



Automatic Fire Protection for Textile Machinery

in Milliseconds:

- Detect any spark or fire
- Activate automatic extinguishers or diverters
- Stop the production line & sound alarms
- Send instant notifications to your mobile phone by Android & iOS App





Automatic Fire Protection for Textile Machinery

Arosa Systems is a United States company that specializes in high speed spark detection and fire suppression systems for the global textile industry.

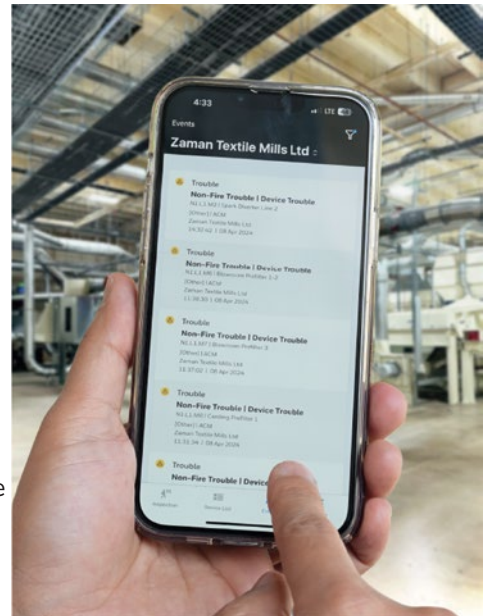


Cotton, as an organic cellulosic natural material, is very flammable due to the oxygen and paraffin in the fiber. When cotton comes into contact with any spark or flame, it erupts into fire.

In cotton spinning mills, cotton fiber is cleaned and processed by enclosed cleaning machines and transported from machine to machine by high speed (air speed 15 to 20 meters per second) closed pneumatic transport ducts. Any spark that is created in these machines from stones in the cotton, metal, or friction immediately expands into a fire because of the high air volume, spreads from machine to machine, and burns out the production line in a matter of seconds - much faster than any fire brigade can react.

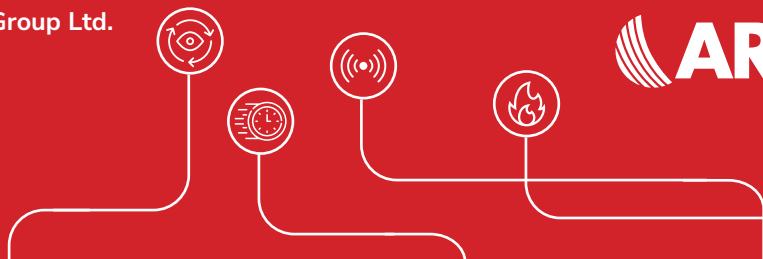
The Arosa 5i Infrared Spark Detector is located before and after each machine and is clustered in what we call a "zone". Each zone is independent, and Arosa uses an extinguishing agent or diverter system to control and remove the spark before it can become a fire and damage the production line and possibly lead to loss of life.

AROSA SYSTEMS are used around the world in cotton spinning mills, cotton storage warehouses, cotton gins, recycling plants, non-woven lines, and any other industrial textile facility where it is important to reliably detect a single spark in a matter of microseconds and extinguish the spark/fire, stop the production line, sound alarms, and protect the business continuity of the company.



Receive instant notifications to your mobile phone by Android & iOS App

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Arosa 5i Infrared Spark Detector

New High Speed Multisensor Spark Detection for Production Machinery and Dust Collection Systems



Once a spark is detected, the Arosa System activates the following in milliseconds:

- Immediate Machine Stop for production machinery and related air filtration lines
- Activation of loud fire alarm horns with selectable tones
- Send instant notifications to your mobile phone by Android & iOS App with Arosa Honeywell S3 Panel
- Automatic Extinguishing or High Speed Diversion of the spark
- Datalogging of time, date and location of exact event at the central Control Panel



Arosa 5i Infrared Spark Detectors are installed on & protect the following machines:

- Cotton Ginning Machines
- Bale Openers
- Mixers
- Blend Lines
- Cleaners
- Card Lines
- Pre-filters
- Waste Compactors
- Recycling Machines



Field of View – More than 160 Degrees due to 5 sensor array



Initial reaction time – 20 nanoseconds



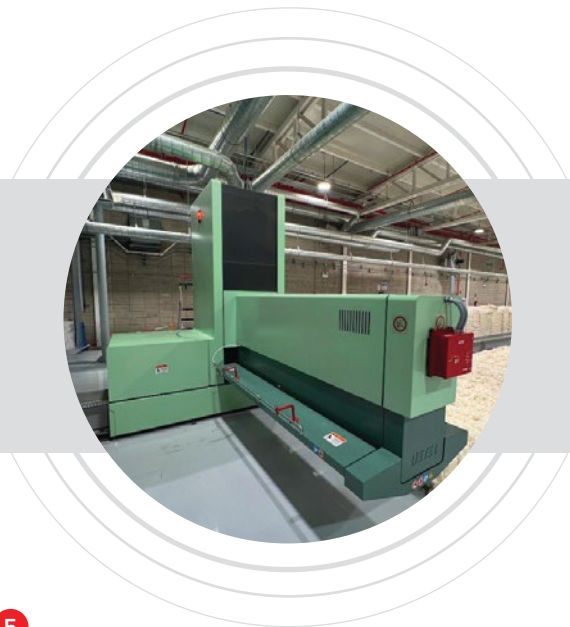
Spectral Range Wavelength – 730nm to 1100nm



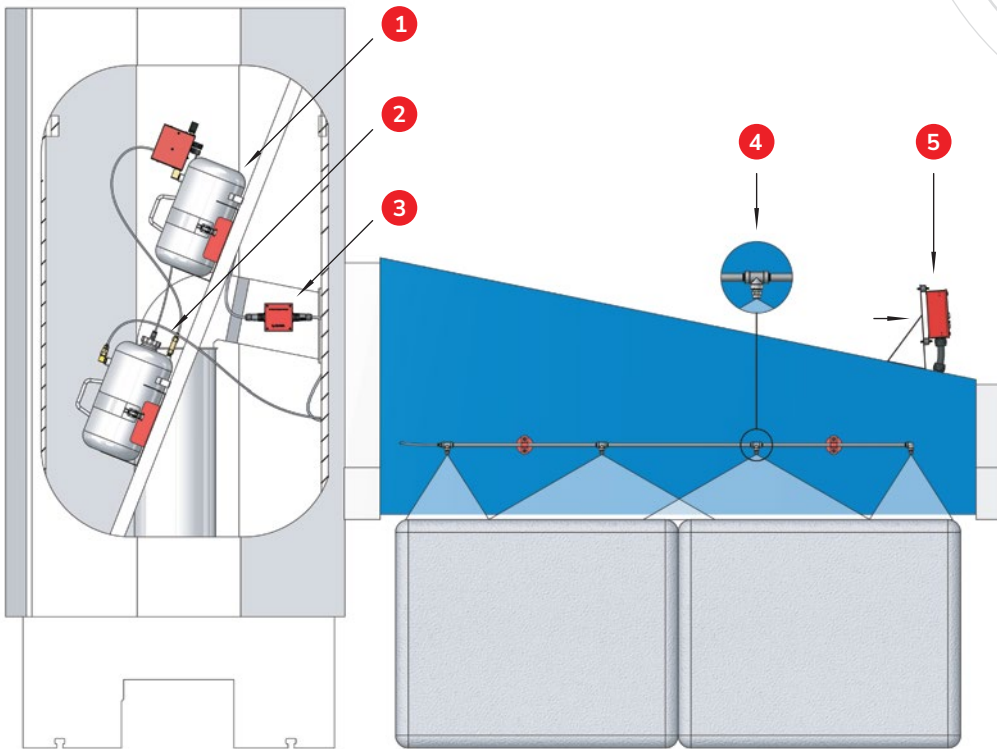
Maximum Sensitivity Wavelength – 880nm



Operating Temperature Standard Version -40C to +85C



Arosa Automatic Fire Protection System for Bale Openers



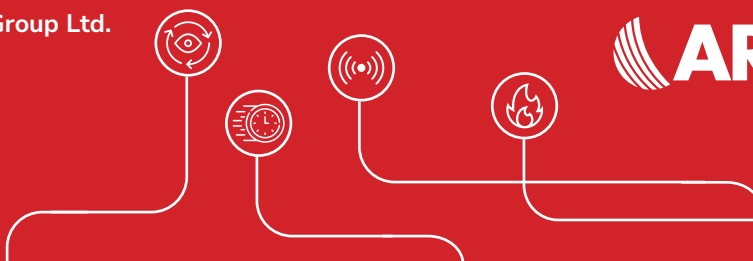
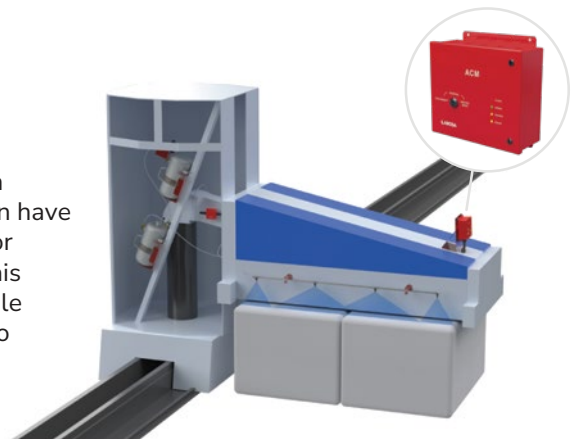
System compatible with all Bale Openers

- Crosrol
- Jingwei
- Lakshmi LMW
- Marzoli
- Rieter
- Saurer
- Trutzschler

- | | |
|--|---|
| <ul style="list-style-type: none"> 1 Air Tank – up to 7 bar 2 Water Tank – 19 liters 3 2-Arosa 5i Infrared Spark Detectors | <ul style="list-style-type: none"> 4 4+ Stainless Steel Water Spray Nozzles on each side 5 Arosa Control Module |
|--|---|

How do Bale Opener fires start?

- The teeth inside the arm of the bale opener can strike metal, wire or stone to create a spark
- Fiber can become wrapped around the rotating parts of the arm and create a friction fire
- “Hot Bales” from the cotton warehouse or cotton gin can have an ember inside the bale for weeks or months – when this ember is exposed by the bale opener arm it can flare up to create a fast spreading fire



High Speed Spark Detection & Automatic Extinguishing for Spinning Mill Opening Machinery & Tearing Machines

Arosa Automatic Carbon Dioxide Extinguisher Systems



- Arosa 5i Spark Detectors instantly activate a 24VDC valve to discharge Carbon Dioxide CO₂ and overpower any spark or fire
- Carbon Dioxide extinguishes spark and fire and does not leave residue
- Uses locally available Carbon Dioxide CO₂ for refill
- Uses approved Class 300 pipe fittings and Schedule 40 galvanized pipe for durability
- Includes manual discharge capability and solid, safe, secure racking to hold the cylinders
- Each system includes a Discharge Indicator for quick reference if the system has been used
- Discharge nozzles are mounted to strategic areas of the machine for fast fire suppression
- Custom Pneumatic Damper is installed on the Exit or Exhaust Duct – trapping the CO₂ inside the machine to control the fire





Arosa ASD Spark Diverter System

High Speed Diversion Removal of Sparks & Fire from your Production Process

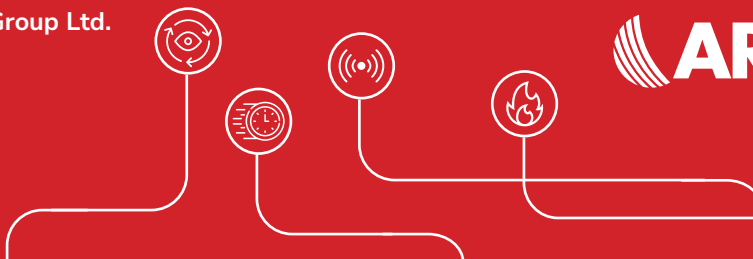
Innovative High Speed Diversion System



- Reaction time from Normal to Diverted Position – 50 milliseconds for shortest installation space
- Activated by Arosa 5i Infrared Spark Detectors
- Long life Carbon Fiber Door
- Rack & Pinion Drive for Years of reliable operation – no springs to replace
- 10 liter Water Extinguisher activates when Spark is detected & diverted, production line is stopped
- Visual Stack Light alerts for low air pressure and low water level in extinguisher
- Access Door on top of diverter for inspection and maintenance
- Operates at 6 bar Air Pressure
- Heavy duty construction using 14 gauge Galvannealed steel
- Versatile installation - Suspend from ceiling
- Dual Clamp Access Door for Spark Detector Testing & Maintenance
- Made in USA

Arosa 5i Infrared Spark Detector – Reliable Process Protection

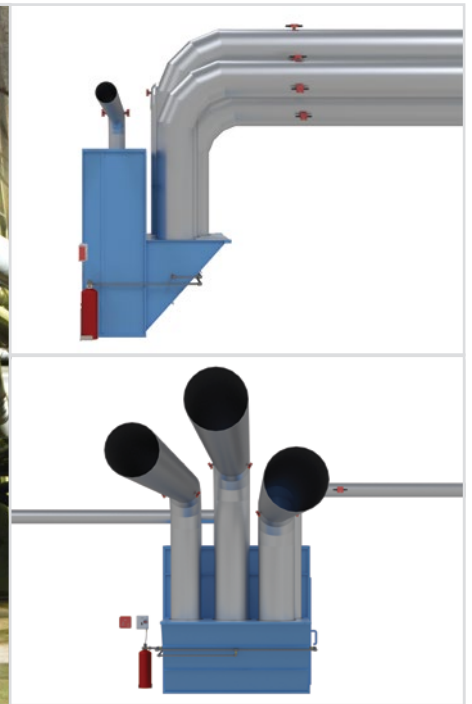
- 5 Infrared Sensors in each detector for wide range & redundant spark detection
- Highest sensitivity & stability in industrial conditions
- Immediate 20 nanosecond initial reaction to sparks
- Optical Grade Sapphire lens for years of scratchproof service
- Single hole Quick-Mount system for ease of installation and maintenance
- Awarded USA Patent for its unique multi-sensor array
- 3 year international warranty
- Made in USA



High Speed Spark Detection & Automatic Extinguishing for Air Filtration & Waste Compactor Systems



Arosa Automatic Dry Chemical Powder Extinguisher Systems



- Arosa 5i Spark Detectors instantly activate a 24VDC valve to discharge Dry Chemical Powder and overpower any spark or fire
- Dry Chemical Powder is the best solution for high air volume hazards
- Systems use 25 BAR (360 PSI) stored pressure for fastest available discharge of extinguishing powder
- Uses locally available Nitrogen (for pressure) and Dry Chemical Powder for refill
- Includes manual discharge capability, pressure indicator gauge, remote discharge monitor
- Uses approved Class 150 pipe fittings and Schedule 40 galvanized pipe for long life
- Available in 11 kilo and 22 kilo sizes

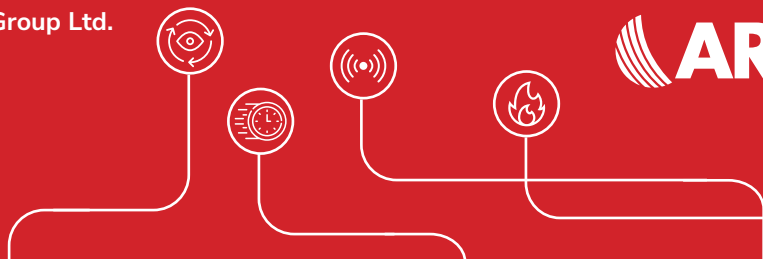
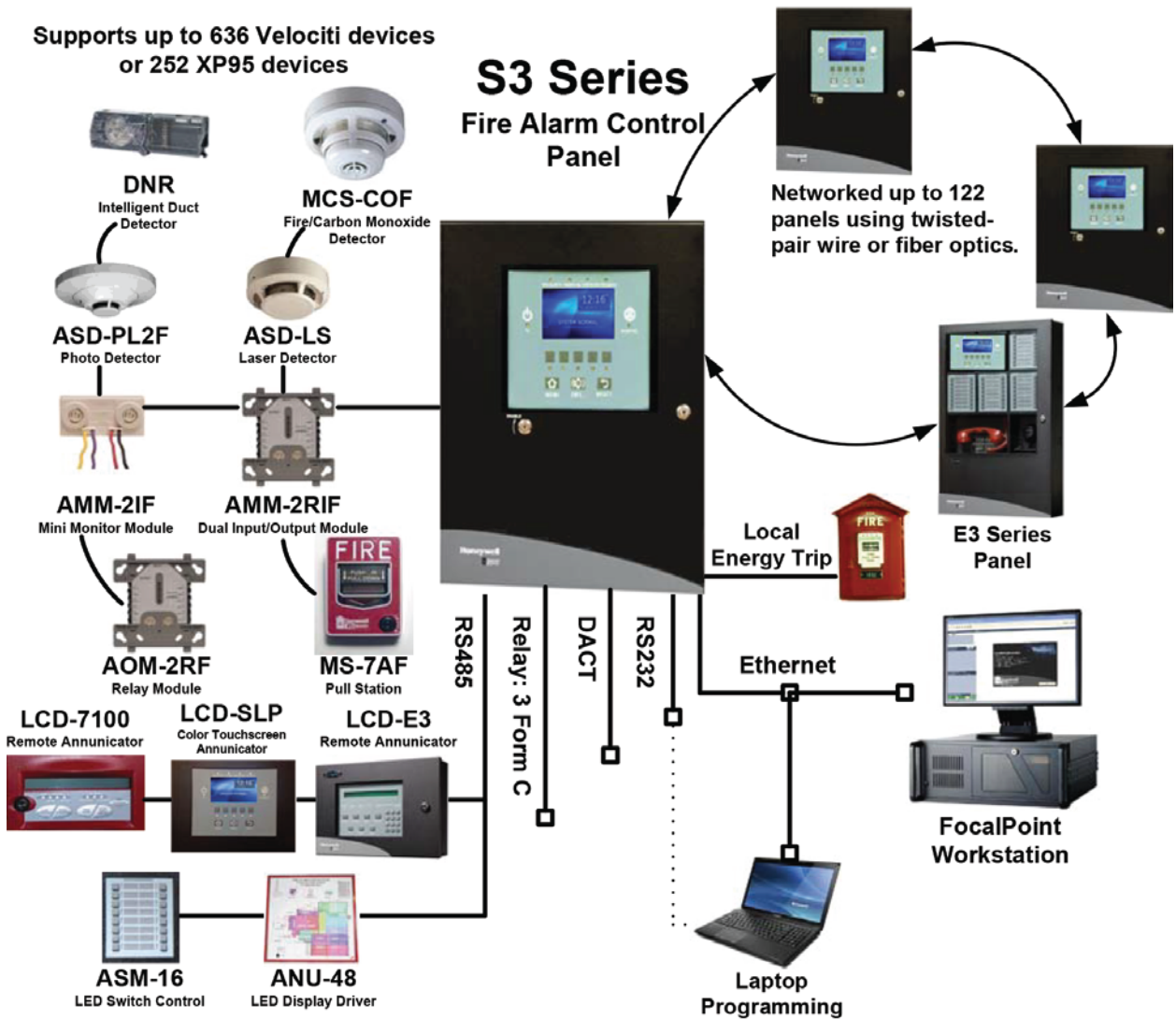


Figure 3 illustrates the various S3 Series configuration options that are available



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