



Refrigerant gas  
leakage detector  
GLD small series

# Gas leakage detectors for fixed installations

CAREL offers the range of GLD sensors for detecting leakages of CFC, HFC, HFO and CO<sub>2</sub> refrigerant gases, designed to meet all industrial refrigeration and air conditioning needs (supermarkets, shopping centres and other public places) in units that require continuous control and monitoring.

- **savings:** allow a prompt response, avoiding unit downtime;
- **constant monitoring** of environments where there is the risk of gas leakage;
- **signalling:** prompt notification of system gas leaks.

The CAREL GD\* Small (Small (P/Ns GDSB\* & GDSR\*) series gas leakage detectors guarantee monitoring in rooms where there is a risk of gas leakages due to the installation of refrigerated units, providing prompt notification and thus ensuring cost savings by avoiding system stoppages.

When a leakage above a certain concentration is detected, the sensor sends a signal to the connected controller or supervisor. Available in versions with semiconductor sensitive element and infrared for CO<sub>2</sub>. To the list of gases detected, refer to the technical manual.

## Advantages

Preventing refrigerant gas leakages brings the following advantages:

- no system downtime or significant economic costs due to poor food preservation;
- help reduce greenhouse gas emissions;
- monitor the environment where the refrigerated units are installed.

The device is integrated into the CAREL supervisory system, offering all the advantages of local and remote supervision.

Available in the built-in version or with remote sensor.



### Prompt notification of gas leaks

Reduced costs due to leakages from the circuit, protecting people's health.



### Greater connectivity

Integration with most CAREL and third-party controllers.



### Monitoring

Constant monitoring of the environment for verification of gas leakages even with remote supervisory systems.

## Supervision

Monitoring and control of gas concentrations in accordance with the requirements of the ASHRAE 15 and EN 378 series standards.



### Dedicated app - Rileva

The app for smartphones is available (downloadable from the App Store and Google Play) for faster interaction with the device during configuration, installation and routine maintenance/service.

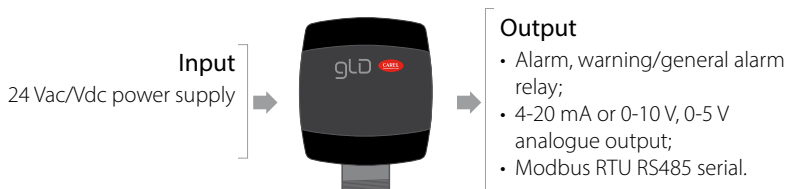


## Main benefits and performance

| Specifications                                      | Benefits  | Advantages   |
|---|---|--|
| Temperature compensation                            | Accuracy of the readings and excellent precision  | Higher precision (ppm) in detecting a gas leak in the environment.<br>SAFETY AND EFFICIENCY                                  |
| Wide working temperature range                      | Suitable for all applications   | One single product for multiple purposes (even installed directly in a cold room at -40°C). EXTENDED RANGE                   |
| LED diagnostics                                     | Immediate indication of the causes of problems  | Fast troubleshooting. EASY CONTROL   |
| 2 relays  | Multiple alarms (high, low/general)   | Immediate alarm or warning. SAFETY   |
| Replacement of the pre-calibrated sensitive element | Avoid the need for on-site calibration, simplifying maintenance   | Save time during annual calibration<br>No specialist installers or gas bottles are needed. EASY TO USE AND FAST INSTALLATION |
| User interface via Bluetooth                        | <ul style="list-style-type: none"> <li>Combined with the RILEVA app to simplify configuration</li> <li>View the readings in real time</li> <li>Configure the detector</li> <li>Output test</li> <li>Generate the calibration certificate</li> <li>Generate customisable calibration certificates</li> </ul> | Faster and easier commissioning.<br>EASY TO USE AND FAST CONFIGURATION   |
| Magnetic switch                                     | <ul style="list-style-type: none"> <li>Fast interaction with the device</li> </ul>  | Avoid opening the sensor cover for service and maintenance. EASY CONTROL   |
| Ingress protection IP67                             | Possibility of installation in equipment rooms, without specific protection   | Faster installation  |
| Multiple gases                                      | Detected gas configurable via app or serial parameter (semiconductor version only)  | Less part numbers to manage in the warehouse<br>SIMPLIFIED MANAGEMENT  |

## Functions

- Performance guaranteed down to -40°C;
- User interface: "RILEVA" app for Android and IOS "RilevaTE";
- Safety relay ON/OFF.



## Periodical sensor check

| Semiconductor version | Electrochemical version | Infrared version |
|-----------------------|-------------------------|------------------|
| 12 months             | 12 months               | Not required     |

Reference conditions at 25 °C 50% RH, atmospheric pressure 101.3 kPa



# Refrigeration unit scheduled maintenance

Leak checks are mandatory if the refrigerant system charge is higher than the limit values shown in the table, in accordance with the F-Gas regulation

| Refrigerant | GWP<br>IPCC AR4 | GWP= 5-49 tonnes of CO <sub>2</sub><br>12 months WITHOUT sensor<br>24 months WITH sensor | GWP= 50-499 tonnes of CO <sub>2</sub><br>6 months WITHOUT sensor<br>12 months WITH sensor | GWP= 500 tonnes of CO <sub>2</sub> or higher<br>3 months WITHOUT sensor<br>6 months WITH sensor |
|-------------|-----------------|--|---|---|
| R-1150      | 4               | 1250kg   | 12500kg   | 125000kg  |
| R-1233zde   | 5               | 1000kg   | 10000kg   | 100000kg  |
| R-1234yf    | 4               | 1250kg   | 12500kg   | 125000kg  |
| R-1234ze    | 6               | 834kg  | 8334kg  | 83334kg   |
| R-1270      | 2               | 2500kg   | 25000kg   | 250000kg  |
| R-134a      | 1430            | 3,5kg  | 35kg  | 350kg   |
| R-22        | 1810            | 2,8kg  | 28kg  | 277kg   |
| R-290       | 3,3             | 1516kg   | 15152kg   | 151516kg  |
| R-32        | 675             | 7,5kg  | 75kg  | 741kg   |
| R-404A      | 3922            | 1,3kg  | 13kg  | 128kg   |
| R-407A      | 2107            | 2,4kg  | 24kg  | 238kg   |
| R-407C      | 1774            | 2,9kg  | 29kg  | 282kg   |
| R-407F      | 1825            | 2,8kg  | 28kg  | 274kg   |
| R-410A      | 2088            | 2,4kg  | 24kg  | 240kg   |
| R-448A      | 1387            | 3,7kg  | 37kg  | 361kg   |
| R-449A      | 1397            | 3,6kg  | 36kg  | 358kg   |
| R-450A      | 604             | 8,3 kg   | 83kg  | 828kg   |
| R-452A      | 2140            | 2,4kg  | 24kg  | 234kg   |
| R-452B      | 698             | 7,2kg  | 72kg  | 717kg   |
| R-454A      | 239             | 21kg   | 210kg   | 2093kg  |
| R-454B      | 466             | 11kg   | 108kg   | 1073kg  |
| R-454C      | 148             | 34kg   | 338kg   | 3379kg  |
| R-455A      | 148             | 34kg   | 338kg   | 3379kg  |
| R-464A      | 1323            | 3,8kg  | 38kg  | 378kg   |
| R-465A      | 145             | 35kg   | 345kg   | 3449kg  |
| R-466A      | 733             | 6,9kg  | 69kg  | 683kg   |
| R-468A      | 148             | 34kg   | 338kg   | 3379kg  |
| R-50        | 25              | 200kg  | 2000kg  | 20000kg   |
| R-507A      | 3985            | 1,3kg  | 13kg  | 126kg   |
| R-513A      | 631             | 8kg  | 80kg  | 793kg   |
| R-600A      | 3               | 1667kg   | 16667kg   | 166667kg  |
| R-717       | 0               | -  | -   | -   |
| R-744       | 1               | 5000kg   | 50000kg   | 500000kg  |

## Headquarters

CAREL INDUSTRIES HQs  
Via dell'Industria, 11  
35020 Brugine - Padova (Italy)  
carel@carel.com



### Arion S.r.l.

Sede operativa:  
Via Pizzo Camino, 28  
24060 Chiuduno (BG) - Italy  
www.arionsensors.com

### HygroMatik GmbH

Lise-Meitner-Straße 3  
24558 Henstedt-Ulzburg - Germany  
www.hygromatik.com

### RECUPERATOR

Via Valfurva 13  
20027 Rescaldina (MI) - Italy  
www.recuperator.eu

### C.R.C. S.r.l.

Via Selva di Pescarola 12/9  
40131 Bologna - Italy  
info@crc-srl.net  
www.carel.com

### Klingenburg GmbH

Brüsseler Str. 77  
45968 Gladbeck - Germany  
www.klingenburg.de

### Sauber

Via Don Doride Bertoldi, 51  
46047 Porto Mantovano (MN) - Italy  
www.sauberservizi.it

### ENGINIA S.r.l.

Viale Lombardia, 78  
20056 Trezzo Sull'Adda (MI) - Italy  
www.enginiasrl.com

### Klingenburg International Sp. z o.o.

ul. Metalowców 5  
PL-58-100 Świdnica, Poland  
www.klingenburg.pl

### Senva

1825 NW 167th Pl, Beaverton,  
OR 97006, Stati Uniti  
www.senvainc.com

## Authorised distributor

# CAREL

To the best of CAREL INDUSTRIES S.p.A. knowledge and belief, the information contained herein is accurate and reliable as of the date of publication. However, CAREL INDUSTRIES S.p.A. does not assume any liability whatsoever for the accuracy and completeness of the information presented without guarantee or responsibility of any kind and makes no representation or warranty, either expressed or implied. A number of factors may affect the performance of any products used in conjunction with user's materials all of which must be taken into account by the user in producing or using the products. The user should not assume that all necessary data for the proper evaluation of these products are contained herein and is responsible for the appropriate, safe and legal use, processing and handling of CAREL's products. The Information provided herein does not relieve the user from the responsibility of carrying out its own tests, and the user assumes all risks and liabilities related to the use of the products and/or information contained herein. © 2024 CAREL INDUSTRIES S.p.A. All rights reserved.