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New Generation of Belt Displacement Sensor AC13



A belt displacement sensor is an important tool to control the performance of restraint systems -such as seat belts and belt tensioners - in car crash tests or component testing. MESSRING now approaches technical feasible and redesigns the former belt displacement sensor AC12. The aim was to improve the performance of the sensor even in extreme operating situations.

A special sticker with a grid pattern is attached to the belt webbing. This grid is scanned by an optical device. The integrated electronics converts the movement into a voltage that is proportional to the displacement of the belt webbing. The sensor is able to measure displacements of a belt moving at a speed of up to 50 m/s.

An enhanced array of reflection sensors combined with a special evaluation algorithm improves the performance even at harsh conditions due to climate and illumination. A more compact design of the optical devices minimizes the influence of angular deviations or expansion of the belt webbing. The belt displacement sensor AC13 now has an extended supply voltage range to improve compatibility with existing DAS-systems. The new design considers the interchangeability of spare and wear parts, so the fixation as well as the grid stickers from the former sensor type can be reused.

As most of the other MESSRING sensors the belt displacement sensor AC13 will be available in a version with integrated M=BUS[®] Data Acquisition next year providing all benefits of this highly innovative DAS-system developed by MESSRING.