

Shackle load cell up to 15 t

Model F5302



WIKA data sheet FO 51.23

Applications

- Lifting and weighing

Special features

- Measuring ranges 0 ... 7.5 t, 0 ... 10 t, 0 ... 15 t
- Measuring tension of wire ropes
- Suitable for retrofitting, easy to install
- High shock and vibration resistance
- Protection class IP67



Shear beam load cell, model F5302

Description

Shackle load cells are designed for lifting and weighing in rugged or harsh environments. They provide a simple and reliable method of measuring a wide range of weights and loads. They consist of a shackle and a load pin.

They are easy to install because use don't differ from standard shackles. The dimensions of the shackle load cells correspond to the standard shackle sizes.

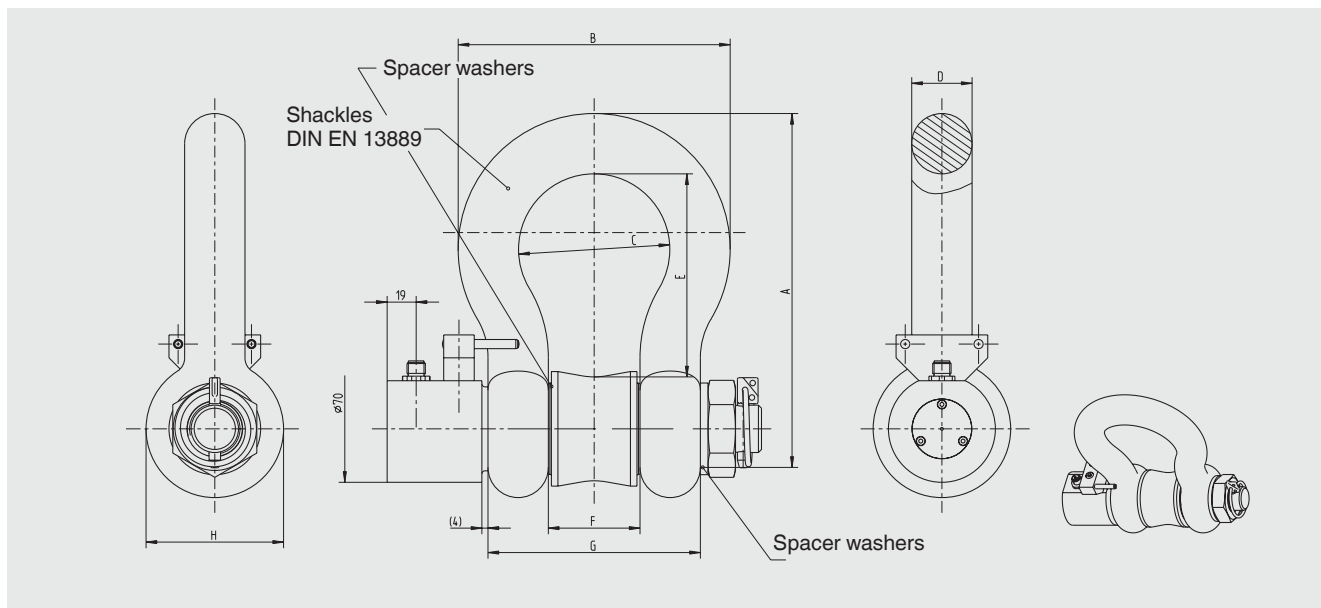
The load cells F5302 are made of high-strength, corrosion-resistant stainless steel 1.4542, which is particularly suitable for their application areas. The standard active current and voltage outputs are available as output signals (4 ... 20 mA / 0 ... 10 V).

Technical data in accordance with VDI/VDE/DKD 2638

| Model F5302 | |
|--|--|
| Nominal load F_{nom} t | 7,5 / 10 / 15 |
| Relative linearity error $d_{lin}^{1)}$ | $\leq \pm 1 \% F_{nom}$ |
| Relative creep, 30 min. | $\leq \pm 0.1 \% F_{nom}$ |
| Relative reversibility v | $\leq \pm 0.2 \% F_{nom}$ |
| Relative repeatability error in unchanged mounting position b_{rg} | $\pm 0.05 \% F_{nom}$ |
| Permissible oscillation stress acc. to DIN 50100 F_{rb} | $\pm 80 \% F_{nom}$ |
| Temperature effect on zero signal TK_0 | $\leq \pm 0.2 \% / 10 K$ |
| Temperature effect on characteristic value TK_C | $\leq \pm 0.2 \% / 10 K$ |
| Force limit F_L | $150 \% F_{nom}$ |
| Breaking force F_B | $> 300 \% F_{nom}$ |
| Material | Stainless steel |
| Rated temperature range $B_{T, nom}$ | -20 ... 80° C |
| Operating temperature range $B_{T, G}$ | -40 ... 80° C |
| Storage temperature range $B_{T, S}$ | -40 ... 85° C |
| Electrical connection | Circular connector M12 x 1, 4-pin |
| Output signal (rated output) C_{nom} | 4...20 mA - 2-wire DC 0...10 V - 3-wire |
| Current consumption | Current output 4...20 mA: signal current Voltage output: approx. 8 mA |
| Supply voltage | DC 10 ... 30 V for current output DC 14 ... 30 V for voltage output |
| Burden | $\leq (U_B - 6 V) / 0.024 A$ for current output $> 10 k\Omega$ for voltage output |
| Response time | $\leq 1 ms$ (within 10 ... 90 % F_{nom}) |
| Protection (acc. to IEC/EN 60529) | IP67 |
| Noise emission | In accordance with DIN EN 55011 |
| Noise immunity | In accordance with DIN EN 61326 |

1) Relative linearity error acc. to VDI/VDE/DKD 2638 chap. 3.2.6.

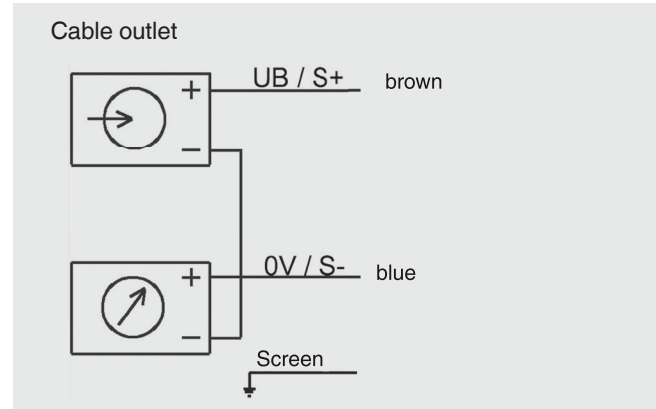
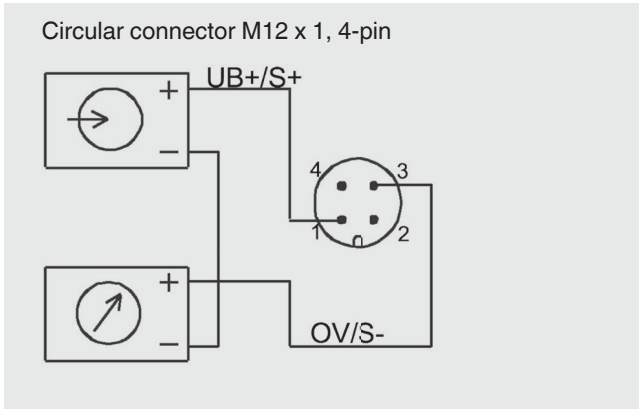
Dimensions in mm



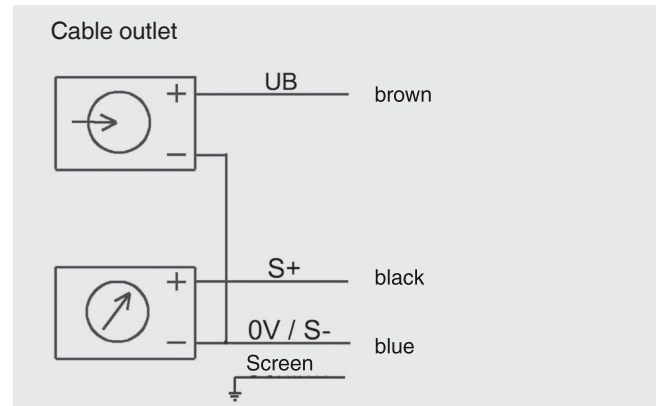
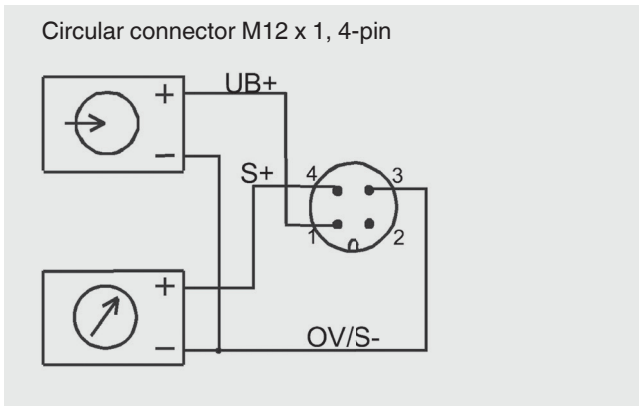
| Nominal load in t | Shakle carrying capacity (t) | A | B-max | C | D-max | E | F | G-max | H-max |
|-------------------|------------------------------|-----|-------|---------|-------|---------|--------|-------|-------|
| 7.5 | 13.5 | 240 | 170 | 92 ± 5 | 36.5 | 120 ± 5 | 57 ± 4 | 134 | 80 |
| 10 | 17 | 262 | 183 | 99 ± 5 | 39.5 | 134 ± 5 | 60 ± 4 | 143 | 89 |
| 15 | 25 | 314 | 226 | 126 ± 5 | 47.0 | 170 ± 5 | 74 ± 4 | 172 | 104 |

Pin assignment

Output signal 4 ... 20 mA, 2-wire



Output signal DC 0 ... 10 V, 3-wire



Pin configuration of connector M12 x 1, 4-pin/open cable outlet of the standard connection cable (STL 288, black)

| Analogue output | 4 ... 20 mA 2-wire | | 0 ... 10 V 3-wire | |
|-----------------------|--------------------|--------------|-------------------|--------------|
| Electrical connection | Pin | Cable outlet | Pin | Cable outlet |
| Supply UB+ | 1 | Brown | 1 | Brown |
| Supply 0V | 3 | Blue | 3 | Blue |
| Signal S+ | 1 | Brown | 4 | Black |
| Signal S- | 3 | Blue | 3 | Blue |
| Screen ⊕ | Thread M 12x1 | Screen | Thread M 12x1 | Screen |

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