Leak detector for refrigeration applications

CRLDS refrigerant leak detection system

The Copeland C-Series Refrigerant Leak Detection System (CRLDS) monitors indoor air for any refrigerant leaks and can detect a wide range of gases. The CRLDS can be used standalone or with XWEB PRO systems or XER controllers. You can use the CRLDS to continuously monitor for refrigerant leaks or as part of compliance monitoring or a refrigerant management program.

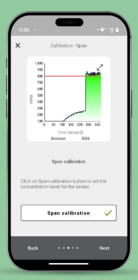
Refrigerant leak monitoring can help to reduce energy consumption, and protect people, products, and equipment from dangerous situations and costly failures.

Features

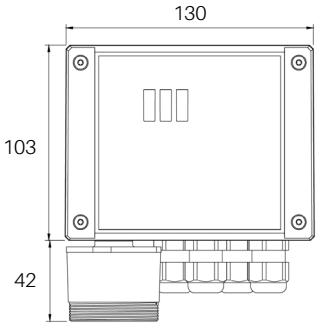
- Capable of detecting CO_2, R290, HFC/HFO gases depending on model
- Available in two configurations:
  - **Built-in version** – leak sensing head located on the hardware device
  - **Remote version** – leak sensing head attached to cable to allow hardware to be located separately from the sensor
- Can connect to Copeland monitoring systems and controllers like XWEB PRO through RS485 Modbus serial connection, or XER through analog output and relays
- Simple visual indication of current operating status provided by three LEDs (green/red/orange)
- Connect to the CRLDS using a mobile app available in both the App Store™ and Google Play Store™.
  This mobile app can be used for:
  - Configuration: modify alarm thresholds, configure Modbus settings, modify relay behavior, and manage Analog output settings
  - Maintenance: check correct functioning of the device for quick troubleshooting
  - Calibration, complete with calibration report
  - Display of current gas concentration mesurement in parts per million (PPM) and indication of alarm/fault status

Mobile app

The CRLDS mobile app simplifes configuration, interaction and troubleshooting. It helps simplify configuration of and interaction with the Copeland C-Series Refrigerant Leak Detection System.
Easy access to modify, configure, troubleshoot and manage the CRLDS for simple and intuitive interaction.



Dimensions



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Technical features

VERSIONS	SEMICONDUCTOR	INFRARED
Power supply voltage**	24VDC/AC +/- 20%, 5W , 50/60Hz	24VDC/AC +/- 20%, 5W , 50/60Hz
User interface	App with Bluetooth®	App with Bluetooth®
Analog output	4-20mA / 0-10V / 1-5V / 2-10V selected via software	4-20mA / 0-10V / 1-5V / 2-10V selected via software
Serial communication	Modbus® RS485 isolated server	Modbus® RS485 isolated server
Digital output 1 SPDT	Alarm - relay 1 A/24 VDC/AC, resistive load	Alarm - relay 1 A/24 VDC/AC, resistive load
Digital output 2 SPDT	Warning/FAULT - relay 1 A/24 VDC/AC, resistive load	Warning/FAULT - relay 1 A/24 VDC/AC, resistive load
Relay failsafe	Yes; Selectable	Yes; Selectable
Selectable delay	0-20 min; 1-minute steps, selectable via Modbus register/app	0-20 min; 1-minute steps, selectable via Modbus register/app
Hysteresis	± 10% of the threshold value	± 10% of the threshold value
IP protection	IP67	IP67
Typical operating range	0-1000 ppm / 0-4000 ppm (R290)	0-10000 ppm
Sensing element	Pre-calibrated (also available as a spare part) with certificate	Pre-calibrated (also available as a spare part) with certificate
Remote cable length	5 meters	5 meters
Storage temperature	-40°C 0 to +50 °C	-40°C 0 to +50 °C
Storage humidity	5-90% relative humidity, non-condensing	5-90% relative humidity, non-condensing
Storage position	Any	Any
Operating temperature	-40°C to +50 °C	-40°C to +50 °C
Operating humidity	5-90% relative humidity, non-condensing	5-90% relative humidity, non-condensing
Maximum installation altitude	2000 meters	2000 meters
Operating position	Intended for vertical mounting with the sensor at the bottom	Intended for vertical mounting with the sensor at the bottom
Precision*	<-10%/+15%	±5%
Start-up time*	5 minutes	2 minutes
Working life*	5 years	7 years
Calibration procedure requirements	12 months	Not required

* Reference conditions at 25 °C 50% RH atmospheric pressure 101.3 kPa
** The device is intended to be supplied from an isolated Limited Energy Source per UL61010-1, 3rd edition cl. 9.4 or Limited Power Source per UL60950-1 or Class 2 per NEC

Order Information

Sensor models

EU Part Number	Description
DQ30000000	CRLDS-CO2, Built-in, IR, 10000ppm
DQ30001000	CRLDS-CO2, Remote, IR, 10000ppm
DQ30012001	CRLDS-R290, Built-in, SC, 4000ppm
DQ30013001	CRLDS-R290, Remote, SC, 4000ppm
DQ30022002	CRLDS-HFC/HFO Group1*, Built-in, SC, 1000ppm
DQ30023002	CRLDS-HFC/HFO Group1*, Remote, SC, 1000ppm
DQ30022003	CRLDS-HFC/HFO Group2**, Built-in, SC, 1000ppm
DQ30023003	CRLDS-HFC/HFO Group2**, Remote, SC, 1000ppm

Order Information

Spare parts

EU Part Number	Description
DQ31000000	CRLDS Sensor Module IR CO2 10000ppm
DQ31000001	CRLDS Sensor Module SC R290 Group 3 4000ppm
DQ31000002	CRLDS Sensor Module SC HFC/HFO Group 1* 1000ppm
DQ31000003	CRLDS Sensor Module SC HFC/HFO Group 2** 1000ppm
DQ32000004	CRLDS Calibration Kit

* Group 1 Gases : R32, R407A, R407C, R407F, R410A, R448A, R449A, R452A, R452B, R454A, R454B, R454C, R455A, R464A, R465A, R466A, R468A, R507A
** Group 2 Gases : R22, R134a, R404A, R450A, R513A, R1234yf, R1234ze, R1234zde

Copeland Controls S.r.l. | Z.I. Via dell'Industria, 27
32016 Alpago (BL) ITALY - dixell@copeland.com
Release 1.0 - 1582007900-GB
To learn more, visit **copeland.com**

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