IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEx ULD 21.0024X**

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Certificate history:
Issue 1 (2023-02-17)
Issue 0 (2022-05-27)

Status: **Current**

Issue No: 2

Date of Issue: 2024-01-24

Applicant: **Danfoss A/S**
Nordborgvej 81
DK-6430 Nordborg
Denmark
Denmark

Equipment: **Solenoid Coils, BI Series**

Optional accessory:

Type of Protection: **Encapsulation "mb"**

Marking: Ex mb IIC T4 Gb

-40°C ≤ Tamb ≤ +40°C (fixed cable)

0°C ≤ Tamb ≤ +40°C (flexed cable)

Approved for issue on behalf of the IECEx Certification Body: **Lucy Frieders**

Position: **Staff Engineer**

Signature: (for printed version)

Date: (for printed version) 2024-01-24

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
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Certificate issued by:

UL Solutions (Demko)
Borupvang 5A
Ballerup DK-2750
Denmark

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Certificate No.: **IECEx ULD 21.0024X**

Date of issue: 2024-01-24 Issue No: 2

Manufacturer: **Danfoss A/S**
Nordborgvej 81
DK-6430 Nordborg
Denmark
Denmark

Manufacturing locations: **Danfoss (Tiajin) Ltd**
No. 9 Quanhui Road
Wuqing Development Area
301700 Tianjin
China

Danfoss Poland Sp z.o.o.,
UL. Chrzanowska 5
05-825 Grodzisk Mazowiecki
Poland

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements.This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :
The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-18:2017 Explosive atmospheres - Part 18: Protection by encapsulation "m"
Edition:4.1

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Reports:

DK/ULD/ExTR21.0023/00 DK/ULD/ExTR21.0023/01 DK/ULD/ExTR21.0023/02

Quality Assessment Report:

DK/ULD/QAR12.0002/10

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EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

These are solenoid coils for use with compatible Danfoss valves. They are intended for permanent installation in a specific orientation as described in the instructions.

The coils consist of an encapsulated winding with a separated encapsulated section containing a rectifier/transient protection PCB. A stainless steel outer guard provides protection against impact. Type A coils have an outer guard which fully surrounds the coil. Type B coils have an open bottom. Type A and Type B coils are intended to provide compatibility with different sized valves.

Process medium temperature range: -40°C to +90°C

Please see Annex for additional information.

SPECIFIC CONDITIONS OF USE: YES as shown below:

- The coils must be installed in the orientation shown in the instructions.
- The permitted process medium temperature range is -40 °C to +90 °C.
- The solenoid coil shall be protected against impact during use.
- Protect the coil against direct sunlight and other ultraviolet sources.
- The capacitance of exposed, isolated, metallic parts is 7pF.
- The cable supplied with the solenoids must not be handled or flexed and protected against impact if the ambient temperature is below 0 °C.

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
Issue 1: Clarified the rated ambient temperature range to reflect the Special conditions of use and 'X' suffix.

Issue 2: Addition of an alternative wire, editorial changes and corrections in technical drawings and coil cover hole diameter increased.

Annex:

Annex to IECEx ULD 21.0024X Issue 2.pdf

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Annex to Certificate No.: IECEx ULD 21.0024X

Issue No.: 2

PARAMETERS RELATING TO THE SAFETY

The model numbering and ratings are as follows:

Rating (Voltage: -10%, +6%)	Type A Coil with cover & bottom	Type B Coil with cover & Frame
240V; 50/60Hz; 0.047A	018Z85*5	018Z85*1
230V; 50/60Hz; 0.053A	018Z85*6	018Z85*2
110V; 50/60Hz; 0.102A	018Z85*7	018Z85*3
24V; 50/60Hz; 0.48A	018Z85*8	018Z8574 018Z8595
24Vdc; 0.46A	018Z85*9	018Z8575 018Z8596

Type A:

* Denotes integral cable length in metres: 6 = 10m; 8 = 5m.

Type B:

* Denotes integral cable length in metres: 7 = 10m; 9 = 5m.

MARKING

Marking has to be readable and indelible; it has to include the following indications:

Example of marking plate – product week/year are marked on the coil body encapsulation.

ROUTINE EXAMINATIONS AND TESTS

Each piece of equipment defined above has to have successfully passed before delivery:

Each product shall be subjected to a visual inspection according to IEC 60079-18 clause 9.1. No damage shall be evident, such as cracks in the compound, exposure of encapsulated parts, flaking, shrinkage, swelling, decomposition, failure of adhesion or softening.

Each product shall be subjected to a dielectric strength test according to IEC 60079-18 clause 9.2 between external connections and earth/case, at 1500 Vrms for 1 s minimum, with no breakdown.