



Epsilon

1 EC - Type Examination Certificate

2 Equipment intended for use in potentially explosive atmospheres

3 Certificate Number: EPSILON 07 ATEX 2335X

4 Equipment: Electrically Solenoids Operating Valves:
Solenoid Type 042N55XX and 042N56XX and Solenoid Type 018Z659X

5 Manufacturer: Danfoss Kolding Danfoss (Tiajin) Ltd

6 Address: Albuen 29 No.9 Quanhui Road,
DK-6000 Kolding Wuqing Development Area
Denmark 301700 Tianjin, China

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

8 Epsilon, Notified Body number 1712 in accordance with Article 9 of the Council directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to design and construction of equipment and protective systems for use in potentially explosive atmospheres given in Annex II to the directive

The examination and test results are recorded in confidential report no RETS(A)2760/A/1

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

EN 60079-0: 2006, EN 60079-18: 2004

10 If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

11 This EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the Directive 94/9/EC. Further requirements of the directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by the certificate.

12 The marking of the equipment shall include the following:

 II 2 G Ex mb II T4 -40°C ≤ Tamb ≤ +60°C



On behalf of Epsilon

S D'Henin
Director

Date: 6th February 2008

Certificate 07 ATEX 2335X



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13 **Schedule**

14 Certificate Number: EPSILON 07 ATEX 2335X

15 Description of Equipment or protective system

Both models Solenoid Type 042N55XX and 042N56XX and Solenoid Type 018Z659X are solenoids intended for operating valves.

Type 018Z659X:

1	240VAC	(±10%) (0.46A)
2	230VAC	(±10%) (0.053A)
3	110VAC	(±10%) (0.102A)
4	48VAC	(±10%) (0.24A)
5	24VAC	(±10%) (0.48A)
6	24VDC	(±10%) (0.047A)

Type 042N55XX: (Solenoid Ø9 system)

0-9	Cable length (Designated length of integrated cable to a maximum of 5.6 meter)	
0	24VDC	(±10%) (0.28A)
1	24VDC	(±10%) (0.2A)
2	24VAC	(±10%) (0.416A)
3	230VAC	(±10%) (0.048A)

Type 042N56XX: (Solenoid Ø8 system)

0-9	Cable length (Designated length of integrated cable to a maximum of 5.6 meter)	
0	24VDC	(±10%) (0.28A)
1	24VDC	(±10%) (0.2A)
2	24VAC	(±10%) (0.322A)
3	230VAC	(±10%) (0.033A)

16 Descriptive Documents

16.1 Report No: RETS(A)2760/A/1

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16.2 Drawings:

018Z65XX			
Number	Date	Issue	Description
032M0784	20 Dec. 2007	00	Approval Drawing 018Z65XX
032M0785	20 Dec. 2007	00	Description 018Z65XX
018Z6500	25 Jan. 2008	04	Assembly Drawing
018Z0354	19 Dec. 2007	02	Coil form
018Z0026	19 Dec. 2007	02	Rectifier - part
018Z0312	16 Jun. 1976	01	Etching drwg.
018Z0316	15 Jun. 1976	01	Drilling plan
018Z0318	16 Jun. 1976	01	Cliché Drwg.
032A1382 032A1384 032A1385 032A1386 032A1387 032A1388 032A1389	19 Dec. 2007	00	Marking plates
042N55XX / 56XX			
Number	Date	Issue	Description
032M0642	20 Dec. 2007	01	Encapsulation drawing, coil
032M0643	20 Dec. 2007	01	Description
042N1150	19 Dec. 2007	02	Encapsulation drawing, coil
042N0008	19 Dec. 2007	03	Coil w/Terminal
042N0296	19 Dec. 2007	04	Coil form
042N0309	19 Dec. 2007	03	Temperature fuse
032A1372 032A1369 032A1353 032A1354 032A1371 032A1352 032A1370 032A1453 032A1427 032A1431 032A1430 032A1367 032A1368 032A1356 032A1355 032A1451 032A1450 032A1357 032A1426 032A1454 032A1429 032A1428	19 Dec. 2007	00	Marking plates

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17 Conditions of Certification

17.1 Special Conditions for Safe Use

- For Solenoid in use under -30°C the cable must be protected for impact
- The Solenoid is manufactured with a permanently connected cable. The connection of this cable supplying the solenoid must be done in accordance with the appropriate electrical code and good engineering practice.
- The product is provided with a Y/G coloured earth wire as well as an external earth terminal. These shall not be used simultaneously. If the external earth connection is connected to earth or bonding system the Y/G earth wire must be cut of, isolated and not connected. If the Y/G wire is connected to earth, the external earth terminal must not be connected.
- The solenoid must not be removed from the valve when energised. This would otherwise impair the surface temperature specifications.
- In order to prevent electrostatic charges the solenoid must be cleaned with a moist cloth.
- The solenoid must be protected against direct sunlight and ultraviolet light sources.
- The power supplying the solenoid must be limited to a prospective short circuit current of a maximum of 1500A according to EN 60079-18: 2004 clause 7.9.2.1.

17.2 Conditions for Use (Routine Tests)

- Each product shall be subjected to a visual inspection according to EN 60079-18: 2004 clause 9.1
- Each product shall be subjected to Dielectric strength test according to EN 60079-18: 2004 clause 9.2

18 Essential Health and Safety Requirements

Essential Health and Safety Requirements not covered by section 9: Covered by Manufacturer's instructions.

The manufacturer shall inform the notified body of any modifications to the design of the product described by this schedule

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