

Differences between ASG's S2A and SC-200 LVDT signal conditioner modules

The S2A and SC-200 LVDT signal conditioners are very similar; but each unit was designed with features for the markets it serves, so there are two specific differences between them.

The S2A was specifically designed for the power generation industry with the following features:

- LVDT excitation frequencies of 1, 3, 5, and 10 kHz. The 1 kHz frequency is for operating Westinghouse steam turbine LVDTs. The 3 kHz frequency operates ASG's PG series of steam turbine LVDTs, other power plant LVDTs, and GE half-bridge (LVRT) sensors.
- If an S2A senses a sensor-related fault or failure, the module's normal fault responses are activated, which include tripping the solid state switch output at J2-3, turning on front-panel LEDs, and sending an error code to the RS-485 bus. Also, more significantly, the analog output is driven out of range. This is done so that for redundant LVDT sensor configurations commonly used in power plants, an algorithm coded in the turbine's DCS (digital control system) will identify the out-of-range output as an error and it will not be accepted by the DCS and averaged with any other in-range sensor output readings.

The SC-200 was designed for standard industrial applications and has the following features:

- LVDT excitation frequencies of 2.5, 5, 7.5, and 10 kHz. The 2.5 kHz frequency is quite commonly used by LVDT manufacturers, and the 7.5 kHz frequency was selected to be used with Marposs analog pencil gaging probes. (Alliance Sensors Group is an official distributor for Marposs USA.) The other frequencies are occasionally found in industrial LVDT systems as well, particularly in systems using European LVDTs and half-bridges.
- The analog output of an SC-200 is NOT driven out of range if the module were to sense a fault, but all the module's normal fault-responses indicated above would be activated.