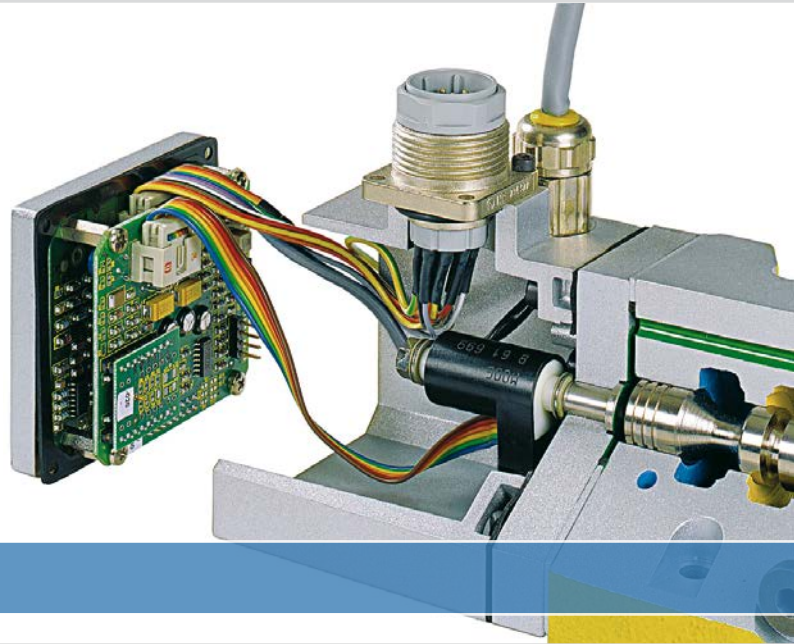
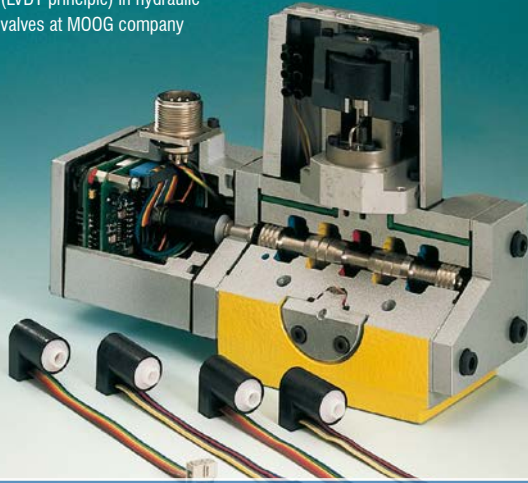


Inductive displacement sensor
(LVDT principle) in hydraulic
valves at MOOG company



Piston position in hydraulic valves

In hydraulic drives, proportional and servo valves control the volume flow of hydraulic oil. In order that an exact dosage, and therefore a controlled movement is possible, displacement sensors are integrated into the valves. These sensors detect the position of the control piston to regulate the volume flow. An accurate, non-contact and, above all, dynamic position acquisition is required for this. An inductive displacement sensor from MICRO- EPSILON best fulfils these requirements. The sensor is mounted onto a pressure tube outside of the pressurised section.

Inside the pressure tube is a movable core which is permanently joined to the control piston and serves as a passive position transmitter. This type of design produces decisive advantages: The measurement is non-contact and therefore wear-free. The sensor is not subject to pressures and can therefore be of plastic construction. This means that the sensor is optimised for the main functions. Despite the high technical demands, the measurement task can be realised for very low cost.

Reasons for choosing the system

- Economic sensor with plastic housing and flat cable
- Customised design in high volumes (20,000/year)
- Control loop of piston in hydraulic proportional valves
- LVDT principle DTA-6D-XX and DTA-1D-XXX
- High resolution and precision

