

Data sheet

# Danfoss Gas Sensor (DGS)



Environmental requirements increasingly demand improved protection and responsibility of End Users applying refrigerants in their systems/plants. This has been supported by Governments with new laws and local regulations to ensure correct handling and responsibility.

Danfoss introduce our new commercial range of Gas Leak Detector (Type DGS).

Utilising either Semi-Conductor (SC) or Infrared (IR) technologies, DGS gives quick and immediate response in detecting a wide range of different gases typically applied in Refrigeration & Air Conditioning systems.

## Introduction

DGS sensors can be used in stand-alone or integrated systems, where continuous real-time, automatic monitoring with Danfoss ADAP-KOOL® Refrigeration Control & Monitoring System and/or Building Management Systems is applied.

DGS supports our Customers in complying to environmental F-Gas Regulations and/or Health & Safety requirements, on new or existing systems in:

- Supermarkets
- Process refrigeration plants
- Refrigerated storage and warehousing
- Special applications areas/zones

Typical Refrigerant gas applications include:

- Halocarbons: HFC's, HCFC's, CFCs.
- Carbon Dioxide (CO<sub>2</sub>/R744)
- Hydrocarbons (e.g. R290, R600a)
- Other special application gases to customer request

Technical Data

<b>Power Supply</b>	12/24v AC/DC ±20%
<b>Power Consumption</b>	EC: 60mA / SC:153mA / IR: 136mA
<b>Power Monitoring</b>	Green LED indication
<b>Visual Alarm</b>	RED LED indication
<b>Audible Alarm</b>	Sounder, enabled/disabled
<b>Fault Monitoring</b>	Red LED ON ~ Green LED OFF
<b>Fault State</b>	0 - 0.5v (1-5v), 0 - 1v(2-10v), 0 - 2mA (4-20mA)
<b>Analogue Outputs</b>	0-5v, 1-5v, 0-10v, 2-10v, 4-20mA
<b>Digital Outputs</b>	1-Relay 1-Amp / 24v D.C. / 120v A.C. Selectable Delay: 0, 1min., 5min., 10min.
<b>IP Enclosure rating</b>	IP 41 or IP 66 (see selection chart)
<b>Standard Compliance</b>	WEEE RoHS EuP

Sensor Information	Semi-Conductor with filter (multigas) SC Halocarbons	Semi-Conductor (multigas) SC Hydrocarbons	Infrared IR CO2
<b>Typical Measurement Range</b>	0 - 1,000 ppm	0 - 1,000 ppm	0 - 10,000 ppm 0 - 20,000 ppm 0 - 50,000 ppm
<b>Relay Factory Default Setting</b>	50% of Range	50% of Range	50% of Range
<b>Temperature Range IP41</b>	-20°C to +50°C (-4°F to 122°F)	-20°C to +50°C (-4°F to 122°F)	-20°C to +50°C (-4°F to 122°F)
<b>IP 66</b>	-40°C to +50°C (-40°F to +122°F)	-40°C to +50°C (-40°F to +122°F)	-40°C to +50°C (-40°F to +122°F)
<b>Humidity Range non-condensing</b>	0 to 95%	0 to 95%	0 to 95%
<b>Typical Sensor Life</b>	5-years	5-years	5-years
<b>Alarm Threshold T50</b>	76 sec (filtered)	50 sec (filtered)	50 sec
<b>T90</b>	215 sec (filtered)	90 sec (filtered)	120 sec
<b>Recovery Time</b>	600 sec.	200 sec	235 sec
<b>Linearity</b>	Linear over calibrated range		
<b>Calibration Requirements</b>	<ul style="list-style-type: none"> <li>Standards generally require annual test and calibration</li> <li>See Danfoss Manual for Instructions</li> <li>Note: Semi-Conductor sensors are non-selective, but calibrated to a specific gas.</li> </ul>		

Ordering

Danfoss DGS - IP41 Enclosure Versions			Danfoss DGS - IP66 Enclosure Versions		
Refrigerant	Product Description	Code no.	Refrigerant	Product Description	Code no.
R404A, R507	DGS-SC Gas Detector (IP41) Std. default R404A/R507 (min. -20C)	<b>080Z2098</b>	R404A, R507	DGS-SC Gas Detector (IP66) Std. default R404A/R507 (min. -40C)	<b>080Z2099</b>
R134a	DGS-SC Gas Detector (IP41) std. default R134a (min. -20C)	<b>080Z2092</b>	R134a	DGS-SC Gas Detector (IP66) std. default R134a (min. -40C)	<b>080Z2089</b>
R407A	DGS-SC Gas Detector (IP41) std. default R407A (min. -20C)	<b>080Z2093</b>	R407A	DGS-SC Gas Detector (IP66) std. default R407A (min. -40C)	<b>080Z2094</b>
R410	DGS-SC Gas Detector (IP41) std. default R410 (min. -20C)	<b>Contact Danfoss</b>	R410	DGS-SC Gas Detector (IP66) std. default R410 (min. -40C)	<b>Contact Danfoss</b>
R22	DGS-SC Gas Detector (IP41) std. default R22 (min. -20C)	<b>080Z2090</b>	R22	DGS-SC Gas Detector (IP66) std. default R22 (min. -40C)	<b>080Z2091</b>
CO <sub>2</sub> (R744)	DGS-IR-CO <sub>2</sub> Gas Detector (IP41) for CO <sub>2</sub> std. (min.-20C)	<b>080Z2095</b>	CO <sub>2</sub> (R744)	DGS-IR-CO <sub>2</sub> Gas Detector (IP66) for CO <sub>2</sub> (min.-40C)	<b>080Z2096</b>



Note: DGS is also available for alternative refrigerant gases on request. Please contact your local Danfoss Sales Office for details

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