



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 12.0001X	Page 1 of 4	<u>Certificate history:</u>
Status:	Current	Issue No: 3	Issue 2 (2021-07-29)
Date of Issue:	2024-05-30		Issue 1 (2018-07-30)
Applicant:	Migatron Corporation 935 Dieckman Street Woodstock, IL 60098 United States of America		Issue 0 (2012-10-26)
Equipment:	Intrinsically Safe Ultrasonic Sensor, RPS-409A-abcd-IS2-efgh and RPS-429Ay-abcd-IS2-efgh.		
Optional accessory:			
Type of Protection:	Intrinsic Safety "ia"		
Marking:	Ex ia I/IIC T4 Ma/Ga Ex ia IIIC T101°C Da -40°C ≤ Ta ≤ +60°C		

Approved for issue on behalf of the IECEx
Certification Body:

Lucy Frieders

Position:

Staff Engineer

Signature:
(for printed version)

Date:
(for printed version)

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.



Certificate issued by:

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





IECEX Certificate of Conformity

Certificate No.: **IECEX UL 12.0001X**

Page 2 of 4

Date of issue: 2024-05-30

Issue No: 3

Manufacturer: **Migatron Corporation**
935 Dieckman Street
Woodstock, IL 60098
United States of America

Manufacturing locations: **Migatron Corporation**
935 Dieckman Street
Woodstock, IL 60098
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 60079-11:2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

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/ExTR12.0001/00
US/UL/ExTR12.0001/03

US/UL/ExTR12.0001/01

US/UL/ExTR12.0001/02

Quality Assessment Report:

US/UL/QAR11.0011/08



IECEx Certificate of Conformity

Certificate No.: **IECEx UL 12.0001X**

Page 3 of 4

Date of issue: 2024-05-30

Issue No: 3

EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

Model RPS-409A-abcd-IS2-efgh is an intrinsically safe, barrier-powered analog ultrasonic sensor, which can be used for distance measurement and/or object detection.

Model RPS-429Ay-abcd-IS2-efgh is an intrinsically safe, barrier-powered analog ultrasonic sensor, which can be used for distance measurement and/or object detection.

Please see Annex for additional information.

SPECIFIC CONDITIONS OF USE: YES as shown below:

RPS-409A Series

- To maintain the IP67 rating of the sensor, the cable assembly used to connect to the sensor must have an IP rating of IP67 or greater.

RPS-409A-abc -IS2-efgh (Enclosure with Polyphenylene Sulfide (PPS))

- WARNING: Dielectric Strength of enclosure is not sufficient to insulate the RPS-409A-abcd-IS2-efgh from other equipment. The RPS-409A-abcd-IS2-efgh may be mounted onto a metal part if the metal part is earth grounded in accordance with local codes, as applicable, or it may be mounted on an insulated part. In either case, the enclosure must be segregated or insulated from live parts.

RPS-409A-abcP-IS2-efgh (Enclosure with Polyvinyl Chloride (PVC))

- RPS-409A-IS2 sensors (with Polyvinyl Chloride (PVC) enclosure) do not have static dissipative properties, and the following Specific Conditions of Use; WARNING: POTENTIAL ELECTROSTATIC CHARGING HAZARD, WIPE WITH A DAMP CLOTH.

RPS-429A Series

- To maintain the IP66/IP67 rating of the sensor, the cable assembly used to connect to the sensor must have the appropriate IP rating(s) for the installation location. Also the coupling nut on the cable assembly must be tightened according to the cable manufacturer's requirements.

RPS-429Ay-abcP-IS2-efgh (Enclosure with Polyvinyl Chloride (PVC))

- RPS-429Ay-abcP-IS2-efgh sensors (with Polyvinyl Chloride (PVC) enclosure) do not have static dissipative properties, and need the following Specific Conditions of Use; WARNING: POTENTIAL ELECTROSTATIC CHARGING HAZARD, WIPE WITH A DAMP CLOTH.



IECEx Certificate of Conformity

Certificate No.: **IECEx UL 12.0001X**

Page 4 of 4

Date of issue: 2024-05-30

Issue No: 3

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Issue 1: Revised drawings and removal of IEC 60079-26.

Issue 2: Device has been evaluated and updated to IEC 60079-0, 7th edition. Additionally, new encapsulation, board layout and alternate components have been added to documentation.

Issue 3: Added the new Model. RPS-429A series.

Annex:

[Annex to IECEx UL 12.0001X Issue 3_1.pdf](#)



IECEX Certificate of Conformity

Annex to Certificate No.:

IECEX UL 12.0001X

Issue No.: 2

Page 1 of 3

TYPE DESIGNATION

Nomenclature for intrinsically safe probe:

RPS-409A - abc d - IS2 - efgh

I II III I IV

I – Basic Model

II – Operational Range: The maximum range of the sensor in inches is designated by abc and can be any number from 1 to 999.

III - Enclosure: Blank, enclosure and jam nut material Polyphenylene Sulfide (PPS). P, enclosure and jam nut material Polyvinyl Chloride (PVC).

IV – Additional Feature Suffixes: Can be any combination of alphanumeric characters (or blanks) that do not relate to the safety of the product (for marketing purposes only).

RPS-429A y - abc d - IS 2 - efgh

I II III IV V VI VII

I – Basic Model

RPS-429A

II – Output Type:

A, analog current output

V, analog voltage output

III – Operational Range:

1 to 999, The maximum range of the sensor in inches is designated by abc. Zeroes are not used as placeholders, so “a” and “b” will be blank when not needed.

IV - Enclosure:

P, enclosure and jam nut material Polyvinyl Chloride (PVC).

V – Protection Technique

IS

VI – Markings:

2, International and North America Markings

VII – Additional Feature Suffixes:

Can be any combination of alphanumeric characters (or blanks) for alternate configurations, as allowed by the schedule drawings.



IECEx Certificate of Conformity

Annex to Certificate No.:

IECEx UL 12.0001X

Issue No.: 2

Page 2 of 3

PARAMETERS RELATING TO THE SAFETY

Intrinsically safe specifications:

RPS-409A-abcd-IS2-efgh Entity Parameters					
Terminal Nos.	$V_{\max}$ or U_i	$I_{\max}$ or I_i	$P_{\max}$ or P_i	C_i	L_i
1,3 (Power)	30 V	100 mA	0.750 W	negligible	negligible
2,3 (Analog Output)	16 V	16 mA	0.064 W	negligible	negligible
4,3 (Sync/Tx)	16 V	16 mA	0.064 W	negligible	negligible

RPS-429AA-abcd-IS2-efgh Entity Parameters					
Terminal Nos.	$V_{\max}$ or U_i	$I_{\max}$ or I_i	$P_{\max}$ or P_i	C_i	L_i
2,3 (+)	30 V	120 mA	0.90 W	negligible	negligible
4,1 (-)					

RPS-429AV-abcd-IS2-efgh Entity Parameters					
Terminal Nos.	$V_{\max}$ or U_i	$I_{\max}$ or I_i	$P_{\max}$ or P_i	C_i	L_i
1,3 (Power)	30 V	100 mA	0.750 W	negligible	negligible
2,4 (Analog Output)	16 V	16 mA	0.064 W	negligible	negligible
Terminal Nos.	V_{oc} or U_o	I_{sc} or I_o	P_o	C_a or C_o	L_a or L_o
2,4 (Analog Output)	7.14V	5.8 mA	0.011 W	13.5 μ F	1,056 mH

INGRESS PROTECTION

The Model RPS-409A-abcd-IS2-efgh has in addition passed the tests for Ingress Protection to IP67 in accordance with IEC 60529:1991+A1:2000+A2:2013.

The Model RPS-429Ay-abcd-IS2-efgh have in addition passed the tests for Ingress Protection to IP66 and IP67 in accordance with IEC 60529:1991+A1:2000+A2:2013.



IECEx Certificate of Conformity

Annex to Certificate No.:

IECEx UL 12.0001X

Issue No.: 2

Page 3 of 3

MARKING

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

RPS-409A Series

IECEx UL 12.0001X $-40^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$ **Migatron Corp.**
Ex ia I/IIC T4 Ma/Ga Warning: See User Manual
Ex ia IIIC T101°C Da IP67 **RPS-409A-abcd-IS2-efgh**
DEMKO 12 ATEX 1103028X
 0539  I M1 [Note 1]  TCode T4
II 1 GD [Note 2] **US LISTED**
Exia 4LA1
Proc. Cont. Eq. for use in CL I, GPS A,B,C,D; CL II, GPS E,F,G; CL III hazardous
locations. Intrinsically Safe when installed per Control Dwg. No. Ex05021114

RPS-429A Series

IECEx UL 12.0001X $-40^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$ **Migatron Corp.**
Ex ia I/IIC T4 Ma/Ga Warning: See User Manual
Ex ia IIIC T101°C Da IP66/IP67 **RPS-429Ay-abcd-IS2-efgh**
DEMKO 12 ATEX 1103028X
 0539  I M1 [Note 1] Exia  TCode T4
II 1 GD [Note 2] **US LISTED**
E226209
Proc. Cont. Eq. for use in CL I, GPS A,B,C,D; CL II, GPS E,F,G; CL III hazardous
locations. Intrinsically Safe when installed per Control Dwg. No. Ex202303060