Special features

- For general purpose
- Strain gauge measuring system
- Tension / Compression
- Made of high-grade stainless steel or aluminium (0.1 – 0.5 kN)
- Small dimensions
- Application:
  - Industry
  - Testing machines
  - Laboratory

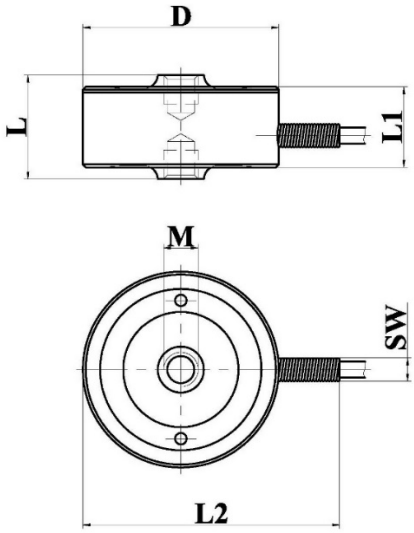
Specifications

Rated capacity (F_n)	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)	 0.25 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 ± 10 % 350 ± 5 %	 380 ± 10 % 350 ± 5 %	 Ω Ω
Insulation Impedance	> 5000		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		
Construction	Aluminium	Steel	
Cable - *Type* - *Length*	 LifYDY 4 x 0.05 2		 m

Notes:
1 Recommended value
2 DC or AC Voltage

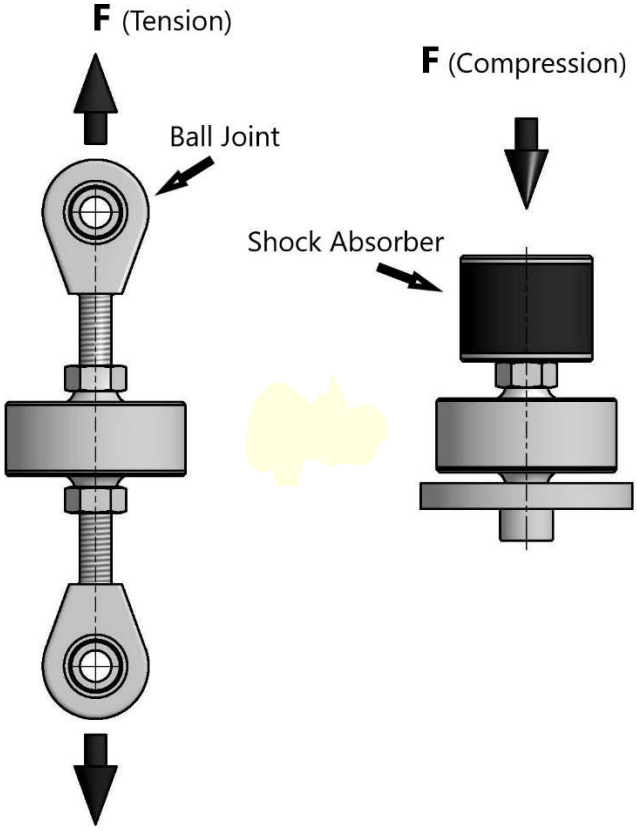
2020-07

Outline dimensions

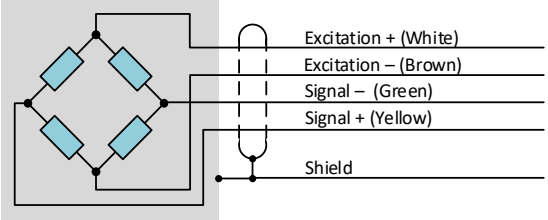


Rated capacity F_n (kN)	D mm	M mm	L mm	L1 mm	L2 mm	SW mm	Mass kg	Deflection, @ F_n (μm)
0.1, 0.2, 0.5	34	M6	18	14	44	Φ 4	0.05	40
1, 2, 5	38	M8	22	18	48	Φ 4	0.13	45

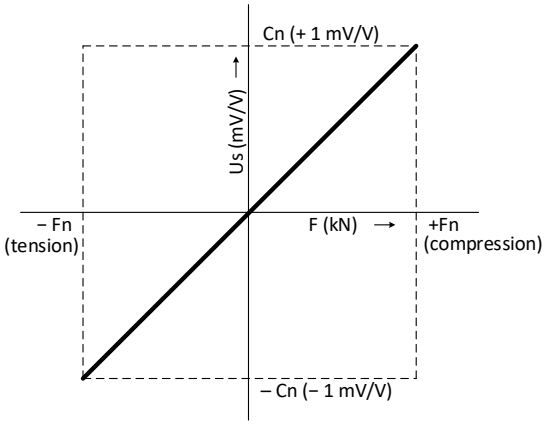
Recommended installation



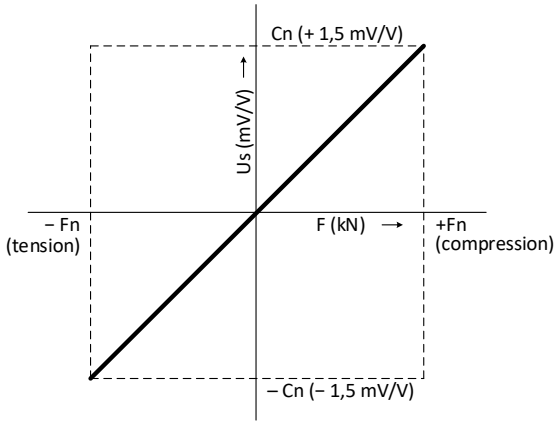
Sensor wiring colour code



Sensor output characteristic



Fn (kN): 0.1, 0.2, 0.5



Fn (kN): 1, 2, 5

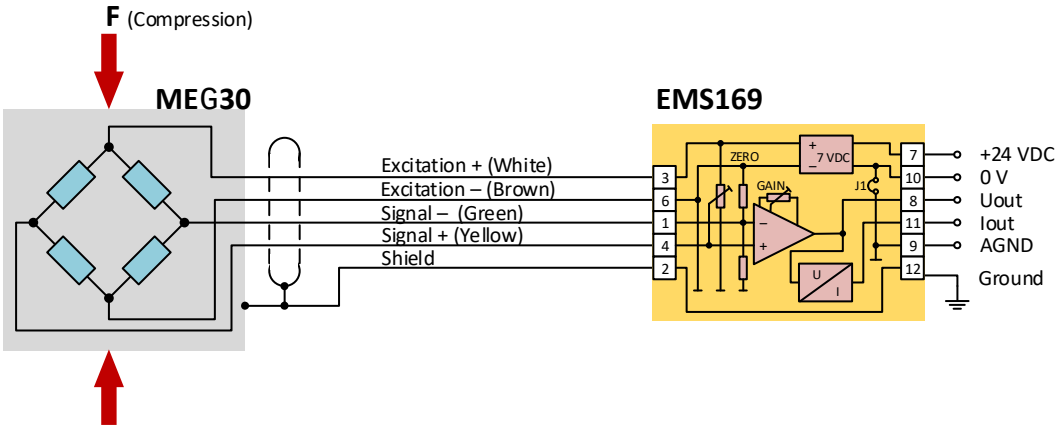
Wiring diagrams, connection examples to EMS169 signal conditioner

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

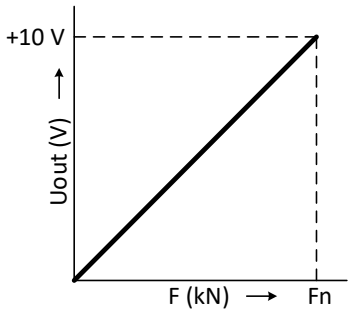
Links setting

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

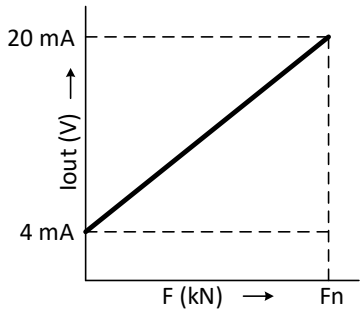
Wiring diagram



System output characteristic



Uout vs. F



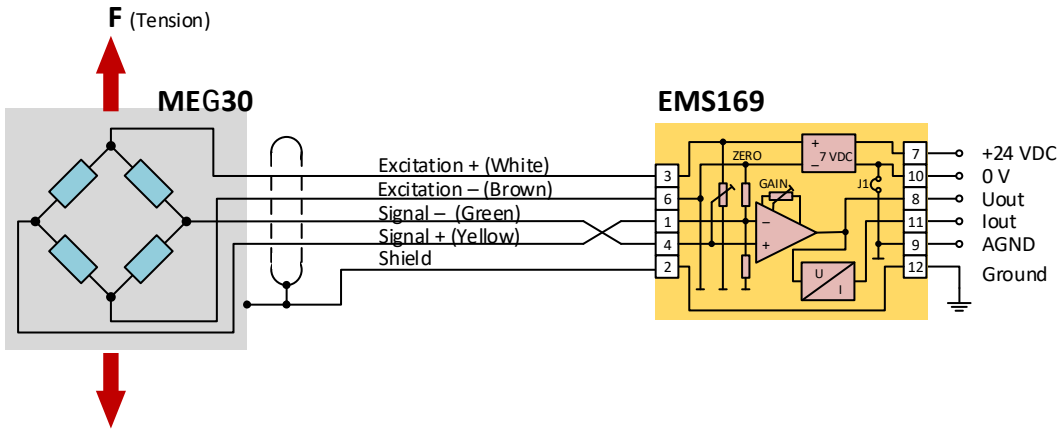
Iout vs. F

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

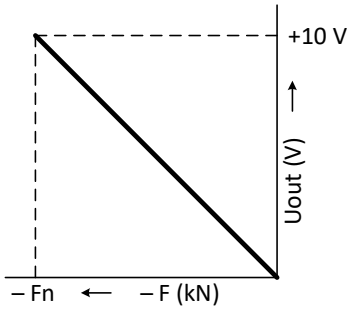
Links setting

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

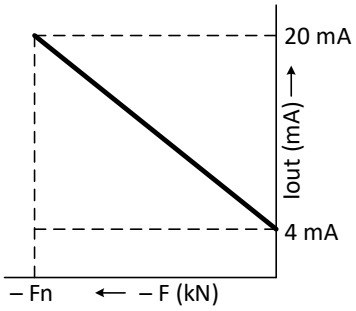
Wiring diagram



System output characteristic



Uout vs. F



Iout vs. F

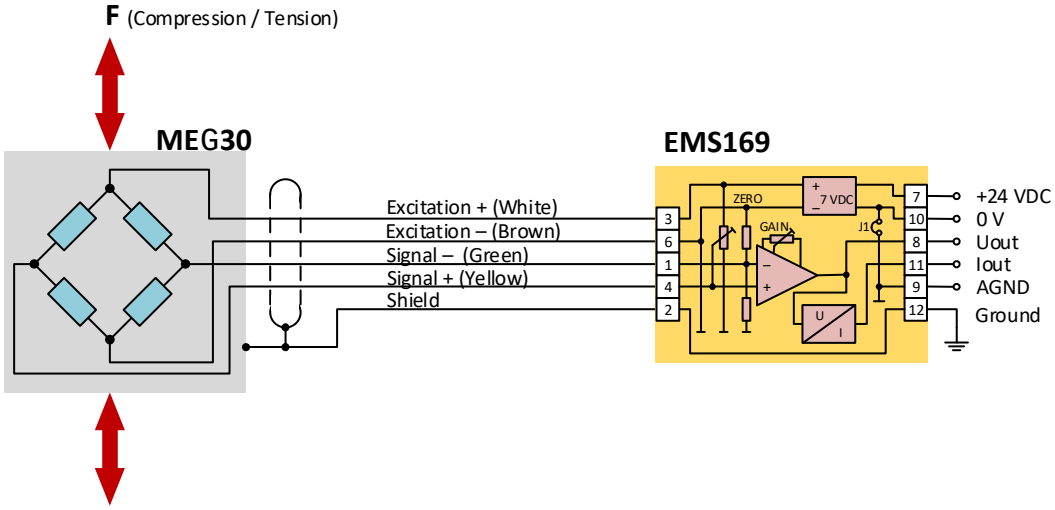
3. Load COMPRESSION and TENSION, signal conditioner output bipolar (– 10 V ... 0...+ 10 V)

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

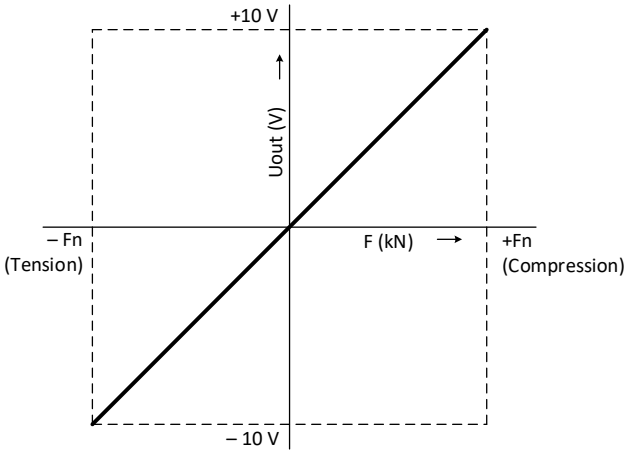
Links setting

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

Wiring diagram



System output characteristic



Uout vs. F

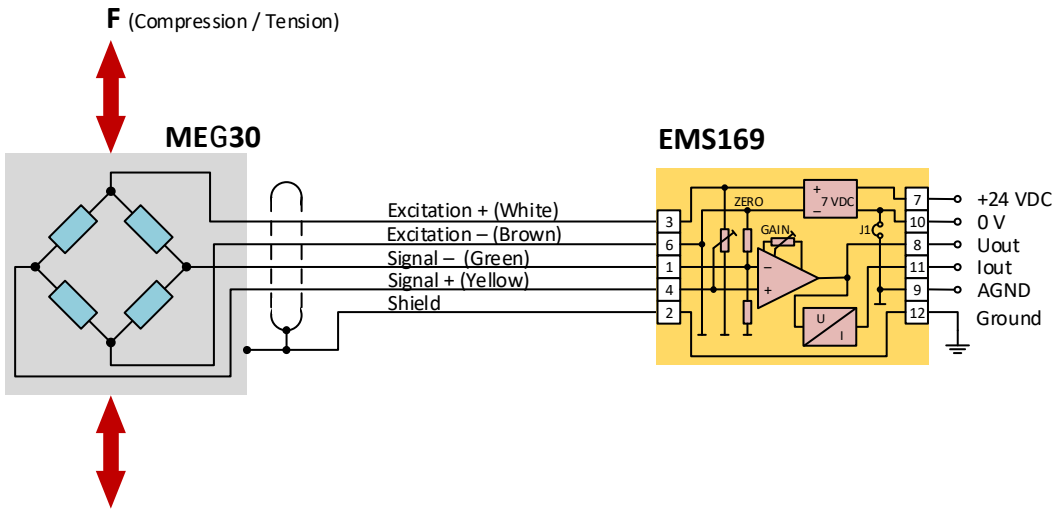
4. Load COMPRESSION and TENSION, signal conditioner output positive (0...+10 V, 4...20 mA)

Links setting

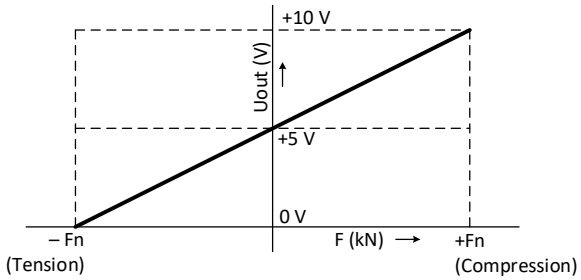
- Sensor Sensitivity 1,0 mV/V (Ranges 100, 200, 500 N)
  J2 = OFF, J3 = ON, J4 = 1 – 2 (connect)

- Sensor Sensitivity 1,5 mV/V (Ranges 1, 2, 5 kN)
  J2 = ON, J3 = OFF, J4 = 1 – 2 (connect)

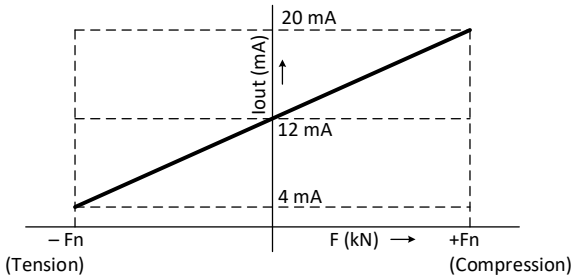
Wiring diagram



System output characteristic



Uout vs. F



Iout vs. F

Parallel wiring diagram