



**ITS** Intertek Testing Service

## ***EC TYPE-EXAMINATION CERTIFICATE***

**Certificate Number ITS 99ATEX2009**

**Dated: 25 February 2000**

Issued by ITS Testing and Certification Limited as a Notified Body (registration number 0359) under the European Community Council Directive 94/9/EC relating to The Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres

**Product Description: BA326C COMBINED INDICATOR**

**Manufactured and Submitted for certification by:**


**BEKA ASSOCIATES LIMITED**  
of Old Charlton Road, Hitchin, Herts SG5 2DA

This is to certify that a sample of the equipment defined above has been tested, inspected and assessed by ITS Testing and Certification Limited and found to comply with the essential health and safety requirements of Council Directive 94/9/EC on the approximation of the laws of the Member States relating to the equipment and protective systems intended for potentially explosive atmospheres and all subsequently issued amendments to date:

**Full details are given in Confidential ITS Report No. 87IP0393A dated February 2000.**

Certificate Approved by:

  
Manager  
Industrial Products

  
Technical Manager  
Product Assessment

ITS Testing and Certification Limited  
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<http://www.itsglobal.com>  
Registered No 3272281 Registered Office: 25 Savile Row London W1X 1AA


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

# ***EC TYPE-EXAMINATION CERTIFICATE***

## ***SCHEDULE***

### **EC Type-Examination Certificate No ITS 99ATEX2009**

Standards referred to      EN 50014: 1992  
   EN 50020: 1994

Marking:  II 1G      EEx ia IIC T5  
  
(Tamb = -40°C to 60°C)

#### **Description of Equipment**

The BA326C Combined Indicator is a two-wire panel mounted equipment designed to be connected in a 4/20 mA loop and provide a display in Engineering units.

The BA326C may alternatively be identified as a B SI 26/1 Combined Indicator.

The BA326C comprises a main board, a display board and an optional alarm interface board and/or backlight boards, all housed within a metallic 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, limitation of inductance and infallible segregation.

The equivalent resistance of the apparatus at terminals 1 and 3 is 14.85  $\Omega$  minimum in normal operation and 24.75  $\Omega$  minimum under fault conditions.

The maximum intrinsically safe input parameters are as follows:

#### **Terminals 1 and 3**

$U_i = 30$  V dc  
 $I_i = 200$  mA dc  
 $P_i = 0.85$  W

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The equivalent parameters are:

$$C_i = 0.02 \mu\text{F}$$

$$L_i = 0.01 \text{ mH}$$

#### **Terminals 8 and 9; 10 and 11**

$$U_i = 30 \text{ V dc}$$

$$I_i = 200 \text{ mA dc}$$

$$P_i = 0.85 \text{ W}$$

The equivalent parameters are:

$$C_i = 0.02 \mu\text{F}$$

$$L_i = 0.01 \text{ mH}$$

#### **Terminals 12 and 13**

$$U_i = 28 \text{ V dc}$$

$$I_i = 159 \text{ mA dc}$$

$$P_i = 0.8 \text{ W}$$

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 5.4 of EN 50020: 1994. The equivalent capacitance and inductance are the result of r.f suppression components directly connected to the apparatus terminals.

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# ***EC TYPE-EXAMINATION CERTIFICATE***

## ***SCHEDULE***

**EC Type-Examination Certificate No ITS 99ATEX2009.**

### **DRAWINGS**

<b>Number</b>	<b>Issue</b>	<b>Date</b>	<b>Description</b>
CI326C-02, Sheets 1 to 18	1	Apr 99	BA326C Certification Information

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1. **SUPPLEMENTARY EC TYPE-EXAMINATION CERTIFICATE**

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

3. Supplementary EC-Type Examination Certificate Number: ITS99ATEX2009/1

4. Equipment or Protective System: BA326C COMBINED INDICATOR

5. Manufacturer: BEKA ASSOCIATES LIMITED

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

7. This supplementary certificate extends EC-Type Examination Certificate No. ITS99ATEX2009 to apply to equipment or protective system designed and constructed in accordance with the specification set out in the Schedule of the said Certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This Supplementary Certificate shall be held with the original Certificate.

This certificate may only be reproduced in its entirety and without any change, schedule included.

ITS Report Ref 00003192 dated November 2000.

A W Axtell  
Technical Manager  
27 November 2000

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# **ITS** Intertek Testing Services

## Schedule

EC-TYPE EXAMINATION CERTIFICATE NUMBER ITS99ATEX2009/1

### VARIATION 1.1

#### Description of the Variation to the Equipment or Protective System

To permit the following changes:

1. Alternative bezel material, Noryl Type HMC 1010.
2. Alternative window material, polycarbonate with conductive coating, SC Technologies PC-300 or PC-350 polycarbonate plastic or ABF-300 ESD Control Film.
3. Addition of capacitors C114 and C116, each 10 nF + 80%.
4. Capacitor C115 value changed from 47 pF to 10 nF + 80%.
5. Addition of SK103 on the mainboard, PC93.

#### SPECIAL CONDITIONS FOR SAFE USE

See original certificate

#### Essential Health and Safety Requirements

See original certificate

#### DRAWINGS

Number	Issue	Date	Description
CI326-02, sheets 1 to 18	2	Oct 00	BA326C Certification Information

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**Intertek ETL SEMKO**

1. **SUPPLEMENTARY EC-TYPE EXAMINATION CERTIFICATE**
2. **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive 94/9/EC**
3. Supplementary EC-Type Examination Certificate Number: **ITS99ATEX2009/2**
4. Equipment or Protective System: **BA326C COMBINED INDICATOR**
5. Manufacturer: **BEKA ASSOCIATES LIMITED**
6. Address: **Old Charlton Road, Hitchin, Herts, SG5 2DA**
7. This supplementary certificate extends EC-Type Examination Certificate Number ITS99ATEX2009 to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said Certificate but having variations specified in the Schedule attached to this certificate and the documents therein referred to.

Intertek Report Ref 06022024 dated November 2006

This Supplementary Certificate shall be held with the original Certificate

**A T Austin**  
**Deputy Certification Manager**  
**29 November 2006**

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# Intertek ETL SEMKO

## Schedule

**SUPPLEMENTARY EC-TYPE EXAMINATION CERTIFICATE NUMBER ITS99ATEX2009/2**

### VARIATION 2.1

#### Description of the Variation to the Equipment or Protective System.

To permit the following changes:

- a) Minor modifications to the display board circuit. Addition of capacitors and a safety resistor.
- b) Changes to the parts list and minor changes to the display board PCB due to above modifications to the circuit.
- c) Deletion of LCD201 and X201 from the electronics parts list of the main board. These were never used.
- d) 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.

#### SPECIAL CONDITIONS FOR SAFE USE

None

#### Essential Health and Safety Requirements

See original certificate

#### DRAWINGS

Number	Issue	Date	Description
C1326-02, sheets 2, 4-6, 8 & 16	3	Aug 06	BA326C Certification Information

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