

DST53-AxxxU

Performance strain sensor with voltage output and IO-Link

DST53-A####U

Overview

- IO-Link interface for individual and application specific parameterization
- Minimal influence on the machine structure due to low stiffness
- Specifically adaptable measuring ranges up to $\pm 2000 \mu\text{m/m}$
- Integrated amplifier electronics
- Output signal $\pm 10 \text{ VDC}$, IO-Link, 2 x I/O
- Bore hole distance 53 mm
- M12 connector, 5 pin, male



Technical data

General data

Nominal strain	0 ... 2000 $\mu\text{m/m}$
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	260 N @ 250 $\mu\text{m/m}$ 200 N @ 1000 $\mu\text{m/m}$ 130 N @ 2000 $\mu\text{m/m}$
Weight	135 g
Material sensor body	1.7225, chemically nickel plated
Material housing	Stainless steel, 1.4301
Compensated for thermal expansion coefficient	$11.1 \cdot 10^{-6} \text{ 1/K}$
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	$\pm 10 \text{ VDC}$ IO-Link
Signal polarity positive	Tension
Bridge resistance	350 Ω
Supply voltage	18 ... 30 VDC

Electrical data

Current consumption	< 40 mA
Reverse polarity protection	Yes
Short circuit protection	Yes
SIO Input high	$\geq 13 \text{ VDC}$
SIO Input low	$\leq 8 \text{ VDC}$
Measuring resolution	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	$\geq 1 \text{ ms}$
SIO-mode	Yes

IO-Link features

Parameterizable	Unit (N, kg, $\mu\text{m/m}$) 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

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

Additional data	Diagnostic data Error detection
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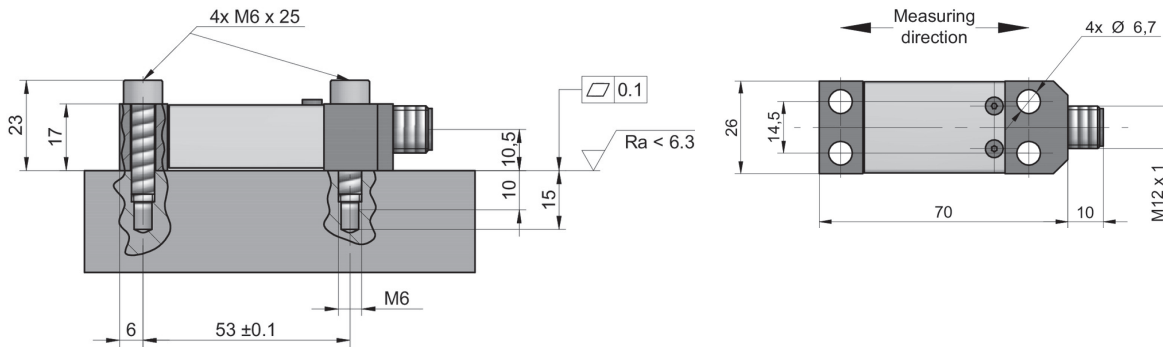
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Technical data

Compliance and approvals

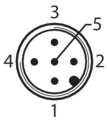
Conformity CE
UL

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	Soft mechanics, 4 x M6 screws, M12 plug		A		
Measuring range	250 µm/m				250
	1000 µm/m				102
	2000 µm/m				202
Output signal	Voltage				U