



1. **TYPE EXAMINATION CERTIFICATE**

2. **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive 94/9/EC**

3. **Type Examination Certificate Number:** ITS14ATEX48028X

4. **Equipment or Protective System:** BA307NE and BA327NE 4 and 5 digit panel mounting indicators

5. **Manufacturer:** BEKA Associates Ltd

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

7. This equipment or protective system 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 certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive 94/9/EC of 23 March 1994

The examination and test results are recorded in confidential Intertek Report 101550726MAN-001 dated August 2014.

9. Compliance with the Essential Health and Safety Requirements has been assured by compliance with standards EN 60079-0:2009, EN 60079-11:2007, EN 60079-15:2010 and EN 60079-31:2009 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 equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

11. This Type examination certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

12. The marking of the equipment or protective system shall include the following:-



II 3 G Ex nA ic IIC T5 Gc

II 3 D Ex ic tc IIIC T80°C Dc

-40°C ≤ Ta ≤ 70°C

Intertek Testing & Certification Limited
Intertek House, Cleeve Road, Leatherhead, Surrey, KT22 7SB
Tel: +44 (0)1372 370900 Fax: +44 (0)1372 370977
www.intertek.com

Registered No 3272281 Registered Office: Academy Place, 1-9 Brook Street, Brentwood, Essex, CM14 5NQ.



A Dickinson
Certification Officer
8 September 2014

This certificate may only be reproduced in its entirety and without any change, schedule included and is subject to Intertek Testing and Certification's Conditions for Granting Certification.



SCHEDULE

TYPE EXAMINATION CERTIFICATE NUMBER ITS14ATEX48028X

13. Description of Equipment or Protective System

The BA307NE and BA327NE 4 and 5 digit panel mounting indicators are loop powered instruments 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 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 may optionally incorporate an Alarm board and may additionally be fitted with an optional Backlight board.

The 4 and 5 Digit Panel Mounting Indicators comprise a main board, a display module, an optional Alarm Board and an optional Backlight board, all housed within the certified BEKA 105 x 60 robust panel, stainless steel enclosure, certified under ATEX certificate number ITS14ATEX17967U.

The maximum input parameters are as follows:

TB1 4/20mA Loop input – Terminals 1 & 3

$I_i = 200\text{mA}$

(Note: There is no U_i figure because of the multiple shunt input diodes within the instrument which define the input voltage)

TB2 Backlight – Terminals 12 & 13 (4/20mA loop powered)

$I_i = 200\text{mA}$ (connected in series with TB1 terminals 1 & 3)

TB2 Backlight – Terminals 12 & 14 (separately powered)

$U_i = 30\text{V}$

(Note: There is no I_i figure because there is a current sink within the backlight)

TB4 Alarms – each channel – Terminals 8 & 9; 10 & 11

$U_i = 30\text{V}$

$I_i = 200\text{mA}$

The BEKA BA307NE and BEKA BA327NE consists of the BEKA BA307E and BA327E 4 and 5 digit panel mount indicators (certificate number ITS11ATEX27254X) and the BEKA robust 105x60mm panel enclosure (certificate number ITS14ATEX17967U). The plastic case of the suffix-E type indicators has been removed and replaced with the component approved enclosure, giving a new piece of equipment with suffix-NE

14. Report Number

Intertek Report Ref: 101550726MAN-001 Dated: August 2014

Intertek Testing & Certification Limited
Intertek House, Cleeve Road, Leatherhead, Surrey, KT22 7SB
Tel: + 44 (0)1372 370900 Fax: +44 (0)1372 370977

www.intertek.com

Registered No 3272281 Registered Office: Academy Place, 1-9 Brook Street, Brentwood, Essex, CM14 5NQ.

This Certificate is the property of Intertek Testing and Certification Ltd and is subject to Intertek Testing and Certification's Conditions for Granting Certification.



SCHEDULE

TYPE EXAMINATION CERTIFICATE NUMBER ITS14ATEX48028X

15. Conditions of Certification

(a). Special Conditions for safe use

- For Ex nA instrument installed in Ex n or Ex e panel enclosure the instrument must be powered from a limited energy circuit.
- For Ex nA instrument installed in Ex px, py or pz panel enclosure the instrument must be powered from a limited energy circuit.
- For Ex nA instrument installed in Ex px, py or pz panel enclosure the vents located on the back of the instrument must not be obstructed.
- For Ex tc instrument installed in Ex tc panel enclosure the instrument must be powered from a limited energy circuit, so that instrument push button contacts are nonincendive (Ex ic).
- For instruments designated for type of protection pressurized equipment the supply circuit shall be rated for a prospective short circuit current of not more than 10kA.
- The equipment must be installed in a panel that maintains at least one of the following types of protection:
 - Ex e IIC Gc $-40^{\circ}\text{C} \leq T_a \leq +70^{\circ}\text{C}$
 - Ex p IIC Gc $-40^{\circ}\text{C} \leq T_a \leq +70^{\circ}\text{C}$
 - Ex nA IIC Gc $-40^{\circ}\text{C} \leq T_a \leq +70^{\circ}\text{C}$
 - Ex tc IIIC Dc $-40^{\circ}\text{C} \leq T_a \leq +70^{\circ}\text{C}$

(b). Conditions of Manufacture

- The voltages applied to infallible transformers shall conform to the values given in Table 10 as per the requirements of EN 60079-11:2007, Clause 11.2, Routine tests for infallible transformers.

16. Essential Health and Safety Requirements (EHSR's)

The relevant EHSR's have been identified and assessed in Intertek Report Ref: 101550726MAN-001 dated August 2014. Annex ZY of EN 60079-11:2011 confirms that no major technical changes have been made between the 2007 edition and the 2011 edition of EN 60079-11 which affect the 'state of the art' re technological knowledge applied to this Equipment (EHSR 1.2.1).

17. Drawings and Documents

Title	Drawing No.:	Rev. Level:	Date:
ATEX & IECEx Ex nA & Ex tc Certification Information for BA307NE & BA327NE Digital Indicators (3 Sheets)	C1300-76	1	05/02/2013

This Certificate is for the exclusive use of Intertek's client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this Certificate. Only the Client is authorized to permit copying or distribution of this Certificate and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek.

Intertek Testing & Certification Limited
 Intertek House, Cleeve Road, Leatherhead, Surrey, KT22 7SB
 Tel: + 44 (0)1372 370900 Fax: +44 (0)1372 370977

www.intertek.com

Registered No 3272281 Registered Office: Academy Place, 1-9 Brook Street, Brentwood, Essex, CM14 5NQ.

This Certificate is the property of Intertek Testing and Certification Ltd and is subject to Intertek Testing and Certification's Conditions for Granting Certification.

Additional information about the BA307NE and BA327NE ATEX Ex nA certificate

This ATEX EC-Type Examination Certificate ITS14ATEX48028X for the Type of Protection 'n' BA307NE and BA327NE 4/20mA loop powered indicators refers to ATEX Component Certificate ITS14ATEX17967U for the BEKA robust 105x60mm stainless steel enclosure in which the indicators are housed. For reference a copy of this Component Certificate follows this note.

The Component Certificate confirms that the front of the stainless steel instrument enclosure complies with the impact and ingress requirements specified for the following types of protection:

Ex e IIC	Protection by Increased safety EN 60079-7:2007
Ex p IIC	Protection by pressurised enclosure EN 60079-2:2008
Ex nA IIC	Type of protection 'n' EN 60079-15:2010
Ex t IIIC	Dust ignition protection by enclosure EN 60079-31:2009

When a BA307NE or BA327NE indicator is installed in a Zone 2 or 22 cabinet having one of these types of protection, installation of the indicator does not invalidate the cabinet's certification. Installation requirements for these loop powered indicators are specified in section 15a of the indicator EC-Type Examination Certificate ITS14ATEX48028X.

Further installation information is contained in the [BA307NE and BA327NE Instruction Manual](#) and in the [BEKA Application Guide AG310](#) both of which may be downloaded from this website.

Please note that the ATEX Component Certificate number does not appear on the indicator's certification label.



1. EC-TYPE EXAMINATION CERTIFICATE

2. Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive 94/9/EC

3. EC-Type Examination Certificate Number: ITS14ATEX17967U

4. Equipment or Protective System: BEKA 105 x 60 robust panel enclosure

5. Manufacturer: Beka Associates Limited

6. Address: Old Charlton Road, Hitchin, SG5 2DD, United Kingdom

7. This equipment or protective system 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 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems 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 G101377532 Issue 1 dated June 2014.

9. Compliance with the Essential Health and Safety Requirements has been assured by compliance with standards EN 60079-0:2012, EN 60079-2:2008, EN 60079-7:2007, EN 60079-15:2010 and EN 60079-31:2009 except in respect of those requirements referred to at item 16 of the Schedule.

10. The sign "U" placed after the certificate number indicates that this certificate must not be mistaken for a certificate intended for an equipment or protective system. This partial certification may be used as a basis for certification of an equipment or protective system.

11. This EC Type examination certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

12. The marking of the equipment or protective system shall include the following:-

	II 2 G Ex e IIC Gb
	II 2 G Ex p IIC Gb
	II 3 G Ex nA IIC Gc
	II 1 D Ex ta IIIC Da

Intertek Testing & Certification Limited
Intertek House, Cleeve Road, Leatherhead, Surrey, KT22 7SB
Tel: +44 (0)1372 370900 Fax: +44 (0)1372 370977
www.intertek.com

Registered No 3272281 Registered Office: Academy Place, 1-9 Brook Street, Brentwood, Essex, CM14 5NQ.

Vijay K. Varma
V K Varma
Certification Officer
9th June 2014

This certificate may only be reproduced in its entirety and without any change, schedule included and is subject to Intertek Testing and Certification's Conditions for Granting Certification.



SCHEDULE

EC-TYPE EXAMINATION CERTIFICATE NUMBER ITS14ATEX17967U

13. **Description of Equipment or Protective System**

The BEKA 105 x 60 robust panel enclosure is an empty enclosure made from stainless steel. Enclosure comprises main enclosure casting with 10mm thick toughened glass and rubber silicon keypad buttons located on the front and four screws on the back of the enclosure for installation of the rear panel and further mounting purposes. Silicone rubber gasket providing degree of protection IP66 is retained to the surface of the front bezel. Enclosures were tested to meet the requirements of IP66 requirements for the front of the enclosure in accordance with IEC 60529.

Enclosures are provided with external earthing stud suitable for earthing wire. There are no openings in the front of the enclosure.

14. **Report Number**

Intertek Report Ref: G101377532 Issue: 1 Dated: June 2014.

15. **Schedule of Limitations**

- For an Ex nA instrument installed in an Ex n or Ex e panel enclosure, the instrument must be powered from an energy-limited circuit. The equipment is allowed to be installed in Zone 2 hazardous location.
- For an Ex nA instrument installed in an Ex px, py or pz panel enclosure, the instrument must be powered from the energy-limited circuit, and the rear panel must provide appropriate vents dependent on the characteristics of the gas used for the pressurised system. The equipment is allowed to be installed in Zone 2 hazardous location.
- For an Ex i instrument installed in an Ex px or py panel enclosure, the instrument must be powered via appropriately rated Zener barrier or galvanic isolator located in a safe area, and the rear panel must provide appropriate vents dependent on the characteristics of the gas used for the pressurised system. The equipment is allowed to be installed in Zone 1 or Zone 2 hazardous location.
- For an Ex i instrument installed in an Ex e panel enclosure, the instrument must be powered via appropriately rated Zener barrier or galvanic isolator located in a safe area. The equipment is allowed to be installed in Zone 1 or Zone 2 hazardous locations dependant on the intrinsically safe level of protection.
- For Ex nA instrument installed in Ex tc panel enclosure the instrument must be powered from the limited energy circuit, so that instrument push button contacts are nonincendive (Ex ic).
- For the Ex i instrument installed in Ex ta or Ex tb panel enclosure the instrument must be powered via appropriately rated Zener barrier or galvanic isolator located in a safe area, so that instrument push button contacts are nonincendive (Ex ia).
- The supply circuit for instruments used in equipment with pressurized type of protection shall be rated for a prospective short circuit current of not more than 10kA.
- Final assembly must be reassessed to the relevant standards taking into consideration all types of protection used
- Service temperature range specified by manufacture is -40°C to +70°C.

Intertek Testing & Certification Limited
Intertek House, Cleeve Road, Leatherhead, Surrey, KT22 7SB
Tel: + 44 (0)1372 370900 Fax: +44 (0)1372 370977

www.intertek.com

Registered No 3272281 Registered Office: Academy Place, 1-9 Brook Street, Brentwood, Essex, CM14 5NQ.

This Certificate is the property of Intertek Testing and Certification Ltd and is subject to Intertek Testing and Certification's Conditions for Granting Certification.

Intertek



SCHEDULE

EC-TYPE EXAMINATION CERTIFICATE NUMBER ITS14ATEX17967U

16. **Essential Health and Safety Requirements (EHSR's)**

The relevant EHSR's have been identified and assessed in Intertek Report G101377532 Issue: 1 Dated: June 2014.

17. **Drawings and Documents**

Title	Drawing No.:	Rev. Level:	Date:
ATEX & IECEx Ex nA, Ex p, Ex ta & Ex e Certification for BEKA 105 x 60 ROBUST PANEL ENCLOSURE	CI100-07	1	13.03.2014

This Certificate is for the exclusive use of Intertek's client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this Certificate. Only the Client is authorized to permit copying or distribution of this Certificate and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek.

Intertek Testing & Certification Limited
Intertek House, Cleeve Road, Leatherhead, Surrey, KT22 7SB
Tel: + 44 (0)1372 370900 Fax: +44 (0)1372 370977

www.intertek.com

Registered No 3272281 Registered Office: Academy Place, 1-9 Brook Street, Brentwood, Essex, CM14 5NQ.

This Certificate is the property of Intertek Testing and Certification Ltd and is subject to Intertek Testing and Certification's Conditions for Granting Certification.

Sheet 3 of 3