



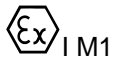
EU Type Examination Certificate CML 16ATEX2152 Issue 2

- 1 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU
- 2 Equipment **APEX2 Personal Air Sampling Pump**
- 3 Manufacturer **Casella (Ideal Industries Ltd)**
- 4 Address Regent House,
Wolseley Road,
Kempston,
Bedford
MK42 7JY
- 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 6738671, Hoogoorddreef 15, Amsterdam, 1101 BA, 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.
- 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 60079-0:2012:A11:2013

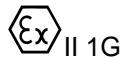
EN 60079-11:2012

- 10 The equipment shall be marked with the following:



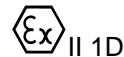
Ex ia I Ma

Ta = -20°C to +45°C



Ex ia IIC T4 Ga

Ta = -20°C to +45°C



Ex ia IIIC T135°C Da

Ta = -20°C to +45°C



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11 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:

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

Variation 1

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

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



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Variation 2

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

12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	23 Nov 2016	R762A/00	Issue of prime certification
1	13 Sept 2017	R11242A/00	Introduction of Variation 1
2	27-02-2020	R13095A/00	Introduction of Variation 2

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.

- 13.1 Where the product incorporates certified parts or safety critical components the manufacturer shall ensure that any changes to those parts or components do not affect the compliance of the certified product that is the subject of this certificate.
- 13.2 The APEX2 Personal Air Sampling Pump and chargers are to be designed in accordance with general electrical safety standards e.g. IEC 60950

14 Specific Conditions of Use (Special Conditions)

- 14.1 None.

Certificate Annex

Certificate Number CML 16ATEX2152
Equipment APEX2 personal Air Sampling Pump
Manufacturer Casella (Ideal Industries Ltd)



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

Issue 0

Drawing No	Sheets	Rev	Approved date	Title
04-209140D/IS-01	1 of 1	01	23/11/2016	General Assembly
13-209161A/IS(CMLEX)-01	1 of 1	01	23/11/2016	Certification Label
03-209147C/IS-01	1 of 1	01	23/11/2016	Battery Pack S/A (Sub Assembly)
93-209148C/IS-05	1 of 1	05	23/11/2016	Battery Pack PCB CCT Diagram
05-209150B/IS-05	1 of 1	05	23/11/2016	Battery Pack PCB Parts List
02-209149B/IS-02	1 of 1	02	23/11/2016	Battery Pack PCB Profile
05-209150B/IS-05	1 of 1	05	23/11/2016	Battery Pack PCB Layout
93-209141D/IS-04	1 of 2	04	23/11/2016	Main PCB CCT Diagram
93-209141D/IS-04	2 of 2	04	23/11/2016	Main PCB CCT Diagram
05-209143C/IS-06	1 & 2	06	23/11/2016	Main PCB Parts List
02-209142C/IS-06	1 of 1	06	23/11/2016	Main PCB Profile
05-209143C/IS-06	1 of 1	06	23/11/2016	Main PCB Layout
93-209144C/IS-02	1 of 1	02	23/11/2016	Display PCB CCT Diagram
05-209146B/IS-04	1 of 1	04	23/11/2016	Display PCB Parts List
02-209145B/IS-02	1 of 1	02	23/11/2016	Display PCB Profile
05-209146B/IS-04	1 of 1	04	23/11/2016	Display PCB Layout
04-209152B/IS-01	1 of 1	01	23/11/2016	Single Way Charger General Assembly
93-209153B/IS-02	1 of 1	02	23/11/2016	Single Way Charger PCB CCT Diagram
05-209155B/IS-01	1 of 1	01	23/11/2016	Single Way Charger PCB Parts List
02-209154B/IS-01	1 of 1	01	23/11/2016	Single Way Charger PCB Profile
05-209155B/IS-01	1 of 1	01	23/11/2016	Single Way Charger PCB Layout
04-209156C/IS-01	1 of 1	01	23/11/2016	Five Way Charger General Assembly
93-209157B/IS-02	1 of 1	02	23/11/2016	Five Way Charger PCB CCT Diagram

Certificate Annex

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Equipment APEX2 personal Air Sampling Pump
Manufacturer Casella (Ideal Industries Ltd)



05-209159C/IS-01	1 of 1	01	23/11/2016	Five Way Charger PCB Parts List
02-209158C/IS-01	1 of 1	01	23/11/2016	Five Way Charger PCB Profile
05-209159C/IS-01	1 of 1	01	23/11/2016	Five Way Charger PCB Layout
09-209065B/IS-01	1 of 1	01	23/11/2016	Main PCB Potting Box
09-209151B/IS-01	1 of 1	01	23/11/2016	Display Potting Box

Issue 1

Drawing No	Sheets	Rev	Approved date	Title
04-209140D/IS-02	1 of 1	02	11/09/2017	General Assembly
13-209161A/IS(CMLEX)-01*	1 of 1	01	11/09/2017	Certification Label
03-209147C/IS-02	1 of 1	02	11/09/2017	Battery Pack S/A (Sub Assembly)
93-209148C/IS-06	1 of 1	06	11/09/2017	Battery Pack PCB CCT Diagram
05-209150B/IS-06	1 of 1	06	11/09/2017	Battery Pack PCB Parts List
02-209149B/IS-03	1 of 1	03	11/09/2017	Battery Pack PCB Profile
05-209150B/IS-06	1 of 1	06	11/09/2017	Battery Pack PCB Layout
93-209141D/IS-05	1 of 2	05	11/09/2017	Main PCB CCT Diagram
93-209141D/IS-05	2 of 2	05	11/09/2017	Main PCB CCT Diagram
05-209143C/IS-07	1 & 2	07	11/09/2017	Main PCB Parts List
02-209142C/IS-06*	1 of 1	06	11/09/2017	Main PCB Profile
05-209143C/IS-07	1 of 1	07	11/09/2017	Main PCB Layout
93-209144C/IS-03	1 of 1	03	11/09/2017	Display PCB CCT Diagram
05-209146B/IS-05	1 of 1	05	11/09/2017	Display PCB Parts List
02-209145B/IS-02*	1 of 1	02	11/09/2017	Display PCB Profile
05-209146B/IS-05	1 of 1	05	11/09/2017	Display PCB Layout
04-209152B/IS-02	1 of 1	02	11/09/2017	Single Way Charger General Assembly
93-209153B/IS-03	1 of 1	03	11/09/2017	Single Way Charger PCB CCT Diagram
05-209155B/IS-02	1 of 1	02	11/09/2017	Single Way Charger PCB Parts List
02-209154B/IS-01*	1 of 1	01	11/09/2017	Single Way Charger PCB Profile
05-209155B/IS-02	1 of 1	02	11/09/2017	Single Way Charger PCB Layout
04-209156C/IS-02	1 of 1	02	11/09/2017	Five Way Charger General Assembly

Certificate Annex

Certificate Number CML 16ATEX2152
Equipment APEX2 personal Air Sampling Pump
Manufacturer Casella (Ideal Industries Ltd)



Drawing No	Sheets	Rev	Approved date	Title
93-209157B/IS-03	1 of 1	03	11/09/2017	Five Way Charger PCB CCT Diagram
05-209159C/IS-02	1 of 1	02	11/09/2017	Five Way Charger PCB Parts List
02-209158C/IS-01*	1 of 1	01	11/09/2017	Five Way Charger PCB Profile
05-209159C/IS-02	1 of 1	02	11/09/2017	Five Way Charger PCB Layout
09-209065B/IS-01*	1 of 1	01	11/09/2017	Main PCB Potting Box
09-209151B/IS-01*	1 of 1	01	11/09/2017	Display Potting Box

Drawings marked * are identical to Issue 0 and are included for reference only.

Issue 2

Drawing No.	Sheets	Rev	Approved /issued date	Title
04-209140D/IS-03	1 of 1	03	27-02-2020	General Assembly
03-209147C/IS-03	1 of 1	03	27-02-2020	Battery Pack S/A (Sub Assembly)