



Certificate of Compliance

Certificate: 80218837 **Master Contract:** 304951
Project: 80218837 **Date Issued:** 2024-07-15
Issued to: Danfoss
11655 Crossroads Circle
Middle River, Maryland 21220
United States
Attention: Mark Miller

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.



Issued by: *Helena Liu*
Helena Liu, P. Eng.

PRODUCTS

Class 1211 30 COMFORT CONDITIONING EQUIPMENT - Components, Parts and Subassemblies

Class 1211 80 COMFORT CONDITIONING EQUIPMENT - Components, Parts and Subassemblies Certified to U.S. Standards

A2L Refrigerant Sensors. Component.

Model(s)

DST G54B-AB-x, DST G54B-A0-x, DST G54B-A1-x, DST G54B-B0-x DST GR32-AB-x, DST GR32-A0-x, DST GR32-A1-x, and DST GR32-B0-x where x is a two-digit number between 09 and 20 representing the sensor's DTLV value.

Notes:

1. The subject A2L Refrigerant Sensors are certified only for use in equipment where the acceptability of the combination is to be determined by the CSA Group.
2. The evaluation of the end product appliance shall assure that the refrigerant sensor is reachable for maintenance, inspection as well as replacement.



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3. The end-product evaluation for the Refrigerant Detection System shall determine the acceptability for use.

4. The following tests may need to be included with response time criteria during evaluation of the end product Refrigeration Detection System

Annex LL.DV of CSA C22.2 / UL 60335-2-40, 4th edition:

- A. Calibration and short term stability (LL.4.3DV)
- B. Humidity test (LL.8DV)
- C. Temperature test (LL.9DV)
- D. Pressure test (LL.10DV)
- E. Vibration test (LL.11.3DV)
- F. Calibration and short-term stability during EMI (LL.12DV)
- G. Response time (LL.3.2DV)
- H. Selectivity and poisoning test (LL.5.9DV)
- I. Refrigerant poisoning and oil spray test (LL.6DV)

5. The end-product Refrigerant Detection System utilizing models DST G54B-AB-x, DST G54B-A0-x, DST G54B-A1-x, and DST G54B-B0-x shall only be applied for R-454B refrigerant. Likewise with models DST GR32-AB-x, DST GR32-A0-x, DST GR32-A1-x, and DST GR32-B0-x for R-32.

6. Models DST G54B-AB-x, DST G54B-A0-x, DST G54B-A1-x, DST G54B-B0-x, DST GR32-AB-x, DST GR32-A0-x, DST GR32-A1-x, and DST GR32-B0-x for R-32 refrigerant sensors were subjected to the Oil Spray test (LL.6.4DV).

Models DST G54B-AB-x, DST G54B-A0-x, DST G54B-A1-x, and DST G54B-B0-x refrigerant sensors were evaluated with a blend of R-454B and POE32 Lubrizol RL 32-3MAF oil.

Models DST GR32-AB-x, DST GR32-A0-x, DST GR32-A1-x, and DST GR32-B0-x for R-32 refrigerant sensors were evaluated with a blend of R-32 and POE32 Lubrizol RL 32-3MAF oil.

Use of any other sensor model, or use of any other refrigerant-oil blend with models DST G54B-AB-x, DST G54B-A0-x, DST G54B-A1-x, DST G54B-B0-x, DST GR32-AB-x, DST GR32-A0-x, DST GR32-A1-x, and DST GR32-B0-x for R-32 shall be evaluated during evaluation of the end-product Refrigerant Detection System

7. The following manufacturer claimed ratings for Models DST G54B-AB-x, DST G54B-A0-x, DST G54B-A1-x, DST G54B-B0-x, DST GR32-AB-x, DST GR32-A0-x, DST GR32-A1-x, and DST GR32-B0-x refrigerant sensors shall not be exceeded:

- A. Supply Voltage:
 - a. 24 Vac/Vdc for models DST G54B-AB-x, DST G54B-A1-x, DST G54B-B0-x, DST GR32-AB-x, DST GR32-A1-x, and DST GR32-B0-x.
 - b. 5 Vdc for models DST G54B-A0-x and DST GR32-A0-x.
- B. Operating Temperature: -40°C to 85°C (-40 to 185°F).



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C. Operating Humidity: 5 to 95 %RH, non-condensing.

D. A2L Refrigerant Gas Type:

R-454B for models DST G54B-AB-x, DST G54B-A0-x, DST G54B-A1-x, and DST G54B-B0-x.

R-32 for models DST GR32-AB-x, DST GR32-A0-x, DST GR32-A1-x, and DST GR32-B0-x.

E. Measuring Range: 0 to 100% of the LFL.

F. Detection Threshold Limit Value (DTLV): 9 to 20% of the LFL.

G. Relay contact ratings: 24 V ac/dv, 60 watts, 2 amps for models DST G54B-AB-x, DST G54B-B0-x, DST GR32-AB-x, and DST GR32-B0-x.

8. Models DST G54B-AB-x, DST G54B-A0-x, DST G54B-A1-x, DST G54B-B0-x, DST GR32-AB-x, DST GR32-A0-x, DST GR32-A1-x, and DST GR32-B0-x are self-monitoring sensors. No lifetime claims for Models DST G54B-AB-x, DST G54B-A0-x, DST G54B-A1-x, DST G54B-B0-x, DST GR32-AB-x, DST GR32-A0-x, DST GR32-A1-x, and DST GR32-B0-x shall be made as part of the end-product Refrigerant Detection System evaluation.

9. The end-product evaluation for the Refrigerant Detection System shall determine the acceptability of these Models DST G54B-AB-x, DST G54B-A0-x, DST G54B-A1-x, DST G54B-B0-x, DST GR32-AB-x, DST GR32-A0-x, DST GR32-A1-x, and DST GR32-B0-x components. This is to include, but not be limited to, an evaluation of models in accordance with the appropriate end-product construction, labeling, electric shock, and fire requirements.

APPLICABLE REQUIREMENTS

UL 60335-2-40 (Fourth Edition) - Household and Similar Electrical Appliances – Safety – Particular Requirements for Electrical Heat Pumps, Air-Conditioners and Dehumidifiers

Used in conjunction with

UL 60335-1:16 (Sixth Edition) - UL Standard for Safety of Household and Similar Electrical Appliances, Part 1: General Requirements

CSA C22.2 No. 60335-2-40:22 (Fourth Edition) - Household and similar electrical appliances — Safety — Part 2-40: Particular requirements for electrical heat pumps, air-conditioners and dehumidifiers

Used in conjunction with

CSA C22.2 No. 60335-1:16 (Second Edition) - Household and similar electrical appliances - Safety - Part 1: General requirements



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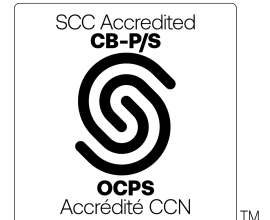
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Notes:

Products certified under Class(es) C121130, C121180 have been certified under CSA's ISO/IEC 17065 accreditation with the Standards Council of Canada (SCC). www.scc.ca





Supplement to Certificate of Compliance

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*The products listed, including the latest revision described below,
are eligible to be marked in accordance with the referenced Certificate.*

Product Certification History

Project	Date	Description
80218837	2024-07-15	CSA certification (US/CAN) report for A2L Refrigerant Sensor, Models DST G54B-AB-x, DST G54B-A0-x, DST G54B-A1-x, DST G54B-B0-x, DST GR32-AB-x, DST GR32-A0-x, DST GR32-A1-x, and DST GR32-B0-x where x is a two digit number between 09 and 20 representing the sensor's DTLV value.