



1 **EU-TYPE EXAMINATION CERTIFICATE**

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

3 Certificate Number: **Sira 15ATEX2343U** Issue: **0**

4 Component: **X24-xAyz Telemetry Transmitter Module OEM**

5 Applicant: **Mantracourt Electronics Ltd**

6 Address: The Drive
Farringdon
Exeter
Devon EX5 2JB
UK

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

8 Sira Certification Service, notified body number 0518 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:

EN 60079-0:2012/A11:2013 EN 60079-11:2012

The above list of documents may detail standards that do not appear on the UKAS Scope of Accreditation, but have been added through Sira's flexible scope of accreditation, which is available on request.

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:



I M2
Ex ib I



II 2GD
Ex ib IIC Gb
Ex ib IIIC T135°C Db
Ta = -20°C to +50°C

Project Number 70028152


N Jones
Certification Manager

This certificate and its schedules may only be reproduced in its entirety and without change.

Sira Certification Service

Unit 6, Hawarden Industrial Park,
Hawarden, CH5 3US, United Kingdom



SCHEDULE

EU-TYPE EXAMINATION CERTIFICATE

Sira 15ATEX2343U
Issue 0

13 DESCRIPTION OF COMPONENT

The X24-xAyz is a component certified data acquisition and transmission module comprised of a data acquisition printed circuit board, a radio transmission printed circuit board and a connectivity circuit board for supply and sensor inputs. The radio circuit board contains radio data transmission circuits and an antenna connector. The radio circuit board has two component fit options for an internal or external antenna.

The character x denotes the data acquisition type (E.g. strain, pulse, voltage, etc.)

The character y denotes an optional firmware version. When this character is unused, the type format is X24-xAz

The character z denotes the antenna type (e= external, i=integrated)

The equipment has the following entity parameters:

	Supply parameters			Sensor connector parameters
	Groups I, IIC, IIIC			Groups I, IIC, IIIC
Ui	3.66V		Uo	5.5V
Ii	340mA		Io	2.25A
Pi	1.244W		Po	1.25W
Ci	43µF		Co	15µF
Li	5.64µH		Lo	1.38µH

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Sira Reports and Certificate History

Issue	Date	Report number	Comment
0	08 August 2016	R70028152A	The release of the prime certificate.

15 SCHEDULE OF LIMITATIONS

- 15.1 When installed in a hazardous or non-hazardous area, the equipment shall be installed in a suitably-certified enclosure.
- 15.2 A minimum ingress protection of IP54 is required for use in Group I equipment.
- 15.3 A minimum ingress protection of IP20 is required for use in Group II equipment.
- 15.4 A minimum ingress protection of IP5x is required for use in Group III equipment.
- 15.5 When installed in a non-hazardous area, the equipment may alternatively be installed in a controlled environment that provides equivalent protection. The installer shall ensure that the maximum ambient temperature of the equipment when installed is not exceeded.

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Sira Certification Service

Unit 6, Hawarden Industrial Park,
Hawarden, CH5 3US, United Kingdom

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Web: www.csagroupuk.org



SCHEDULE

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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 Sira 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 The resistance of fuse F1 must be not less than 0.517Ω at -20°C

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Certificate Annexe



Certificate Number: **Sira 15ATEX2343U**
Component: **X24-xAyz Telemetry Transmitter Module
OEM**
Applicant: **Mantracourt Electronics Ltd**

Issue 0

Drawing no.	Sheets	Rev	Date (Sira stamp)	Description
RAD24-ATEX-PCB	1 of 1	1	07 Jun 16	RAD24+ pcb layout
RAD24-ATEX-SCH	1 of 1	4	07 Jun 16	RA24 2.4GHz radio schematic
X24-xAyz-GAD	1 of 1	1	07 Jun 16	X24-xAyz General assembly.
X24-xAyz-ATEX-SCH	1 of 1	7	07 Jun 16	X24-xAyz connectivity module schematic
X24-xAyz-ATEX-PCB	1 of 1	3	07 Jun 16	X24-xAyz connectivity PCB details
T24-SASUB-ATEX-SCH-1	1 of 1	3	29 Jun 16	T24-SASUB digital schematic
T24-SASUB-ATEX-SCH-2	1 of 1	2	07 Jun 16	T24-SASUB analogue schematic
X24-SAyz-ATEX-POT	1 of 1	3	07 Jun 16	X24-SAyz Acquisition module potting
X24-xAyz-ATEX-LAB	1 of 1	6	12 Jul 16	X24-xAyz label
X24-xAyz-ATEX-POT	1 of 1	3	07 Jun 16	X24-xAyz-ATEX-POT, Connectivity module potting

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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 15.0123U** issue No.: **0** Certificate history:

Status: **Current**

Date of Issue: **2016-08-08** Page 1 of 4

Applicant: **Mantracourt Electronics Ltd**
The Drive
Farringdon
Exeter
Devon EX5 2JB
United Kingdom

Equipment: **X24-xAyz Telemetry Transmitter Module OEM**
Optional accessory:

Type of Protection: **Intrinsically Safe**

Marking: Ex ib I
Ex ib IIC Gb
Ex ib IIIC T135°C Db
Ta = -20°C to +50°C

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

Position: **R.A. CLARKE**
Certification Manager

Signature:
(for printed version)

Date:

2016-08-08

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

sira
CERTIFICATION





IECEX Certificate of Conformity

Certificate No.: IECEx SIR 15.0123U

Date of Issue: **2016-08-08**

Issue No.: **0**

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Manufacturer: **Mantracourt Electronics Ltd**
The Drive
Farringdon
Exeter
Devon EX5 2JB
United Kingdom

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/ExTR16.0179/00](#)

Quality Assessment Report:
[GB/EMT/QAR16.0002/00](#)



IECEX Certificate of Conformity

Certificate No.: IECEx SIR 15.0123U

Date of Issue: 2016-08-08

Issue No.: 0

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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The X24-xAyz is a component certified data acquisition and transmission module comprised of a data acquisition printed circuit board, a radio transmission printed circuit board and a connectivity circuit board for supply and sensor inputs. The radio circuit board contains radio data transmission circuits and an antenna connector. The radio circuit board has two component fit options for an internal or external antenna.

The character x denotes the data acquisition type (E.g. strain, pulse, voltage, etc.)

The character y denotes an optional firmware version. When this character is unused, the type format is X24-xAz

The character z denotes the antenna type (e= external, i=integrated)

The equipment has the following entity parameters:

Supply parameters				
Groups I, IIC, IIIC				
Ui = 3.66V	Ii = 340mA	Pi = 1.244W	Ci = 43µF	Li = 5.64µH
Sensor connector parameters				
Groups I, IIC, IIIC				
Uo = 5.5V	Io = 2.25A	Po = 1.25W	Co = 15µF	Lo = 1.38µH

CONDITIONS OF CERTIFICATION: NO



IECEX Certificate of Conformity

Certificate No.: IECEx SIR 15.0123U

Date of Issue: **2016-08-08**

Issue No.: 0

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EQUIPMENT(continued):

Schedule of Limitations

1. When installed in a hazardous or non-hazardous area, the equipment shall be installed in a suitably-certified enclosure.
2. A minimum ingress protection of IP54 is required for use in Group I equipment.
3. A minimum ingress protection of IP20 is required for use in Group II equipment.
4. A minimum ingress protection of IP5x is required for use in Group III equipment.
5. When installed in a non-hazardous area, the equipment may alternatively be installed in a controlled environment that provides equivalent protection. The installer shall ensure that the maximum ambient temperature of the equipment when installed is not exceeded.

Conditions of manufacture

The Manufacturer shall comply with the following:

1. The resistance of fuse F1 must be not less than 0.517Ω at -20°C