

Load Cell Type WI / ED 21



Fully digital, oscillating-wire load cell, for structural load monitoring and innovative scale applications.

General

As in all DIGI SENS load measuring cells, an oscillating wire transducer is used to convert the force/load into an electrical signal.

This patented element is able to deliver a 5V TTL-signal that can be directly processed by a computer.

Applications

Calibrated measurement of loads, weights and forces in applications such as:

- Railway scales
- Test stands
- On-board Weighing Systems
- Silo level measurements
- Monitoring systems
- Pouring Robots

Description

The load cell WI is fitted to the structure to be surveyed and allows a precise and reproducible measurement of its stress changes.

Using DIGI SENS vibrating wire technology instead of the strain gauge means having a simple mechanical mounting



combined with a very accurate measurement. This technology also offers an extremely high resolution and very good long term stability.

Since the WI is adapted to the material of the structure to be surveyed, differential thermal expansion has no negative influence on the precision.

The frequency signal delivered by the WI is easy to transmit, immune to perturbations and can be treated directly by any processor.

For processing and transmission of the signal, as well as for other more complex measuring and regulating functions, DIGI SENS offers suitable electronics and software.

Fit and function

The load cell WI is delivered with all fixing parts

needed. This allows a simple mounting on the desired structure. No surface conditioning, no glues drying.

The result is a weighing system with outstanding measuring precision.

No adjustment whatsoever is required either at commissioning or when a load cell is replaced.

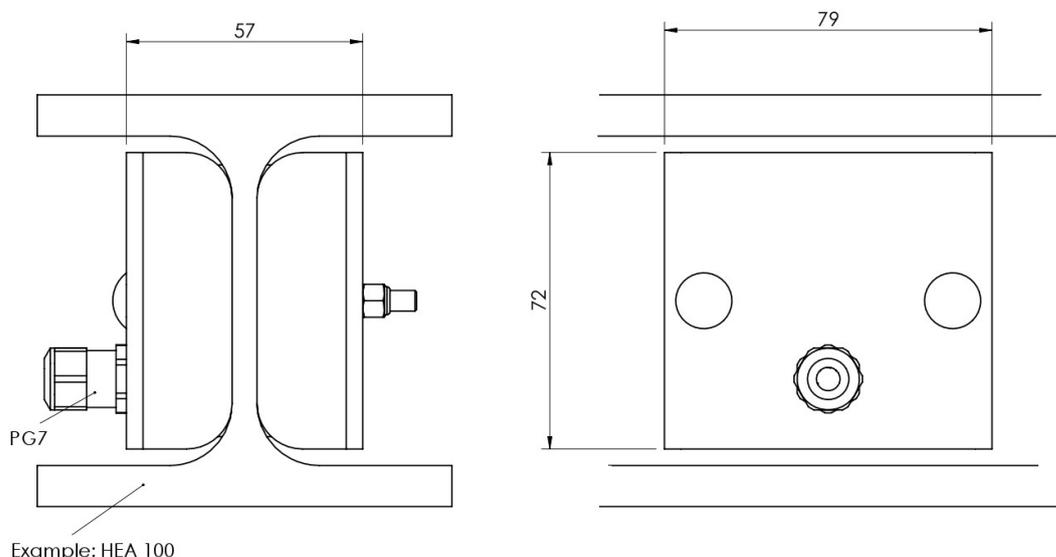
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Technical Data

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| Measuring Ranges Nominal load 2'000- 200'000kg (depending on the structure) | Temperature drift Zero 0.1% / 10K Sensitivity 0.01% / 10K | Output signal Frequency range 12....19kHz Zero 15kHz±500Hz Frequency shift for nominal load 2kHz±500Hz Amplitude 5V TTL |
| Divisions N _{max} 1000 | Warming-up time for maximum error <0.03% < 5 Min | Protection class IP67 |
| Measurement precision Resolution 10kg Typically 1% Minimal 0.5% | Power supply Voltage 5V DC ±10% Type current consumption 5mA | Certification * - |
| Overload capability Without permanent damage 200% | Temperature range Calibration -10...+40°C Service -30...+70°C | EMC acc. to IEC 61000 *on demand |

Dimensional drawing



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