

ERIEZ METALARM

INDUSTRIAL METAL DETECTORS

3000 / 3500 / 3600 SERIES



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RUGGED RELIABLE RECOVERY

ERIEZ

METALARM

MA3000 - 3500 SERIES



The Eriez MetAlarm range of metal detectors provides protection to a wide range of industries operating around the world.

FEATURES

- A wide selection of control unit models and sensor coils for industry and application-specific solutions
- Purpose-built detection coils, ideal for both new and retrofit installations
- Easy to fit to both belt and vibratory conveyors with minimal metal-free areas
- Signal monitoring and self-checking facility with multiple optional features
- Adjustable sensitivity with minimum detection size feature to avoid unnecessary nuisance trips for smaller pieces that will not damage machinery
- Sensor coils suitable for ambient / product temperatures varying from -40°C to 200°C
- Detect' and 'Power On' indicators and a 10 segment LED signal display supplied as standard
- CE / CSA compliant

APPLICATIONS

- Wood processing
- Plastics, rubber and packaging
- Quarry and mining
- Mobile crushing
- Mineral processing
- Textiles
- Glass
- Recycling
- Paper / Pulp



TROUGHED SENSOR COIL (TR)

- Single 'underbelt' sensor coil profiled to match the conveyor trough for optimum performance
- Ideal for material depths up to 300mm for detection of tramp metal such as bucket teeth, large nuts, bolts etc. Will detect smaller pieces nearer the coil surface
- Special designs available for narrow idler spacings

PLATE SENSOR COIL (PL)

- Single flat SS type underbelt sensor coil suitable for flat conveyor belts
- Special single flat SF type underbelt sensor coil for applications where there is a large amount of surrounding metal and / or high level of electrical interference



BRIDGE SENSOR COIL (BR)

- Dual sensor type with top and bottom coils for use with higher material burdens and higher belt speeds
- Able to detect tramp metal above customer critical metal size only, ignoring smaller pieces and preventing unnecessary stoppages of conveyors and associated downtime
- Suitable for use with conductive materials such as metallic ores
- Suitable for use with steel corded conveyor belts

VIBRATORY TROUGH SENSOR COIL (VC)

- Single coil model that can be mounted directly into vibratory trough conveyors or 'U' section conveyors without need the to provide large metal-free areas



MA3000 - 3500 SERIES – CONTROL UNITS

Eriez MetAlarm control units employ 'Pulse Induction' technology circuitry, which has a proven track record of being reliable and rugged in tough conditions.

The MetAlarm controls are available in both mild steel painted (known as MA) and stainless steel (known as Quarmaster or QM) versions. The QM models are also fitted with heater modules for use in cold conditions and have an optional belt clip detection facility for installations where belts have been repaired with metal clips.

Both MA and QM models are also available in Hi Power versions that offer enhanced detection sensitivity whilst still maintaining ease of use and minimal on-site adjustments. These features ensure that all Eriez MetAlarm detectors are extremely practical for users in any industrial environment.



MA3500 Control Unit

| MODEL | APPLICATION | ENCLOSURE | LOW TEMPERATURE OPERATION | USE WITH METAL BELT REPAIR CLIPS |
|-----------------|---|--|---------------------------|----------------------------------|
| MA3000 | General quarry, mining, mobile crushers, wood, recycling, high concentration ores | Mild steel painted RAL 7035 IP66 | ✗ | ✗ |
| MA3500 | General quarry, mining, mobile crushers, wood, recycling | Mild steel painted RAL 7035 IP66 | ✗ | ✗ |
| QM3000 | General quarry, mining, mobile crushers, wood, recycling, high concentration ores | Stainless Steel 304* IP66 | ✓ | ✗ |
| QM3500 | General quarry, mining, mobile crushers, wood, recycling | Stainless Steel 304* IP66 | ✓ | ✗ |
| QM2 3000 | General quarry, mining, mobile crushers, wood, recycling, high concentration ores | Stainless Steel 304* IP66 | ✓ | ✓ |
| QM2 3500 | General quarry, mining, mobile crushers, wood, recycling | Stainless Steel 304* IP66 | ✓ | ✓ |

*Stainless Steel 316 available on request.

ELECTRONICS

- 115 or 230V AC, 50 or 60Hz single phase supply
- 24V DC (optional on all units)
- Power consumption – 30W (MA models), 60W (QM models)
- Output relay – DETECT relay - 4 changeover relay contacts rated 5 Amp at 28 DC or 120V AC

INTERCONNECTION CABLES

- 5m, 10m and 20m options available



QM3500 Control Unit



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MA3600 SERIES – MODELS HAWK AND EAGLE

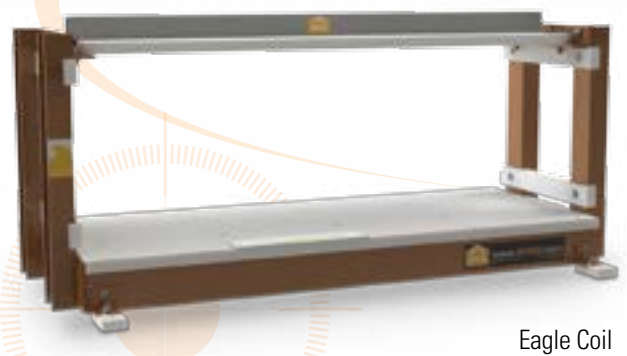


FEATURES

- Common control unit that operates with both Hawk and Eagle coils
- Microprocessor-based system
- Self-diagnostics and fault indication as standard
- Automatic mains supply recognition 100VAC – 240VAC (15VDC – 24VDC also available on request)
- Operates with variable conveyor belt speeds (on request)
- Highly resilient to electrical noise interference
- Purpose-built detection coils, ideal for both new and retrofit installations
- Easy to fit to both belt and vibratory conveyors with minimal metal-free areas
- Dual channel as standard for metal and belt clip signals with coarse and fine sensitivity control
- Adjustable sensitivity with minimum detection size feature to avoid unnecessary nuisance trips for smaller pieces that will not damage machinery
- Sensor coils suitable for ambient / product temperatures varying from -40°C to 200°C
- 'Detect' and 'Power On' indicators and a 20 segment LED signal display supplied as standard
- CE / CSA compliant



Hawk Coil



Eagle Coil



MA3600 – Hawk

SENSOR COILS

Eriez offers two principle sensor coil types for use with the MetAlarm 3600 control unit.

- **Hawk Coil** – can be operated at detection sensitivity settings of 5%+, 10%+ or 20%+ of aperture height in terms of a ferrous sphere, depending on application and customer requirements
- **Eagle Coil** – typically achieves a detection sensitivity of 2%+ of aperture height in terms of a ferrous sphere for those applications that need to meet a higher metal detection sensitivity requirement
- Can be used with conveyor belts with steel cords (Hawk Coil)
- Able to operate with conductive products (Hawk Coil)

All Eriez MetAlarm metal detector sensor coils are custom-built and can be supplied to fit any belt width and accommodate any aperture height requirement. Please consult Eriez for further details.

MA3600 SERIES – CONTROL UNITS

| MODEL | SENSOR COIL | APPLICATION | ENCLOSURE | LOW TEMPERATURE OPERATION | USE WITH METAL BELT REPAIR CLIPS/ STEEL CORDS |
|--------|-------------|---|--|---------------------------|---|
| MA3600 | HAWK | Aggregate, mining, cement, mineralised ores Suitable with steel corded belts | Mild steel painted RAL 7035 IP66 | ✗ | Optional |
| MA3600 | EAGLE | Plastics, aggregate, mining, non-conductive ores | Mild steel painted RAL 7035 IP66 | ✗ | Optional |
| QM3600 | HAWK | Aggregate, mining, cement, mineralised ores Suitable with steel corded belts | Stainless Steel 304* IP66 | ✓ | Optional |
| QM3600 | EAGLE | Plastics, aggregate, mining, non-conductive ores | Stainless Steel 304* IP66 | ✓ | Optional |

*Stainless Steel 316 available on request.

OUTPUT RELAYS

- DETECT relay – 2 changeover relay contacts (4 changeover option available)
- FAULT relay – 2 changeover relay contact
- Programmable with standard and fail-safe modes
- Contact rating – 5A and 28V AC or 120V AC
- Optional healthy relay

ELECTRONICS

- 100-240V AC (15-24 V AC also available on request)
- Current consumption – 1.0A
- Power consumption – 100W

INTERCONNECTION CABLES

Hawk Coil

- 5m supplied as standard
- 10m and 20m optional

Eagle Coil

- 5m supplied as standard



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METAL DETECTOR ACCESSORIES



GENERAL SPECIFICATIONS

- Universal input voltage range (100-240VAC 50-60Hz)*
- IP66 NEMA 4 powder coated steel enclosure (RAL 7035) – MA Model
- IP66 NEMA 4X stainless steel enclosure – QM Model
- Temperature range 0°C – 50°C (32°F – 122°F)
(low temperature versions available on request)

*Mains filter either 110 or 240VAC only

BENEFITS

- User-friendly simple operation
- Elimination or significant reduction of costly downtime
- Improves protection of plant items
- Compact designs for easy installation



Inkjet Marker

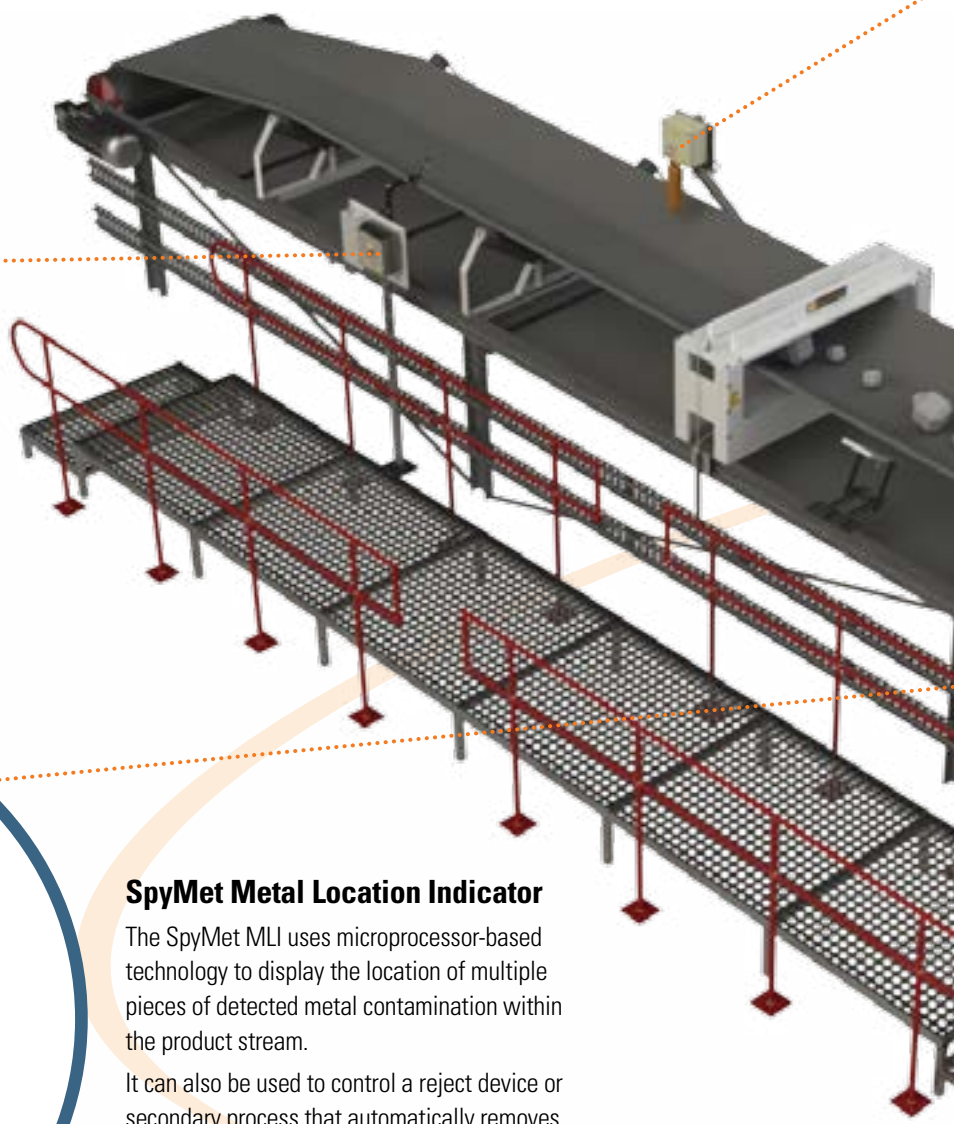
Used to mark the location of multiple pieces (when used with SpyMet) of detected metal contamination within the product stream.



SpyMet Metal Location Indicator

The SpyMet MLI uses microprocessor-based technology to display the location of multiple pieces of detected metal contamination within the product stream.

It can also be used to control a reject device or secondary process that automatically removes metal contamination and negates the need to stop the conveyor belt – greatly reducing downtime and improving productivity.





Bag Dropper

When metal contamination is detected, the bag is released after a user-adjustable delay period to mark the position of the first piece of detected metal contamination within the product stream.

Other Optional Extras

- Belt clip detector
- Coast counter / totaliser
- Shaft encoder for variable belt speed
- 24VDC (7W) output
- Local or Remote Control
 - On / Off
 - Bypass / Online
 - Remote Sensitivity
- Healthy signal relay
- Thermostat



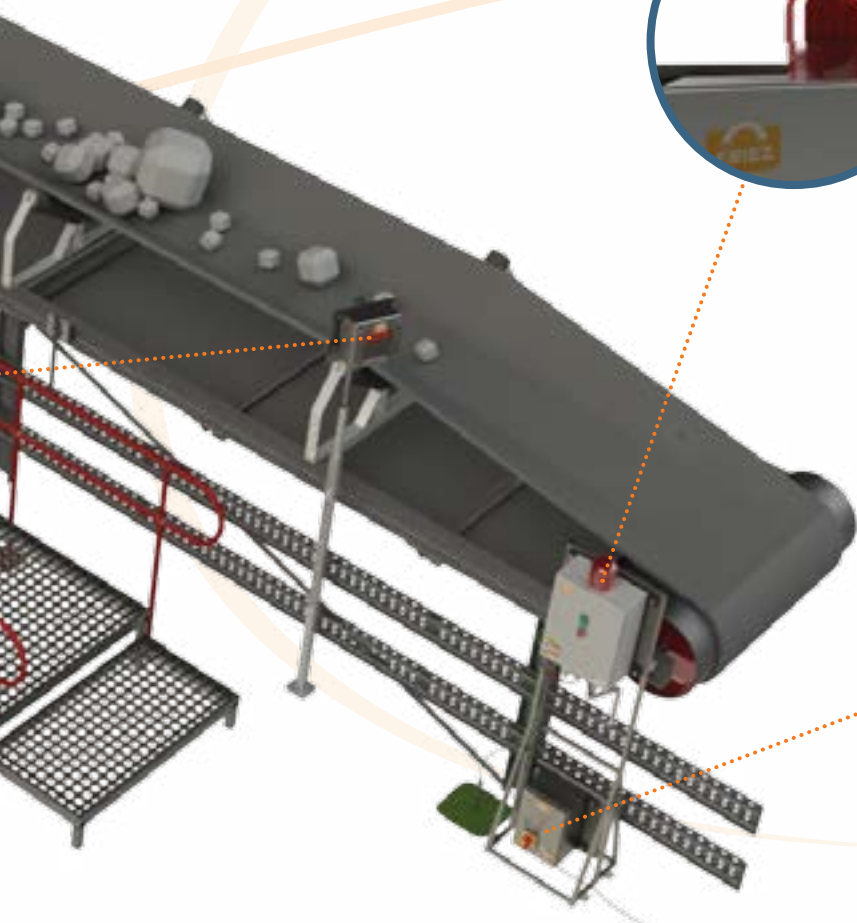
Siren / Beacon

Available to alert operator when metal is detected.



AC Power Filter / Isolator Unit

Used to improve the quality of the AC supply and reduce the potential for false signals from the metal detector. It has separate power in/out indicators to show the AC supply status and an interlocked door-mounted isolator switch.



ERIEZ' WORLDWIDE NETWORK OF MANUFACTURING, SALES & SERVICE



Manufacturing Affiliates in: Australia, Brazil, Canada, China, India, Japan, Mexico, South Africa, United Kingdom, USA



WWW.ERIEZ.COM

ERIEZ MAGNETICS EUROPE LIMITED

European Manufacturing, Design and Test Laboratory Headquarters

Greenway, Bedwas House Industrial Estate, Bedwas, Caerphilly, CF83 8YG, UK

T: +44 (0)29 2086 8501 | F: +44 (0)29 2085 1314 | E: info@eriezeurope.co.uk

