



## Tension and compression cylinder load cell

### 1. Application

A very robust construction characterizes the tension and compression cylinder load cell type 10 2686. It is suited for measuring static and dynamic forces, compression forces as well as tension forces.

Extremely simple mounting makes the sensor very easy to handle. The introduction or ejection of the measuring force is performed via metric threads. So the sensors of this type can be directly connected with the piston rods of hydraulic or pneumatic cylinders.

Typical applications of this sensors are e.g.:

- Operation forces control
- Control of press-in forces with hydraulic or pneumatic drive
- Measurements at tension or compression rods
- Rope force measurement
- Manufacture of fixtures and special machines

### 2. Description

The measuring force is introduced or ejected via the inside and outside threads of the sensor in axial direction.

The conversion of the acting force to an electrical output signal is performed by strain gauges applied on the cylindric sensor body.



To facilitate the mounting of the sensor, the end with the inside thread is designed as a hexagon (SW 24).

Bending forces distort the measurement results and should be avoided by constructive methods (e.g. exact axial bearing applications, couplings, etc.).

### 3. Special features

- Measuring ranges from 0 ... 5 kN up to 0 ...30 kN
- small, compact design
- simple mounting
- robust construction
- universal use
- for static and dynamic measurements

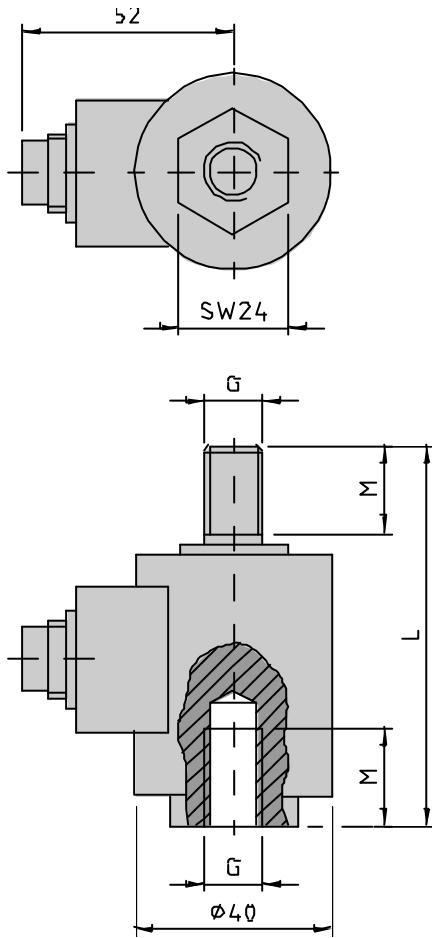
10.96

Tension and compression  
cylinder load cell

10 2686/01

## 4. Dimensions

Measuring range	Article No.	Dimensions [mm]		
		G	M	L
0 ... 5 kN	12 335	M10	20	85
0 ... 10 kN	10 202	M12	20	85
0 ... 30 kN	11 061	M16	25	90



## 5. Technical Data

### 5.1 Electrical specifications:

Bridge resistance:	
Foil SG, full bridge	350 Ω, nominal (deviations are possible)
Excitation:	max. 12 V DC
Output:	1 mV/V

### 5.2 Environmental conditions:

Operating temperature range: 0 °C ... + 80 °C

Nominal temperature range: + 10 °C ... + 60 °C

Temperature influence

on zero signal: 0.02 % F.S./ K

on the characteristic: 0.03 % Rdg./ K

### 5.3 Mechanical specifications:

Non-linearity: 0.3 % F.S.

Hysteresis: 0.2 % F.S.

Overload: 400 % of capacity

Material: tempered steel

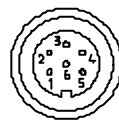
Weight (acc. to meas. range): approx. 300 g

Protection class in acc. with DIN 40050: IP 21

### 5.4 Electrical connection:

Built-in plug, 6-poles, in acc. with DIN 45322

Pin connection:

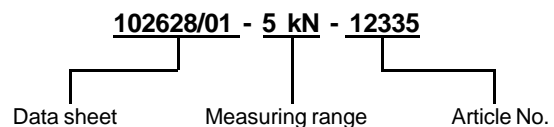


Top view  
built-in plug

Pin	signal
1	excitation -
2	excitation +
3	shield
4	signal output +
5	signal output -
6	100% control input

## 6. Order Information

e.g. Cylinder load cell, 0...5 kN



For signal amplifiers and display units please refer to the data sheets of product group 4.