A comprehensive solution for improving operator safety

Operating in severe environments poses inherent risks to your most valuable assets, your people. CabSafe has been designed to help manage those risks and keep your team safe and healthy by comprehensively monitoring the operator cabin environment. CabSafe uses state-of-the-art smart sensing technologies, cloud-based monitoring, and intelligent engineering to provide real-time data and protection for:

- Particulates
- Temperature
- Humidity
- Pressure
- Vibrations
- Carbon Dioxide
- Volatile Organic Compounds (VOCs)
- Volatile Sulfur Compound (VSC)
- Air Quality Index (AQI)

Knowledge is power

Whether you are using newer machinery with positive pressure cabins and air filtration, or legacy equipment with lower levels of protection from dust and other contaminants, CabSafe provides a valuable tool for assessing the operator cabin environment. In the case of positive pressure cabs, CabSafe can assure that these systems are operating within expected parameters of filtration and pressure. In addition, CabSafe enhances the value of positive pressure systems by adding protection against dangerous concentrations of CO2, and VOCs, as well as unsafe temperature, humidity and/or vibration levels.

Reduce accidents and improve productivity

Operator fatigue caused by poor cabin conditions can lead to loss of concentration, reduced reaction times and accidents. CabSafe allows managers to take preemptive action when conditions reach unsafe levels, thereby protecting both operators and machinery from costly accidents and loss of production.

Cloud-based data & remote alerts

CabSafe includes access to a cloud-based dashboard where environmental data can be tracked and monitored in both real-time as well as on a historical basis. The CabSafe System can be configured to send alerts to designated Health, Safety, and Environment (HSE), maintenance and engineering personnel in the event that a monitored parameter exceeds specified limits.

Communications flexibility

The CabSafe System supports local wireless connectivity, NB-IOT / LTE-M cellular and GPS protocols. In addition, CabSafe has been designed to work with industry-standard maintenance management platforms so that data and alerts can be communicated directly to existing monitoring systems.

Controller Specifications

CabSafe Particle Sensor Housing

- Remote cabin-environment analysis
- 166 x 114.3 x 74 mm enclosure size
- 175.5 x 70 mm mounting points (preferably mounted on shock mounts)
- Rugged PU rubber molded housing
- Easy to install binder-connectors for providing power and other (optional) IO

Electronic Control Unit (ECU)

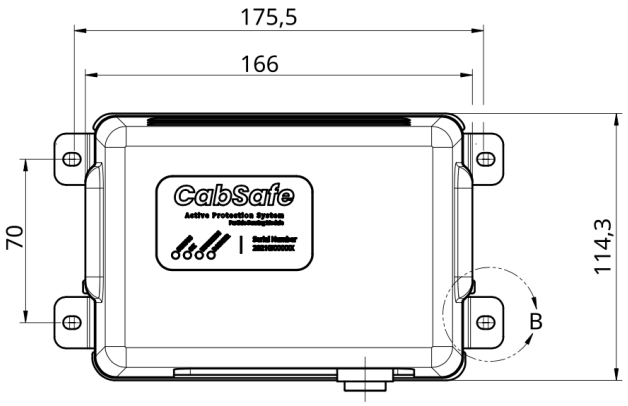
- Configurable thresholds for all analysis parameters
- Variable sampling rates
- Local user interface through LED's and an iPhone/Android app
- Onboard data storage
- 10V to 30V input power, 750 mA
- Communications
    - Local wireless connectivity
    - Cellular: NB-IOT / LTE-M
    - GPS (standard)

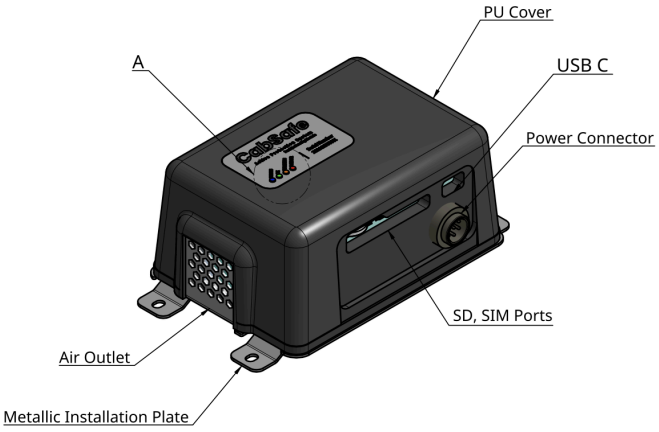
ECU Environmental Ratings

- Operating temperatures: -10°C to +60°C
- Storage temperature: -40°C to +70°C
- Built in anti-vibration and shock resistance

Sensors

- Particles
    - MCERTS certified
    - High accuracy laser scattering measurement
    - Contamination resistant technology
- Pressure
- Temperature
- Humidity
- CO2
- VOC/VSC (Air Quality Index)
- Vibrations





LED Indicators

A
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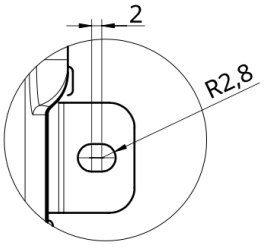

Mounting Holes Dimensios

B
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Parameter	Working Principle	Range	Accuracy	Min. Detection
Particulate Matter 0.5 (PM0.5)	Active Monitoring	0 to 3000 #/cm3	± 100 #/cm3	1 #/cm3
Particulate Matter 1.0 (PM1.0)	Active Monitoring	0 to 1000 µg/m3 0 to 3000 #/cm3	± 10 µg/m3 ± 100 #/cm3	1 µg/m3 1 #/cm3
Particulate Matter 2.5 (PM2.5)	Active Monitoring	0 to 1000 µg/m3 0 to 3000 #/cm3	± 10 µg/m3 ± 100 #/cm3	1 µg/m3 1 #/cm3
Temperature	Active Monitoring	-40 to 125°C	± 0.2°C	-40°C
Humidity	Active Monitoring	0 to 100 %RH	± 2%	0.1%
Pressure	Active Monitoring	0 to 1,100 hPa	± 0.12 hPa	1 hPa
CO2 Sensing	Active Monitoring	0 to 40,000 ppm	± (40 ppm + 5%)	1 ppm
Air Quality Index (AQI)	Active Monitoring	0 to 500	± 15	1