

Technical Note

Reflex™ Technology Overview

Reflex™, a Honeywell Analytics patented diagnostic routine for electrochemical cells, is used with the XNX Universal Transmitter, Sensepoint XCD Gas Detector, Series 3000 MkII Gas Detector, and other Honeywell Analytics products. Reflex™ increases operator confidence in a gas detector's operability by continuously monitoring the status of an electrochemical cell and sending an alert when a cell enters a fault condition that would render it incapable of raising an alarm when a gas is detected.

Exposure to high gas concentrations necessitates frequent gas bump testing. Reflex™ technology is not a substitute for routine gas testing and system calibration but, since it does not require the labor-intensive site visit that bump testing does, it provides a cost-effective and efficient preemptive alert. Without this extra layer of protection, a system failure might not be readily known to the end user.

Reflex™ overcomes this unseen failure mode by performing an electrical bump test, introducing signals into a cell at regular intervals and reviewing the echoes as the cell responds to the applied signal. This bump test is initiated automatically upon power-up, every time sensors are changed, and at 8-hour intervals during operation. Reflex™ checks for cell presence, cell dry-out, and open or short circuits in a cell. If the cell is deteriorating within pre-set limits, the sampling rate increases in order to determine the cell's viability.

The oscilloscope graph in Figure 1 shows a cell responding to a Reflex™ pulse, indicating the performance of an ideal sensor vs. that of a sensor with substandard response. In the field, the instrument's fault code would alert the user that within 15 to 30 days the cell may be unable to accurately detect gas and must be replaced.

Reflex™ technology increases uptime, decreases maintenance, and gives the user unprecedented confidence in the gas detection system.

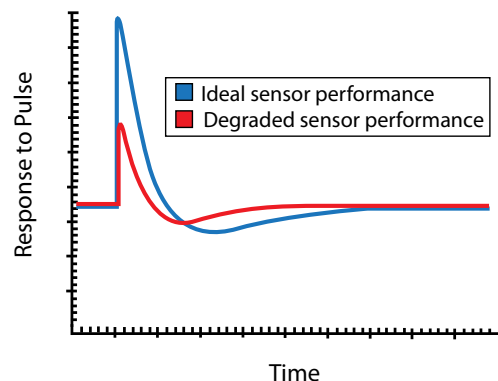


Figure 1: Cell response to a Reflex™ pulse

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