



1 **EC TYPE-EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 94/9/EC

3 Certificate Number: **Sira 15ATEX2259X** Issue: **0**

4 Equipment: **Earth-Rite Multipoint II Static Earthing System**

5 Applicant: **Newson Gale Ltd**

6 Address: Omega House
Private Road 8
Colwick
Nottingham, NG4 2JX
England

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

8 Sira Certification Service, notified body number 0518 in accordance with Article 9 of Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment 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 EN 60079-11:2012 EN 60079-15:2010 EN 60079-31:2014

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 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

11 This EC type-examination certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

12 The marking of the equipment shall include the following:

Monitoring Unit



II 1GD
Ex ia IIC T4 Ga
Ex ia IIIC T135°C Da
Ta = -40°C to +60°C

Power Supply Unit



II 3(1)G
II 2D
Ex nA[ia Ga] nC IIC T4 Gc
Ex tb IIIC T65°C Db
Ta = -40°C to +60°C

Project Number 70005380

C Ellaby
Deputy Certification Manager

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Sira Certification Service

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



SCHEDULE

EC TYPE-EXAMINATION CERTIFICATE

**Sira 15ATEX2259X
Issue 0**

13 DESCRIPTION OF EQUIPMENT

The Earth-Rite Multipoint II Static Earthing system comprises the following modules and the associated interconnecting cables and clamps:

- Power Supply Unit (PSU), certified Ex nA[ia Ga] nC IIC T4 Gc, Ex tb IIIC T65°C, Db
- Monitoring Unit (MU) with status indication, certified Ex ia IIC T4 Ga, Ex ia IIIC T135°C Da

The outputs from the Monitoring Unit are connected to a combination of static grounding clamps, junction boxes, indicator junction boxes, marshalling boxes and static earth dissipating points. The system monitors the resistance to earth of up to 8 channels. Each channel provides a pass/fail output to the PSU via the "CAN" transceiver from the Monitoring Unit and used to drive status relays. The status of each channel is indicated by the illumination of either a green or a red LED on the Monitoring Unit.

The mains power supply is connected to the PSU, which is located in the non-hazardous area or in a Zone 2, Zone 21 or Zone 22. The PSU provides an intrinsically safe output to the Monitoring Unit and the rest of the system which is located in Zone 0/1/2 and Zone 20/21/22.

Power supply unit (PSU)

Input: 100-230 Vac, 50/60 Hz, Um = 250 V

Outputs:

- ten non-intrinsically safe output to relays and the micro and fail-safe pump circuits
- one intrinsically safe output on a CANbus data link via a 4-core cable with the following entity parameters:

$U_o = 11.76 \text{ V}$ $I_o = 0.413 \text{ A}$ $P_o = 0.904 \text{ W}$ $C_i = 0$ $L_i = 0$

The external capacitance, inductance and inductance/resistance ratio are as follows:

Gas Group	IIC	IIB	IIA
Co	1.5 µF	9.9 µF	39 µF
Lo	208 µH	833 µH	1667 µH
Lo/Ro	29.1 µH/Ω	117 µH/Ω	234 µH/Ω

The PSU comprises a circuit board, housed in a GRP or a stainless steel enclosure.

The PSU generates two supplies: a +5V I.S. supply which feeds the Monitoring Unit and the CAN transceiver on the PSU board; the second non I.S. supply drives relays, micro and fail safe pump circuit.

Monitoring Unit

The Monitoring Unit is powered from the Multipoint II PSU. It has eight outputs via Channels 1 to 8. The electronics in the monitoring board are mounted on a PCB, which is housed in a stainless steel enclosure.

Input from the MPII PSU (Intrinsically safe)

$U_i = 11.76 \text{ V}$ $I_i = 0.413 \text{ A}$ $P_i = 0.904 \text{ W}$ $C_i = 1.3 \text{ µF}$ $L_i = 0$



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Sira 15ATEX2259X
Issue 0

Combined output through Channels 1- 8 – Intrinsically safe

$U_o = 11.76\text{ V}$ $I_o = 0.170\text{ A}$ $P_o = 500\text{ mW}$ $C_i = 0$ $L_i = 208\mu\text{H}$

Gas Groups	IIC	IIB	IIA
Co	1.5 μF	9.9 μF	39 μF
Lo	1022 μH	4088 μH	8175 μH
Lo/Ro	68 $\mu\text{H}/\Omega$	272 $\mu\text{H}/\Omega$	544 $\mu\text{H}/\Omega$

Channels 1 to 8 are intrinsically safe in combination, so need not be installed as separate intrinsically safe circuits.

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Sira Reports and Certificate History

Issue	Date	Report no.	Comment
0	14 January 2016	R70005380A R70005380B	The release of the prime certificate.

15 SPECIAL CONDITIONS FOR SAFE USE (denoted by X after the certificate number)

15.1 The system shall be installed as per the control drawing 'X MPII Q15151

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 CERTIFICATION

17.1 The use of this certificate is subject to the Regulations Applicable to Holders of Sira Certificates.

17.2 Holders of EC type-examination certificates are required to comply with the production control requirements defined in Article 8 of directive 94/9/EC.

17.3 The system incorporates previously certified enclosures. It is therefore the responsibility of the manufacturer to continually monitor the status of the certification associated with this device, and the manufacturer shall inform SIRA of any modifications of the device that may impinge upon the explosion safety design of the product.

Certificates	Enclosure
PTB 00 ATEX 1101U	Phoenix Mecano Rose Type 34 stainless steel enclosure
PTB 01 ATEX 1061U	Phoenix Mecano Rose Type 26 GRP enclosure

17.4 The following test shall be performed on 100% of transformers. Each transformer shall be dielectric strength tested in accordance with EN 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.

17.5 The manufacturer shall supply a copy of the control drawing with every unit placed on the market. This may be a discrete document or part of the user instruction manual.

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Sira Certification Service

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Certificate Annexe



Certificate Number: Sira 15ATEX2259X
Equipment: Earth-Rite Multipoint II Static Earthing System
Applicant: Newson Gale Ltd

Issue 0

Drawing no.	Sheets	Rev.	Date (Sira stamp)	Title
AA0211-PLC	1 to 3	R3C	12-Oct-15	MU BOM
AA0211R3C-CERT	1 of 1	C	12-Oct-15	MU Schematic
AA0211R3C-PCB	1 to 4	C	14-Oct-15	MU board layout
AA0220R4A-CERT	1 of 1	A	12-Oct-15	PSU Schematic
AA0220R4A-PCB	1 to 3	A	14-Oct-15	PSU board layout
AA0220R4A-PLC	1 to 3	R4A	12-Oct-15	PSU BOM
X GA MPII GRP PSU	1 of 1	1	12-Oct-15	GA PSU GRP enclosure
X GA MPII Mon	1 of 1	1	12-Oct-15	GA MU
X GA MPII SS PSU	1 of 1	2	12-Oct-15	GA PSU SS enclosure
X MPII MB LAB AI	1 of 1	2	20-Oct-15	Marking Marshalling Box
X MPII MON LAB AI	1 of 1	4	20-Oct-15	Marking MU
X MPII PSU LAB AI	1 of 1	3	09-Nov-15	Markings PSU
X MPII Q15151	1 to 2	3	20-Oct-15	MPII Control Drawing
X MPII RIS LAB AI	1 of 1	2	09-Nov-15	Marking Remote Indicator Station

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