



# 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](http://www.iecex.com)

Certificate No.: IECEx SIR 09.0018

Issue No: 1

Certificate history:

Status: **Current**

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Issue No. 6 (2012-08-30)

Issue No. 5 (2012-06-14)

Issue No. 4 (2011-10-13)

Issue No. 3 (2010-07-27)

Issue No. 2 (2009-09-10)

Issue No. 1 (2009-08-11)

Issue No. 0 (2009-06-29)

Date of Issue: **2009-08-11**

Applicant: **Newson Gale Limited**  
Omega House  
Private Road 8  
Colwick  
Nottingham NG4 2JX  
**United Kingdom**

Electrical Apparatus: **Earth-Rite II**  
*Optional accessory:*

Type of Protection: **Intrinsic Safety**

Marking: Ex d[ia] IIC T6 Gb(Ga)  
Ex tb IIIC T80°C IP66 Db  
Ta = -40°C to +55°C

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

C Ellaby

*Position:*

Certification Officer

*Signature:  
(for printed version)*

*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**  
Rake Lane  
Eccleston  
Chester  
CH4 9JN  
United Kingdom

**sira**  
CERTIFICATION



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Manufacturer: **Newson Gale Limited**  
Omega House  
Private Road 8  
Colwick  
Nottingham NG4 2JX  
**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:

<b>IEC 60079-0 : 2004</b> Edition:4.0	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
<b>IEC 60079-0 : 2007-10</b> Edition:5	Explosive atmospheres - Part 0:Equipment - General requirements
<b>IEC 60079-1 : 2003</b> Edition: 5	Electrical apparatus for explosive gas atmospheres - Part 1: Flameproof enclosure 'd'
<b>IEC 60079-11 : 2006</b> Edition:5	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
<b>IEC 61241-0 : 2004</b> Edition:1	Electrical apparatus for use in the presence of combustible dust - Part 0: General requirements
<b>IEC 61241-1 : 2004</b> Edition:1	Electrical apparatus for use in the presence of combustible dust - Part 1: Protection by enclosures "tD"

*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/ExTR09.0080/00](#)

[GB/SIR/ExTR09.0118/00](#)

Quality Assessment Report:

[GB/SIR/QAR07.0044/01](#)



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## Schedule

### EQUIPMENT:

*Equipment and systems covered by this certificate are as follows:*

The Earth-Rite II is an intrinsically safe associated apparatus that provides an isolated intrinsically safe output for connection to earth monitoring equipment in the hazardous area.

The Earth-Rite II consists of two printed circuit boards, mounted inside an IP66 flameproof enclosure:

- power supply board (a.c. for connection to a mains supply) – this converts a non-intrinsically safe supply into an intrinsically safe output to the monitoring board.
- a monitoring unit board (either single mode or tri-mode), mounted above the power supply board – this receives an intrinsically safe input from the power supply board and provides an intrinsically safe output for connection to an earth bar and a clamp.

See EQUIPMENT (continued) for safety description and Conditions of Manufacture.

**CONDITIONS OF CERTIFICATION: NO**



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## EQUIPMENT (continued):

The maximum input voltage depends on the version

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Mains version 125 Vac *or* 250 Vac depending on the terminals used – refer to manual

Battery version 30 Vdc

The single mode version provides resistive-only monitoring. The tri-mode version provides capacitive and resistive monitoring. The safety description at the intrinsically safe output of the ER II depends on the version.

### Tri-mode IS output at PL3/PL4 combined

Uo	=	8.61 V
Io	=	0.060 A
Po	=	0.129 W
Co	=	1.0 $\mu$ F
Lo	=	9868 $\mu$ H

### Single mode IS output at PL3/PL4 combined

Uo	=	8.61 V
Io	=	0.041 A
Po	=	0.088W
Co	=	0.361 $\mu$ F
Lo	=	21139 $\mu$ H

The Manufacturer shall comply with the following conditions of manufacture:

1. The Earth-Rite II covered by this certificate incorporate previously certified devices, it is therefore the responsibility of the manufacturer to continually monitor the status of the certification associated with these devices, and the manufacturer shall inform Sira of any modifications of the devices that may impinge upon the explosion safety design of the Earth-Rite II.
2. The following test shall be performed on 100% of transformers fitted to the a.c. power supply. Each transformer shall be dielectric strength tested in accordance with IEC 60079-11:2006 clause 11.2 as follows: 1500 Vac shall be applied between the primary and secondary windings for a minimum of 60 s. The maximum current shall not exceed 5 mA and there shall be no evidence of insulation breakdown. Alternatively, the test may be performed at 1800 Vac for a minimum of 1 s.



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## DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

**Issue 1** – this Issue introduced the following changes:

- |   |  |
|---|--|
| 1 | The introduction of a d.c. power supply board as an alternative to the a.c. power supply board, the description was modified to recognise this version. (NOTE: the report assessing this Variation includes assessments that are corrections of the previous report, therefore, report no. R52L20488A effectively replaces report no. R52A18849A.) |
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