

# EC-TYPE EXAMINATION CERTIFICATE



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## Equipment or Protective System intended for use in Potentially Explosive Atmospheres Directive 94/9/EC

[3]

EC-Type Examination Certificate Number: **DEMKO 08 ATEX 0717128X Rev. 1**

[4]

Equipment or Protective System: **Pressure and Temperature Switches**

[5]

Manufacturer: **United Electric Controls Co.**

[6]

Address: **180 Dexter Ave, PO Box 9143, Watertown, MA 02472 USA**

[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. **13CA41818**

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

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

**EN 60079-1:2007**

**EN 60079-31:2009**

[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.

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The marking of the equipment or protective system shall include the following:

 **II 2 G Ex d IIC T6 Gb**

 **II 2 D Ex tb IIIC T85°C Db**

### Certification Manager

Jan-Erik Storgaard

This is to certify that the sample(s) of the Product(s) described herein ("Certified Product") has been investigated and found in compliance with the Standard(s) indicated on this Certificate, in accordance with the ATEX Equipment Certification Program Requirements. This certificate and test results obtained apply only to the product sample(s) submitted by the Applicant. UL did not select the sample(s) or determine whether the sample(s) provided were representative of other manufactured products. UL has not established Follow-Up Service or other surveillance of the product. The Applicant/Manufacturer are solely and fully responsible for conformity of all products 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.

**Date of issue:** 2008-03-06

**Re-issued:** 2014-10-13

### Notified Body

UL International Demko A/S, Borupvang 5A, 2750 Ballerup, Denmark  
Tel. +45 44 85 65 65, [info.dk@ul.com](mailto:info.dk@ul.com), [www.ul.com](http://www.ul.com)



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## Schedule

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### Description of Equipment or protective system

The pressure-operated and temperature switches consist of a stainless steel flameproof switch housing and aluminum or stainless steel main housing. The flameproof switch housing is welded at one end and sealed at the other by a glass-to-metal hermetic seal. The switch housing contains a single or dual micro switch, which can be operated by an operating rod located in the main housing. The electrical wires are permanently mounted by the manufacturer and cannot be replaced.

Nomenclature for 12 Series Switch:

$\frac{12}{I}$	$\frac{S}{II}$	$\frac{L}{III}$	$\frac{S}{IV}$	$\frac{N}{V}$	$\frac{X}{VI}$	$\frac{X}{VII}$	$\frac{XXXX}{VIII}$
I	12 Series						
II	Main Housing Material S - Stainless Steel A - Aluminum						
III	Electrical Rating L - 125 Vac, 1 A resistive and 28 Vdc, 0.5 A inductive H - 250 Vac, 5 A resistive and 28 Vdc, 3 A inductive						
IV	Number of Switches S - SPDT (single) D - DPDT (dual)						
V	Electrical Conduit N - ½ NPT male M - M20 metric thread						
VI	Sensor Type, Pressure Connection or Thermal assembly Different sensor types, pressure connections or thermal assemblies in accordance with manufacturer's Option Chart						
VII	Models, Range Different measuring ranges in accordance with the manufacturer's Model Chart						
VIII	X - Options Includes different accessories/variations that do not affect flameproof properties, electrical ratings, pressure ratings, or temperature ratings as indicated above. Option M460 - External Ground Connection Alternate Type Variants indicating customer specification number 12-*****, where "*" is any number that does not affect flameproof properties, electrical ratings, pressure ratings, or temperature ratings as indicated above. The alternate nomenclature is customer specific. Option M515 with DIN Connector is not covered by this certificate.						

### Temperature range

The ambient temperature range is  $-50\text{ }^{\circ}\text{C} \leq T_{amb} \leq +80\text{ }^{\circ}\text{C}$ .

### Electrical data

L - 125 Vac, 1 A resistive and 28 Vdc, 0.5 A inductive  
H - 250 Vac, 5 A resistive and 28 Vdc, 3 A inductive

### Installation instructions

Installation of the 12 Series switches is depicted in the manufacturer's installation instructions.

### Mounting instructions

The mounting instructions for the 12 Series switches are provided in the manufacturer's installation instructions

### Routine tests

The weld between the switch housing and external disk (or between switch housing and diaphragm) must be helium leak tested on 100% production in accordance with the manufacturer's procedure G-60.



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## Schedule

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Report No.  
Project Report No.: 13CA41818 (Hazardous Location Testing)

Documents:

Description:	Drawing No.:	Rev. Level:	Date:
12 Series Certification Drawing (Pressure) and Marking Label	B-13807	G	2014-09-24
Installation Instructions, Pressure Switch (4 sheets)	IMP12	13	-
Installation Instructions, Temperature Switch (2 sheets)	IMT12	05	-

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Special conditions for safe use:

- The wiring to the temperature or pressure switch must only be connected in a safe area or by an approved terminal box certified to EN 60079-0:2012, EN 60079-1:2007, and EN 60079-31:2009 or EN 60079-0:2012, EN 60079-7:2007, and EN 60079-31:2009 for hazardous locations.
- The epoxy resin shall not be subjected to a temperature greater than 125°C.
- By the installation the wires shall be protected against mechanical damage e.g. by use of conduit.
- Option M515 with DIN Connector is not covered by this certificate.
- An external earth screw is to be used (M460 option) if metal conduit is not used.
- Electrical conduit fitting threaded connection: M20 x 1.5, 7 threads minimum engagement

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Essential Health and Safety Requirements

Concerning ESR this Schedule verifies compliance with the Annex III of ATEX directive only. The manufacturer's Declaration of Conformity declares compliance with other relevant Directives.

Additional information

The 12 Series Pressure and Temperature Switches have in addition passed the tests for Ingress Protection to IP66 in accordance with EN60529: 1991/A1 2001.

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.

