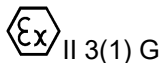




Type Examination Certificate **CML 20ATEX3123U Issue 0**

- 1 Components intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU
- 2 Component **BA212 and BA2x3 Power Isolators**
- 3 Manufacturer **BEKA Associates Ltd.**
- 4 Address **Old Charlton Road, Hitchin,
Herts. SG5 2DA
UK**
- 5 The component 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, certifies that this component 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 of Directive 2014/34/EU.
The examination and test results are recorded in the confidential reports listed in Section 12.
- 7 The 'U' suffix after the certificate number indicates that the component is subject to conditions of safe use (affecting correct installation or safe use). These are specified in Section 14.
- 8 This Type Examination certificate relates only to the design and construction of the specified equipment or component. Further requirements of Directive 2014/34/EU Annex VIII 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 60079-11:2012 EN 60079-7:2015+A1:2018
- 10 The equipment shall be marked with the following:



Ex ec [ia Ga] IIC Gc

-40°C ≤ Ta ≤ +70°C*

* Additional information relating to the temperature range is given in the Schedule of Limitations.



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11 Description

The BA212 and BA2x3 Power Isolators are component certified devices suitable for installation in areas requiring EPL Gc. The BA212 provides a single isolated intrinsically safe output. The BA2x3 provides between 1 and 4 isolated intrinsically safe outputs (x = number of outputs). The outputs are suitable for routing into hazardous areas requiring EPL Ga. Intrinsic safety is achieved by limiting the energy available to the hazardous area.

The equipment has the following safety description:

BA212	BA2x3 (parameters for each output)
Um = 30V	Um = 30V
Uo = 12.4V	Uo = 12.4V
Io = 2.66A	Io = 0.67A
Po = 5.2W	Po = 1.36W

The capacitance and either the inductance or the inductance to resistance ratio (L/R) of the load connected to the output terminals shall not exceed the following values:

BA212				
Group	Capacitance (µF)	Inductance (µH)	or	L/R Ratio (µH/Ohm)
IIC	1.24	5		4.3
IIB	7.9	20		17
IIA	30.0	40		34

BA2x3 (for each output)				
Group	Capacitance (µF)	Inductance (µH)	or	L/R Ratio (µH/Ohm)
IIC	1.24	79		17
IIB	7.9	317		68
IIA	30.0	634		137

The above load parameters apply where either

- The external circuit contains no combined lumped inductance L_i and capacitance C_i greater than 1% of the above values, or
- The inductance and capacitance are distributed as in a cable, or
- The external circuit contains either only lumped inductance or lumped capacitance in combination with a cable.

In all other situations e.g. if the external circuit contains combined lumped inductance and lumped capacitance, up to 50% of each of the L and C values is allowed. The reduced capacitance of the external circuit (including cable) shall not be greater than 1µF for Groups IIA and IIB, or greater than 600nF for Group IIC.

Note: The associated Intrinsic Safety aspects of the components, denoted by '[ia Ga]' in the coding, are covered by an equipment EU Type examination certificate, CML 20ATEX2122X.



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12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	12 Jun 2020	R12362A/00	Issue of prime certificate

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.

- i. 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.
- ii. The BA2x3 shall be subjected to a routine isolation test between each intrinsically safe output using a test voltage of 600Vrms for a duration of at least 1 second.

14 Schedule of Limitations

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

- i. The isolator shall only be powered from a supply with a maximum output voltage of 30V and which complies with one of the following:
 - Is a SELV or PELV system
 - A safety isolating transformer complying with the requirements of IEC 61558-2-6 or technically equivalent standard
 - Apparatus complying with the IEC 60950 series, IEC 61010-1, or a technically equivalent standard
 - Fed directly from cells or batteries
- ii. The isolator shall be installed in an enclosure that meets the requirements of a type of protection as specified in EN/IEC 60079-0 clause 1, with a degree of protection at least as required for Ex e.
- iii. The equipment manufacturer shall ensure that the isolator is used within its rated operating temperature range, with due regard to other heat sources which may be present in the equipment enclosure. The service temperature range is the same as the ambient temperature range of -40°C to +70°C.
- iv. Where necessary, the equipment manufacturer shall take into account the following maximum temperature rises:

Item	Rise (K)
Isolator case	28
Input terminal TB1/TB2/TB3/TB4	20
Output terminal TB101/TB102/TB103/TB104	25
Small components	85



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- v. The isolator is suitable for use in Ex tb applications when installed inside a suitable enclosure. The power consumption is 8.0W (BA212 and BA2x3)
- vi. The increased safety terminals TB1/TB2/TB3/TB4 are suitable for use with the following conductor cross section
 - solid [mm²] (AWG) 0,2 - 4 (24 - 12)
 - flexible [mm²] (AWG) 0,2 - 2,5 (24 - 14)

Certificate Annex

Certificate Number CML 20ATEX3123U
Equipment BA212 and BA2x3 Power Isolators
Manufacturer BEKA Associates Ltd.



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

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Drawing no.	Sheets	Rev	Approved date	Title
CI202-01	1 to 15	1	11 Jun 2020	IECEX and ATEX Certification Information for BA212 and BA2x3 power isolator