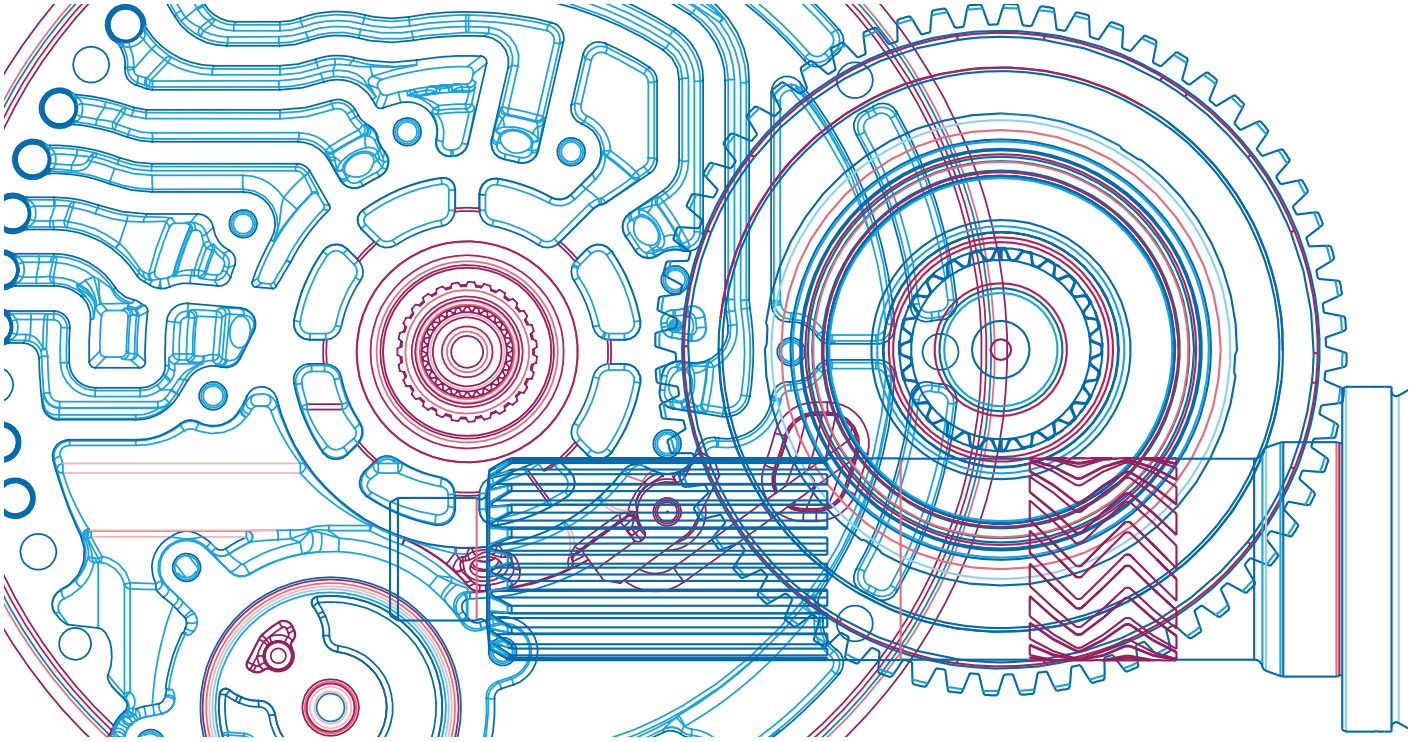
Force Measurement Products

Torductor®-S
Improve the environment with Direct Torque Measurement

With increasing levels of pollution caused by car and truck exhaust emissions there is a pressing need to improve the efficiency of engines and transmissions.



Talking the torque

In order to meet new government legislation for lower exhaust emission limits, and increased smoothness of the transmission, new concepts are evolving for powertrain management. At ABB we believe that the adoption of direct noncontact torque measurement with the Torductor®-S can offer great benefits.

Unique features of the Torductor®-S are its compact overall dimensions, its robustness and its extraordinary reliability. These features, plus that it's designed for mass production, make the Torductor®-S ideally suited for applications in the automotive industry. With the Torductor®-S, ABB is the market leader in the development of non-contact torque sensors for use in the automotive industry. With our assistance you will achieve a competitive advantage using up-to-date torque measuring technology developed by ABB.

”..demands for lower fuel consumption…”

Power and productivity for a better world™

Applications

Engine

- On-line measurement of power output.
- Measure performance of individual cylinders.
- Detect misfire in individual cylinders.
- Adaptive engine control schemes for variations in fuel quality, air density or engine wear.
- Improve On-Board Diagnostics capabilities.
- On-line optimization of fuel consumption.
- Improve and optimize transient response of the engine.
- Closed loop control for HCCI engines by monitoring combustions phases.

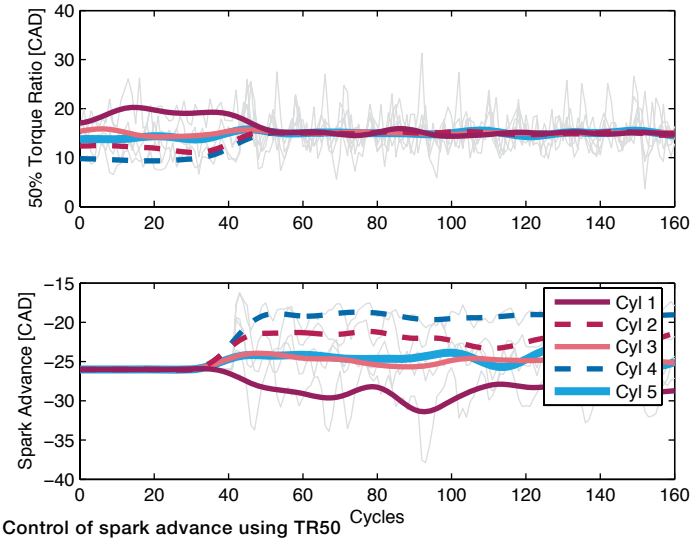
Transmission

- Overload protection of the powertrain.
- Monitor and control transients and oscillations in the transmission.
- Increase both speed and comfort level at gearshifts (AMT).
- Monitor changes in clutch characteristics caused by wear (AMT).
- Optimize control of power distribution for different driving conditions (4x4).
- Improve traction and smoothness including off-road performance (4x4).
- Optimize the control of the variator range (CVT).
- Prevent belt slip (CVT).
- Condition based maintenance (CBM)

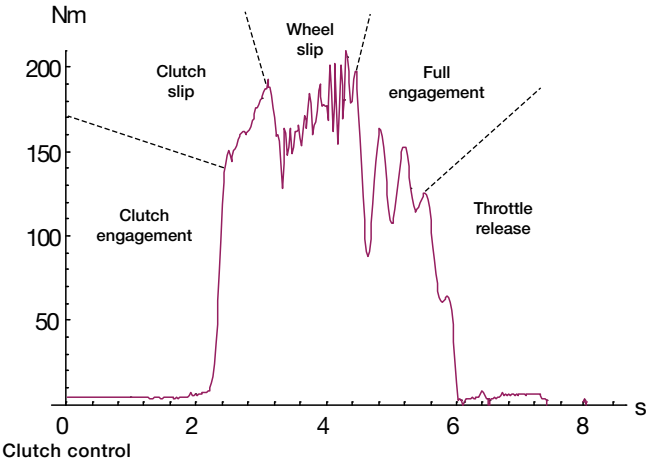
Power Steering

- Non-compliant steering torque measurement.
- Improved feel and performance.
- Lower power consumption.

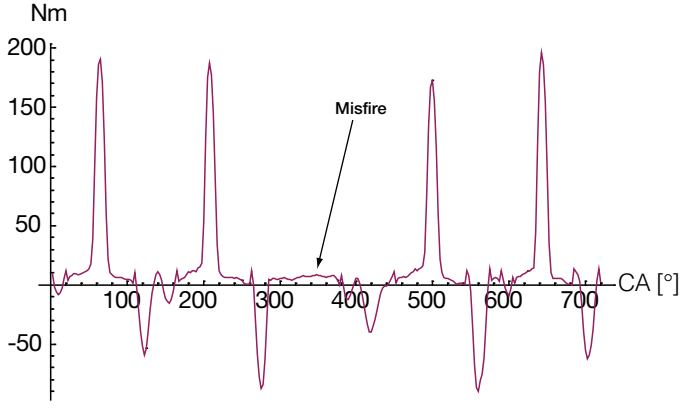
Properties	
Nominal torque range	±10 to ±6000 Nm
Measuring error	<2 %
Repeatability error	<0.2 %
Speed range	0 to 60000 rpm
Bandwidth	>1 kHz
Sensor diameters	10 to 70 mm
Working temperature range	-40 to +150°C



Control of spark advance using TR50



Clutch control



Misfire detection

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