



# 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.:	<b>IECEX CML 16.0068</b>	Page 1 of 5	<u>Certificate history:</u>
Status:	<b>Current</b>	Issue No: 7	Issue 6 (2022-11-16)
Date of Issue:	2024-05-21		Issue 5 (2022-08-31)
Applicant:	<b>Casella Holdings Limited</b> Regent House, Kempston, Bedfordshire MK42 7JY <b>United Kingdom</b>		Issue 4 (2022-04-01)
Equipment:	<b>APEX2 Personal Air Sampling Pump</b>		Issue 3 (2021-10-26)
Optional accessory:			Issue 2 (2020-02-27)
Type of Protection:	<b>Intrinsic safety "Ex ia"</b>		Issue 1 (2017-09-21)
Marking:	Ex ia I Ma Ex ia IIC T4 Ga Ex ia IIIC T135°C Da  (-20°C ≤ Ta ≤ +45°C) or (Ta = -20°C to +45°C)		Issue 0 (2016-11-23)

Approved for issue on behalf of the IECEx  
Certification Body:

**L A Brisk**

Position:

**Assistant Certification Manager**

Signature:  
(for printed version)

Date:  
(for printed version)

21 May 2024

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting [www.iecex.com](http://www.iecex.com) or use of this QR Code.



Certificate issued by:

**Eurofins E&E CML Limited**  
Unit 1, Newport Business Park  
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Ellesmere Port, CH65 4LZ  
**United Kingdom**





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Manufacturer: **Casella Holdings Limited**  
Regent House,  
Kempston,  
Bedfordshire MK42 7JY  
**United Kingdom**

Manufacturing  
locations:

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

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/CML/ExTR16.0085/00](#)  
[GB/CML/ExTR22.0058/00](#)  
[GB/CML/ExTR24.0104/00](#)

[GB/CML/ExTR17.0158/00](#)  
[GB/CML/ExTR22.0135/00](#)

[GB/CML/ExTR21.0247/00](#)  
[GB/CML/ExTR22.0242/00](#)

Quality Assessment Report:

[GB/SIR/QAR10.0002/14](#)



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## **EQUIPMENT:**

Equipment and systems covered by this Certificate are as follows:

The Casella APEX2 Personal Air Sampling Pump is a personal air sampling pump typically used to take samples of airborne materials or toxic contaminants. It is a bodily worn, battery-powered self-contained device housed within a PC anti-static enclosure. The pump is designed to provide a stable controlled flow rate of approximately 0.5 to 5 litre/min such that a known volume of air is passed through a passive sampling head and filter medium.

Airborne materials are collected onto a filter substrate and are subjected to mass or chemical analysis in a laboratory in order to establish a worker's exposure to potentially hazardous materials. Sampling pumps are typically worn on the user's belt and are connected to the sampling head via a short length of tube.

**For full product description and Conditions of Manufacture refer to Certificate Annex.**

**SPECIFIC CONDITIONS OF USE: NO**



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**Equipment (continued):**

The equipment may only be recharged in the safe area using either:

1. APEX2/IS 5L Pump Five Way Charger
2. APEX2/IS 5L Pump Single Way Charger

The chargers must be supplied from a SELV source with  $U_m = 63V$

**These chargers have an output of:**

$U_m = 14.5V$

$I_{max} = 850mA$

**When connected to a USB in the safe area:**

$U_m = 5.9V$

$I_{max} = 85mA$



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

### Variation 1

This variation introduces the following changes:

To allow the following modifications to the APEX2 Personal Air Sampling Pump:

1. The inclusion within the product description that the battery chargers must have an SELV source with a  $U_m = 63V$ .
2. To permit the use of an optional protective boot.
3. To permit the use of additional filling holes in the battery pack.
4. To re-assess the circuit voltage from 5.355V to 6.0V (including circuit capacitance).
5. To confirm circuit changes related to the motor circuit by means of spark testing.
6. To re-assess the rating of safety components from 7.4V to 14.5V.
7. To permit the Fuse F1 to be moved.
8. To permit the rating of R4, R7 and R231 to be altered.
9. To permit D1, D2, D3, D9, D10, D11 to be replaced by PMEG3015EJ diodes.

### Variation 2

This variation introduces the following changes:

1. To permit the use of Samsung INR18650-25R cells in place of the Samsung ICR18650-26F cells, within the battery pack.

### Variation 3

This variation introduces the following change:

1. The standard has been updated to EN IEC 60079-0:2018 / IEC 60079-0 Ed. 7.

### Variation 4

This variation introduces the following changes:

1. Change to connector type.
2. Alternative CTI for all PCB's.
3. Change to ICs to incorporate alternatives.
4. Change to transistors to allow for alternatives.
5. Changes to component references in the BoM.
6. Introduction of Barometric pressure sensor.
7. Changes to battery pack PCB.

### Variation 5

This variation introduces the following changes:

1. Introduction of Prismatic cell.
2. Additional safety components added.
3. Change to component marking of non-safety related components.

### Variation 6

This variation introduces the following change:

1. Update to Applicant/Manufacturer name

### Variation 7

This variation introduces the following changes:

1. Introduction of a new Bluetooth module.
2. Minor administrative changes.
3. Alternate materials options added.

## Annex:

[IECEX CML 16.0068 Issue 7 Annex\\_1.pdf](#)

**Annexe to:** IECEx CML 16.0068 Issue 7  
**Apparatus:** Casella Holdings Limited  
**Applicant:** APEX2 Personal Air Sampling Pump



## Description

The Casella APEX2 Personal Air Sampling Pump is a personal air sampling pump typically used to take samples of airborne materials or toxic contaminants. It is a bodily worn, battery-powered self-contained device housed within a PC anti-static enclosure. The pump is designed to provide a stable controlled flow rate of approximately 0.5 to 5 litre/min such that a known volume of air is passed through a passive sampling head and filter medium.

Airborne materials are collected onto a filter substrate and are subjected to mass or chemical analysis in a laboratory in order to establish a worker's exposure to potentially hazardous materials. Sampling pumps are typically worn on the user's belt and are connected to the sampling head via a short length of tube.

The equipment may only be recharged in the safe area using either:

1. APEX2/IS 5L Pump Five Way Charger
2. APEX2/IS 5L Pump Single Way Charger

The chargers must be supplied from a SELV source with  $U_m = 63V$

These have an output of:

$U_m = 14.5V$   
 $I_{max} = 850mA$

When connected to a USB in the safe area:

$U_m = 5.9V$   
 $I_{max} = 85mA$

## Conditions of Manufacture

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

- i. 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.
- ii. The APEX2 Personal Air Sampling Pump and chargers are to be designed in accordance with general electrical safety standards e.g. IEC 60950.

## Specific Conditions of Use

None

## Components used which are covered by Ex Certificates issued to older editions of Standards

None



Certificate Annex IECEx  
Version: 10.0 Approval: Approved



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