

# ME-1000 Health Monitoring Analysis System (HMAS)



**Product Description:** Health Monitoring and Analysis System (HMAS) is a reliable system that enables the rail carrier's mechanical team to reduce its overall maintenance costs and minimize the impact to customers due to unscheduled maintenance down time.

The HMAS interfaces with existing onboard locomotive systems to provide remote diagnostics, health monitoring, and maintenance alerts of predetermined faults. These HMAS units are being installed on passenger locomotives that are operating throughout the US Northeast corridor. The units use standard cellular communications and GPS modems to provide real-time continuous monitoring of the trains' onboard sensors.

The system and mechanical design functions are being completed by WRSystems to meet all of the customer's requirements to provide a custom, ruggedized, and embedded computer system. The system's design contains all of the necessary interfaces and communications protocols to connect with existing locomotive systems. All production, assembly, and quality control occur at WRSystems and are based on our ISO 9001:2008 quality management system model.

The HMAS hardware is designed to withstand the harsh environment of a locomotive and utilize the locomotive's existing 72VDC for power. Its internal power management system supports transient power outages and allows the HMAS to handle the "dirty" power fluctuations that are inherent to locomotives. Additionally, the unit supports interfaces and protocols to communicate with onboard systems including Ethernet, USB, RS-232, and LonWorks/RS-422.

**Customer(s):** The GBS Group, AMTRAK

## Specifications:

- 55-85VDC Power
- 2 - RS-232 Ports
- 1 - RS-232/422 Port
- 4 - USB ports
- 2 - 10/100 Ethernet Ports
- Aluminum Enclosure
- Dust Proof and Splash Proof
- -40F to 70F Operating Temperature
- 13" (L) x 7.75" (W) x 9.25" (H)
- Pentium M Processor
- 16GB Solid-State Drive

## Applications:

- Installation on board locomotives and trainsets to provide health monitoring capabilities of rail carrier rolling stock assets
- Interfaces with existing systems on board the locomotive and trainset to retrieve diagnostic, maintenance, and health information
- Used in conjunction with third-party diagnostic and reliability software to determine criticality of user-defined faults
- Interfaces to cellular modem for transmittal of health and GPS location information to enterprise website

**Primary Manager:** Andy Rabiner

**Contact Info:** (757) 858-6000, ext. 484, arabiner@wrsystems.com

