

REL-ION™ Monitoring System



VOC, Temperature, and Humidity Sensor P/N: 31-GAS-VOC

Effective: November 2025
K-31-508 Rev. AA

Description

The 31-GAS-VOC sensor is a plug-and-play sensor to detect off-gas and temperature events from lithium-ion batteries. A key to early detection of battery issues lies in the identification of Volatile Organic Compounds (VOCs), which are emitted when lithium-ion batteries are stressed or damaged. Detecting VOCs serves as early warning signs and is critical in preempting thermal runaway and other hazardous conditions.

- Measures VOC levels between a 0-500 VOC index
- Measures temperatures -10°C to +60°C
- Measures humidity 0-95% RH
- Compact Plug & Play Sensor
- Designed for Indoor Use
- Can plug into and be powered by 31-BASE-WIRED base unit (PoE, 12v DC, optionally 24v or -48v)
- Alerts via 31-BASE-WIRED SensorGateway
- Out of the Box Integration via Modbus TCP, SNMP
- Optional Integration via MQTT for Industrial IoT Applications¹
- Optional Integration via RS-485 Enabling Direct Integration with your own Gateway & Controllers²
- UL/ULC 61010 Listed

¹Requires BASE-XXX-6

²Some sensors are not available in RS-485 native versions. In that case RS-485 is available using the optional Modbus RTU module.



Specifications

| Environmental | |
|---|--|
| Operating Temperature Range | 14°F to +122°F (-10°C to +50°C) |
| Humidity (Operating and Storage) | 0-90% RH (non-condensating) |
| Physical | |
| Sensor Enclosure | Steel Enclosure, Industrial Grade |
| Mounting Options | 0U rack, DIN rail, magnetic, or wall mountable sensor |
| Dimensions | 2.9 in. (73mm) x 2.7 in. (69mm) x 1.14 in. (29 mm) |
| Weight | 0.43 lbs (193 g) |
| Technical | |
| Powered by and communicates with | 31-BASE-XX SensorGateway required |
| Connectivity | RJ45 cable transmitting data & power from Base Unit to Sensor |
| Cable Specifications | RJ45 CAT 6/7 recommended Up to 100m (330ft) subject to cable quality & interference |
| Sensor Power Usage | 120 mW |

| | |
|--|--|
| VOC Measurement Output Range | 0-500 VOC Index |
| VOC Repeatability | <±5 VOC index points or % mass volume W (m.v.) |
| Temperature Measurement Range | -40°F to 257°F (-40°C to 125°C) |
| Temperature Accuracy | ± 0.86 °F (0.48 °C) |
| Relative Humidity Measurement Range | 0 to 100 % RH |
| Relative Humidity Accuracy | 2% RH |
| Life Span | up to 10 years |

This literature is provided for informational purposes only. Kidde-Fenwal, LLC believes this data to be accurate, but it is published and presented without any guarantee or warranty whatsoever. Kidde-Fenwal, LLC assumes no responsibility for the product's suitability for a particular application. The product must be properly applied to work correctly. If you need more information on this product, or if you have a particular problem or question, contact KIDDE-FENWAL, LLC, Ashland, MA 01721.

Kidde-Fenwal, LLC
400 Main Street
Ashland, MA 01721, USA

KFI U.K. Limited
Station Road,
Bentham, Lancaster, LA2 7NA, UK

Kidde Technologies
Survey No. 28/2, 44/2 and 45
Rasyani, Dandapta Road
Raigad Maharashtra-410207, India

kiddefenwal.com | 508.881.2000

Kidde Fire Systems, Kidde Fire Protection and Fenwal Controls branded products are created exclusively by Kidde-Fenwal, LLC. All other trademarks are the property of their respective owners.

2026 © Kidde-Fenwal, LLC | All Rights Reserved



EXPORT INFORMATION (USA)
Jurisdiction: EAR
Classification: EAR99

This document contains technical data subject to the EAR.

P/N: K-31-508 Rev. AA