

## Tension Compression Force Sensor ZK2

### Scope of Supply

Force sensor with 5 m cable (PVC),  
radial output with cable connection  
S2: Plug connection, right-angled,  
M12, moulded

### Variants

N2: Plug connection, straight,  
M12, moulded

T: Cable gland, straight

### Additional Option

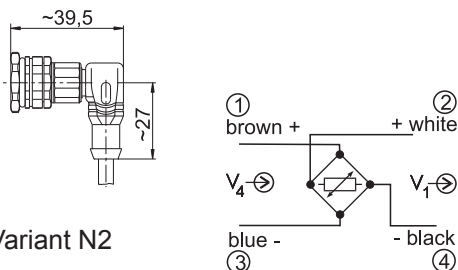
F: For use in explosive areas,  
incl. J-Box



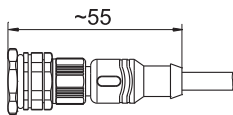
Pic similar

### Connections

#### Variant S2



#### Variant N2



#### Variant T



$V_4$  Supply voltage  
 $V_1$  Signal voltage

### Special Features

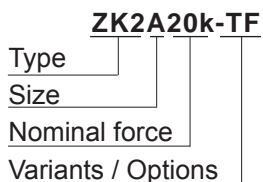
- Suitable for high-strength ring screws in grade 8
- Adaption to customers requirements on demand

The tension and compression force sensor ZK2 is equipped on both sides with internal threads and is suitable for precise measurement of forces in rods. Using high-strength ring screws, the sensor can also be used between ropes. A use with threaded rods is also possible. The sensors are easy to install in existing machines or in inaccessible places.

The application of measuring force must be axial and centrally. Bending and torsional forces are to be avoided because they can damage the sensor permanently and falsify the measurement result.

The sensor operates on the principle of compression body, the elastic deformation of the measuring element is taken from films-based strain gauges in a full bridge circuit. This robust measuring principle ensures long-term stability, even when using the sensor under harsh conditions. An amplifier of the HAEHNE product program provide the voltage supply to the full bridge and is also processing the measurement signals.

### Ordering Example



Technical Data	Values (%) based on nominal force
Nominal force (Measuring range)	Size A: 10 and 20 kN Size B: 50 and 100 kN
Max. operating force	160 %
Absolute max. force of sensor (without ring bolts)	250 %
Nominal rating	1 mV/V, at 100 kN $F_{nom}$ : 0,75 mV/V
Combined error	0,5 %
Nominal ambient temperature	+10... +60° C (+50...+140° F)
Nominal ambient temperature	-10... +70° C (+14... +158° F)
Nominal resistance of strain gauge bridge	700 $\Omega$
Bridge supply voltage	10 V DC
Enclosure protection	IP64

### Installation Instruction

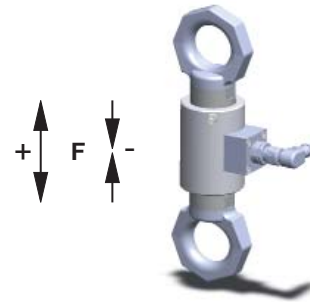
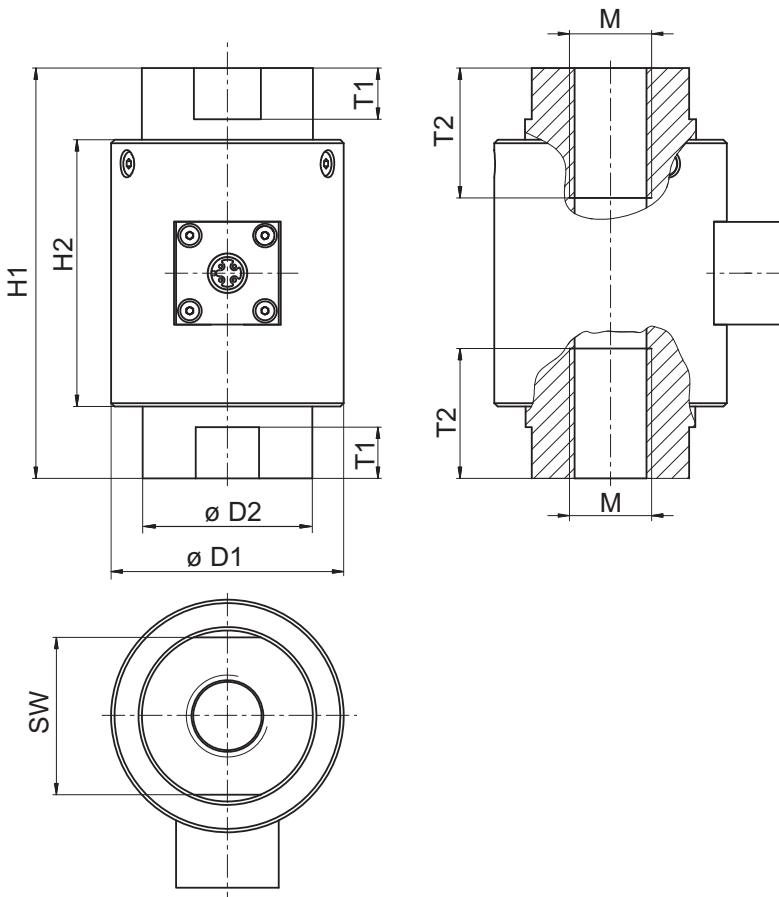
**Recommended ring bolts:**  
High-strength in grade 8

### Recommended threaded rods:

DIN976 steel 8.8

The threaded rods must be screwed over the entire depth T2.

Max. protruding length of the threaded rod: T2 of corresponding size.



Example of use with eyebolts:  
The polarity of the measuring signal varies with the direction of force



Standard:  
Variant S2, cable outlet right.  
Other directions on request.

Size	Nominal force [kN]	H1	H2	D1	D2	SW	T1	M	T2
A	10	100	70	50	35	32	10	M16	28
	20								
B	50	170	94	90	75	65	20	M36	55
	100								