

Positioning of catering trucks at Airbus A380

Catering trucks are an important supply medium for modern airliners. They are used for loading and unloading aircraft with food. Based on a hydraulic scissors mechanism, the van body of the truck is raised until the best position to access the supply door is reached.

The company Doll from Oppenau produces these catering vehicles. As one of a few suppliers, they are able to also safely supply an Airbus A380 whose supply door can be located at a level of more than 8 m.

The catering truck can not drive directly to the supply door, because this door is above the wing and not next to it.

Therefore the complete van body is longitudinally moveable.

A further challenge on the design is the ambient temperature range from -25°C to $+65^{\circ}\text{C}$. The corresponding change in the oil viscosity causes also changes in the speed of the positioning hydraulics. Anyway, to dock safely and reliably to the airliner, the movement of the van body has to be detected with a measurement system.

Draw-wire sensors in the Series WDS-xx-P115 from Micro-Epsilon are used here. Mounted between the van body and the scissors system, the movement is measured precisely and reliably. The extreme ruggedness and long service life convinced Doll about integrating these sensors. They provide precise measurement results, high reliability against failure even in bad weather and optimize the setting up and removal time of the catering vehicles.



Reasons for system selection

- Price/performance ratio
- High protection class

Measurement system requirement:

- Measurement range up to 3 m
- Accuracy ± 10 mm
- Resolution 1 mm
- Protection class IP67

Suitable sensor models:

- WDS-xxx-P115

