Gas Sensors

MICRO-HYBRID

Dos and Don’ts
Handling Guide for Gas Sensors



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Dos and Don'ts
Handling Guide for Gas Sensors

- **Do handle sensors in an electrically safe environment.** All sensors should be handled in a suitable industrial environment in compliance with VDE regulations or comparable international regulations (UL, CSA, CENELEC, IEC, BSI, and GB standards.) This protects sensitive sensor electronics to ensure reliable long-term performance.
- **Do protect the housing from mechanical damage.** The housing must remain intact during storage, transport, and assembly. Any mechanical damage can affect long-term stability and component reliability.
- **Do use and store the sensor only within the specified temperature ranges.** These are stated in the product data sheet.
- **Do consider the following when mounting the 100-VS with the mounting ring:** The sensor can be aligned using pliers at the rear housing section, at the laser marking or chamfered round surface. Note that turning the sensor at the hexagon is only allowed in a clockwise direction.
- **Do handle the filter carefully.** The filter should be treated with care during sensor installation. Avoid applying mechanical stress to the filter. Damage to the filter can lead to rapid malfunction of the sensor.
- **Do study the circuit diagram carefully to ensure proper sensor connection.** This will result in a reliable connection, stable functionality, and a long service life.
- **Do ensure high power supply quality for the sensors.** The quality of the power supply is critical because it directly affects the reliability of the sensor results.
- **Do use the sensor only in suitable operating environments.** These sensors should be used only in environments for which they are intended. Proper environmental conditions support consistent performance and product lifetime.
- **Do use only a clean production environment and avoid contamination.**
- **Do use only approved cleaning agents.**
- **Do wipe down the incubator with clean tap water after using cleaning agents and allow the interior to dry briefly before use.** This helps protect sensitive sensor electronics and ensures reliable long-term performance.
- **Do perform zero-point calibration only with the incubator door open.** If the incubator cabinet was previously used with CO_2 gas, allow sufficient time for ventilation (several minutes) before starting the zero-point calibration. This helps ensure stable sensor performance and a long service life.
- **Do consider that your system, including the sensor and incubator, takes time to stabilize at the desired gas concentration.**
- **Do contact your sales representative at an early stage if you are considering deviating from the specified mechanical, electrical, or environmental conditions.** We can advise you on a wide range of operating conditions and provide expert guidance. This also allows us to better align your specific requirements with our technical capabilities and provide optimal support.

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- **Don't expose the sensors to improper handling.** Rough or careless handling can damage the housing, connector, or internal structures. Even though the sensors are generally robust, improper handling can significantly reduce reliability.
- **Don't repeatedly attach and detach the filter.** Repeated removal and installation can cause the filter to wear and may compromise its secure fit.
- **Don't contaminate or soil the filter.** Contamination can reduce measurement accuracy or increase the sensor response time.
- **Don't use the cable or its 90° connector to align the sensor.** Rotating the cable can damage or break the connector pins, twist and damage the circuit board, or cause latent defects that may only become apparent over time and lead to total failure.
- **Don't damage the housing.** Avoid any visible damage to the housing. A damaged housing may compromise long-term stability and create uncertainty regarding performance over time.
- **Don't use the sensor in aggressive environments.** Aggressive environments can shorten the service life of sensor components or cause malfunction. Avoid such environments unless the sensor has been specifically designed and approved for these conditions. Examples include high concentrations of corrosive gases such as ammonia, chlorine, nitrogen oxides, and sulfur dioxide, as well as salt-containing humidity, solvents, chemical vapors, particles, and aerosols. Exposure to harsh environments can cause sensor damage and failure over the medium to long term if chemicals degrade optical or electrical components. Chemical substances can also cause short circuits due to their increased conductivity, particularly in combination with water vapor or condensation.
- **Don't connect the sensor incorrectly.** Incorrect connection can, in the worst case, damage or destroy the sensor electronics, resulting in total failure.
- **Don't perform zero-point calibration while the incubator is closed or exposed to a CO_2-rich atmosphere.** This can cause significant measurement offsets or trigger a sensor error value. It may also result in inaccurate measurements or a system fault due to incorrect internal calculations.
- **Don't drop the device.** Dropping the gas sensor can cause irreparable or gradual damage. If the device lands on the rear connector, the plug may also become dented and prevent proper connection.

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