Compact LVDTs Serve as “Heart” of New Long-stroke Position Sensor for Harsh Environments

A new long stroke linear position sensor offering superior performance over magnetostrictive technology in harsh environment applications uses a Macro Sensors LVDT as its core sensing technology. Providing reliable long stroke position measurement in heavy duty applications where rod-type sensors do not hold up, the SL Series Linear Position Sensors from Control Products Inc. are built for use in hydraulics, power plants, automation, oil and gas, deep sea applications, high-end mobile hydraulics such as mining and construction equipment as well as specialty large bore cylinders and accumulators.

Unlike the rod design of magnetostrictive sensors, the SL Series Sensor is enclosed in a pressure vessel with a cable that passes through a high-pressure conduit made from standard hydraulic hose. At the heart of the sensor is a Macro Sensors Series CD LVDT that is compact in size and resistant to harsh environments, making the long stroke position sensor more robust to shock, vibration and temperature extremes than probe-type sensors.

To accommodate high pressure hydraulic environments, the case of the LVDT is vented to equalize pressure inside and outside the unit. Since vent holes in the housing expose the coils inside, fluid must be electrically non-conductive and chemically benign such as hydraulic fluids. High temperature ratings are achieved by using proprietary materials rated for these temperatures.

A significant benefit to the SL Series Sensor is that it works for any stroke length over a 120” sensing range in virtually any accumulator or hydraulic cylinder with

almost no modification to the design, most notably without core drilling of the rod. This makes position sensing much more practical in long stroke applications, including telescoping cylinders where internal piston position sensing was not possible. And, there is no lower limit to the cylinder bore size. SL Series sensors can also be used to indicate the potential in hydraulic accumulators via piston position sensing – another first!

A patented self-locking cable connector of the SL Linear Position Sensors facilitates easy drop-in replacement of rod-type sensors. Users only need to unscrew the magnetostrictive sensor and replace it with the SL Sensor into the existing sensor port without any equipment modifications.

For more information about the SL Sensor and its drop-in installation, check out CPI’s videos at: http://www.cpi-nj.com/resources/videos [1] or refer to their web page at: http://www.cpi-nj.com/products/linear-position-sensors/magnetostrictive-sensor-direct-replacement [2].

For more information on Macro Sensors CD series of LVDT linear position sensors, please refer to the company web page at http://www.macrosensors.com/CD_375.html [3] or contact the factory at: positionsensors@macrosensors.com [4].

November 21, 2012

Source URL (retrieved on *03/09/2014 - 4:33pm*):
http://www.wirelessdesignmag.com/product-releases/2012/11/compact-lvdts-serve-%E2%80%9Cheart%E2%80%9D-new-long-stroke-position-sensor-harsh-environments

Links:
[1] http://www.cpi-nj.com/resources/videos
[2] http://www.cpi-nj.com/products/linear-position-sensors/magnetostrictive-sensor-direct-replacement
[3] http://www.macrosensors.com/CD_375.html
[4] mailto:positionsensors@macrosensors.com