

# Torque Sensor Application

## Motor sport ( Racing)

www.torques.co.kr

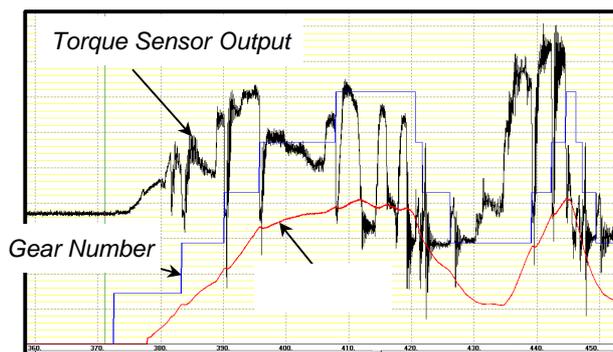


*Torque sensing technology is used in several applications in Motorsport, including Formula One. Applications include measuring torque on gearbox input shafts and power steering systems.*

### Torque measuring systems are ideal for motorsport applications:

- ✎ No parts are added to the shaft, so there's no problem with balancing or centrifugal forces as shaft speeds approach 20,000 RPM!
- ✎ The only moving part of the sensor is the shaft itself, so there's no parts of the sensor to wear out: Consequently the sensors are very reliable.
- ✎ A number of commonly used steels in the motorsport industry are suitable for a magnetic encoding technique.
- ✎ Low Power Consumption: <15mA.
- ✎ Sensor output is an analogue signal from 0 to 5 Volts: compatible with all popular data logging systems

### Torque Sensor installed on input shaft of a racing car gearbox



*The graph shows data from a car equipped with a torque sensor. Time is on the X-axis. The change in torque as the driver changes gear can be seen. The change in the vehicle's speed as the torque varies can also be seen.*

### The racing team gets the following information:

- ✎ The torque output of the engine at any time during the race
- ✎ The maximum engine braking effect, when the car is de-accelerating
- ✎ Studying the change in torque can help the team to fine tune the gear change control strategy
- ✎ Data from the sensor can also be used to calculate the drag induced by the aerodynamic set-up of the car

### Emobile-Tech A division of SEEC

**F**orce  
**A**ngle  
**S**peed  
**T**orque  
Distance/ Acceleration/ Inclination etc.

### Emobile-Tech Solution

Torque measuring and control

we are engineering, designing and manufacturing different measuring sensors applied to many industrial ranges

Torque applications in the monitoring and control of machinery and equipment in a wide variety of industries including power fastening tools, automotive, aerospace, factory automation, machine tools, textiles, white goods, pumps, mixers and exercise equipment. Anywhere, in fact, that rotating shafts are used to transmit power.

Emobile-Tech has perfect and unique solution for customized into a high precision sensor. This leads to very cost effective and robust sensor solutions. In addition the EMT sensors can detect extremely high frequency load changes, can measure at extremely high RPM and are very compact.

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