



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

Certificate No.:	IECEX UL 14.0072X	Page 1 of 4	<u>Certificate history:</u>
Status:	Current	Issue No: 4	Issue 3 (2021-09-28)
Date of Issue:	2024-06-17		Issue 2 (2017-06-08)
Applicant:	United Electric Controls 180 Dexter Ave. Watertown, MA 02472 United States of America		Issue 1 (2015-12-14)
Equipment:	Pressure and Temperature Switches, 12 Series Switch		Issue 0 (2014-10-08)
Optional accessory:	Cortem junction box		
Type of Protection:	Flameproof "db", Dust Ignition Protection by Enclosure "tb"		
Marking:	Ex db IIC T6 Gb; Ex tb IIIC T85°C Db Ex db IIC T5 Gb; Ex tb IIIC T100°C Db (12 Series Switch with Option M423 Junction Box Only) -50°C ≤ Tamb ≤ +80°C -40°C ≤ Tamb ≤ +65°C (12 Series with Option M423 Junction Box only)		

Approved for issue on behalf of the IECEx
Certification Body:

Katy A. Holdredge

Position:

Senior Staff Engineer

Signature:
(for printed version)

Date:
(for printed version)

2024-06-17

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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/ExTR14.0102/00](#)
[US/UL/ExTR14.0102/03](#)

[US/UL/ExTR14.0102/01](#)

[US/UL/ExTR14.0102/02](#)

Quality Assessment Report:

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



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

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. The switches can have an optional certified Cortem junction box with or without terminals located inside the junction box connected via the 1/2" NPT port designated by the M423 suffix. The Cortem junction box is covered under IECEx CES 14.0018X.

Please see Annex for additional information.

SPECIFIC CONDITIONS OF USE: YES as shown below:

- The wiring to the temperature or pressure switch must only be connected in a safe area or by an approved terminal box certified to IEC 60079-0, Edition 7, IEC 60079-1, Edition 7, and IEC 60079-31, Edition 2 for Hazardous Locations.
- The epoxy resin shall not be subjected to a temperature greater than 125°
- 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.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Issue 1: The manufacturer submitted a related drawing that changes the thickness of the glass of the hermetic header assembly located inside the enclosure. This change does not affect the type of protection.

Issue 2: Drawing revisions to include the upgrade of IEC 60079-1 and IEC 60079-31.

Issue 3: Update IEC 60079-0 to the latest edition and addition of M423 junction box option.

Issue 4: Updates CoC to link to the most recent QAR US/UL/QAR07.0002/14 (valid until 2027-06-24).

Annex:

[Annex to IECEx UL 14.0072X Issue 4.pdf](#)



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Annex to Certificate No.:

IECEX UL 14.0072X

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TYPE DESIGNATION

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 – 1/2 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 – Options

Option M423 – ATEX/IECEX Certified Cortem Junction Box

Option M460 – External Ground Connection

Includes other different accessories/variations that do not affect flameproof properties, electrical ratings, pressure ratings, or temperature ratings as indicated above

Alternate Type Variants indicating customer specification number 12-XXXXX, where "X" 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.

PARAMETERS RELATING TO THE SAFETY

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



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MARKING

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

MODEL: _____
 DATE CODE: _____
 K # _____
 OPTIONS: _____

RANGE: _____

OVR RNG: _____
 PROOF: _____
 WET. MTL: _____
 E/R: _____

UL LISTED 548A

IND. CONT. EQ. FOR USE IN HAZARDOUS LOCATIONS

CL I, ZONE 1, GR. IIC
 CL I, DIV. 1, GRPS A, B, C, D
 CL II, DIV. 1, GRPS E,F,G; CL III
 Tamb. = -50°C / -58°F to +85°C / 203°F
 FACTORY SEALED LEADWIRES
 ENCLOSURE TYPE 4X

CE 0539

IECEX UL 14.0072X
 DEMKO 08 A TEX 0717128X

Ex II 2 G Ex db IIC T5 Gb
 II 2 D Ex tb IIIC T85°C Db
 IP66

Tamb. -50°C / -58°F to +80°C / 176°F

UNITED ELECTRIC CONTROLS
 WATERTOWN, MA 02471
 www.ueonline.com
 ASSEMBLED IN U.S.A.

Dual Seal
12 Series
 PRESSURE SWITCH

MODEL: PARTNUMBER
 DATE CODE: DATECODE
 K # KANBAN + CONFIG
 OPTIONS: SETSWITCH
OPTLINE1
OPTLINE2
OPTLINE3
OTHER
CUSTPART

RANGE: _____

OVR RNG: ENGMWP + METMWA
 PROOF: ENGPPOOF + METPROOF
 WET. MTL: WETMTA
 E/R: ERINPUT
 TAG: SSTAG1
SSTAG2

Ex II 2 G Ex db IIC T5 Gb
 II 2 D Ex tb IIIC T100°C Db
 -40°C ≤ Tamb ≤ +65°C
 IP66 ENCLRAT

DEMKO 08 ATEX 0717128X
 IECEX UL 14.0072X
 PESO # P482128/1

UNITED ELECTRIC CONTROLS
 WATERTOWN, MA 02472
 www.ueonline.com
 ASSEMBLED IN U.S.A.

12 Series
 PRESSURE SWITCH

MODEL: PARTNUMBER
 DATE CODE: DATECODE
 K # KANBAN + CONFIG
 OPTIONS: SETSWITCH
OPTLINE1
OPTLINE2
OPTLINE3
OTHER
CUSTPART

RANGE: _____

MAX. TEMP.: ENGMWP + METMWA
 WET. MTL: WETMTA
 E/R: ERINPUT
 TAG: SSTAG1
SSTAG2

Ex II 2 G Ex db IIC T5 Gb
 II 2 D Ex tb IIIC T100°C Db
 -40°C ≤ Tamb ≤ +65°C
 IP66 ENCLRAT

DEMKO 08 ATEX 0717128X
 IECEX UL 14.0072X
 PESO # P482128/1

UNITED ELECTRIC CONTROLS
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12 Series
 TEMPERATURE SWITCH

ROUTINE EXAMINATIONS AND 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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LIST OF CERTIFIED COMPONENTS

The following additional previous editions of Standards noted under the "Standards" section of this Certificate were applied to integral Components as itemized below. There are no significant safety related changes between these previous editions and the editions noted under the "Standards" section.

Product	Certificate Number	Standards
Terminal Box, ST-16.1, ST-16.1V, ST-16.1N., manufactured by Cortem SpA	IECEx CES 14.0018X	IEC 60079-0:2011, IEC 60079-1:2007, IEC 60079-31:2008