



## EU Type Examination Certificate CML 22ATEX1044X Issue 0

- 1 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU
- 2 Equipment **Control Box Type EC2B-\*\*\*\*\***
- 3 Manufacturer **IDEC Corporation**
- 4 Address **2-6-64 Nishimiyahara, Yodogawa-ku, Osaka 532-0004, Japan**
- 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 IEC 60079-7:2015+A1:2018

EN 60079-31:2014

- 10 The equipment shall be marked with the following:



II 2 G D

Ex db eb IIC T6 Gb

Ex tb IIIC T80°C Db

T<sub>a</sub> = -20°C to +50°C

-20°C to +40°C (when potentiometer is fitted)





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## 11 Description

The Control Box Type EC2B-\*\*\*\*\* consists of an enclosure out of stainless steel, blank or coated in the type of protection Increased Safety "eb" and Protection by Enclosure "tb". It is designed to accommodate – separately certified – components in the type of protection Flameproof Enclosures "db" with operating elements, terminals as well as cable glands.

### Technical data

Size	Length	Width	Height
Min	170mm	110mm	106mm
Max	400mm	380mm	106mm

### Specification of the electrical characteristics

	Switch	Pilot Light	Meter	Buzzer	Potentiometer
Rated voltage	Up to 600V	Up to 500V	Up to 300V	Up to 250V	Up to 500V
Rated current	Max 10A	Max 20mA	Max 5A	- (max 8VA)	- (max 1W)
Rated wire range	Max 2.5mm <sup>2</sup>	Max 2.5mm <sup>2</sup>	Max 2.5mm <sup>2</sup>	Max 2.5mm <sup>2</sup>	Max 2.5mm <sup>2</sup>

Ambient temperature	-20°C to +50°C -20°C to +40°C when Potentiometer is fitted
Ingress protection	IP65 according to IEC 60529

The ratings specified are maximum values, actual values will be subject to the electrical equipment used from case to case. Depending on the system conditions, the mode of operation, the utilisation category, etc., the manufacturer will define the definitive ratings which will be within the range of these limiting values and will comply with the relevant standards.

### Nomenclature

EC2B-	*	*	*	*	*	*
1	2	3	4	5	6	7

- 1) Type
- 2) No. of control unit mounting holes
- 3) Set no. of control units
- 4) Material of box
- 5) Gland and Reducer (see list below)
- 6) Wiring and terminal configuration
- 7) May be followed by additional letters



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Gland and Reducer	
C1	5411-5225 (Plastic gland M20, 5 to 10)
C2	5411-5235 (Plastic gland M25, Ø 6 to 13)
C3	5411-5245 (Plastic gland M32, Ø 8 to 15)
C4	5411-5255 (Plastic gland M40, Ø 16 to 23)
D1	5311-2720 (Metallic gland M20, Ø 7 to 12.5)
D2	5311-2730 (Metallic gland M25, Ø 9 to 16.5)
D3	5311-2740 (Metallic gland M32, Ø 11 to 21)
D4	5311-2750 (Metallic gland M40, Ø 19 to 28)
**	etc., ATEX/IECEx approved models

Note: When the Control Box has complicated specifications, Type Designation of "Material of Box", "Gland and Reducer", "Wiring and Terminal configuration" are shown by the "Manufacturing No.".

### List of components

Name of the component	Type	ATEX	IECEx
Empty enclosure	EC2B-B***	PTB 08ATEX1004U	IECEx PTB 15.0031U
Contact block for Pushbutton and Selector Switches, Pushbutton Switches, Selector Switches Lamp unit for Pilot Light, Pilot Light, Emergency stop switch, Key selector switch, Meter	EU2B-N, EU2B-YB, EU2B-YS, EU2B-XL, EU2B-YL, EU2B-YBV, EU2B-YSK, EU2B-YM	PTB 08ATEX1053U	IECEx PTB 15.0006U
Lamp unit for Pilot Light, Pilot Light	EU2B-XL EU2B-YL	CML 21ATEX11190U	IECEx CML 21.0140U
Lens Unit for Pilot Light	EU2B-U	CML 21ATEX31294U	IECEx CML 21.0150U
Operator for pushbutton switch, Operator for selector switch, Operator for emergency stop switch, Operator for key selector switch, Lens unit for pilot light, Mounting hole plug	EU2B-UB', EU2B-US', EU2B-UBV, EU2B-USK, EU2B-UL', EU9Z-BP	PTB 08ATEX1003U	IECEx PTB 15.0007U
Terminal block	e.g. ET2A-8P,	TUV 15ATEX7799U,	IECEx TUR 15.0043U,
Terminal block	264-238	PTB 98ATEX3129U	IECEx PTB 04.0003U
Terminal block	WDU 2.5N	DEMKO 14ATEX1338U	IECEx ULD 14.0005U
Terminal block	WDU 2.5, WPE 2.5, WPE2.5N	DEMKO 14ATEX1338U	IECEx ULD 14.0005U
Terminal block	SAK 2.5/*, EK2.5N	KEMA 97ATEX1798U	IECEx KEM 06.0014U
Terminal block	ZDU2.5, ZPE2.5	DEMKO 15ATEX1467U	IECEx ULD 15.0008U
Terminal block	ZDU 2.5N, ZPE 2.5N	DEMKO 15ATEX1467U	IECEx ULD 15.0008U
Terminal block	A2C 2.5	TUV 16ATEX7909U	IECEx TUR 16.0036U
Terminal block	UT 2.5, UT2.5-PE	KEMA 04ATEX2048U	IECEx KEM 06.0027U



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Name of the component	Type	ATEX	IECEX
Terminal block	ST 2.5, ST 2.5-PE	KEMA 04ATEX2052U	IECEX KEM 06.0051U
Terminal block	UK2.5N	PTB 19ATEX1014U	IECEX PTB 19.0039U
Cable gland	HPN*	DNV 22ATEX73816U	IECEX DNV 22.0099U
Cable gland	EC9E-S	DNV 22 ATEX 73666U	IECEX DNV 22.0109U
Control and signalling device adapters (for potentiometer)	05-0003-00** / * **	CML 13ATEX3010U	IECEX CML 14.0005U
Control and Switching Unit (Potentiometer)	07-337*_* ***/****	CML 17ATEX1119U	IECEX CML 17.0057U
Buzzer Unit	EC9F-Z*	CML 21ATEX11398U	IECEX CML 21.0165U

**Notes:**

- PTB 08ATEX1048 / IECEX PTB 15.0032 is superseded by this certificate.
- The product covered by Issue 0 of this certificate remains identical to that previously covered by PTB 08ATEX1048 / IECEX PTB 15.0032 apart from the modifications shown in section 1.1.1.
- Where PTB 08ATEX1048 / IECEX PTB 15.0032 is specified in other product certification, or other technical specifications, this certificate reference for the product shall be used in its place; updating of the other product certificate or technical specification is not required.

**12 Certificate history and evaluation reports**

Issue	Date	Associated report	Notes
0	06 Apr 2023	R14851A/00	Issue of prime certification

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 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.
- A routine test specified by IEC 60079-7, clause 7.1 is required. See drawing number A39511, A39511-1, A39732, A39732-1 and A39737.

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

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

- To prevent an electrostatic charging hazard - when the control box enclosure is provided with a coat of paint, the enclosure shall not be used in affected by charge-producing processes, mechanical friction and separation processes, electron emission (e.g. in the vicinity of electrostatic coating equipment) and pneumatic movement of dust.



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- ii. Cables or insulated wires used with the equipment shall have a heat resistant temperature of 70°C or higher.
- iii. No modifications shall be made to the flamepaths of the unit without consulting the manufacturer.
- iv. The end user shall ensure that the cable is suitably clamped to prevent pulling on the cable/cable gland.

**Buzzer**

- v. The buzzer shall be operated by a control system that limits operation to:
  - a. Less than 10 minutes continuous operation, or
  - b. Energised/de-energised cycles with shorter energised durations and with the de-energised time greater than or equal to half of the total cycle time.At no time shall the buzzer remain energised for greater than 10 minutes.

# Certificate Annex

**Certificate Number** CML 22ATEX1044X  
**Equipment** Control Box Type EC2B-\*\*\*\*\*  
**Manufacturer** IDEC Corporation



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

## Issue 0

Drawing No	Sheets	Rev	Approved date	Title
PRJ-14851A1_CML	1 to 7	4	06 Apr 2023	Description, Flameproof and Increased Safety Control Box
A39463	1 of 1	B	06 Apr 2023	Drawing, EC2B-11**B.. Construction
A39464	1 of 1	B	06 Apr 2023	Drawing, EC2B-21**B.. Construction
A39465	1 of 1	B	06 Apr 2023	Drawing, EC2B-31**B.. Construction
A39466	1 of 1	B	06 Apr 2023	Drawing, EC2B-41**B.. Construction
A39467	1 of 1	B	06 Apr 2023	Drawing, EC2B-51**B.. Construction
A39468 A39468-1	1 to 2	B	06 Apr 2023	Drawing, EC2B-22**B.. Construction
A39469 A39469-1	1 to 2	B	06 Apr 2023	Drawing, EC2B-32**B.. Construction
A39470 A39470-1	1 to 2	B	06 Apr 2023	Drawing, EC2B-42**B.. Construction
A39471 A39471-1	1 to 2	B	06 Apr 2023	Drawing, EC2B-52**B.. Construction
A39472 A39472-1	1 to 2	B	06 Apr 2023	Drawing, EC2B-23**B.. Construction
A39473 A39473-1	1 to 2	B	06 Apr 2023	Drawing, EC2B-33**B.. Construction
A39474 A39474-1	1 to 2	B	06 Apr 2023	Drawing, EC2B-43**B.. Construction
A39475 A39475-1	1 to 2	B	06 Apr 2023	Drawing, EC2B-53**B.. Construction
A39650 A39650-1	1 to 2	-	06 Apr 2023	Drawing, EC2B-63**B.. Construction
A39651 A39651-1	1 to 2	-	06 Apr 2023	Drawing, EC2B-64**B.. Construction
A39510	1 of 1	B	06 Apr 2023	Drawing, NAMEPLATE Construction
A39652	1 of 1	B	06 Apr 2023	Drawing, PADLOCKING COVER for PUSHBUTTON SWITCH Construction
A39653	1 of 1	B	06 Apr 2023	Drawing, PADLOCKING COVER for E-STOP SWITCH Construction
A37577	1 of 1	-	06 Apr 2023	NAMEPLATE 2 construction
A37578	1 of 1	-	06 Apr 2023	COVER for switch construction

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**Equipment** Control Box Type EC2B-\*\*\*\*\*  
**Manufacturer** IDEC Corporation



Drawing No	Sheets	Rev	Approved date	Title
A49427	1 of 1	C	06 Apr 2023	EC2B Marking
A39476 A39476-1 A39476-2 A39476-3 A39476-4 A39476-5 A39476-6 A39476-7 A39476-9	1 to 9	- B - - - - - -	06 Apr 2023	Drawing, EC2B-****B.. Creepage distances and Clearances
A39511 A39511-1	1 to 2	- B	06 Apr 2023	Drawing, EC2B-****B.. and EU2B-* Routine test specification
A49293	1 of 1	C	06 Apr 2023	EC2B-****B.. Service condition
A39731 A39731-1 A39731-2 A39731-3 A39731-4 A39731-5 A39731-6	1 to 7	-	06 Apr 2023	Drawing, EC2B-****B.. Creepage distances and Clearances2
A39732 A39732-1	1 to 2	-	06 Apr 2023	Drawing, EC2B-****B.. and EU2B-* Routine test specification2
A39736 A39736-1 A39736-2 A39736-3 A39736-4	1 to 5	B - B B B	06 Apr 2023	Drawing, EC2B-****B.. Creepage distances and Clearances3
A39737	1 of 1	B	06 Apr 2023	Drawing, EC2B-****B.. and EU2B-* Routine test specification3
EC2BDC01_CML	1 to 3	4	06 Apr 2023	Ex components for EC2B control box
A39758	1 of 1	-	06 Apr 2023	Drawing, EC2B-21**B.. Construction2
A39759	1 of 1	-	06 Apr 2023	Drawing, EC2B-31**B.. Construction2
A39760	1 of 1	-	06 Apr 2023	Drawing, EC2B-51**B.. Construction2
A39754 A39754-1 A39754-2	1 to 3	-	06 Apr 2023	Drawing, EC2B-****B.. Creepage distances and Clearances4