

- This monitors any train variable (temperatures, accelerations, oil levels, etc.).
- It can operate as a safety or an information system.
- It facilitates predictive maintenance tasks.



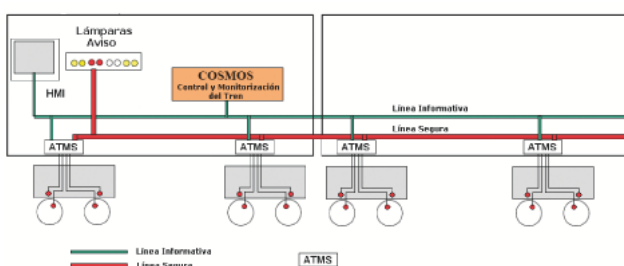
DESCRIPTION

The purpose of the ATMS System is to measure and monitor train bogie variables such as: temperatures of bearings, gear boxes, axle boxes, bogie lateral acceleration, etc. It is a **safety** system, which:

- When temperatures or accelerations catalogued as anomalous are detected, the system **informs** the driver.
- When the predefined thresholds have been exceeded with no reaction taken by the driver, the system can **operate** by itself, forcing the train to stop

The analysed information is distributed via two pathways:

- One defined as **informative**:
 - > Via the control and monitoring system (COSMOS), it provides the driver with more detailed information on detected events (exceeding of thresholds, temperatures, accelerations and system failures) and identifies the sensors associated with the event.
 - > It records this information.
 - > This is an informative route which is based on RS-485 and TCN series communications.
- One defined as **safe**:
 - > This route is designed through safety criteria, which consists in a series of lines which activate warning, maintenance or activation lights located on the driver desk.
 - > When appropriate, this *safe* path can operate on the train and force immediate stop.
 - > This path is based on a combined architecture of train loops and serial communications (RS485 and TCN).



One of the current applications of this product, is the monitoring of certain bogie variables. In its safe mode, this application controls and monitors the temperatures of the bearing and axle boxes, the vertical accelerations of the bogie and even the status of the locks for those bogies where it is possible to change the gauge with the train in motion. This is a bogie mounted electronic solution.

In addition, the ATMS system, together with the remote communication system and in cooperation with the company NEM SOLUTIONS, is capable of offering a predictive maintenance service facilitating train maintenance tasks. Integration between the various TRAIINTIC products and services and NEM SOLUTIONS, which makes the most of a train's maintenance and control.

* See www.nemsolutions.es web

* See *Lynx datasheet*

* See *Services datasheet*

CHARACTERISTICS

- 2 redundant sub ATMS internally connected via I2C.
- Eeprom Memory: 512 Bytes.
- RAM Memory: 1 KBytes.
- Flash memory microprocessor capacity: 8 KBytes.
- Mechanical characteristics: VEAM FRCIR circular connectors.
- Electric Interface: capacity to read 29 PT1000 temperature sensors.
- Train communication interface RS-485.
- Designed in accordance with EN50155 .
- Operating temperature: between -40° C and 70° C.
- Battery voltage: 24-110 VDC.
- Consumed Power: < 8 W.

DIMENSIONS AND WEIGHT

- Dimensions: 260 x 200 mm (width x height).
- Weight: 8kg.

