

Force sensor CL 19 to railroad switch

- applicable in railway
- high accuracy and stability
- tension and compression
- three year warranty and after market service



The force sensor CL 19 to connectors of point machines has been designed for measuring of resisting force in railroad switches.

Together with the ZEPWN instrumentation can be used to determine resisting force in railroad switches in service conditions. The conversion of measured load is realized due to a steel spring element with strain gage full bridge. The bridge is balanced and thermal compensated. The sensor can be load with tension or compression forces.

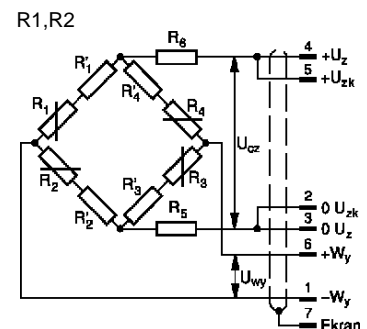
The sensor CL 19 in configurations R1, R2 has the strain gage bridge 350 Ω with sensitivity 1 mV/V or 2 mV/V. For electrical protection IP68 the sensor is equipped with a stuffing on the connection cable.

Specifications:

| | | |
|---|------------------------|----------------------------------|
| Range | [kN] | 5; 10; 20 |
| Non-linearity | | 0,5% |
| Output signal | [mV/V] | 1 – R1; 2 – R2 |
| Signal of unbalance from zero after nominal load take away (30 min) | [%] | $\leq 0,03$ |
| Zero point deviation | [%/30 min] | $\leq 0,03$ |
| Temperature effect on the sensitivity | [%/10K] | $\leq 0,05$ |
| Temperature effect on the signal of unbalance | [%/10K] | $\leq 0,05$ |
| Nominal supply voltage | [V] | 10 |
| Strain gage resistance | [Ω] | 350 |
| Input resistance | [Ω] | 730 ± 25 |
| Output resistance | [Ω] | 700 ± 5 |
| Operating temperature | [$^{\circ}\text{C}$] | $-20 \div 100$ |
| Compensation temperature | [$^{\circ}\text{C}$] | $0 \div 90$ |
| Maximal strain | [mm] | 0,1 |
| Connector | | O1- O-ring gland |
| Protection degree | | IP40, IP66 |
| Dimensions | | as in table below |
| Material | | steel |
| Cable length | | 3 m (standard) or other optional |

Designations and cable outlets

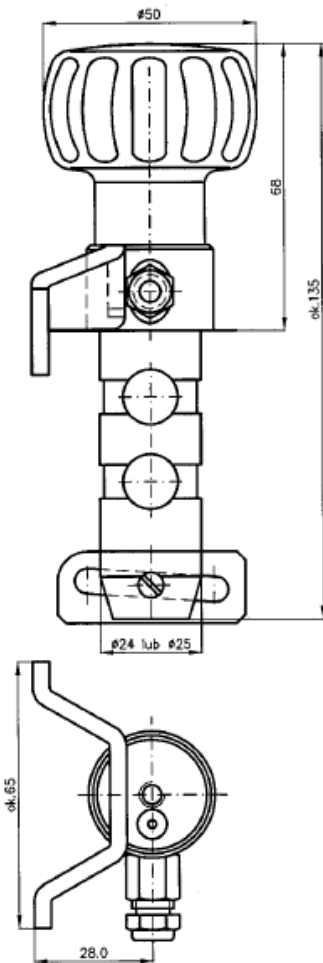
| | |
|----------|------------|
| 1 brown | $-W_y$ |
| 2 pink | $0 U_{zk}$ |
| 3 white | $0 U_z$ |
| 4 yellow | $+U_z$ |
| 5 grey | $+U_{zk}$ |
| 6 green | $+W_y$ |
| 7 black | shield |



Force sensor CL 19

Quality assurance

Each sensor is detailed examined after manufacturing process. The manufacturer offers 36 month warranty for the sensor and after that time also repair and calibration services.



Options:



Range [kN]: 5; 10; 20;

Non-linearity: 0,5%

Configuration: R1 – bridge 700Ω, 1 mV/V, R2 – 700 Ω, 2 mV/V

Supply voltage: 10 V

Connector: O1 – stuffing with stay wire

Cable length: standard 3 m or other optional

Example of options for ordering

CL 19 – 10 kN – 0,5 – R2 – 10- O1 – 1: sensor with dimensions as in table, range 10 kN; non-linearity 0,5%; strain gage bridge 700 W, sensitivity 2 mV/V; connector as stuffing on cable; cable length 1m.

Manufacturer

ZEPWN J. Czerwiński i Wspólnicy – spółka jawna , 05-270 Marki, ul. Kołłątaja 8

tel./fax: 004822. 7812169, 7712411, e-mail: zepwn@zepwn.com.pl, <http://www.zepwn.com.pl>