Load Cell Typ SA / ED 21

Fully digital, monobloc oscillating-wire load cell, made of spring-steel. Transducer for onboard lorry weighing system, with a nominal load of 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.

Application

The SA 10'000 load cell is part of the DIGI SENS onboard weighing system, which allows the exact calibrated measurement of lorry payload. The calibrated DIGI SENS on-board weighing system allows immediate invoicing, there where goods loaded on or off the lorry must be paid for. At the same time an exact check of the vehicle loading status is possible.

Description

The SA 10'000 load cell was specially developed for use on vehicles. It is mounted between chassis and superstructure. A guide plate of high tensile spring steel filters out unwanted horizontal forces and torque occurring between superstructure and chassis.
A special built-in pendulum bearing with lift-off protection transmits the force to the cell in such a way that unwanted stresses are avoided.
The logically designed, practically displacement-free mounting renders a complicated lift-off mechanism when travelling superfluous and features a very low measuring displacement of less than 0.2 mm.
The result is a maintenance-free weighing system with outstanding measuring precision and long-term stability. 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 display, processing, storing and transmission of the signal, as well as for the other specific functions linked to a lorry weighing system, DIGI SENS offers suitable electronics and software.
Together with other components, such as application-orientated software, inclinometer, printer, identification system, RAM-card drive etc., the SA 10'000 forms a complete, certifiable, easily incorporated weighing system for vehicles.

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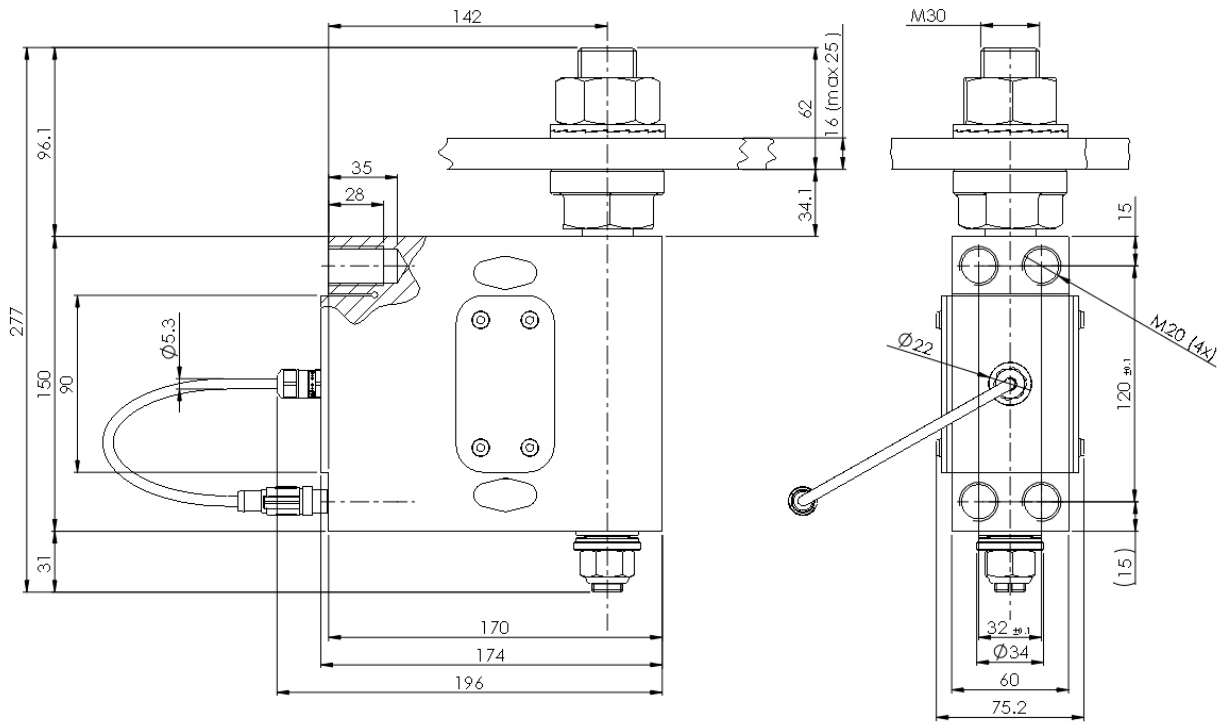
Technical Data

Measuring Range		**Overload capability**		**Output signal**	
Nominal load	10'000kg	without permanent damage	100%	Frequency range	12....19kHz
Divisions		**Measuring displacement**		Zero	18kHz±500Hz
N max	1200	Displacement at nominal load	0.2mm	Frequency shift for nominal load	5kHz±500Hz
Y=E max /V min	3000			Amplitude	5VTTL
Measurement uncertainty		**Temperature drift**		**Temperature range**	
Total error	<0.08%	Zero	0.02% / 10K	Calibration	-10...+40°C
Error in part-range	<0.03%	Sensitivity	0.02% / 10K	Service	-30...+70°C
Stability over measuring range		**Warming-up time**		**Weight**	
Reproducibility	0.02%	for maximum error 0.08 %	< 5 Min	SA 10'000 kg	11.3 kg
Creep 30 Min.	0.02%			**Certification**	
Linearity		**Power supply**		OIML R60, C3	1200
Linearity over measuring range	0.02%	Voltage	5V DC ± 10%	**EMV**	
Hysteresis	0.02%	max. current consumption	<25mA	Corresponding to OIML R60:2000	
		typ. current consumption	10mA	(acc. to IEC 61000)	

Dimensional drawing



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