



# IECEX Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.:	<b>IECEX UL 03.0001X</b>	Page 1 of 4	<u>Certificate history:</u>
Status:	<b>Current</b>	Issue No: 12	Issue 11 (2023-09-29)
Date of Issue:	2025-03-31		Issue 10 (2023-06-30)
Applicant:	<b>United Electric Controls</b> 180 Dexter Ave. Watertown, MA 02472 <b>United States of America</b>		Issue 9 (2021-03-12)
Equipment:	<b>Pressure and Temperature Operated Switches, Types 120, 121, 122, 820 and 822</b>		Issue 8 (2020-05-22)
Optional accessory:			Issue 7 (2017-05-31)
Type of Protection:	<b>Flameproof "db" and Dust Ignition Protection by Enclosure "tb"</b>		Issue 6 (2015-07-23)
Marking:	Ex db IIC T6 Gb		Issue 5 (2012-01-20)
	Ex tb IIIC T85°C Db		Issue 4 (2009-09-01)
	-40°C to +75°C		Issue 3 (2009-04-23)
			Issue 2 (2007-06-22)

Approved for issue on behalf of the IECEx  
Certification Body:

**Lucy Frieders**

Position:

**Staff Engineer**

Signature:  
(for printed version)

Date:  
(for printed version)

2025-03-31

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Certificate issued by:

**UL Solutions (US)**  
333 Pfingsten Road  
Northbrook IL 60062-2096  
**United States of America**





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Manufacturer: **United Electric Controls**  
180 Dexter Ave.  
Watertown, MA 02472  
**United States of America**

Manufacturing locations: **United Electric Controls**  
180 Dexter Ave.  
Watertown, MA 02472  
**United States of America**

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEX Quality system requirements. This certificate is granted subject to the conditions as set out in IECEX Scheme Rules, IECEX 02 and Operational Documents as amended

#### STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

[IEC 60079-0:2017](#) Explosive atmospheres - Part 0: Equipment - General requirements  
Edition:7.0

[IEC 60079-1:2014](#) Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"  
Edition:7.0

[IEC 60079-31:2013](#) Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"  
Edition:2

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

#### TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

#### Test Reports:

[US/UL/ExTR15.0049/00](#)  
[US/UL/ExTR15.0049/03](#)  
[US/UL/ExTR15.0049/06](#)

[US/UL/ExTR15.0049/01](#)  
[US/UL/ExTR15.0049/04](#)

[US/UL/ExTR15.0049/02](#)  
[US/UL/ExTR15.0049/05](#)

#### Quality Assessment Report:

[US/UL/QAR07.0002/14](#)

#### IECEX ATR:

#### File reference:



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## **EQUIPMENT:**

Equipment and systems covered by this Certificate are as follows:

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.

**Please see Annex for additional information.**

## **SPECIFIC CONDITIONS OF USE: YES as shown below:**

- Dimensions of flameproof joints are other than the relevant minimum or maximum specified in Tables 1 through 2 of IEC 60079-1. 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 II and III equipment, manufacturer's installation instructions (Drawing Nos. IMT120 and IMP120) provide guidance for the user to minimize the risk from electrostatic discharge as follows: "THE DEVICE MUST BE CLEANED WITH A DAMP CLOTH TO AVOID STATIC DISCHARGE."



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## **DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)**

Issue 1: The upper ambient was revised to +75C.

Issue 2: The Drawing Number B-62174-21, Rev. D was revised to update DC rating on the switch codes 1180, 1190 and 1195. The switch rating was changed from 28 Vdc, 3A to 30Vdc, 5A.

Issue 3: Drawing number B-62174-21 was revised to revision level F. The revision was to add additional electrical ratings for the switch and was determined acceptable by engineering judgement. The new ratings were lower than the existing ratings.

Issue 4: Change current rating from 20A to 30A. Installation instructions have been updated to reflect that blanking elements from the factory have been tested for Flameproof "d" and Dust "tD" as an assembly and carry no markings.

Issue 5: Upgraded the editions of standards. There was also a modification made to the joint between the actuation plunger and plunger guide located in the base of the 121/122 Series enclosure. The casting was modified to replace the plunger guide and encompass it as part of the casting. The joint length was also being reduced and was evaluated accordingly with respect to flameproof and dust requirements.

Issue 6: Revision included updating certificate to the latest edition of the applicable standards. No constructional changes were made.

Issue 7: Upgrade to IEC 60079-1 Edition 7.

Issue 8: Minor updates to drawings.

Issue 9: Minor update to marking label drawings. Update to latest version of standards.

Issue 10: Minor technical dimensions were revised and changes to the schedule drawings.

Issue 11: Addition of an alternate construction, customer specific model.

Issue 12: Revision of electrostatic discharge protective construction and related Specific Conditions of Use. Revision to nameplates. Replaced installation instructions documents with new installation instructions drawings.

## **Annex:**

[Annex to IECEx UL 03.0001X Issue 12.pdf](#)



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## TYPE DESIGNATION

### 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



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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.

## 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.



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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 six character/digit alphanumeric code not affecting electrical ratings or temperature ratings of the device

None – No option(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

**PARAMETERS RELATING TO THE SAFETY**

480 Vac, 30 A max



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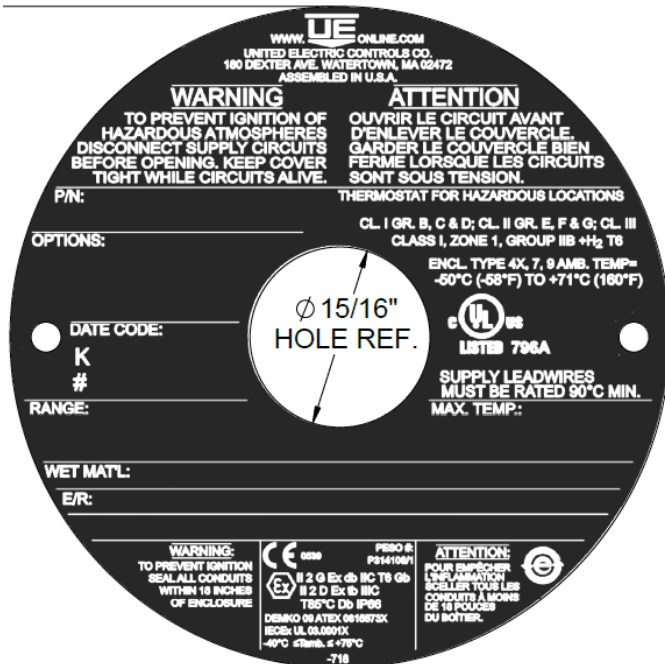
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## MARKING

Marking has to be readable and indelible; it has to include the following indications:





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