



## EU Type Examination Certificate CML 22ATEX2595X Issue 1

- 1 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU
- 2 Equipment **Portable Gas Analyzer, Online Gas Analyzer and Loop Powered Gas Analyzer**
- 3 Manufacturer **Analytical Industries Inc**
- 4 Address **2855 Metropolitan Place, Pomona, CA, 91767 USA**
- 5 The equipment is specified in the description of this certificate and the documents to which it refers.
- 6 CML B.V., Chamber of Commerce No 67386717, Koopvaardijweg 32, 4906CV Oosterhout, The Netherlands, Notified Body Number 2776, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, 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 12.
- 7 If an 'X' suffix appears after the certificate number, it indicates that the equipment is subject to conditions of safe use (affecting correct installation or safe use). These are specified in Section 14.
- 8 This EU Type Examination certificate relates only to the design and construction of the specified equipment or component. Further requirements of Directive 2014/34/EU Article 13 apply to the manufacture of the equipment or component and are separately certified.
- 9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the confidential report, has been demonstrated through compliance with the following documents:

EN IEC 60079-0:2018

EN 60079-1:2014

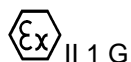
EN 60079-11:2012

- 10 The equipment shall be marked with the following:

Portable Gas Analyzer

Online Gas Analyzer

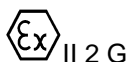
Loop powered Gas Analyzer



II 1 G

Ex ia IIC T4 Ga

Ta= -20°C to +50°C

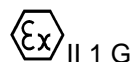


II 2 G

Ex db ia IIC T4 Gb

\*Ex db ia IIB+H2 T4 Gb

Ta= -20°C to +50°C



II 1 G

Ex ia IIC T4 Ga

Ta= -20°C to +50°C

\*This marking is to be used when the Type FA/BR Range of Flame Arrestors and Breathers are used due to the limitation of only being suitable for IIB+H2 and not IIC.



*L A Brisk*



CML 22ATEX2595X  
Issue 1

## 11 #Description

### Portable Gas Analyzer

The Portable Gas Analyzer type is housed within an aluminium enclosure. The Portable Gas Analyzer (Models GPR-1000, GPR-1100, GPR-1200, GPR-1200 MS2, GPR-2000, GPR-7100) is for mobile measurements of either Oxygen or H<sub>2</sub>S.

The Portable Gas Analyzer is battery powered by a lead acid battery. It has a connection for a suitable SD card which is changed in the safe area. It has a recharging port for the battery, to be used in the safe area only. There is a 0-1V Analogue connection port which can be supplied via a safety barrier which has the following parameters:

0 – 1V Analogue Port J5

$U_i = U_m^* = 28 \text{ V}$

$U_o = 4.6 \text{ V}$

$I_o = 2 \text{ mA}$

$P_o = 2 \text{ mW}$

$C_i = 12 \text{ nF}$

$C_o = 71 \text{ nF}$

The Battery Charger connection

$U_m = 9.45 \text{ V}$

Note \* when connected to the Analogue port in the safe area, refer to the Special condition of use. One of the following sensors can be connected to the Portable Gas analyzer:

The key difference between the models is that they can have a single sensor connected from the table below, there are also different sensitivity setting of sensor which will not affect the certification.

Oxygen Sensor	H <sub>2</sub> S Sensors
GPR-11-32-4	OSV-72-7H
GPR-11-60-4	OSV-72-7HH
GPR-12-333	
GPR-12-333-H	
GPR-12-2000-MS2	
XLT-11-24-4	
XLT-12-100-M	
XLT-12-333	

### Online Gas Analyzer

The Online Gas Analyzer type circuitry is housed within an aluminium enclosure and suitably certified flameproof enclosures. The Online Gas Analyzer (Models GPR-1500, GPR-1800, GPR-2500, GPR-2800 and GPR-7500 followed by AIS or IS, may be followed by -LD) is for stationary measurements. The Online Gas Analyzers are used for a fixed installation.

The Online Gas Analyzer is powered from a safety interface housed in a flameproof enclosure, with the following parameters.

$U_m = 250 \text{ V}$



**CML 22ATEX2595X**  
**Issue 1**

The key difference between the models is that they can have a single sensor connected from the table below, there are also different sensitivity settings of sensor which will not affect the certification. There are also different variations of power below that of the Um of 250 V.

Oxygen Sensor	H2S Sensors
GPR-11-32	OSV-72-7H
GPR-11-60	OSV-72-7H-LD
GPR-12-333	OSV-72-7HH
GPR-12-333-H	OSV-72-7HH-LD
XLT-11-24	
XLT-12-333	
XLT-12-333-LD	

Component	Certificate Numbers	Standards Applied	Differences Considered
Enclosure Adalet	DEMKO 07 ATEX 0622294 U IECEX UL 08.0005 U	IEC 60079-0:2017 EN 60079-0:2012+A11:2013 IEC 60079-1:2014-06 EN 60079-1:2014 IEC 60079-31:2013 EN 60079-31:2014	None
Reducer Eaton	ITS 16ATEX 101339 X IECEX ITS 16.0013X	IEC 60079-0:2011 EN 60079-0:2012+A11:2013 IEC 60079-1:2014-06 EN 60079-1:2014 IEC 60079-31:2013 EN 60079-31:2014 IEC 60079-7:2015 EN 60079-7:2015 +A1:2018	Non applicable
Sealing Fitting Cortem	CESI 03 ATEX085 X IECEX CES 14.0019X	IEC 60079-0:2011 EN 60079-0:2012+A11:2013 IEC 60079-1:2007-04 EN 60079-1:2014 IEC 60079-31:2008 EN 60079-31:2014	Non applicable
Adaptor Eaton	ITS 16ATEX101336X IECEX ITS 16.0011X	IEC 60079-0:2011 EN 60079-0:2012+A11:2013 IEC 60079-1:2014-06 EN 60079-1:2014 IEC 60079-31:2013 EN 60079-31:2014 IEC 60079-7:2015 EN 60079-7:2015	Non applicable
Flame Arrestor Michell Instruments	CML 20ATEX1302U IECEX CML 20.0168U	IEC 60079-0:2017 EN IEC 60079-0:2018 IEC 60079-1:2014-06 EN 60079-1:2014 IEC 60079-31:2013 EN 60079-31:2014	None



**CML 22ATEX2595X**  
**Issue 1**

## Loop Gas Analyzers

The Loop-powered Gas Analyzer (GPR-1500, GPR-2500) circuitry is housed within an aluminium enclosure. Loop-powered Gas Analyzer are used for a fixed installation.

The Loop-powered Gas Analyzer is powered from an intrinsically safe barrier with the following parameters:

$U_i = 28 \text{ V}$

$I_i = 93 \text{ mA}$

The key difference between the models is that they can have a single sensor connected from the table below, there are also different sensitivity settings of the sensor which will not affect the certification.

Oxygen Sensor
GPR-11-32-4
GPR-11-60-4
GPR-12-333
GPR-12-333-H
XLT-12-333
XLT-11-24-4

### Variation 1

This variation introduces the following modifications:

- Correction to marking due to Type FA/BR Range of Flame Arrestors and Breathers Drain limitations.
- Correction to typographical errors

## 12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	19 May 2023	R15791A/00 R15791B/00 R15791C/00 R15791D/00	Prime Release Portable Gas Analyzer Prime Release Online Gas Analyzer Prime Release Loop Gas Analyzer Prime Release Online Gas Analyzer
1	09 Feb 2024	R15791A/01 R15791B/01 R15791C/01 R15791D/01	Introduction of Variation 1

Note: Drawings that describe the equipment or component are listed in the Annex.

## 13 Conditions of Manufacture

The following conditions are required of the manufacturing process for compliance with the certification.

- Where the product incorporates certified parts or safety critical components, the manufacturer of the product defined on this certificate shall continually monitor these parts/components for any modifications introduced by the manufacturer(s) of these constituent parts. If the manufacturer of any constituent part introduces any changes which affect the compliance of the certified product that is the subject of this certificate, the manufacturer is required to have this certificate updated.



**CML 22ATEX2595X**  
**Issue 1**

## **14 Specific Conditions of Use (Special Conditions)**

The following conditions relate to safe installation and/or use of the equipment.

### **Portable Gas Analyzer**

- i. All versions of the enclosure are manufactured from Aluminium. In rare cases, ignition sources due to impact and friction sparks could occur. This shall be considered during installation, particularly if the equipment is installed in a zone 0 location.
- ii. When located in a hazardous area, the Portable Gas Analyzer 0-1 V analogue port shall only be connected to a suitably certified intrinsically safe connection with  $U_o$  equal to or less than the  $U_i$  of the port (28VDC). For example, this can be achieved by connecting to a diode safety barrier located in the non-hazardous area
- iii. When located in a non-hazardous area, the Portable Gas Analyzer 0-1 V analogue port shall either be connected to a suitably certified intrinsically safe connection as per ii above, or to non-intrinsically safe equipment that has a maximum output voltage less than or equal to the  $U_m$  of the port (28VDC) and which complies with one of the following:
  - Is a SELV or PELV system
  - A safety isolating transformer complying with the requirements of IEC 61558-2-6 or technically equivalent standard
  - Apparatus complying with the IEC60950 series, IEC61010-1, or a technically equivalent standard
  - Fed directly from cells or batteries

### **Online Gas Analyzer**

- i. All versions of the enclosure are manufactured from Aluminium. In rare cases, ignition sources due to impact and friction sparks could occur. This shall be considered during installation, particularly if the equipment is installed in a zone 0 location.
- ii. The Online Gas Analyzers have non-metallic parts incorporated in the enclosure of this equipment which may generate an ignition-capable level of electrostatic charge, under certain extreme circumstances. Therefore, the equipment shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge on such surfaces. This is particularly important if the equipment is installed in a zone 0 location. In addition, the equipment shall only be cleaned with a damp cloth.
- iii. The Online Gas Analyzer is not capable of withstanding the 500V insulation test required by Clause 6.3.12 of IEC 60079-11. This shall be taken into account when installing the equipment.

### **Loop Gas Analyzer**

- i. All versions of the enclosure are manufactured from Aluminium. In rare cases, ignition sources due to impact and friction sparks could occur. This shall be considered during installation, particularly if the equipment is installed in a zone 0 location.
- ii. The Loop-powered Gas Analyzers have non-metallic parts incorporated in the enclosure of this equipment which may generate an ignition-capable level of electrostatic charge, under certain extreme circumstances. Therefore, the equipment shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge



**CML 22ATEX2595X**  
**Issue 1**

on such surfaces. This is particularly important if the equipment is installed in a zone 0 location. In addition, the equipment shall only be cleaned with a damp cloth.

- iii. The Online Gas Analyzer is not capable of withstanding the 500V insulation test required by Clause 6.3.12 of IEC 60079-11. This shall be taken into account when installing the equipment.

## Certificate Annex

**Certificate Number** CML 22ATEX2595X  
**Equipment** Portable Gas Analyzer, Online Gas Analyzer and Loop Powered Gas Analyzer  
**Manufacturer** Analytical Industries Inc



The following documents describe the equipment or component defined in this certificate:

### Issue 0 – Portable Gas Analyzer

Drawing No	Sheets	Rev	Approved date	Title
GPR-1000-EX	1 to 2	0	19 May 2023	GPR-1000 ATEX
GPR-1100-EX	1 to 2	0	19 May 2023	GPR-1100 ATEX
GPR-1200-EX	1 to 2	0	19 May 2023	GPR-1200 ATEX
GPR-1200MS2-EX	1 to 2	0	19 May 2023	GPR-1200 MS2 ATEX
GPR-2000-EX	1 to 2	0	19 May 2023	GPR-2000 ATEX
GPR-7100-EX	1 to 2	0	19 May 2023	GPR-7100 ATEX
A-5480-EX	1 of 1	0	19 May 2023	Portable Wiring Diagram
A-1400 Schematic	1 to 4	A02	19 May 2023	A-1400: ATEX Main Board
A-1400 Drawing	1 to 3	A02	19 May 2023	A-1400: ATEX Main Board
A-1402 Drawing	1 to 2	A01	19 May 2023	A-1402: ATEX Battery Power
A-1402 Schematic	1 of 1	A01	19 May 2023	A-1402: ATEX Battery Power
A-1403 Drawing	1 to 2	A02	19 May 2023	A-1403: ATEX H2S Board
A-1403 Schematic	1 of 1	A02	19 May 2023	A-1403: ATEX H2S Board
A-1405 Drawing	1 to 2	A01	19 May 2023	A-1405: ATEX Datakey Adapter
A-1405 Schematic	1 of 1	A01	19 May 2023	A-1405: ATEX Datakey Adapter
A-4770-EX	1 of 1	0	19 May 2023	ATEX Intrinsically safe battery (With Pump)
A-4771-EX	1 of 1	0	19 May 2023	ATEX Intrinsically safe battery (without Pump)
A-3583-EX	1 of 1	0	19 May 2023	ATEX Battery potting bracket
A-2166-EX	1 of 1	0	19 May 2023	GPR-1000/1200/2000/7100 Pump Assembly
A-2762-EX	1 of 1	0	19 May 2023	Upper Sensor Housing Wiring Assembly
A-3321-EX	1 of 1	0	19 May 2023	GPR-1000/1100/1200/2000/7100 Output Jack Assembly
A-4215-EX	1 of 1	0	19 May 2023	GPR-1000/1100/1200/2000/7100 Charge Jack Assembly

## Certificate Annex

**Certificate Number** CML 22ATEX2595X

**Equipment** Portable Gas Analyzer, Online Gas Analyzer and Loop Powered Gas Analyzer

**Manufacturer** Analytical Industries Inc



Drawing No	Sheets	Rev	Approved date	Title
A-4665-EX	1 of 1	0	19 May 2023	GPR-1000/1200/2000/7100 Pump Switch Assembly
A-5483-EX	1 of 1	0	19 May 2023	Sensor Cable Assembly
A-5530-EX	1 of 1	0	19 May 2023	Certification Marking Specification
A-5531-EX	1 of 1	0	19 May 2023	Safety Information for User Manual
A-3167-1-EX	1 to 2	0	19 May 2023	GPR-1000/1100/2000 Overlay
A-3272-1-EX	1 to 2	0	19 May 2023	GPR-1200/GPR-1200 MS2 Overlay
A-4093-Ex	1 to 2	0	19 May 2023	GPR-7100 Overlay

### Issue 0 – Online Gas Analyzer

Drawing No	Sheets	Rev	Approved date	Title
GPR-1500/1800/2500/2800 LD-EX	1 to 3	0	19 May 2023	GPR-1500/1800/2500/2800 LD Series ATEX
GPR-1500/1800/2500/2800-EX	1 to 3	0	19 May 2023	GPR-1500/1800/2500/2800 Series ATEX
GPR-7500 LD-EX	1 to 4	0	19 May 2023	GPR-7500 LD Series ATEX
GPR-7500-EX	1 to 4	0	19 May 2023	GPR-7500 Series ATEX
A-3327-1-EX	1 to 2	0	19 May 2023	GPR-1500/1800/2500/2800/7500 Series Overlay
A-5481-EX	1 to 2	0	19 May 2023	GPR-1500/1800/2500/2800/7500 Series Wiring Diagram
A-5498-EX	1 to 2	0	19 May 2023	GPR-7500 Series Wiring Diagram
A-1400 Drawing	1 to 4	A02	19 May 2023	A-1400: ATEX Main Board
A-1400 Schematic	1 to 3	A02	19 May 2023	A-1400: ATEX Main Board
A-1401 Schematic	1 to 3	A01	19 May 2023	A-1401: ATEX AC/DC/Loop Power Board
A-1401 Drawing	1 to 3	A01	19 May 2023	A-1401: ATEX AC/DC/Loop Power Board
A-1403 Schematic	1 of 1	A02	19 May 2023	A-1403: ATEX H2S Board
A-1403 Drawing	1 to 2	A02	19 May 2023	A-1403: ATEX H2S Board



## Certificate Annex

**Certificate Number** CML 22ATEX2595X

**Equipment** Portable Gas Analyzer, Online Gas Analyzer and Loop Powered Gas Analyzer

**Manufacturer** Analytical Industries Inc



Drawing No	Sheets	Rev	Approved date	Title
A-2762-EX	1 of 1	0	19 May 2023	Upper Sensor Housing Wiring Assembly
A-3372-EX	1 of 1	0	19 May 2023	GPR-AIS/IS Series Enclosure Assy
A-5536-EX	1 to 3	0	19 May 2023	Adalet Enclosure Cross-Sectional Diagram
A-5502-EX	1 of 1	0	19 May 2023	GPR-7500 Pump Potentiometer Wiring Assembly
A-5503-EX	1 of 1	0	19 May 2023	GPR-7500 Pump Switch Assembly
A-5504-EX	1 of 1	0	19 May 2023	GPR-7500 A-1206 PCB to terminal block Wiring Assembly
A-5530-EX	1 of 1	0	19 May 2023	Certification Marking Specification
A-5531-EX	1 of 1	0	19 May 2023	Safety Information for User Manual

### Issue 0 – Loop Gas Analyzer

Drawing No	Sheets	Rev	Approved date	Title
GPR-1500/2500 LOOP-EX	1 to 3	0	19 May 2023	GPR-1500/2500 Loop Series ATEX
A-5482-EX	1 of 1	0	19 May 2023	GPR-1500/2500 Loop Series Wiring Diagram
A-1400 Drawing	1 to 4	A02	19 May 2023	A-1400: ATEX Main Board
A-1400 Schematic	1 to 3	A02	19 May 2023	A-1400: ATEX Main Board
A-1404 Drawing	1 to 2	A01	19 May 2023	A-1404: Atex Simple Loop Power
A-1404 Schematic	1 of 1	A01	19 May 2023	A-1404: Atex Simple Loop Power
A-5534-EX	1 of 1	0	19 May 2023	A-1404 PCB Potted Enclosure
A-5508-EX	1 of 1	0	19 May 2023	A-1404 PCB Potted Wiring Assembly
A-2762-EX	1 of 1	0	19 May 2023	Upper Sensor Housing Wiring Assembly

## Certificate Annex

**Certificate Number** CML 22ATEX2595X

**Equipment** Portable Gas Analyzer, Online Gas Analyzer and Loop Powered Gas Analyzer

**Manufacturer** Analytical Industries Inc



Drawing No	Sheets	Rev	Approved date	Title
A-4383-EX	1 of 1	0	19 May 2023	Sensor Cable Wiring Assembly
A-5483-EX	1 of 1	0	19 May 2023	Sensor Cable Assembly
A-5530-EX	1 of 1	0	19 May 2023	Certification Marking Specification
A-5531-EX	1 of 1	0	19 May 2023	Safety Information for User Manual

### Issue 1– Online Gas Analyzer

#	Drawing No	Sheets	Rev	Approved date	Title
01	GPR-1500/1800/2500/2800 LD-EX	1 to 3	0	09 Feb 2024	GPR-1500/1800/2500/2800 LD Series ATEX
02	GPR-1500/1800/2500/2800-EX	1 to 3	0	09 Feb 2024	GPR-1500/1800/2500/2800 Series ATEX
03	GPR-7500 LD-EX	1 to 4	1	09 Feb 2024	GPR-7500 LD Series ATEX
04	GPR-7500-EX	1 to 4	1	09 Feb 2024	GPR-7500 Series ATEX
05	A-3327-1-EX	1 to 2	0	09 Feb 2024	GPR-1500/1800/2500/2800 Series Overlay
06	A-5481-EX	1 to 2	0	09 Feb 2024	GPR-1500/1800/2500/2800/7500 Series Wiring Diagram
07	A-5498-EX	1 to 2	0	09 Feb 2024	GPR-7500 Series Wiring Diagram
08	A-1400 Drawing	1 to 4	A02	09 Feb 2024	A-1400: ATEX Main Board
09	A-1400 Schematic	1 to 3	A02	09 Feb 2024	A-1400: ATEX Main Board
10	A-1401 Schematic	1 to 3	A01	09 Feb 2024	A-1401: ATEX AC/DC/Loop Power Board
11	A-1401 Drawing	1 to 3	A01	09 Feb 2024	A-1401: ATEX AC/DC/Loop Power Board
12	A-1403 Schematic	1 of 1	A02	09 Feb 2024	A-1403: ATEX H2S Board
13	A-1403 Drawing	1 to 2	A02	09 Feb 2024	A-1403: ATEX H2S Board
14	A-2762-EX	1 of 1	0	09 Feb 2024	Upper Sensor Housing Wiring Assembly
15	A-3372-EX	1 of 1	0	09 Feb 2024	GPR-AIS/IS Series Enclosure Assy

## Certificate Annex

**Certificate Number** CML 22ATEX2595X

**Equipment** Portable Gas Analyzer, Online Gas Analyzer and Loop  
Powered Gas Analyzer

**Manufacturer** Analytical Industries Inc



#	Drawing No	Sheets	Rev	Approved date	Title
16	A-5536-EX	1 to 3	0	09 Feb 2024	Adalet Enclosure Cross-Sectional Diagram
17	A-5502-EX	1 of 1	0	09 Feb 2024	GPR-7500 Pump Potentiometer Wiring Assembly
18	A-5503-EX	1 of 1	0	09 Feb 2024	GPR-7500 Pump Switch Assembly
19	A-5504-EX	1 of 1	0	09 Feb 2024	GPR-7500 A-1206 PCB to terminal block Wiring Assembly
20	A-5530-EX	1 of 1	1	09 Feb 2024	Certification Marking Specification
21	A-5531-EX	1 of 1	0	09 Feb 2024	Safety Information for User Manual