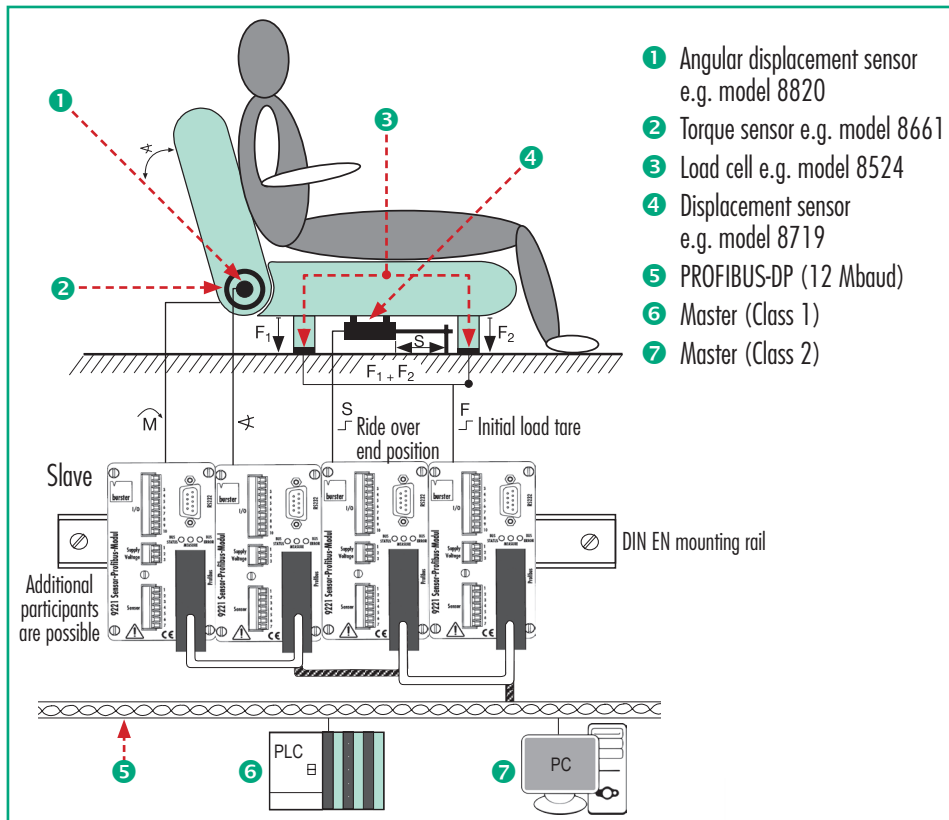# Measurement of mechanical values at a completely automated motor vehicle test bed

**burster**



❶ Angular displacement sensor e.g. model 8820
❷ Torque sensor e.g. model 8661
❸ Load cell e.g. model 8524
❹ Displacement sensor e.g. model 8719
❺ PROFIBUS-DP (12 Mbaud)
❻ Master (Class 1)
❼ Master (Class 2)

## Contact

- ☏ + 49-7224/645-18 or -45

## Sector

- Automotive

## Product name

- Torque sensor
- Angular displacement sensor
- Load cell
- Displacement sensor
- Sensor Profibus Module

## Features

- High accuracy
- Rapid measuring value collection
- Configuration via PROFIBUS

## Task

On a completely automated test bed motor vehicle seats should be checked for their encumbrance. The following features should be tested and recorded:

- Adjusting angle of the back
- Torque required for turning handle
- Total weight of the seat (with and without dummy)
- End position determination

In order to be able to make a well defined statement about the categorization of the motor vehicle seat, the measurement data must be recorded and networked and deposited together as test result on the PROFIBUS level.

## Specific Requirement

All test data should be transferred at the same time for storage, in order to obtain relevant samples of information for comparative logging of this test. A tare function is a consideration for mounted sensors addressing the issue concerning initial load (dummy load).

## Solution

For the recording of all mechanical values following sensors are used:

- Adjusting angle of the back → angular displacement sensor model 8820
- Torque of the turning handle → torque sensor model 8661
- Total weight of the seat → 2 load cells model 8526
- End position determination → displacement sensor model 8719

All sensor signals are recorded by 4 individual Sensor Profibus Modules 9221. Concomitantly the modules display the sensors with voltage and evaluate their signals. The transferring of measurement data takes place in parallel via PROFIBUS. The tare activation concerning a possible initial load, which can be modelled as a dummy, takes place directly via simple PLC unit communication, over PROFIBUS.