



Bridge Load Rating with Resensys Technology

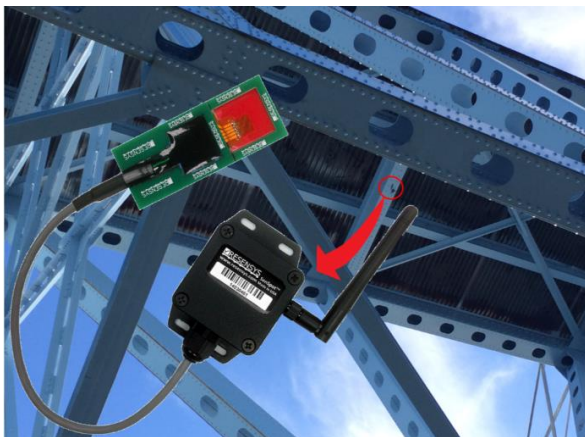
Key Monitoring Capabilities

- Measuring strain and stress on critical structural elements.
- Real-time data collection and analysis through wireless communication.
- Load capacity testing using controlled truck loads.
- Automated alerts and actionable insights for infrastructure management.

What are Load Ratings and Why it's Important

Having Accurate Inventory and Operating Ratings are essential for meeting inspection requirements, ensuring correct bridge postings, and enabling informed asset management. DOTs and authorities invest heavily in refining load rating models to comply with evolving regulations and changing demands.

The Resensys proposes reliable and breakthrough **wireless** system and devices for **bridge load rating**.



Resensys [Wireless Strain SenSpot™ sensor](#) installed on the bridge for bridge load rating

Resensys Technology for Bridge Load Testing/Rating

A typical Resensys system for Bridge Load Rating includes the following components:

- **Wireless Strain Gauge SenSpot™:** are attached on critical elements as determined by inspection, finite element modeling, load rating model or authority's/client's suggestion. The number of gauges required per structure is usually dependent upon the design, existing issues on members and load rating needs.
- **SeniMax™:** is a wireless data logger gateway that is connected to the cellular or satellite networks; it wirelessly collects SenSpot™ data at the site and sends it to a cloud database server (one SeniMax™ can cover as many as 100 SenSpot™ sensors and devices within its wireless communication range).
- **SenScope™:** software for data analysis and visualization, data export, automated alert management, thermal analysis, and load rating analysis and graphs.

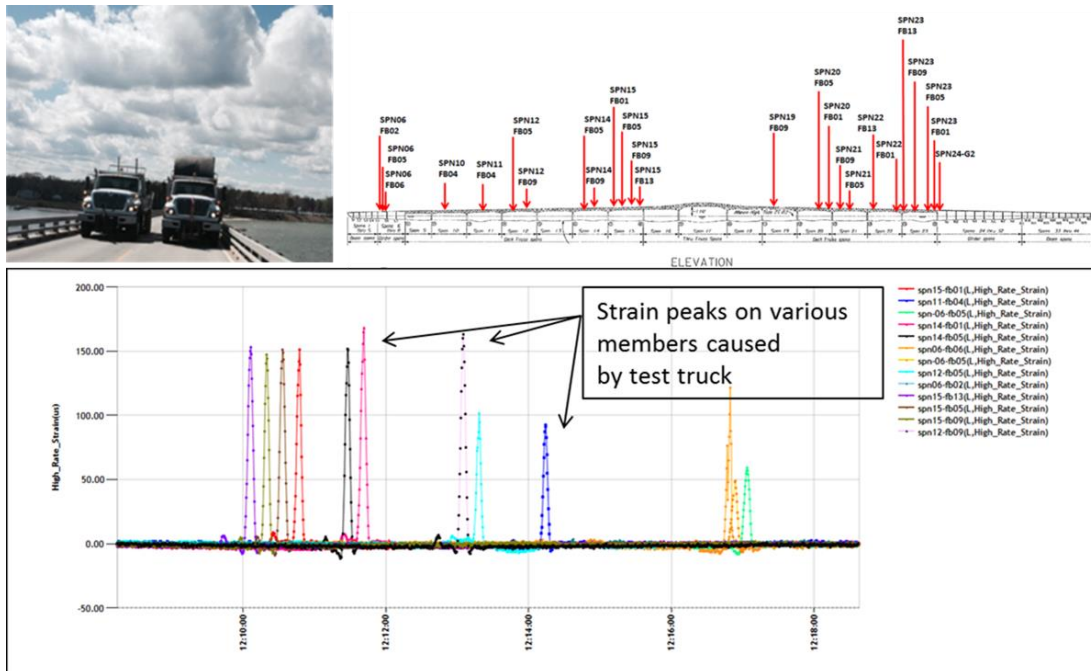


Wireless Strain Gauge SenSpot™



SeniMax™

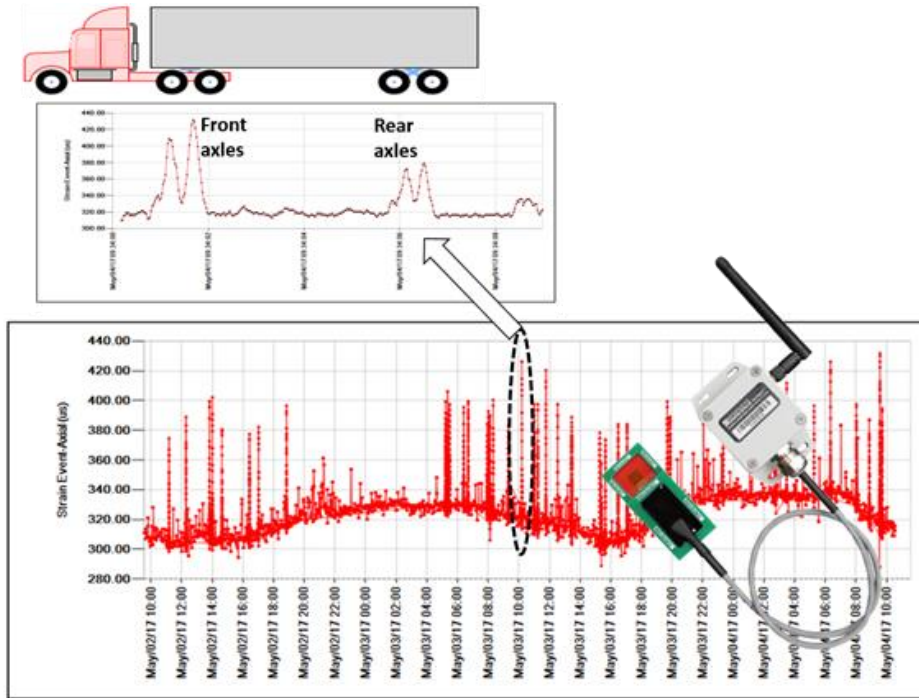
Load Testing



SenSpot™ as test tool for bridge load rating by using truck(s) tests

Breakthrough Method of Steps for Fast and Accurate Bridge Load Rating

1. Attach adhesive mount wireless strain SenSpot™ to critical members (e.g., beams, girders, truss members, gussets).
2. Drive truck of known weight (steer axle, drive 'tandem axle and gross weight) over the bridge.
3. Calculate load carrying capacity using the responses of the members.



This photo shows some high strain episodes that were picked up on by the strain gauge SenSpot™

Resensys Benefits

- 10+ years Battery Life
- Easy to install & self-adhesive
- Small in size & lightweight
- Usable on different kinds of material
- For short and long term monitoring
- No need for calibration in the field
- Immediate alert services
- Quick Testing
- Rugged, weatherproof, & corrosion resistant
- Can withstand extreme weather conditions
- High precision
- Lightweight design
- Accurate, reliable, & repeatable results
- Infrastructure less & energy self-sufficient system