

Schedule

EC-TYPE EXAMINATION CERTIFICATE No. DEMKO 01 ATEX 127938X

Drawings (continued):

Number	Date	Description
060C0344	Issue 01 Rev 02	Circuit diagram adjustable
060G0456, 10 p	Issue 01 Rev 01	Circuit board
060G0465, 2 p	Issue 01 Rev 02	Parts list
060G0454, 2 p	Issue 02 Rev 02	Parts list 4-20mA adjustable hybrid
060C0343	Issue 02 Rev 02	Diagram MBS EX adjustable transmitter
060G0453, 2 p	Issue 02 Rev 02	Assembly drawing bottom side/top side
060G0453, 15 p	Issue 02 Rev 00	Conductor, resistor, encapsulation etc
060G0455, 2 p	Issue 02 Rev 02	Parts list 4-20mA fixed hybrid.
060G0700-060G0707, 8 p	2006-03-22	Trkelm
060G0710-060G0714, 5 p	2006-03-22	Trkelm

The apparatus has been evaluated and been found to comply with EN50020:2002 which is the latest version of the standard.

The manufacturer shall inform the notified body concerning all modifications to the technical documentation as described in ANNEX III to Directive 94/9/EC of the European Parliament and the Council of 23 March 1994.

- [17] Special conditions for safe use:
Installations of the pressure connection across boundary wall's requiring Category 1G equipment, and a less hazardous area, must at least conform to IP67 degree of protection according to IEC 60529.

The manufacturers technical information shall be followed for correct installations.
The installations and mounting shall be done according to appropriate national safety regulations and EN60079-14 Electrical installations in hazardous areas can be used as a guide.

- [18] Essential Health and Safety Requirements
Concerning ESR this Schedule verifies compliance with the Ex standards only. The manufacturer's Declaration of Conformity declares compliance with other relevant Directives.

On behalf of UL International Demko A/S

Herlev, 2006-04-24

Karina Christiansen
Certification Manager

UL International Demko A/S

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Certificate: 01 ATEX 127938X
Report: 127938-06

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P4 /4

DE-80

060R9346

[1] EC-TYPE EXAMINATION CERTIFICATE

- [2] Equipment or Protective System intended for use
in Potentially Explosive Atmospheres
Directive 94/9/EC



- [3] EC-Type Examination Certificate Number: DEMKO 01 ATEX 127938X
- [4] Equipment or Protective System: Pressure Transmitter MBS / AKS Type 4xx1 -xxxx-xxxxx
- [5] Manufacturer: Danfoss A/S
- [6] Address: DK-6430 Nordborg, - Denmark
- [7] This equipment or protective system and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.
- [8] UL International Demko A/S, notified body number 0539 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 intended for use in potentially explosive atmospheres given in Annex II to the Directive.
- The examination and test results are recorded in confidential report no. 127938
- [9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN50014 : 1997 - EN50020 : 1994 - EN50284 : 1999
- [10] If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system 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 or protective system shall include the following:



II 1G EEx ia IIC T4 -T6

On behalf of UL International Demko A/S

Herlev, 2001-01-31
Revision date: 2007-04-23

Karina Christiansen
Certification Manager

UL International Demko A/S

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Certificate: 01 ATEX 123456

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P1

060R9346

[13]

Schedule

[14]

EC-TYPE EXAMINATION CERTIFICATE No. DEMKO 01 ATEX 127938X

[15]

Description of Equipment or protective system

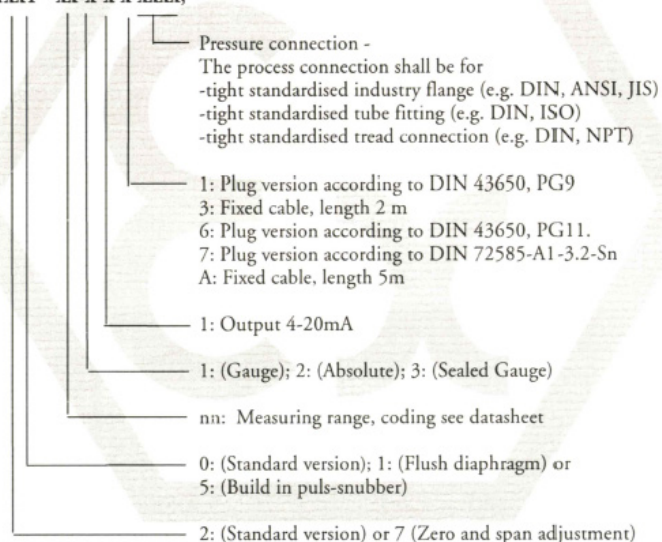
The pressure transmitters consist of a cylindrical electronic case of stainless steel, which contains the pressure sensor and circuit board with the electronic components. The Circuit board is embedded in casting compound. The MBS /AKS transmitters convert the measured pressure into a current loop signal 4-20mA. The pressure connection is available in different shape and size. The connection to the transmitter can be through a plug or with a fixed cable.

The type variants comprised by the Certificate:

The difference between MBS type and AKS types is the adjustment of the AKS type, which is optimised for refrigerating installations.

Pressure Transmitter type: MBS or AKS 4xx1 -xxxx-xxxx;

MBS 4xx1- xx x-x x xxxx,



Temperature range

The temperature classifications T4 – T6 is related to the ambient temperature and the medium temperature as following:

For T4 : ambient temperature is $-40\text{ }^{\circ}\text{C} \leq$ to $100\text{ }^{\circ}\text{C}$ and medium temperature $125\text{ }^{\circ}\text{C}$.
T5 : ambient temperature is $-40\text{ }^{\circ}\text{C} \leq$ to $75\text{ }^{\circ}\text{C}$ and medium temperature $95\text{ }^{\circ}\text{C}$.
T6 : ambient temperature is $-40\text{ }^{\circ}\text{C} \leq$ to $50\text{ }^{\circ}\text{C}$ and medium temperature $50\text{ }^{\circ}\text{C}$.

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P 2 / 4

Schedule

EC-TYPE EXAMINATION CERTIFICATE No. DEMKO 01 ATEX 127938X

For all types with fixed cable the ambient temperature rating is $-30\text{ }^{\circ}\text{C}$ to $+80\text{ }^{\circ}\text{C}$ when the installation is static and only $-5\text{ }^{\circ}\text{C}$ to $+70\text{ }^{\circ}\text{C}$ when it is flexing.
For the other types the end user shall use cable with appropriate temperature rating for the actual use.

When the pressure transmitter is used in category 1, the operating conditions are specified as follows:

For T4 : ambient and medium temperature is $-20\text{ }^{\circ}\text{C} \leq$ to $60\text{ }^{\circ}\text{C}$.
T5 : ambient and medium temperature is $-20\text{ }^{\circ}\text{C} \leq$ to $60\text{ }^{\circ}\text{C}$.
T6 : ambient and medium temperature is $-20\text{ }^{\circ}\text{C} \leq$ to $50\text{ }^{\circ}\text{C}$.

The process pressure of the media has to be between 0.8 bar and 1.1 bar.

Intrinsic safety specifications

For all types:

Ui : 28 V
Ii : 100 mA (for 4 –20 mA signal).
Pi : 0.7 W
Ci : 40 nF (for fixed cable add 0.2 nF per meter).
Li : 0.1 mH (for fixed cable add 0.8 μH per meter).

Maximum length of the fixed cable is 5 meter.

The fixed cable shall be of the type Ölflex EB CY no.: 0012 550 R+T

[16]

Report No.

Project Report No.: 127938-01, -03, -04, -05 and -06

Drawings:

Number	Date	Description
060R3087, 8 p	Vers. 05	Constructions and productions detail
060R3079	Vers. 05	Label
060G9281	Vers. 03	Assembling drawing AKS/MBS 47x1
060G9282	Vers. 04	Assembling drawing AKS/MBS 42x1
060R9345, 9 p	Vers. 02(10-2004)	Instructions
060C0328	Issue 04 Rev.01	EMC filter MBS33 Zero-span, diagram
060G0342, 10 p	Issue 04 Rev 00	Masters Specification and Layout, PCB
060G2743	Issue 04 Rev 01	Parts list EMC filter
060C0335	Issue 07 Rev 06	EMC filter AKS32R, diagram
060G0334, 9 p	Issue 07 Rev 01	EMC filter AKS32R, PCB
060G2741	Issue 07 Rev 06	Parts list EMC filter AKS32R
060C0342	Issue 01 Rev 02	EMC filter, diagram Bayonet
060G0446, 9 p	Issue 01 Rev 00	EMC filter, Bayonet, PCB
060G0495	Issue 01 Rev 02	Parts list circuit board
060G0464	Issue 01 Rev 02	Parts list circuit board

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P 3 / 4