[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 09 ATEX 0815573X Rev. 3**

[4] Equipment or Protective System: **Pressure and Temperature Switches**

[5] Manufacturer: **United Electric Controls Co.**

[6] Address: **180 Dexter Avenue, 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. **4786845202**

[9] 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 60079-31:2014**

[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 2 G Ex d IIC T6 Gb

II 2 D Ex tb IIIC T85°C Db IP66

Certification Manager
Jan-Erik Storgaard

This is to certify that the sample(s) of the Equipment described herein ("Certified Equipment") 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 equipment 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 equipment. UL has not established Follow-Up Service or other surveillance of the equipment. The Manufacturer is solely and fully responsible for conformity of all equipment 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: 2009-04-28
Re-issued: 2015-07-23

Notified Body
UL International Demko A/S, Borupvang 5A, 2750 Ballerup, Denmark
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Schedule
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[15] Description of Equipment or protective system

The pressure and temperature operated switches consist of a die-cast aluminium switch housing containing a single or dual snap switch, which is operated by an operating rod forming a joint with the enclosure. The electrical wires between the snap switch and the one or two sets of terminal blocks are permanently mounted by the manufacturer and cannot be replaced.

Nomenclature for Type 120, 121 and 122 Pressure Switches:

Example:

Q	J	120	P	S164B	3000	XC007	12345
I	II	III	IV	V	VI	VII	VIII

I. End-User Destination
None - International/Domestic
Q - International/Domestic, Internal Reference Only

II. Device Calibration
H - Calibrated with External Adjustment
J - Uncalibrated

III. Type Designation
120 - Single Snap Switch
121 - Single Snap Switch with External Adjustment
122 - Two Snap Switches with External Adjustment

IV. Sensing Method
None - Straight Vacuum or Gauge Pressure Sensing
K - Differential Pressure Sensing
P - Common Adjustment

V. Pressure Sensor Designation
Two to five character/digit alphanumeric code indicating one of the pressure sensor models shown in the relevant Certification Drawing

VI. Internal Snap Switch Designation
Four-digit numeric code indicating one of the Internal Snap Switch models shown in the relevant Certification Drawing

VII. Miscellaneous Options
Four to five character/digit alphanumeric code not affecting electrical ratings or pressure ratings:

None – No options(s) employed
M210 – Mechanically operated pressure indicator
M430 – Cover lock option
M440 – Cover chain option
M540 – Viton diaphragm construction
M542 – AFLAS diaphragm construction
M550 – Alternate fitting
M913 – 1/4 in. NPT Stainless Steel pressure connection
M914 – 1/2 in. NPT Stainless Steel pressure connection
M915 – 1/4 in. NPT Monel pressure connection
M916 – 1/2 in. NPT Monel pressure connection
M917 – 1/4 in. NPT Hastelloy C pressure connection
M918 – 1/2 in. NPT Hastelloy C pressure connection
M919 – 1/4 in. NPT Aluminium pressure connection
M920 – 1/2 in. NPT Aluminium pressure connection
XC001 – Aluminium pressure connection with Viton diaphragm and Viton o-ring
XC002 – Aluminium pressure connection with Kapton diaphragm and Buna-N o-ring
XC003 – Aluminium pressure connection with Kapton diaphragm and Viton o-ring
XC004 – 316L Stainless Steel pressure connection with 316L Stainless Steel diaphragm and Viton o-ring
XC005 – 316L Stainless Steel pressure connection with Viton diaphragm and Viton o-ring
XC006 – 316L Stainless Steel pressure connection with Kapton diaphragm and Viton o-ring
XC007 – 316L Stainless Steel pressure connection with Teflon diaphragm and Viton o-ring

VIII. Customer Specification Number
Five character/digit alphanumeric code indicating pressure range and miscellaneous options; equivalent to a customer specification code

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Nomenclature for Type 120, 121, 122, 820 and 822 Temperature Switches:

Example:

Q	F	820	P	13611	3000	W10015	12345
I	II	III	IV	V	VI	VII	VIII

I. End-User Destination
None - International/Domestic
Q - International/Domestic, Internal Reference Only

II. Device Calibration
None - Remote temperature sensor with temperature setting adjustment and temperature indication in a separate enclosure from the explosion-proof enclosure containing the snap-switch and associated wiring
B - Calibrated Local Temperature Sensor
C - Uncalibrated Local Temperature Sensor
E - Calibrated Remote Temperature Sensor
F - Uncalibrated Remote Temperature Sensor

III. Type Designation
120 - Single Snap Switch with Internal Adjustment
121 - Single Snap Switch with External Adjustment
122 - Two Snap Switches with External Adjustment
820 - Single Snap Switch with External Temperature Indicator
822 - Two Snap Switches with External Temperature Indicator

IV. Sensing Method
None - Local or Remote Temperature Sensing
E - External Temperature Indicator
P - Common Adjustment

V. Temperature Sensor Designation
Two to five character/digit alphanumeric code indicating one of the temperature sensor models shown in the relevant Certification Drawing

VI. Internal Snap Switch Designation
Four-digit numeric code indicating one of the Internal Snap Switch models shown in the relevant Certification Drawing

VII. Miscellaneous Options
Four to five character/digit alphanumeric code not affecting electrical ratings or temperature ratings of the device

None – No options(s) employed
M430 – Cover lock option
M440 – Cover chain option
W Series - Followed by 097, 098, 099 or 100, followed by a number 1 through 15. Denotes separable well option

VIII. Customer Specification Number
Five character/digit alphanumeric code indicating temperature range and miscellaneous options; equivalent to a customer specification code

Temperature range
The ambient temperature range is -40 °C to +75 °C.

Electrical data
Supply 480 Vac max, 30 A

Installation instructions
- All cable entry devices and stopping boxes shall be certified in type of explosion protection flameproof enclosure 'd', suitable for the conditions of use and correctly installed.
- Field wiring must be rated 90°C minimum. For ambient temperatures below -10°C use suitable field wiring

Mounting instructions
- The mounting instructions for the devices are provided in the manufacturer's installation instructions

Routine tests
Routine tests according to EN 60079-1 cl. 16 are not required, as the enclosures have been successfully tested at four times the reference pressure.

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

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[17] Specific conditions of use:

- Dimensions of flameproof joints are other than the relevant minimum or maximum specified in Tables 1 through 2 of EN 60079-1:2007. Pressure and temperature operated switches are to be marked with an "X" and manufacturer's installation instructions (Drawing Nos. IMT120 and IMP120) detail the dimensions of the flameproof joints.
- For Group III equipment, manufacturer's installation instructions (Drawing Nos. IMT120 and IMP120) provide guidance for the user to minimize the risk from electrostatic discharge.

[18] Essential Health and Safety Requirements

Concerning ESRs this Schedule verifies compliance with the Annex III of ATEX directive only. By placing the product on the market, the manufacturer declares compliance with other relevant Directives, and all other safety related requirements including those of Annex II of this Directive.

Additional information

The Pressure and Temperature Operated Switches have in addition passed the tests for Ingress Protection to IP 66 in accordance with EN60529: 1991/A1 2000.

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.