



[1]

UNITED KINGDOM CONFORMITY ASSESSMENT UK-TYPE EXAMINATION CERTIFICATE

[2]

**Product or Protective System Intended for use in Potentially Explosive Atmospheres
UKSI 2016:1107 (as amended by UKSI 2019:696) – Schedule 3A, Part 1**

[3]

UK-Type Examination Certificate No.: **UL21UKEX2235X Rev. 0**

[4]

Product: **Pressure and Temperature Switches**

[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 (UK) Ltd, Approved Body number 0843, in accordance with Regulation 44 of the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016, UKSI 2016:1107 (as amended by UKSI 2019:696), certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Schedule 1 of the Regulations.
The examination and test results are recorded in the confidential report **UKRCC-4789985906.1**

[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

Except in respect of those requirements listed at section 19 of the schedule to this certificate.

[10]

If the sign "X" is placed after the certificate number, it indicates that the product is subject to specific conditions of use specified in the schedule to this certificate.

[11]

This UK-TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Regulations apply to the manufacturing process and supply of this product. These are not covered by this 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

12 Series Switch with Option M423 Junction Box Only:



II 2 G Ex db IIC T5 Gb



II 2 D Ex tb IIIC T100°C Db

Certification Manager
Andrew Moffat

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 UKEx 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 Regulations. 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: 2022-06-29

Approved Body

UL International (UK) Ltd Unit 1-3 Horizon Kingsland Business Park Wade Road, Basingstoke RG24 8AH, UK
Phone : +44 (0)1256 312100



[13]

[14]

Schedule UK-TYPE EXAMINATION CERTIFICATE No. UL21UKEX2235X Rev. 0

[15]

Description of Product

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 ½" NPT port designated by the M423 suffix. The Cortem junction box is covered under separate certification

Nomenclature for 12 Series Switch:

12	S	L	S	N	X	X	XXXX
I	II	III	IV	V	VI	VII	VIII

I	12 Series
II	Main Housing Material S - Stainless Steel A - Aluminium
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 - ½ 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	X - Options Option M423 - ATEX/IECEx/UKEX Certified Cortem Junction Box Option M460 - External Ground Connection Includes other different accessories/variants that do not affect flameproof properties, electrical ratings, pressure ratings, or temperature ratings as indicated above. Alternate Type Variants indicating customer specification number 12-****, where "*" 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.

The optical radiation output of the product with respect to explosion protection, according to Schedule 1 clause 16 of the Regulation 2016 No. 1107 (as amended by UKSI 2019:696) is not covered in this certificate.

Temperature range

The ambient temperature range is -50 °C ≤ Tamb ≤ +80 °C.
Option M423 only - ambient temperature range -40 °C ≤ Tamb ≤ +65 °C.

Electrical data

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

Routine 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.

[16]

Test Report No. (associated with this certificate issue)
US/UL/ExTR14.0102/03

[17]

Specific conditions of use:

- The wiring to the temperature or pressure switch must only be connected in a safe area or by an approved terminal box certified to EN IEC 60079-0:2018, EN 60079-1:2014, and EN 60079-31:2014 for hazardous locations.
- The epoxy resin shall not be subjected to a temperature greater than 125°C.
- 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.
- Electrical conduit fitting threaded connection: M20 x 1.5, 7 threads minimum engagement.

[13]

Schedule

[14]

UK-TYPE EXAMINATION CERTIFICATE No. UL21UKEX2235X Rev. 0

[18]

Conditions of certification:

Where ATEX certified Ex Components or Ex Equipment are used, it is the responsibility of the manufacturer to ensure that only Ex Components or Ex Equipment having equivalent UKEx certification are used after the permission to accept such ATEX certified Ex Component or Ex Equipment is withdrawn.

[19]

Essential Health and Safety Requirements (Regulations Schedule 1)

In addition to the Essential Health and Safety Requirements covered by the standards listed at item 9, all other requirements are demonstrated in the relevant reports.

Additional information

The 12 Series Pressure and Temperature 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 approved body concerning all modifications to the technical documentation as described in Annex III to UKSI 2016:1107 (as amended by UKSI 2019:696) – Schedule 3A, Part 1.

[20]

Drawings and Documents

Title:	Drawing No.:	Rev. Level:	Date:
12 Series Certification Drawing (Pressure) and Marking Label	B-13807	H	2017-05-31
Installation Instructions, Pressure Switch (4 sheets)	IMP12	17	-
Installation Instructions, Temperature Switch (2 sheets)	IMT12	09	-
Option 423 Junction Box	62174-85	A	2021-07-26
Option 423 12 Series Pressure Label	6311-16	A	2021-09-21
Option 423 12 Series Temperature Label	6311-17	A	2021-09-21
12 SERIES TYKMA FORMAT PRESSURE UKCA OPTION: M462	6311-10	A	2022-05-26
12 SERIES TYKMA FORMAT TEMPERATURE UKCA OPTION: M462	6311-11	A	2022-05-26
12 SERIES TYKMA FORMAT PRESSURE UKCA OPTION: M462 WITH M423 J-BOX	6311-28	A	2022-06-16
12 SERIES TYKMA FORMAT TEMPERATURE UKCA OPTION: M462 WITH M423 J-BOX	6311-29	A	2022-06-16
ADDENDUM for 12 SERIES (Ex db) OPTION UKCA (United Kingdom Conformity Assessed)	UKC_12-01	-	2022-05-20