1 **UNITED KINGDOM CONFORMITY ASSESSMENT**

UK TYPE EXAMINATION CERTIFICATE

2 **Product Intended for use in Potentially Explosive Atmospheres**
UKSI 2016:1107 (as amended by UKSI 2019:696) – Schedule 3A, Part 1

3 Type Examination Certificate Number: **ExVeritas 21UKEX0838X** Issue: **0**

4 Product: Earth-Rite OMEGA II Static Earthing Unit

5 Manufacturer: Newson Gale Limited

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

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

8 ExVeritas Limited Approved Body number 2585, in accordance with Regulation 42 of the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016, UKSI 2016:1107 (as amended by UKSI 2019:696), certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Schedule 1 of the Regulations.

9 Compliance with the applicable Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0:2018 EN 60079-11:2012

Except in respect of those requirements listed at section 16 of the schedule to this certificate.

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 TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Regulations apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12 The marking of the equipment shall include the following:

II(1)G [Ex ia Ga] IIC
II(1)D [Ex ia Da] IIIC
Ta = -40°C to +60°C

UKAS PRODUCT CERTIFICATION
No. 8613

On behalf of ExVeritas

S Clarke CEng MSc FIET
Managing Director

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13 Description of Product

The Earth-Rite OMEGA II Static Earthing Unit ("OMEGA II") is associated apparatus for installation in a non-hazardous area only. The intrinsically safe output functions as a static earth monitoring system in the hazardous area. It relies on an isolating transformer and an opto-isolator to provide an isolated, intrinsically safe output. The equipment is housed in a DIN-rail mounted polycarbonate enclosure that is intended to be installed in a location that provides suitable protection against moisture and dust.

The equipment monitors the resistance between the object to be earthed and the earth connection point. If the resistance exceeds one of the four user-programmed values, then a relay changes state.
For the supply, the maximum input voltage under fault conditions (Um) = 250 Vac, but the nominal input voltage is in the range 18-30 Vdc.

The contact input is rated 250 Vac / 5 A / 500 VA; 30 Vdc / 2 A / 60 W.

The OMEGA II is intended for connection to simple apparatus only in the hazardous area, typically comprising a permanent connection to an earth bar and also connections to the object to be earthed and the local earth connection point. The following entity parameters apply to the intrinsically safe output terminals C1 and C2, with respect to G1 and G2:

Uo = 8.61 V Io = 112 mA Po = 241 mW Co = 600 nF Lo = 1 mH

The OMEGA II is marked [Ex ia Da] IIIC because the intrinsically safe output has current and power limits that are non-incendive for flammable dusts, thus, the clamps in a zone 20, 21 or 22 hazardous area (supplied from the OMEGA II) are suitable for total immersion in any flammable dust with a layer ignition temperature of not less than 210ºC

14 Descriptive Documents

14.1 Associated Report and Certificate History:

Report Number	Cert Issue Date	Issue	Comment
R3140/B/1	2022-04-29	0	Initial issue of the Prime Certificate

14.2 Compliance Drawings:

Issue 0

Number	Issue	Description	Date
BE010-0-01 R1C	C	DC Power Transformer	13/04/2010
OMEGA II GA	3	Omega II Static Earth Monitoring Relay	29/07/2013
Omega II LAB 001 UKCA	AB	UKCA CERTIFICATION DETAIL EARTH-RITE OMEGA II MONITORING UNIT	14/10/21
AA0214-CERT	R4A	Omega II	14/09/2015
AA0214-PLC	R4A	Certified Parts List	14/09/2015

15 Specific Conditions of Use

15.1 Special Conditions for Safe Use

1. The OMEGA II is associated apparatus intended for installation in a non-hazardous area. The device shall be installed in a location or an external enclosure that provides an ingress protection of at least IP54. The installer shall ensure that the relevant installation requirements of EN 60079-14 are met, including (but not limited to) the following separations between the OMEGA II and other terminals and conductors:
   - 6 mm clearance between the intrinsically safe terminals and those of another intrinsically safe circuit
   - 3 mm clearance between the intrinsically safe terminals and any earthed metal

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- 50 mm between the intrinsically safe terminals of the OMEGA II and the non-intrinsically safe terminals of other equipment; a suitable partition may be used to provide this separation, particularly when DIN-rail mounted.

2. Equipment in the hazardous area (such as earthing clamps) that are connected to the OMEGA II shall not be used in the presence of flammable dusts with a layer auto-ignition temperature below 210ºC.

15.2 Routine tests

1. The following test shall be performed on 100% of transformers. Each transformer shall be dielectric strength tested in accordance with EN 60079-11:2012 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.

16 Essential Health and Safety Requirements (Regulations Schedule 1)

Essential Health and Safety Requirements are addressed by the standards listed in section 9 and where required the report listed in section 14.1

The manufacturer shall inform ExVeritas of any modifications to the design of the product described by this schedule.

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