

UK Type Examination Certificate CML 21UKEX2005X Issue 0

United Kingdom Conformity Assessment

- 1 Product or Protective System Intended for use in Potentially Explosive Atmospheres UKSI 2016:1107 (as amended) – Schedule 3A, Part 1
- 2 Equipment **BA320x CPU Module**
- 3 Manufacturer **BEKA associates Ltd.**
- 4 Address **Old Charlton Road, Hitchin, Herts.
SG5 2DA, UK**

5 The equipment is specified in the description of this certificate and the documents to which it refers.

6 Eurofins E&E CML Limited, Newport Business Park, New Port Road, Ellesmere Port, CH65 4LZ, United Kingdom, Approved Body Number 2503, in accordance with Regulation 43 of the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016, UKSI 2016:1107 (as amended), 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 Schedule 1 of the Regulations.

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 specific conditions of use (affecting correct installation or safe use). These are specified in Section 14.

8 This UK Type Examination certificate relates only to the design and construction of the specified equipment. Further requirements of the Regulations apply to the manufacturing process and supply of the product. These are not covered by this certificate.

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 60079-11:2012

10 The equipment shall be marked with the following:



II 1 G D

Ex ia IIC T4 Ga

Ex ia IIIC T120°C Da

-40°C ≤ Ta ≤ +65°C

A Snowden



CML 21UKEX2005X
Issue 0

11 Description

The BA320x CPU Module is an intrinsically safe module intended for use with the Pageant system. The module comprises circuit boards mounted within a non-metallic enclosure with a single card edge connector for plugging into separately certified equipment (e.g. the Pageant Display unit).

The equipment also carries a terminal block for connection of the external supply and a programming connector for use in the safe area only.

Depending on the model type, the equipment may contain a communications module with connector for connection to separately certified intrinsically safe equipment.

The following model types are available:

Model number	Description
BA3201	CPU only, no communications option fitted
BA3202	CPU unit with Modbus RTU communications
BA3203	CPU unit with Profibus DP communications

Intrinsic safety is achieved by limiting energy storage and discharge, and by connecting to other equipment via intrinsically safe interface devices.

The equipment has the following intrinsically safe parameters for each connector:

Barrier Power in TB1 Terminals 1-2	Barrier Power out PL1 Terminals 39, 40	3V3_CPU supply PL1 Terminals 29, 31	Data Buses PL1 Terminals 1- 14, 17-22, 24, 26, 28, 30, 32	Comms Port SK100 Terminals 1- 9
U _i = 12.4V		U _i = 4.1V	U _i = 4.1V	U _i = 4.2V
I _i = 2.68A		I _i = 2.30A		
P _i = 5.44W		P _i = 1.09W		
	U _o = 12.4V		U _o = 4.1V	U _o = 3.8V
	I _o = 2.68A		I _o = 203mA	I _o = 132mA
	P _o = 5.44W		P _o = 208mW	P _o = 126mW
C _i = 0	C _i = 0	C _i = 498μF	C _i = 0	C _i = 0
L _i = 0	L _i = 4μH	L _i = 0	L _i = 0	L _i = 0
	SEE NOTE 1			
	Co =	Lo =		
	IIA 30μF	35.6μH		
	IIB 7.9μF	15.8μH		
	IIC 1.24μF	0.95μH		
	III 7.9μF	15.8μH		



CML 21UKEX2005X
Issue 0

NOTE 1 - The above load parameters apply when one of the two conditions below is met:

- the total Li of the external circuit (excluding the cable) is < 1% of the Lo value or
- the total Ci of the external circuit (excluding the cable) is < 1% of the Co value.

If neither of the above conditions are met, the load parameters are both reduced by 50%. Additionally, the reduced capacitance of the external circuit (including cable) shall not be greater than 1µF for Groups IIA, IIB, and III, and 600nF for Group IIC.

12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	25 Jun 2021	R13616A/00	Issue of prime certificate

Note: Drawings that describe the equipment 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.
- The manufacturer shall ensure that sufficient documentation is provided with the equipment pertaining to the architecture and design of the BEKA Pageant System, to permit the user to make the necessary intrinsically safe system calculations and documentation.

14 Specific Conditions of Use

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

- Under certain extreme circumstances, the non-metallic parts incorporated in the enclosure of this equipment may generate an ignition-capable level of electrostatic charge. 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. In addition, the equipment shall only be cleaned with a damp cloth.
- In installations requiring EPL Da, Db, or Dc, the equipment shall be mounted within an enclosure which provides a minimum degree of protection of IP5X and which meets the requirements of EN 60079-0 Clause 8.4 (material composition requirements for metallic enclosures for Group III) and/or EN 60079-0 Clause 7.4.3 (Avoidance of a build-up of electrostatic charge for Group III) as appropriate.

All cable entries into the equipment shall be made via cable glands which provide a minimum degree of protection of IP5X.
- The equipment shall only be connected to programming equipment via SK3 when in the safe area and shall only be connected via the galvanically isolating interface unit provided by the manufacturer.
- This equipment shall only be used as part of a BEKA Pageant System.

Certificate Annex

Certificate Number CML 21UKEX2005X
Equipment BA320x CPU Module
Manufacturer BEKA associates Ltd.



The following documents describe the equipment defined in this certificate:

Issue 0

Drawing No	Sheets	Rev	Approved date	Title
CI3201-01	1 to 22	1	25 Jun 2021	ATEX & IECEx Certification Information for BEKA BA320x CPU Module