



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

Certificate No.: **IECEX CML 20.0152X** Page 1 of 3 [Certificate history:](#)
Status: **Current** Issue No: 0
Date of Issue: 2021-06-25
Applicant: **BEKA associates Ltd.**
Old Charlton Road
Hitchin SG5 2DA
United Kingdom
Equipment: **BA320x CPU Module**
Optional accessory:
Type of Protection: **Intrinsic safety**
Marking: Ex ia IIC T4 Ga
Ex ia IIIC T120°C Da
-40°C ≤ Ta ≤ +65°C

Approved for issue on behalf of the IECEx
Certification Body:

A Snowdon MIET

Position:

Assistant Certification Manager

Signature:
(for printed version)

A Snowdon

Date:

2021-06-25

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Certificate issued by:

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





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Manufacturer: **BEKA associates Ltd.**
Old Charlton Road
Hitchin SG5 2DA
United Kingdom

Additional
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 Report:

[GB/CML/ExTR20.0217/00](#)

Quality Assessment Report:

[GB/ITS/QAR06.0002/08](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

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).

See Annex for full description and conditions of manufacture.

SPECIFIC CONDITIONS OF USE: YES as shown below:

See Annex for Specific Conditions of Use.

Annex:

[IECEX CML 20.0152X Annex Iss 0.pdf](#)

Annexe to: IECEx CML 20.0152X, Issue 0

Applicant: BEKA associates Ltd.

Apparatus: BA320x CPU Module

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

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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
	SEE NOTE 1	Co =	Lo =			
	IIA	30 μ F	35.6 μ H			
	IIB	7.9 μ F	15.8 μ H			
	IIC	1.24 μ F	0.95 μ H			
	III	7.9 μ F	15.8 μ H			

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 1 μ F for Groups IIA, IIB, and III, and 600nF for Group IIC.

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.

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.



- ii. 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 IEC 60079-0 Clause 8.4 (material composition requirements for metallic enclosures for Group III) and/or IEC 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.
- iii. 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.
- iv. This equipment shall only be used as part of a BEKA Pageant System.