

DST53-AxxxU

Performance strain sensor with voltage output and IO-Link
DST53-A###U

Overview



Technical data

General data

Nominal strain	0 ... 2000 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
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
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 g ² /Hz
Shock IEC 60068-2-27	50 g / 11 ms, 100 g / 6 ms

Electrical data

Output signal	± 10 VDC IO-Link
Signal polarity positive	Tension
Bridge resistance	350 Ω
Supply voltage	18 ... 30 VDC
Current consumption	< 40 mA
Reverse polarity protection	Yes

Electrical data

Short circuit protection	Yes
SIO Input high	≥ 13 VDC
SIO Input low	≤ 8 VDC
Resolution ADC	24 bit
Resolution DAC	14 bit
Sampling rate input	8 kS/s
Sampling rate output analog	8 kS/s
Cut-off frequency (3 db)	1000 Hz

IO-Link interface

IO-Link version	1.1
IO-Link port type	Class A
Baud rate	230,4 kbaud (COM3)
Cycle time	≥ 1 ms
SIO-mode	Yes

IO-Link features

Parameterizable	Unit (N, kg, µm/m) selectable Teach-in Offset/ Tare Correlation to known force Analog output signal Output range analog signal Alarm state analog signal Functions I/O's selectable
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Additional functions

	Low pass filter Peak value memory Sample and hold Two digital switching points (SSC) Remote operation
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Additional data

	Diagnostic data Error detection
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Compliance and approvals

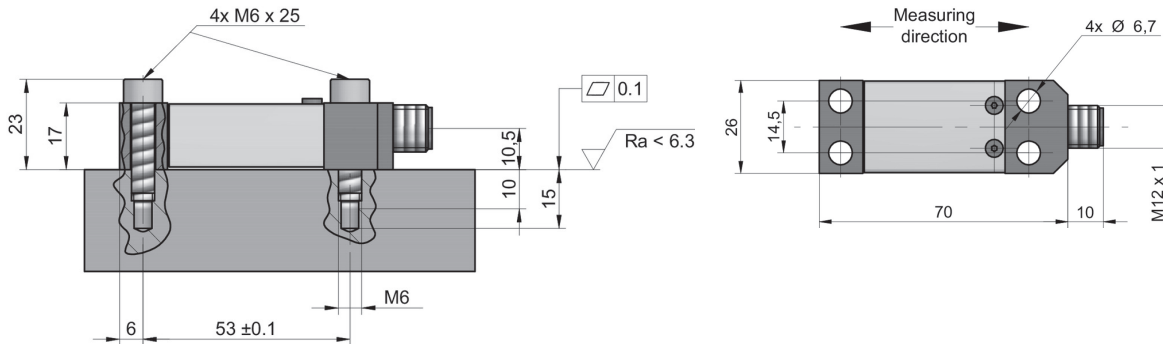
Conformity	CE UL
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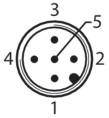
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Dimensional drawings (mm)



Electrical connection

Pin-number	Signals
1	+V _S / L+
2	V _{OUT}
3	0V / L-
4	C/Q
5	DI/DQ
Case	Shield



Ordering key - Configuration possibilities see website

	DST53	-	A	###	U
Product family	Performance strain sensor				
Version			A		
Measuring range					
250 µm/m					250
1000 µm/m					102
2000 µm/m					202
Output signal					
Voltage					U