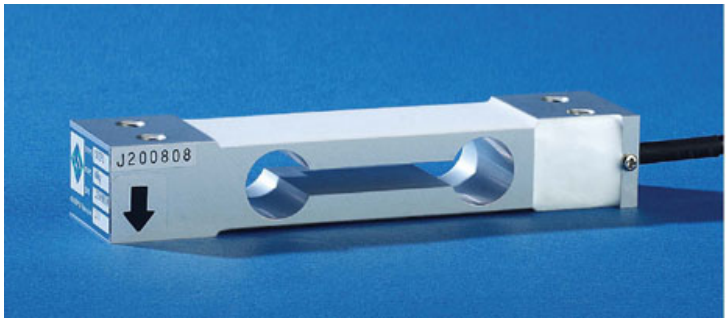
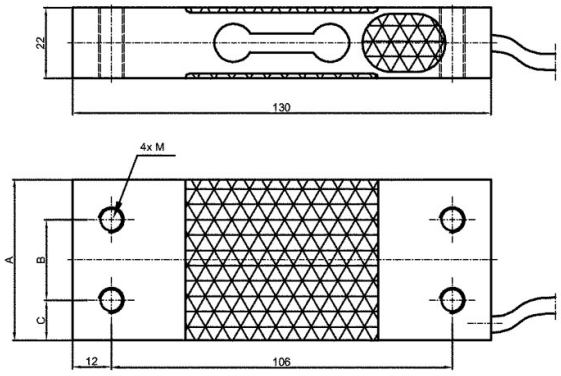
Series KM302 / KT302

- Capacity from 0...30N to 0...2kN
- Calibration either in tension or compression
- Available as loadcell (KM302),
  or with integrated amplifier (KT302)
- Taring function integraded
- RS232 / RS485 optional (KT302)
- Customized functions (KT302)



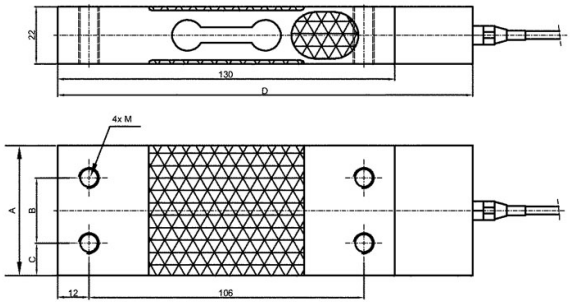
Dimensional Drawings

KM302



Abmessungen in mm

KT302



Abmessungen in mm

Capacity	A	B	C	D	M
30N ... 500N	30	15	7,5	180	M6
1KN ... 2 KN	50	25	12,5	160	M8

MEGATRON Elektronik AG & Co. | **GB MEGATRON Industriesensorik**
Hermann-Oberth-Str. 7 | D-85640 Putzbrunn / München
Tel.: 0049 (0)89/46094-0 | Fax: 0049 (0)89/46094-101 | e-mail:sales@megatron.de | www.megatron.de

Technical Data	KM302	KT302
Capacity (0 to ...)	30; 50; 100; 300; 500; 1000; 2000 N	
Operating Overload	120 %F.S.	
Safe Overload	150 %F.S.	
Ultimate Overload	>200 %F.S.	
Rated Output	2 mV/V	-
Rated Output Tolerance	10 %F.S.	-
Zero Balance	2 %F.S.	1 %F.S. **
Non-Linearity	0,04 %F.S.	
Hystersis	0,04 %F.S.	
Creep (30 min.)	0,4 %F.S.	
Total Error *	0,15 %F.S.	
Non-Repeatability	0,04 %F.S.	
Temp.Effect on Zero	0,04 %F.S./10K	
Temp.Effect on Output	0,04 %F.S./10K	
Legend:	*) = Hysteresis included **) Electronic version 2410: no signal change below 1% F.S. (for analog signal only, digital signal without limitation) All above values in %F.S. < = ± values	
	Calibration protocol included	

Mechanical Data	
Measuring Method	Foil Strain Gage Full Bridge
Material Loacell	Aluminium Alloy

Ambient Conditions	KM302	KT302
Compensated Temperature	-10 ... +40° C	0 ... +40° C
Operating Temperature	-20 ... +60° C	
Protection Class	IP 65	IP64

Electrical Data	KM302	KT302
Input Impedance	410 ±15 Ω	-
Output Impedance	350 ±3 Ω	-
Insulation	>2000 Ω	
Recommended Excitation	10 VDC typ., 15 VDC max.	24 VDC ±20%
Cable Size	2 m, 4-wire shielded	2 m, 8-wire shielded

MEGATRON Elektronik AG & Co. | **GB MEGATRON Industriesensorik**
Hermann-Oberth-Str. 7 | D-85640 Putzbrunn / München
Tel.: 0049 (0)89/46094-0 | Fax: 0049 (0)89/46094-101 | e-mail:sales@megatron.de | www.megatron.de

Series KM302 / KT302

Signal Versions	Supply	Signal
0000 without amplifier	10 V	20 mV
2410 built in amplifier	24 V	0 ... 10 V
2442 built in amplifier	24 V	4 ... 20 mA

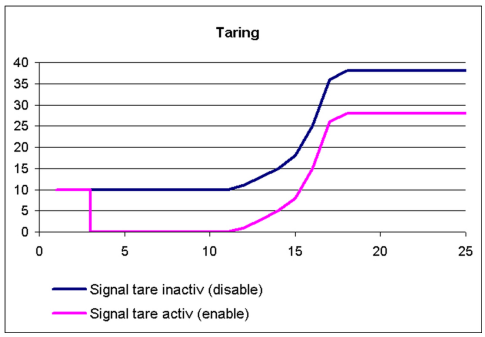
Electrical Connection	KM302		KT302	
Wiring	0000		2410 / 2442	
	black	Excitation -	white	Excitation -
	red	Excitation +	brown	Excitation +
	green	Signal +	green	Signal analog
	white	Signal -	yellow	Tx / A (RS485)
	Shield	on housing	grey	Rx / B (RS485)
			pink	GW 1
			blue	GW 2
			red	Tara
			Shield	on housing

Order code						Accessories
Series	Connection	Capacity	Electronic	Force Direction	Function	**External Amplifiers** • EMA3-DMS / EMA3-2DMS • IPG-DMS / IPG-2DMS • SI-DMS • IMA2-DMS
KT302	K	1kN	2442	D	xxxx	
Force transcuder series KT302 with integrated amplifier, supply 24V, signal 4-20mA, 2m cable, 1kN capacity, compression, with special function						
KM302	K	30N	0000			
Force transcuder series KM302 without amplifier, 2m cable, capacity 30N						**Displays** • DH28-DMS • Modig

The specifications and information in this datasheet cannot consider all special demands that are caused by the application. Because of this, they are no general description of the properties of the product.
19. January 2011. All specifications are subject to change without notice.

Tare - Standard function for all models with integrated amplifier

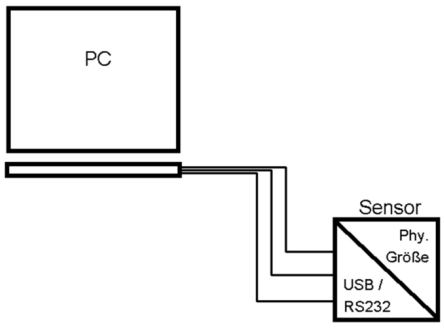
Tare function enables a reset of output signal (digital or analog) back to zero signal of calibration.
Procedure: Red cable wire has to be connected to ground (GND).
Example: KTB52 K 10KN 2442 D (i.e. 4mA = 0N, 20mA = 10KN)
Sensor is loaded with 2,5KN, which means output signal is 8mA.
Connecting red cable wire to ground, resets output signal back to 4mA



MEGATRON Elektronik AG & Co. | **GB MEGATRON Industriesensorik**
Hermann-Oberth-Str. 7 | D-85640 Putzbrunn / München
Tel.: 0049 (0)89/46094-0 | Fax: 0049 (0)89/46094-101 | e-mail:sales@megatron.de | www.megatron.de

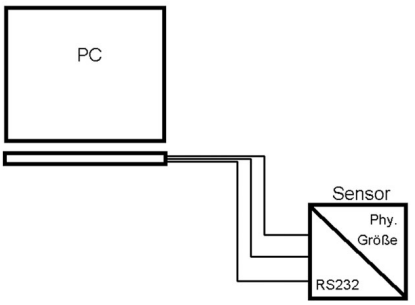
USB Interface - Option

Integrated amplifier converts physical value to digital signal (data transfer rate = 115 kBaud). Signal transmission runs with USB Interface (USB standard 1.1.)



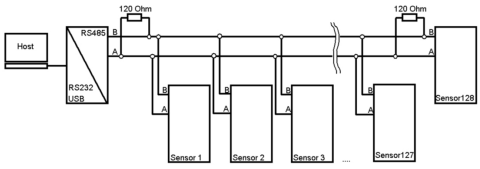
RS232 Interface - Option

Integrated amplifier models could be also equipped with RS232 Interface. Baudrate = 115,2 kBaud.
Standard protocol = bitoriented. ASCII could be realized.



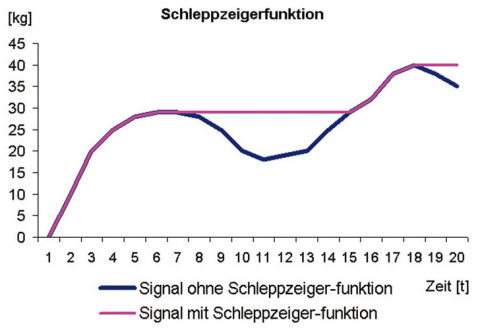
RS485 Interface - Option

RS485 interface connects up to 128 sensors.
Operation mode = half duplex.
Data transfer rate = 128kBaud (reducible).
Value updating will be made every 5ms. It´s a bitoriented disposable protocol.



Drag Pointer - programmable option according to customer specification

Output signal (digital or analog) could be shown as drag pointer. I.e. as long as the sensor signal increases, output signal increases in the same way. But as soon as the sensor signals decreases, output signal will be fixed at the highest value.
Types:
Drag pointer switched on constantly? Yes / No
Drag pointer switched on at sensor signal xxxx
Reset: A defined wire has to be connected with ground (GND)



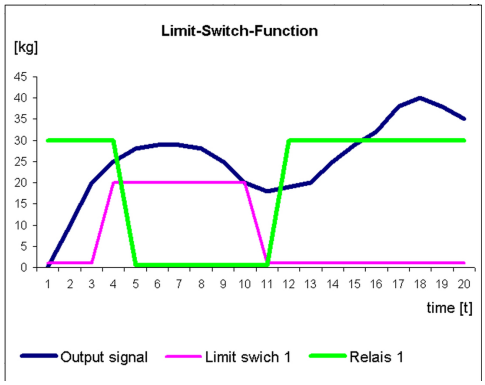
MEGATRON Elektronik AG & Co. | **GB MEGATRON Industriesensorik**
Hermann-Oberth-Str. 7 | D-85640 Putzbrunn / München
Tel.: 0049 (0)89/46094-0 | Fax: 0049 (0)89/46094-101 | e-mail:sales@megatron.de | www.megatron.de

Limiting Value - programmable option according to customer specification

Limiting values show if a defined threshold passes over or falls below. As long as output signal stays below a fixed limiting value status shows low. As soon as it passes over status shows high.

Types: Up to 2 limiting values could be fixed for each sensor. In addition it´s possible to fix a switching hysteresis.

Example: Limiting value = 20kg. Sensor is loaded with 15kg à status = low



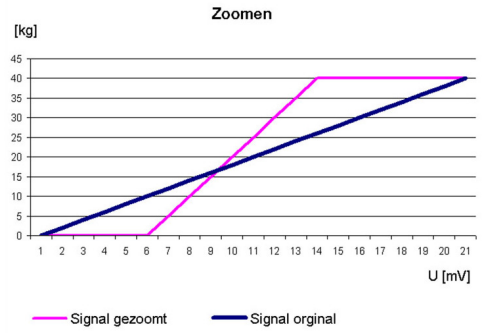
Zoom - programmable option according to customer specification

With zoom function it´s possible to focuse on a defined partial range of total measuring range.

Types:

Before zooming area: output signal will be 0 or a custom defined value

Beyond zooming area: output signal will be fullscale or a custom defined value



Status Indication - programmable option according to customer specification

Customed defined parameter could be shown or stored.

Examples:

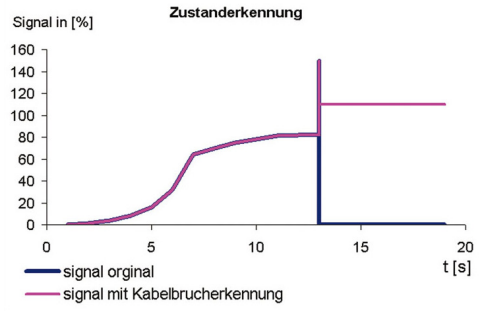
- Sensor overload

a) digital (additional display required): “overload” is monitored

b) analog: output signal increases to 110% and stays there constantly

c) defined I/O-wire: low à high

- indicating overload value (e.g. 110%, 130%, 150%) à is there a constant deformation
- counting how often 100% load was applied
- counting numbers of load cycles (life time)
- remaining life time



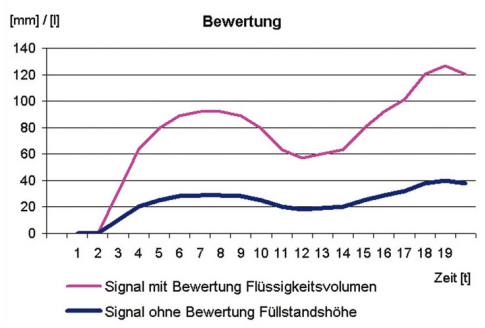
Characteristic Curve Rating - programmable option according to customer specification

Output signal (digital or analog) is rated, which means an arithmetic operation effects the sensor signal. In general all basic arithmetic operations (addition, subtraction, multiplication or division) are possible, as well as combinations.

Examples:

Signal without rating = force in N

Signal with rating = torque in Nm (force x torsion arm)



MEGATRON Elektronik AG & Co. | **GB MEGATRON Industriesensorik**
Hermann-Oberth-Str. 7 | D-85640 Putzbrunn / München
Tel.: 0049 (0)89/46094-0 | Fax: 0049 (0)89/46094-101 | e-mail:sales@megatron.de | www.megatron.de

Cable Break Detection - programmable option according to customer specification

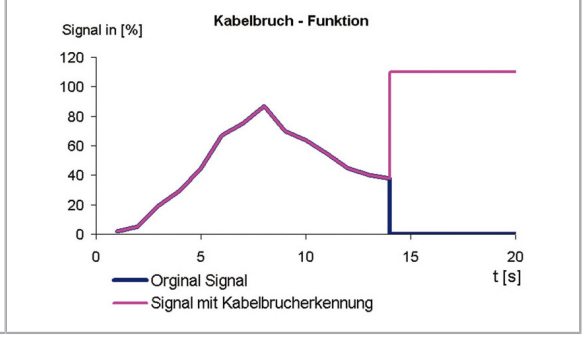
This function checks internal sensor wiring as well as the cable itself (supply- and signal-wires) for breaks. A break will be indicated within 5ms.

Types:

a) digital (additional display required): “break” is monitored

b) analog: output signal increases to 110% and stays there constantly

c) defined I/O-wire: low à high



MEGATRON Elektronik AG & Co. | **GB MEGATRON Industriesensorik**
Hermann-Oberth-Str. 7 | D-85640 Putzbrunn / München
Tel.: 0049 (0)89/46094-0 | Fax: 0049 (0)89/46094-101 | e-mail:sales@megatron.de | www.megatron.de