

Three measuring systems in one!

Triple redundant linear absolute measurement system provides longterm availability even with difficult access.

What sounds like a child's naive wish is a clear demand for automated solutions where the technical facilities are extremely difficult to access. Applications in power plant technology and in locks and weirs "sink" the technology into machine rooms below the waterline. They are therefore difficult to access. Even the long service life that has been established in this industry is not long enough for system lifecycles that last several years without requiring maintenance.

TR-Electronic has developed the LMR 70 for these applications. The linear-absolute position measuring system works just like its simpler colleagues touch-free and low on wear and tear with magnetostriction. It has been designed for direct installation in hydraulic cylinders - the stainless steel pipe withstands constant pressures of up to 400 bar and pressure peaks of 600 bar. The diameter of the pipe and the available flange threads are compatible with the standard. It is the larger evaluation unit with a diameter of 70 mm that reveals what is special about this system: there are 3 sensor elements working at the same time within a single system. Each has its own connection for supply voltage and signal output from the power supply via the sensor wire and receiving coil to the output driver - everything is installed three times. 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 for himself whether to operate the measuring systems on their own or to increase reliability with triangulation or a "2 from 3" evaluation. The measuring values are output via the tried and trusted robust analog interface; transmission as a 4..20mA current is advantageous for extended systems.

The LMR 70 measuring systems measure up to 2 m. The analog interface resolves 12 or 16 bits. The internal reproducibility is 5µm.



TR_Electronic_LMR70: Triple redundant linear absolute position measurement system for direct integration into hydraulic cylinders.

Technical data of LMR70 www.tr-electronic.com/s/S008374