AC-LVDT signal conditioner offers fast setup plus digital communications

Alliance Sensors Group introduced the S1A AC-LVDT Signal Conditioner that offers smart and fast LVDT setup with built-in null indication and simple front panel pushbuttons to set zero and full scale. Engineered to work with a wide range of AC-LVDTs, RVDTs and inductive half-bridge sensors including three-wire GE LVRTs and gas turbine LVDTs, this DIN rail module supports LVDT operation and indicates most common failures. The module offers a choice of four excitation frequencies, eight analog DC outputs (six DC voltage and two current loop outputs) and RS-485 digital communications. Applications include turbine control systems, steam valve position feedback, and other types of redundant control systems that use LVDT position sensors. The signal conditioner's internal microprocessor eliminates the need to calculate jumper connections for gain, range, etc, according to the company. The operator simply finds null, then moves the LVDT core to one end of the range and presses the zero button. Once set, the LVDT core is moved to the other end of a specified range and the full scale button is pressed. The S1A is fully calibrated with the position sensor.

In the event of a failure, a new S1A DIN rail module can be "hot swapped" into an existing installation, with initial calibration data saved then reloaded via RS-485 port. Standard signal conditioners would require a full calibration. Through the digital communications link, the S1A also can be setup remotely using a computer, which simplifies operations if the unit is already installed on a DIN rail in a cabinet.

For installations where there are multiple position sensors, the S1As can be

master/slaved to prevent cross talk between sensor signals. Should a master fail, standard signal conditioners will revert back to
their own oscillators, opening them to the cross talk the master/slave configuration was designed to prevent. If the S1A master fails, the first slave becomes the new master for the other slaves.

Other significant features of the S1A include:
- Color coded plug-in connections
- Self-diagnostics for LVDT winding failures or cable disconnection.
- Detected output errors drive analog outputs out of range, which is especially important for applications using redundant LVDTs

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[1] http://www.alliancesensors.com