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 100% 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

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 - 5 minutes (others upon request)
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

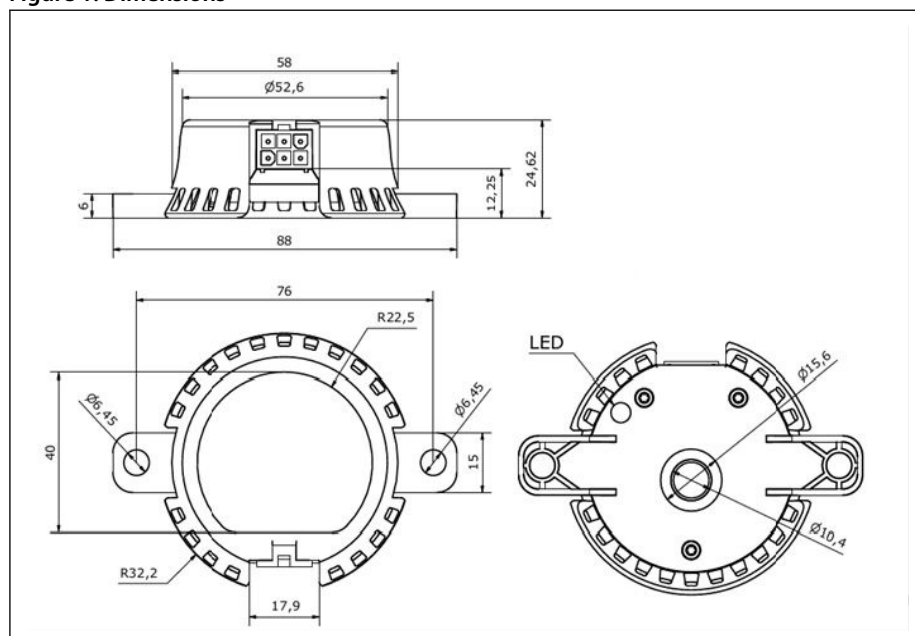| Type code	Standard (6 PIN)
Electrical connection, ModBus	Pin 1: Supply voltage Pin 2: Earth/Ground Pin 3: Mod A (Data +) Pin 4: Mod B (Data -) Pin 5: Not connected Pin 6: Not connected
Electrical connection, Relay	Pin 1: Supply voltage Pin 2: Earth/Ground Pin 3: Not connected Pin 4: Not connected Pin 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
073R0000	EU-UK declaration	EMCD/RoHS	Danfoss
80218837	Electrical Safety Certificate	-	CSA

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