



### Special features

- For general purpose
- Strain gauge measuring system
- Tension / Compression
- Made of high-grade stainless steel
- Small dimensions

### Specifications

| Rated capacity (F <sub>n</sub> )            | 0.5, 1, 2, 5, 10 | 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> = F.S.) | 2 ± 1 %          | mV/V             |
| Zero balance                                | 2                | % F.S.           |
| 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                                     | 380 ± 10         | Ω                |
| - Output                                    | 350 ± 5          | Ω                |
| Insulation Impedance                        | > 500            | MΩ               |
| Excitation <sup>2</sup>                     |                  |                  |
| - Recommended                               | 7 ... 10         | V                |
| - Maximal                                   | 15               | V                |
| Temperature range                           |                  |                  |
| - Compensated                               | 0 ... + 50       | °C               |
| - Operating                                 | - 10 ... + 70    | °C               |
| Protection                                  | IP65             |                  |
| Cable                                       |                  |                  |
| - Type                                      | LiYCY 4 x 0.14   |                  |
| - Length                                    | 2                | m                |

Notes:

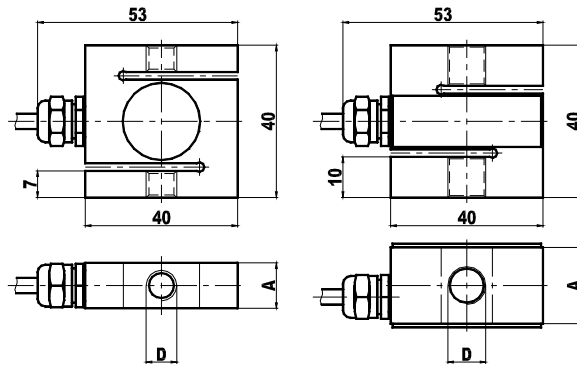
1 Recommended value

2 DC or AC Voltage

## Outline dimensions

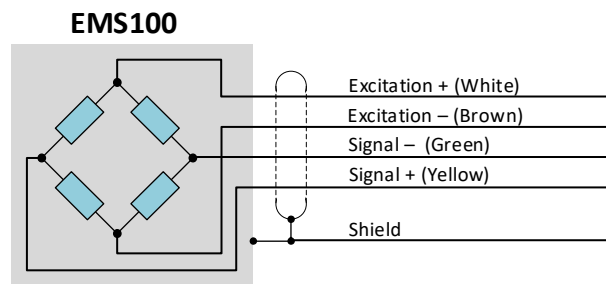
0.5, 1 kN

2, 5, 10 kN

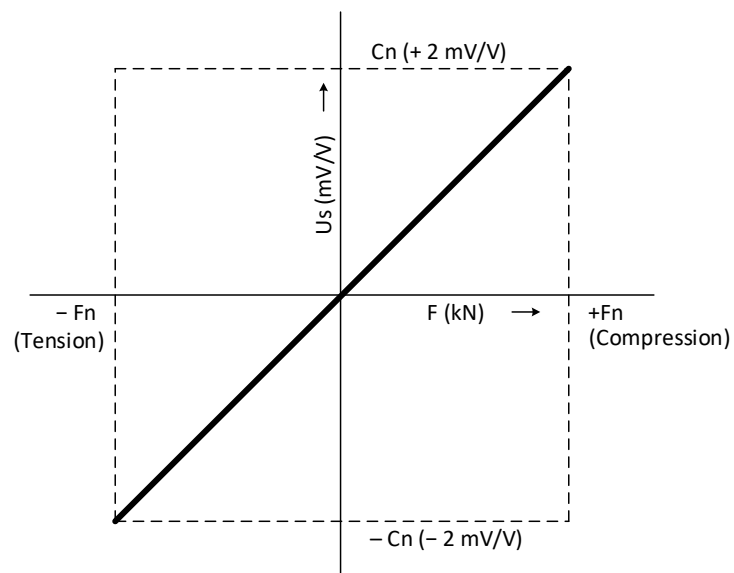


| Rated capacity<br>$F_n$ ( kN ) | A<br>mm | D<br>mm | Mass<br>kg | Deflection,<br>@ $F_n$ ( $\mu\text{m}$ ) |
|--------------------------------|---------|---------|------------|------------------------------------------|
| 0.5                            | 12      | M8      | 0.17       | 110                                      |
| 1                              | 18      | M10     | 0.20       | 130                                      |
| 2                              | 18      | M10     | 0.25       | 70                                       |
| 5                              | 20      | M12     | 0.27       | 130                                      |
| 10                             | 20      | M12     | 0.30       | 240                                      |

## Sensor wiring colour code



## Sensor output characteristic



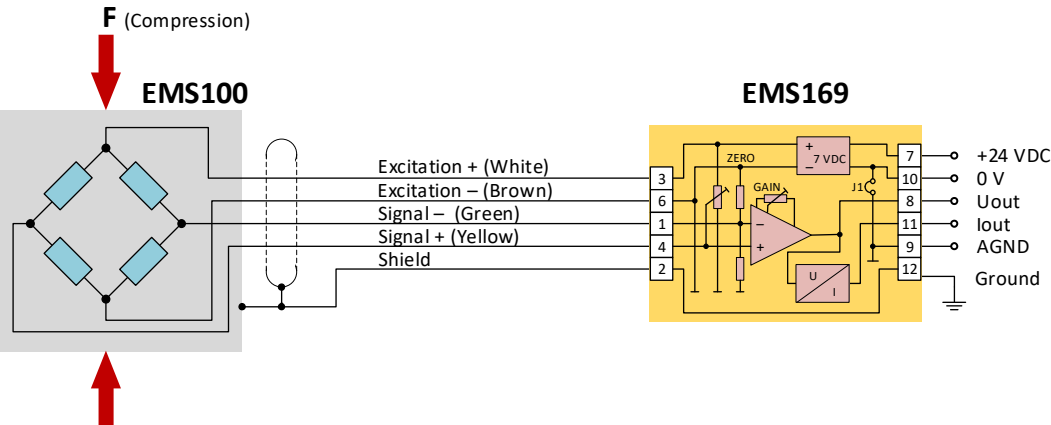
# Wiring diagrams, connection examples to EMS169 signal conditioner

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

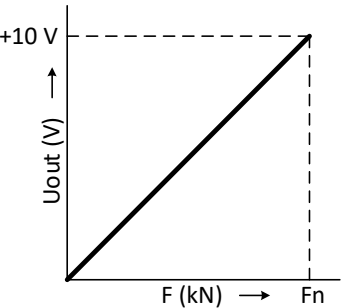
Links setting

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

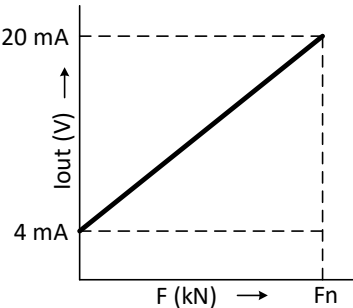
Wiring diagram



System output characteristic



Uout vs. F



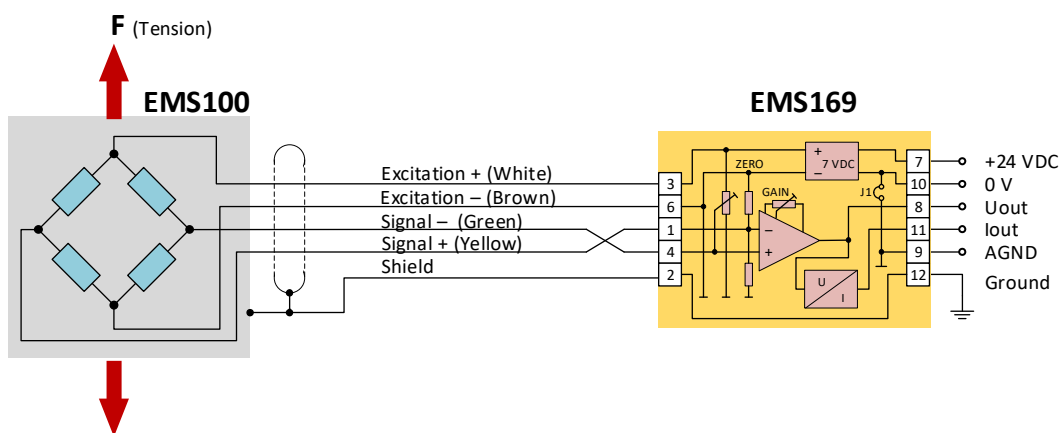
Iout vs. F

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

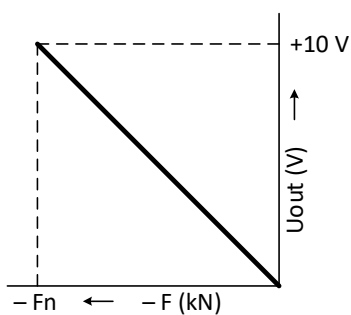
### Links setting

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

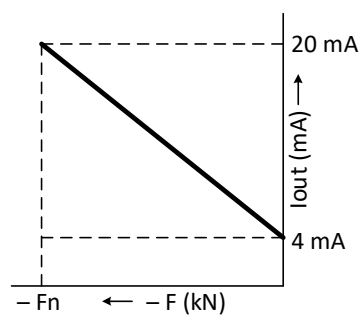
### Wiring diagram



### System output characteristic



$U_{out}$  vs.  $F$



$I_{out}$  vs.  $F$

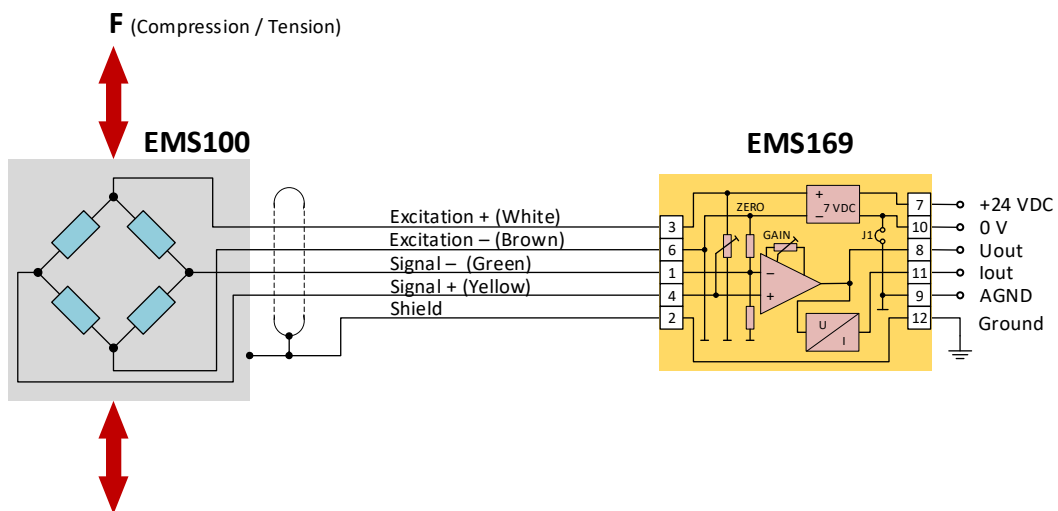
### 3. Load COMPRESSION and TENSION, signal conditioner output bipolar ( $-10\text{ V} \dots 0 \dots +10\text{ V}$ )

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

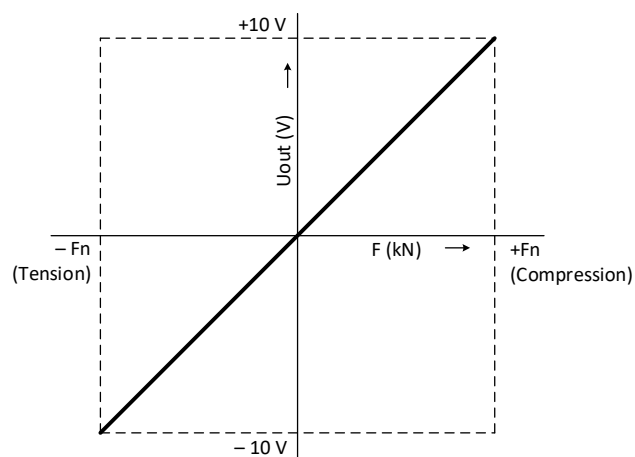
#### Links setting

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

#### Wiring diagram



#### System output characteristic



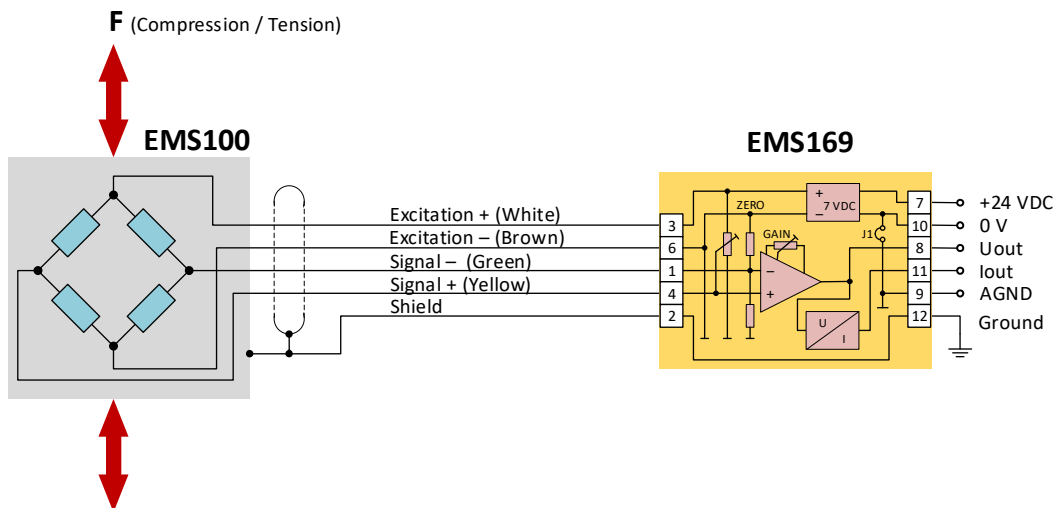
Uout vs. F

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

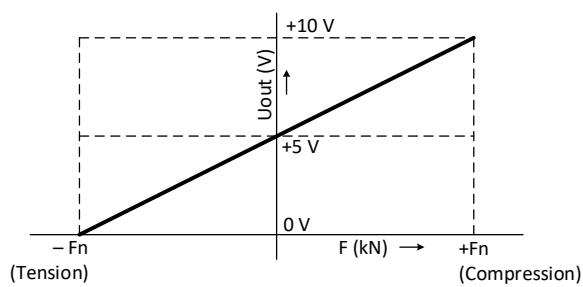
##### Links setting

J2 = ON, J3 = OFF, J4 = 1 – 2 (connected)

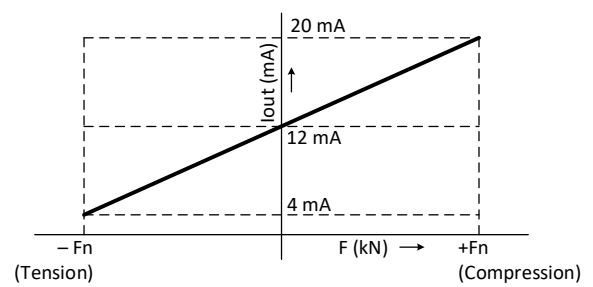
##### Wiring diagram



##### System output characteristic



$U_{out}$  vs.  $F$



$I_{out}$  vs.  $F$

## Parallel wiring diagram

