

## RELAYER-CONTROLLER

Track Integrity Monitoring Device  
provides GPS locations of tracks  
in need of repair.



AVANTE engineered a specialized Track Integrity Monitor that directly interfaces with the RELAYER-CONTROLLER for detailed and complete geo-tagged track condition data based on train shock. A maintenance ticket can be generated automatically for repair before major incidents.

AVANTE's patented Relayer-Controller is an integrated system that communicates via GPRS readers and onboard RF/WiFi communication modems for multi-direction communication between trains on a similar track. These alerts track geo-location, fuel shortage, and wagon decoupling. Real-time alerts are provided to the engineers when exceeding the speed limit. Alerts are also provided where rail workers are on nearby tracks. Trains that are approaching proximity limits also receive messages, alerting them on shared rails.

Integrated GPS-Cellular-Satellite Communication Module with Train-on-Track Locating System are designed for operational efficiency

- GPS and Satellite Positioning Systems for geo-tagging
- Cellular Failover to Satellite communication

The Relayer-Controller can retrofit or upgrade any locomotives with GPS-GPRS Satellite visibility. From here, the central monitoring center can gain access to aspects of the satellite's data. It also interfaces with RFID-based sensors that provide intrusion detection, temperature-humidity, vibration-shock, rail track integrity monitoring devices and digital fuel sensors readings. Cellular/satellite voice communications modules with visual displays can also be incorporated. The Relayer-Controller unit provides manual or automatic train speed controlling in the event of an emergency.