



Torque Measurement in Vehicle Drive Shafts

Telemetry system installed on drive shaft

datatel provides interesting solutions for reliable torque measurement in drive shafts or axles of passenger cars as well as heavy trucks. A single channel telemetry transmitter is mounted on the vehicle's rotating drive shaft. A strain gage applied to the shaft can be connected directly to the transmitter module; the measuring range is individually adjustable by the user. The measured torque data will be transmitted to a receiver unit inside the car and can be recorded by any standard data acquisition system.

A dual power concept is available to supply the rotating transmitter electronics: for long term testing on test tracks, or on test stand applications, the telemetry system will be powered by an inductive power supply which guarantees a maintenance free and wear free durable operation. The inductive coil/antenna system can be adapted to the mechanical requirements of the individual test vehicle. The coil system is designed to be very robust and is suitable even for rough, off-road testing.

For short term testing (up to 20 hours) on test vehicles which are frequently changed, it is beneficial to use a battery to power the telemetry transmitter. This option is quick and easy to install and very easy to set-up for the user. No additional components except the transmitter module and the battery have to be attached to the shaft and the system is ready to go. The signals will be transmitted directly from the rotating shaft to the receiving antenna, which is either attached inside the fender or to the car body. Another advantage of the battery powered telemetry system is the insensitivity of radio data transmission to large movements of the drive shaft.

- State-of-the-art torque measurement in passenger car or truck drive shafts
- Suitable for test stands or test track application
- Wireless transmission of measured data via telemetry
- High accuracy and signal quality
- Direct connection of strain gage full bridge
- Integrated strain gage shunt calibration
- Adjustable measuring range
- Signal bandwidth 5kHz (-3dB)
- Operating temperature
-10 to +85°C or
-40 to +125°C optional
- Easy to install and easy to set-up
- Contactless inductive power supply for long term operation or battery for short term testing