[1] # EC-TYPE EXAMINATION CERTIFICATE

[2] **Equipment or Protective System intended for use in Potentially Explosive Atmospheres Directive 94/9/EC**

[3] EC-Type Examination Certificate Number: **DEMKO 11 ATEX 1105261X Rev. 1**

[4] Equipment or Protective System: **Intrinsically Safe Pressure or Temperature Switches**

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

[6] Address: **180 Dexter Avenue, PO Box 9143, Watertown, MA 02472 USA**

[7] This equipment or protective system 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 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to design and construction of equipment and protective systems 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. **4786503672**

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

EN 60079-0:2012+A11:2013 EN 60079-11:2012 EN 60079-26:2007

[10] If the sign "**X**" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

[11] This EC-Type examination certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system.
These are not covered by the certificate.

[12] The marking of the equipment or protective system shall include the following:

II 1 G Ex ia IIC T6 Ga

Certification Manager
Jan-Erik Storgaard

Notified Body

This is to certify that the sample(s) of the Equipment described herein ("Certified Equipment") has been investigated and found in compliance with the Standard(s) indicated on this Certificate, in accordance with the ATEX Equipment Certification Program Requirements. This certificate and test results obtained apply only to the equipment 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 equipment. UL has not established Follow-Up Service or other surveillance of the equipment. The Manufacturer is solely and fully responsible for conformity of all equipment 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: 2011-12-06
Re-issued: 2014-08-05

UL International Demko A/S, Borupvang 5A, 2750 Ballerup, Denmark
Tel. +45 44 85 65 65, info.dk@ul.com, www.ul.com

This certificate may only be reproduced in its entirety and without any change, schedule included.

[13] **Schedule**

[14] **EC-TYPE EXAMINATION CERTIFICATE No.**

DEMKO 11 ATEX 1105261X Rev 1

Report: 4786503672

[15] Description of Equipment or protective system

The pressure and temperature operated switches consist of a stainless steel or aluminium housing containing a single or dual micro switch which can be operated by an operating rod ensuring an internal joint with the enclosure. The electrical wires are permanently mounted by the manufacturer and cannot be replaced.

Type: 6 Series, 10 Series, 12 Series, 21K Series, 100 Series, 117 Series, 120 Series, 400 Series.

6 Series

J	6D	12345	2200	M123
I	II	III	IV	V

I. Type Designation
- J Uncalibrated

II. Series and Model Designation
- 6 Non-adjustable differential pressure sensor switch
- 6D Adjustable differential pressure sensor switch

III. Model Designation
May be three to five digit numerical or alphabetical suffix indicating pressure range and sensing element not to exceed 6000 psi, not affecting electrical ratings of the device; equivalent to a customer specification number

IV. Internal Switch Designation
May be a four digit number indicating switch designation

V. Option Designation
May be a four digit numerical or alphabetical suffix not affecting electrical ratings or pressure ratings of the device

10 Series

10	A	10	12345	1100	M123
I	II	III	IV	V	VI

I. Series Designation
- 10 Cylindrical pressure sensor switch

II. Electrical Connection Designation
- A 0.11 in push-on terminals
- B 0.25 in push-on terminals
- C ½ NPTM, 18 in. leads
- D 18 in. leads
- E ½ NPTF, 5 ft. cord
- F DIN male connector
- G 5 ft. cord

III. Pressure Range Designation
- Diaphragm
  - 10 - 4 - 50 psi
  - 11 - 10 - 150 psi
  - 12 - 30 - 600 psi
- Piston
  - 13 - 100 - 1500 psi
  - 14 - 180 - 3000 psi
  - 15 - 400 - 4700 psi
  - 16 - 4000 - 7500 psi

IV. Model Designation
May be a three to five digit numerical or alphabetical suffix indicating pressure range and sensing element not to exceed 7500 psi, not affecting electrical ratings of the device; equivalent to a customer specification number

V. Internal Switch Designation
May be a four digit number indicating switch designation

VI. Option Designation
May be a four digit numerical or alphabetical suffix not affecting electrical ratings or pressure ratings of the device

This certificate may only be reproduced in its entirety and without any change, schedule included.

[13]

[14]

Schedule
EC-TYPE EXAMINATION CERTIFICATE No.
DEMKO 11 ATEX 1105261X Rev 1
Report: 4786503672

12 Series

12	SH	DM	IA	12345	M123
I	II	III	IV	V	VI

I. Series Designation
- 12 — Pressure sensor switch

II. Sensor Type and Switch Rating Designation
- SH — Stainless Steel housing material
- SL — Stainless Steel housing material

III. Switch Type and Electrical Connection Designation
- DM — DPDT (double-pole, double throw) M20 metric thread electrical connection
- DN — DPDT (double-pole, double throw) ½ NPT electrical connection
- SM — SPDT (single-pole, double throw) M20 metric thread electrical connection
- SN — SPDT (single-pole, double throw) ½ NPT electrical connection

IV. Model Designation
May be a two digit numerical or alphabetical suffix indicating pressure range and sensing element not to exceed 6000 psi, not affecting electrical ratings of the device; equivalent to a customer specification number

V. Customer Specification Number Designation
May be a five digit number not affecting electrical ratings or pressure ratings of the device

VI. Option Designation
May be a four digit numerical or alphabetical suffix not affecting electrical ratings or pressure ratings of the device

12	SH	DM	IA	12345	M123
I	II	III	IV	V	VI

I. Series Designation
- 12 — Temperature sensor switch

II. Sensor Type and Switch Rating Designation
- SH — Stainless Steel housing material
- SL — Stainless Steel housing material

III. Switch Type and Electrical Connection Designation
- DM — DPDT (double-pole, double throw) M20 metric thread electrical connection
- DN — DPDT (double-pole, double throw) ½ NPT electrical connection
- SM — SPDT (single-pole, double throw) M20 metric thread electrical connection
- SN — SPDT (single-pole, double throw) ½ NPT electrical connection

IV. Model Designation
May be a two digit numerical or alphabetical suffix indicating temperature range and sensing element not to exceed 343˚C (650˚F), not affecting electrical ratings of the device.

V. Customer Specification Number Designation
May be a five digit number not affecting electrical ratings or temperature ratings of the device

VI. Option Designation
May be a four digit numerical or alphabetical suffix not affecting electrical ratings or temperature ratings of the device

This certificate may only be reproduced in its entirety and without any change, schedule included.

[13] [14]

Schedule
EC-TYPE EXAMINATION CERTIFICATE No.
DEMKO 11 ATEX 1105261X Rev 1
Report: 4786503672

21K Series

J	21K	12345	2200	M123
I	II	III	IV	V

I. Type Designation
- J — Uncalibrated

II. Series and Model Designation
- 21K — Adjustable differential pressure sensor switch

III. Model Designation
May be three to five digit numerical or alphabetical suffix indicating pressure range and sensing element not to exceed 300 psi, not affecting electrical ratings of the device; equivalent to a customer specification number

IV. Internal Switch Designation
May be a four digit number indicating switch designation

V. Option Designation
May be a four digit numerical or alphabetical suffix not affecting electrical ratings or pressure ratings of the device

100 Series

B	100	12345	3000	M123
I	II	III	IV	V

I. Sensor Type and Adjustment Designation
- B — Local temperature sensor, internal knob adjustment
- C — Local temperature sensor, internal plunger adjustment
- E — Remote temperature sensor, internal knob adjustment
- F — Remote temperature sensor, internal plunger adjustment

II. Series Designation
- 100 — Temperature sensor switch

III. Model Designation
May be three to five digit numerical or alphabetical suffix indicating temperature range and sensing element not to exceed 538˚C (1000˚F), not affecting electrical ratings of the device; equivalent to a customer specification number

IV. Internal Switch Designation
May be a four digit number indicating switch designation

V. Option Designation
May be a four digit numerical or alphabetical suffix not affecting electrical ratings or temperature ratings of the device

H	100K	12345	3000	M123
I	II	III	IV	V

I. Type Designation
- H — Uncalibrated

II. Series and Model Designation
- 100 — Pressure sensor switch
- 100K — Differential pressure sensor switch

III. Model Designation
May be three to five digit numerical or alphabetical suffix indicating pressure range and sensing element not to exceed 5000 psi, not affecting electrical ratings of the device; equivalent to a customer specification number

IV. Internal Switch Designation
May be a four digit number indicating switch designation

V. Option Designation
May be a four digit numerical or alphabetical suffix not affecting electrical ratings or pressure ratings of the device

This certificate may only be reproduced in its entirety and without any change, schedule included.

[13]

Schedule

[14]

EC-TYPE EXAMINATION CERTIFICATE No.

DEMKO 11 ATEX 1105261X Rev 1

Report: 4786503672

117 Series

H		117K	12345	1100	M123
I		II	III	IV	V

Type Designation

I.

H — Pressure-operated, uncalibrated

II. Series and Model Designation

117 — Pressure sensor switch with one snap switch provided

117K — Differential pressure sensor switch with one snap switch provided

III. Model Designation

May be a three to five digit numerical or alphabetical suffix indicating pressure range and sensing element not to exceed 3500 psi, not affecting electrical ratings of the device; equivalent to a customer specification number

IV. Internal Switch Designation

May be a four digit number indicating switch designation

V. Option Designation

May be a four digit numerical or alphabetical suffix not affecting electrical ratings or pressure ratings of the device

B		117	12345	1100	M123
I		II	III	IV	V

I. Type Designation

B — Local temperature sensor, calibrated

E — Remote temperature sensor, calibrated

II. Series and Model Designation

117 — Temperature sensor switch with one snap switch provided

III. Model Designation

May be three to five digit numerical or alphabetical suffix indicating temperature range and sensing element not to exceed 566˚C (1050˚F), not affecting electrical ratings of the device; equivalent to a customer specification number

IV. Internal Switch Designation

May be a four digit number indicating switch designation

V. Option Designation

May be a four digit numerical or alphabetical suffix not affecting electrical ratings or temperature ratings of the device

120 Series

H		120	K	12345	3000	M123
I		II	III	IV	V	VI

I. Type Designation

H — Pressure-operated, calibrated

J — Pressure-operated, uncalibrated

QH — Pressure-operated, calibrated, equipped with a cover lock, external bonding terminal, enclosure vent holes and a nameplate and may also have a second conduit connection

QJ — Pressure-operated, uncalibrated, equipped with a cover lock, external bonding terminal, enclosure vent holes and a nameplate and may also have a second conduit connection

II. Series and Model Designation

120 — Pressure sensor switch with one snap switch provided

121 — Pressure sensor switch with one snap switch provided

122 — Pressure sensor switch with two snap switches provided

This certificate may only be reproduced in its entirety and without any change, schedule included.

[13]

[14]

Schedule
EC-TYPE EXAMINATION CERTIFICATE No.
DEMKO 11 ATEX 1105261X Rev 1
Report: 4786503672

III. Type of Switch and Designation

K	Differential pressure sensing provided
P	Common adjustment provided
None	Individual adjustment provided

IV. Model Designation
May be three to five digit numerical or alphabetical suffix indicating pressure range and sensing element not to exceed 6000 psi, not affecting electrical ratings of the device; equivalent to a customer specification number

V. Internal Switch Designation
May be a four digit number indicating switch designation

VI. Option Designation
May be a four digit numerical or alphabetical suffix not affecting electrical ratings or pressure ratings of the device

B	120	P	12345	3000	M123
I	II	III	IV	V	VI

I. Type Designation

B	Local temperature sensor, calibrated
C	Local temperature sensor, uncalibrated
E	Remote temperature sensor, calibrated
F	Remote temperature sensor, uncalibrated
QB	Local temperature sensor, calibrated, equipped with a cover lock, external bonding terminal, enclosure vent holes and a nameplate and may also have a second conduit connection
QC	Local temperature sensor, uncalibrated, equipped with a cover lock, external bonding terminal, enclosure vent holes and a nameplate and may also have a second conduit connection
QE	Remote temperature sensor, calibrated, equipped with a cover lock, external bonding terminal, enclosure vent holes and a nameplate and may also have a second conduit connection
QF	Remote temperature sensor, uncalibrated, equipped with a cover lock, external bonding terminal, enclosure vent holes and a nameplate and may also have a second conduit connection
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

II. Series and Model Designation

120	Temperature sensor switch with one snap switch provided
121	Temperature sensor switch with one snap switch provided
122	Temperature sensor switch with two snap switches provided

III. Type of Switch Designation

P	Common adjustment provided
None	Individual adjustment provided

IV. Model Designation
May be three to five digit numerical or alphabetical suffix indicating temperature range and sensing element not to exceed 538˚C (1000˚F), not affecting electrical ratings of the device; equivalent to a customer specification number

V. Internal Switch Designation
May be a four digit number indicating switch designation

VI. Option Designation
May be a four digit numerical or alphabetical suffix not affecting electrical ratings or temperature ratings of the device

This certificate may only be reproduced in its entirety and without any change, schedule included.

[13]

[14]

Schedule
EC-TYPE EXAMINATION CERTIFICATE No.
DEMKO 11 ATEX 1105261X Rev 1
Report: 4786503672

400 Series

B	400	P	12345	2200	M123
I	II	III	IV	V	VI

I. Sensor Type and Adjustment Designation

B	Calibrated dial, immersion stem, internal adjustment with reference dial
C	Uncalibrated dial, immersion stem, internal adjustment without reference dial
E	Calibrated dial, bulb and capillary, internal adjustment with reference dial
F	Uncalibrated dial, bulb and capillary, internal adjustment without reference dial

II. Series and Model Designation

400	Temperature sensor switch with one snap switch provided
402	Temperature sensor switch with two snap switches provided
403	Temperature sensor switch with three snap switches provided

III. Internal Switch Adjustment Designation

P	Common adjustment provided (does not apply to single switch devices)
None	Individual adjustment provided

IV. Model Designation
May be three to five digit numerical or alphabetical suffix indicating temperature range and sensing element not to exceed 343˚C (650˚F), not affecting electrical ratings of the device; equivalent to a customer specification number

V. Internal Switch Designation
May be a four digit number indicating switch designation

VI. Option Designation
May be a four digit numerical or alphabetical suffix not affecting electrical ratings or temperature ratings of the device

H	400	K	12345	3000	M123
I	II	III	IV	V	VI

I. Sensor Type and Adjustment Designation

H	Calibrated dial, internal adjustment with reference dial
J	Uncalibrated dial, internal adjustment without reference dial

II. Series and Model Designation

400	Pressure sensor switch with one snap switch provided
402	Pressure sensor switch with two snap switches provided
403	Pressure sensor switch with three snap switches provided

III. Internal Switch Adjustment Designation

K	Differential pressure control provided
P	Common adjustment provided (does not apply to single switch devices)
None	Individual adjustment provided

IV. Model Designation
May be three to five digit numerical or alphabetical suffix indicating pressure range and sensing element not to exceed 6000 psi, not affecting electrical ratings of the device; equivalent to a customer specification number

V. Internal Switch Designation
May be a four digit number indicating switch designation

VI. Option Designation
May be a four digit numerical or alphabetical suffix not affecting electrical ratings or pressure ratings of the device

This certificate may only be reproduced in its entirety and without any change, schedule included.

[13] **Schedule**

[14] **EC-TYPE EXAMINATION CERTIFICATE No.**
DEMKO 11 ATEX 1105261X Rev 1
Report: 4786503672

Temperature range
The ambient temperature range is -50˚C ≤ Tamb ≤ +60˚C

Electrical data

Intrinsically Safe Parameters
U_i : 49 V
I_i : 3 A
C_i : 0.0 uF
L_i : 0.0 mH

[16] Report No.
Project Report No.: 4786503672 (Hazardous Location Testing)

Documents:

Description:	Drawing No.:	Rev. Level:	Date:
Intrinsically Safe (I.S.) Control Drawing	62174-3	G	2014-07-29
Intrinsically Safe (I.S.) Label Drawing	6333-65	D	2014-07-25
6 Series Construction Drawing	62174-13	B	2011-10-17
10 Series Construction Drawing	62174-10	B	2011-10-17
12 Series Construction Drawing	62174-11	B	2011-10-17
21 Series Construction Drawing	62174-14	B	2011-10-17
100 Series Construction Drawing	62174-9	B	2011-10-17
117 Series Construction Drawing	62174-8	B	2011-10-17
120 Series Construction Drawing	62174-16	B	2011-10-17
400 Series Construction Drawing	62174-17	B	2011-10-17

[17] Specific conditions of use:
Warning: Enclosure contains aluminum. Care must be taken to avoid ignition hazard due to impact or friction.

[18] Essential Health and Safety Requirements
Concerning ESRs this Schedule verifies compliance with the Annex III of ATEX directive only. By placing the product on the market, the manufacturer declares compliance with other relevant Directives, and all other safety related requirements including those of Annex II of this Directive.

Additional information
This certificate was issued as “Accredited by DANAK under registration number 7011 to certification of products”.

The manufacturer shall inform the notified body concerning all modifications to the technical documentation as described in ANNEX III to Directive 94/9/EC of the European Parliament and the Council of 23 March 1994.

This certificate may only be reproduced in its entirety and without any change, schedule included.