The next generation Hot Bearing/Wheel Detector eliminates false stops that current technologies have due to microphonics and other shock related side effects to keep the wheels of commerce in motion.

The Progress Rail PowerView Hot Bearing/Hot Wheel Detector is next generation Hot Bearing/Wheel and Sliding Wheel Detectors. It uses cutting-edge Micro-Bolometer Thermal Imaging Technology to inspect trains for overheated bearings and wheels in order to prevent derailments and costly infrastructure damage.

By analysing each bearing's thermal signature, the PowerView HBWD looks at 320 points along the entire field of view to determine the bearing/wheel absolute temperature so that authorities can be alerted to potential problems before they hamper productivity.

The Infrared Scanner Head is a high speed temperature measurement device that can measure the temperature of moving targets with 3% accuracy. The new sensor module is a dynamic and highly configurable intelligent infrared area scanner that combines high-speed acquisition, data processing and communications in a small compact, environmentally sealed form factor. It is immune to microphonics and can be configured to provide over 450°C of instantaneous dynamic range and has the capability of capturing 7 million measurements every second. This capability ensures that railroads achieve maximum velocity through fewer false stops.

The Thermal Detector's user interface provides password-protected access to configure site-specific parameters, set alarm limits, upgrade software, interfaces to other equipment via digital I/O, remote access, and communication to various central reporting systems. Available in Rail Mount, Ballast Mount (Wheel only) and In-Tie Mount (required for Locomotive Bearing Detector), the Thermal Detector easily installs in both new and existing locations.

There is no other competing system that offers this technology.
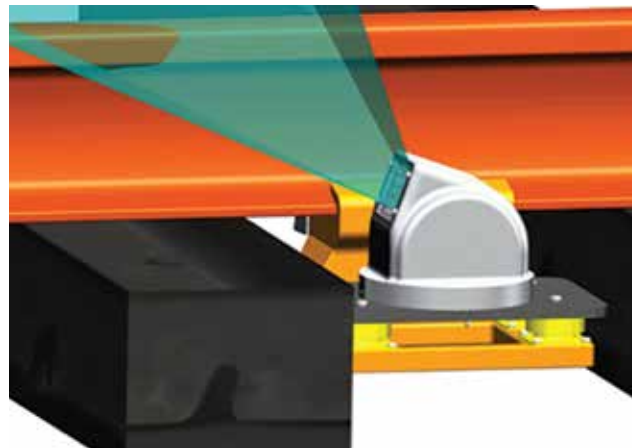
Progress Rail
A Caterpillar Company

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POWER REQUIREMENTS

Input Power
- 16 to 20 V AC, 47 to 63 Hz, or 16 to 28 V DC

SPECIFICATIONS

SENSOR FEATURES AND OPTIONS
- Accuracy 2° C
- Temperature measurement up to 450° C (900° F)
- Large data buffers for measurement recall
- Fully radiometric
- Power Over Ethernet

POWER REQUIREMENTS
- Operating voltage: 9-16 VDC
- Operating current: <420 mA, 6A (train passing)
- 120 VAC 750 Watts for heaters

OPERATING TEMPERATURE
- Minimum: -40° C (-40° F)
- Maximum: 70° C (158° F)

DIMENSIONS (PROCESSOR UNIT)
- Height: 23.49 cm (9.25 inches)
- Width: 15.72 cm (6.19 inches)
- Length: 29.21 cm (11.5 inches)

COMMUNICATIONS
- Ethernet 2 x 10/100 ports
- Serial RS-232, 422

DIGITAL I/O
- If defined as inputs: inputs can be normally closed or normally opened, 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 0-5 VDC
- Battery monitor 0 – 18 VDC
- Wheel Sensor inputs are differential to support electric rail

DATA STORAGE
- 32 GB hard drive for train, car and axle data

RADIO INTERFACE
- Isolated 600 ohm output with a software controlled modulation level

TRAIN SPEED
- 0 – 128 km/h (0 – 80 mph)

OTHER SUPPORTED INPUTS
- AEI
- Weather monitors
- Ambient temperatures
- Wind speed/direction

MEETS THE FOLLOWING SPECIFICATIONS
- AREMA Part 5.1.30
- AREMA Part 5.1-35
- FCC Part 15B Certified

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