Baumer
Passion for Sensors

Strain Sensors

DST53-Zxxxl

Performance strain sensor with current output

Article number:

Overview

- Cost-effective force measurement of large forces
- Replacement for former DSRT strain sensor
- Minimal influence on the machine structure due to low stiffness
- Measuring ranges 100...750 µm/m
- Integrated amplifier electronics, output signal 4…20 mA
- Bore hole distance 53 mm
- M12 connector, 5 pin

Technical data

General data	
Nominal strain	0 ... 750 µm/m
Non-linearity	< 0.3 %
Repeatability	< 0.1 %
Mechanical mounting	4 x M6 screws
Mechanical data	
Overload	150 %
Fatigue strength	>10 Mio cycles at 0...100% FS
Sensor stiffness	105 N @ 100 µm/m 260 N @ 250 µm/m 70 N @ 350 µm/m
Weight	135 g
Material sensor body	1.7225, chemically nickel plated
Material housing	Stainless steel, 1.4301
Compensated for thermal expansion coefficient	11.1 * 10^{-6} 1/K
Electrical connection	M12, 5 pin, male
Environmental conditions	
Operating temperature range	-40 °C ... 85 °C
Storage temperature range	-40 °C ... 85 °C
Protection class EN 60529, ISO20653	IP 65

Environmental conditions	
Vibration IEC 60068-2-6	10 … 57 Hz: 1.5 mm p-p, 58 ... 2000 Hz: 10 g
Random IEC 60068-2-64	20 ... 1000 Hz: 0.1 g²/Hz
Shock IEC 60068-2-27	50 g / 11 ms, 100 g / 6 ms
Electrical data	
Output signal	4 ... 20 mA
Signal polarity positive	Tension
Bridge resistance	350 Ω
Supply voltage	18 ... 30 VDC
Current consumption	< 40 mA
Reverse polarity protection	Yes
Short circuit protection	Yes
Cut-off frequency (3 db)	1000 Hz
Zero adjustment active	≥ 5 VDC
Zero adjustment inactive	≤ 1 VDC
Zero adjustment time	< 30 ms
Compliance and approvals	
Conformity	CE UL

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Dimensional drawings (mm)