Shackle load cell
Ranges up to 15 t
Model F5302

Applications

- Lifting and weighing

Features

- Measurement of dynamic or static tension ropes
- Thin film implants (instead of conventional bonded foil strain gauges)
- Corrosion-resistant stainless steel (load cell)
- Suitable for retrofitting, easy to install
- Protection class IP67

Shackle load cell, model F5302

Beschreibung

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. The shackle load cell consists of a shakle and a force transducer.

Thin film sensors, produced by very modern manufacturing technology, have all advantages of the conventional bonded foil strain gauges, but without having their substantial disadvantages (temperature drifts of the glue and creeping).

The shackle load cells are simple to install and are available in standard shackle sizes.

Measuring ranges

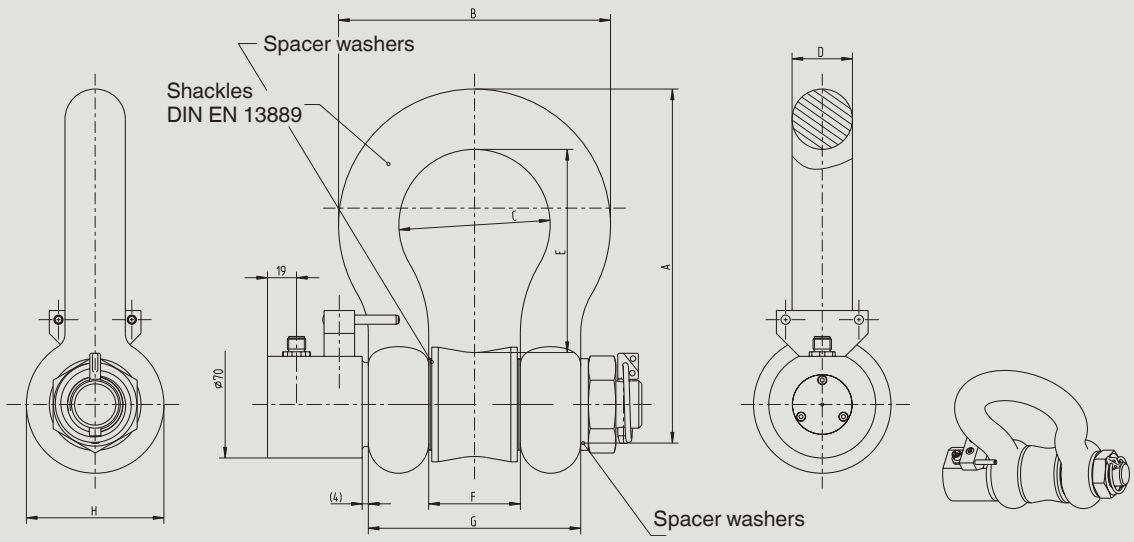
- 0 … 7.5 t
- 0 … 10 t
- 0 … 15 t
- Other measuring ranges on request

Technical data in accordance with VDI/VDE/DKD 2638

Model F5302	
Rated force F_{nom} in t	7.5/10/15
Force limit F_L	150 % F_{nom}
Breaking force F_B	> 300 % F_{nom}
Relative linearity error d_{lin}	≤ ±1 % of F.S.
Relative reversability error v	≤ ±0.2 % of F.S
Relative creep, 30 min. at F_{nom}	≤ ±0.1 % of F.S
Permissible oscillation stress F_{rb}	± 80 % F_{nom} in accordance with DIN 50100
Relative repeatability error in unchanged mounting position b_{rg}	< ±0.05 % of F.S.
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
Temperature effect on ■ characteristic value TK_c ■ zero signal TK_0	0.2 % F_{nom} /10K
Vibration resistance	20 g, 100 h, 50 ... 150 Hz in accordance with DIN EN 60068-2-6
Protection type	IP67 in accordance with EN/IEC 60529
Noise emission	In accordance with DIN EN 55011
Noise immunity	In accordance with DIN EN 61326-1 / DIN EN 61326-2-3
Electrical protection	Reverse voltage, overvoltage and short circuit protection
Analogue output	
■ Output signal (characteristic value) C	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	≤ (UB–6 V)/0.024 A for current output, > 10 kΩ for voltage output
■ Response time	≤ 1 ms (within 10 ... 90 % F_{nom})
Electrical connection	Circular connector M12 x 1, 4-pin
Material of measuring device	Stainless steel

of F.S. = of Full Scale

Dimensions in mm

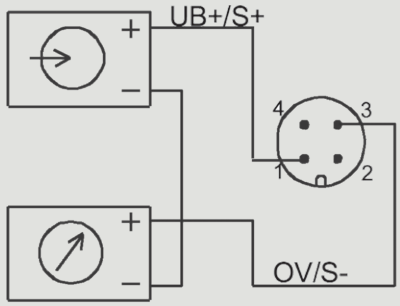


Nominal load in t	Shakle carrying capacity (t)	A	B-max	C	D-max	E	F	G-max	H-max
7.5	13.5	240	170	92 ± 5	36.5	120 ± 5	57 ± 4	134	80
10	17	262	183	99 ± 5	39.5	134 ± 5	60 ± 4	143	89
15	25	314	226	126 ± 5	47.0	170 ± 5	74 ± 4	172	104

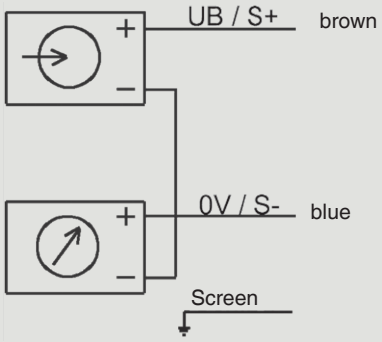
Electrical connection

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

Circular connector M12 x 1, 4-pin

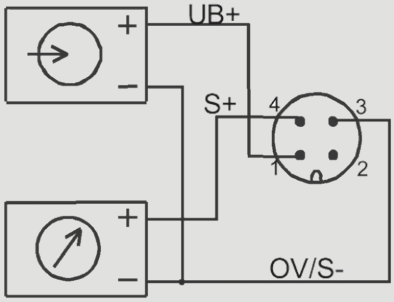


Cable outlet

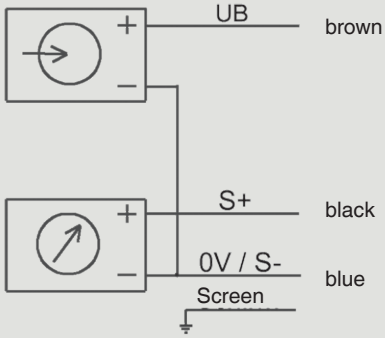


Output signal DC 0 ... 10 V, 3-wire

Circular connector M12 x 1, 4-pin



Cable outlet



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	
Electrial 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
⏚	Thread M 12x1	Screen	Thread M 12x1	Screen

WIKA Alexander Wiegand SE & Co. KG
Alexander-Wiegand-Straße 30
63911 Klingenberg/Germany
Tel. +49 9372 132-0
Fax +49 9372 132-406
info@wika.de
www.wika.de