

Addendum - Certification Record



Listing#: E115647
Report #: R15816A/00
Original Certification Date: August,15, 2023

Addendum to Certificate issued to:

Analytical Industries Inc
2855 Metropolitan Place, Pomona, CA 91767 United States of America

Product(s):

Gas Analyzer - Portable, Online and Loop Powered

Product Description:

The Gas Analyzer have types Portable, Online and Loop Powered. All types are housed within aluminium enclosures. The Portable Gas Analyzer is intended to be used for mobile measurements. The Online Gas Analyzer and the Loop Powered Gas Analyzer being for a fixed installation. All the models can connect to the following Oxygen or H2S sensors.

Portable Gas Analyzer (GPR-1000, -1100, -1200, -2000, -7100)

Battery powered by a single lead acid battery. It has a SD card connection and a charging port for the battery for use in the safe area only. The Analogue Port is intrinsically safe when connected to an intrinsically safe interface in a hazardous area.

Online Gas Analyzer (GPR-1500, -1800, -2500, -2800, -7500 (AIS/IS))

Powered from a safe area via an intrinsically safe interface located in an explosionproof housing.

Loop Powered Gas Analyser (GPR-1500, -1800, -2500, -2800, -7500 (AIS/IS))

Powered from an intrinsically safe barrier.

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Hazardous Location Marking US and CAN (or Equivalent):

Portable Oxygen Gas Analyzer

Class I, Division 1, T4, Groups A, B, C and D
 Class I, Zone 0 AEx ia IIC T4 Ga
 -20°C ≤ Tamb ≤ +50°C

Class I, Division 1, T4, Groups A, B, C and D
 Ex ia IIC T4 Ga
 -20°C ≤ Tamb ≤ +50°C

On-Line Oxygen Gas Analyzer

Class I, Division 1, T4, Groups B, C and D
 Class I, Zone 1 AEx db ia IIB+H2 T4 Gb
 -20°C ≤ Tamb ≤ +50°C

Class I, Division 1, T4, Groups B, C and D
 Ex db ia IIB+H2 T4 Gb
 -20°C ≤ Tamb ≤ +50°C

Loop Powered Oxygen Gas Analyzer

Class I, Division 1, T4, Groups A, B, C and D
 Class I, Zone 0 AEx ia IIC T4 Ga
 -20°C ≤ Tamb ≤ +50°C

Class I, Division 1, T4, Groups A, B, C and D
 Ex ia IIC T4 Ga
 -20°C ≤ Tamb ≤ +50°C

Certification to the following standard(s):

UL 60079-0 (Edition 7) 2019 rev 2020
 UL 60079-11 (Ed 6) 2013 rev 2018
 UL 60079-1 (Ed.7) 2020
 UL 1203:2022 Ed.5
 UL 61010-1:2019+Corr1:2019

CSA C22.2 No. 60079-0 (Edition 4) 2019
 CSA C22.2 No. 60079-11 (Edition 2) 2014 R 2018
 CSA C22.2 NO. 60079-1:16 (R2021)
 CSA C22.2 NO. 30:20
 CSA C22.2 No. 61010-1:2017 Ed.3

Ratings

Portable Oxygen Gas Analyzer (GPR-1000, 1100, 1200, 2000, 7100)

Charger and SD Port:

Um: 9.45 V (Safe Area Only)

0 – 1V Analogue Port:

Um = 28 V (Safe Area Only) Uo: 4.6 V
 Io: 2 mA
 Po: 2 mW
 Ci: 12 nF
 Co: 71 nF

Battery:

Tysonic TY-6-4.5, 6V, 4.5 Ah

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Ratings Continued

On-Line Oxygen Gas Analyzer (GPR-1500, 1800, 2500, 2800, 7500 (AIS/IS))

Um:	28 V
Relay:	3 A @ 30 Vdc
Supply:	12-24 VDC (DC Unit), 1A 12-24 VDC (Loop Unit), 1A
Supply (Pump Option):	12 Vdc or 24 Vdc, 1 W

Loop Powered Oxygen Gas Analyzer (GPR- 1500, 2500)

Entity Parameters:

Ui:	28 V
Ii:	93 mA

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Conditions of Use

The following Conditions of Use are included in the Control Drawing/Instructions reference on the label by documents A-5592-EX, A-5593-EX and A-5594-EX respectively.

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 Class I Division 1 or a Class I, Zone 0 location.
- ii. When located in a Classified or 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 Unclassified or Non-Hazardous Area
- iii. When located in an Unclassified or 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:
 - Class 2 Power Supply
 - SELV or PELV system
 - A safety isolating transformer complying with the requirements of UL 5085-3, CSA IEC 61558-2-6 or technically equivalent standard.
 - Apparatus complying with the UL/CSA 60950 series, UL/CSA 61010-1, or a technically equivalent standard.
 - Fed directly from cells or batteries

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Conditions of Use (Continued)

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 Class I Division 1 or a Class I, Zone 1 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 Class I Division 1 or a Class I, Zone 1 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 UL/CSAC22.2 No. 60079-11. This shall be taken into account when installing the equipment.

The following conditions have been added due to the use of conduit and cable glands in N/A

- iv. When connected using a conduit system, the Explosion-proof Enclosures type Adalet type XIHLX require conduit seals that satisfy the following requirement:

Conduit Size	Conduit Seals
1"	With 18"
3/4"	Optional
1/2"	Optional

- v. When connected with cable glands, the glands shall be a suitably Listed Explosion-proof type, suitable for the applicable Class and Division or Class and Zone, Gas Group, T-Class and ambient temperature. It shall only employ sealing around individual cores. Additional thread adapters shall not be used.

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Conditions of Use (Continued)

Loop Powered 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 Class I Division 1 or a Class I, 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 on such surfaces. This is particularly important if the equipment is installed in a Class I Division 1 or a Class I, Zone 0 location. In addition, the equipment shall only be cleaned with a damp cloth.
- iii. The Loop Powered Gas Analyzer is not capable of withstanding the 500V insulation test required by Clause 6.3.12 of UL/CSAC22.2 No. 60079-11. This shall be taken into account when installing the equipment.