



Triple redundant measurement system with synchronous serial interface

The linear absolute position measuring systems from TR-Electronic are characterized by an extensive service life and high reliability, even in the standard version. This means that they can also be used in harsh operating conditions where vibration and temperature fluctuations are common. However, even more durability and reliability is occasionally required. In applications when the measuring systems are virtually inaccessible after installation, for example with hydraulic cylinders in weir or sluice gates etc., further measures must be taken to keep the system reliable throughout the lifespan of the application which is often decades of use prior to any radical overhaul. Naturally the standard dimensions of screw-in flanges and piston rod bores must also be maintained.

For these applications, TR-Electronic has developed a measuring system in which three independently working magnetostriction measuring systems operate simultaneously. Three complete scanning units, consisting of a waveguide and receiver module, are integrated into a tube. This stainless steel protective tube is pressure-tight up to 400 bar (600 bar peak) and has a standard diameter of 10 mm.

Each measuring system has its own electrical connection with supply voltage and signal output; from power supply through sensor wire and receiving coil to output driver, all are configured in triplicate. Each of the three systems work alone. If more than one are active at the same time they synchronize - the magnetic field builds up at the same time so that the systems do not interfere with each other. Each user decides whether to operate the measuring systems on its own or, to increase reliability with triangulation, or a "2 from 3" evaluation. The LMR70 is now also available with synchronous-serial interfaces. The measuring values are digitally output directly via a serial data flow, which is transmitted synchronously with the control cycle. The LMR 70 measuring systems are available with measuring lengths up to 2 m.

www.tr-electronic.com/s/S010997

Read more:

<http://www.tr-electronic.com/news/news.html>

TR-Electronic GmbH, 5.11.2015



TR-Electronic LMR70.jpg
(c) TR-Electronic GmbH 2015