[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 09 ATEX 0815573X Rev. 4**

[4] Product: **Pressure and Temperature Switches, Types 120, 121, 122, 820 and 822**

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

[6] Address: **180 Dexter Ave., Watertown, MA 02472 USA**

[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 product has been found to comply with the Essential Health and Safety Requirements relating to design and construction of products 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. **4787875541**

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

EN 60079-0:2012+A11:2013 **EN 60079-1:2014** **EN 60079-31:2014**

[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 G Ex db 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 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. This certificate and test results obtained apply only to the product 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 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.

Date of issue: 2009-04-28
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Notified Body UL International Demko A/S, Borupvang 5A, 2750 Ballerup, Denmark
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Schedule
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[15] Description of Product

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

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 EU-Type Examination Certificate.

[17] Specific conditions of use:

- Dimensions of the flameproof joints are other than the relevant minimum or maximum specified in Tables 1 through 2 of EN 60079-1:2014. 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.

[13] **Schedule**

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

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+A2:2013.

The trademark  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.

