

## Data Sheet

# A2L Gas Sensor

## Types **DST G54A, DST G54C, DST G55A**



The new A2L gas sensor is designed for use in the refrigeration and food retail market.

Our thermal conductivity technology ensures precise measurements +15 year lifetime, and robust design approved for systems using R454A, R454C and R455A.

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:**

- Flexible alarm threshold and customizable software
- Patented, robust design
- Output modes: Modbus, Relay and Dual Output
- Constant consistent refrigerant %LFL measurement

## Product specification

### Technical data

**Table 1: Sensor specifications**

<b>Measuring Range</b>	0 to 100% LFL
<b>Alarm Threshold</b>	13% to 19%
<b>Operating Temperature</b>	-40°F to 175°F (-40°C to 80°C)
<b>Maximum Temperature</b>	-40°F to 200°F (-40°C to 95°C)
<b>Storage Temperature</b>	-67°F to 203°F (-55°C to 95°C)
<b>Operating Pressure</b>	700 to 1200 mbar
<b>Operating Humidity</b>	0 to 100% RH with condensation
<b>Enclosure Protection (EN 60529)</b>	IP 54
<b>Connector Protection (EN 60529)</b>	IP 56 and IP 57
<b>Flame Rating</b>	UL 94 V-0

**Table 2: Performance specifications**

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

**Table 3: Electrical specifications**

Output mode <sup>(1)</sup>	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) <sup>(2)</sup>	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

<sup>(1)</sup> Other configurations available upon request

<sup>(2)</sup> 1.0 VA version available upon request

**Table 4: Mechanical characteristics**

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

## Electrical connections

Table 5: Electrical connections

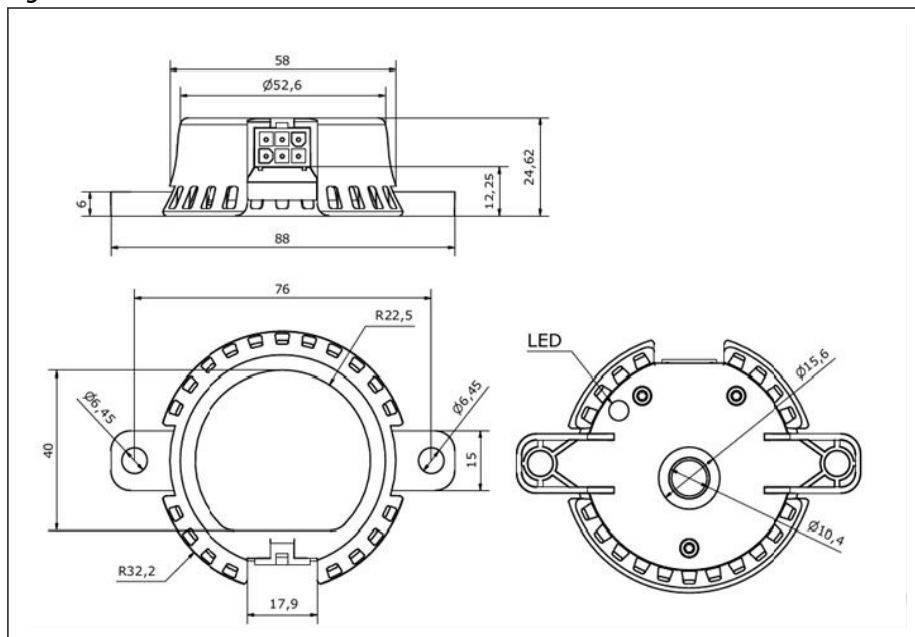
Type code	S-tandard (6 PIN)
Electrical connection, ModBus	Pin 1: Supply voltage Pin 2: Earth/Ground Pin 3: Mod A (Data +) Pin 4: Mod B (Data -) Pin 5: Not connected Pin 6: Not connected
Electrical connection, Relay	Pin 1: Supply voltage Pin 2: Earth/Ground Pin 3: Not connected Pin 4: Not connected Pin 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](https://store.danfoss.com) to find the correct variant for your requirements.

## Dimensions

Figure 1: Dimensions



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### **Approvals**

File name	Document type	Document topic	Approval authority
<a href="#">E534311</a>	Electrical Safety Certificate	-	UL
<a href="#">073R0000.00</a>	EU-UK Declaration	EMCD/RoHS	Danfoss

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