SMARTSCAN | NG

MODEL 2300 | PRODUCT PROFILE

Product Overview

The Model 2300 NG Defect Detector is a dual microprocessor-based system designed to perform all traditional defect inspections. There are more than 1000 units on Class I and other heavy haul railroads worldwide.

Each Model 2300 is fully equipped for:

- Bearing Scanners
- Wheel Scanners
- Open Contact Auxiliary Alarm Devices
- VHF Voice Radio
- Networked Communications
- Integrated AEI

Main Assembly

The system electronics, consisting of a chassis assembly and a controller module, contains all the surge suppression and interconnection hardware to fulfill the requirements of a full-featured defect detection system.

Once alarm conditions are detected, they are announced in a clear human voice on pre-selected VHF radio channels to alert train crews to the presence of dangerous conditions. Defects are identified by axle number and position in real time. The controller module contains a serial to IP converter that can be connected to an IP modem or dedicated network connection for transmission to remote servers.

2300 Chassis & Controller

Modular Design

The Model 2300 system is modular by design, allowing the system to be configured as needed for specific environments. The basic system is delivered as a Hot Bearing detector. Additional capabilities can be added by simply attaching input devices like wheel scanners, dragging equipment detectors, high/wide load detectors, and the MPRR–RFID module. The system software of the Model 2300 already contains support for each of these options. Simply adding the hardware required for the desired function and activating it in the software enables these capabilities.

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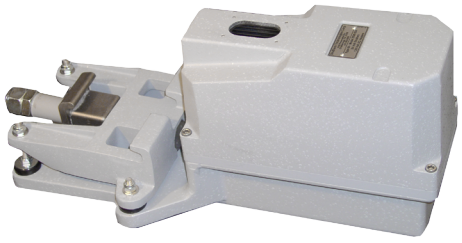
AEI Integration

The Model 2300 system is designed to seamlessly integrate data from a Transcore MPRR - RFID reader module. If an MPRR is connected to the Model 2300 system, bearing and wheel temperatures are uniquely associated with the car records that are included in the S-918B output of the Model 2300 system. In the event of a detected defect, alarm announcements delivered on the radio will include the car number with the defect. The Model 2300 system maintains records for the last 100 trains that it has scanned. The records can be delivered over a network IP connection or copied to a local PC through a serial connection. Records can be viewed in a standard ASCII text format or in S-918B format.

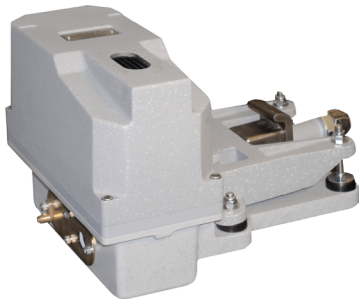
MPRR - AEI Reader

Module Support

The Model 2300 system supports input from Type II and Type III infrared scanners manufactured by Southern Technologies Corporation. Both types of scanners are compatible with the same rail mounting hardware, and can support either bearing or wheel scanning interchangeably. Each delivered system includes most of the tools required for system maintenance, including alignment and calibration.



Type III - Wheel Scanner



Type III - Bearing Scanner

SOUTHERN TECHNOLOGIES CORPORATION
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General Specifications

Input Voltage - DC	10 – 16 Volts @ 10 amps /w < 300 mv ripple
Input Voltage - AC	100 – 130 Volts @ 15 amps
Input Voltage Protection	Circuit Breaker & Self Restoring Fuses — Reverse Polarity Protected
Communications Ports	4 — RS232, 1 — RS232 Dedicated for AEI 1 — RS485 Multi-drop, 1 — RJ45 Ethernet
Temperature Spec. - Industrial	– 40 + 70C Fan-less operation
Size	15.5”W x 22”H x 3.75”D
Weight	30 lbs.
Finish	White powder coat over stainless steel

Processor / Controller

Manufacturer	Southern Technologies Corporation
Processors	2 – Motorola 68 HC11
Program Storage	480KB – 15 Banks @ 32KB Each – FLASH
Train Data Storage	4 MB
Non-Volatile Memory	Time & Date – Battery Backed Train Data Storage
Inputs	8 – Opto-Isolated Digital 4 – 0-5 Volt Analog Scanner 2 – Spare 0-5 Volt Analog 1 – Precision Temperature Probe 1 – Battery Monitor
Voice Communications	Internal 6 Watt Transceiver – 12.5 KHz Channel Spacing – 134 MHz to 176 MHz
Weight	30 lbs.
Finish	White powder coat over stainless steel