Twistlock sensor up to 25 t
Model F9205

WIKA
Part of your business

Applications

- Container weighing directly on the spreader
- Determination of the load distribution in the container
- For Reachstacker, Straddle Carrier, Rubber Tired Gantry Crane (RTG), Ship to Shore Cranes (STS)

Special features

- Measuring ranges 0 ... 6 t up to 0 … 25 t (others possible)
- Relative linearity error 2 % F_{nom}
- Optimal for retrofitting with simple integration into the crane network through CANopen® and CAN SAE J1939 technologies
- High overload capacity, long service life of the measuring spring, large shock and vibration resistance
- Exceptionally space-saving, ideal for retrofitting onto the spreader

Twistlock sensor, model F9205

Description

The twistlock sensor is used for weight measurement on spreaders as well as for weighing of containers prior to loading.

For this, the non-measuring twistlocks in the spreader are replaced by measuring twistlocks. The model F9205 twistlock sensor can be installed in almost any conventional twistlock, and this then becomes a force transducer and allows a tensile force measurement and thus weight determination directly on the spreader.

As against the complete TWLMS twistlock system, the model F9205 twistlock sensor is delivered without twistlock. The installation is made by the customer.

The twistlock sensor is made of high-strength, corrosion-resistant 1.4542 stainless steel, whose properties are particularly suitable for the transducer's application area. As output signals, there is a choice of active current output (4 ... 20 mA) and CANopen® and CAN SAE J1939 digital outputs.

ICS Schneider Messtechnik GmbH
Briesestraße 59
D-16562 Hohen Neuendorf / OT Bergfelde
Tel.: 03303 / 50 40 66
Fax.: 03303 / 50 40 68
info@ics-schneider.de
www.ics-schneider.de

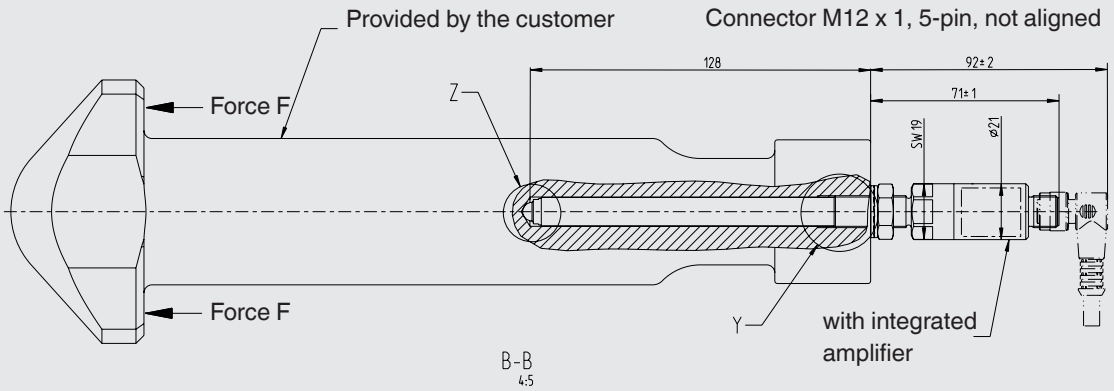
Specifications per VDI/VDE/DKD 2638

Model F9205	
Rated load F_{nom}	up to 25 t (others on request)
Relative linearity error d_{lin}	±2 % F_{nom}
Relative span in unchanged mounting situation b_{rg}	0.2 % F_{nom}
Temperature effect on the zero signal TK_0	≤ ±0.35 %/10 K
Temperature effect on the characteristic value TK_C	≤ ±0.2 %/10 K
Limit force F_L	150 % F_{nom}
Breaking force F_B	depending on twistlock
Rated displacement s_{nom}	< 0.1 mm
Material of the measuring body	1.4542 stainless steel, ultrasonically tested 3.1 material
Rated temperature range $B_{T, nom}$	-20 … +60 °C
Service temperature range $B_{T, G}$	-40 … +60 °C
Storage temperature range $B_{T, S}$	-40 … +60 °C
Electrical connection	Circular connector M12 x 1, 4-pin, / CANopen® 5-pin
Output signal (rated characteristic value) C_{nom}	4 … 20 mA, 3-wire CAN SAE J1939 CANopen®[1)]
Supply voltage	DC 10 … 30 V for current output DC 9 ... 36 V for CANopen®
Load	≤ (UB – 10 V)/0.024 A for current output
Response time	≤ 2 ms (within 10 % to 90 % F_{nom}) [2)]
Ingress protection (per IEC/EN 60529)	IP67
Vibration resistance **(to DIN EN 60068-2-6)** **(to DIN EN 60068-2-27)** **(to DIN EN 60068-2-29)**	 20 g, 10 ... 2,000 Hz 100 g 40 g
Wiring protection	Reverse polarity, overvoltage and short-circuit resistance
Interference emission	EN 55025
Immunity	EN 45501

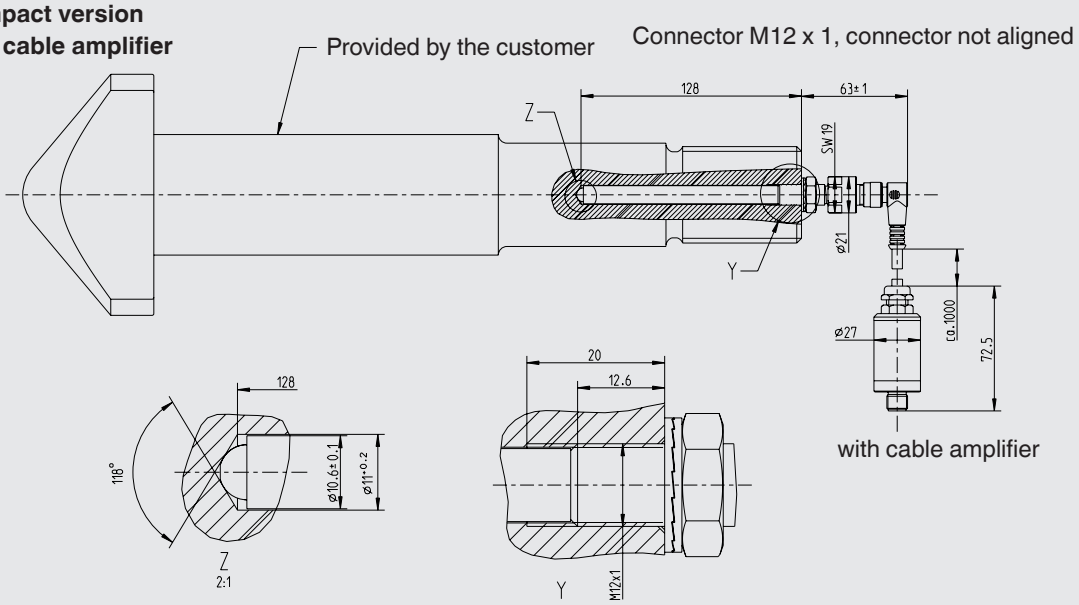
1) Protocol in accordance with CiA 301, instrument profile 404, communication service LSS (CiA 305). 2) Other response times possible upon request.
CANopen® and CiA® are registered community trademarks of CAN in Automation e. V.

Dimensions in mm

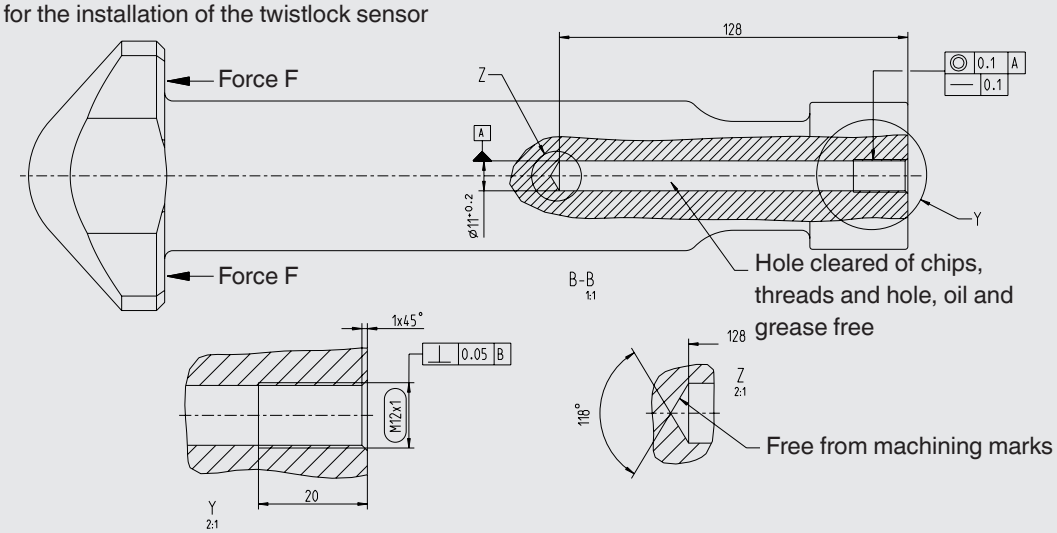
Standard version with integrated amplifier
only for CAN SAE J1939 and CANopen®



Compact version with cable amplifier

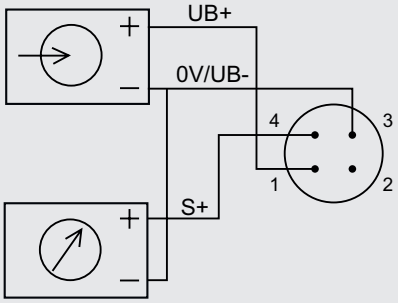


Hole pattern for the twistlock
for the installation of the twistlock sensor



Pin assignment, analogue output

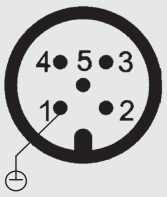
Output 4 ... 20 mA, 3-wire
Circular connector M12 x 1, 4-pin



4 … 20 mA 3-wire	Pin assignment	Cable assignment
Supply UB+	1	Brown
Supply 0V/UB-	3	Blue
Signal S+	4	Black
Signal S-	3	Blue
Shield ⏚	Case	Case

Pin assignment, CANopen®/CAN SAE J1939

Pin assignment	
Shield	1
UB+ (CAN V+)	2
UB- (CAN GND)	3
Bus signal, CAN-High	4
Bus signal, CAN-Low	5



Circular connector
M 12 x 1, 5-pin

ICS Schneider Messtechnik GmbH
Briesestraße 59
D-16562 Hohen Neuendorf / OT Bergfelde

Tel.: 03303 / 50 40 66
Fax.: 03303 / 50 40 68

info@ics-schneider.de
www.ics-schneider.de