection pulley allows a change in the direction of the wire rope. Several pulleys may be used. The rope clip must not be guided over the deflection pulley. Suitable for standard wire rope diameter 0.5 mm.

Material foot: anodised aluminium

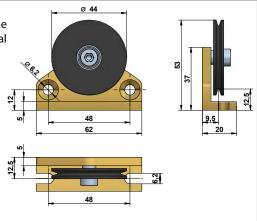
Material rope wheel: POM-C

Mounting: by 2 hexagon socket or countersunk screws M6, vertical or

horizontal mounting possible. Ball bearings: with special low

temperature grease and RS-sealing.

Temperature: -40...+80 °C



Rope extension - SV

For bridging a greater distance between the measuring target and the sensor a rope extension can be applied. The rope clip must not be guided over the deflection pulley.

Please specify the length needed in your order (XXXX). The minimum length is 150 mm:

SV1-XXXX: rope extension (150...4995 mm)

SV2-XXXX: rope extension (5000...19995 mm)

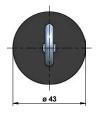
SV3-XXXX: rope extension (20000...40000 mm)

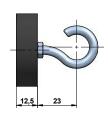
Länge/ length [mm]

Magnetic clamp - MGG1

Use the magnetic clamp to quickly attach the rope to metallic objects without any assembly time. A rubber coating provides gentle contact (e. g. on varnished surfaces) and prevents from slipping due to vibration.

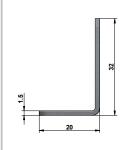
The magnet consists of a neodym core for an increased adhesive force of 260 N. The hook makes it easy to attach the rope clip.

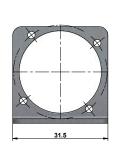




Mounting bracket - BW-SXM30

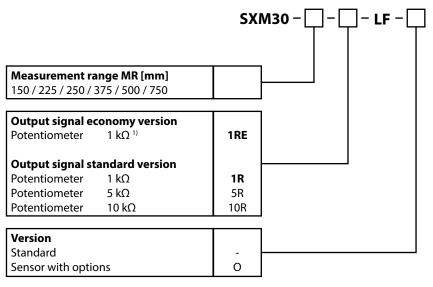
The mounting bracket can be attached to the sensor in 90° steps using 3 screws (M_A = 0.4 Nm).







ORDER CODE



Option	Description (see <u>page 4</u>)
COR	Synthetic wire rope (Coramid)
DS	Rope clip with drill protection
M4	Rope fixation M4
ZH	Cylindrical pin
ZR	Cylindrical pin with carbine ring

ACCESSORIES

UR2 deflection pulley
MGG1 magnetic clamp
BW-SXM30 mounting bracket, holding plate, 2x screw

Digital displays for sensors with analog output, 2 channel

WAY-AX-S touch screen, supply: 18...30 VDC
WAY-AX-AC touch screen, supply: 115...230 VAC

For more information and options please refer to the WAY-AX data sheet.

SV1-XXXX	rope extension (150 mm up to 4995 mm)
SV2-XXXX	rope extension (5000 mm up to 19995 mm)
SV3-XXXX	rope extension (20000 mm up to 40000 mm)

Signal conditioner

PMX-24 Output signals: 4...20 mA, 0...10 V, 0...5 V, $\pm 10 \text{ V}$, $\pm 5 \text{ V}$ For more information and options please refer to the PMX-24 data sheet.

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¹⁾ **Economy version:** 500 mm or 750 mm only **Bold text:** standard with shorter lead time