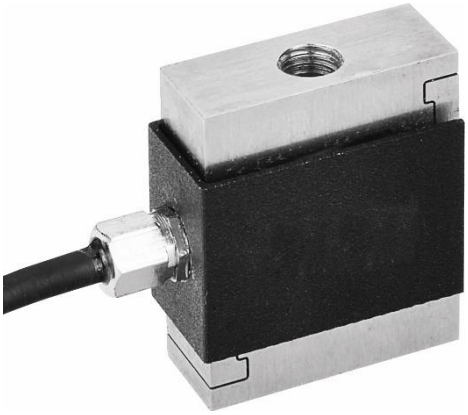
S-Type Load Cell XTS for Statistical Load Measurements



Internal thread for force application

XTS	XTS
Ø M6 Innengewinde	Ø M6 Innengewinde
0…1 kg	0…50 kg
0…2 kg	0…100 kg
0…3 kg	
0…5 kg	
0…10 kg	
0…15 kg	
0…20 kg	
0…30 kg	

Features

- S-type design
- Two internal threads for force transmission
- Encapsulated version IP65
- Measuring ranges from 1 kg to 100 kg

Application

The S-shaped tension and compression force transducer is ideally suited for highly stable force measurement of static loads with a high output signal. It is characterized above all by excellent linearity and stability.

The force introduction takes place via the two internal threads of the Type-S force sensor, so the load cell can be used both as a compression force sensor or as a tension force sensor.
The solid steel housing and the Type-S design according to IP65 guarantee trouble-free operation of the force sensor, even under difficult environmental conditions.

Ordering Code

Description	Measuring range	Output signal	Force absorption	Specification
XTS-1kg-3.0m-D-P-0	0…1 kg	2.0 mV/V	2x M6 Internal thread	Page 2
XTS-2kg-3.0m- D-P-0	0…2 kg	2.0 mV/V	2x M6 Internal thread	Page 2
XTS-3kg-3.0m- D-P-0	0…3 kg	2.0 mV/V	2x M6 Internal thread	Page 2
XTS-5kg-3.0m- D-P-0	0…5 kg	2.0 mV/V	2x M6 Internal thread	Page 2
XTS-10kg-3.0m- D-P-0	0…10 kg	2.0 mV/V	2x M6 Internal thread	Page 2
XTS-15kg-3.0m- D-P-0	0…10 kg	2.0 mV/V	2x M6 Internal thread	Page 2
XTS-20kg-3.0m- D-P-0	0…20 kg	2.0 mV/V	2x M6 Internal thread	Page 2
XTS-30kg-3.0m- D-P-0	0…30 kg	2.0 mV/V	2x M6 Internal thread	Page 2

Description	Measuring range	Output signal	Force absorption	Specification
XTS-50kg-3.0m- D-P-0	0…50 kg	2.0 mV/V	2x M6 Internal thread	Page 3
XTS-100kg-3.0m- D-P-0	0…100 kg	2.0 mV/V	2x M6 Internal thread	Page 3

S-Type Load Cell XTS

Ø 30.0 x 26.5 mm

Until 30 kg

Specifications

Performance	
Measuring range / Nominal force	0…1 kg/2.0 mV/V 0…2 kg/2.0 mV/V 0…3 kg/2.0 mV/V 0…5 kg/2.0 mV/V 0…10 kg/2.0 mV/V 0…15 kg/2.0 mV/V 0…20 kg/2.0 mV/V 0…30 kg/2.0 mV/V
Zero signal unmounted	< ±2 % from fullscale
Output signal referred to the final value	2.0 mV/V
Deviation output signal	±0.50 %
Nonlinearity	< ±0.05 % from fullscale
Hysteresis	< ±0.05 % from fullscale
repeatability	< ±0.05 % from fullscale
Creep (30 min)	< ±0.05 % from fullscale
Temperature influence on final value	±0.05 % FS /10°C
Temperature influence on zero point	±0.05 % FS /10°C

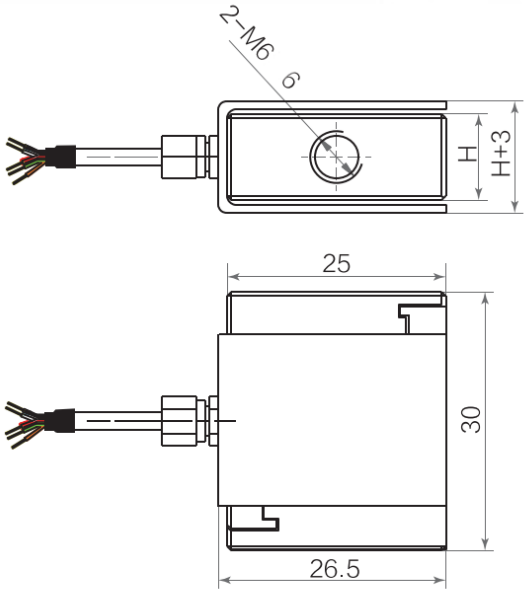
Electrical data	
Output signal referred to the final value	2.0 mV/V
Insulation resistance	≥ 5000 MΩ / 100 VDC
Input resistance	385 ± 10Ω
Output resistance	350 ± 3Ω
Recommended voltage	5 - 10 V

Materials	
Housing	Steel
Cable	PVC

Mechanical data	
Force application	Internal thread M6 x 1.0
Overload	150 % from fullscale
Breaking load	200 % from fullscale
Electrical connection	Connection cable
Cable length	3 m
Plug type	Open strands, Connectors on available on request

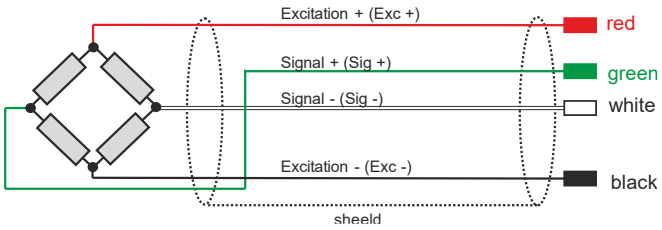
Environmental data	
Ambient temperature	-20…80 °C
Protection rate	IP65

Mechanical dimensions



Measuring range	H
1 kg / 2 kg / 3kg / 5 kg / 10 kg / 20 kg / 30 kg	10

Wiring



Ordering code

The load cell is supplied without a calibration certificate.
Calibration certificate available on request.

For detailed ordering information, see page 2.

S-Type Load Cell XTS

Ø 30.0 x 26.5 mm

Until 100 kg

Specifications

Performance	
Measuring range / Nominal force	0…100 kg/2.0 mV/V 0…200 kg/2.0 mV/V 0…250 kg/2.0 mV/V 0…300 kg/2.0 mV/V
Zero signal unmounted	< ±2 % from fullscale
Output signal referred to the final value	2.0 mV/V
Deviation output signal	±0.50 %
Nonlinearity	< ±0.05 % from fullscale
Hysteresis	< ±0.05 % from fullscale
repeatability	< ±0.05 % from fullscale
Creep (30 min)	< ±0.05 % from fullscale
Temperature influence on final value	±0.05 % FS /10°C
Temperature influence on zero point	±0.05 % FS /10°C

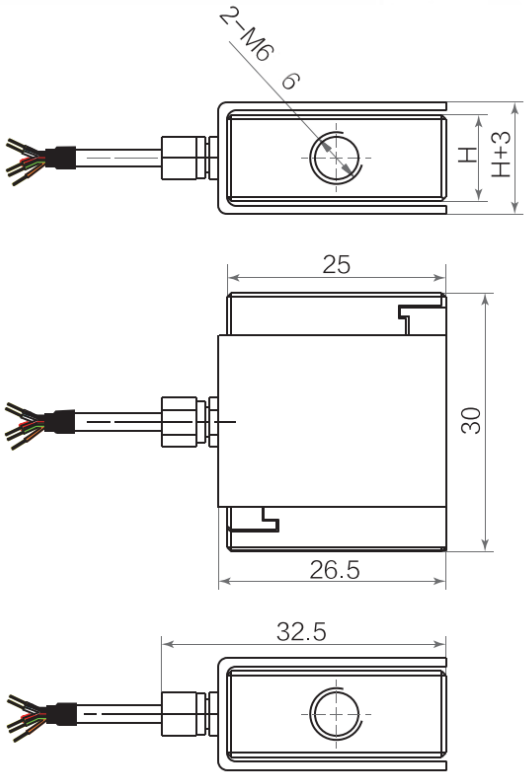
Electrical data	
Output signal referred to the final value	2.0 mV/V
Insulation resistance	≥ 5000 MΩ / 100 VDC
Input resistance	385 ± 10Ω
Output resistance	350 ± 3Ω
Recommended voltage	5 - 10 V

Materials	
Housing	Steel
Cable	PVC

Mechanical data	
Force application	Internal thread M6 x 1.0
Overload	150 % from fullscale
Breaking load	200 % from fullscale
Electrical connection	Anschlusskabel
Cable length	3 m
Plug type	Open strands, Connectors on available on request

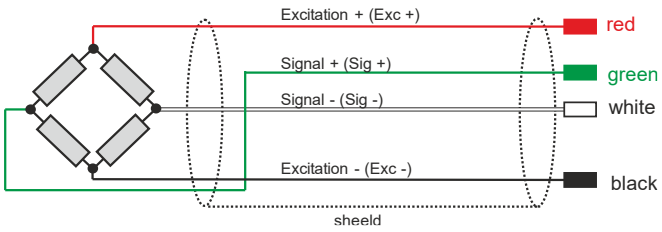
Environmental data	
Ambient temperature	-20…80 °C
Protection rate	IP65

Mechanical dimensions



Measuring range	H
50 kg / 100 kg	12

Wiring



Ordering code

The load cell is supplied without a calibration certificate. Calibration certificate available on request.

For detailed ordering information, see page 2.

Definition of accuracy

For load cells, there are the following points to consider regarding accuracy:

1. linearity, repeatability and hysteresis (combined error)
   The linearity, repeatability and hysteresis specify the measurement deviation compared to the ideal characteristic curve. This maximum measurement deviation is specified in relation to the final value. I.e. for example an inaccuracy of 0.15 % FS corresponds to a maximum measurement deviation of 0.15 kg over the entire measurement range for a force sensor with a measurement range of 0...100 kg.

2. Sensitivity
   In the data sheet a sensitivity of the sensors (2.0 mV/V) is given. However, the sensitivity is not always exactly the same. For this reason, the deviation of the sensitivity is specified.