

# Early Detection of Conveyor Belt Fire

## Distributed Temperature Sensor

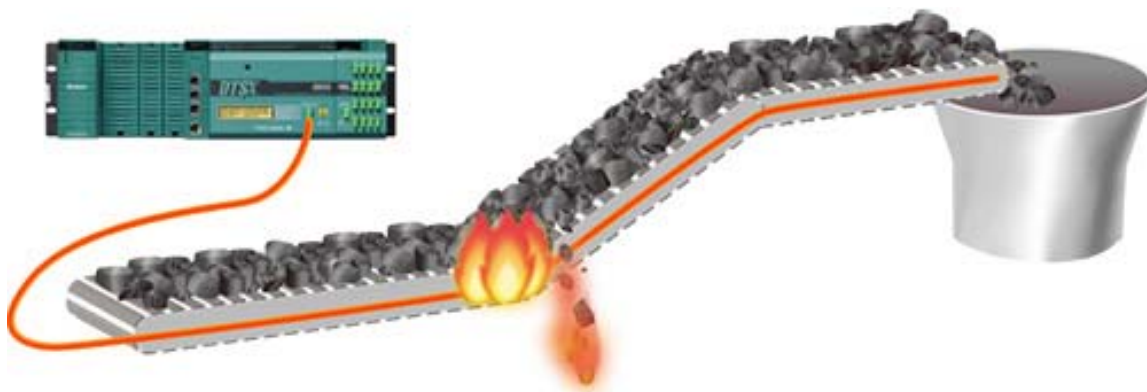
Industry: Power, Iron & Steel

Product: Distributed Temperature Sensor, SCADA system, PLC/RTU

## What the Eyes Don't See: Decreasing the Risk of Conveyor Belt Fires as Large Scale Plants

### Introduction

The world has seen its fair share of large-scale accidents recent years. Despite many near-misses, unless major accidents happen some companies continue to claim that their facilities are sound. And no small number of these companies depend on others for monitoring. At many large factories that move coal, pulp chips, and other materials by conveyor belt, worker monitoring patrols are the main safety net. But people have limits, and they are not all equally skilled. This is risk management by people-replete with uncertainty. With only this level of monitoring, if you take on the critical mission of avoiding accidents that cause unplanned outages and damage to public image, it's only a matter of time before a major accident strikes that devastates the company. A conveyor belt fire detection solution employing the DTSX distributed optical fiber temperature sensor can greatly reduce crises that can threaten a company's survival.



### What is the DTSX Distributed Temperature Optical Fiber Sensor?

The DTSX is a module that can be used as an optical fiber sensor to enable temperature monitoring over wide areas.

### Customer Benefits



Monitor Plant Safety 24 Hours a Day, 365 Days a Year



Identifies Trouble Spots in 1 m-Increments to Minimize Damage



Avoid Risk while Keeping Running Costs Down

## Solutions and Benefits

### Monitor Plant safety 24 Hours a Day, 365 Days a Year

The system acquires data from optical fiber sensors on the side of the conveyor belt 24 hours a day, 365 days a year, for monitoring with no “blind spots.” Since only one DTSX and its software application can cover most conveyor belts, you can centralize monitoring of the entire plant. This delivers much more precise and reliable risk prevention than monitoring by patrol at fixed times and places, and reduces personnel costs.

### Identifies Trouble Spots in 1 m-increments to Minimize Damage

When accidents strike, the scale of damage depends on how rapidly you can identify the location of the problem and deliver emergency response. Since the conveyor belt fire detection application performs detection in 1-meter units at least every 10 seconds, it easily identifies the source of the accident. And as a total Yokogawa solution, you can customize the monitoring system to output monitor screens and reports that mirror the needs of the site.

### Avoid Risk while Keeping Running Costs Down

Conveyor belt sensor installations only require optical fiber, so no control or power system lines are needed. Optical fiber sensors require almost no maintenance. You can increase prevention while minimizing running costs.

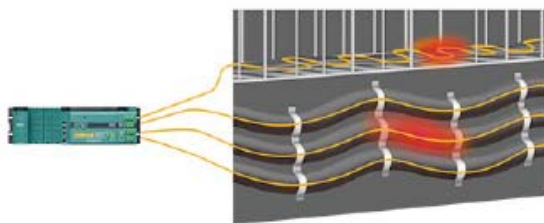
## Even Broader YOKOGAWA Solutions

In addition to the DTSX, Yokogawa offers a variety of solutions such as ones incorporating thermal cameras and thermocouples and services such as safety instrumented systems. Combining these helps you avoid risk in a more robust and comprehensive way. We will continue to pursue solutions that focus on “HSE + maintenance.”

## Related Products



## Related Solutions



### Finding Danger where It's Impossible to Look

With industrial and economic development comes increasingly large and advanced power plants and factories. Nevertheless, we find many cases where the original cables, cable tunnels, and other components of the power infrastructure have languished under continuous operation.

Power

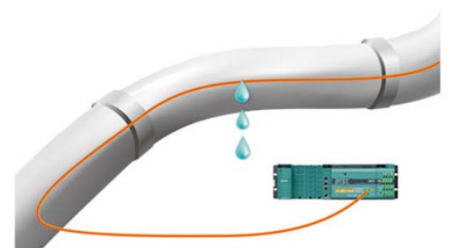
Please refer to the application note(Bulletin 39J00P41-01EN)for more details.

### Leak Detection Guarantees Pipeline Safety as Your Business Grows

Risk management is crucial when expanding your business. For example, when adding or expanding long range pipelines for LNG or liquid ammonia, ethylene, sulfur, compressed gas, or other hazardous substances, it is essential to form a risk prevention plan not only for inside the facilities but also for the surrounding areas.

Oil & Gas

Please refer to the application note(Bulletin 39J00P62-01EN)for more details.



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