

Load Cell Type SO / ED 21



Fully digital, monobloc oscillating-wire load cell, made of stainless-steel, for nominal loads of 1'500 to 10'000 kg.

General

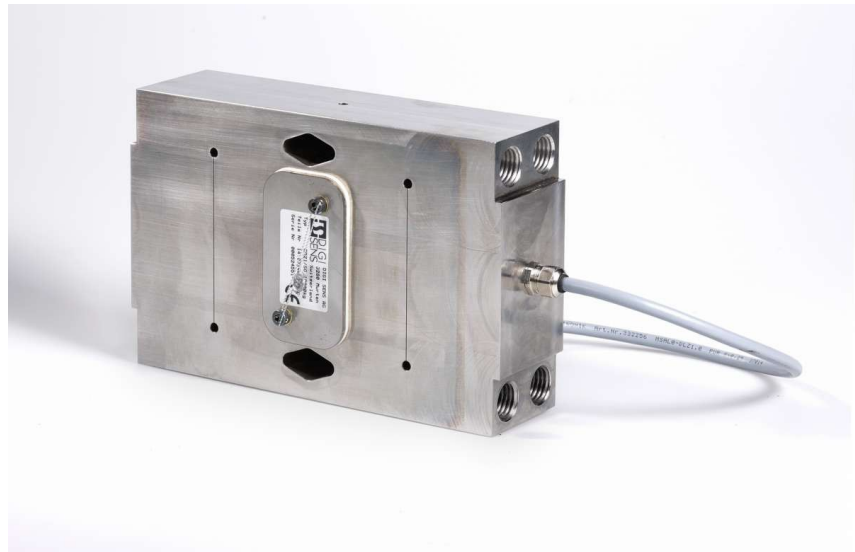
As in all DIGI SENS load measuring cells, an oscillating-wire transducer is used to convert the force/load into an electrical signal.

This patented element is able to deliver a signal that can be directly processed by a computer. The calibration data is stored in the load cell electronics. A built-in temperature measurement ensures active temperature compensation.

Applications

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

- Platform scales
- Container scales
- Mixers
- Tipping weighing systems incorporated in vehicles
- Conveyor scales
- Robot arm scales



Description

A guide-plate of high tensile stainless steel allows weighing systems to be built using one load cell (monobloc construction), where normally three or more conventional cells would be required.

Torsion forces due to eccentric application of the load are filtered out and complicated suspension systems (pendulum bearings), designed to avoid unwanted stresses, are superfluous.

The logically designed, practically displacement-free mounting is characterised by a very low measuring displacement of less than 0.2 mm.

The result is a weighing system with outstanding measuring precision.

The calibration data of the load cell are stored in a built-in memory.

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

A 5V TTL output signal is available for load and temperature.

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.

Together with this electronics and other components, such as inclinometers or accelerometers, the SO loads cells can be extended to form complete weight or force-measuring systems for static or dynamic applications.

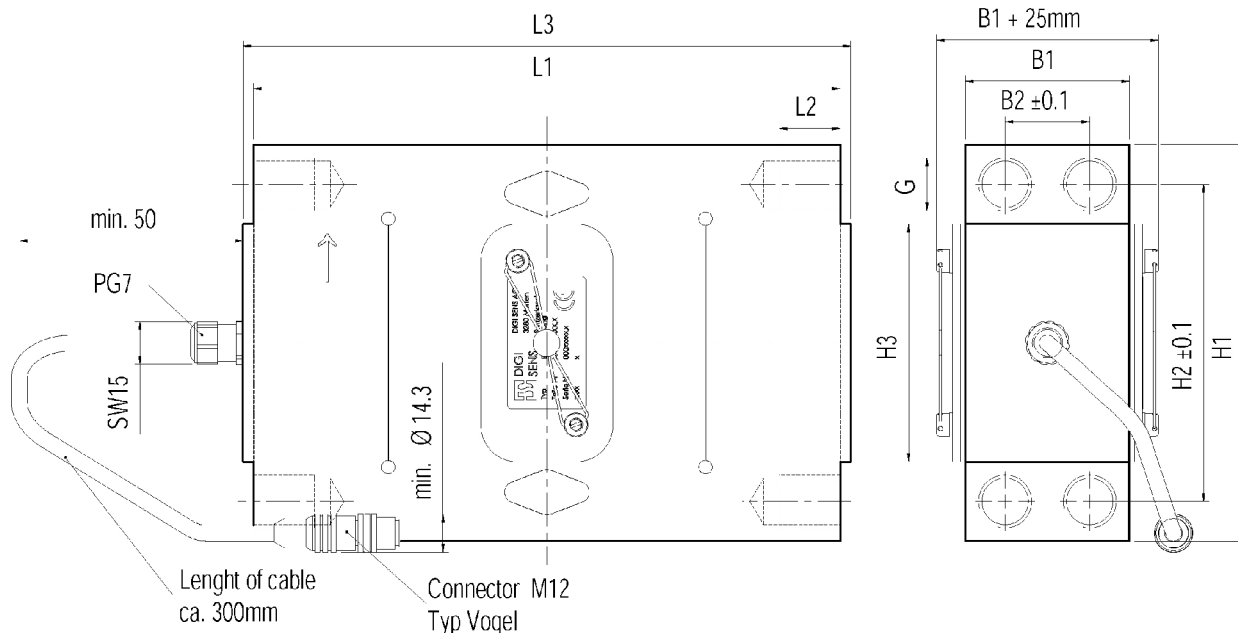
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Technical Data

Measuring Ranges Nominal load 1'500kg / 10'000kg (other ranges on request)	Overload capability Without permanent damage 100%	Output signal Frequency range 12....19kHz Zero 13kHz±500Hz Frequency shift for nominal load 5kHz±500Hz Amplitude 5V TTL
Divisions N_{max} 3000 $Y = E_{max} / V_{min}$ 7500	Measuring displacement Displacement at nominal load 0.2mm	Protection class IP67
Measurement uncertainty Total error <0.03% Error in part-range <0.01%	Temperature drift Zero 0.01% / 10K Sensitivity 0.01% / 10K	Temperature range Calibration -10...+40°C Service -15(opt. -30)...+70°C
Stability over measuring range Reproducibility 0.01% Creep 30 Min 0.01%	Warming-up time For maximum error 0.03% < 5 Min	Weight SO 1'500 kg 6.75 kg SO 10'000 kg 14.25 kg
Linearity Linearity over measuring range 0.01% Hysteresis 0.01%	Power supply Voltage 5V DC ± 10% Max. current consumption <25mA Type current consumption 10mA	Certification OIML R60, C3 3000 EMC Corresponding to OIML R60:2000 (acc. to IEC 61000)

Dimensional drawing



	L1	B1	H1	G	L2	B2	H2	H3	L3
SO 1'500kg	170	50	120	M12	16	30	100	--	--
SO 10'000kg	222	62	150	M20	23	32	120	90	230

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