



The MicroHBD easily installs in both new and retrofit locations. Upgrade kits are available for various detector systems including Servo 9000s, Servo Cyberscans, Harmon Model 75s, DevTronics CMA02s, and other systems that use Servo ACS I/ ACS II scanners. These upgrade kits reuse most of the existing field equipment, providing the full benefits of the MicroHBD while reducing cost and installation time.

The MicroHBD user interface provides password-protected access to configure site-specific parameters, set alarm limits, upgrade software, interface to other equipment via digital I/O, provide remote access, and communicate to various central reporting systems.

## FEWER FALSE STOPS KEEP THE WHEELS OF COMMERCE IN MOTION

Progress Rail's Micro Hot Bearing Detector (MicroHBD) inspects passing trains for bearing defects in order to prevent derailments and costly infrastructure damage.

Analyzing each bearing's infrared signature, the MicroHBD is able to alert authorities to potential problems before they hamper productivity.

Utilizing the optional GEN III filtering with its patented digital heatprocessing algorithm enables MicroHBD to reduce Nothing Found Stops (NFS) by 75 percent (over GEN II filtering), while ensuring true stops are detected. This capability ensures the railroads achieve maximum velocity through fewer false stops. No competing system offers this technology.

**Progress Rail**  
A Caterpillar Company

800-476-8769

[progressrail.com](http://progressrail.com)

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# MICRO HOT BEARING DETECTOR

## SPECIFICATIONS

### Power Requirements

Operating voltage: 9 to 16 VDC Operating current: <420 mA, 6A (Train Passing)

### Operating Temperature Minimum

-40°F (-40°C) Maximum: +158°F (+70°C)

### Dimensions

Height: 9 in (22.86 cm) Width: 8.75 in (22.23 cm) Depth: 7.25 in (18.42 cm)

### Communications

RS-232 local port adjustable baud rate to 115k baud

RS-232 local port NULL adjustable baud rate to 115k baud

RS-232 modem port adjustable baud rate to 33.6k baud

An optional industrial temperature internal modem is available

System has dial-out capability to remote reporting locations

### Track Interface

Digital I/O

If defined as inputs: input can be normally closed or normally open, user definable

If defined as outputs: can be used to drive 12-volt relays requiring 250 mA current or less

Analog I/O

Ambient temperature probe

12-volt battery monitor

Wheel gates

Differential inputs to support electric rail

Track circuit input

## SOFTWARE CONFIGURATION OPTIONS

### Digital Heat Filtering

Option 1: Patented Gen II Filter Mathematical filter reduces Nothing Found Stops (microphonics, etc). Proven success: reduced BNSF bearing NFS stops by 50% compared to the median filter considered best in class industry-wide.

### Option 2: Gen III Filter (patent pending)

Peak-detect algorithm detects profile anomalies not detected by the Gen II filter.

Proven success: reducing BNSF bearing NFS by 75%.

Configurable thresholds allow customer to tailor filter algorithm based upon customer's risk management strategy.

Integrity Failure Alerts support proactive site maintenance when atypical profiles are detected. (VH F announcement and office alerts).

### AEI Integration

Serial interface (via RS-232) to SAIC Mainline Reader for integrated HBD AEI S918B compliance.

### Track Configurations

Up to triple track supported

Radios

Kenwood TK760

Tellular

Train Detection

Option 1:

EPIC III Track Circuit

Option 2: Advanced Transducers Weather Monitors

Ambient temperature probes Wind speed/direction monitor Integration with other Defect Detectors

Input can be normally closed or normally open, user definable

### Storage

1 Mbyte SRAM for train, car, and axle data

8 Kbyte EERAM for configuration data

Micro Hot Wheel Detectors (MicroHWD)

Micro Cold Wheel Detectors (MicroCWD) Dragging Equipment Detectors (DED)

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