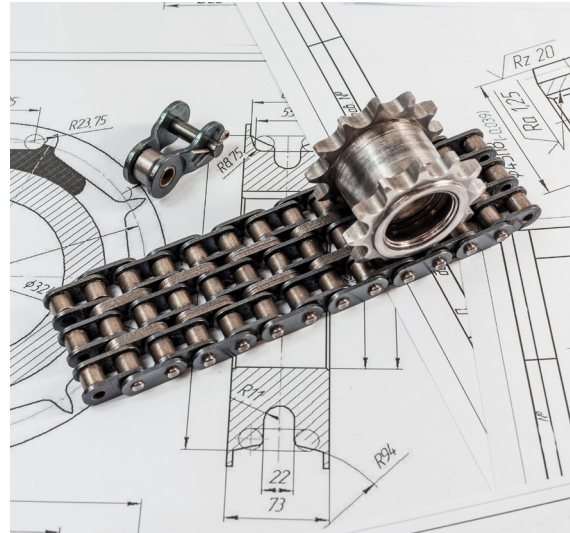


MONOLITHIC, FLEXURE-BASED, TRIAXIAL DYNAMOMETER USING PHOTO-INTERRUPTERS

Abstract

Many engineering applications from refined manufacturing methods to power plants include sophisticated and intricate machinery and since interfacing surfaces of materials can only exist under the condition of a certain and persistent act of force upon a multiplicity of surfaces and elements, it is imperative that the conditions where-upon these acts of force take place are put under scrutiny and control. Force sensing methods on a different aspect, can be conceived as being of different proportions and technical rigor, ending up with the price range to extend greatly.

Present invention is purported to have a relatively smaller unit cost, therefore it can be asserted that the present invention also aims to provide a much more easily available solution to dynamometer applications, all the while not compromising the targeted integrity and desired level of performance. Prior art documents regarding the present invention are gathered with respect to the force sensing technique addressed therein.



Problem solved with the technology

The invention presented hereby generally concerns a force transducer/dynamometer that includes a flexure as a load-bearing element which is displaced under strain or a force applied. The force that causes the load to be displaced or deflected in this case, is translated into meaningful data that helps the said force to be determined using various methods such as piezoelectricity, mechanics or in this particular case, photoelectricity. Significance of these instruments are marked in their usage to prevent machinery or systems in general from possible overloads, therefore keeping systems secure from operational hazards at large.



Potential Application

The need of preventing machinery/systems from possible overloads, therefore keeping systems secure from operational hazards at large (with low costs). Significance of these instruments are marked in their usage to prevent machinery or systems in general from possible overloads, therefore keeping systems secure from operational hazards at large.

Technology can be applied to machinery especially to sophisticated and intricate machinery.

Customer Benefits

This technology is advantageous in the sense of triaxial monolithic flexure design and the use of three separate photointerrupters as the primary force sensing mechanism, as it is proposed to enhance the reliability and accuracy of the present, established mechanisms of actions. This technology is purported to have a relatively smaller unit cost, therefore it can be asserted that the present invention also aims to provide a much more easily available solution to dynamometer applications, all the while not compromising the targeted integrity and desired level of performance.

Market Trends

Technology can be applied to machinery especially to sophisticated and intricate machinery

Additional Technical Information

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