



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEX SIR 16.0091U** issue No.: **0** Certificate history:

Status: **Current**

Date of Issue: **2017-01-04** Page 1 of 3

Applicant: **Analog Devices Inc.**
804 Woburn St
Wilmington
MA, 01887
United States of America

Equipment: **ADUM144X Series Digital Isolators**
Optional accessory:

Type of Protection: **Intrinsic Safety**

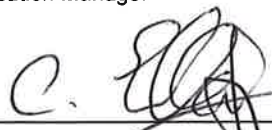
Marking: **Ex ia IIC Ga**

Approved for issue on behalf of the IECEx Certification Body: **N Jones**

Position: **Certification Manager**

Signature:
(for printed version)

PP



2017-01-04

Date:

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 the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

SIRA Certification Service
CSA Group
Unit 6, Hawarden Industrial Park
Hawarden, Deeside, CH5 3US
United Kingdom





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Manufacturer: **Analog Devices Inc.**
Gateway Business Park
Javalera
Gen. Trias Cavite
4107
Philippines

Additional Manufacturing location(s):

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 electrical apparatus 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 : 2011 Explosive atmospheres - Part 0: General requirements
Edition: 6.0

IEC 60079-11 : 2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition: 6.0

*This Certificate **does not** indicate compliance with electrical 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 Report:

[GB/SIR/ExTR16.0229/00](#)

Quality Assessment Report:

[GB/SIR/QAR16.0008/00](#)



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The ADuM144x is a Quad channel digital isolator. This assembly is intended to be used as an isolating component between separate intrinsically safe circuits. There are 6 variants available in two package options; a 16 pin QSOP package or a 20 pin SSOP package, with different dimensions and lead frames, but the same die set and isolation transformers for each. This family of devices has channel direction variants as well as differences in the logic state maintained at the active output when half of the chip does not have power applied. The differences are programmed at assembly by bond options.

The equipment assembly should be connected to suitably certified intrinsically safe circuits considering following entity parameters:

Package Type	Entity Parameters Side 1			Entity Parameters Side 2		
QSOP-16	U _i = 42 V	I _i = 275 mA	P _i = 1.3W	U _i = 42 V	I _i = 275 mA	P _i = 1.3W
	L _i = 0	C _i = 4pF		L _i = 0	C _i = 4pF	
SSOP-20	U _i = 42 V	I _i = 275 mA	P _i = 1.3W	U _i = 42 V	I _i = 275 mA	P _i = 1.3W
	L _i = 0	C _i = 4pF		L _i = 0	C _i = 4pF	

Conditions of manufacture

The Manufacturer shall comply with the following:

1. Each ADUM144X series Digital Isolator shall be supplied with a marking drawing.

Refer to Annexe for Model details and Schedule of Limitations.

SPECIFIC CONDITIONS OF USE: NO

Annexe to: IECEx SIR 16.0091U Issue 0
Applicant: Analog Devices Inc.
Apparatus: ADUM144X Series Digital Isolators



Models

Model	Package
ADuM1440ARQZ	QSOP-16
ADuM1441ARQZ	QSOP-16
ADuM1442ARQZ	QSOP-16
ADuM1445ARQZ	QSOP-16
ADuM1446ARQZ	QSOP-16
ADuM1447ARQZ	QSOP-16

Model	Package
ADuM1440ARSZ	SSOP-20
ADuM1441ARSZ	SSOP-20
ADuM1442ARSZ	SSOP-20
ADuM1445ARSZ	SSOP-20
ADuM1446ARSZ	SSOP-20
ADuM1447ARSZ	SSOP-20

Schedule of Limitations

The user/installer shall comply with the following:

- i. The components being certified comply with IEC 60079-11:2011. When one of these components will be used in an equipment, the component is to be fitted on a PCB inside a suitable enclosure and re-certified as equipment. The operating temperature range of these components is -40°C to 85°C. The creepage and clearance distances across the isolating component have been evaluated but the distances to other circuitry remain the responsibility of the user of the certified equipment.
- ii. This assembly is an isolating component between separate intrinsically safe circuits. The assembly should be connected to suitably certified intrinsically safe circuits considering following entity parameters:

Package Type	Entity Parameters Side 1	Entity Parameters Side 2
QSOP-16	Ui = 42 V Ii = 275 mA Pi = 1.3W Li = 0 Ci = 4pF	Ui = 42 V Ii = 275 mA Pi = 1.3W Li = 0 Ci = 4pF
SSOP-20	Ui = 42 V Ii = 275 mA Pi = 1.3W Li = 0 Ci = 4pF	Ui = 42 V Ii = 275 mA Pi = 1.3W Li = 0 Ci = 4pF

- iii. The components (i.e. Digital Isolators) being certified will have the following safety ratings. The temperature class will be determined based on the following table:

Package type	Maximum power Side 1 (W)	Maximum power Side 2 (W)	Maximum component temperature (°C)	Ambient Temperature (°C)
QSOP-16	1.3	1.3	189.8	85
SSOP-20	1.3	1.3	218	85