![el·watch logo]

Monitoring cabin pressure in vehicles and cranes

When extracting and processing raw materials and products under demanding conditions, it is crucial to prioritize the climate and environment for the drivers and operators in vehicles and cranes. Trucks, wheel loaders, and overhead cranes operating in dusty and dirty industrial areas are particularly vulnerable. Industrial vehicles and cranes should be designed and equipped in a way that protects the driver from harm, including exposure to polluted air. Therefore, it is essential to monitor potential areas where the driver may be exposed to harmful conditions.

Challenge

- Many vehicles operate in environments with polluted air. Polluted air is dangerous and has long-term effects on the human body when overexposed. Positive pressure is created inside the cabin to prevent these long-term effects on the driver/operator. However, detecting problems with the cabin's pressure can be challenging. Issues may arise from partially open doors or windows, faulty seals, malfunctioning ventilation, and more.
- If the cabin pressure cannot be maintained, the machine must be taken out of operation as it is unsafe to expose the driver to such conditions over a prolonged period. This leads to a decrease in operational efficiency and can create issues for the company in terms of underutilized resources.

Solution

- A Neuron Differential Pressure sensor will detect if the internal pressure in the cabin drops compared to the external pressure.
- The measurements are sent to the Neuron app, which sends an alert if the overpressure is too low or disappears.

- In the Neuron app, one can also retrieve and transfer data to different types of monitoring software used by the company via API.
- You receive early warnings for status changes and can take actions as soon as possible.
- Since the sensor measures continuously, you will also get a log of data that can be used for further analysis of the conditions.
- In addition, the historical data from the log can be used to document the cabins positive pressure, which in turn shows when the cabin had clean air.

What you get

- An easy-to-install Neuron Differential Pressure sensor with built-in magnet
- he sensor registers the pressure difference between the two measurement points and transfers the data wirelessly.
- Continuous measurement and immediate alarm when the pressure changes.
- Historical data can be used as documentation for positive pressure within the cabin
- Good repeatability and long-term stability.
- Adjustment of parameters such as measurement frequency upon request.
- Your own defined alarm levels via the Neuron app, with optional notifications via email and/or SMS.
- Peace of mind knowing that your drivers and operators are working in a safe environment.

Products in use

- Neuron Differential Pressure