

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 $\pm 0.1\%$ of full scale*
- *Protection class up to IP50*
- *Temperature range: -40...+80 °C*
- *Compact, perfect for medical application*

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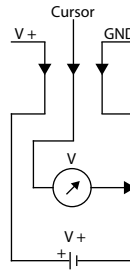
TECHNICAL DATA

		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 Potentiometer		Hybrid Potentiometer					
Connection		solder terminals							
Protection class		IP40		IP50				IP40	
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		
Order code	1RE	1R	5R	10R
Output	1 kΩ	1 kΩ	5 kΩ	10 kΩ
Supply	max. 30 V			
Recommended cursor current	<1 μA			
Resolution	0.03 %	theoretically unlimited, limited by the noise		
Noise	depends on the quality of the power supply			
Operating temperature	-20...+80 °C	-40...+80 °C		
Temperature coefficient	±0.0025 %/K			

Circuit



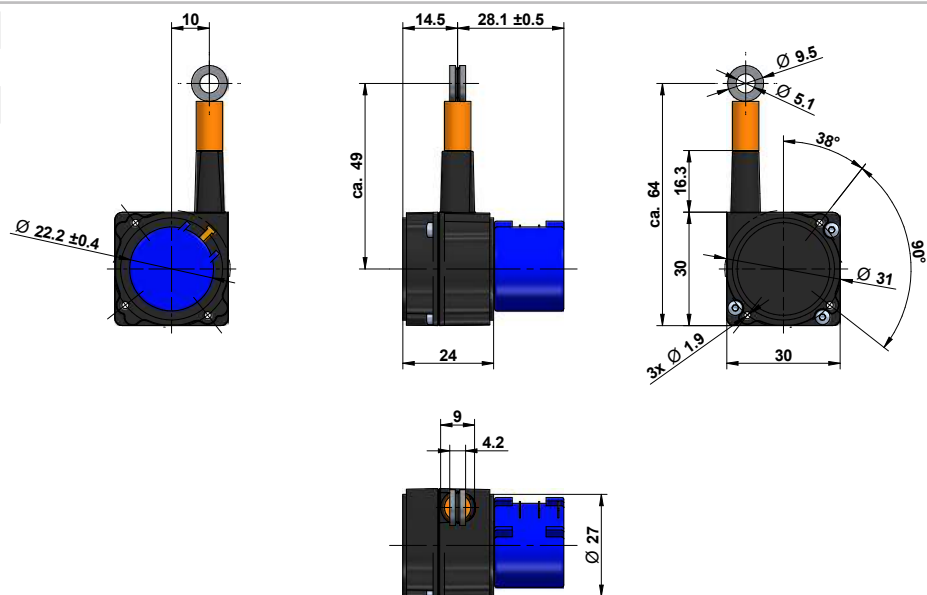
MECHANICAL DATA

Measurement range [mm]	Extraction force		Retraction force		Speed	Acceleration Ø
	F_{min} [N]	F_{max} [N]	F_{min} [N]	F_{max} [N]	V_{max} [m/s]	a_{ϕ} [m/s ²]
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

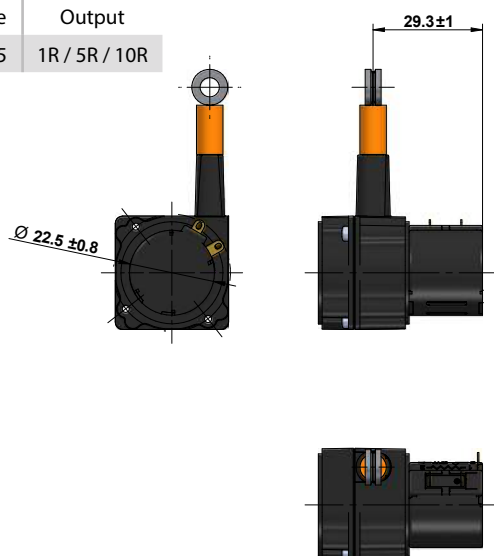
Economy version

Measurement range	Output
500 / 750	1RE



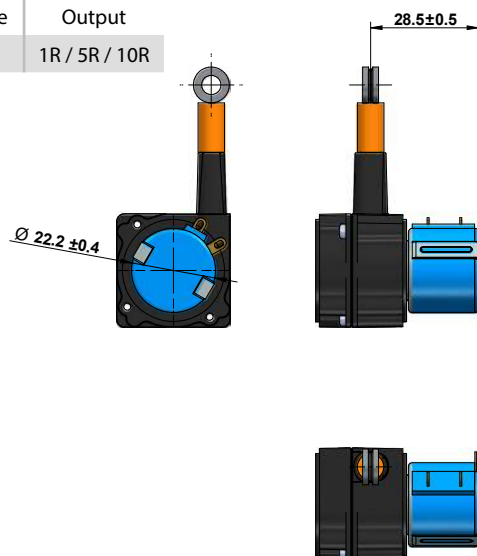
Standard version

Measurement range	Output
150 / 225 / 250 / 375	1R / 5R / 10R

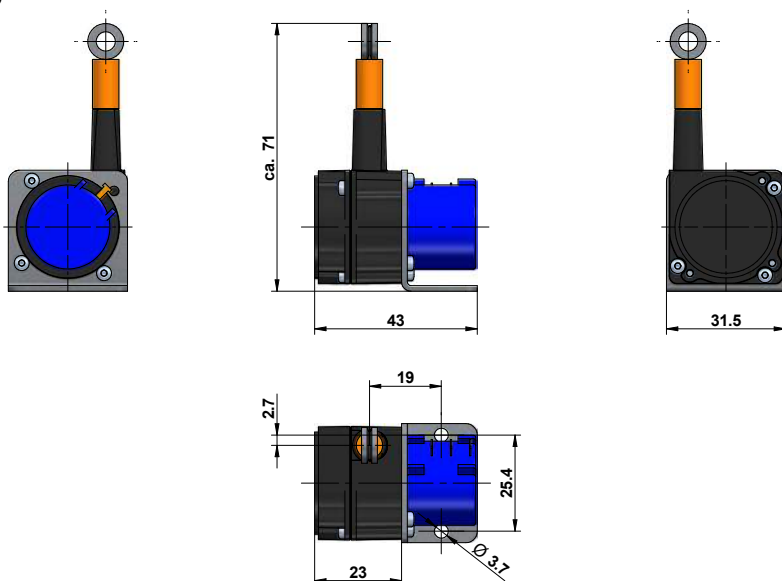


Standard version

Measurement range	Output
500 / 750	1R / 5R / 10R

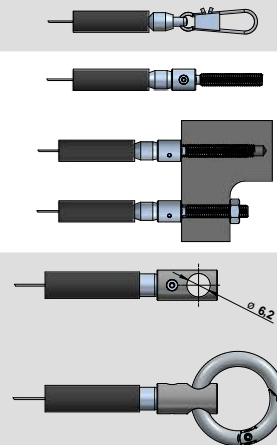


Mounting bracket BW-SXM30



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

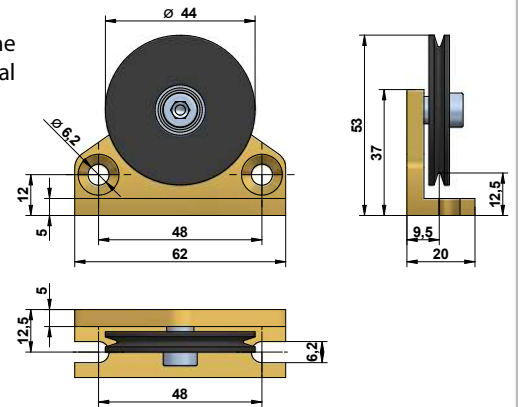
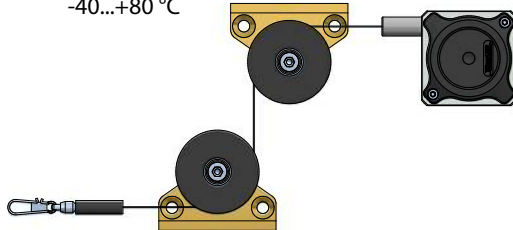


ACCESSORIES

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

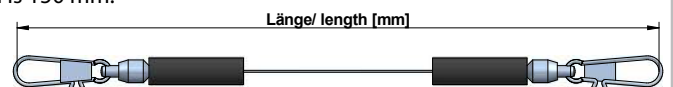
For bridging a greater distance between the measuring target and the sensor a rope extension can be applied. The rope clip must not be guided over the deflection pulley.

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)

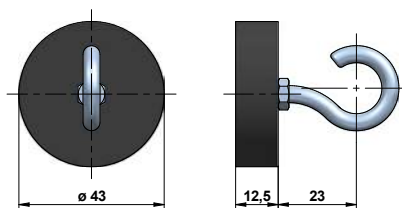
SV3-XXXX: rope extension (20000...40000 mm)



Magnetic clamp - MGG1

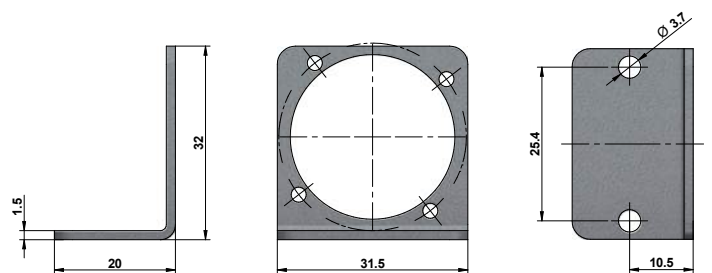
Use the magnetic clamp to quickly attach the rope to metallic objects without any assembly time. A rubber coating provides gentle contact (e. g. on varnished surfaces) and prevents from slipping due to vibration.

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 ($M_A = 0.4 \text{ Nm}$).



ORDER CODE

SXM30 - - - LF -

Measurement range MR [mm]	
150 / 225 / 250 / 375 / 500 / 750	

Output signal economy version	
Potentiometer 1 k Ω ¹⁾	1RE
Output signal standard version	
Potentiometer 1 k Ω	1R
Potentiometer 5 k Ω	5R
Potentiometer 10 k Ω	10R

Version	
Standard	-
Sensor with options	O

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

¹⁾ **Economy version:** 500 mm or 750 mm only

Bold text: standard with shorter lead time

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, ± 10 V, ± 5 V

For more information and options please refer to the [PMX-24 data sheet](#).

Subject to change without prior notice.