

2-Axis Load Cell XY

Tensile/compressive force measurement in the X and Y directions simultaneous

MODEL 8561







Detail view connector



With instrumentation amplifier 9250/9251

Highlights

- Measuring ranges:
 0 ... 4448 N / 0 ... 2224 N (0 ... 1000 lbs / 0 ... 500 lbs)
 0 ... 8896 N / 0 ... 4448 N (0 ... 2000 lbs / 0 ... 1000 lbs)
- Further measuring ranges on request
- Non-linearity < 0.1 % F.S.
- Low cross talk < 0.75 % F.S.
- High dimensional accuracy, because sensor is made from one part
- Excellent price/performance ratio

Options

- Standardized output signal
- Dual-range model
- 0-10 V / 4-20 mA
- Various fieldbuses e.g. Profinet

Applications

- Tire uniformity testing machine
- Rotation tests

Product description

Inside the multi-component force transducer are two webs, each offset by 90°, each with a strain gage full bridge, which convert the radially acting X / Y forces on the guide bush into an electrical signal.

Due to the sensor body made from a block with its special structure, the sensor has a very high degree of dimensional accuracy and low crosstalk between the two forces.

Due to the special design, the sensor has excellent linearity properties and is designed for a long service life in dynamic applications.

The two independent signal connections allow flexible adaptation and further processing.

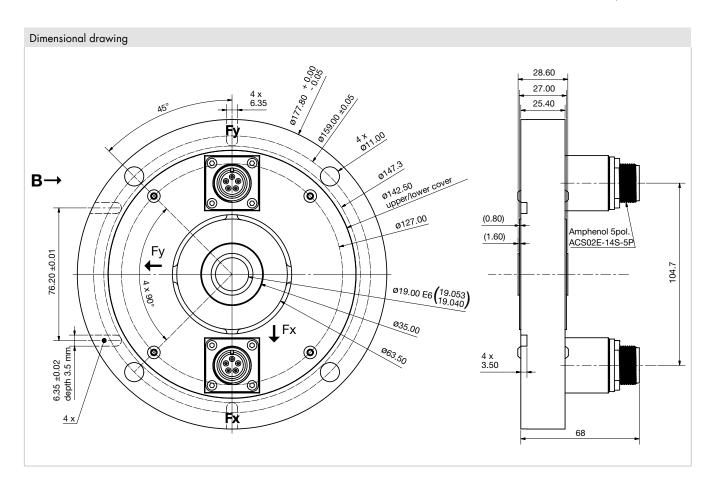
Technical Data

Measurement direction Mea	8561	-	1000-0500	2000-1000							
From O (R = ± 10000 lbss Y = ± 25000 lbs) (R = ± 20000 lbss Y = ± 10000 lbs) Accuracy ≤ ±0.1 % F.S. Relative non-linearity* ≤ ±0.1 % F.S. Characteristic curve deviation* ≤ ±0.15 % F.S. Cross talk < 0.75 % F.S. Relative hysteresis 0.1 % F.S. Temperature effect on zero output ≤ ±0.005 % F.S./K Temperature effect on nominal sensitivity ≤ ±0.015 % F.S./K Detertical Values Sensitivity nominal 2.0 mV/V Measurement direction pos. output signal for pressure force in the direction of the marked X. / Y-axis Standardization* pos. output signal for pressure force in the direction of the marked X. / Y-axis Bridge resistance 350 Ω nominal (deviations are possible) Excitation 5 V DC or AC [max. 10 V DC or AC] Insulation resistance 5 V DC or AC [max. 10 V DC or AC] Insulation lemperature range +1.5 °C +70 °C Operating temperature range 0 °C +80 °C Mechanical values 2000 pm Deflection full scale 2000 pm Maximum operating force 150 % of capacity (EN 60529) <t< td=""><td>Measuring range</td><td></td><td>$X = \pm 4448 \text{ N}; Y = \pm 2224 \text{ N}$</td><td colspan="5">X = ±8896 N; Y = ±4448 N</td></t<>	Measuring range		$X = \pm 4448 \text{ N}; Y = \pm 2224 \text{ N}$	X = ±8896 N; Y = ±4448 N							
Accuracy S ± 0.1 % F.S. Characteristic curve deviation* S ± 0.15 % F.S. Cross talk < 0.75 % F.S.			$(X = \pm 1000 \text{ lbs}: Y = \pm 500 \text{ lbs})$	$ X = \pm 2000 \text{bs}; Y = \pm 1000 \text{bs} $							
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deviation*			≤ ±0.1	% F.S.							
Cross talk < 0.75 % F.S.			≤ ±0.15 % F.S.								
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Natural frequency [Hz] 200 280	Other										
, ,	Material		stainless steel 1.4542								
Mass [kg] 3.3	Natural frequency	[Hz]	200	280							
	Mass	[kg]	3.	.3							

^{*} The data in the area 20 % - 100 % of rated load F



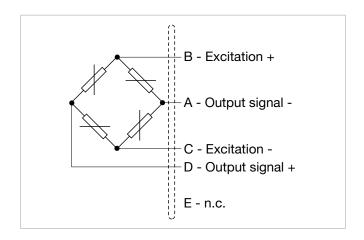
^{**} Realized on board in connection cable, 1.7 m from sensor housing or 0.3 m from cable end (temperature range limited to 0 ... +60 °C)



Electrical termination

Output signal

burster load cells are based on a strain-gage Wheatstone bridge. This measurement principle means that the output voltage mV/V is highly dependent on the sensor supply voltage. Our website contains details of suitable instrumentation amplifiers, indicator and display devices and process instruments.



8561	-	1000-0500	2000-1000							
Measuring range		$X = \pm 4448 \text{ N}; Y = \pm 2224 \text{ N}$	X = ±8896 N; Y = ±4448 N							
from 0		$X = \pm 1000 \text{ lbs}; Y = \pm 500 \text{ lbs}$	$X = \pm 2000 \text{ lbs}; Y = \pm 1000 \text{ lbs}$							
Electrical termination										
Connectors		Connectors Model Amphenol 5 pin ACS02E-14S-5P								





Accessories

Connectors and cable

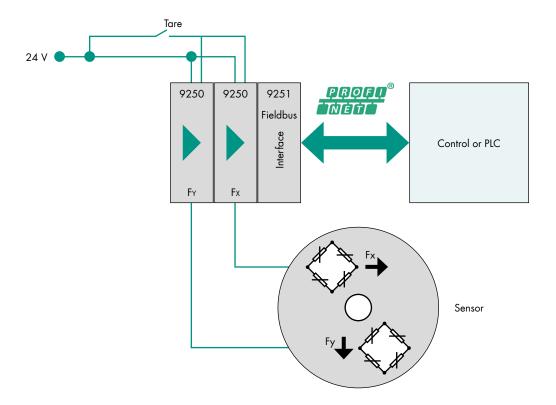
Order Code

Connectors	
9900-V647	Coupling socket 90° angled (in scope of delivery)
Cable	
99547-000B-0160030	Connection cable 3 m with open end 6-wire

Application example

Typical application: Uniformity measurement of wheels

A common application is, for example, the detection of the radial and lateral forces on rolling wheels. The sensor, which is suitable for dynamic applications, can be easily integrated into automated test systems and the uniformity of car tires, for example, can be checked and evaluated.



With the use of the new generation of instrumentation amplifiers 9250/9251, the sensor can be easily connected to any Profinet-capable system. You can find more information on our data sheets at **www.burster.com**.



Dual-range

Dual-range model	
Optionally available	As an optional extra, an additional calibration certificate is available for a second measuring range that is smaller by one step. For example, for the measuring range 4448 N 2224 N also a calibration certificate for 2224 N 1112 N. Depending on the measuring range, this results in a dual range ratio of 1:2.
Measuring range	Spreading Spreading
4448 N 2224 N 1000 lbs 0500 lbs	2224 N 1112 N 500 lbs 0250 lbs
8896 N 4448 N 2000 lbs 1000 lbs	4448 N 2224 N 1000 lbs 0500 lbs

Technical data – changing values for the spreading measuring range						
Temperature effect on zero output	≤ ±0.015 % F.S./K					
Sensitivity nominal	1.0 mV/V					



Order Code

Measuring range	Code								Measuring range			
X: 0 ±4448 N Y: 0 ±2224 N	1	0	0	0	0	5	0	0	X: 0 ±1000 lbs Y: 0 ±500 lbs			
X: 0 ±8896 N Y: 0 ±4448 N		0	0	0	1	0	0	0	X: 0 ±2000 lbs Y: 0 ±1000 lbs			
8 5 6 1 -									-			0
■ Nominal sensitivity/not standardized												
■ Standardization at 2.0 mV/V												
■ Standard								0				
■ Calibration 1:2 / Dual-range model								Z				