RoadGuard: Transition from Routine to Responsive

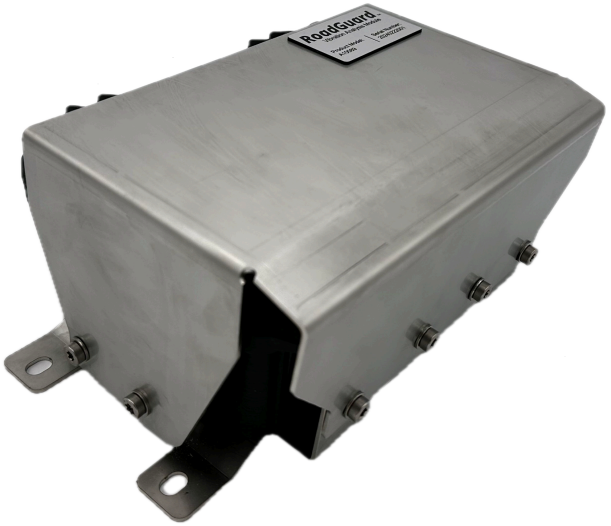
Introducing the RoadGuard, a Real-Time Road Conditions Monitoring system, designed to revolutionize gravel road maintenance with real-time data, enabling precise interventions, improved safety, and cost savings. By harnessing cutting-edge technology, the RoadGuard empowers roads superintendent to execute road maintenance precisely where it's needed most, maximizing efficiency and making roads safer.

Real-Time Road Conditions Monitoring

With the ability to identify potential hazards and poor quality roads in real-time, The RoadGuard system enables timely interventions, mitigating the risk of accidents and allowing for quicker responses and efficient use of appropriate equipment. Moreover, through automated analysis, the need for manual inspections is minimized. This is achieved by capitalizing on the continuous movement of trucks on these roads, effectively serving as the vigilant guardians, ultimately driving down overall costs.

Compact & Robust Design

Encased in a Peli 1150 Protector Case and shielded by a 2mm stainless steel cover, the RoadGuard system offers robust protection. It features four bolt-holes for effortless installation onto any vehicle chassis. Additionally, it includes two external antenna connections for GPS and 4G (LTE) connectivity.



High resolution data for in-depth online diagnostics

RoadGuard boasts a highly accurate 6-axis IMU, ensuring continuous and precise measurements. Its advanced capabilities enable high-frequency and detailed data collection, ensuring precise road diagnostics. With live GPS integration, data visualization becomes effortless through an intuitive online mapping application. Plus, the mapping application is not only economical but also offers seamless integration and reporting according to roads superintendent standards, providing comprehensive insights for informed decision-making.

Local & Remote Access with Versatile Connectivity

The RoadGuard is equipped with an activated SIM card, enabling seamless connection to any accessible 4G (LTE) network. Additionally, it offers local wireless mobile App connectivity, which facilitates efficient data transfer for offline sites. This ensures permanent storage and consistent transmission of data, even in remote locations.

Controller Specifications

RoadGuard Road Condition Monitoring

- 222 x 180 x 112.4 mm enclosure size
- 241.8 x 90 mm mounting points
- Rugged Stainless steel sheet metal housing
- Easy to install binder-connectors for providing power (10-30 VDC)
- 2 SMA (F) connection for cellular and GPS

Electronic Control Unit (ECU)

- 10V to 30V input power, 750 mA
- Onboard data storage
- Communications
    - Local wireless connectivity
    - Cellular: 4G LTE
    - GPS (standard)
- Local user interface through iPhone/Android app

ECU Environmental Ratings

- Operating temperatures: -10°C to +60°C
- Storage temperature: -40°C to +70°C

Sensors

- Accelerometer
    - 3 axis MEMS
    - Up to 1600 Hz and 16g
    - ±2% accuracy
- Gyroscope
    - Up to 1.000°/s
    - ±1.3% accuracy
- Magnetometer
    - ±1300µT (x,y) and ±2500µT (z)
    - ±25 µg/m3 (x,y) and ±250 #/cm3 (z) accuracy
- Pressure
    - piezo resistive / capacitive
    - 300…1250 hPa
    - ±3 Pa (25cm) accuracy
- Temperature
    - -40°C to 85°C
    - ±0.5°C
- Humidity
    - 10-95% r.H.
    - ±3 % r.H.