

KL500



Description

Tension load cells are ideal force sensors to measure large loads. Therefore, these are mainly used in cranes and other rope-operated lifting systems for measuring the tensile force. The load tabs have been specifically designed for use in harsh environmental conditions.

Applications:

- Monitoring of rope forces
- Calibration of force-measuring devices

Options :

with integrated electronics 0 ... 10V, 4 ... 20mA, Bluetooth;

Technical Data - Version 100kN

Force sensor

Type	Force sensor
Force direction	Tension / Compression
Rated force F _x	100 kN
Force introduction	Zylinder
Operating force	100 %FS
Material	Tool steel
Surface	electrogalvanized
Height	140 mm
Length or Diameter	225 mm

Electrical Data

Input resistance	700 Ohm
Tolerance input resistance	30 ±
Output resistance	700 Ohm
Tolerance output resistance	30 ±
Insulation resistance	2x10 ⁹ Ohm
Rated range of excitation voltage f	2.5 ... 5 V
Operating range of excitation voltage f	1 ... 10 V
Zero signal	0.05 mV/V
Rated output	1 mV/V / FS

Precision

Accuracy class	0,5%
Relative linearity error	0.1 %FS
Relative zero signal hysteresis	0.05 %FS
Temperature effect on zero signal	0.02 %FS/K
Temperature effect on characteristic value	0.02 %RD/K
Relative creep	0.1 %FS

Connection Data

Connection type	Connector
Name of the connection	integrierter Rundsteckverbinder M8, 4-polig, male

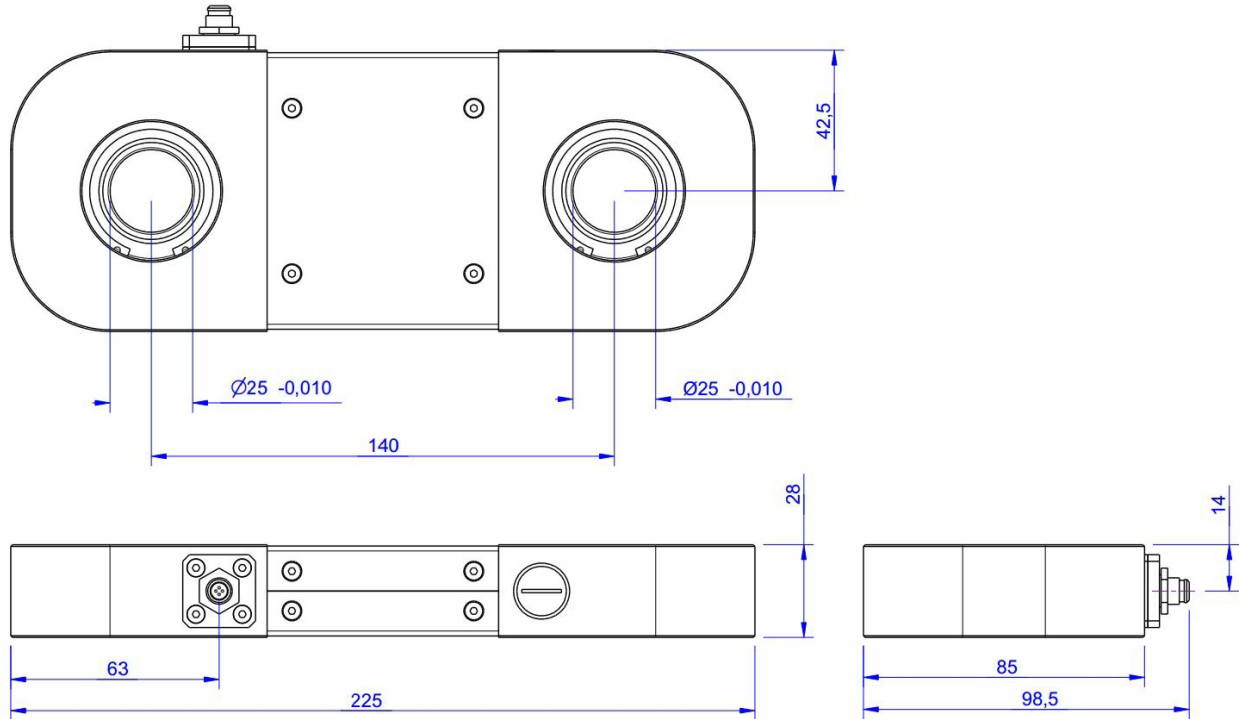
Temperature

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;

Dimensions - Version 100 kN



Technical Data - Version 200 kN

Force sensor

Type	Force sensor
Force direction	Tension / Compression
Rated force F _x	200 kN
Force introduction	Zylinder
Operating force	100 %FS
Material	Tool steel
Surface	electrogalvanized
Height	200 mm
Length or Diameter	320 mm

Electrical Data

Input resistance	700 Ohm
Tolerance input resistance	30 ±
Output resistance	700 Ohm
Tolerance output resistance	30 ±
Insulation resistance	2x10 ⁹ Ohm
Rated range of excitation voltage f	2.5 ... 5 V
Operating range of excitation voltage f	1 ... 10 V
Zero signal	0.05 mV/V
Rated output	1 mV/V / FS

Precision

Accuracy class	0,5%
Relative linearity error	0.1 %FS
Relative zero signal hysteresis	0.05 %FS
Temperature effect on zero signal	0.02 %FS/K
Temperature effect on characteristic value	0.02 %RD/K
Relative creep	0.1 %FS

Connection Data

Connection type	Connector
Name of the connection	round plug connector M12, 4-pole, male

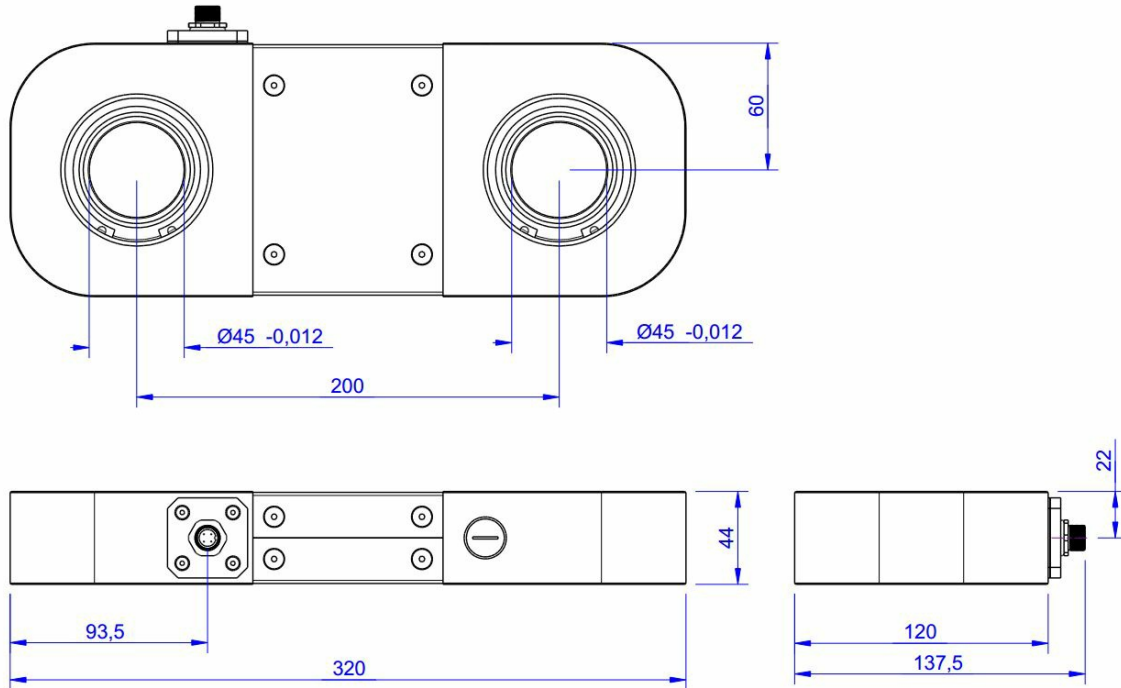
Temperature

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;

Dimensions - Version 200kN



Technical Data - Version 500 kN

Force sensor

Type	Force sensor
Force direction	Tension / Compression
Rated force F _x	500 kN
Force introduction	Zylinder
Operating force	100 %FS
Material	Tool steel
Surface	electrogalvanized
Height	280 mm
Length or Diameter	460 mm

Electrical Data

Input resistance	700 Ohm
Tolerance input resistance	30 ±
Output resistance	700 Ohm
Tolerance output resistance	30 ±
Insulation resistance	2x10 ⁹ Ohm
Rated range of excitation voltage f	2.5 ... 5 V
Operating range of excitation voltage f	1 ... 10 V
Zero signal	0.05 mV/V
Rated output	1 mV/V / FS

Precision

Accuracy class	0,5%
Relative linearity error	0.1 %FS
Relative zero signal hysteresis	0.05 %FS
Temperature effect on zero signal	0.02 %FS/K
Temperature effect on characteristic value	0.02 %RD/K
Relative creep	0.1 %FS

Connection Data

Connection type	Connector
Name of the connection	round plug connector M12, 4-pole, male

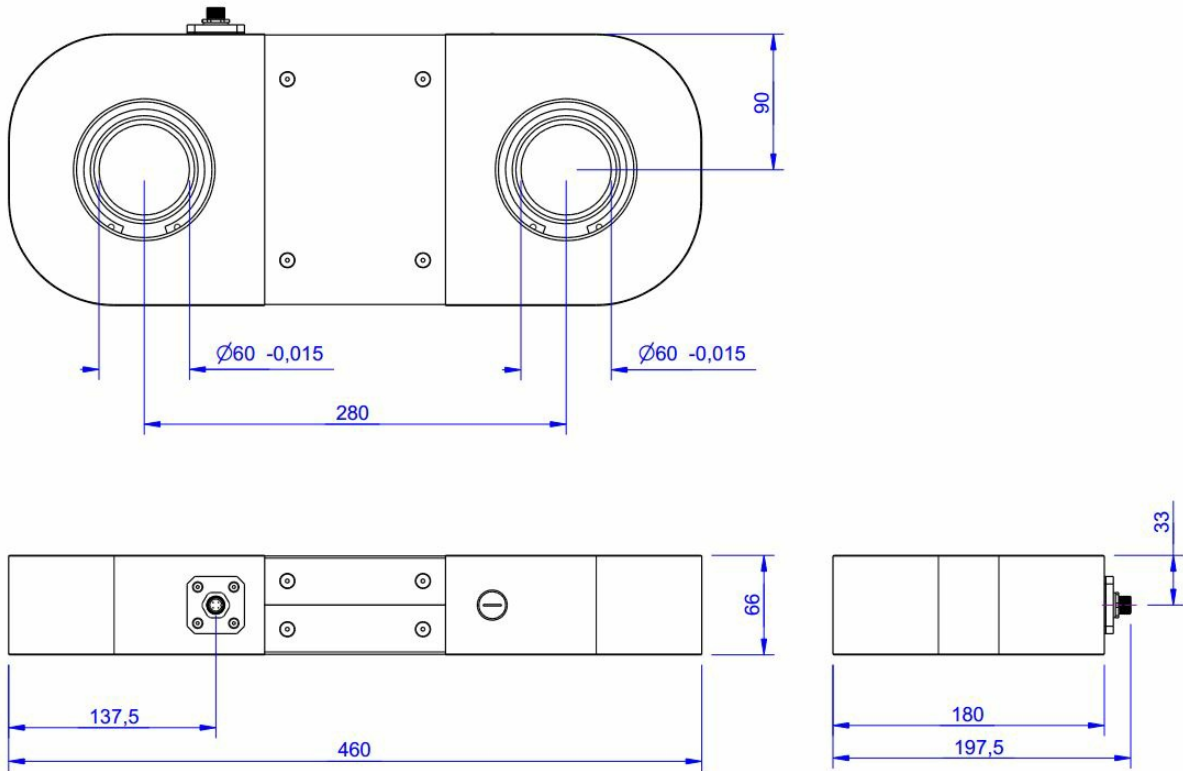
Temperature

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;

Dimensions - Version 500kN



Technical Data - Version 1MN

Force sensor

Type	Force sensor
Force direction	Tension / Compression
Rated force Fx	1 MN
Force introduction	Zylinder
Operating force	100 %FS
Material	Tool steel
Surface	electrogalvanized
Height	400 mm
Length or Diameter	650 mm

Electrical Data

Input resistance	700 Ohm
Tolerance input resistance	30 ±
Output resistance	700 Ohm
Tolerance output resistance	30 ±
Insulation resistance	2x10 ⁹ Ohm
Rated range of excitation voltage f	2.5 ... 5 V
Operating range of excitation voltage f	1 ... 10 V
Zero signal	0.05 mV/V
Rated output	1 mV/V / FS

Precision

Accuracy class	0,5%
Relative linearity error	0.1 %FS
Relative zero signal hysteresis	0.05 %FS
Temperature effect on zero signal	0.02 %FS/K
Temperature effect on characteristic value	0.02 %RD/K
Relative creep	0.1 %FS

Connection Data

Connection type	Connector
Name of the connection	round plug connector M12, 4-pole, male

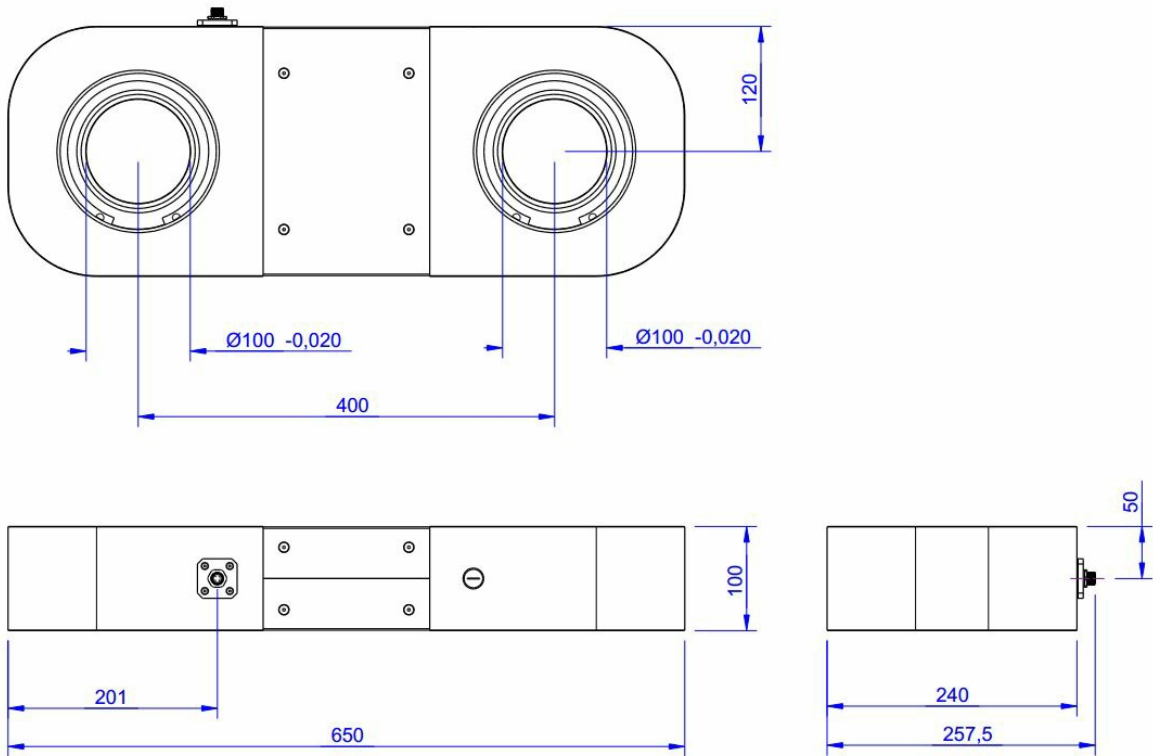
Temperature

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;

Dimensions - Version 1MN






Pin Configuration

Symbol	Description	Wire colour	PIN
+Us	positive bridge supply	brown	1
-Us	negative bridge supply	white	2
+Ud	positive bridge output	blue	3
-Ud	negative bridge output	black	4

Pressure load: positive output signal.

Shield- transparent.

accessories

	Description	Description
	Calibration Certificate kn/200/5	Factory calibration certificate for force to 200 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-3BT M12	Measurement amplifier with wireless interface via Bluetooth®. Integrated Accu 2,6Ah for 12h;
	GSV-6K	Analogue measuring amplifier in plug housing for sensors with strain gauges. Analogue output configurable, TEDS, sampling frequency 1Hz ... 25kHz, input sensitivity configurable 0.1mV/V ... 8mV/V