

RKI INSTRUMENTS, INC.
Specialists in Gas Detection

RKI-GL-0004

Guidelines for Sensor Replacement
(Field Service & Repair)

(Rev D)

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Department Training Records *(Required / Optional / Manager)*

Name	Initial	Date	Name	Initial	Date



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GUIDELINES FOR SENSOR REPLACEMENT (FIELD SERVICE & REPAIR)

The purpose of this document is to provide guidelines as to when and why instrument sensors should be replaced. Proactive replacement of dated sensors will ensure that instruments will continue to function properly and meet our customer's needs.

1. SENSOR REPLACEMENT GUIDELINES FOR PORTABLE AND FIXED SYSTEMS

a. OXYGEN SENSORS

- i. Sensor is over 2.5 years old covering:
 1. OS-BM2 (Micro Partial Pressure, GX-2001, 2003, 2009, GX-2012, GX-6000, GasWatch, OX-01, OX-03)
 2. 65-1025RK (Capillary cell, fixed systems)
 3. Other fixed system oxygen sensors not noted
- ii. Sensor is over 4 years old for the following:
 1. 65-2510RK (Partial Pressure, fixed systems with OS-B11 sensor)
 2. 65-1051RK (Partial Pressure, GX-82, 86, 91, OX-82, OX-90 Series with OS-B12 sensor)
 3. 65-1058RK (Partial Pressure, GX-94 with OS-BM1 sensor)
 4. 65-0601RK (Partial Pressure, Eagle, Eagle 2, XP-204A and others using OS-B3 sensor)
 5. OSU-OXY (GD-70D)
- iii. Output of sensor is unstable
- iv. Sensor can not be zeroed
- v. Span can not be set
- vi. Response does not meet established T-90 for the specific sensor
- vii. Voltage output is outside the acceptable tolerance for the specific sensor
- viii. Sensor can no longer be calibrated
- ix. There is evidence of leakage, physical damage or contamination
- x. Customer requests sensor be replaced

b. CO, H₂S & OTHER TOXIC GAS SENSORS

- i. Sensor is over 3 years old covering:
 1. ES-1821 (Micro CO for GX-2001, 2003, 2009, GX-2012, GX-6000, GasWatch, CO-01, CO-03 (3 year Warranty))

2. ES-1827i (Micro H2S GX-2001, 2003, GX-2012, GX-6000, GasWatch, HS-01, HS-03 (3 year Warranty)).
 3. ES-23 HCl & O3, ES-K233 HCl, ES-K239C-O3
 4. ESU series sensors (GD-70D)
 5. ESM series sensors (SC-01 & Eagle 2)
 - ii. Sensor is over 4 years old covering:
 1. 65-2005RK (Eagle, & Eagle 2 CO)
 2. ES-87RW-H2S (Eagle 2)
 3. 65-2035RK (Eagle H2S)
 4. 65-2008RK (GX-94 CO)
 5. 65-2038RK (GX-94 H2S)
 6. 65-2003RK (CO sensor for GX-82, 86, 90, 91)
 7. All fixed system toxic gas sensors excluding sensors listed in paragraph "i" above.
 8. Output of sensor is unstable
 9. Response does not meet established T-90 for the specific sensor
 10. Sensor can no longer be calibrated
 11. There is evidence of leakage, physical damage or contamination
 12. Customer requests sensor be replaced
 - c. CATALYTIC COMBUSTIBLE GAS SENSORS (all)
 - i. Output of sensor is unstable
 - ii. Sensor can not be zeroed
 - iii. Response does not meet established T-90 for the specific sensor
 - iv. Sensor can no longer be calibrated or meet the following criteria:
 1. Response does not meet or exceed 120% of calibration set point.
Example: when testing a sensor with 50% LEL methane, the maximum span should be 60% LEL or above. For instruments that auto adjust, replace sensor if sensor can no longer be calibrated.
 - v. There is evidence of physical damage or contamination
 - vi. Customer requests sensor be replaced
 - d. THERMAL CONDUCTIVITY (TE-), MOS (SGU & SH-8641), INFRARED HC, CH4 & CO2, IONIZATION SENSOR FOR PYROLYZER, GD-S8DG AND GD-DS77DG SERIES, PID Sensors (all)
 - i. Output of sensor is unstable
 - ii. Sensor can not be zeroed
 - iii. Response does not meet established T-90 for the specific sensor
 - iv. Sensor can no longer be calibrated
 - v. There is evidence of physical damage or contamination
 - vi. Customer requests sensor be replaced
2. Notes: if customers choose **not** to have sensors replaced that exhibit the problems as noted above other than age, the instrument is to be returned **without calibration certificate or calibration sticker** as the instrument does not meet our requirements

for operation. A note will be made on the repair report documenting that the sensor(s) were not replaced due to customer instruction.

3. If the sensors are over the recommended replacement age but perform to all other published specifications, can be calibrated and customer requests the sensor **not** be replaced, calibration will be performed, calibration certificate and calibration sticker will be provided, and a note made on the repair report indicating that sensors were not replaced due to customer request.

The above are only guidelines, please consult the Technical Services Manager or Senior Management for exceptions to the above.

Issued by: **Steve Peluffo**

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