

Mobile Integrated Road Visibility Detector

»Product Introduction

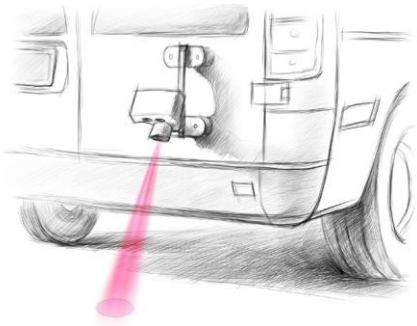
The HY-MRVS2E is a vehicle-mounted, all-in-one traffic meteorological monitoring device that combines a road surface condition monitor and a visibility meter based on near-infrared spectroscopic detection technology. It is designed to monitor road surface conditions and visibility along the route in real time. Using high-precision optical detection technology, the vehicle can rapidly measure visibility while in motion, identify hazardous conditions such as standing water, snow, and ice on the road surface, and simultaneously measure parameters such as the road surface slip coefficient and road surface temperature, providing real-time data support for winter road maintenance, safety management, and traffic meteorological management.



»Technical Indicators

Project	Measurement Range
Measurement Frequency	Road surface conditions: 10 times per second; Visibility: 1 time per second
Testing Range	Road Conditions: Standing Water / Black Ice / Snow Depth: 0–2 mm
Grip	0.01 (Slippery) - 0.82 (High Friction)
Visibility	20 - 10,000 m
Connection Methods	Bluetooth, RS485
Power	4-Cell Lithium-Ion Battery / 12 V DC Car Charger Adapter
Operating Range	-40 ℃ - +80 ℃; 0 - 100%RH
Suitable Road Surfaces	Asphalt, concrete (other surface materials available upon request)

»Applications



1. Winter Road Safety

- Monitor icy and snow-covered road sections in real time, guide the application of de-icing agents, and improve maintenance efficiency.
- Provides warnings of slippery conditions and low visibility on highways and major urban thoroughfares.

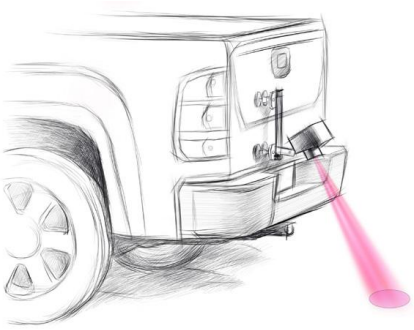
2. Traffic Weather System

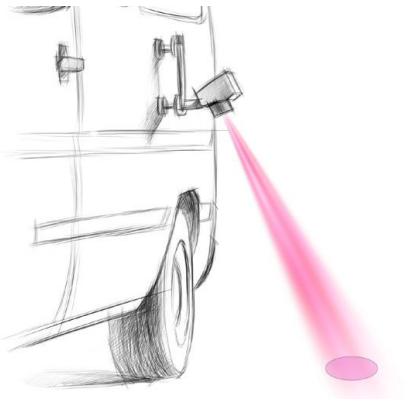
- It can be integrated with traffic management platforms to assist with traffic condition analysis and route planning.

3. Monitoring of Special Scenarios

- Areas prone to accidents—such as bridges, rivers, tunnels, and mountain roads—are monitored around the clock.

»Key Features





1. Technological Advancement

- Near-infrared spectroscopy: non-contact detection, with a response rate of up to 10 times per second and high real-time data acquisition.
- Multiparameter Simultaneous Monitoring: Simultaneously monitors parameters such as road surface conditions (dry/damp/wet/snow/ice), water,ice,snow thickness (0–2 mm), grip (0.01–0.82), temperature (–50 ℃ ~ +60 ℃), and visibility (20–1,000 m).
- Dual-mode communication: Supports wireless Bluetooth transmission to a mobile app or uploading to a cloud server via a DTU, enabling remote monitoring and data integration.
- Wide environmental adaptability: Operating temperature range from -40 °C to +80 °C, humidity range from 0 to 100% RH, making it suitable for a variety of climatic conditions.

2. Feature Benefits

- Mobile/Fixed Dual Mode: Suitable for in-vehicle or fixed-location installation.
- Dual Power Supply: Optional high-capacity lithium-ion battery available, with support for car charger adapters.
- Low maintenance costs: Sturdy construction, no complex consumables.
- Smart Alerts: Combines data on road surface slip coefficients, low visibility, and accident-prone areas to provide real-time risk alerts.

»Product Showcase

