




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:** ITS99ATEX2009X
4. **Equipment or Protective System:** BA326C Combined Indicator
5. **Manufacturer:** BEKA Associates Ltd
6. **Address:** Old Charlton Road, Hitchin, Herts, SG5 2DA

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 Ref G101382609 dated March 2014.

9. Compliance with the Essential Health and Safety Requirements has been assured by compliance with standards EN 60079-0:2012, EN 60079-11:2012 and EN 60079-26:2007 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 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 1G Ex ia IIC T5 Ga

-40°C ≤ Ta ≤ +60°C



A M Smart
 Certification Officer
 Date: 11th March 2014

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SCHEDULE

EC-TYPE EXAMINATION CERTIFICATE NUMBER ITS99ATEX2009X

13. Description of Equipment or Protective System

BA326C Combined Indicator is a two wire panel mounting equipment designed to be connected in a 4-20 mA loop and provide display in engineering units. The BA326C may alternatively be identified as a B SI 26/1 Combined Indicator. The BA326C may optionally be fitted with an Alarm Interface board and/or optional Back Light board. The BA326C indicator comprises a main board (PC93), a display board (PC88) and optional Alarm Interface (PC62) and/or Back Light boards (PC68 and PC87) all housed within a metallic enclosure providing minimum degree of protection by enclosures of IP20. Alternative design of the BA326C Combined Indicator comprises main board (PC201) and Display board (PC202) housed in the same metallic enclosure. Accessories like Alarm board or Back Light boards are identical to already approved.

The input and output parameters at the BA326C terminals for external connections are:

Terminals 1 & 3

$U_i = 28 \text{ V}$
 $I_i = 200 \text{ mA}$
 $P_i = 0.84 \text{ W}$
 $U_o = 1.1 \text{ V}$
 $I_o = 70 \text{ mA}$
 $P_o = 23 \text{ mW}$
 The equivalent parameters are:
 $C_i = 0.02 \mu\text{F}$
 $L_i = 0.01 \text{ mH}$

Terminals 8 & 9; 10 & 11

$U_i = 28 \text{ V}$
 $I_i = 200 \text{ mA}$
 $P_i = 0.84 \text{ W}$
 $U_o = 0.7 \text{ V}$
 $I_o = 1.3 \mu\text{A}$
 $P_o = 4.1 \mu\text{W}$
 The equivalent parameters are:
 $C_i = 0.02 \mu\text{F}$
 $L_i = 0.01 \text{ mH}$

Terminals 12 & 13

$U_i = 28 \text{ V}$
 $I_i = 159 \text{ mA}$
 $P_i = 0.8 \text{ W}$
 The equivalent parameters are:
 $C_i = 0.03 \mu\text{F}$
 $L_i = 0.01 \text{ mH}$

For intrinsic safety considerations, under fault conditions the voltage, current and power at terminals 1 and 3, 8 and 9, and 10 and 11 do not exceed those specified in Clause 5.7 of EN 60079-11:2011. The equivalent capacitance and inductance are the result of r.f suppression components directly connected to the apparatus terminals.

14. Report Number:

ITS Report Ref: 87IP0393A dated February 2000
 Intertek Report Ref: 06022024 dated November 2006.
 Intertek Report Ref: G101382609 dated March 2014.

15. CONDITIONS OF CERTIFICATION:

(a). Special Conditions for safe use

- When installed in a potentially explosive atmosphere requiring apparatus of Category 1G, the indicator shall be installed such that even in the event of rare incidents, an ignition source due to impact or friction between aluminium enclosure at the rear of the instrument mounting panel and iron/steel is excluded.

(b). Conditions For Use (Routine Tests)

- None

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

The relevant EHSR's have been identified and assessed in Intertek Report Ref: G101382609 dated March 2014.

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17. Drawings and Documents

| | | | |
|---|--|-------------------------|------------------------|
| Title: BA326C Certification information | Drawing No.: CI326C-02 (sheets 1 – 18) | Rev. Level: 1 | Date: Apr 99 |
|---|--|-------------------------|------------------------|

18. Variations

ISSUE 1 (Intertek Report Ref 06022024)

To permit the following changes:

- Minor modifications to the display board circuit. Addition of capacitors and a safety resistor.
- Changes to the parts list and minor changes to the display board PCB due to above modifications to the circuit
- Deletion of LCD201 and X201 from the electronics parts list of the main board. These were never used
- Optionally the BA326C bezel is moulded in an electrically non-conducting material and the exposed outer surfaces coated to achieve the specified surface resistance

The above changes do not impair intrinsic safety. The equivalent parameters at the input/output terminals are unaffected.

New drawings:

| | | | |
|---|--|-------------------------|------------------------|
| Title: BA326C Certification Information | Drawing No.: CI326C-02 (sheets 2, 4 – 6, 8 and 16) | Rev. Level: 3 | Date: Aug 06 |
|---|--|-------------------------|------------------------|

ISSUE 2 (Intertek Report Ref: G101382609)

To permit following changes:

- Alternative design of the BA326C Combined Indicator comprising main board (PC201) and Display board (PC202) housed in the same metallic enclosure. Alarm board and Back Light board are already approved as accessories for the equipment.
- Change of equipment Category from 2G to 1G and change in level of protection from Ex ib to Ex ia. Special Conditions of Use were specified for the equipment located in Zone 0 of hazardous areas.
- Certification of the equipment in accordance with the latest standards EN 60079-0:2012, EN 60079-11:2012 and EN 60079-26:2007 and update in equipment marking.
- Minor modification to input parameters for Terminals 1 & 3, 8 & 9 and 10 & 11 from $P_i = 0.75W$ to $P_i = 0.84W$.

New drawings:

| | | | |
|--|---|-------------------------|----------------------------|
| Title: Certification information for BA326C Combined Indicator | Drawing No.: CI326C-02 (pages: 1,2,16, 17, 19 – 29 of 29) | Rev. Level: 4 | Date: Sept. 2013 |
|--|---|-------------------------|----------------------------|

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