[1] # EU-TYPE EXAMINATION CERTIFICATE

[2] **Equipment or Protective System intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU**

[3] EU-Type Examination Certificate Number: **DEMKO 11 ATEX 146506X Rev. 4**

[4] Product: **Type MAS2600, 4-20 mA Two Wire Level Transmitter**

[5] Manufacturer: **Emerson Process Management** **Damcos A/S**

[6] Address: **Aaderupvej 41, 4700 Naestved, 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 Demko A/S, notified body number 0539 in accordance with Article 17 of the Council Directive 2014/34/EU of 26 February 2014, certifies that this equipment and 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.**4787827559**

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

EN 60079-0:2012+A11:2013 **EN 60079-11:2012**

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

[11] This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by the certificate.

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

II 2(1) G Ex ia IIC T4 Ga/Gb

Certification Manager
Jan-Erik Storgaard

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 ATEX Product Certification Program Requirements. 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 Directives. The test results may not be used, in whole or in part, in any other document without UL's prior written approval.

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Notified Body UL International Demko A/S, Borupvang 5A, 2750 Ballerup, Denmark
Tel. +45 44 85 65 65, info.dk@ul.com, www.ul.com

[13] [14]

Schedule
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[15] Description of Product

The MAS2600 is a 2-wire 4-20 mA level transmitter consisting of a transducer and an amplifier interconnected by a 6-core vented cable. The MAS2600 has been developed for level measuring in ballast, oil, service and fresh water tanks as well as tanks containing media, which are not hostile to titanium.

The transducer is a pressure sensitive silicon micro strain gauge sensor mounted in a glass to metal seal. The sensor is protected by an isolation diaphragm, welded to the transducer housing, with oil filling between the sensor and the diaphragm. Pressure changes on the front of the diaphragm will bring a resistance change in the Wheatstone bridge of the transducer. This change in the Wheatstone bridge will be transmitted to the amplifier as a change in the electrical signal. The transducer is fully welded, housed in titanium with a titanium diaphragm. The transducer is available in three versions: gauge, absolute and high temperature gauge. This certificate/report does not cover the optional PT100 temperature sensor.

The amplifier is available in the following options: programmable version (calibration is made by dip switches and potentiometers) and differential version (for measuring of both pressure and vacuum measuring).

The amplifier is to be placed in areas where EPL Gb equipment is required and the transducer is to be placed in areas were EPL Ga equipment is required.

Nomenclature for type MAS 2600 a b c - dd - e / f g:

a - type, maximum cable length, see item d:
A: absolute transducer
G: gauge transducer
H: high temperature gauge transducer

b - transducer range:
1: 3,5 mH_2O gauge or high temp
2: 7,0 mH_2O gauge or high temp
3: 16,0 mH_2O gauge or high temp
4: 35,0 mH_2O gauge or 0,8-3,5 bar absolute
7: 0,8-2,0 bar absolute

c - temperature sensor:
0: without
1: built-in Pt100 (Not available for IS installations)

d - cable (length in meters)
XX - Standard cable (-20 °C to +80 °C)
Maximum length: Hazardous area 44 m

XX - High temperature cable (-20 °C to +125 °C) (-20 °C to +80 °C for IS installation)
Maximum length: Hazardous area 34 m

e - mounting:
0: without fittings
1: brackets for internal mounting
2: pole mounting
3: 1" pipe end mounting
4: flange mounting DN 25
5: flange mounting DN 40
6: flange mounting DN 50
9: flexible rubber tube mounting
P: flexible PTFE tube mounting
V: DN25 flange with 1” ball valve mounting
A-M: replacement

f - amplifier box:
0: not supplied
1: standard box with PG 11 / PG 11
2: standard box with PG 11 / PG 13,5
3: standard box with PG 11 / PG 16
5: standard box with PG 13,5 / PG 13,5

g - amplifier PCB:
0: not supplied, without terminals for temperature sensors:
P: programmable output range gauge
D: differential output range gauge, with terminals for temperature sensors (Not available for IS installations)

Temperature range
The ambient temperature range for amplifier and transducer is -20 °C to +80 °C.

[13] **Schedule**

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Electrical data

Intrinsically safe specifications:
Output circuit, terminals 5 and 6

U_i : 29 Vdc
I_i : 93 mA
Pi : 0.68 W
L_i : 20 µH
C_i : 60 nF

Routine tests
None.

[16] Descriptive Documents
The scheduled drawings are listed in the report no. provided under item no. [8] on page 1 of this EU-Type Examination Certificate.

[17] Specific conditions of use:

- The intrinsically safe circuit must be adequately insulated from earth in the hazardous area and the insulation of all cabling must be at least 500 V r.m.s.
- Prevent impacts on the sensor housing to avoid sparks. Do not mount or dismount the sensor when there is a hazardous condition in the tank. Be sure the tank is vented and gas free.
- MAS 2600 contain no repairable parts. Repairing or fixing the circuit or replacing components may impact the intrinsic safety.
- To prevent static electricity do not rub cables or transmitter housing with a dry piece of cloth.
- Information regarding external cable for connection between zener barrier and amplifier: When connecting to a circuit using up to 1 % of Co or Lo, then the C or L is limited to the Co and Lo listed in the zener barrier certificate. If either the C or L is above 1 % of Co or Lo, then C and L are each limited to 50 % of the Co and Lo listed in the zener barrier certificate.

[18] Essential Health and Safety Requirements
The Essential Health and Safety Requirements (EHSRs) are covered by the standards listed at item 9.

Additional information
The amplifier and transducer have in addition passed the tests for Ingress Protection to IP 56 and IP 68 respectively in accordance with EN60529:1991+A1:2000+A2:2013.

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

The manufacturer shall inform the notified body concerning all modifications to the technical documentation as described in Annex III to Directive 2014/34/EU of the European Parliament and the Council of 26 February 2014.

