Leybold Didactic GmbH
Lehr– und Didaktiksysteme

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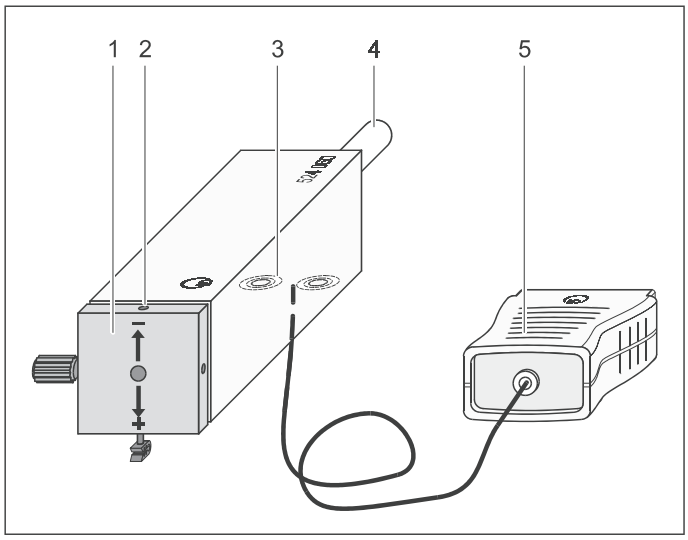


Instruction sheet 524 060

Force sensor S, ±1N (524 060)

1 Holder
2 4 mm bore for experiment material
3 Experiment supporting points, electrically insulated
4 Stand rod
5 Plug for Sensor-CASSY

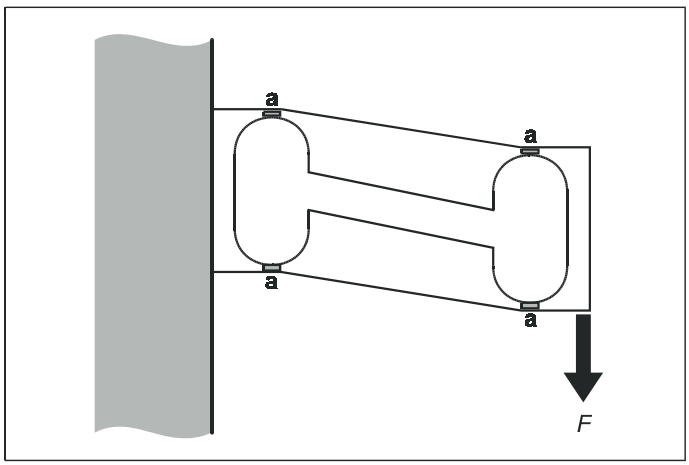
1 Description

The force sensor S, ±1N is intended for use in conjunction with the Sensor-CASSY, to which it can be directly connected. The sensor enables forces in the range ±1 N to be measured; in all measuring ranges, a tare of up to ±2.5 N can be compensated for the zero adjustment (range of compensation). As there is no mechanical damping, oscillations can also be investigated.

Experiment descriptions for using the force sensor S are found in the CASSY Lab help.

2 Principle of operation

The force sensor consists of a very precise double flection element with four strain gauges **(a)** in bridge configuration. It can be used in two directions. The flection element is located in a robust housing, which also limits the maximum mechanical deflection thus providing protection against damage. The required electronics is placed in the plug.



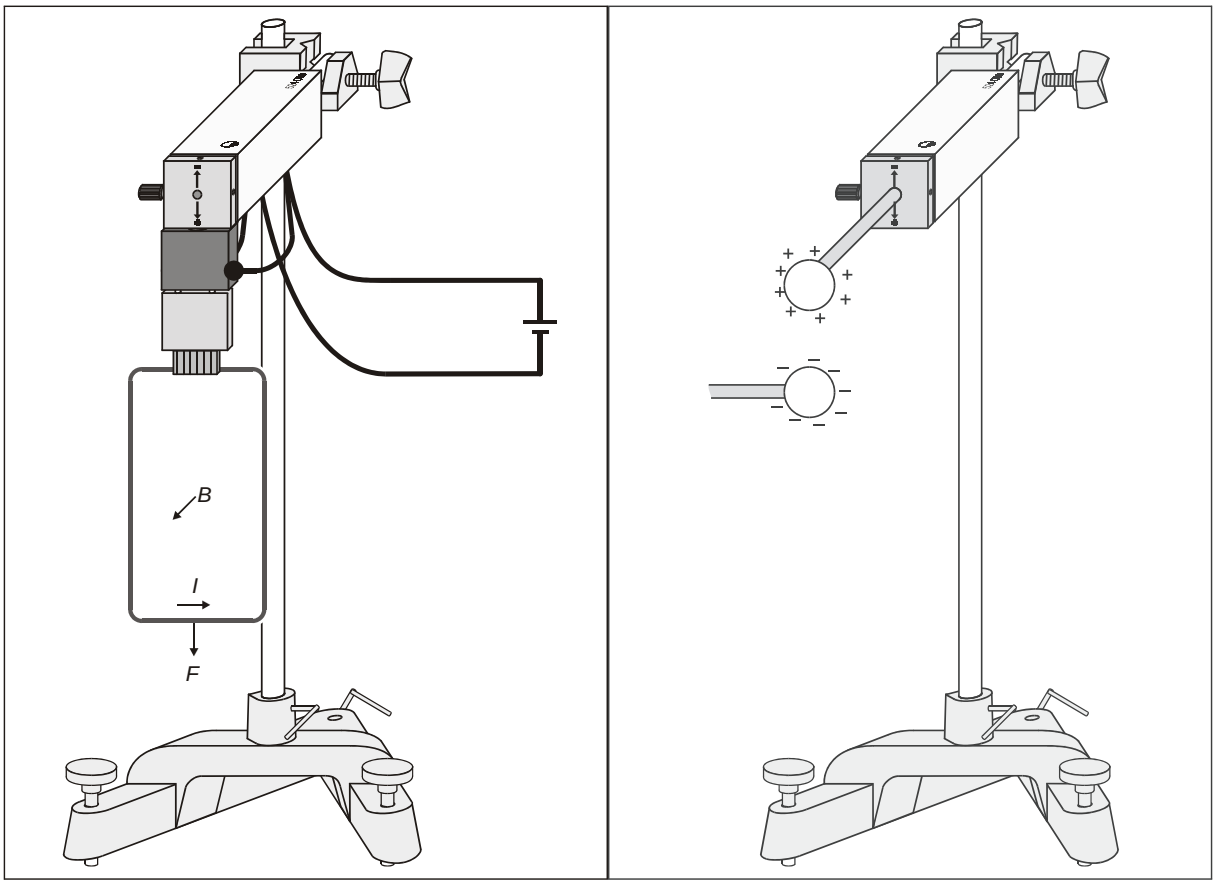
3 Scope of supply

1 force sensor S, ±1N
1 fixing bracket on 4-mm pin

4 Technical data

Load	max. ± 2.5 N
Measuring ranges	±10 mN, ±100 mN, ±1 N
Range of compensation	±2.5 N in all measuring ranges
Mechanical deflection:	±0.5 mm/N
Measuring error:	< 1%
Resolution:	< 0.01 mN The useful resolution depends on environmental vibration, draught, temperature variation, etc. Therefore computers with a fan should not be put on the experiment table.
Connections:	SUB D 15 plug with integrated amplifier for connecting to the Sensor-CASSY

5 Operation



The force sensor is fixed via a short stand rod and used in a way that forces can be easily measured in two directions (in contrast to electronic balances).

At the free end at the front of the force sensor, there is a plastic part for attaching experiment material such as conductor loops or test balls; arrows indicate the direction in which forces can be measured.

additionally required:

1 Sensor-CASSY	524 010
1 CASSY Lab	524 200
1 PC with Windows	
or	
1 CASSY-Display	524 020

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