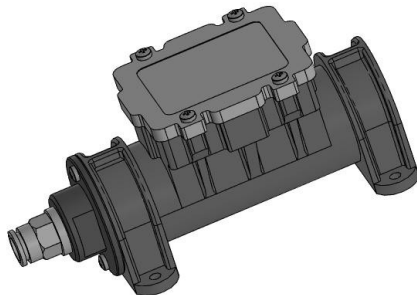




Axle Load Sensor eCargosens Air

DATASHEET
Serial number S
Date D
MAC-address M



1 GENERAL INFORMATION

Device name: Axle load sensor
eCargosens Air

Device name (short): eCargosens Air

2 APPLICATION AND SPECIFICS

2.1 The eCargosens Air (hereinafter referred as the sensor or device) sensor is designed to:

- measure absolute air pressure in the pneumatic suspension circuit of a cargo vehicle;
- convert measured absolute pressure values into cargo vehicle axle-load readings in kg using piecewise-linear interpolation (calibration table);
- estimate the remaining battery capacity (based on battery voltage measurement);
- transmit cargo vehicle axle-load readings and battery voltage to the eCargosens DS in-cab unit via a Bluetooth 5.0 Long Range wireless communication channel.

2.2 The eCargosens Air sensor is installed onto the standard outlet fitting of the vehicle suspension air spring (Annex 1), or tapped into the pneumatic circuit (Annex 2). An example of mounting the eCargosens Air wireless axle load sensor in the standard holes on the cargo vehicle frame is shown in Annex 3.

2.3 ***DO NOT DISASSEMBLE THE DEVICE!***

2.4 ***DO NOT EXCEED THE OPERATING CHARACTERISTICS SPECIFIED IN THIS DATASHEET!***

2.5 ***PREVENT MECHANICAL DAMAGE TO THE DEVICE DURING INSTALLATION AND OPERATION.***

Table 1 - Technical specifications

Parameter	Value
Operating measurement range for absolute pressure, atm (Pa)	0 to 10 (0 to 10^6)
Ultimate absolute inlet pressure, atm (Pa)	30 ($3 \cdot 10^6$)
Total reduced error of absolute pressure measurement within the operating range, %, max.	3
Battery cell capacity at operating temperature of 20 °C, mAh	9000
Operating time of the unit on one battery-cell set at 20 °C, years, min.	3
Battery cell voltage, V	3.3 to 3.6
Average current consumption, μ A, max.	300
Bluetooth standard	Bluetooth Low Energy 5 LR (coded PHY), peripheral (advertising, connection)
Receiver sensitivity / transmitter power, dBm	-96 / 8
Operating frequency range, GHz	2.40 to 2.480
Maximum Bluetooth (Long Range) operating distance in open space without obstacles, m	200
Communication protocol for mobile devices	Escort eCargosens
Ingress protection rating IEC 60529	IP68
Operating conditions: - ambient temperature, °C; - extreme ambient temperature, °C; - atmospheric pressure, kPa	-45 to +50 -50 to +85 84 to 106.7
Dimensions, mm, max.	138x61x59
Weight, kg, max.	0.52

3 SCOPE OF DELIVERY

Table 2

Item	Qty	S/N	Notes
eCargosens Air sensor	1		
Installation kit:			
PA 12 10x8 polyamide tube, 1000 mm	1		
Straight fitting for 8 mm tube T030800	1		
Straight fitting for 8 mm and 10 mm tubes T030810	2		
Straight fitting for 10 mm tube T031000	1		
T-fitting for 10 mm tube T051000	4		
Nylon cable tie 3x150	2		
REXANT steel tie 4.6x300	4		
Self-tapping screw ST4.8x22-R DIN 6928	4		
M4x30 DIN 931 bolt	4		
M4 DIN 934 nut			
Datasheet	1		in electronic form
Packaging	1		
Note - The manufacturer reserves the right to make changes in the product design and scope of delivery without prior notice to the customer.			

4 SERVICE AND SHELF LIFE, WARRANTY

4.1 The guaranteed operating period is 12 months from the date of shipment by the manufacturer.

4.2 Service life - 5 years.

4.3 If any fault is detected, contact the manufacturer.

4.4 The warranty does not cover products with defects caused by the customer due to failure to observe the operation, storage and transportation requirements.

4.5 The manufacturer reserves the right to make changes in the product design and scope of delivery without prior notice to the customer.

4.6 The warranty period and service life do not apply to the battery cell.

5 PACKING CERTIFICATE

Axle load sensor eCargosens Air

_____ s/n _____ S _____
device ID code serial number

is packed by _____
manufacturer name or ID code

in accordance with the requirements of the current technical documentation.

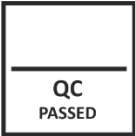
Date of packing__D_____

Packed by _____ / _____ / _____
job title signature full name

year, month, day

Packed device received by _____ / _____ / _____
job title signature full name

year, month, day



6 ACCEPTANCE CERTIFICATE

Axle load sensor eCargosens Air

_____ s/n ____S_____
 device ID code serial number

in accordance with the requirements provided in the current technical documentation.

Date of manufacture ____D_____

QC Manager

Stamp _____/_____
 signature full name

year, month, day

7 INSTALLATION CERTIFICATE

Axle load sensor eCargosens Air s/n __S_____ is installed in accordance with the current technical documentation on the equipment:

_____ name _____ identification number / registration number

signature // Full Name _____ day, month, year
e

remarks

8 TRANSPORTATION AND STORAGE

8.1 The product is transported factory-packaged in enclosed vehicles.

8.2 Store in dry rooms with humidity not more than 75% at a temperature from -20 to +30 °C.

8.3 Storage rooms should not contain electrically conductive dust, aggressive substances or their vapors that cause corrosion of parts and destruction of the electrical insulation of the sensors.

8.4 During installation, operation and maintenance of the unit, observe general safety rules for working with electrical devices.

9 DISPOSAL AND RECYCLING

9.1 The device shall be disposed of by the operating company in accordance with applicable local laws and regulations.

9.2 The device does not include environmentally hazardous elements.

9.3 The device does not contain precious metals in quantities subject to accounting.

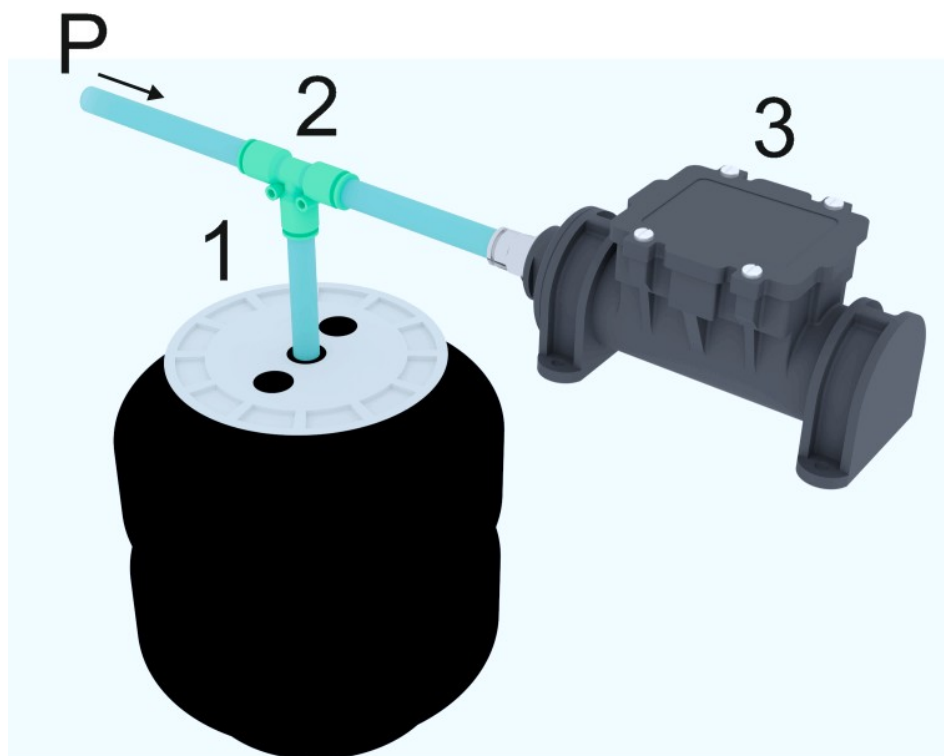
9.4 Batteries shall be disposed of separately in accordance with applicable local regulations for battery waste.

10 CONTACTS



ANNEX 1

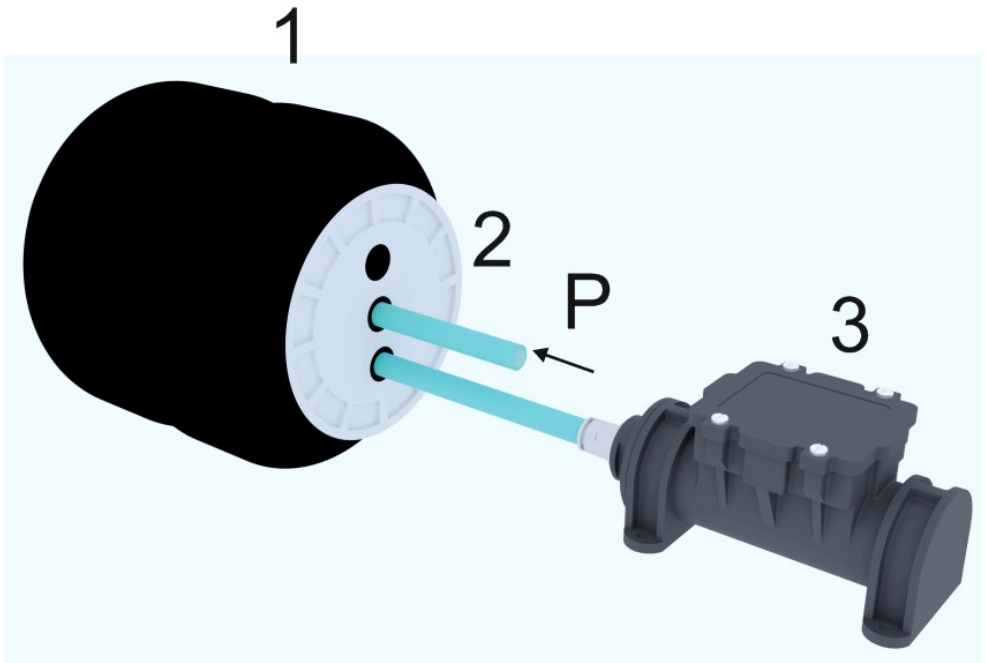
Connection diagram for connecting the eCargosens Air sensor into the pneumatic circuit



1 - Air spring, 2 - T-fitting,
3 - eCargosens Air sensor, P - Pressure supply

ANNEX 2

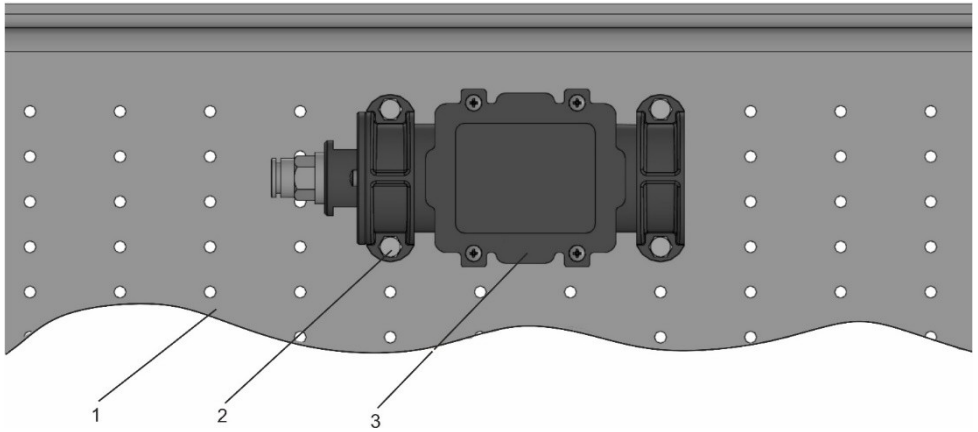
Connection diagram for connecting the eCargosens Air sensor to an additional standard air-spring fitting



1 - Air spring, 2 - Straight tube fitting,
3 - eCargosens Air sensor, P - Pressure supply

ANNEX 3

Example of mounting the eCargosens Air sensor in the standard holes on the cargo vehicle frame



1 - cargo vehicle frame with standard holes, 2 - bolted connection (ST4.8x22-R DIN 6928 self-tapping screw may be used), 3 - eCargosens Air sensor

FOR NOTES