Special features

- For general purpose
- Strain gauge measuring system
- Tension / Compression
- Made of high-grade stainless steel or aluminium (0.05 – 5 kN)
- Small dimensions
- It can be delivered with a built-in signal conditioner – see **EMS21**

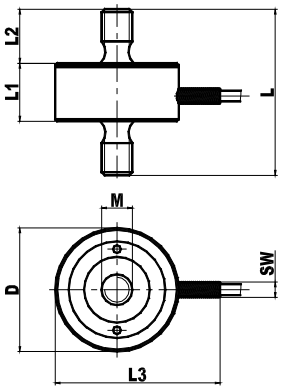
Specifications

Parameter	Value			Unit
Rated capacity (F_n)	0.05	0.1, 0.2, 0.5	1, 2, 5	kN
Overload - *Safe* - *Ultimate* - *Permanent static load* [1] - *Dynamic load* [1]		130 150 75 50		 % F_n % F_n % F_n % F_n
Nominal sensitivity (C_n)		1.0 ± 2 %	1.5 ± 2 %	mV/V
Zero balance		2		% F.S.
Max error - *Non-linearity* - *Hysteresis* - *Creep (30 min)*	0.5 0.5 0.2	0.25 0.25 0.1		 % F.S. % F.S. % F.S.
Temperature effect - *On zero* - *On output*		0.1 0.1		 % F.S./10 °C % F.S./10 °C
Bridge resistance - *Input* - *Output*		395 ± 20 350 ± 10	375 ± 20 350 ± 10	 Ω Ω
Insulation Impedance		> 500		MΩ
Excitation [2] - *Recommended* - *Maximal*		5 … 7 10	7 … 10 15	 V V
Temperature range - *Compensated* - *Operating*		0 ... + 50 – 10 ... + 70		 °C °C
Protection		IP54		
Cable - *Type* - *Length*		LifYDY 4 x 0.05 2		 m
Construction		Aluminium	Stainless steel	

Notes:
1 Recommended value
2 DC or AC Voltage

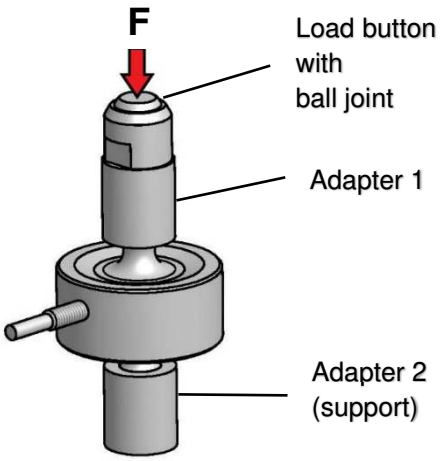
2022-12

Outline dimensions

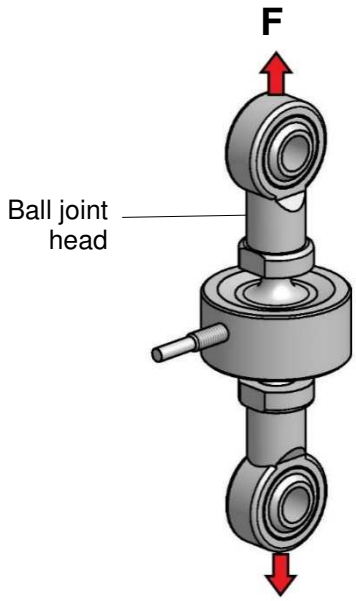


Rated capacity F_n (kN)	D mm	M mm	L mm	L1 mm	L2 mm	L3 mm	SW mm	Mass kg	Deflection, @ F_n (µm)
0.05	18	M4	24	10	7	24	Φ 3	0.04	35
0.1, 0.2, 0.5	28	M6	34	14	10	38	Φ 4	0.05	35
1, 2, 5	32	M8	43	15	14	42	Φ 4	0.1	45

Recommended installation



Direction of load COPRESSION

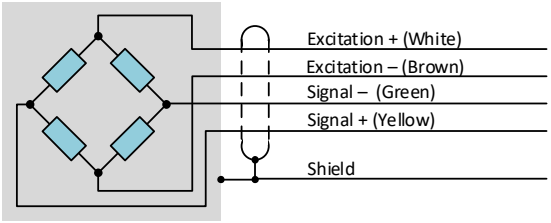


Direction of load TENSION

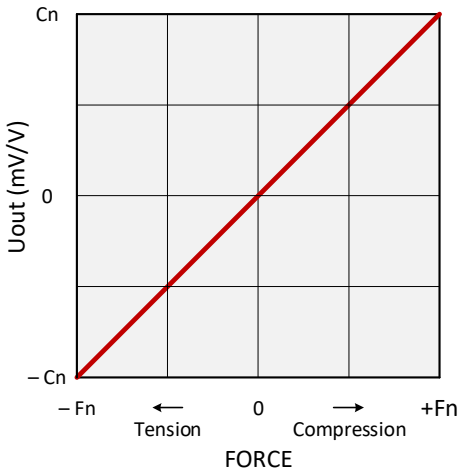
Installation notes:

- The force must only act in the axis of the sensor.
- The sensor must be built in such a way that the force acts only through the threads. Adapter or the ball joint head must not touch the sensor body itself.

Sensor wiring colour code



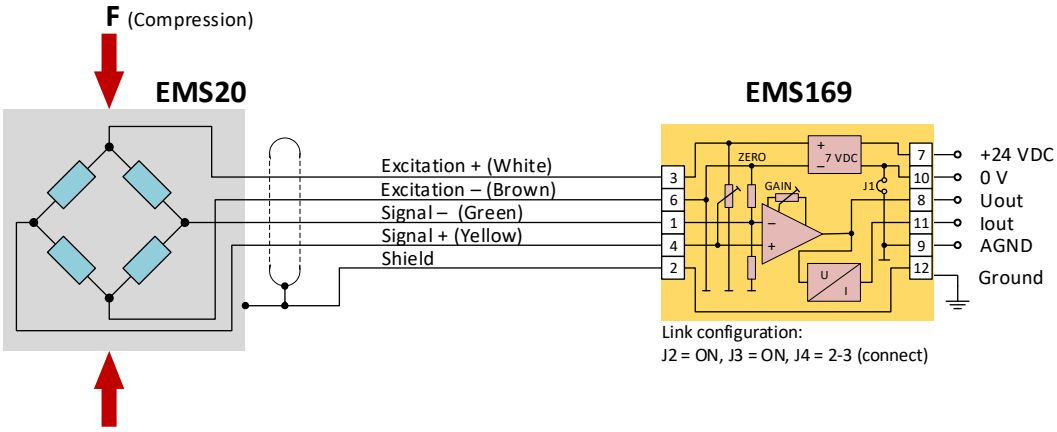
Sensor output characteristic



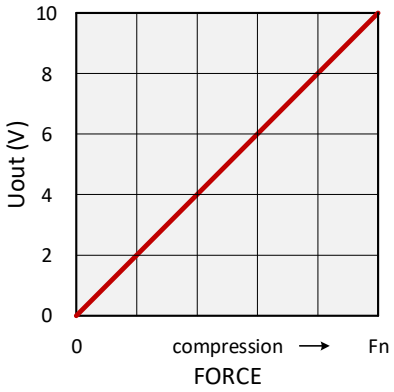
Wiring diagram, connection example to EMS169 signal conditioner

1. Load direction COMPRESSION, signal conditioner output positive (0 ... 10 V, 4 ... 20 mA)

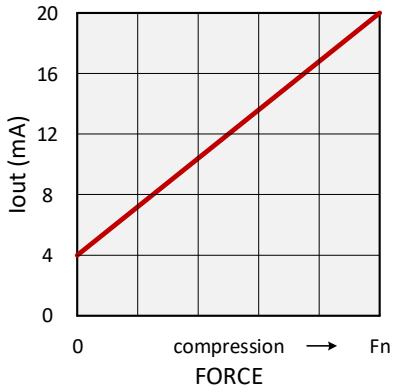
Wiring diagram



Output characteristics



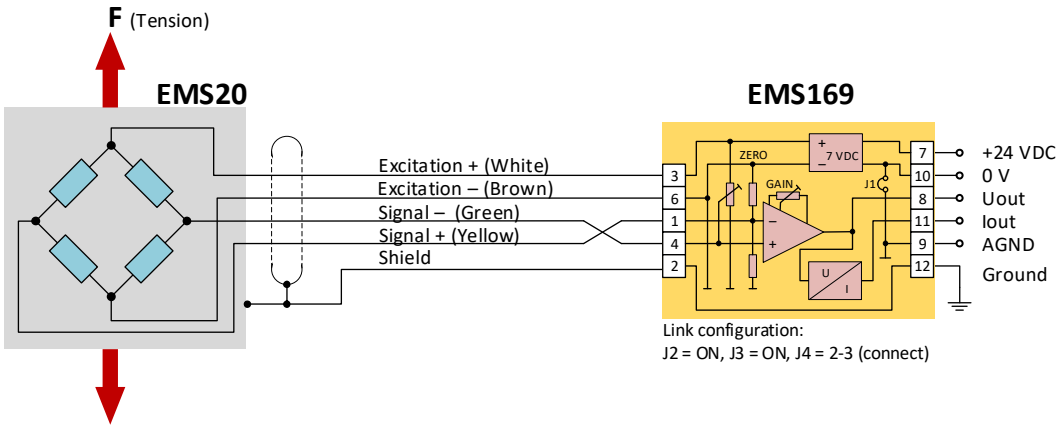
Uout vs. F



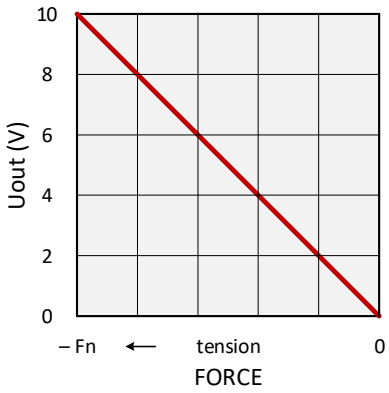
Iout vs. F

2. Load direction TENSION, signal conditioner output positive (0 ... 10 V, 4 ... 20 mA)

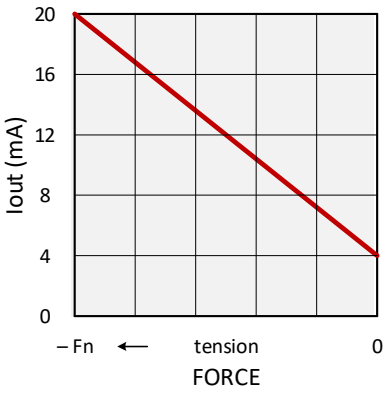
Wiring diagram



Output characteristics



Uout vs. F

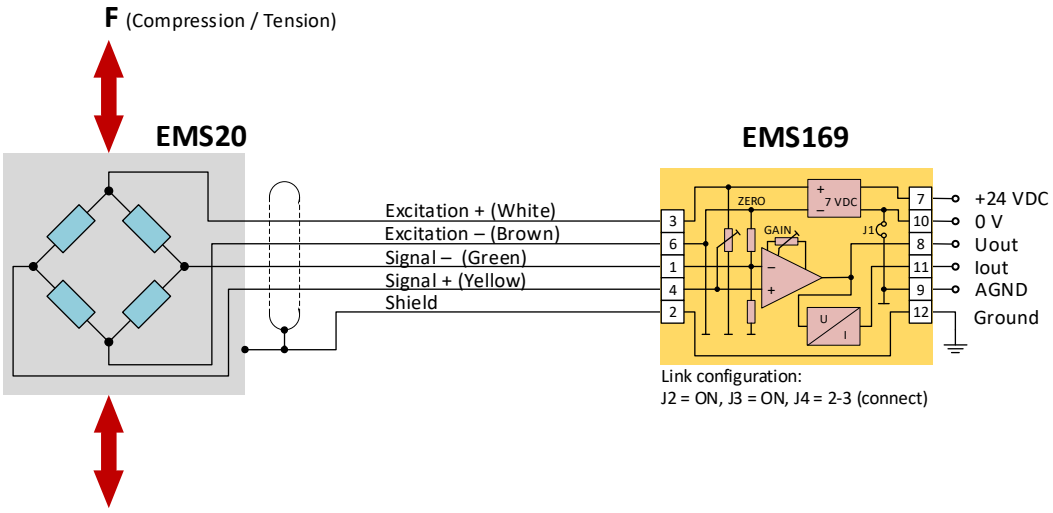


Iout vs. F

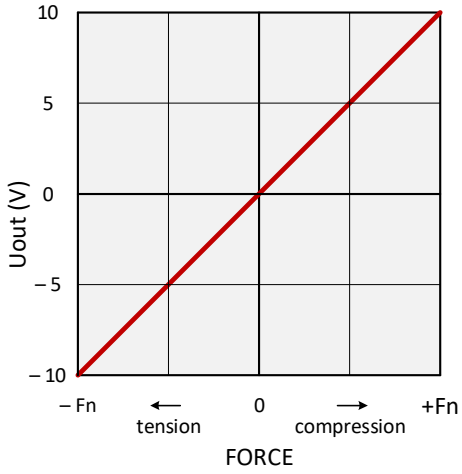
3. Load direction COMPRESSION and TENSION, signal conditioner output bipolar (± 10 V)

Note: The current output does not work in the negative range.

Wiring diagram



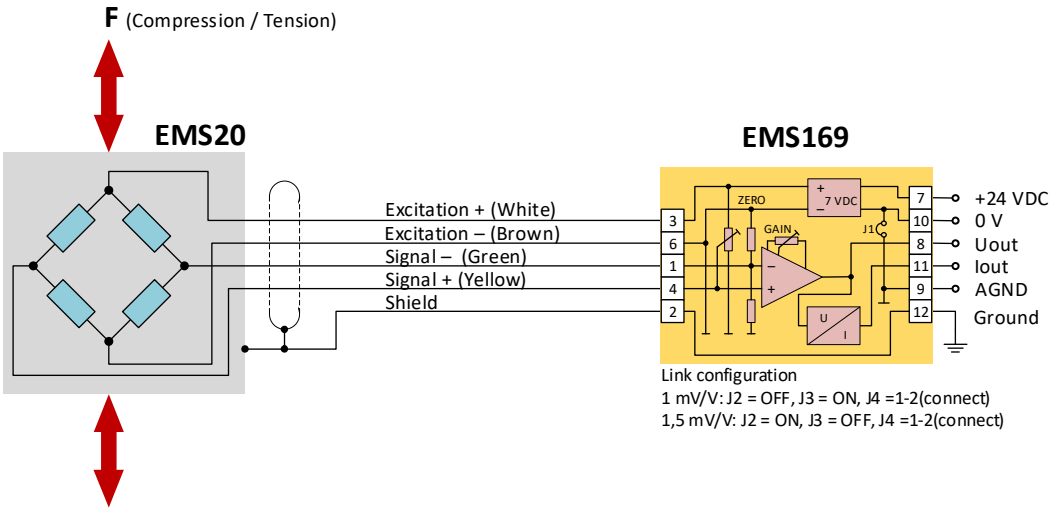
Output characteristic



Uout vs. F

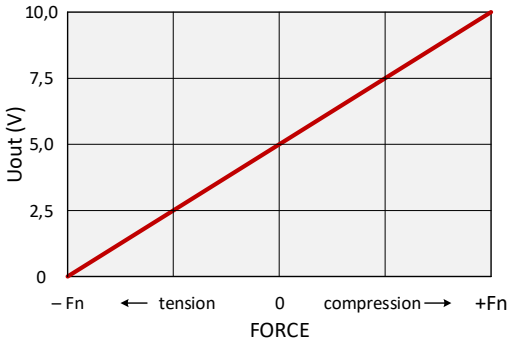
4. Load direction COMPRESSION and TENSION, signal conditioner output positive (5 ± 5 V, 12 ± 8 mA)

Wiring diagram

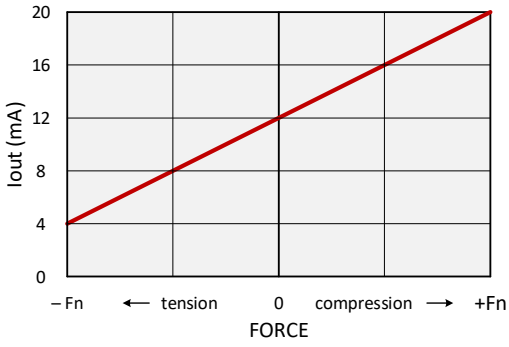


Link configuration
1 mV/V: J2 = OFF, J3 = ON, J4 =1-2(connect)
1,5 mV/V: J2 = ON, J3 = OFF, J4 =1-2(connect)

Output characteristics

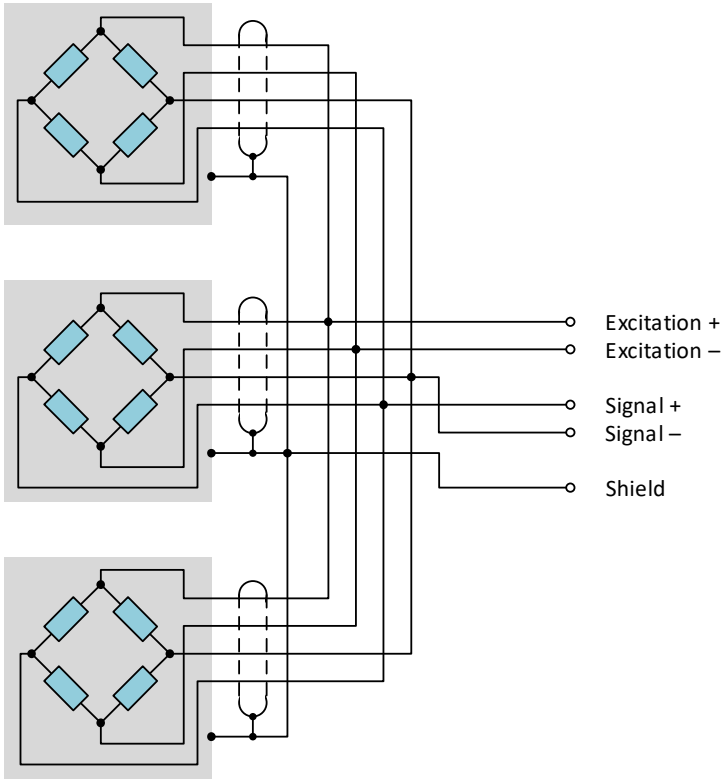


Uout vs. F



Iout vs. F

Parallel wiring diagram



Legal information

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