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: ITS11ATEX27254X

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 [illegible] 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:** **ITS11ATEX27254X Issue 4**

4. **Product:** **4 and 5 Digit Panel Mounting Indicators and Rate Totaliser**

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.

   In accordance with Article 41 of Directive 2014/34/EU, EC-Type Examination Certificate referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. New issues of such EC-Type Examination Certificates, and Supplementary Certificates to such certificates, may continue to bear the original certificate number issued prior to 20 April 2016.

   The examination and test results are recorded in confidential Intertek Report Ref 10970263LHD-001 Issue 0 dated September 2017.

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 1GD
    Ex ia IIC T5 Ga
    Ex ia IIIC T80°C Da IP20
    -40°C ≤ Ta ≤ +70°C

A M Smart
Certification Officer
16th October 2017

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13. Description of Equipment or Protective System

The 4 and 5 Digit Panel Mounting Indicators and Rate Totaliser are panel mounted loop powered equipment designed to display a measured variable in meaningful engineering units within the hazardous area. The zero and span of the display are independently adjustable allowing the instruments to be calibrated to display a linear variable represented by the 4/20 mA signal.

A root extractor and an adjustable sixteen segment lineariser enable the indicator to display flow and non-linear variables such as tank level in engineering units.

The 4 and 5 Digit Panel Mounting Indicators and Rate Totaliser may be one of the following;

BA307E and BA308E 4 Digit Indicators
BA327E and BA328E 5 Digit Indicators
BA358E Rate Totaliser

The 4 and 5 Digit Panel Mounting Indicators and Rate Totaliser may optionally be fitted with Alarm board and may additionally be fitted with an optional Backlight board.

The 4 and 5 Digit Panel Mounting Indicator and Rate Totaliser comprise a main board, a display module, an optional Alarm board and an optional Backlight board, all housed within a plastic enclosure. The enclosure provides a degree of protection of at least IP20.

Intrinsic safety is assured by limitation of voltage, current and power, limitation of capacitance and inductance, and infallible segregation.

The maximum intrinsically safe input and output parameters at the external connections are as follows:

TB1 Terminals 1 and 3 (Loop Input); TB2 Terminal 12 and TB1 Terminal 3 (TB2 -13 and TB1 – 1 connected in series):
U_i = 30V
I_i = 200mA
P_i = 0.84W
C_i = 13nF
L_i = 0.008mH (0.01mH)

TB2 Terminals 12, 13 and 14 (Backlight Input):
U_i = 30V
I_i = 200mA
P_i = 0.84W
C_i = 13nF
L_i = 0.008 mH (0.01 mH)

TB3 Terminals RS1 and RS2:
U_i = 30V
I_i = 200mA
P_i = 0.84W
C_i = 13nF
L_i = 0.008mH (0.01mH)
C_o = 53nF
L_o = 0.79mH
U_o = 6 V
I_o = 2.5 mA
P_o = 3.75 mW

TB4 Terminals 8 and 9; Terminals 10 and 11 (Alarm 1 and Alarm 2)
U_i = 30V
I_i = 200mA
P_i = 0.84W
C_i = 24nF
Li = 0.008mH (0.01mH)

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For intrinsic safety considerations, under faults conditions, the voltage, current and power at the output terminals TB1 - 1 & 3, terminals TB2 – 12 & TB1 – 3, and terminals TB4 - 8 & 9 and 10 & 11 do not exceed those specified in clause 5.7 of EN 60079-11. The equivalent capacitance and inductance are the result of r.f. suppression components directly connected across the apparatus input terminals.

14. Report Number

Intertek Report Ref: 102970263LHD-001 Issue 0 dated September 2017.

15. Special Conditions of Certification

(a). Specific Conditions of Safe Use

- For use in Group IIIC conductive dust atmospheres, the Indicator or Totaliser shall be mounted such that the instrument terminals have at least IP6X protection.

(b). Conditions of Manufacture - Routine Tests

- The voltages applied to infallible transformers shall conform to the values given in Table 10 as per the requirements of EN 60079-11:2011 clause 11.2, Routine tests for infallible 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: 102970263LHD-001 Issue 0 dated September 2017.

17. Drawings and Documents

Title:	Drawing No.:	Rev. Level:	Date:
ATEX & IECEx Certification Information for BA304E, BA307E & 308E 4 Digit Indicators BA324E, 327E & BA328E 5 Digit Indicators BA354E & BA358E Rate Totalisers	CI300-61, sheets 1, 2, 4 – 8, 16, 17, 26, 27, 30, 31, 33 – 36 of 36	2	Oct' 13

18. Details of Certificate changes

Issue 2: Deletion of output parameters at terminals TB1, TB2 and TB4

Issue 3 (Intertek Project No. G101515756):

The modification which is the subject of this report comprises the following:

- Addition of alternative track layout for Alarm Board (PC167) and for BA3x7E & BA3x8E Panel Unit Main Board (PC162).
- Power rating of safety related components R2, R112 and R119 was changed from 0.5W to 0.25W at 70°C. This change does not compromise intrinsic safety of the equipment.
- Alternative metallic enclosure for the equipment
- Non-safety related changes to the circuit as follow:
  - Addition of rectifying diode D110
  - 4 pin header connector changed to 3 pin header for communication purposes
  - Track links LK102 and LK103 replaced with zero 0Ω resistors R120 and R121
  - Zener diodes D1, D4 – D8 replaced with bi-directional TVS diodes on input terminals
  - Addition of C102, C106 and IC101 power connections, all omitted in error
  - Zener diodes D4 and D5 changed from 6V max, 0.84W @ 70°C to 39.2V max, 2.6W @70°C and If = 1A max

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Associated drawings with Issue 3:

Title:	Drawing No.:	Rev. Level:	Date:
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Issue 4 (Project No. G102970263)

Modifications to the product covered under issue 4:

- ATEX Certificate ITS11ATEX27254X and report updated to latest format
- Removal of reference to 60079-26 and 61241-11 standards
- Update to latest editions of EN 60079-0 and EN 60079-11
- Drawing updated to latest issue

Associated drawings with Issue 4:

Title:	Drawing No.:	Rev. Level:	Date:
Certification Information for BA307E, BA308E, BA327E, BA328E Digital Indicators & BA358E Rate Totaliser	CI300-61, sheets 1, 2, 4-8, 16, 17, 26, 27, 30-36	3	Feb '15