

D1B1A11C

Belt Displacement Sensor

Force direction

D_x

Application

Measurement of belt movement

Measurement specification

Optical

Incremental

Options

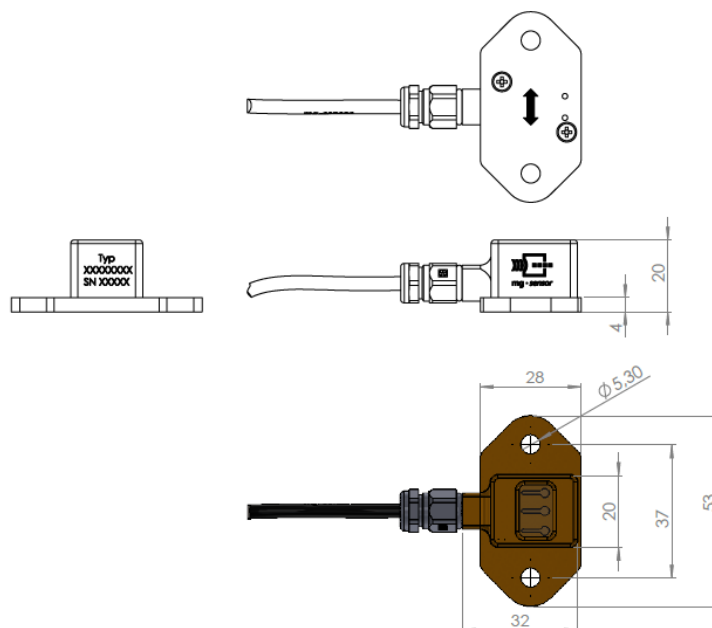
ID-Module integrated in sensor

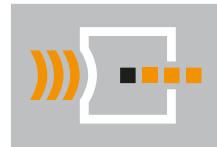


Technical description

A reference band is detected using optical scanning. The reference band consists of a high-precision black and white pattern of lines each with length of 1 mm. This is bonded to the strap. If the line pattern moves over the sensor, the increments are recorded and output as voltage directly proportional to the displacement. The distance between reference band and the sensor may be up to 10 mm.

Dimensions





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Technical specification

	Unit	Value
		DS ₀
Measuring range	mm	-1024 to +1024
Calibration range	mm	-250 to +250
Resolution	mm	0.5
Sensitivity ¹⁾	mV/mm	2.42
Output signal ^{1), 2)}	V	±2.46
Offset ^{1), 4)}	mV/V	≤ 0.1
Amplitude non-linearity ³⁾	%	≤ 1.0
Distance to reference tape	mm	≤ 10
Supply voltage	VDC	10–18
Insulation resistance	GΩ	> 5.0
Temperature range	°C	-30...+70
Weight (approximate)	g	22

All values measured at 10 V supply voltage at 23 °C.

¹⁾ Typical value

²⁾ At nominal load

³⁾ Relative nominal range

⁴⁾ Related to the offset at 5 V

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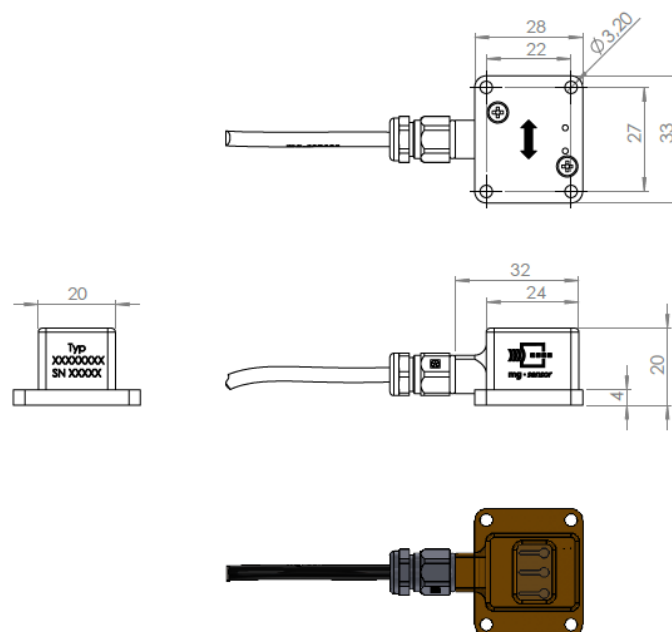
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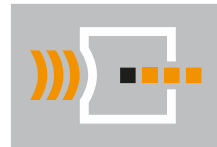


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