



Conveyor Belt Rip Detection





Belt Rip Detection

Here at last!

–Over 12 months in developing and reviewing.

–Why?

After over 25 years in mining and researching to find a system that actually worked and “stayed working” and easy to use

Now there is a system designed by someone who understands belts and uses the belts natural functionality to report back and manage belts as required.

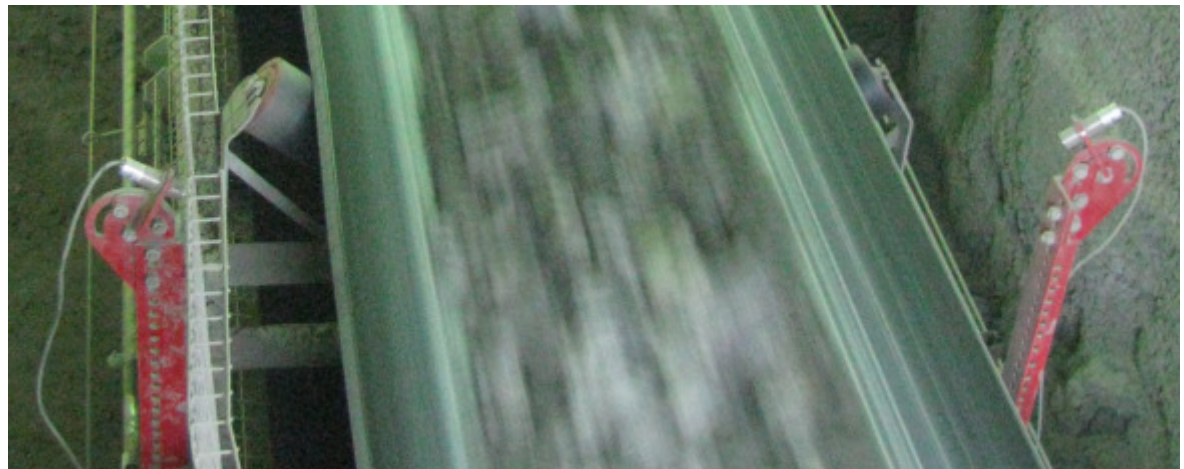
This system will not only pick up Belt Rips but also Edge Damage, Belt Wander, Carry Back and Height issues.



Belt Rip Detection

How it works

- Gap is measured between the end of two sensor heads and the edge of the belt.
- The gaps between the 2 sensors are added and a signal sent to Trip / Alarm the system on pre-set parameters.
- Sensors in the edge of the allow the system to know where the belt is and able to re-set itself in relation to any preset exclusions due to pre-known damage which has been blocked out.
- Idlers are placed prior and just after the area which steer the belt apart if the The belt receives a rip.

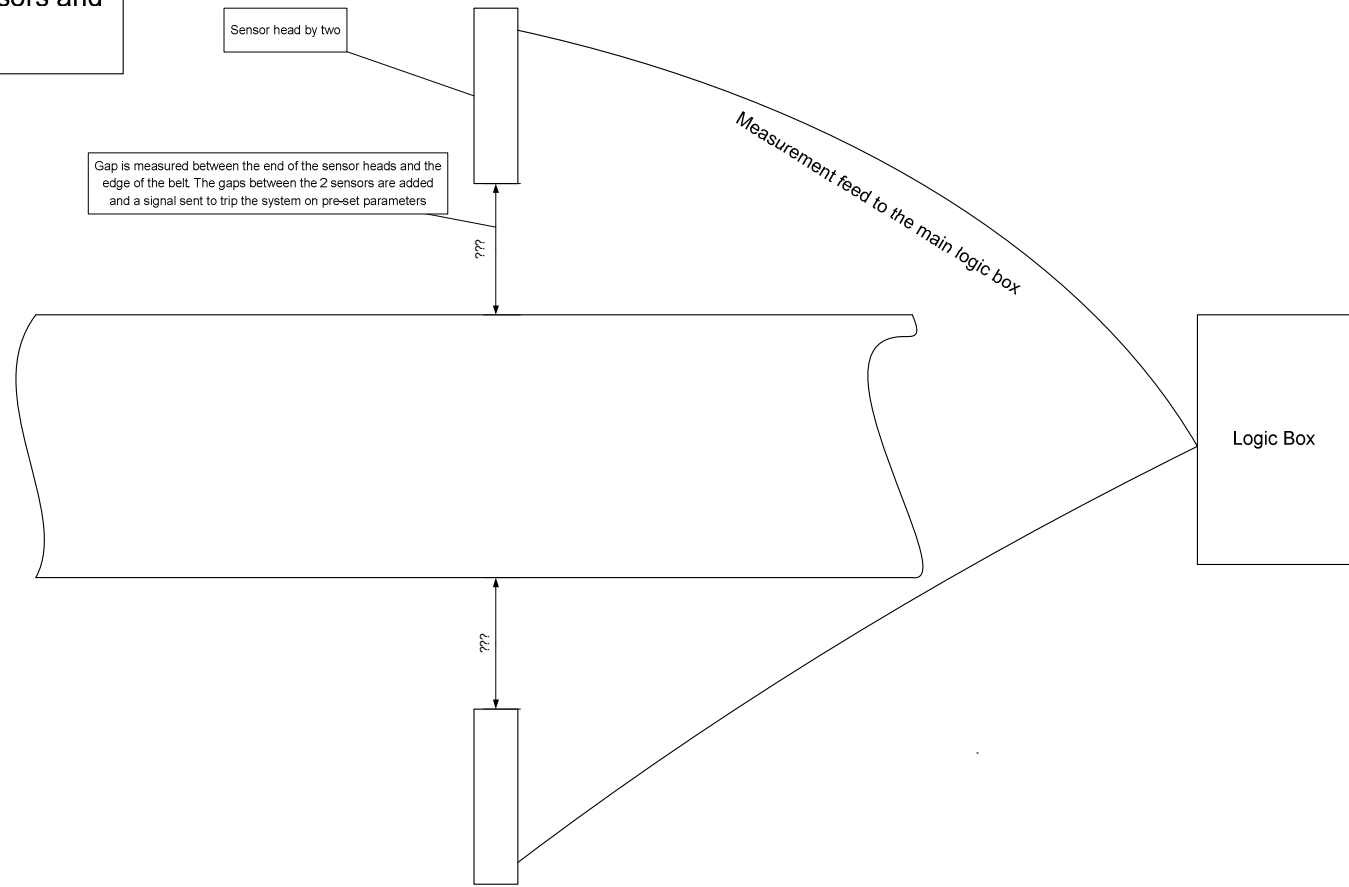




Belt Rip Detection

How it works

DESCRIPTION
Figure B Edge Belt Sensors and Logic Box





Belt Rip Detection

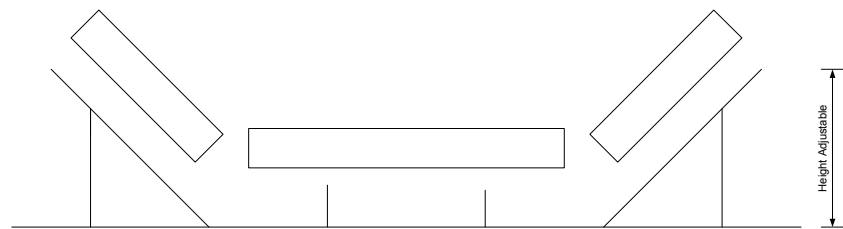
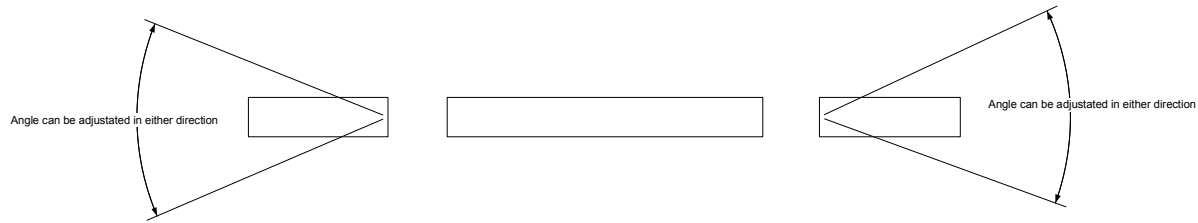




Belt Rip Detection

A conveyor can easily be tracked in the longitudinal movement of the belt. By installing idlers sets which are set up correctly in the event that a rip occurs the belt will be drawn apart. As the belt is drawn apart a change in width is obtained which can be monitored and picked up by the side sensors.

LABEL
Figure A. Idler Adjustment





Belt Rip Detection

Advantages

- Amount of belt that is exposed is limited to the distance from transfer to The detection unit. In most cases this will be about 10 meters.
- Unit will detect along the entire length of the belt.
(Measures approx every 250mm.)
- New system will pick up edge damage where the old system would allow us to lose up to 100mm of edge either side.
- New system is easily set up and extremely simple in its programming and functionality.
- Can be wireless or hardwired in.
- Reports can be easily obtained on belt width and changes if required.
- Damaged areas can easily be blocked out so the belt can operate with known damaged areas without exposing the rest of the belt.
- System can also double up as a belt tracking system.
 - Where as normal belt wander switches will trip, this system can both alarm and trip at set points.



Belt Rip Detection

Advantages

- Unit is easily serviceable and repaired while the system is running.
- Fraction of the cost of other systems
- Allows sites to use the full thickness of return cover and more without reducing risk in identifying rips
- Do not get locked into some more expensive belt due to having to have their sensors placed in the belt
- System will work on any existing Conveyor System and will pay for itself after identifying only one rip.
- Changes will enhance the current material spillage wire trip system.