

Some customers have experienced problems related to E-Sampler span measurements. The observed symptoms are “DETECTOR ERROR” or “SOLENOID FAILURE” on the LCD display and a Self-Test Failure indication in the serial data record. These failures are extremely infrequent and they are normally associated with cold weather environments (< 5°C). The likely cause of these failures is a marginal span solenoid assembly.

The span solenoid assembly is part of a diagnostic tool that verifies the optical system during the span check process. The solenoid is activated to couple light from the light trap through the optics to the detector. When deactivated, the span solenoid blocks the light trap feedback to allow normal operation. The “DETECTOR ERROR” message indicates a problem activating the solenoid. The “SOLENOID FAILURE” message indicates a problem deactivating the solenoid.

Marginal span solenoid assemblies may stick open or closed. The problem is related to component tolerance variations. The solution is to increase solenoid and spring forces to ensure proper operation. This month we will release an improved span solenoid assembly. This new assembly has more than two times the opening / closing forces than the original span solenoid assembly. Also, the firmware has been modified to add a span retry mechanism. The E-Sampler will make up to 3 span test attempts before indicating a span failure. This retry mechanism will help to warm the solenoid in cold environments.

For instruments already in the field, there will be an upgrade kit, P/N 81234. This kit will include all the necessary components and a detailed upgrade procedure. This upgrade is not recommended for end users. It should be carried out by an approved service center.

If you have questions about this upgrade, or if you would like to receive a return authorization to send an E-Sampler to the factory for this upgrade, contact the Met One Service department at telephone number 541-471-7111 or send an email inquiry to: [service@metone.com](mailto:service@metone.com)



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