The Electronic Pressure/Temperature Monitoring Solution for Michelin® Earthmover Tires

- Safety
- Productivity
- Performance
MEMS™ (MICHELIN® Earthmover Management System) is the first electronic pressure/temperature monitoring system specifically designed for earthmover tires.

MEMS™ in Operation

MEMS™ is comprised of sensors fixed inside each tire on the vehicle and an onboard receiver, which communicates directly to the mine operations control center.

The sensor transmits the real pressure and internal temperature in the tire every minute.

The data is stored within the onboard receiver and is transmitted every 10 minutes to the mine control room**. A history of the pressure/temperature for each tire is also maintained.

In addition, the pressure/temperature can be read remotely with the HHU (Hand Held Unit) while the vehicle is in operation.

MEMS™ monitors the initial inflation pressure of the tire, taking into account manufacturer recommendations and the ambient temperature at that time. Optimized tire pressure is ensured for the working life of the tire, allowing for maximum tire productivity.

When the pressure and/or temperature of a tire reaches or exceeds the configured alert levels, the receiver sends an alarm transmission to the mine control room. The operator in the control room will acknowledge the alarm and implement the procedures predefined by the site management.

**Setting up the data transmission from the receiver to the mine control room is the responsibility of the supplier of the interface and relies on the technology and capacity of this interface.
**SAFETY:**
Tire pressure and temperature are read remotely. Tires can be remotely monitored during inflation using the HHU (Hand Held Unit), ensuring a safer working environment for maintenance staff.

**PRODUCTIVITY:**
Tire pressure and temperature are measured in real time without stopping the vehicles. The downtime related to pressure checks and adjustments of tire inflation is eliminated. The vehicle productivity is increased correspondingly.

**PERFORMANCE:**
MEMS™ starts the tire life at the correct air pressure and helps ensure that correct pressure is maintained throughout the tire life. The maximum tire performance is ensured. The possible interface with tire management software like KLINGE (Total Tire Control) allows improved recording of performance data for tire maintenance staff.

MEMS™ was developed to provide the mine sites a tool to proactively manage the pressure/temperature of the tires fitting their equipment. Consistent, correct air pressure is the most vital element in ensuring maximum tire performance, while excessive heat is the most damaging factor affecting tire life.

MEMS™ provides ease of pressure/temperature checks as well as real time alerts of pressure/temperature deviations outside of established norms.

MEMS™ prevents tire damage associated with low pressure or high temperature. By recognizing the most dangerous conditions impacting tires and by immediate alerts, MEMS™ allows potential tire fires or pyrolysis to be averted.

Michelin® Earthmover currently works with MODULAR Mining Systems DISPATCH® and MineCare® products, as well as Framy™ and Jigsaw™ products.
Further and longer with Michelin®

MEMS™ contributes to increasing Michelin® Earthmover customers’ productivity by enabling improved availability and flexibility in a safer environment.