



Stress tests on aircraft wings

Wings are one of the essential components on the aircraft and must be designed to be very durable. The vibration and bending behaviour under various stress conditions is of outstanding significance for the continuous optimization of the wing shape and construction. Based on these results, some of the parameters optimised are the service life, safety and fuel consumption.

To this end, draw-wire displacement sensors in the Series P60 are employed for the vertical measurement of the wings in structural tests. They are fixed to the wing at 120 measuring points and acquire displacements of up to 1200mm.

To obtain convincing measurement results for optimisation, the 120 sensors are synchronized to one another and supply a detailed picture of the vibration and deflection behaviour of the wing.

Ambient conditions

- Temperature: Up to 20°C room temperature
- Medium: Air

Requirements for the measurement system

- Measuring ranges 500, 1000, 1500 mm
- Accuracy 1mm
- Resolution 0.1mm
- Rugged sensor design

Reasons for choosing the system

- Very good price/performance ratio
- Easy and rapid fitting
- High accuracy

System design

- 40 x WDS-500-P60-SR-I
- 40 x WDS-1000-P60-SR-I
- 40 x WDS-1500-P60-SR-I