

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.

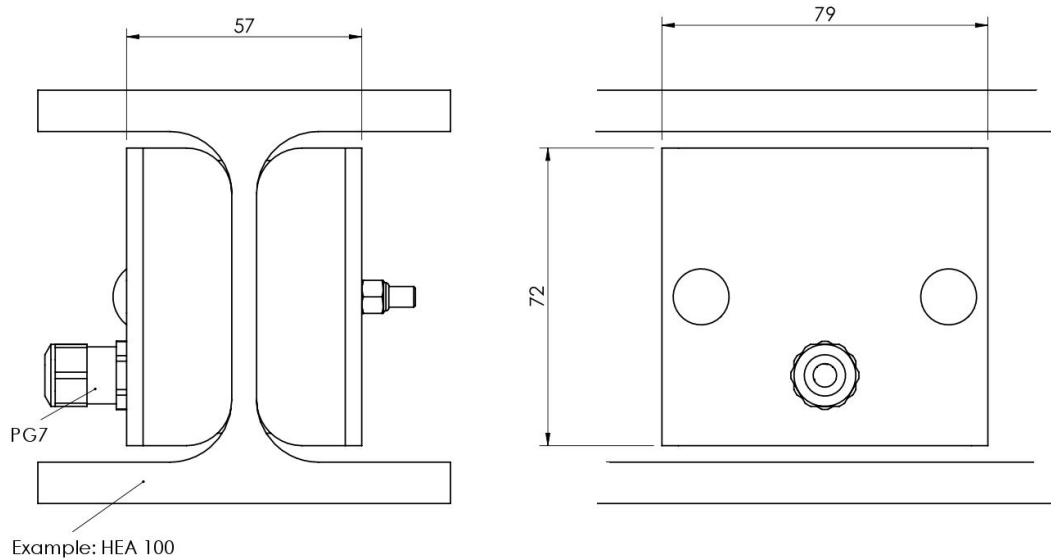
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Technical Data

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

Dimensional drawing



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