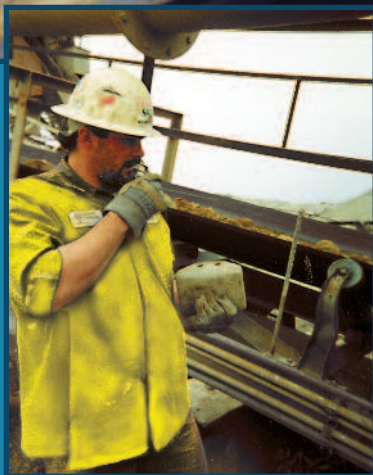


**SCI**TRONICS

# Tramp Metal Detection Systems

Models 2080 Dual Coil  
and Single Coil



**Detection of tramp in ores,  
aggregates, coal, rubber, iron  
pellets, wood chips and more  
transported on standard and  
steel core conveyor belts**

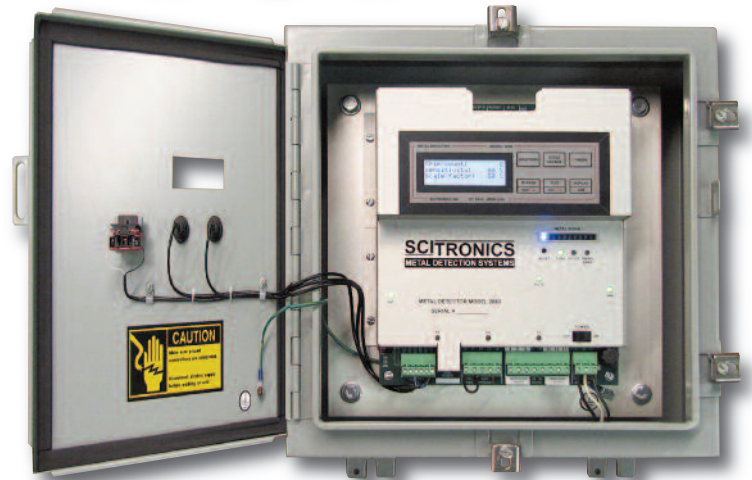
*SETTING THE STANDARDS FOR RELIABILITY AND DURABILITY  
REQUIRED BY TODAY'S CRUSHING AND PROCESSING INDUSTRIES*

Downtime and repairs to crushers, grinders, shredders, conveyor belts and other processing equipment due to damage by tramp metal are costly. That's why concerned plant managers and engineers consider tramp metal detectors an essential addition to their conveyor lines. They also have discovered that detectors are not created equal and important features should be weighed before making a purchasing decision.

Weigh all the features and you'll agree—SciTronics Tramp Metal Detectors are the best value. They blend state-of-the-art technology with practical application features developed over many years of working closely with conveyor users. With two models plus many options available, there's a system to meet your specific use requirements.



**Signal Controller**



## Features of SciTronics Dual & Single Coil Detectors

### Wide Application Range

SciTronics detectors are designed to find tramp while scanning products such as highly mineralized or magnetic ores (including magnetite and pyrites, even when conveyed on steel cable belts) as well as copper, nickel, aluminum, aggregates, coal, rubber, wood chips, sinter and tar sands. They can also be used in recycling plants to detect tramp among plastic, glass or paper.

The electrical conductivity of materials conveyed through the SciTronics sensor area is measured by detecting variations in

a pulsed electronic field. Since magnetic and conductive properties of any material are independent, both magnetic and non-magnetic metals are detected.

### Easy Set Up and Use

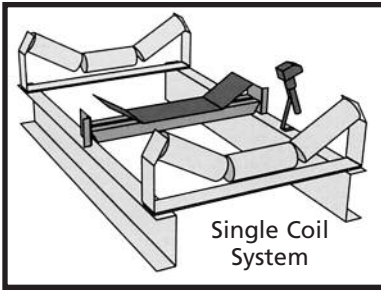
A 4 Line 80 character LCD Display and a 6 button membrane overlay provide easy programming. The keypad is located inside the enclosure and can be locked to prevent any unwanted changes to the calibrated settings. Digital filtering and adjustable frequency reduce environmental interference. A Metal signal LED bar displays metal detection to provide

precise calibration. Alarm delays and durations are programmable for use with diverter gates.

An external Alarm and Status indicators tells you if a trip has occurred, if the unit is in bypass mode, if there have been multiple trips before stopping the belt and when the unit is ready.

Test function verifies metal detection circuitry, cable and coil connectivity and relay function.

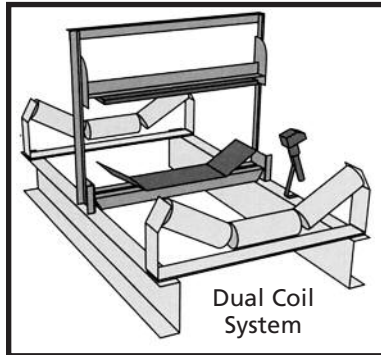
The metal detector coils are built of impact resistant PVC to withstand damage and the top coil swings away if impacted by large conveyed material.



Single Coil System

## Single Coil Model

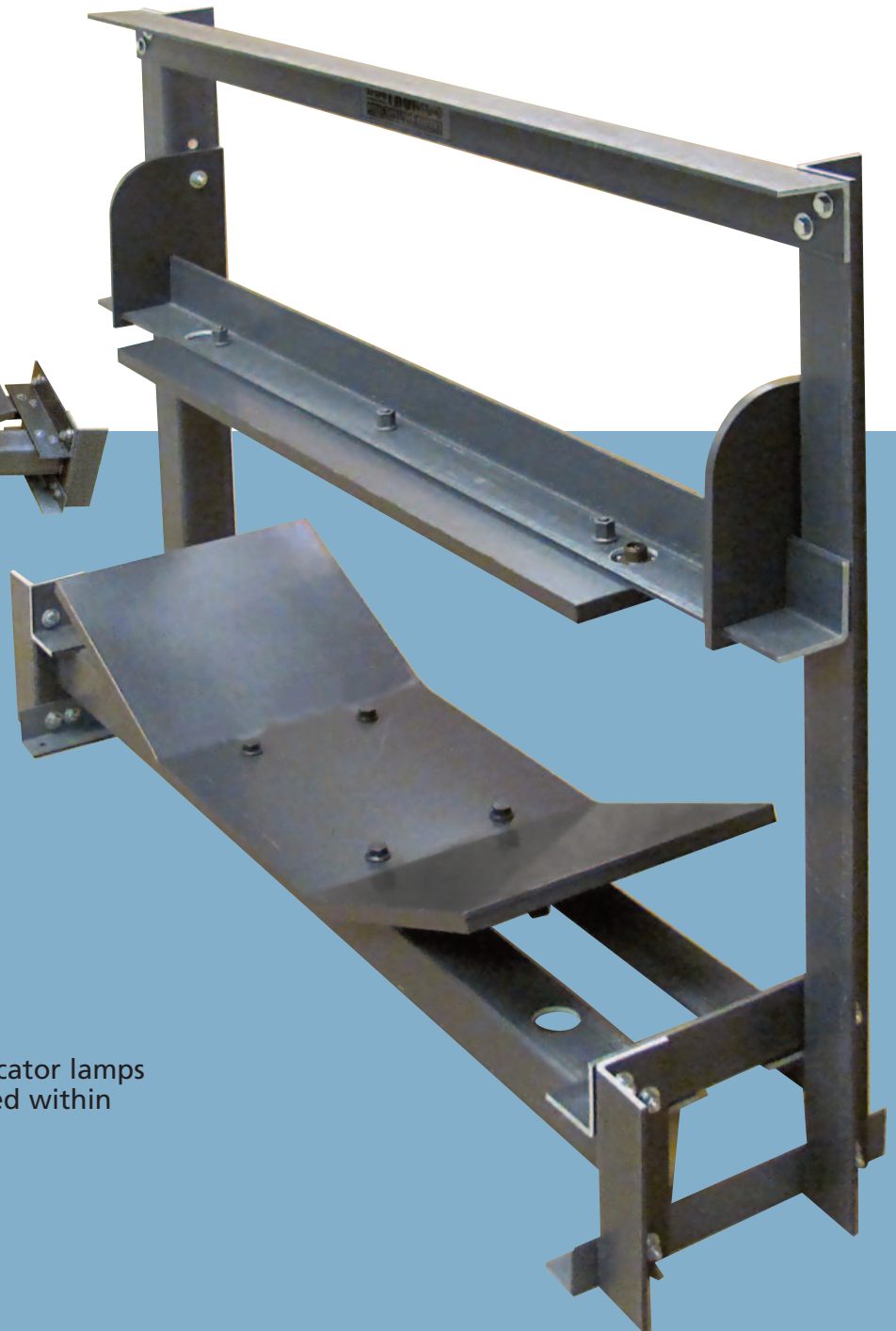
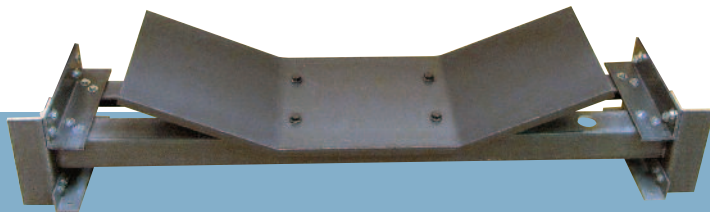
This model is designed for to scan products from underneath the conveyor or slider bed and is recommended for applications where space prohibits mounting an overhead coil. Coil can be contoured for troughed conveyors. Coil is highly sensitive, especially near the bottom of the belt. Sensitivity decreases with the height above the bottom of the belt.



Dual Coil System

## Dual Coil Model

The Multi-coil system creates a uniform field, providing optimum detection sensitivity throughout the burden cross-section. By generating a configured field pattern, desired tramp metal signals are reinforced and extraneous electrical field signals are cancelled. Top coil swings away in case of impact with large conveyed material.



## Optional Detector Accessories:

- **Splice Detector**  
high performance inductance coil
- **Flag Drop-Metal Marker**
- **Remote Reset Alarm**, ready indicator lamps and alarm counter may be installed within the remote station enclosure.
- **Alarm Horn**
- **Rotating Alarm Beacon**
- **Shift Register**



# Tramp Metal Detection Systems

## Models 2080 dual coil and single coil

**SCI**TRONICS

### Model 2080 Dual and Single Coil Specifications

#### OPERATIONS

Tramp Metal: Detects both non-magnetic and magnetic metals

Sensitivity: Dual Coil Model — Maximum approximately 5% of aperture height; stable to 10% with the same sector of aperture location.

Conveyor Velocity: Minimum — 6ft/min (1,83 m/min).  
Maximum: 1,200 ft/min (365.76 m/min).  
Reset: Manual pushbutton located next to the indicator lights on the enclosure door

#### ELECTRICAL

Line Power 95-250VAC +/-10%; 50/60 Hz; 40VA.  
Fuse Protection: Fuse — 3 A.

#### PHYSICAL

Controller: NEMA 4 enclosure.

Dimensions: 16" x 16" x 6" (406mm x 406mm x 152mm).

Temperature: Control instrument and sensors rated from -30°F to 140°F (-34°C to 60°C).  
Specified for outdoor all-weather use.

Sensor Coils: Constructed from monolithic, impact-resistant PVC.

Coil Support Structure: Fabricated from fiberglass reinforced pultrusions.

Weight: Controller: 30 lb (13.60 kg)  
Dual Coil Set: 40 lb (18.14 kg)  
Single Coil: 30 lb (13.61 kg)  
Structure: 30 lb (13.61 kg)  
Cables: 5 lb (4.54 kg)  
(Typical for 36" belt system)

### ABOUT SCITRONICS INC.

SciTronics has been making reliable and durable Tramp Metal Detectors since 1981. Based on the industry demands, we expanded our product lines to include Wired and Wireless Conveyor Belt Scales, Feed Rate Controllers, Load Controllers, Weigh Belt Feeders, and Slide Gates. Our mission is to provide innovative, durable and accurate products as well as giving our customers exceptional service.



*Let's get together. We'd like to learn about your tramp detecting needs, provide all of the answers to your questions and show you how SciTronics Models 2080 can help you tighten your budget without sacrificing performance.*

**Represented by:**

**SCI**TRONICS  
INDUSTRIAL SYSTEMS

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