

# DST53-AxxxL

Performance strain sensor with IO-Link interface

DST53-A###L

## Overview



### Technical data

#### General data

Nominal strain	0 ... 2000 $\mu\text{m}/\text{m}$
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	$11.1 \cdot 10^{-6} \text{ 1/K}$
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 $\text{g}^2/\text{Hz}$
Shock IEC 60068-2-27	50 g / 11 ms, 100 g / 6 ms

#### Electrical data

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

#### Electrical data

Short circuit protection	Yes
Resolution ADC	24 bit
Sampling rate input	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, $\mu\text{m}/\text{m}$ ) selectable Teach-in Offset/ Tare Correlation to known force 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

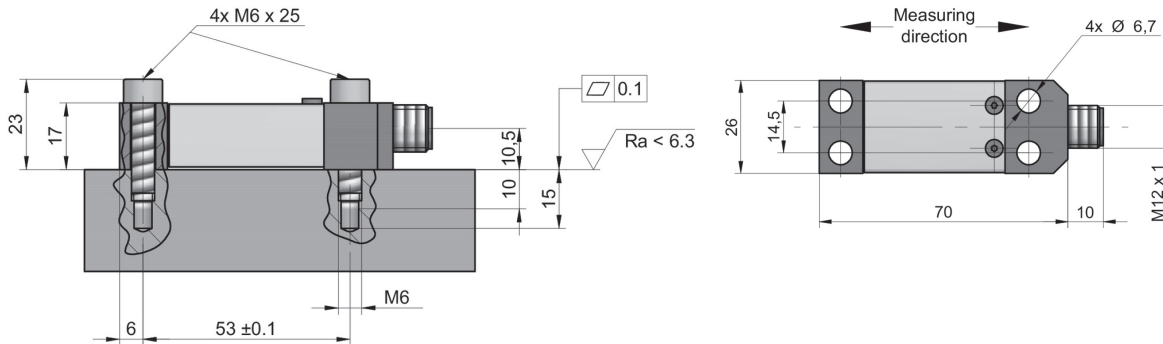
Conformity	CE UL
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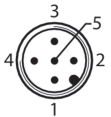
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## Dimensional drawings (mm)



## Electrical connection

Pin-number	Signals
1	L+
2	DI/DQ
3	L-
4	C/Q
5	n. c.



## Ordering key - Configuration possibilities see website

	DST53	-	A	###	L
<b>Product family</b>	Performance strain sensor				
<b>Version</b>			A		
Soft mechanics, 4 x M6 screws, M12 plug					
<b>Measuring range</b>					
250 µm/m					250
1000 µm/m					102
2000 µm/m					202
<b>Output signal</b>					
IO Link					L