

Compressive Force Sensors XCH-171



XCH-171

**Cost-effective compressive Force Sensor for force measurement
Inner diameter for M10 / M20 / M30**

Features

- Through hole for easy measurement of compressive forces
- Inner diameter with common thread sizes
- High overload characteristics
- Specific measuring ranges available

Application

The miniature force transducers of the XCH-171 series are mounted on threaded rods or similar.

The compression force transducer comes with an inner diameter of M10, M20 or M30 mm and is therefore versatile.

The strain gauge force transducers are ideal for compressive force measurement as they measure accurately in the lower force range of 6 kN, as well as in the force range of 30 kN and 100 kN.

Ordering code

Description	Nominal measuring range	Output-signal	Characteristic	Specifications
XCH-171-A-6.0kN-D10.5-M12/1.0m	0...6.0 kN	+ 1.0 mV/V	For M10 threaded rods	Page 3
XCH-171-C-30kN-D20.5-M12/1.0m	0...30.0 kN	+ 1.5 mV/V	For M20 threaded rods	Page 4
XCH-171-C-100kN-D30.5-M12/1.0m	0...100.0 kN	+ 1.5 mV/V	For M30 threaded rods	Page 5

Compressive Force Sensor XCH-171-6.0kN

For M10 threaded rods



Specifications

Performance

Load range	0...6.0 kN
Sensitivity at full scale	$\Delta + 1.0 \text{ mV/V}$
Zero Point	-0.5 mV/V
Zero Point unmounted	$\pm 2 \% \text{ FS}$
Deviation output signal	$\pm 5 \% \text{ FS}$
Nonlinearity	$\leq 2.0 \% \text{ FS}$

Electrical data

Power supply	5...15 VDC
Output signal at full scale	$\Delta + 1.0 \text{ mV/V}$
Bridge resistance	700 ohms

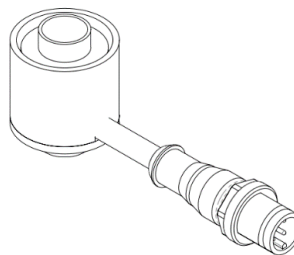
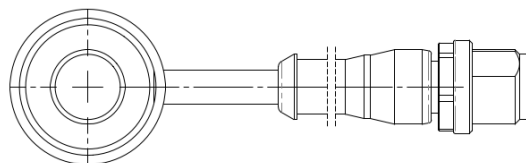
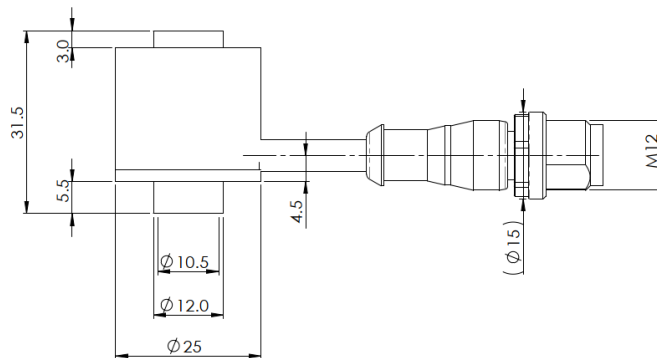
Mechanical data

Overload	19 kN
Electrical connection	Cable with USB connector (USB-1.0-/2.0-Type-A)
Cable length	1 m

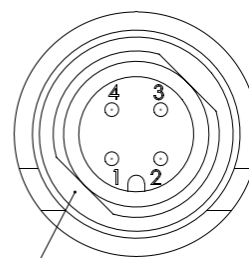
Environmental data

Storage temperature	-40...+70 °C
Ambient temperature	-10...+65 °C
Protection rate	IP 54

Dimensions



Pin Assignment



Pin 1 = Exc +
Pin 2 = Sig +
Pin 3 = Sig -
Pin 4 = Exc -

Order information

For detailed ordering information, see page 2.

Compressive force sensor XCH-171-M20

For M20 threaded rods



Specifications

Performance

Load range	0...30.0 kN
Sensitivity at full scale	$\Delta + 1.5 \text{ mV/V}$
Zero Point	-0.5 mV/V
Zero Point unmounted	$\pm 2 \% \text{ FS}$
Deviation output signal	$\pm 5 \% \text{ FS}$
Nonlinearity	$\leq 2.0 \% \text{ FS}$

Electrical data

Power supply	5...15 VDC
Output signal at full scale	$\Delta + 1.5 \text{ mV/V}$
Bridge resistance	700 ohms

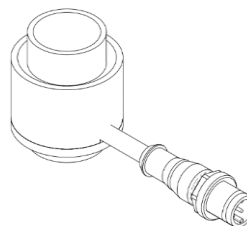
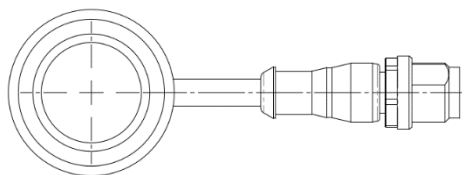
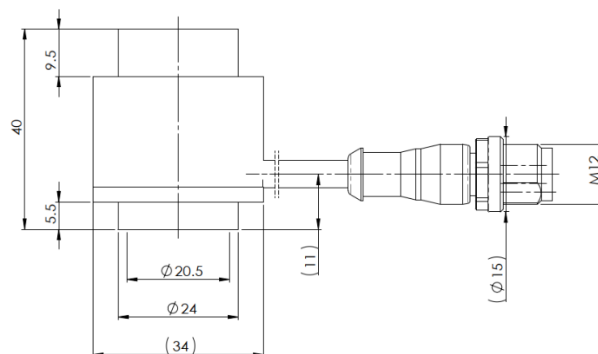
Mechanical data

Overload	19 kN
Electrical connection	Cable with USB connector (USB-1.0-/2.0-Type-A)
Cable length	1 m

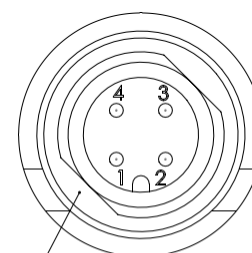
Environmental data

Storage temperature	-40...+70 °C
Ambient temperature	-10...+65 °C
Protection rate	IP 54

Dimensions



Pin Assignment



Pin 1 = Exc +
Pin 2 = Sig +
Pin 3 = Sig -
Pin 4 = Exc -

Order information

For detailed ordering information, see page 2.

Compressive force sensor XCH-171-M30

For M30 threaded rods



Specifications

Performance

Load range	0...100.0 kN
Sensitivity at full scale	$\Delta + 1.5 \text{ mV/V}$
Zero Point	-0.5 mV/V
Zero Point unmounted	$\pm 2 \% \text{ FS}$
Deviation output signal	$\pm 5 \% \text{ FS}$
Nonlinearity	$\leq 2.0 \% \text{ FS}$

Electrical data

Power supply	5...15 VDC
Output signal at full scale	$\Delta + 1.5 \text{ mV/V}$
Bridge resistance	700 ohms

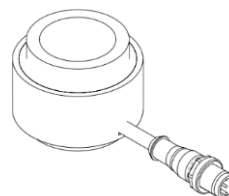
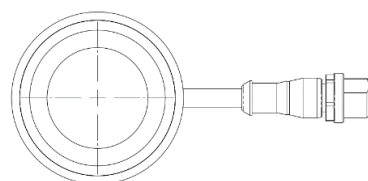
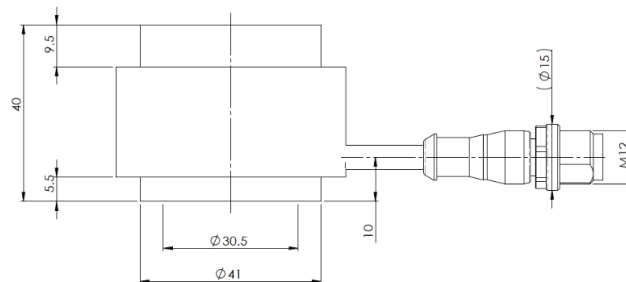
Mechanical data

Overload	26 kN
Electrical connection	Cable with USB connector (USB-1.0-/2.0-Typ-A)
Cable length	1 m

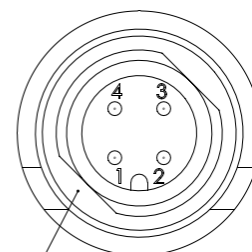
Environmental data

Storage temperature	-40...+70 °C
Ambient temperature	-10...+65 °C
Protection rate	IP 54

Dimensions



Pin Assignment



Pin 1 = Exc +
Pin 2 = Sig +
Pin 3 = Sig -
Pin 4 = Exc -

Order information

For detailed ordering information, see page 2.