EU-Type Examination Certificate

In accordance with EC NOTICE TO STAKEHOLDERS WITHDRAWAL OF THE UNITED KINGDOM AND EU RULES IN THE FIELD OF INDUSTRIAL PRODUCTS dated 13 March 2020.

This issued certificate - Certificate No: ITS16ATEX28408X and supporting Technical Construction File underwent a legal transfer of new ownership by signed agreement between the named applicant on this certificate and the 3rd party bodies involved in the transfer from NB0359 to NB2575 on 17 December 2020

Name: Fabrizio Massei

Position: ATEX Certification Officer

Signature:

Date: 17 December 2020

1. **EU-TYPE EXAMINATION CERTIFICATE**

2. **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU**

3. **EU-Type Examination Certificate Number: ITS16ATEX28408X Issue 3**

4. **Product:** **'E' and 'G' series field and panel mount externally powered rate totalizers BA317E, BA337E, BA367E, BA377E, BA318E, BA338E, BA368E, BA378E, BA388E, BA317E-SS, BA337E-SS, BA367E-SS, BA377E-SS, BA314E, BA334E, BA364E, BA374E, BA384E, BA314G, BA334G, BA364G, BA374G and BA384G.**

5. **Manufacturer:** **BEKA associates Limited**

6. **Address:** **Old Charlton Road Hitchin, Herts SG5 2DA United Kingdom**

7. This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8. Intertek Testing and Certification Limited, Notified Body number 0359 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council dated 26 February 2014, certifies that the product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

   The examination and test results are recorded in confidential Intertek Report Ref 102170728LHD-001A Issue 1 dated March 2016, Intertek Report Ref 102578398LHD-001A Issue 1 dated August 2016 and Intertek Report Ref 102738036LHD-001A dated November 2016.

9. Compliance with the Essential Health and Safety Requirements has been assured by compliance with EN 60079-0:2012 + A11:2013 and EN 60079-11:2012 except in respect of those requirements referred to at item 16 of the Schedule.

10. If the sign "X" is placed after the certificate number, it indicates that the product is subject to Specific Conditions of Safe Use specified in the Schedule to this certificate.

11. This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12. The marking of the product shall include the following:

    II 1G Ex ia IIC T5 Ga
    -40°C ≤ Ta ≤ +60°C
    -40°C ≤ Ta ≤ +70°C (see description for more detailed marking)
    II 1D Ex ia IIIC T80°C Da
    -40°C ≤ Ta ≤ +60°C

A T Austin
Certification Officer
25th November 2016

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13. Description of Equipment or Protective System

The BEKA 'E' and 'G' series externally powered rate totalizers, models BA317E, BA337E, BA367E, BA377E, BA318E, BA338E, BA368E, BA378E, BA388E, BA317E-SS, BA337E-SS, BA367E-SS, BA377E-SS, BA314E, BA334E, BA364E, BA374E, BA384E, BA314G, BA334G, BA364G, BA374G and BA384G are indicators displaying rate value and/or total value in various engineering units. They are controlled and configured via the four push-buttons located in front panel which are accessible to the user.
Models BA317E, BA337E, BA367E, BA377E, BA318E, BA338E, BA368E, BA378E, BA388E, BA317E-SS, BA337E-SS, BA367E-SS and BA377E-SS are panel mounted while models BA314E, BA334E, BA364E, BA374E, BA384E, BA314G, BA334G, BA364G, BA374G and BA384G are field mounted.
There are two main versions of the rate totalizers: single channel input and dual channel input. Factory fitted accessories include display backlight, dual alarms output, an isolated 4-20mA output and single alarm / single pulse output. Equipment comprises connectors or terminals for connection to external circuits. All external connections must be supplied from suitable and certified equipment meeting input/output parameters of external connections.
The panel mounted models BA317E, BA337E, BA367E and BA377E are housed in non-metallic (bezel size 96mm x 48mm) enclosures, models BA317E-SS, BA337E-SS, BA367E-SS and BA377E-SS within stainless steel (bezel size 105mm x 60mm) enclosure and BA318E, BA338E, BA368E, BA378E and BA388E models are housed in non-metallic (bezel size 144mm x 72mm) enclosure. Stainless steel enclosure is Ex component certified under IECEx ITS14.0007U and allows equipment to be installed also in panels for use in explosive dust atmospheres. The front of the stainless steel enclosure complies with requirements for 'Ex e', 'Ex nA', 'Ex p' and 'Ex t' type of protection providing adequate mechanical strength and minimum degree of protection by enclosure of IP66.
The 'G' models are housed within small field Ex approved non-metallic enclosure certified under IECEx certificate no. IECEx ITS14.0063U. The 'G' series enclosures provide minimum degree of protection by enclosures of IP66. The models BA314E, BA334E, BA364E, BA374E and BA384E are housed within a large field non-metallic enclosure with minimum ingress of protection of IP66.
Models BA317E-SS, BA337E-SS, BA367E-SS and BA377E-SS can be used in an ambient of -40ºC ≤ Ta ≤ +70ºC when installation is not relying upon the certified impact and ingress protection provided by the front of the enclosure to maintain the certification of the panel enclosure in which the instrument is mounted.

Equipment provides several terminals for connection to external circuits:
The power supply input terminals 1 and 2 have following parameters:

U_I = 28V	U_O = 0
I_I = 200mA	I_O = 0
P_I = 0.84W	P_O = 0

The equivalent parameters are:

C_I = 2nF	L_I = 4µH

The input terminals 4, 5 and 6 and input terminals 8, 9 and 10 have the following parameters:

U_I = 28V	U_O = 1.1V
I_I = 200mA	I_O = 0.5mA
P_I = 0.84W	P_O = 0.2mW

For intrinsic safety considerations under fault conditions, the voltage, current and power at terminals 4, 5 and 6 and input terminals 8, 9 and 10 do not exceed those stated in section 5.7 of EN 60079-11:2012.
The equivalent parameters are:

C_I = 2nF	L_I = 4µH

The input terminals 3, 4, 5 and 6 and input terminals 7, 8, 9 and 10 have the following input parameters:

U_I = 14V	U_O = 10.5V
I_I = 200mA	I_O = 9.2mA
P_I = 0.7W	P_O = 24mW

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The equivalent parameters are:
C_I = 2nF L_I = 4µH

The Reset terminals RS1 and RS2 have the following parameters:
U_I = 28V U_O = 3.8V
I_I = 200mA I_O = 1mA
P_I = 0.84W P_O = 1mW
The equivalent parameters are:
C_I = 0 L_I = 0

Optional Alarm output terminals A1, A2 and A3, A4 have the following parameters:
U_I = 28V U_O = 1.47V
I_I = 200mA I_O = 1µA
P_I = 0.84W P_O = 2µW
For intrinsic safety considerations under fault conditions, the voltage, current and power at terminals A1, A2 and A3, A4 do not exceed those stated in section 5.7 of EN 60079-11:2012.
The equivalent parameters are:
C_I = 22nF L_I = 4µH

Optional Pulse output terminals P1, P2 have the following parameters:
U_I = 28V U_O = 0
I_I = 200mA I_O = 0
P_I = 0.84W P_O = 0
For intrinsic safety considerations under fault conditions, the voltage, current and power at terminals P1, P2 do not exceed those stated in section 5.7 of EN 60079-11:2012.
The equivalent parameters are:
C_I = 0 L_I = 0

Optional 4-20mA output terminals C1, C2, C3 and C4 have the following parameters:
U_I = 28V U_O = 0
I_I = 200mA I_O = 0
P_I = 0.84W P_O = 0
For intrinsic safety considerations under fault conditions, the voltage, current and power at terminals C1, C2, C3 and C4 do not exceed those stated in section 5.7 of EN 60079-11:2012.
The equivalent parameters are:
C_I = 2.2nF L_I = 4µH

Marking for the equipment:
BA317E, BA337E, BA367E, BA377E, BA318E, BA338E, BA368E, BA378E, BA388E, BA314E, BA334E, BA364E, BA374E, BA384E
II 1G Ex ia IIC T5 Ga -40°C ≤ Ta ≤ +70°C
BA317E-SS, BA337E-SS, BA367E-SS, BA377E-SS
II 1G Ex ia IIC T5 Ga -40°C ≤ Ta ≤ +60°C (see description)
II 1D Ex ia IIIC T80°C Da -40°C ≤ Ta ≤ +60°C
BA314G, BA334G, BA364G, BA374G and BA384G
II 1G Ex ia IIC T5 Ga -40°C ≤ Ta ≤ +70°C
II 1D Ex ia IIIC T80°C Da -40°C ≤ Ta ≤ +60°C

14. Report Number

Intertek Report Ref. 102170728LHD-001A Issue 1 dated March 2016.
Intertek Report Ref. 102578398LHD-001A Issue 1 dated August 2016.
Intertek Report Ref. 102738036LHD-001A Issue 1 dated November 2016.

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15. Special Conditions of Certification

(a). Specific Conditions of Safe Use

- For use in Group IIIC explosive dust atmospheres only models BA317E-SS, BA337E-SS, BA367E-SS and BA377E-SS shall be used and mounted such that the instrument terminals are protected by at least IP6X enclosure in accordance with IEC 60079-0 standard.
- For installation in Ex e, Ex nA, Ex p or Ex t panel enclosure, all connections of BA317E-SS, BA337E-SS, BA367E-SS and BA377E-SS models must be supplied via appropriately rated and approved equipment meeting input/output parameters of external connection.
- When installed purely as intrinsically safe equipment, the ambient temperature range of the BA317E-SS, BA337E-SS, BA367E-SS and BA377E-SS models is: -40°C <= Ta <= +70°C.
- When installed in a Zone 0 potentially explosive atmosphere requiring EPL Ga apparatus, the instrument shall be installed such that even in the event of rare incidents, an ignition source due to impact or friction between the aluminium label and iron/steel is excluded.
- Provision is made for field mounted equipment for fitting cable entry devices suitable for intended use, location and protection concept cable glands maintaining the ingress of protection of the enclosure.

(b). Conditions of Manufacture - Routine Tests

- The infallible transformers shall be routinely tested as per EN 60079-11:2011 Clause 11.2 with applied voltage values given in Table 10 for routine tests for other than mains transformers

16. Essential Health and Safety Requirements (EHSRs)

The relevant Essential Health and Safety Requirements (EHSRs) have been identified and assessed in Intertek Report Ref. 102578398LHD-001A Issue 1 dated August 2016.

17. Drawings and Documents

Title:	Drawing No.:	Rev. Level:	Date:
IECEx and ATEX Ex ia Certification Information for 'E' series externally powered rate totalisers BA317E, BA318E, BA337E, BA338E, BA367E, BA368E, BA377E, BA378E and BA388E .	CI330-41	1	Feb 2016

18. Details of Certificate changes

Modifications to the product covered under **Issue 2**:

- Addition of Warning on the label for panel mounted equipment related to electrostatic discharge hazard and capacitance of the metallic label with reference to earth of 8pF.
- Addition of field mounted version of externally powered rate totalisers denoted by new model numbers: BA314E, BA334E, BA364E, BA374E, BA384E, BA314G, BA334G, BA364G, BA374G and BA384G
- Update to the drawings to reflect above changes.

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Title:	Drawing No.:	Rev. Level:	Date:
IECEx and ATEX Ex ia Certification Information for 'E' series externally powered rate totalisers BA317E, BA318E, BA337E, BA338E, BA367E, BA368E, BA377E, BA378E and BA388E .	CI330-41	2	July 2016

Modifications to the product covered under **Issue 3**:

- Addition of optional components not listed previously in the documentation. Components do not invalidate protection concept of the equipment.
- Addition of Specific Condition of Use related to aluminium label fitted on the units.
- Update to the manufacturer documentation to reflect above change.

Title:	Drawing No.:	Rev. Level:	Date:
IECEx and ATEX Ex ia Certification Information for 'E' series externally powered rate totalisers BA317E, BA318E, BA337E, BA338E, BA367E, BA368E, BA377E, BA378E and BA388E .	CI330-41	3	Sept 2016