



IQ Series™ Gateway with Bogie IQ® Technology

**One device. No external sensors.
Innovation unleashed.**

Amsted Digital's innovative IQ Series gateway is a maintenance-free, low-power telematics device built to perform in freight rail's harshest operating environments. The powerful built-in capabilities of the IQ Series gateway paired with advanced machine learning technology virtually eliminates the need for specialized external sensors.

When mounted on a bogie and configured with Bogie IQ technology, the IQ Series gateway is capable of providing real-time onboard health monitoring in addition to GPS capabilities.

- ▶ GPS benefits, such as accurate mileage, dynamic ETA, geofence alerts, and first- and last-mile validation
- ▶ Load state change
- ▶ Bogie IQ wheelset condition monitoring
- ▶ Bogie IQ brake performance monitoring



FEATURES AND BENEFITS

- ▶ Lowest total adoption costs compared to other leading telematics systems.
- ▶ Real-time location data enables dynamic ETA calculations and geofence entry and exit alerts for first- and last-mile validation.
- ▶ Accurate Load Status in Motion (LSiM) enables precise loaded and empty mileage calculations.
- ▶ Bogie IQ technology enables frequent monitoring for wheel tread defects and real-time monitoring of brake slide events.
- ▶ Proprietary hybrid power design utilizes both solar and rechargeable batteries, extending the performance life up to 10 years.*
- ▶ Provides a quick and easy means to manage by exception and receive prompt, actionable information through the Supply Chain Visibility™ software application.
- ▶ Utilizes 4G cellular communications coverage with 5G forward compatibility.
- ▶ Utilizes BLE standard communication protocols (IEEE available).
- ▶ As new features are introduced, customers can easily update their IQ Series devices through an over-the-air upgrade.

* Results may vary based on operating environment.



INSTALLATION

The IQ Series gateway is installed on the bolster of one or both railcar bogies. The Bogie IQ technology is initiated through a simple over-the-air upgrade.

Device association to a railcar, or reinstallation on a different railcar, is done via mobile application, making installs quick and simple. Railcar association of the IQ Series gateway takes only a few minutes using built-in Object Character Recognition (OCR) and barcode scanning. The Amsted Digital Solutions Device Install Management app is available for Android devices.

SPECIFICATIONS AND ENVIRONMENTAL STANDARDS

Below is an abbreviated list of environmental and safety standards for the IQ Series gateway.

Safety Certifications*:

- ▶ Class I; Div 2; GR A-D; T4
- ▶ Class I, Zone 1, AEx ib IIC T4 Gb
- ▶ II 2 G Ex ib IIC T4 Gb
- ▶ Ex ib IIC T4 Gb
- ▶ $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq +60^{\circ}\text{C}$

*Subject to updates per certifying agencies

Electromagnetic Compatibility:

- ▶ CE, FCC 15B & C, 22, 24, Industry Canada, EN 50155

Product Safety:

- ▶ EN 50124
- ▶ EN 50153

AAR S-2045 Compliant

Environmental Standards:

- ▶ Operating temperature: -40° to 78°C (-40° to 172°F)
- ▶ Storage temperature: -40° to 78°C (-40° to 172°F)
- ▶ Shock: S-9401
- ▶ Vibration: S-9401 body mounted
- ▶ Humidity: 95% (MIL810G & S-9401)
- ▶ Salt Fog: MIL810G & S-9401
- ▶ EN 50153



Scan the QR code with your mobile device to learn more.

ABOUT AMSTED DIGITAL SOLUTIONS

Amsted Digital Solutions Inc. is a subsidiary of Amsted Rail Company, Inc., a leading global provider of undercarriage and end-of-car railcar components with over 40 locations on 6 continents. Together, we combine nearly 150 years of excellence in rail component design and manufacturing with leading-edge rail telematics technology.

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