Applications

Measuring the torque in a pulley of an agricultural machine during operation

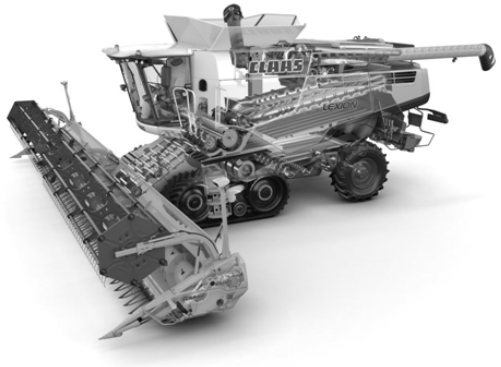
Measured values are transmitted wirelessly from the rotating pulley to a stationary receiver unit. Wireless and without sliding contacts is the power supply of the measuring system in the pulley as well.

The pulley deforms slightly under the influence of the torque. These deformations are measured with a suitable electrode arrangement and with our

capaTEC®nano-procedure

and is then converted into torque feedback.

This technology provides a better signal resolution compared to the classically used strain gauges, and does not have all the disadvantages such as high temperature drift or poor applicability.



Our enthusiasm for engineering and our constant strive to improve our technologies have helped us to develop product solutions for our customers and maintain a competitive edge. We also have the right sensor for your application and we are glad to give your our expert advice.

EBE
sensors and motion

Contact:

EBE Elektro-Bau-Elemente GmbH
Sales
Sielminger Strasse 63
70771 Leinfelden-Echterdingen
Phone: +49 711 79986-0
Fax: +49 711 79986-250
E-Mail: vertrieb@ebe-gmbh.de
www.ebe-gmbh.de

Force - Torque

Capacitive force and torque sensors with capaTEC® nano

EBE GROUP
we create solutions



Technology Base

capaTEC ®nano

is a capacitive measurement principle to determine force and torque. It is suitable for the measurement of minor changes in position or deformations:

- contactless
- wear-free
- temperature stability
- long-term stable
- easy application at the target structure
- extreme resolution (< 0.01 µm)
- distance between the measuring surfaces 0,2 mm
- force/torque measurement possible
- deformation measurement of structural components possible
- replacement of DMS

capaTEC ®nano

- a technique that convinces!

Fields of Application

Our capacitive sensors for the measurement of static and dynamic tension and compression forces and torques are used in various applications:

- classic weighing tasks
- overload warning devices for agricultural and construction machinery
- force/torque measurements in industrial/ automotive applications

The high level of integration of

capaTEC ®nano

in your application allows systems with outstanding unique features, even in price-sensitive markets.

Our sensors are characterized by an almost unlimited durability, extreme robustness and highest precision and reliability.

Applications

Overload Warning Device for Telehandlers, Construction and Agricultural Machinery

Thanks to its reliability and simple installation, the measuring system is ideal for monitoring stability of machines with loads on telescopic booms.

The overload warning device measures deformation of the rear axle caused by the tilt moment in real time and warns in time before the critical load is reached.

As soon as a critical point is reached, the driver is immediately visually warned via his display as well as audibly that a dangerous condition has occurred. Once the tilt moment has been reached the hydraulic system is automatically switched off.

evaluable range of deformation of the rear axle:	5 µm/50 mm corresponds 1000 digits
anchor points of the sensor:	2 tapped holes M10 in distance 50 mm