

SIMATIC ET 200pro with Safety Integrated and PROFINET

Volkswagen Nutzfahrzeuge, Germany – Vibrating roller test bed

Requirements

Volkswagen Nutzfahrzeuge (VWN), an autonomous brand of the Volkswagen corporation has installed the final noise test in the transporter works in Hanover in the workshop hall. Now the commercial vehicle business is operating a vibrating roller test bed in its works in Hanover in cooperation with the "Automation Initiative of the German Automotive Industry" (AIDA).

The customer's requirements were extensive: The vibrating roller test bed had to be linked into the existing network structure (PROFINET); fail-safe communication was just as important as a reduction in training costs. The use of distributed I/O was also demanded.

Solution

The distributed I/O had to be installed in the support structure of the test bed, in a compact space, close to the vibration dampers. The only solution was, therefore, a cabinet-free solution of extremely high ruggedness and industrial compatibility which is why SIMATIC ET 200pro was used.

An S7-400F controller was used which ensured fail-safe communication over PROFINET. Apart from SIMATIC ET 200pro outside the control cabinet, SIMATIC ET 200S was also used as distributed I/O but this was installed alongside the controller in the control cabinet. Both distributed I/O systems are in a standard but fail-safe configuration. A PROFINET-capable SCALANCE X208pro Switch to the IP65 degree of protection distributes incoming and outgoing data.

Benefits

Use of SIMATIC ET 200pro resulted in a number of advantages: Costs were saved thanks to standardization and optimization of the spare parts inventory. The reduction in training costs for maintenance and service personnel was also satisfied. Due to the ability to exchange electronic modules during operation - so-called hot swapping - high availability was achieved for the plant. There was also a reduction in the installation and wiring costs for the safety-related part of the plant.

