

Powered by Ingenuity



**State-of-the-art
Locomotive
Control Systems**



QTRAC 1000

Pumped up Pulling Power

The QTRAC 1000 Traction Control module is an economic way to significantly boost track adhesion and locomotive performance. The QTRAC 1000 controls wheel slip/creep in power and dynamic brake operation by reducing excitation to the main generator when wheel slip is detected in one of the axles. The result can be as high as a 34% improvement in track adhesion under poor rail conditions. Self-diagnostic functions are built into the QTRAC 1000 to assist in testing and troubleshooting.



QEG 1000 AUTOSTART (AESS)

Slash Fuel Consumption & Exhaust Emissions

Locomotive idling results in needless fuel consumption, engine wear, oil consumption and emissions. The QEG 1000 AUTOSTART module monitors engine operating parameters and automatically shuts down and restarts the engine during locomotive idle periods. This leads to a significant reduction in fuel usage and emissions while ensuring the locomotive is always in a state of readiness. The QEG 1000 AUTOSTART also records fuel statistics, locomotive statistics, events, and alarm logs.



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Q-Tron is a recognized leader in aftermarket replacement control systems for locomotives. Our expertise and experience are unmatched in the industry. Since 1990, over 1,200 Q-Tron locomotive control systems and over 1,500 engine management systems have been installed on locomotives operating throughout North America, South America, and Australia.

As the leading systems integration specialist in the industry, we can design and install control packages for virtually any locomotive. We have designed and installed packages for many engine types including GE, EMD, MLW, ALCO, Caterpillar, Cummins, and Detroit-Diesel/MTU.

As part of the Wabtec group of companies, Q-Tron has a broad customer support and service network worldwide for all of our product lines.

QES-III Performance Enhancement System

Work Harder and Smarter

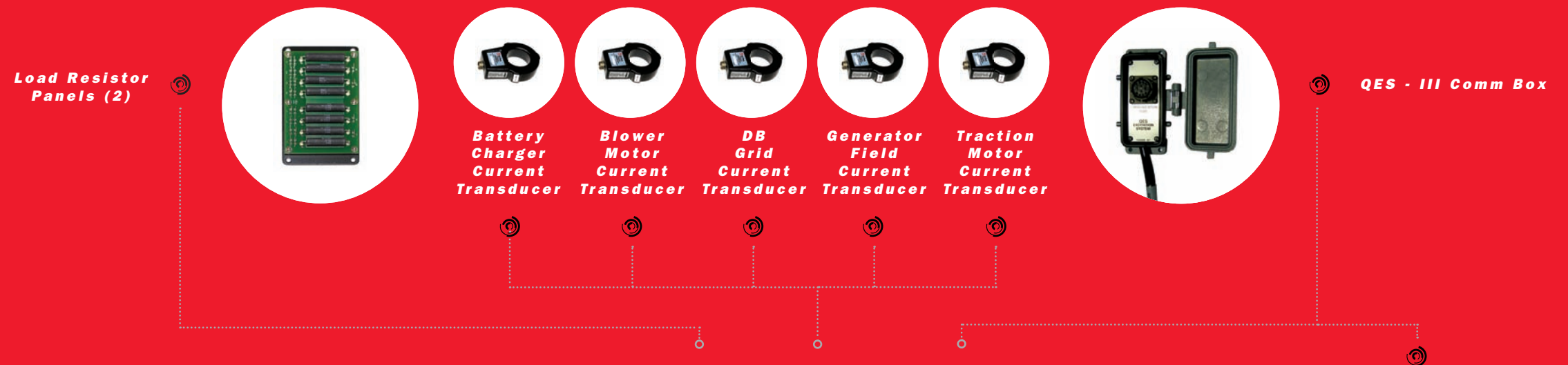
The QES-III microprocessor control system allows locomotives to be upgraded to a performance level that is aligned with more advanced locomotive technology. Advanced wheel slip/creep control increases dispatch adhesion up to 34% over conventional systems. With savings from reduced maintenance, improved fuel economy, and higher tractive effort, the QES-III is an affordable investment with favorable economic returns.

PRIMARY FUNCTIONS:

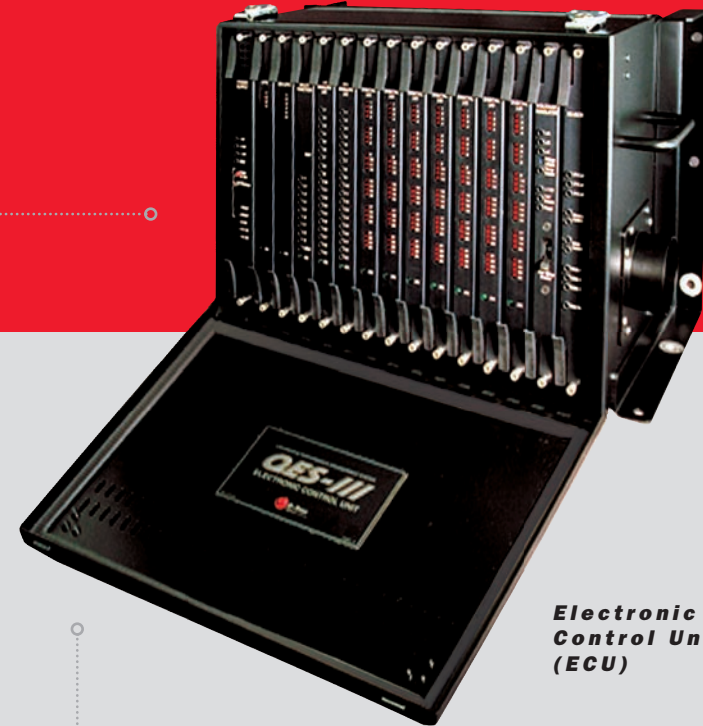
- Main generator excitation
- Advanced adhesion control
- System monitoring and diagnostics
- Expandable functionality
- Common device compatibility

BENEFITS:

- Improved performance
- Increased reliability and availability
- Reduced maintenance costs
- Better fuel economy
- Higher tractive effort
- Quick and responsive locomotive control



Computer Display Unit (CDU)



Electronic Control Unit (ECU)



Crash Hardened Memory Module

Differential Voltage Module (Current Based)



Axle Generator (Speed Based)

Water Temperature Sensor



Ambient Air Temperature Sensor



Main Reservoir Pressure Transducer



Autostart (AESS) Siren Panel



ADDITIONAL FEATURES:

Q-Tron's modular design allows us to customize a package with many features as desired. Functions can be added at a later time without changing the entire system.

- Traction motor management software
- Engine speed / horsepower control
- Forward and reverse control
- Transition control (average axle speed)
- Shutter & radiator cooling fan control (random selection)

- Load meter control
- Compressor control and protection
- Automatic ground fault detection & smart reset
- Integrated slow speed control
- Traction motor cutout from display unit

- Operator-initiated locomotive tests
- Optional features
- Integrated event recorder with vigilance control
- Integrated autostart/shutdown function
- Integrated electronic governor