



### Special features

- For general purpose
- Strain gauge measuring system
- Tension / Compression
- Made of high-grade stainless steel
- Low profile
- With build-in amplifier  
(option – see datasheet EMS40e)

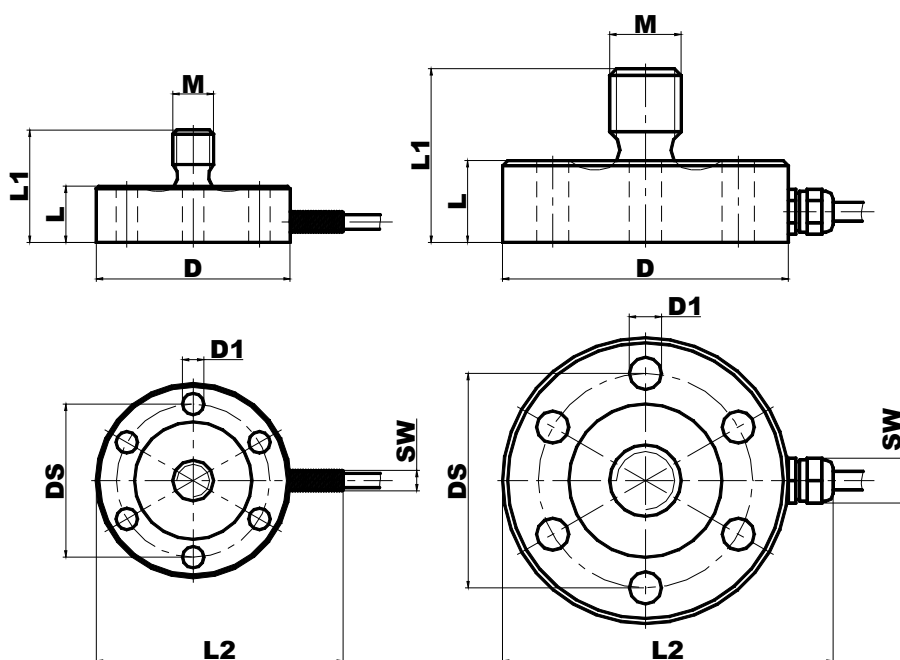
### Specifications

Rated capacity (F <sub>n</sub> )	1, 2, 5	10, 20, 50	kN
Overload			
- Safe	130		% F <sub>n</sub>
- Ultimate	150		% F <sub>n</sub>
- Permanent static load <sup>1</sup>	75		% F <sub>n</sub>
- Dynamic load <sup>1</sup>	50		% F <sub>n</sub>
Nominal sensitivity (C <sub>n</sub> )	1.5 ± 2 %		mV/V
Zero balance	2		% F.S.
Non-linearity	0.25	0.5	% F.S.
Hysteresis	0.25	0.5	% F.S.
Creep (30 min)	0.1		% F.S.
Temperature effect			
- On zero	0.1		% F.S./10 °C
- On output	0.1		% F.S./10 °C
Bridge resistance			
- Input	380 ± 10 %		Ω
- Output	350 ± 5 %		Ω
Insulation Impedance	> 5000		MΩ
Excitation <sup>2</sup>			
- Recommended	7 ... 10		V
- Maximal	15		V
Temperature range			
- Compensated	0 ... + 50		°C
- Operating	- 10 ... + 70		°C
Protection	IP54		
Cable			
- Type	LifYDY 4 x 0.05	LiYCY 4 x 0.14	
- Length	2	2	m

Notes:

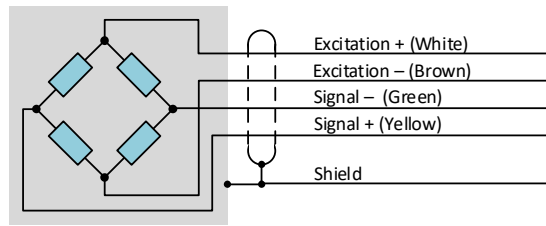
- 1 Recommended value  
2 DC or AC Voltage

## Outline dimensions

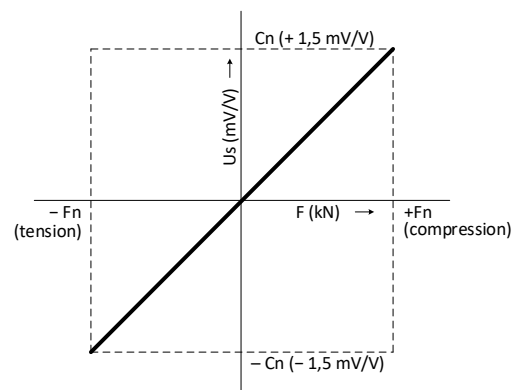


Rated capacity $F_n$ (kN)	D mm	D1 mm	L mm	L1 mm	L2 mm	M mm	SW mm	DS mm	Mass kg	Deflection, @ $F_n$ ( $\mu\text{m}$ )
1	38	6x4.2	11	22	46	M8	$\Phi 4$	30	0.07	30
2	38	6x4.2	11	22	46	M8	$\Phi 4$	30	0.07	30
5	38	6x4.2	11	22	46	M8	$\Phi 4$	30	0.08	35
10	50	6x5.2	14	29	58	M10	8	38	0.18	45
20	56	6x6.3	16	34	64	M14	8	42	0.27	50
50	68	6x8.4	19	42	76	M20	8	50	0.50	65

## Sensor wiring color code



## Sensor output characteristic

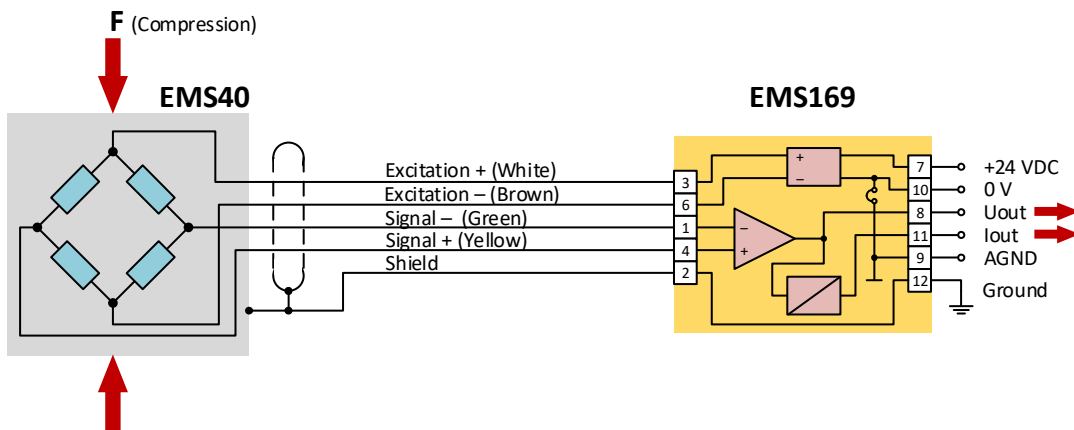


# Wiring diagram, connection example to EMS169 signal conditioner

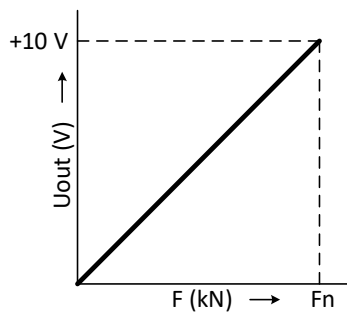
Note: The signal conditioner setting is described in the signal conditioner documentation

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

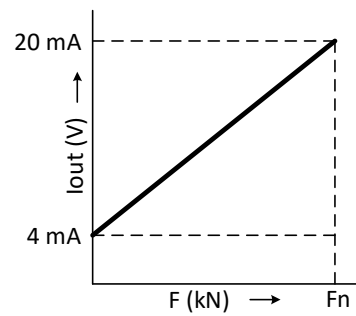
### Wiring diagram



### System output characteristic



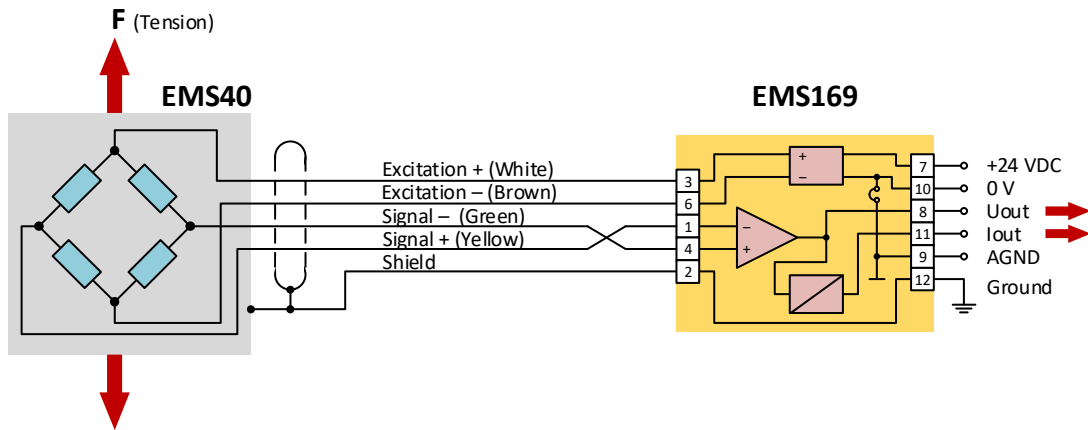
$U_{out}$  vs.  $F$



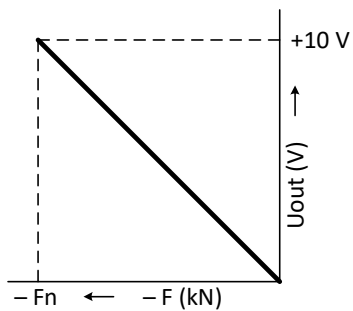
$I_{out}$  vs.  $F$

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

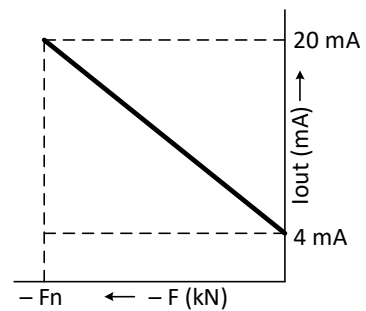
### Wiring diagram



### System output characteristic



$U_{out}$  vs.  $F$

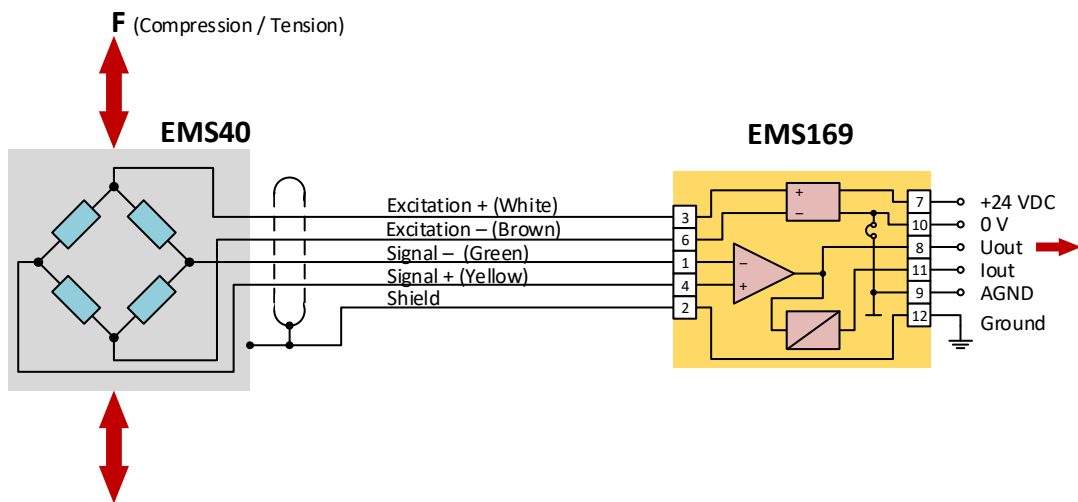


$I_{out}$  vs.  $F$

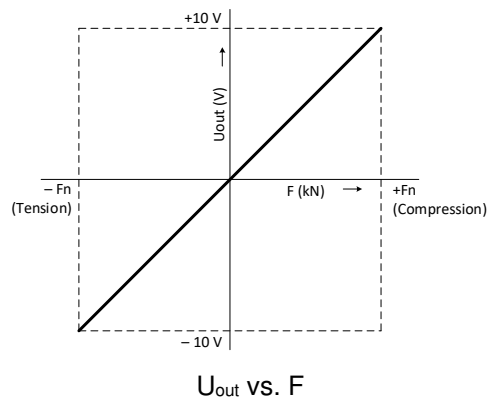
### 3. Load compression and tension, signal conditioner output bipolar (- 10 V ... 0...+ 10 V)

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

#### Wiring diagram

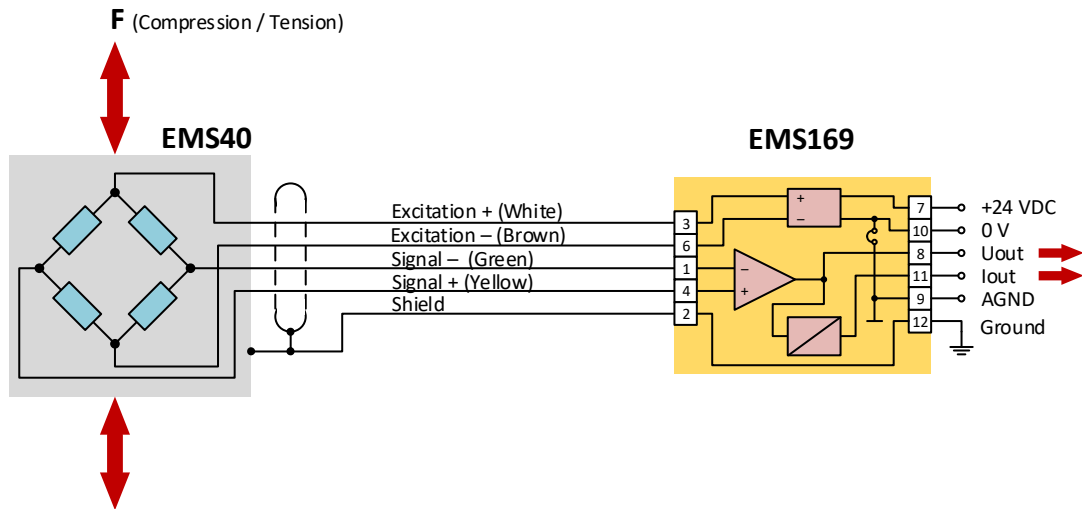


#### System output characteristic

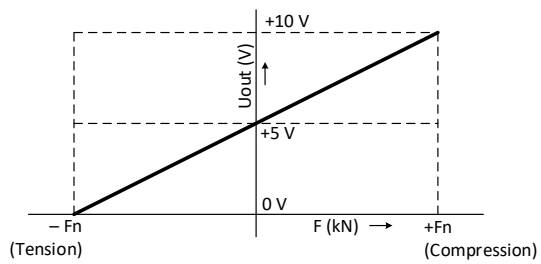


#### 4. Load compression and tension, signal conditioner output positive (0...+10 V, 4...20 mA)

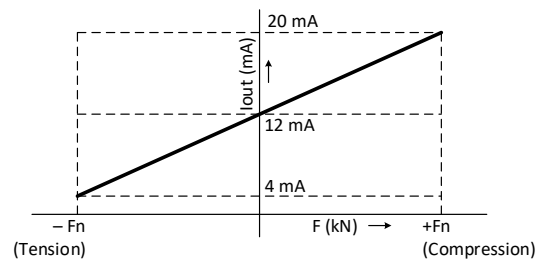
##### Wiring diagram



##### System output characteristic



$U_{out}$  vs.  $F$



$I_{out}$  vs.  $F$

# Parallel wiring diagram

