

DA70e ±300



Description

The strain sensor DA70 is suitable for strain and force measurement on machine elements under rough conditions.

Installation is done quite simply by screwing the sensor with 2 screws M10 on an even material surface.

The connection cable is protected by a non-crushable spiral tube. The strain on the surface of the constructional element is measured by the strain sensor due to the bolted-assembly.

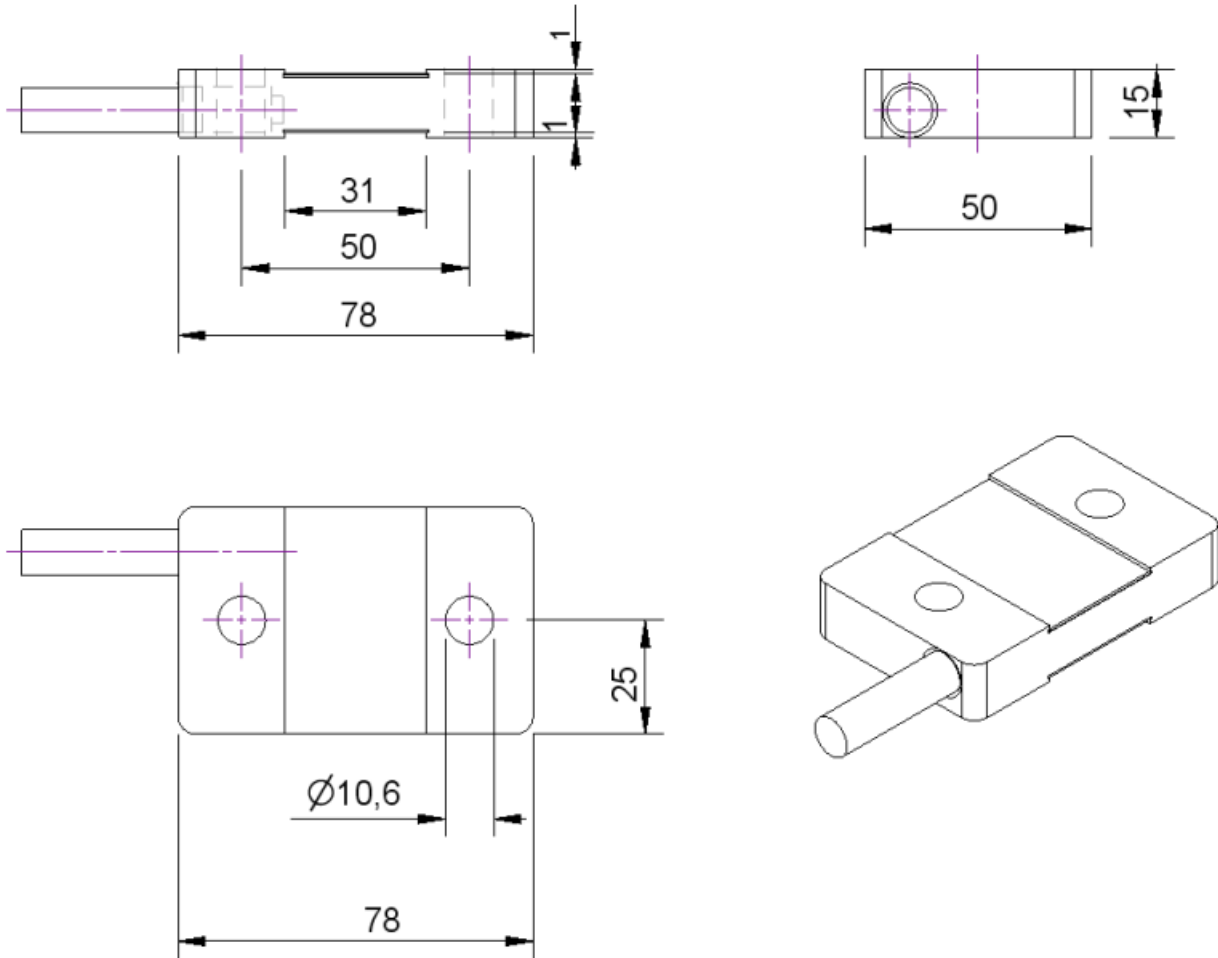
The areas of application are, for example, force monitoring in agricultural and construction machinery, fill level measurement and strain data acquisition on machine elements.

The temperature behavior and conversion factor depend on the geometrical and material pairing of sensor and component. The sensor is calibrated by subjecting the component to a known force.

The DA 70 is also available with integrated evaluation electronics.

The integrated electronic GSV-15L provides an output signal 4...20 mA proportional to the applied force on the constructional element. The electronic GSV-15L offers a digital input for automatic zero adjustment, a digital input for autoscale and a digital output as threshold switch.

Dimensions



Technical Data

Basis Data

Type	Dehnungsaufnehmer
Nominal strain	300 $\mu\text{m/m}$
Operating strain	150 %Fn
Material	Tool steel
Surface	electrogalvanized

Electrical Data

Input resistance	400 Ohm
Tolerance input resistance	60 Ohm
Output resistance	400 Ohm
Tolerance output resistance	60 Ohm
Insulation resistance	5×10^9 Ohm
Rated range of excitation voltage f	2.5 ... 5 V
Operating range of excitation voltage f	1 ... 10 V

Precision

Relative linearity error	1 %v.S.
Relative zero signal hysteresis	5 %Fn
Temperature effect on zero signal	0.5 %Fn/10K
Temperature effect on characteristic value	1 %Fn/10K
Relative creep	1 %Sn

Supply

Supply voltage f	14 ... 30 V
Current consumption from	15 mA

Connection Data

Connection type	6 conductor open
Name of the connection	6(3x2)x0,14 UNITRONIC FD CP (TP) Plus
Cable length	5 m

Temperature

Rated temperature range f	-10 ... 60 °C
Operating temperature range f	-20 ... 70 °C
Storage temperature range f	-20 ... 85 °C
Environmental protection	IP65

Measuring frequency

Data frequency f	5 ... 105 Hz
Sampling frequency	105 Hz

Strain gauge is used with k-factor = 2.



Pin Configuration

Symbol	Description	Wire colour	PIN
Ub	Supply voltage (24V or 12V DC)	brown	1
GND	Connect ground, supply voltage	white	2
Ua	Output signal 4...20mA / 0...10V / $\pm 10V$	green	3
Tara	Control input for zero balance	yellow	4
Scale	Control input for amplification factor	grey	5
SW	Threshold output	pink	6
GND	Connect ground, signal	blue	7
	shiled (is not connected with the housing)	transparent	

With integrated electronics GSV-15L / GSV-6L.

Ground signal connected to ground supply internally.

accessories

Description	Description
	Aktivator-11
	Loxal-8521

Spray 200ml;
Activator solvent-based for anaerobic adhesives;

Retainer anaerobic for DA70, DA90, DA120, high-strength;
-55°C ...+ 150°C;



Orderoptions

Type	Description
DA70e 010/105/3,5	Output 0...10V, 100 Hz, input ± 0.1 mV/V ... 3.5 mV/V (standard type)
DA70e 4-20/105/3,5	Output 4...20mA, 100 Hz, input ± 0.1 mV/V ... 3.5 mV/V