

Question: A customer received a new LSXE and using Diagnostics found that it has 1,100,000 flashes, they think that is too much for a brand new sensor.

Answer:

We test all instruments after we build them. The customer should only be concerned if the flashes are too low, as that would indicate incomplete testing. If the flash count is high then the customer can be assured that it was fully tested.

Please explain to the customer that for a LSXE each reading consists of 5 Bursts of the lamp. A Burst is the act of ionizing and igniting the Xenon gas in the lamp. Once the Burst ignites the Xenon the gas is pulsed (flashed) from 30 to 150 times. For a new LSXE the typical Flash (pulse) setting is between 30 and 40. As the instrument ages or for a VSI as the spot size decreases the numbers of flashes will increase. The SPSP board records Flashes not Bursts. So for one single reading the sensor would produce between 150 and 200 Flashes (5 Bursts x 30 Flashes/Burst = 150 Flashes)

To prove this have the customer go to the Diagnostics | Hardware Checks and record the number of Flashes on paper. Then have them exit and take 6 measurements. Then have them go back to the Diagnostics | Hardware Checks and record the number of flashes. Subtract the first value from this value and divide by 6. This will be the number of flashes that the instrument records each reading. Divide this number by the total shown and that will show how many readings were taken with this sensor. When we build a sensor we test for short term repeatability, Long term repeatability, Long term drift, color tile readings during and after calibration, then we send the sensor to the QA lab where the majority of these tests are repeated. This can amount to more than 1500 readings. So 4000 readings x 5 Bursts/reading x 40 flashes/Burst can equal 800,000 flashes. If for example repeatability testing were re-run because we made an optical adjustment, or lamp power adjustment it is possible that a new sensor would have much more than 1 million flashes. The lamp is rated for more than 1 billion flashes so the customer should not be concerned if it has more than 1 million flashes.