The Bacharach MVR-300 UK version detects refrigerant leaks in occupied spaces. The detector is for indoor applications. It is housed in an ABS enclosure that fits into most 2-gang UK electrical back boxes (not included). Thinner metal mounting tabs are provided for flush mounting in UK back boxes with higher mounting tabs.

**CAUTION:** DO NOT MOUNT the MVR-300 in an area that may contain flammable liquids or vapors. Operation of electrical equipment in such an area constitutes a safety hazard.

**SAFE MOUNTING:** This detector must be connected by a marked, suitably located and easily reached switch or circuit-breaker as means of disconnection.

**NOTE:** Before installing the MVR-300, refer to the calibration gas concentration label and record the value for use in step 16 of the calibration procedure.

When inserting the wire into the terminal, ensure all wiring connections are made before applying power.

Push to release the spring clamp by pushing back the release latch.

1. Prepare signal cable and put boot over the signal cable.
2. Add appropriately sized ferules (not included) if required.
3. Heat the shrink wrap.
4. Connect signal wires/ferules to the detector.
5. Release the spring clamp by pushing back the release latch.
6. Apply 10 cm piece of shrink wrap as close to the wire ends.
7. Fasten shrink wrap to detector with release latch.
6: INSTALLATION (CONTINUED)

COVER GROUNDING: For proper cover grounding, wire the ground lug of the faceplate to the ground lug of the earth grounded back box.

NOTE: For specifications and recommended drill patterns for customizing a metal UK faceplate, visit the MVR-300 product page at www.MyBacharach.com.

Example of custom faceplate
Example of UK back box
Example of UK back box (not included)
Cover plate to see the label.
ID/serial number labels
Sensor alignment ribs (×3)
Test point access holes (×2)
Sensor type/calibration and ID/serial number labels
Grounding lugs
Mounting tabs
Direction arrows (×2) for proper mounting

1. The detector must not be in alarm or fault condition. (One exception is a negative gas concentration fault – which requires a zero calibration.)
2. Calibration gas must be in balance of air, not Nitrogen (N). Check with local authorities, etc.
3. Attach the pressure regulator to the calibration gas cylinder.
4. Fit calibration adapter over sensor module, aligning its 3 notches with the sensor alignment ribs.
5. The gas flow should be approximately 0.3 to 1.0 L/min.
6. If operation is intended to be at higher altitudes, the factory calibration is set to sea level (reduced partial pressure). A new span adjustment is recommended if the altitude or the ambient pressure is changed. The factory calibration is set to sea level.
7. Connect the tubing to the barbed fitting.
8. Always perform a zero adjustment before a span adjustment.

7: OPERATION OVERVIEW

8: GENERAL CALIBRATION PROCEDURE

1. Flow meter
2. Pressure regulator
3. Calibration gas
4. Tubing
5. Calibration adapter
6. Magnetic Switch Functions
7. Normal mode, no alarm
8. Warmup mode (× 6 minutes)
9. Low gas alarm
10. High gas alarm
11. Offline (not in calibration mode)
12. Span calibration
13. Zero calibration
14. During calibration
15. Waiting to start calibration mode
16. Fault (continuous)
17. Over range (remove gas)
18. Under range (perform zero adjust)
19. Negative gas fault (perform calibration)
20. Zero calibration error
21. Muted alarm
22. High gas alarm
23. Warmup mode
24. Low gas alarm
25. Fault
26. Span Cal Mode
27. Zero Cal Mode
28. LED Colors
G Green
O Orange
R Red

9: BUMP TEST

1. Inform building personnel of test so that certain alarms may be inhibited (e.g., shutdown valves, notification of authorities, etc.).
2. Connect adapter and target gas according to instructions in General Calibration Procedure.
3. Apply a sufficiently high concentration of target gas to trigger alarms, but not pure refrigerant or hydrocarbons (e.g., do not use a butane lighter).
4. If operation is intended to be at higher altitudes, the factory calibration is set to sea level (reduced partial pressure). A new span adjustment is recommended if the altitude or the ambient pressure is changed. The factory calibration is set to sea level.
5. Connect the tubing to the barbed fitting.
6. Always perform a zero adjustment before a span adjustment.
7. The detector must not be in alarm or fault condition. (One exception is a negative gas concentration fault - which requires a zero calibration.)
8. Calibration gas must be in balance of air, not Nitrogen (N). Check with local authorities, etc.
9. Attach the pressure regulator to the calibration gas cylinder.
10. Fit calibration adapter over sensor module, aligning its 3 notches with the sensor alignment ribs.
11. The gas flow should be approximately 0.3 to 1.0 L/min.
12. If operation is intended to be at higher altitudes, the factory calibration is set to sea level (reduced partial pressure). A new span adjustment is recommended if the altitude or the ambient pressure is changed. The factory calibration is set to sea level.
13. Connect the tubing to the barbed fitting.
14. Always perform a zero adjustment before a span adjustment.

8A. ZERO ADJUSTMENT

1. As the calibration process progresses, the LED will blink green-orange-green-orange-orange, etc.
2. To abort calibration, tap (••) for >5 seconds, turn off gas flow and remove the calibration adapter. The detector will return to normal operation after 6 minutes of recovery time.
3. If calibration is successful, the LED will blink green-orange-red indicating ‘offline’. Turn off gas flow and remove the calibration adapter. The detector will return to normal operation after 6 minutes of recovery time.
4. If calibration is unsuccessful (orange LED blinks @ 2 Hz), then tap (••) to discard the calibration attempt, and see User Manual (P/N 6203-9000) for troubleshooting.
5. Turn off gas flow from synthetic air.
6. Replace synthetic air tank with calibration gas tank in preparation for span adjustment (if required).

8B. SPAN ADJUSTMENT

1. Tap and hold (••) for >5 seconds. The LED will blink green-green-green-orange-orange-orange.
2. As the calibration process progresses, the LED will blink green-orange-green-orange-orange-orange-orange.
3. To abort calibration, tap and hold (••) for >5 seconds, turn off gas flow and remove the calibration adapter. The detector will return to normal operation after 6 minutes of recovery time.
4. If calibration is successful, the LED will blink green-orange-red indicating ‘offline’. Turn off gas flow and remove the calibration adapter. The detector will return to normal operation after 6 minutes of recovery time.
5. If calibration is unsuccessful (orange LED blinks @ 2 Hz), then tap (••) to discard the calibration attempt, and see User Manual (P/N 6203-9000) for troubleshooting.
6. Turn off gas flow from synthetic air.
7. Replace synthetic air tank with calibration gas tank in preparation for span adjustment (if required).

WARNING: Ambient air can be used to zero the sensor instead of synthetic air only if the area is known to be free of the target gas or any gas to which the sensor may be cross-sensitive. In this case, no cylinder or calibration adapter is needed for the zero adjustment.

9. Inform building personnel of test so that certain alarms may be inhibited (e.g., shutdown valves, notification of authorities, etc.).
10. Connect adapter and target gas according to instructions in General Calibration Procedure.
11. Apply a sufficiently high concentration of target gas to trigger alarms, but not pure refrigerant or hydrocarbons (e.g., do not use a butane lighter).
12. Once the alarm thresholds are exceeded, all designated gas alarm relays will be activated and the digital outputs will transmit the corresponding gas concentrations.
13. Turn off gas flow and remove calibration adapter.