



# IECEX Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: **IECEX EXV 19.0052** Page 1 of 4 [Certificate history:](#)  
Status: **Current** Issue No: 1 [Issue 0 \(2019-11-22\)](#)  
Date of Issue: 2022-12-13  
Applicant: **Newson Gale Limited**  
Omega House  
Private Road 8  
Colwick  
Nottingham NG4 2JX  
**United Kingdom**  
Equipment: **Earth-Rite II Exd**  
Optional accessory:  
Type of Protection: **Intrinsic Safety, Flameproof, Protection by Enclosure**  
Marking: Ex db [ia Ga] IIC T6 Gb  
Ex tb [ia Da] IIIC T80°C Db  
Ta = -40°C to +55°C

Approved for issue on behalf of the IECEx  
Certification Body:

**Sean Clarke CEng MSc FIET**

Position:

**Certification Manager**

Signature:  
(for printed version)

Date:  
(for printed version)

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Certificate issued by:

**ExVeritas Limited**  
Units 16-18 Abenbury Way  
Wrexham Ind. Est.  
Wrexham LL 139UZ  
**United Kingdom**





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**United Kingdom**

Manufacturing locations: **Newson Gale Limited**  
Omega House  
Private Road 8  
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**United Kingdom**

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 equipment 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 60079-0:2017](#) Explosive atmospheres - Part 0: Equipment - General requirements  
Edition:7.0

[IEC 60079-1:2014-06](#) Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"  
Edition:7.0

[IEC 60079-11:2011](#) Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"  
Edition:6.0

[IEC 60079-31:2013](#) Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"  
Edition:2

This Certificate **does not** indicate compliance with 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 Reports:

[GB/EXV/ExTR19.0060/00](#)

[GB/EXV/ExTR22.0012/00](#)

Quality Assessment Report:

[GB/EXV/QAR19.0009/04](#)



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## **EQUIPMENT:**

Equipment and systems covered by this Certificate are as follows:

The Earth-Rite ER II Earth Monitoring Unit is intrinsically safe associated apparatus that provides an isolated intrinsically safe output for connection to earth monitoring equipment in the hazardous area. There are seven Earth-Rite ER II models:

- RTRMEA (a.c. supply, tri-mode version)
- PLUSMEA (a.c. supply, single-mode version)
- FIBCMEA (a.c. supply, single-mode version)
- RTRMED (d.c. supply, tri-mode version)
- PLUSMED (d.c. supply, single-mode version)
- FIBCMED (d.c. supply, single-mode version)
- MGVMED (d.c. supply, tri-mode version)

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

- A power supply board, this converts a non-intrinsically safe supply into an isolated intrinsically safe output to the monitoring board and may be a.c. input (xxxxMEA models) for connection to a mains supply or d.c. input (xxxxMED models) for connection to a nominally 12-30 Vdc supply, which may be mains-derived or from a vehicle battery.
- 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.
- An additional optional Intrinsically Safe switching PCB may also be fitted in between the power supply PCB and the monitoring PCB which can provide the facility to switch an external intrinsically safe circuit.

The equipment has been separately tested against the requirements of IEC 60529 and it meets IP66

Refer to the Annexe for Additional information.

**SPECIFIC CONDITIONS OF USE: NO**



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

1. To introduce substitution of some safety critical components.
2. The Ex marking code has been amended to reflect correctness to the latest applicable standards.

### **Annex:**

[IECEX EXV 19.0052 Annex Issue 1.pdf](#)

**Description Continued:**

For all versions,  $U_m = 250$  V ac or dc. The models have the following safety descriptions:

RTRMEx & MGVMED models		PLUSMEx models	FIBCMEx models
Tri-mode IS output at PL3/PL4	Tri-mode IS output at PL2	Single mode IS output at PL3/PL4	Single mode IS output at PL3/PL4
$U_o = 8.61$ V $I_o = 60$ mA $P_o = 129$ mW $C_o = 1.0$ $\mu$ F $L_o = 9.8$ mH	Simple apparatus only	$U_o = 8.61$ V $I_o = 41$ mA $P_o = 88$ mW $C_o = 0.361$ $\mu$ F $L_o = 21$ mH	$U_o = 8.61$ V $I_o = 0.87$ mA $P_o = 8$ mW $C_o = 5.9$ $\mu$ F $L_o = 46$ H

For all models, intrinsic safety is maintained if the cable connected to any intrinsically safe output terminal does not exceed 100m.

Optional Intrinsically Safe switching PCB which is used to switch an external intrinsically safe circuits or signals with the following I.S parameters:

Optional IS Switching PCB Terminal PL1
$U_i = 30$ V $I_i = 500$ mA $C_i = 0$ $L_i = 0$

**Routine Tests:**

- 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.

**Manufacturer's documents:**

Drawing No.:	Date:	Rev.	Title:
AA0190R3A-CERT	25/03/2010	A	ERII PSU AC Board
AA0190R3ACB-CERT	25/03/2010	A	ERII AC Supply PCB Layout
AA0190R3ACT-CERT	25/03/2010	A	ERII AC Supply PCB Layout
AA0190R3ASS-CERT	25/03/2010	A	ERII AC Supply PCB Layout
AA0190R3B-PLC	10/11/2021	B	*ERII PSU AC Certified Parts List
BE008-0-01 R3	08/04/2010	B	Transformer Details
AA0189-CERT	15/09/2015	R2A	ERII DC PSU
AA0189-PLC	14/02/2022	R2C	*ERII DC PSU Certified Parts List
BE010-0-01 R1C	13/04/2010	C	Transformer Details DC Power Transformer
AA0195R1B-CERT	18/03/2010	B	ERII CR Monitor Board Circuit
AA0195R1BCB-CERT	18/03/2010	A	ERII CR Monitor Board PCB Layout
AA0195R1BCT-CERT	18/03/2010	A	ERII CR Monitor Board PCB Layout
AA0195R1BSS-CERT	18/03/2010	A	RTR II CR Monitor Board PCB Layout
AA0195R1D-PLC	14/02/2022	D	*RTR II CR Monitor Board Certified Parts List
AA0194R1B-CERT	18/03/2010	B	ERII R Monitor Circuit
AA0194R1BCB-CERT	18/03/2010	B	RTR II R Monitor Board PCB Layout
AA0194R1BCT-CERT	18/03/2010	B	RTR II R Monitor Board PCB Layout
AA0194R1BSS-CERT	18/03/2010	B	RTR II R Monitor Board PCB Layout
AA0194R1B-PLC	11/01/2010	B	RTR II R Monitor Board Certified Parts List

ERII-Q-09246-2 AI	10/10/2019	5	Earth-Rite II - Ex d RTR, PLUS and FIBC - Control Drawing
ERII-Q-02939-2 AI	10/10/2019	10	Earth-Rite II – Ex d - DC – Control Drawing
AA0206R3A-CERT	29/07/2011	A	FIBC II Monitor Circuit
AA0206R3A-CB-CERT	29/07/2011	A	FIBC II Board PCB Layout
AA0206R3A-CT-CERT	29/07/2011	A	FIBC II Board PCB Layout
AA0206R3A-SS-CERT	29/07/2011	A	FIBC II Board PCB Layout
AA0206R3A-PLC	01/09/2011	A	FIBC II Monitor Board Certified Parts List
ER II LAB 003	30/11/2022	AO	*CERTIFICATION DETAIL ER II MONITOR PSU UNIT EXD
AA0243-CERT-PCB	17/09/2018	R5A	ER II I.S. Switching PCB Layout
AA0243-PLC-ERII ISS	17/09/2018	R5A	ER II I.S. Switching PCB Certified Parts List
AA0243-SCH-CERT	17/09/2018	R5A	ER II I.S. Switching
ERII GA 003	01/10/2018	8	Exd Version of ERII Monitor PSU Unit

*Note: An \* is included before the title of documents that are new or revised.*