

DST53-A102U

Performance strain sensor with voltage output and IO-Link

Article number: 11242299

Overview

- Measuring range $\pm 1000 \mu\text{m/m}$
- IO-Link interface for individual, application specific parameterization
- Minimal influence on the machine structure due to low stiffness
- Integrated amplifier electronics
- Output signal $\pm 10 \text{ VDC}$, IO-Link, 2 x I/O
- Bore hole distance 53 mm
- M12 connector, 5 pin



Technical data

General data

Nominal strain	0 ... 1000 $\mu\text{m/m}$
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	200 N @ 1000 $\mu\text{m/m}$
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
Current consumption	< 40 mA
Reverse polarity protection	Yes
Short circuit protection	Yes
SIO Input high	$\geq 13 \text{ VDC}$

Electrical data

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)
Process data length	32 bit
Cycle time	$\geq 1 \text{ ms}$
SIO-mode	Yes
Process data (cyclic)	Process Value Scale exponent SSC 1 SSC 2 Quality Alarm

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

Compliance and approvals

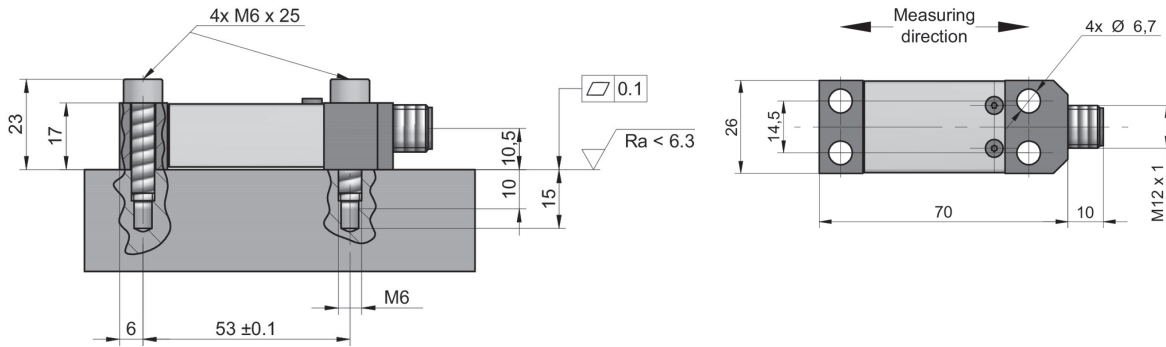
Conformity	CE UL
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Dimensional drawings (mm)



Electrical connection

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

