



[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]

Type Examination Certificate No.: **UL21UKEX2021X**

[4]

Product: **Pressure and Temperature Switches (RT*E series)**

[5]

Manufacturer: **Danfoss A/S**

[6]

Address: **Nordborgvej 81, 6430 Nordborg, 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 **4789913512.3**.

[9]

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

EN IEC 60079-0:2018

EN 60079-11:2012

Except in respect of those requirements listed at section 18 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 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 ia IIC T6...T1 Gb -20 °C ≤ Ta ≤ +65 °C**

Certification Manager

David Lloyd



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 Ex UK 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: 2021-09-07

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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[14]

Schedule

UK-TYPE EXAMINATION CERTIFICATE No.

UL21UKEX2021X Rev. 0

[15]

Description of Product

The RT*E series consists of pressure and differential pressure switches as well as temperature switch types. All variants have a single changeover contact (SPDT), and all actuation systems are mechanical.

The units are designated for industrial refrigeration and general industrial applications in hazardous areas. It includes usage in refrigeration systems with ammonia, hydrocarbons and other applications where the presence of flammable gases, vapours and mists are likely to occur.

Enclosures are Phenolic Resin with a stainless steel outer cover. The fascia has a conductive sputtered stainless steel / Polyester coating providing a low surface resistance.

The fascia connects to earth through a contact with a metallic shroud and is bonded to an earthed part of the enclosure by the manufacturer Danfoss.

Nomenclature

The following tables contain the variants that are covered by this certification. Information shows how each model differs between each variant.

Pressure Switch	
Variant	Maximum Working Pressure (bar)
RT113E	0.4
RT112E	7
RT1AE	22
RT116E	22
RT5E	22
RT6AEW	34
RT6AEB	34
RT6AES	34
RT117E	42
RT121E	7
RT260AE	22
RT262AE	11

Temperature Switch		
Variant	Range (°C)	Max permissible Bulb Temperature (°C)
RT9E	-45 °C to -15 °C	+150 °C
RT14E	-5 °C to +30 °C	+150 °C
RT101E	+25 °C to +90 °C	+300 °C
RT107E	+70 °C to +150 °C	+215 °C
RT123E	+150 °C to +250 °C	+300 °C
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

Temperature range

The ambient temperature range is -20 °C to +65 °C.

The assigned temperature classification (T-class) is dependent on the process temperature of the equipment that the probe is installed in.

The relation between process temperature and the assigned temperature class is as follows:

RT*E Temperature Sensor**Process Temperature**

300 °C
289 °C
194 °C
129 °C
94 °C
79 °C

Temperature Classification

T1
T2
T3
T4
T5
T6

RT*E Pressure Switch**Process Temperature**

100 °C
100 °C
100 °C
100 °C
94 °C
79 °C

Temperature Classification

T1
T2
T3
T4
T5
T6



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[14]

Schedule

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Electrical data

U_i : 29 V
 I_i : 500 mA
 P_i : 1 W
 L_i : 0.2 µH
 C_i : 0.5 nF

Routine tests

Not applicable.

[16] Test report no. (associated with this certificate issue):
DK/ULD/ExTR14.0014/04.

[17] Specific conditions of use:
The enclosure fascia has been coated with a layer of stainless steel to prevent the accumulation of electrostatic charge. In order to ensure that there is no accumulation of electrostatic charge on the enclosure, the end user shall ensure that the external metal work of the enclosure is locally bonded to earth. Information on the durability of the coating with regards to use of the equipment is contained within the instruction manual.

[18] 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.

[19] Drawings and Documents

Technical Documents			
Title:	Drawing No.:	Rev. Level:	Date:
Cover Metalized (1 page)	017-5827	02	500000073763
Cover Metalized without window (1 page)	017-5829	06	500000073763
Overall dimension of RT5E (3 pages)	017R0768	05	500000097416
Overall dimension of the pressure switch RT5E (1 page)	017R0769	03	500000049684
Pressure switch RT5E function description (1 page)	017R0770	06	500000049667
Diagrammatic sketch of the pressure switch RT5E (1 page)	017R0771	03	500000049728
Pressure switch RT5E (1 page)	017R0772	09	500000084628
RT5E Pressure switch (2 pages)	017R0773	06	500000049767
Label instruction (1 page)	017R3001	04	500000046314
Label instruction (1 page)	017R3002	07	500000146360
RT Ex Metal Box (1 page)	017-5464	08	500000080322
Requirements for instruction and installation guides accompanying ATEX/IECEx Certified Controls type RTE (4 pages)	017R9613	04	500000147725

