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LVDT linear/angular position sensor



An LVDT (linear variable differential transformer) delivers a signal proportional to the linear position (displacement) of a magnet fixed to a moving part. A proprietary ASIC is used to condition the signal.

The complete sensor can be located outside the housing of the part in a less severe environment, providing noncontact measurement of displacement through metal walls. For

extremely high temperatures up to 180°C, the sensing component can be located inside the housing with the electronics outside. The same sensor can be used to measure small angular displacements.

Electricfil solution - ready technologies

Characteristics

- Stroke up to 100 mm and angles up to 20°
- Temperatures up to 180°C
- Typical accuracy: $\pm 2\%$
- Response time: 10 ms
- Airgap up to 4.5 mm
- Size: stroke length + 30 mm
- Integrated diagnostics
- Optional redundancy
- Non-contact sensing
- Through-wall detection for non-magnetic materials
- Integrated or remote electronics
- Low sensitivity to external magnetic fields
- Interface: 3-wire, analog and PWM output

Electricfil knowhow

- Integration in sensor clusters or mechatronic modules
- Wide range of packages and interfaces
- Fully programmable sensors
- Proven core technology including ASIC
- PWM or analog mode
- Same sensor design for linear or angular measurements
- Combination of several LVDT linear and/or angular sensors in a single module
- Patented design

Application domains

Transmission

[Clutch actuation control](#)

Clutch control and driver assistance

Gear-shift control

Gear selection indicaton

Vehicle dynamics

Clutch, brake, accelerator pedal

Engine management

Air circulation