

[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 02 ATEX 132553**

[4] Equipment or Protective System: **M25 Ammeter Network consisting of:  
M25 Analogue Gauge 4", 6" & 8" and M111 Module**

[5] Manufacturer: **Electro-Flow Controls Ltd.**

[6] Address: **Block 1 Unit 3, Souterhead Road,  
Souterhead Industrial Centre,  
Aberdeen, AB12 3LF.**

[7] This equipment or protective system and any acceptable variation there to is 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. 132553

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:  
**EN 50014: 1997 E incl. A1+A2** **EN 50020: 2002E**

[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:

**Ex II 2G** **BEx ia IIC T5**

On behalf of UL International Demko A/S

Herlev, 2003-05-26

  
Karina Christiansen  
Certification Manager

**UL International Demko A/S**

Lyskær 8, P.O. Box 514  
DK-2730 Herlev, Denmark  
Telephone: +45 44856565  
Fax: +45 44856500

Certificate: 02 ATEX 132553

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entirety and without any change, schedule included



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## Schedule

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[15] Description of Equipment or protective system

The Ammeter Network may contain up to three M25 Analogue Gauges and one M111 Signal Condition Module. The M25 Analogue Gauges are used to display a range of measurements in the Hazardous Area, with inputs being supplied in the form 0-1 mA or 4-20 mA. The M111 Module contains only resistance and is used in the network to provide calibration for the M25 Analogue Gauges in relation to the various parameters.

The M25 Analogue Gauge enclosure is manufactured from 316L Stainless Steel or Aluminium providing a minimum protection of IP 65. The ammeter coil, which is mounted inside the enclosure, may only be supplied from a Certified Intrinsically Safe Interface, additional internal protection is provided by the use of triplicated diodes or a series current limiting resistor. The M111 enclosure is manufactured from plastic, providing a minimum protection of IP 20 for the internally mounted printed circuit board.

The ambient temperature range is -20 °C to +40 °C.

Electrical data

Intrinsically safe specifications:

$U_i$  : 28 V  
 $I_i$  : 93 mA  
 $P_i$  : 0,65 W  
 $L_i$  : 0 mH  
 $C_i$  : 0 nF

[16]

Report No.

Project Report No.: 132553-01 (Hazardous Location Testing)

Drawings:

Drawing Title	Drawing Number	Sheet	Date	Rev.
EEx I Gauge 4-20 mA	STD-A3-0153-02	1 off 1	08/11/02	D4
Certification Drawing EEx I Gauge	STD-A3-0153-01	1 off 1	08/11/02	D1
4" Gauge Manufacturing Detail	STD-A3-0196-01	1 off 1	25/10/02	A1
6" Gauge Manufacturing Detail	STD-A3-0195-01	1 off 1	25/10/02	A1
8" Gauge Manufacturing Detail	STD-A3-0194-01	1 off 1	25/10/02	A1
M111 Module PCB Case GA	STD-A3-0193-01	1 off 1	11/11/02	B1
M111 Gauge Driver Label Details	STD-A4-0193-01	1 off 1	14/11/02	C1
M111 Module Wiring Diagram	STD-A3-0188-01	1 off 1	30/08/02	B1

### UL International Demko A/S

Lyskøer 8, P.O. Box 514  
DK-2730 Herlev, Denmark  
Telephone: +45 44866565  
Fax: +45 44856500

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## Schedule

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[17] Special conditions for safe use:

There are no special conditions.

[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.

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.

On behalf of UL International Demko A/S

Herlev, 2003-05-26

  
Karina Christiansen  
Certification Manager

**UL International Demko A/S**

Lyskaer 8, P.O. Box 514  
DK-2730 Herlev, Denmark  
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Fax: +45 44856500

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