1 EU - Type Examination Certificate

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

3 Certificate Number: ExVeritas 19ATEX0545X Issue: 1

4 Equipment: Earth-Rite II P1 Static Earthing System

5 Manufacturer: Newson Gale Limited

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

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

8 ExVeritas, Notified Body number 2804 in accordance with Article 17 of the Council Directive 2014/34/EU of 26 February 2014, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to design and construction of equipment and protective systems for use in potentially explosive atmospheres given in Annex II to the Directive

9 Compliance with the applicable Essential Health and Safety Requirements has been assured by compliance with the following Standards and section 16 of this certificate:

EN IEC 60079-0: 2018	EN 60079-7:2018	EN60079-11:2012
EN 60079-31:2014	EN 60079-15:2010	

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 EU-Type Examination Certificate relates only to the design, construction, examination and tests of the specified equipment or protective system in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

12 The marking of the equipment shall include the following:

II 3(1) G Ex ec nC [ia] IIC T4 Gc(Ga)
II 2 D Ex tb IIIC T70°C Db Ta = -40°C to +55°C

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On behalf of ExVeritas

Peter Lauritzen
Managing Director

13 Description of Equipment or Protective System

The Earth-Rite ER II P1 Static Earthing System is intrinsically safe associated apparatus that provides an intrinsically safe output for connection to earth monitoring equipment in the hazardous area. The ER II consists of two printed circuit boards, mounted inside an IP66 GRP 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 (xxxxP1EA models) for connection to a mains supply or d.c. input (xxxxP1ED 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.

There are seven versions of the equipment:

Product code	**Mounting**	**Power supply board**	**Monitoring unit board**
PLUSP1EA	terrestrial	a.c.	single mode
PLUSP1ED	mobile or terrestrial	d.c.	single mode
RTRP1EA	terrestrial	a.c.	tri mode
MGVP1ED	mobile	d.c.	tri mode
RTRP1ED	terrestrial	d.c.	tri mode
FIBCP1EA	terrestrial	a.c.	single mode
FIBCP1ED	terrestrial	d.c.	single mode

The installation must be in accordance with the relevant control drawing ERII-Q-10174 AI. The maximum input voltage (Um) is 250 V for all versions. 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:

RTRP1EA, RTRP1ED & MGVP1ED models		PLUSP1EA & PLUSP1ED models	FIBCP1EA & FIBCP1ED 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
Uo = 8.61 V Io = 60 mA Po = 129 mW Co = 1.0 µF Lo = 9.8 mH	Simple apparatus only	Uo = 8.61 V Io = 41 mA Po = 88 mW Co = 0.361 µF Lo = 21 mH	Uo = 8.61 V Io = 0.87 mA Po = 8 mW Co = 5.9 µF Lo = 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
Ui = 30V Ii = 500mA Ci = 0 Li = 0

13.1 Details of Change

The following changes are introduced in issue 1 of the certificate:

- Transfer of the certificate from ExVeritas UK, Notified Body number 2585 to ExVeritas Denmark, Notified Body number 2804. Certificate number remains unchanged.

14 Descriptive Documents

14.1 Associated Report and Certificate History:

Report Number	Cert Issue Date	Issue	Comment
R2249/A/2	15/11/2019	0	Initial issue of the Prime Certificate
EXV3140A	12/01/2021	1	Issue of the first variation, see section 13.1.

14.2 Compliance Drawings:

Issue 0

Title:	Drawing No.:	Rev. Level:	Date:
ERII PSU AC Board	AA0190R3A-CERT	A	25/03/2010
ERII AC Supply PCB Layout	AA0190R3ACB-CERT	A	25/03/2010
ERII AC Supply PCB Layout	AA0190R3ACT-CERT	A	25/03/2010
ERII AC Supply PCB Layout	AA0190R3ASS-CERT	A	25/03/2010
ERII PSU AC Certified Parts List	AA0190R3A-PLC	A	09/04/2010
Transformer Details	BE008-0-01 R3	B	08/04/2010
ERII DC PSU	AA0189R1D-CERT	D	22/02/2010
ERII DC Supply PCB Layout	AA0189R1D-CB-CERT	D	09/04/2010
ERII DC Supply PCB Layout	AA0189R1D--CT-CERT	D	09/04/2010
ERII DC Supply PCB Layout	AA0189R1D-SS-CERT	D	09/04/2010
ERII DC PSU Certified Parts List	AA0189R1D-PLC	D	14/04/2010
Transformer Details DC Power Transformer	BE010-0-01 R1C	C	13/04/2010
ERII CR Monitor Board Circuit	AA0195R1B-CERT	B	18/03/2010
ERII CR Monitor Board PCB Layout	AA0195R1BCB-CERT	A	18/03/2010
ERII CR Monitor Board PCB Layout	AA0195R1BCT-CERT	A	18/03/2010
RTR II CR Monitor Board PCB Layout	AA0195R1BSS-CERT	A	18/03/2010
RTR II CR Monitor Board Certified Parts List	AA0195R1B-PLC	B	03/03/2010
ERII R Monitor Circuit	AA0194R1B-CERT	B	18/03/2010
RTR II R Monitor Board PCB Layout	AA0194R1BCB-CERT	B	18/03/2010
RTR II R Monitor Board PCB Layout	AA0194R1BCT-CERT	B	18/03/2010
RTR II R Monitor Board PCB Layout	AA0194R1BSS-CERT	B	18/03/2010
RTR II R Monitor Board Certified Parts List	AA0194R1B-PLC	B	11/01/2010
FIBC II Board PCB Layout	AA0206R3A-CB-CERT	A	29/07/2011
FIBC II Monitor Circuit	AA0206R3A-CERT	A	29/07/2011

Title:	Drawing No.:	Rev. Level:	Date:
FIBC II Board PCB Layout	AA0206R3A-CT-CERT	A	29/07/2011
FIBC II Monitor Board Certified Parts List	AA0206R3A-PLC	A	01/09/2011
FIBC II Board PCB Layout	AA0206R3A-SS-CERT	A	29/07/2011
ERII DC PSU	AA0189-CERT	2A	15/09/2015
ERII DC PSU Certified Parts List	AA0189-PLC	2A	29/09/2015
ER II I.S. Switching PCB Layout	AA0243-CERT-PCB	R5A	17/09/2018
ER II I.S. Switching PCB Certified Parts List	AA0243-PLC-ERII ISS	R5A	17/09/2018
ER II I.S. Switching	AA0243-SCH-CERT	R5A	17/09/2018
Label for Earth-Rite II Monitoring Unit & PSU in Approved GRP Enclosure	ERII LAB 004	AH	07/10/2019
ERII P1 Combined PSU-Monitor Unit	ERII GA 004	7	01/10/2018
Earth-Rite II P1 RTR, PLUS & FIBC - Control Drawing - AC	ERII-Q-10174 AI	5	03/12/2018

15 Conditions of Certification

15.1 Special Conditions for Safe Use

- In locations where high external humidity and internal temperature variations (e.g. frequent on-off cycles) may cause condensation inside the equipment, the interior shall be periodically inspected.

15.2 Conditions for Use (Routine tests)

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

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 the Notified Body of any modifications to the design of the product described by this schedule.