

Special features

- Precision „S“ beam sensor type
- Compression / Tension
- All stainless steel construction (Aluminum @ 0.2 and 0.5 kN)
- Possible to built in signal conditioner – see [EMS111](#)

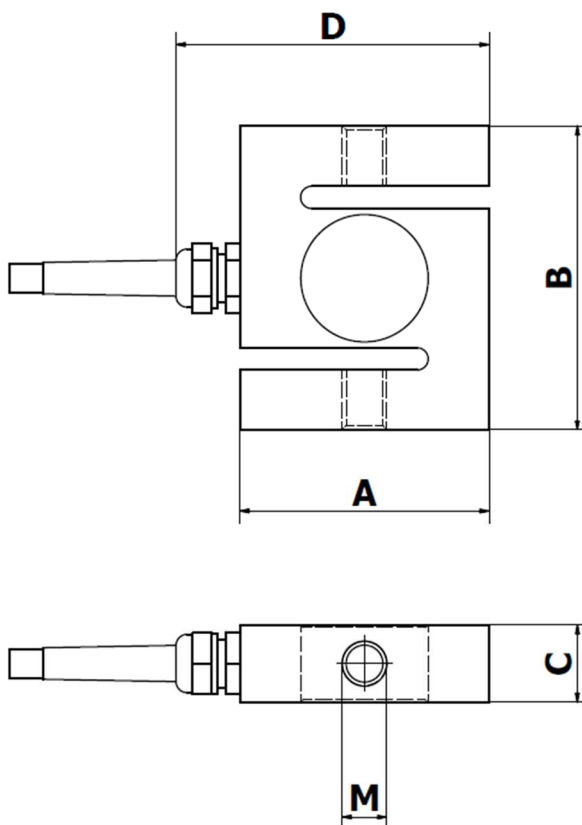
Specifications

Rated capacity (F _n)	0.2, 0.5	1, 2, 5, 10	kN
Overload			
- Safe	120		% F _n
- Ultimate	150		% F _n
- Permanent static load ¹	75		% F _n
- Dynamic load ¹	50		% F _n
Nominal sensitivity (C _n = F.S.)	2 (1.96 ... 2.04)		mV/V
Zero balance	± 0.04		mV/V
Max error			
- Non-linearity	0.1		% F.S.
- Hysteresis	0.1		% F.S.
- Creep (30 min)	0.05		% F.S.
Temperature effect			
- On zero	0.05		% F.S./ 10 °C
- On output	0.05		% F.S./ 10 °C
Bridge resistance			
- Input	390 ± 20	375 ± 20	Ω
- Output	350 ± 10	350 ± 10	Ω
Insulation Impedance	> 500		MΩ
Excitation ²			
- Recommended	5 ... 10		V
- Maximal	15		V
Temperature range			
- Compensated	0 ... + 50		°C
- Operating	- 10 ... + 70		°C
Protection	IP54		
Cable			
- Type	LiYCY 4 x 0.05	LiYCY 4 x 0.14	
- Length	2	2	m
Body material	Aluminum	Stainless Steel	

Notes:

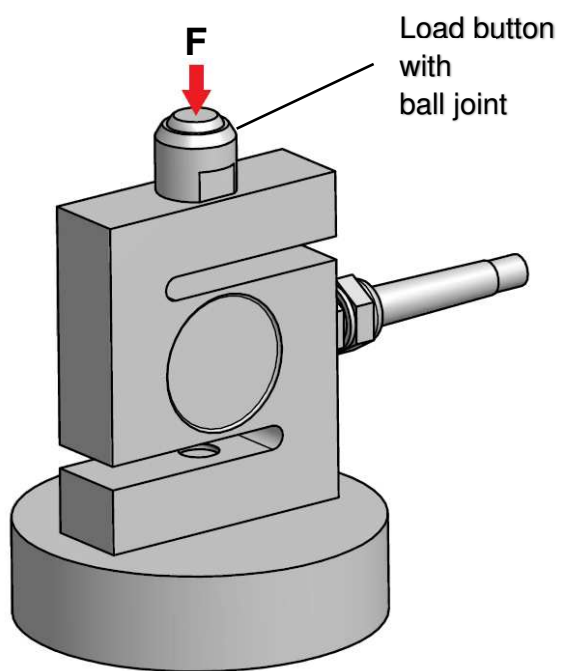
- 1 Recommended value
2 DC or AC Voltage

Outline dimensions

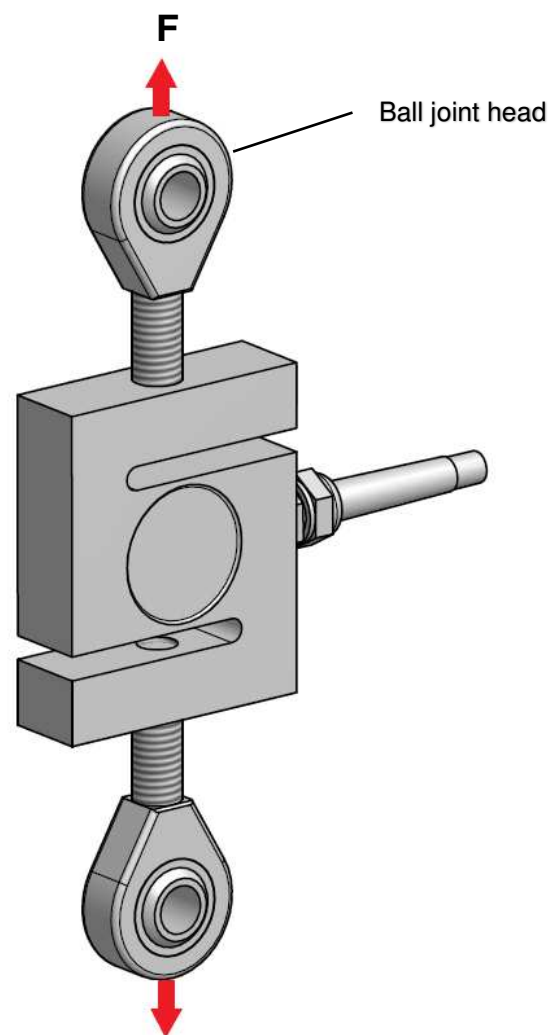


Rated capacity F_n , kN	Dimensions in mm					Weight kg	Deflection @ F_n , μm
	A	B	C	D	M		
0.2	45	55	10	55	M6	0.07	0.10
0.5	45	55	14	55	M6	0.10	0.17
1	45	55	14	56	M8	0.30	0.12
2	45	55	18	56	M8	0.38	0.14
5	45	55	24	56	M10	0.50	0.24
10	45	55	20	56	M10	X	0.40

Recommended installation



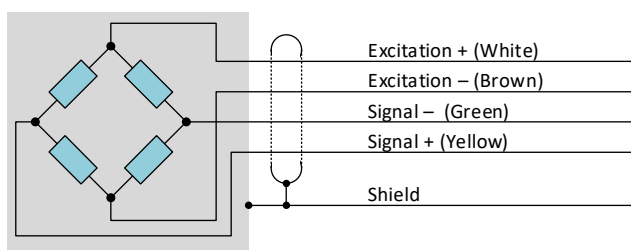
COMPRESSION Direction



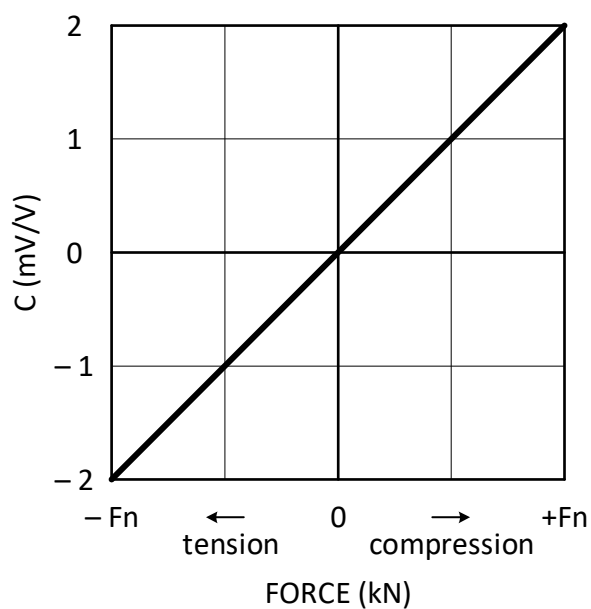
TENSION Direction

Notice: Apply the force exactly in the axis of the sensor.

Sensor wiring diagram



Sensor output characteristic



C vs. Force

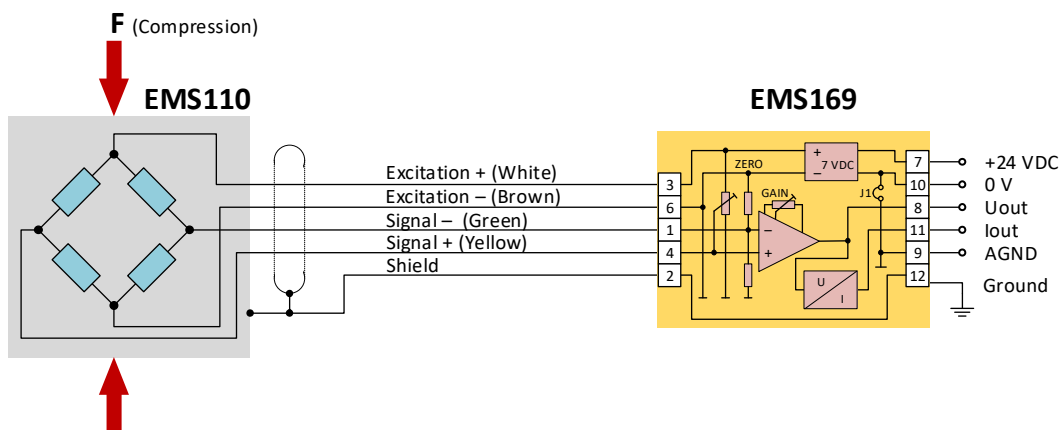
Wiring diagram, connection example to EMS169 signal conditioner

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

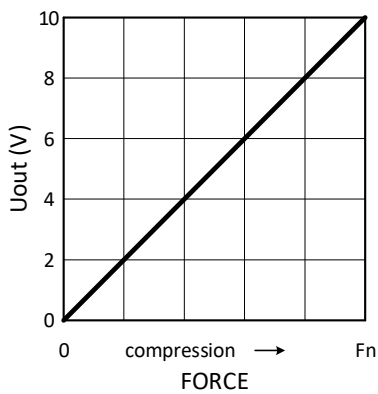
Links setting

J2 = ON, J3 = ON, J4 = 2 – 3 (connected)

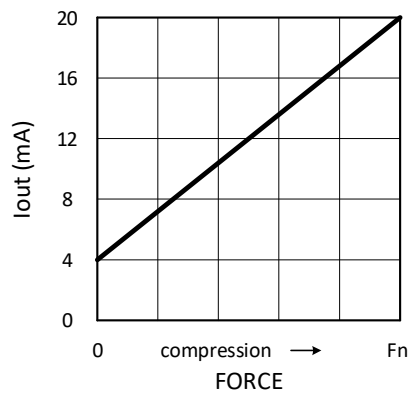
Wiring diagram



System output characteristic



Uout vs. Force



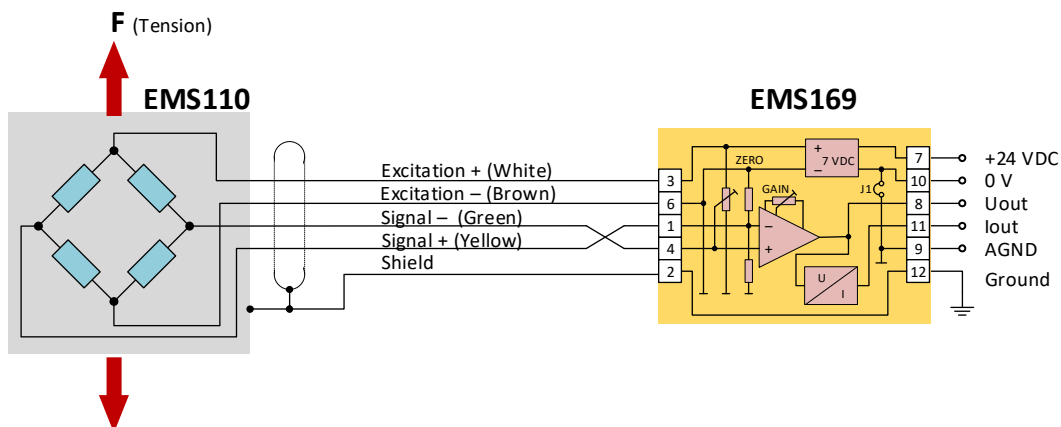
Iout vs. Force

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

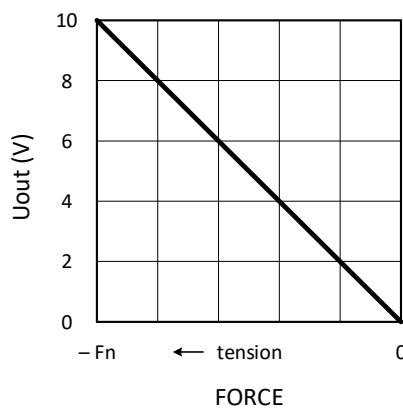
Link configuration of signal conditioner EMS169

J2 = ON, J3 = ON, J4 = 2 – 3 (link)

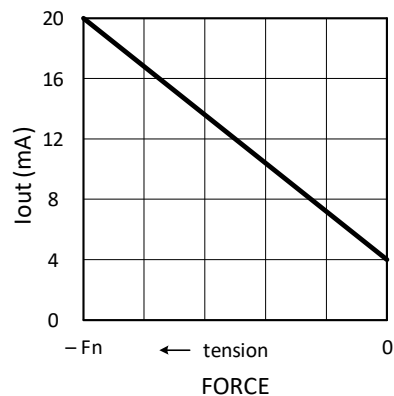
Wiring diagram



System output characteristic



Uout vs. Force



Iout vs. Force

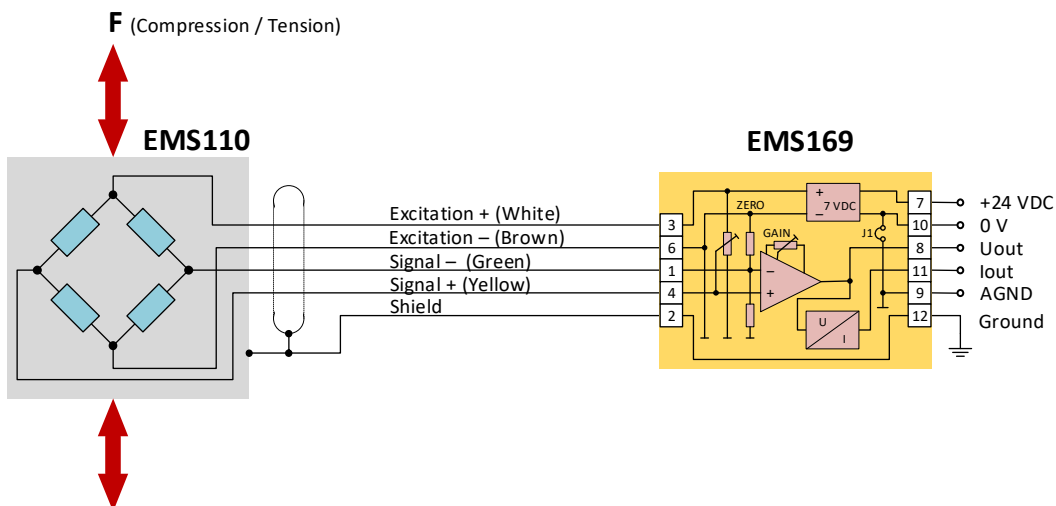
3. Load COMPRESSION and TENSION, signal conditioner output bipolar (- 10 V ... 0 ... + 10 V)

Notice: current output does not work in the negative range.

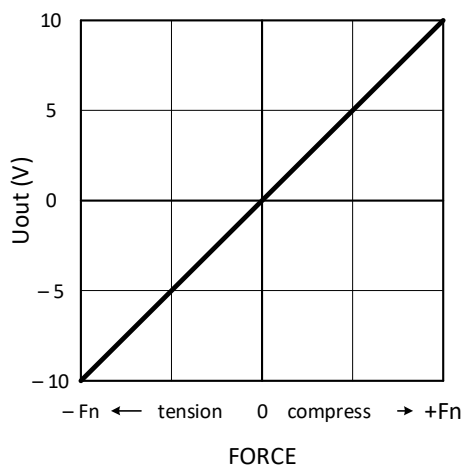
Link configuration of signal conditioner EMS169

J2 = ON, J3 = ON, J4 = 2 - 3 (link)

Wiring diagram



System output characteristic



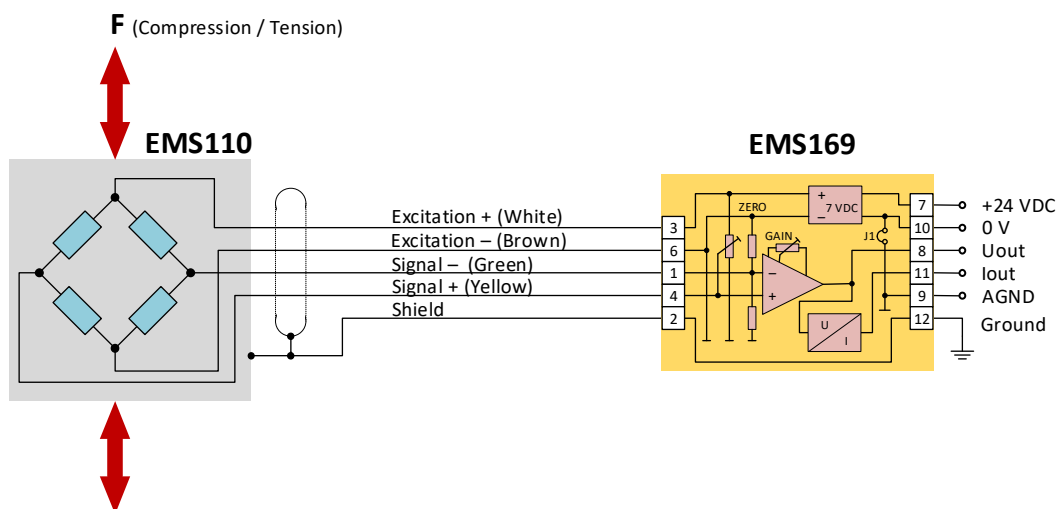
Uout vs. Force

4. Load compression / tension, signal conditioner output positive (0...+10 V, 4...20 mA)

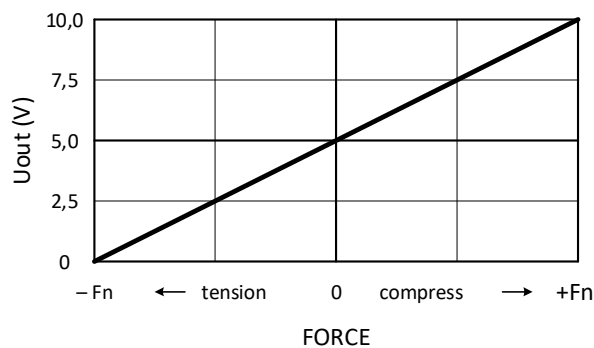
Link configuration of signal conditioner EMS169

J2 = ON, J3 = OFF, J4 = 1 – 2 (link)

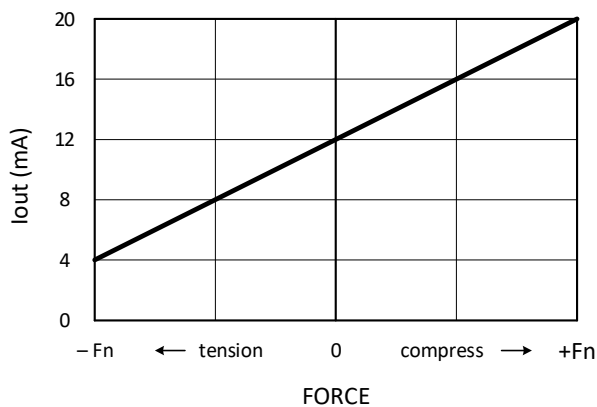
Wiring diagram



System output characteristic



Uout vs. Force



Iout vs. Force

Parallel wiring diagram

