



1 **EU-TYPE EXAMINATION CERTIFICATE**

2 Component intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

3 Certificate Number: **Sira 16ATEX2265U** Issue: **4**

4 Component: **ADUM144X Series Digital Isolators**

5 Applicant: **Analog Devices Inc.**

6 Address: 804 Woburn St
Wilmington
MA, 01887
USA

7 This component and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

8 CSA Group Netherlands B.V. notified body number 2813 in accordance with Articles 17 and 21 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this component has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of a component intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential reports listed in Section 14.2.


9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

IEC EN 60079-0:2018 EN 60079-11:2012 / IEC 60079-11:2023 Ed. 7

10 The sign 'U' is placed after the certificate number to indicate that the product assessed is a component and may be subject to further assessment when incorporated into equipment. Any limitations of use are listed in the schedule to this certificate.

11 This EU-Type Examination Certificate relates only to the design and construction of the specified component. If applicable, further requirements of this Directive apply to the manufacture and supply of this component.

12 The marking of the component shall include the following:

 II 1G
Ex ia IIC Ga

Signed: M Halliwell

Title: Senior Director of Operations



Project Number 80226932

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SCHEDULE

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**Sira 16ATEX2265U
Issue 4**

13 DESCRIPTION OF COMPONENT

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	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
Alternate entity parameters for SSOP -20		
SSOP-20	Ui = 42 V Ii = 275 mA Pi = 1.0W Li = 0 Ci = 4pF	Ui = 42 V Ii = 275 mA Pi = 1.0W Li = 0 Ci = 4pF
Alternate entity parameters for QSOP -16		
QSOP-16	Ui=42V Ii=275mA Pi=1.0W Li=0 Ci=4pF	Ui=42V Ii=275mA Pi=1.0W Li=0 Ci=4pF

Models

Model	Package	Model	Package	Model	Package
ADuM1440ARQZ	QSOP-16	ADuM1442ARQZ	QSOP-16	ADuM1446ARQZ	QSOP-16
ADuM1441ARQZ	QSOP-16	ADuM1445ARQZ	QSOP-16	ADuM1447ARQZ	QSOP-16
ADuM1440ARSZ	SSOP-20	ADuM1442ARSZ	SSOP-20	ADuM1446ARSZ	SSOP-20
ADuM1441ARSZ	SSOP-20	ADuM1445ARSZ	SSOP-20	ADuM1447ARSZ	SSOP-20
AD71217ARSZ	SSOP-20				

Variation 1 - This variation introduced the following changes:

- i. Adding additional model, AD71217ARSZ, which is identical to the existing components, the model table was amended accordingly.

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- ii. Lowering the ambient temperature, which resulted in a modification to the schedule of limitation 15.1.
- iii. Following appropriate assessment to demonstrate compliance with the latest technical knowledge, EN 60079-0:2012/A11 was replaced by IEC EN 60079-0:2018.

Variation 2 - This variation introduced the following changes:

- i. Update the report for additional entity parameters and increasing maximum ambient temperature (125°C) for SSOP-20 package.
- ii. Update of product marking labels to accommodate UKCA markings.

Variation 3 - This variation introduced the following changes:

- i. Include additional set of entity parameters for ADuM144x QSOP package.
- ii. Update to IEC 60079-11:2023

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Reports and Certificate History

Issue	Date	Report number	Comment
0	04 January 2017	R70089923A	The release of the prime certificate.
1	21 August 2019	R80006942A	The introduction of Variation 1.
2	15 October 2019	1068	Transfer of certificate Sira 16ATEX2265U from Sira Certification Service to CSA Group Netherlands B.V..
3	22 March 2023	R80146538A	The introduction of Variation 2.
4	30 January 2025	R80226931A	The introduction of Variation 3.

15 SCHEDULE OF LIMITATIONS

- 15.1 The components being certified comply with EN 60079-11:2012 and IEC 60079-11:2023. 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 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.
- 15.2 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	Max. operating range
QSOP-16	$U_i = 42 \text{ V}$ $I_i = 275 \text{ mA}$ $P_i = 1.3\text{W}$ $L_i = 0$ $C_i = 4\text{pF}$	$U_i = 42 \text{ V}$ $I_i = 275 \text{ mA}$ $P_i = 1.3\text{W}$ $L_i = 0$ $C_i = 4\text{pF}$	-55°C to 85°C
SSOP-20	$U_i = 42 \text{ V}$ $I_i = 275 \text{ mA}$ $P_i = 1.3\text{W}$	$U_i = 42 \text{ V}$ $I_i = 275 \text{ mA}$ $P_i = 1.3\text{W}$	-55°C to 85°C

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Package Type	Entity Parameters Side 1	Entity Parameters Side 2	Max. operating range
	Li = 0 Ci = 4pF	Li = 0 Ci = 4pF	
Alternate entity parameters for SSOP -20			
SSOP-20	Ui = 42 V Ii = 275 mA Pi = 1.0W Li = 0 Ci = 4pF	Ui = 42 V Ii = 275 mA Pi = 1.0W Li = 0 Ci = 4pF	-55°C to 125°C
Alternate entity parameters for QSOP -16			
QSOP-16	Ui=42V Ii=275mA Pi=1.0W Li=0 Ci=4pF	Ui=42V Ii=275mA Pi=1.0W Li=0 Ci=4pF	-55°C to 125°C

15.3 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
SSOP-20(for alternate parameter)	1.0	1.0	200	125
QSOP-16 (for alternate parameters)	1.0	1.0	214.3	125

16 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in the reports listed in Section 14.2.

17 CONDITIONS OF MANUFACTURE

- 17.1 The use of this certificate is subject to the Regulations Applicable to Holders of CSA Group Netherlands B.V. certificates.
- 17.2 Holders of EU-Type Examination Certificates are required to comply with the conformity to type requirements defined in Article 13 of Directive 2014/34/EU.
- 17.3 Each ADUM144X series Digital Isolator shall be supplied with a marking drawing.