



[1] UNITED KINGDOM CONFORMITY ASSESSMENT  
**UK-TYPE EXAMINATION CERTIFICATE**

[2] **Product or Protective System Intended for use in Potentially Explosive Atmospheres**  
**UKSI 2016:1107 (as amended by UKSI 2019:696) – Schedule 3A, Part 1**

[3] UK-Type Examination Certificate No.: **UL21UKEX2374X Rev. 1**

[4] Product: **Solenoid Coils, BI Series**

[5] Manufacturer: **Danfoss A/S**

[6] Address: **Nordborgvej 81, DK-6430 Norborg, Denmark**

[7] This product and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

[8] UL International (UK) Ltd, Approved Body number 0843, in accordance with Regulation 44 of the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016, UKSI 2016:1107 (as amended by UKSI 2019:696), certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Schedule 1 of the Regulations.  
The examination and test results are recorded in the confidential report **DK/ULD/ExTR21.0023/02**.

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

**EN IEC 60079-0:2018**

**EN 60079-18:2015/A1:2017**

Except in respect of those requirements listed at section 19 of the schedule to this certificate.

[10] If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the Schedule to this certificate.

[11] This UK-TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Regulations apply to the manufacturing process and supply of this product. These are not covered by this certificate.

[12] The marking of the product shall include the following:

 **II 2 G Ex mb IIC T4 Gb**

**Certification Officer**  
**Andrew Moffat**

This is to certify that the sample(s) of the Product described herein ("Certified Product") has been investigated and found in compliance with the Standard(s) indicated on this Certificate, in accordance with the UKEx Product Certification Program Requirements. This certificate and test results obtained apply only to the product sample(s) submitted by the Manufacturer. UL did not select the sample(s) or determine whether the sample(s) provided were representative of other manufactured product. UL has not established Follow-Up Service or other surveillance of the product. The Manufacturer is solely and fully responsible for conformity of all product to all applicable Standards, specifications, requirements or Regulations. The test results may not be used, in whole or in part, in any other document without UL's prior written approval.

**Date of issue:** 2022-06-06

**Re-issued:** 2024-01-30

**Approved Body**

UL International (UK) Ltd Unit 1-3 Horizon Kingsland Business Park Wade Road, Basingstoke RG24 8AH, UK  
Phone : +44 (0)1256 312100

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# Schedule

## UK-TYPE EXAMINATION CERTIFICATE No.

### UL21UKEX2374X Rev. 1

[15]

Description of Product

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

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.

Temperature range

The ambient temperature range is -40 °C to +40 °C.

Electrical data

See table above.

Routine tests

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

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Test Report No. (associated with this certificate issue)

The test report no. is provided under item no. [ 8 ] on page 1 of this UK-Type Examination Certificate.

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Specific conditions of use:

- 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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Conditions of certification:

None

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Essential Health and Safety Requirements (Regulations Schedule 1)

In addition to the Essential Health and Safety Requirements covered by the standards listed at item 9, all other requirements are demonstrated in the relevant reports.



The trademark will be used as the company identifier on the marking label.

The manufacturer shall inform the approved body concerning all modifications to the technical documentation as described in Annex III to UKSI 2016:1107 (as amended by UKSI 2019:696) – Schedule 3A, Part 1.



**Solutions**

A UKAS accredited certification body No. 4705

This certificate may only be reproduced in its entirety and without any change, schedule included

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# Schedule

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#### Drawings and Documents

Title:	Drawing No.:	Rev. Level:	Date:
Installation guide	018R9600	-	2022.11
ATEX Approval drawing. Assembly, BOM, Marking, Coil Ex mb IIC T4 Gb	018M0003	02	2024-01-09
Mouldering parameter 860B0953 Pocan DP7139 BI coils	018R9000	02	2023-12-05
Creep distance & distances through solid insulation	018M9000	00	2022-03-30
Filling procedure for epoxy BI coil	018R9001	00	2022-03-07
Conducting bracket ass'y	018Z0050	04	ECM500000068885
BI cable ass. DC coil fuse & wire jumper 5m Ex mb IIC T4 Gb	018Z0725	00	2022-01-20
BI cable ass. AC coil rectifier bridge 5m Ex mb IIC T4 Gb	018Z0726	00	2022-01-20
BI cable ass. DC coil fuse & wire jumper 10m Ex mb IIC T4 Gb	018Z0730	00	2022-01-20
BI cable ass. AC coil rectifier bridge 10m Ex mb IIC T4 Gb	018Z0731	00	2022-01-20
Coil assembled. ATEX Zone 1 mb BI coil type A & B	018Z9501	02	2023-12-19
Coil form automatic 20W coils	018Z0411	02	2022-04-27
Trompet-trykskrue Pg9 med kabelafastning (Cable Gland)	018Z0311	02	2022-02-10
Cable BI coil ATEX	018Z0729	00	2022-02-01
Flexible sheathed cable 3x0.75 copper	891X1207	00	2014-06-17
Wire 20 AWG x 55mm	611X1877	00	2013-05-31
Reducing ring	018Z0319	02	2022-02-10
Terminal box ATEX	018Z0355	04	2023-12-15
Terminal box BI coil with cover	018Z0703	00	2020-11-11
Impact Cover BI coil	018Z0705	01	2022-06-16
Screw for cover	018Z0708	03	2022-01-14
Plate for cover ATEX BI coil	018Z0713	00	2022-01-10
Cover bottom BI coil ATEX	018Z0714	00	2022-01-11
Coil cover BI ATEX coil Cover frame	018Z0717	01	2022-01-11
Cover assembly BI coil ATEX	018Z1000	01	2022-06-27
Nut	032U7405	01	2011-12-19
Thrust plate	684X0022	07	ECM500000068885