Temperature sensors

suitable for: DAF, Iveco, MAN, Mercedes-Benz, Scania, Volvo, VW etc.

Precise measurements for safe and efficient vehicle operation

Human or machine – the temperature is crucial for health and performance. Whilst a clinical thermometer warns of fever, high-precision temperature sensors perform this task in commercial vehicles. They monitor, report and protect – often in a fraction of a second.

Temperature monitoring in vehicles is essential for reliable operation. Temperature sensors in commercial vehicles must cover a particularly wide range: from –40 °C to +150 °C, whilst exhaust gas temperature sensors operate at significantly higher temperatures. To ensure continuous and precise transmission of all measured values, sensors with different response times are used depending on the application. In the cooling system, they respond within around 15 seconds, whilst exhaust gas temperature sensors deliver measured values in under a second.

In the latest PS Tips video, Parts Specialist Kevin explains the different types of temperature sensors used in vehicles and their functions. These include external temperature sensors, sensors in the air intake system, and a wide range of cooling fluid sensors in various designs. DT Spare Parts offers a comprehensive range of over 250 temperature sensors and matching repair kits, which are available on the Diesel Technic Partner Portal. The spare parts cover applications including DAF, Iveco, MAN, Mercedes-Benz, Scania, Volvo and VW.

A good comparison is a clinical thermometer: a sensor measures the temperature, and a digital display shows the result. In a vehicle, temperature sensors perform this function for the external and cooling fluid temperatures, as well as for monitoring the air conditioning system. "The measured values form the basis for numerous control and safety functions in the vehicle," explains Kevin.

Depending on the design, sensor types vary in their electrical behaviour. NTC sensors decrease in resistance as the temperature rises, whilst PTC sensors increase in resistance accordingly. The changing resistance values affect the voltage readings at the control unit, the central component in the vehicle. This is where all measured values are combined and specific actions are triggered as a result. The demands placed on temperature sensors are correspondingly high: they must be extremely robust and withstand oils, vibrations, extreme temperatures and other external influences.

Kevin also shows how to check the supply voltage on the vehicle using an example in the video. "The voltage is usually 5 volts – a common standard. Nevertheless, it is essential to check the manufacturer's specifications, as these can vary," says the Parts Specialist. If you have any questions about target and actual values or diagnostics, the Parts Specialists are always available to help – quickly and easily via the Parts Specialist App.

To ensure reliable performance in the vehicle, DT Spare Parts' temperature sensors are tested in the company's own temperature testing chamber. As part of the Diesel Technic Quality System (DTQS), original parts and DT Spare Parts products are compared directly with one another. "The test programme lasts around 3.5 hours and covers a temperature range from –20 °C to +140 °C – exactly where most sensors are used," explains Kevin. The resistance values are recorded in 20-degree increments and also analysed graphically to highlight any potential deviations.

Through these comprehensive testing procedures, DT Spare Parts ensures that all temperature sensors can reliably withstand the demanding conditions of everyday commercial vehicle use. For this reason, DT Spare Parts offers a 24-month warranty on its products.

If you have any technical questions about Diesel Technic products and services, our Parts Specialists are happy to help via their HelpDesk and offer the right support: helpdesk.parts-specialists.com.

The Parts Specialists are now also available in the "PS App". There you can send enquiries directly to our team of experts – quickly and easily with your smartphone in your pocket.

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DT Spare Parts

The brand DT Spare Parts from Germany provides a complete range of vehicle parts and accessories with a 24 month guarantee – no matter whether for trucks, trailers, buses, transporters or further applications, e.g. cars, agricultural vehicles, construction vehicles, marine or industrial applications. The guaranteed brand quality is achieved through the consistent product optimisation and relentless quality assurance within the framework of the Diesel Technic Quality System (DTQS).

More info: www.dtqs.de