
AC Voltage on DC Analog Output of 1250

Technical Information:

The synchro signal to the input of the 1250 is a strong AC voltage (up to 90VAC).

The 1250 Measures the synchro's S1 and S2 voltages in reference to S3. It measures this signal in reference to its internal analog ground.

Problem:

The S3 input is common with the 1250's analog ground – the same ground for the analog output signal. This creates the possibility for the synchro's S3 voltage to impose AC on the 1250's analog output, if a path is provided for the AC current to flow. If the input of the device, that the 1250's analog signal is being sent to (RTU, SCADA, etc.), is not isolated from earth ground, a path may exist for this AC current to flow, and AC to be present in the DC analog signal. The symptom is fluctuating DC analog output. This problem exists in about 5% of 1250 installations.

Solution:

The ground path needs to be broken from the synchro, through the 1250, to the input of the receiving device. INCON offers an Input Isolation Option (-I) to the 1250 which isolates the synchro inputs from the analog ground, using small signal transformers. This will break the ground and solve the problem.