

KD191 50kg, 100kg, 200kg, 500kg, 1000kg



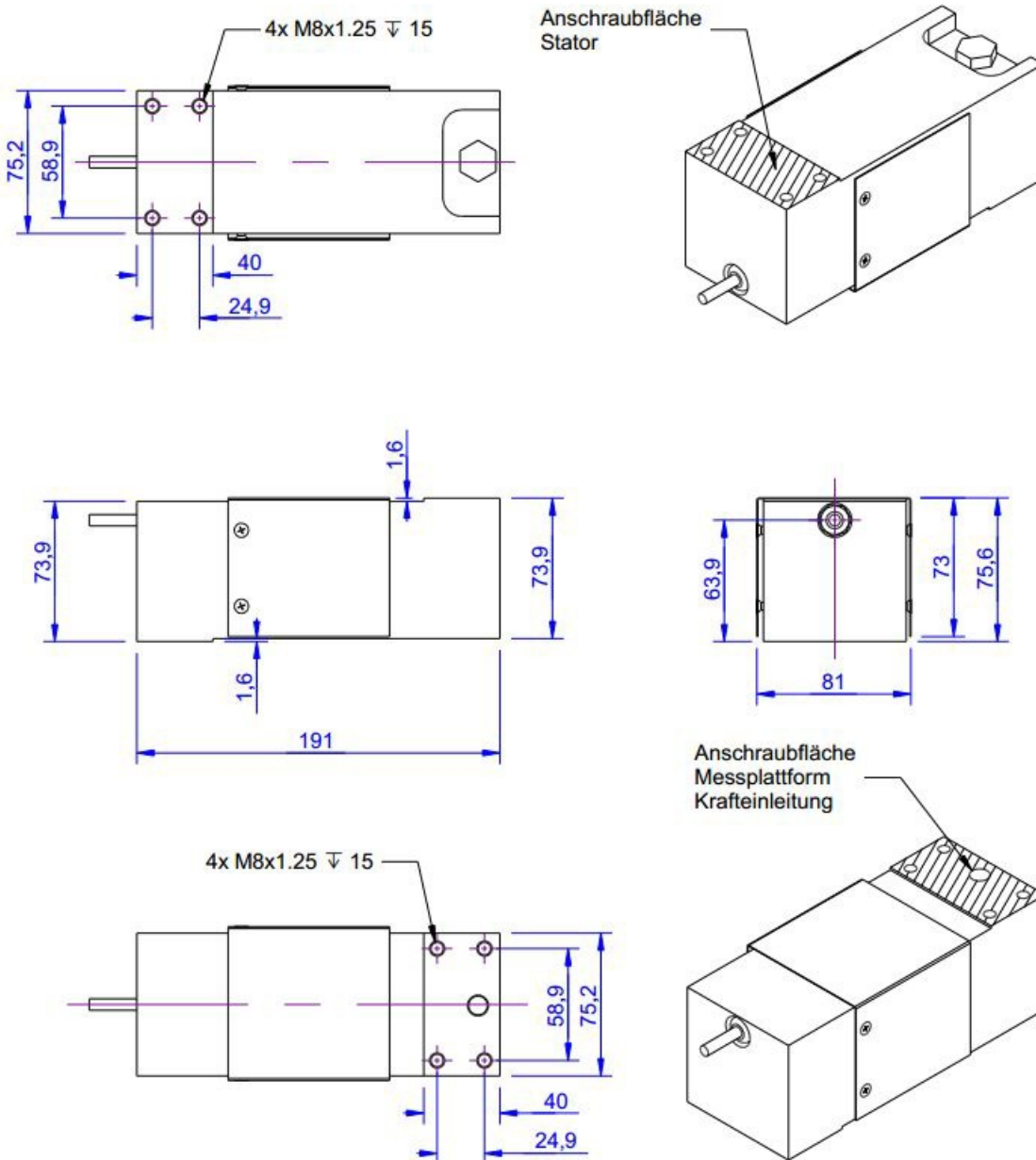
Description

The force sensor KD 191 is used in weighing platforms and in test beds. It allows the installation of a platform sized 900 x 900mm (or 600mm x 600mm for the load range 1000kg) for force introduction.

The solid construction allows force transmission over a large surface and incorporates lateral forces and torque without any significant loss of accuracy. The measurement error resulting from an eccentric load of 25% of the nominal load is less than 0.01% of the reference input. This force sensor is ideal for use in industrial test beds and sports medicine.

The force sensor KD 191 conforms to the stringent European requirements for use in trade approved scales. Thanks to a double epoxy resin cover, this force sensor is also able to withstand high humidity. It fulfills the 12-day moisture test according to IEC 68-2-30.

Dimensions



Technical Data

Force sensor

Type	Force sensor
Force direction	Tension / Compression
Force introduction	Inner thread
Dimension 1	4xM8x1,25
Sensor Fastening	Inner thread
Dimension 2	4xM8x1,25
Operating force	150 %FS
Rated displacement	0.4 mm
Lateral force limit	100 %FS
Material	Aluminium alloy
Natural frequency	2 kHz
Height	76 mm
Length or Diameter	191 mm

Electrical Data

Input resistance	390 Ohm
Tolerance input resistance	40 Ohm
Output resistance	350 Ohm
Tolerance output resistance	-3 Ohm
Insulation resistance	5x10 ⁹ Ohm
Rated range of excitation voltage f	2.5 ... 5 V
Operating range of excitation voltage f	1 ... 10 V
Zero signal	10 mV/V
Rated output	2 mV/V / FS
relative error of characteristic value	0.2 mV/V / FS

Precision

Accuracy class	0,1%
Relative linearity error	0.05 %FS
Relative zero signal hysteresis	0.05 %FS
Temperature effect on zero signal	0.01 %FS/K
Temperature effect on characteristic value	0.005 %RD/K
Relative creep	0.02 %FS

Connection Data

Connection type	6 conductor open
Cable length	3 m

Temperature

Rated temperature range f	-10 ... 70 °C
Operating temperature range f	-10 ... 85 °C
Storage temperature range f	-10 ... 85 °C
Environmental protection	IP66



Abbreviation : RD: „Reading“; FS: „Full Scale“;





1) The exact nominal sensitivity is indicated in the test report.

Pin Configuration

Symbol	Description	Wire colour
+Us	positive bridge supply	green
-Us	negative bridge supply	black
+Ud	positive bridge output	red
-Ud	negative bridge output	white
+Uf	positive sense lead	blue
-Uf	negative sense lead	brown

*Pressure load: positive output signal.
Shield- transparent.*

accessories

	Description	Description
	Calibration Certificate kn/20/5	Factory calibration certificate for force to 20 kN in accordance with DIN EN ISO / IEC 17025 for test materials monitoring according to DIN ISO 9001: 2008 with 5 load levels and 3 series of measurements.
	GSV-1H	Measuring amplifier in top-hat rail housing for sensors with strain gauges. Analogue output -10V...+10V, limiting frequency 250Hz, 4 input sensitivities from 2.0mV/V.
	GSV-1A	Measuring amplifier in aluminum housing (IP66) for sensors with strain gauges. two round plugs M12, analogue output -10V...+10V, limiting frequency 250Hz, 4 input sensitivities from 2.0 mV/V.
	GSV-6K	Analogue measuring amplifier in plug housing for sensors with strain gauges. Analogue output configurable, TEDS, sampling frequency 10Hz ... 25kHz, input sensitivity configurable 0.1mV/V ... 8mV/V