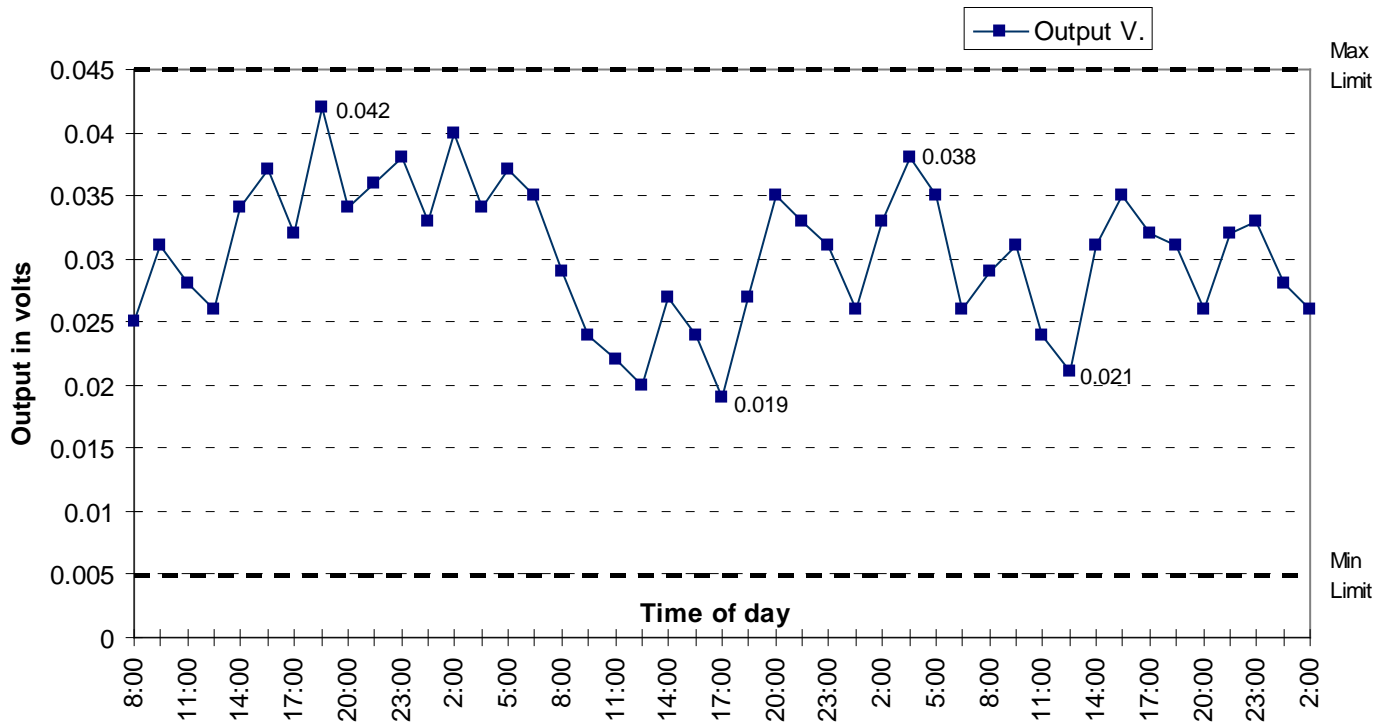


Application Note A16:

Long Term Zero Stability Specification for 0 – 1 Volt Signal

This application note was created to help users understand the **VALTRONICS** long-term zero stability specification of 2% of full-scale per 24 hours (non-accumulative) for a zero to one-volt output signal.

Long Term Zero Stability Specification



The chart above shows the zero to one (1.0) volt output signal of a gas monitor while it is reading zero gas (nitrogen). 2% full-scale is 0.020 volt. If the unit under test initially reads 0.025 volt, it cannot go above 0.045 volt ($0.025 + 0.020$) or below 0.005 volt ($0.025 - 0.020$). A change in ambient temperature introduces another tolerance in the output signal: an additional potential error of less than 0.5% of full-scale (0.005V) per degree C. Change from the temperature the unit was gas calibrated at (nominally 25°C) must be considered. The data shows more than a 24-hour period to demonstrate that the drift cannot accumulate in one direction for consecutive 24-hour periods; it must be random (up and down) such that the absolute limits of 2% of full-scale are not exceeded even if 300 days have elapsed.

