

[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. 6**

[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. **US/UL/ExTR15.0049/03**

[9]

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

EN IEC 60079-0:2018

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

Re-issued: 2021-03-12

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



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Schedule

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[15]

Description of Product

The pressure and temperature operated switches consist of a die-cast aluminum 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 Aluminum pressure connection

M920 – 1/2 in. NPT Aluminum pressure connection

XC001 – Aluminum pressure connection with Viton diaphragm and Viton o-ring

XC002 – Aluminum pressure connection with Kapton diaphragm and Buna-N o-ring

XC003 – Aluminum 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.



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Schedule

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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.

