Installation

The AKO-58110 calibration kit enables the testing, verification of accuracy, reset to zero and calibration of the transmitter.

**Operation test (Bump Test)**

Materials required:  AKO-58110 calibration kit + Gas cylinder*

- **EN-378** and **F-GAS** international standards require verification of the correct operation of the transmitter at least once per year. Please check what current local regulations specify for such cases. **Always ensure that you comply with current local regulations.**
  
  - Before starting the verification procedure, check the Pre-Alarm configuration (RL2). This should be enabled in order to check it has been activated. It is advisable to disable the Pre-Alarm delay (RL5) and Alarm delay (RL8) to speed up the verification process.
  - Install the AKO-58110 calibration kit.
  - Open the shut-off valve of the gas cylinder and wait.
  - After a few moments, the transmitter concentration reading will begin to rise until it reaches the Pre-Alarm and then Alarm level.
  - Check that both the Pre-Alarm and the Alarm signal correctly and that the corresponding relays are activated.
  - Close the shut-off valve of the gas cylinder, disconnect the cylinder and remove the calibration kit from the transmitter.

The transmitter may take a few moments to go back to showing the concentration values from before the verification procedure.

Once the verification procedure is complete, remember to readjust the Pre-Alarm (RL2) and delay (RL5 and RL8) parameters to the values prior to the beginning of the verification procedure.

*Use a cylinder with a type of gas that is suitable to the sensitivity of the transmitter to be calibrated. When calibrating the AKO-575400 universal gas transmitter, use a R134a gas cylinder.
**Verification of accuracy (AKO-575xxx only)**

Materials required:  
AKO-58110 calibration kit + Calibrated gas cylinder*

- AKO recommends verifying the accuracy of the transmitter at least once per year. Please check what current local regulations specify for such cases.

**Reset to zero (AKO-575xxx only)**

**OPTION A: CLEAN AIR**
- Before beginning the reset to zero procedure, ensure that the area of the premises is free of freon gas and any other substances that could affect the transmitter, and that the transmitter has been operating for at least 20 minutes.
- Enter the programming menu by pressing the SET key for 10 seconds and access parameter 00. The unit will request a confirmation code (Cod). Use keys ▼ and ▲ to enter code 63 and press SET.
- Use keys ▼ and ▲ to select option 1 and press SET. This will start the process.
- During the process, the display will alternate between showing the gas concentration and the KRL message and the illuminated symbol. This process will last for between 30 seconds and 5 minutes. On completion, if the reset to zero process has been successful, the display will show “End” and emit a long beep.

**OPTION B: WITH NITROGEN GAS**

Materials required:  
AKO-58110 calibration kit + Nitrogen gas cylinder

- After initiating the reset to zero process, ensure that the transmitter has been operating for at least 20 minutes.
- Install the AKO-58110 calibration kit.
- Enter the programming menu by pressing the SET key for 10 seconds and access parameter 00. The unit will request a confirmation code (Cod). Use keys ▼ and ▲ to enter code 63 and press SET.
- Seleccionar la opción 1 mediante las teclas ▼ y ▲ y pulsar SET, el proceso se inicia.
- Open the shut-off valve of the gas cylinder and wait.
- During the process, the display will alternate between showing the gas concentration and the KRL message and the symbol illuminated. This process will last for between 30 seconds and 5 minutes. On completion, if the reset to zero process has been successful, the display will show “End” and emit a long beep.
- Close the shut-off valve of the nitrogen gas cylinder, disconnect the cylinder and remove the calibration kit from the transmitter.

**Calibration of transmitter (AKO-575xxx only)**

Materials required:  
AKO-58110 calibration kit + 2000 PPM calibrated gas cylinder*

Check whether current local regulations require a specific calibration frequency. Always ensure that you comply with current local regulations.

- After initiating the calibration process, ensure that the transmitter has been operating for at least 20 minutes.
- Reset the transmitter to zero.
- Install the AKO-58110 calibration kit.
- Press the SET key for 10 seconds to enter the programming menu.
- When calibrating an AKO-575400 universal transmitter, configure parameter Gc2 to RLL.
- Access parameter 01. The unit will request a confirmation code (Cod). Use keys ▼ and ▲ to enter code 63 and press SET.
- Use keys ▼ and ▲ to select option 1 and press SET. This will start the process.
- Open the shut-off valve of the gas cylinder and wait.
- During the process, the display will alternate between showing the gas concentration and the KRL message and the symbol illuminated. This process will last for up to 15 minutes. On completion, if the calibration process has been successful, the display will show “End” and emit a long beep.
- Close the shut-off valve of the calibrated gas cylinder, disconnect the cylinder and remove the calibration kit from the transmitter.

If any problems have been detected during the calibration process, the transmitter will emit three short beeps and show one of the following error codes:

<table>
<thead>
<tr>
<th>CODE</th>
<th>ERROR</th>
</tr>
</thead>
<tbody>
<tr>
<td>E0</td>
<td>The maximum time period (5 min) has been exceeded and the reading has not stabilised.</td>
</tr>
<tr>
<td>E1</td>
<td>The temperature of the sensor has experienced a variation of greater than 5 °C.</td>
</tr>
<tr>
<td>E2</td>
<td>The temperature of the sensor has experienced a variation of greater than 5 °C.</td>
</tr>
</tbody>
</table>

The transmitter may take a few moments to go back to showing the concentration values from before the verification procedure.

*Use a cylinder with a type of gas that is suitable to the sensitivity of the transmitter to be calibrated. When calibrating the AKO-575400 universal gas transmitter, use a R134a gas cylinder.