

Data Sheet

A2L Gas Sensor

Types **DST G54B, DST GR32**



The new A2L gas sensor is designed for use in the HVAC market with a specific focus on Residential, Heat Pump, Rooftop, & Chiller applications.

Our thermal conductivity technology offers rapid & accurate leak detection, +15 year lifetime, immunity to poisoning, automated self-calibration, and reliable self-diagnostics to avoid silent failures.

Our unique design is optimized to ensure performance over the lifetime even in harsh application environment as it is robust against condensation, dirt, dust, and UV light. Additionally, we have built-in flexibility in terms of hardware and software allowing for easy customization and system integration.

Features:

- Designed for use with R454B and R32 (others on request)
- Flexible alarm threshold and customizable software
- Easy system check via LED status
- Patented, robust design
- Output modes: Modbus, Relay and Dual Output

Product specification

Technical data

Table 1: Sensor specifications (UL 60335-2-40)

Measuring Range	0 to 25% LFL
Alarm Threshold	9% to 20% LFL
Operating Temperature	-40°F to 175°F (-40°C to 80°C)
Intermittent Temperature	-40°F to 203°F (-40°C to 95°C)
Storage Temperature	-67°F to 203°F (-55°C to 95°C)
Operating Pressure	700 to 1200 mbar
Operating Humidity	0 to 100% RH with condensation
Enclosure Protection (EN 60529)	IP 54
Connector Protection (EN 60529)	IP 56 and IP 57
Flame Rating	UL 94 V-0 (optional 5VA)

Table 2: Performance specifications

Accuracy at Ambient 15°C to 25°C, 30-70%	±2.5% LFL
Accuracy across operating range	±5.0% LFL
Response time	< 15 s
Sensor recovery time	< 5min in clean air
Lifetime	Min 15-year lifetime – self monitoring
Mitigation recovery timer	0 – 6000s
Alarm Response	Relay open – LED red – Alarm flag
Alarm Reset	2,5% LFL hysteresis

Table 3: Electrical specifications

Output mode ⁽¹⁾	Relay Specification	MODBus Specification	Dual Output Specification
Supply voltage	24 VAC +/-10% and 24 VDC (8-32VDC)	5VDC +/-10% 24 VAC +/-10% and 24 VDC (8-32VDC)	24 VAC +/-10% and 24 VDC (8-32VDC)
Power consumption (estimated) ⁽²⁾	1.6 VA max.	1.6 VA max	1.6 VA max
Digital Output	-	RS485, 120Ohm termination included in sensor	RS485, 120Ohm termination included in sensor

⁽¹⁾ Other configurations available upon request

⁽²⁾ 1.0 VA version available upon request

Table 4: Mechanical characteristics

Materials – Enclosure	PA66 25%GF
Materials – Electrical connection	Nylon
Net weight (depending on the format)	0.04 – 0.06kg

Electrical connections

Table 5: Electrical connections

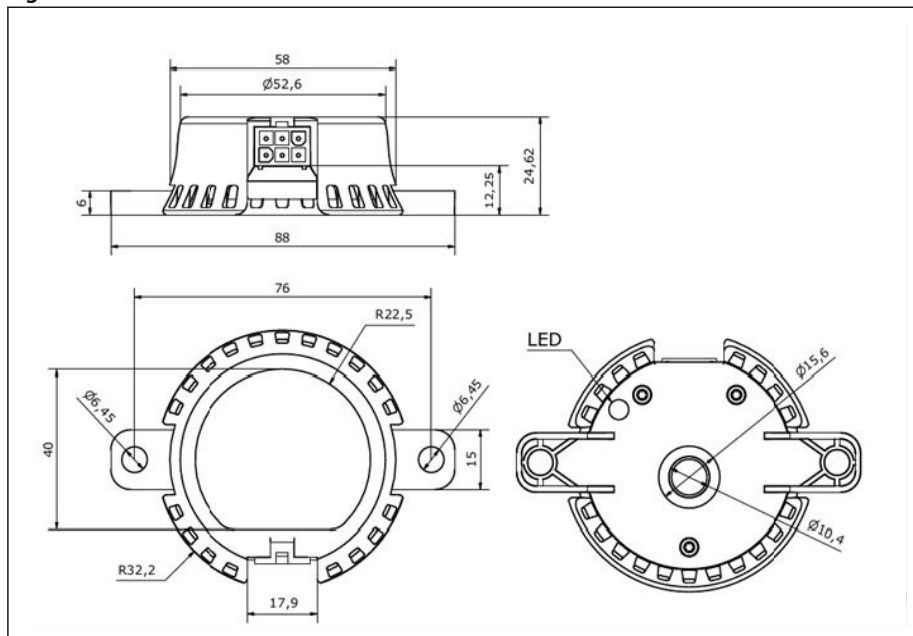
Type code	Standard (6 PIN)
Electrical connection, ModBus	Pin 1: Supply voltage Pin 2: Earth/Ground Pin 3: Mod A (Data +) Pin 4: Mod B (Data -) Pin 5: Not connected Pin 6: Not connected
Electrical connection, Relay	Pin 1: Supply voltage Pin 2: Earth/Ground Pin 3: Not connected Pin 4: Not connected Pin 5: Input relay Pin 6: Normally open contacts output
Electrical connection, Dual Output	Pin 1: Supply voltage Pin 2: Earth/Ground Pin 3: Mod A (Data +) Pin 4: Mod B (Data -) Pin 5: Input relay Pin 6: Normally open contacts output
Enclosure IP	IP 54

NOTE:

Please check store.danfoss.com to find the correct variant for your requirements.

Dimensions

Figure 1: Dimensions



Certificates, declarations, and approvals

The list contains all certificates, declarations, and approvals for this product type. Individual code number may have some or all of these approvals, and certain local approvals may not appear on the list.

Some approvals may change over time. You can check the most current status at danfoss.com or contact your local Danfoss representative if you have any questions.

Valid approvals

Table 6: Certificates and declarations

File name	Document type	Document topic	Approval authority
E534311	Electrical Safety Certificate	-	UL
To be decided/In progress	Electrical Safety Certificate	-	ETL
073R0000	EU-UK declaration	EMCD/RoHS	Danfoss

Online support

Danfoss offers a wide range of support along with our products, including digital product information, software, mobile apps, and expert guidance. See the possibilities below.

The Danfoss Product Store



The Danfoss Product Store is your one-stop shop for everything product related—no matter where you are in the world or what area of the cooling industry you work in. Get quick access to essential information like product specs, code numbers, technical documentation, certifications, accessories, and more.

Start browsing at store.danfoss.com.

Find technical documentation



Find the technical documentation you need to get your project up and running. Get direct access to our official collection of data sheets, certificates and declarations, manuals and guides, 3D models and drawings, case stories, brochures, and much more.

Start searching now at www.danfoss.com/en/service-and-support/documentation.

Danfoss Learning



Danfoss Learning is a free online learning platform. It features courses and materials specifically designed to help engineers, installers, service technicians, and wholesalers better understand the products, applications, industry topics, and trends that will help you do your job better.

Create your Danfoss Learning account for free at www.danfoss.com/en/service-and-support/learning.

Get local information and support



Local Danfoss websites are the main sources for help and information about our company and products. Find product availability, get the latest regional news, or connect with a nearby expert—all in your own language.

Find your local Danfoss website here: www.danfoss.com/en/choose-region.

Spare Parts



Get access to the Danfoss spare parts and service kit catalog right from your smartphone. The app contains a wide range of components for air conditioning and refrigeration applications, such as valves, strainers, pressure switches, and sensors.

Download the Spare Parts app for free at www.danfoss.com/en/service-and-support/downloads.

Coolselector2®



For easy and precise selection of valve, use Danfoss' CoolSelector2® software. You can find the ETS valves on the group, "Electronic expansion valves".

you can download it from coolselector.danfoss.com.

Danfoss A/S

Climate Solutions • danfoss.com • +45 7488 2222

Any information, including, but not limited to information on selection of product, its application or use, product design, weight, dimensions, capacity or any other technical data in product manuals, catalogues descriptions, advertisements, etc. and whether made available in writing, orally, electronically, online or via download, shall be considered informative, and is only binding if and to the extent, explicit reference is made in a quotation or order confirmation. Danfoss cannot accept any responsibility for possible errors in catalogues, brochures, videos and other material. Danfoss reserves the right to alter its products without notice. This also applies to products ordered but not delivered provided that such alterations can be made without changes to form, fit or function of the product.

All trademarks in this material are property of Danfoss A/S or Danfoss group companies. Danfoss and the Danfoss logo are trademarks of Danfoss A/S. All rights reserved.