

1 **EC TYPE EXAMINATION CERTIFICATE**

2 Equipment or protective system intended for use in potentially explosive atmospheres –
3 Directive 94/9/EC – Annex III

4 EC Type Examination **TRL03ATEX21022X (incorporating variations V1, V2, V3 & V4)**
5 Certificate No.:

6 Equipment: **Hand Held Gas Analyzer, Model 2020 Pro, 2020PROPlus, 2020ppbPRO,
7 2020gasPRO, and 2020ComboPRO**

8 Client Name and **Photovac Inc.**
9 Address: **300 Second Avenue,
10 Waltham, MA 02451, USA**

11 Manufacturing Location: **Product Resources Inc.**
12 **148 Sohier Road
Beverly, MA 01915, USA**

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

2 TRL Compliance Ltd, Notified Body number 0891 in accordance with Article 9 of the Council 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 or protective system 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 **XU1043/4759, XU1551/8184 and XU1569/8279.**

3 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in section 18 of the schedule to this certificate, has been assured by compliance with:

EN 50014:1997/A2:1999, EN 50020:2002

4 If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions of safe use specified in the schedule to this certificate.

5 This EC-Type Examination certificate relates only to the design and construction of the specified equipment in accordance with Directive 94/9/EC. Further requirements of this Directive apply to the manufacture and supply of this equipment.

6 The marking of this equipment or protective system shall include the following:

Ex II 2 G EEx ib IIC T4 Tamb = 0°C to +40°C

This certificate and its schedules may only be reproduced in its entirety and without change. This certificate is issued in accordance with the TRL ATEX Certification Scheme.



S K Barrowcliff, Director, Safety Division

Issue date: 20 December 2007

Copy No.: 1e
Page 1 of 4

Distribution:
Photovac, Inc. and TRL Compliance Ltd
Form RF355 is10T

● Moss View, Nipe Lane, Up Holland, West Lancashire, WN8 9PY, UK.
● T +44 (0)1695 556666
● F +44 (0)1695 557077
● E test@trlcompliance.com

13 **SCHEDULE TO EC TYPE EXAMINATION CERTIFICATE**

14 **TRL03ATEX21022X (incorporating variations V1,V2,V3 & V4)**

15 **General description of equipment or protective system included within the scope of this certificate**

Model 2020 Pro, 2020PROPlus, 2020ppbPRO, 2020gasPRO, and 2020ComboPRO Gas analyzers are hand held, battery powered, portable gas analyzers. They used for the detection of various gases along with the concentration levels.

The only differences between the models are changes to the firmware and the colors of the buttons and silkscreen. The materials used are still of the same composition. In addition, the model 2020ppbPRO uses an alternate bulb (Resonance Ltd). There are no changes to any critical aspects that affect intrinsic safety.

The equipment must be used with Photovac battery pack, No. MX700010. The battery pack is not to be changed or charged while the device is in the potentially explosive environment.

Scheduled drawings and documents

<u>Document</u>	<u>Revision</u>	<u>Pages</u>	<u>Date</u>	<u>Description</u>
MX790040	A	1	Aug 03	User Manual
MX700296	B	1	12 Aug 03	2020 Pro EU Battery Door
MX700295	B	2	11 Aug 03	2020 pro EU Bottom Housing
MX700294	B	2	11 Aug 03	2020 Pro EU Top Housing
MX700010	G	4	12 Aug 03	Batt Pack 7.2 V 2020 Pro
MX760001	C	1	28 Jul 03	2020Pro Pump assembly
MX700240	E	1	04 Aug 03	2020 Pro Assy, 2020 Alarm
MX700160	D	1	18 Feb 05	2020 Pro Connector Door
MX790060	C	1	08 Jul 03	2020Pro Back Label
MX790113	A	1	08 Aug 03	Label, 2020Pro Lamp Warning
MX790010	C	1	11 Aug 03	Battery Pack Label
MX790070	B	1	11 Aug 03	Serial Number Label NA Version
BM760010	W	1	13 Jul 07	2020 Pro High Voltage Board Bill of Materials
BM760020	E	1	25 Apr 06	Microcontroller Board – Bill of Materials
BM760030	H	1	13 Oct 05	Display Board – Bill of Materials
SD760010	P	1	19 Aug 03	Schematic, 202 Pro High Voltage Module
SD760020	B	5	**	Schematic, 2020 Pro Microcontroller Board
SD760030	H	4	30 Sep 02	Schematic, 2020 Pro Display Board
MX700287	E	2	09 Nov 07	MTG-12864E LCD Display (Modified by PRI)
43-2832	B	1	19 Aug 03	PV2020Pro: Mother board Signal Cable Attachment, PRI
MX760010	W	1	**	PCB Fabrication 2020 Pro High Voltage Board
MX760030	F	1	13 Aug 03	Assembly Drawing, 2020 Pro Display board
MX700040	C	1	13 Aug 03	Fabrication Drawing, 2020 pro Display Board
MX760040	D	4	18 Aug 03	HV Module Assembly
MX700282	A	1	17 Jun 03	2020 Pro Lamp Housing
MX700280	B	1	**	PCB Fabrication 2020Pro High Voltage Board
35-3151	B	11	04 Apr 03	2020 Pro Microcontroller
MX107060	A	1	07 Jul 05	Label, ATEX / Safety, Pro Plus
MX107072	A	1	07 Jul 05	Label, serial Number, 2020 Pro Plus

16 **Test report Nos.:** **XU1043/4759, XU1551/8184 and XU1569/8279.**

13 **SCHEDULE TO EC TYPE EXAMINATION CERTIFICATE**

14 **TRL03ATEX21022X (incorporating variations V1,V2,V3 & V4)**

17 **Special conditions for safe use**

1. The battery may only be changed in a non-hazardous area.
2. The Gas Analyzer must only be used with the battery supplied by Photovac Inc., model MX700010.
3. The charger must not be used or connected in the hazardous area.
4. No other devices may be connected to the device when the unit is in the hazardous Area.
5. The equipment must not be used in ambient temperatures below 0°C.

18 **Essential health and safety requirements**

Covered by application of the standards listed in section 9 of this certificate and the assessment conducted in the test report listed in section 16 of this certificate.

19 **Additional information (including special conditions for manufacture)**

1. Checks must be conducted to ensure correct type and location of all safety components on the various PCBs.
2. PCBs must be verified to comply with approved drawings (batch checking is allowed).
3. LCD Display must be verified to ensure total capacitance (including tolerances) does not exceed 0.25uF.
4. Encapsulation must be visually inspected to ensure there are no voids and to ensure the encapsulant completely fills the High Voltage Module housing. After the encapsulant has fully cured, the High Voltage Module must undergo a dielectric withstand of at least 500 volts for period of 1 minute.
5. Inductances and resistance of pumps must be verified to ensure the inductance does not exceed 1.86mH and the internal resistance is less than 37.63 Ohms.

Photograph



- 13 SCHEDULE TO EC TYPE EXAMINATION CERTIFICATE
- 14 TRL03ATEX21022X (incorporating variations V1,V2,V3 & V4)

Details of markings



Details of variations to this certificate

This certificate is a consolidated certificate and reflects the latest status of the certification, including the following variations:

- Variation V1 – Add alternate Trade Agent (Cassella, model Voc Pro Gas Analyzer – TRL Certificate TRL 05ATEX21078X).
- Variation V2 – Addition of models 2020PROPlus, 2020ppbPRO and 2020gasPRO. Addition of alternate potting compound.
- Variation V3 – Update of Certificate to include latest versions of the schedule drawings and revised the “special conditions for safe use” to ensure clarity.
- Variation V4 – Addition of model 2020ComboPRO and the update of schedule drawing MX700287 to reflect alternate LCD display.

Alternate Trade Agent

Trade Agent Certificate: TRL05ATEX21078X applies.

Notes to CE marking

In respect of CE Marking, TRL Compliance Ltd accepts no responsibility for the compliance of the equipment against all applicable Directives in all applications.