



British Approvals Service for Electrical  
Equipment in Flammable Atmospheres



1. **CERTIFICATE OF CONFORMITY**

2. BAS No Ex 93C2181

3. This certificate is issued for the electrical apparatus:

BA326B 4/20 mA COMBINED INDICATOR

4. Manufactured and submitted for certification by:

BEKA ASSOCIATES LIMITED

of Hitchin, SG5 2DD

5. This electrical apparatus and any acceptable variation thereto is specified in the Schedule to this Certificate and the documents therein referred to.

6. BASEEFA being an Approved Certification Body in accordance with Article 14 of the Council Directive of the European Communities of 18 December 1975 (76/117/EEC) certifies that the apparatus has been found to comply with harmonised European Standards

EN 50 014 (1977) + Amendments 1 to 5  
EN 50 020 (1977) + Amendments 1 and 2

and has successfully met the examination and test requirements as recorded in confidential Report No ERA Ref 3627/646 dated August 1993

7. The apparatus marking shall include the code

EEx ia IIC T5  
(Tamb = 60°C)

File No: EECS 0121/02/008

Sheet 1/4

4380-13D



7P I M CLEARE  
DIRECTOR EECS  
17 August 1993



Electrical Equipment Certification Service  
Health and Safety Executive  
Harpur Hill, Buxton, Derbyshire, SK17 9JN, United Kingdom  
Tel: 0298 262111 Fax: 0298 79514 Telex: 668113 RLSD G



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British Approvals Service for Electrical  
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Certificate BAS No Ex 93C2181 dated 17 August 1993

8. The manufacturer of the electrical apparatus referred to in this certificate, has the responsibility to ensure that the apparatus conforms to the specification laid down in the Schedule to this certificate and has satisfied routine verifications and tests specified therein.
9. This apparatus may be marked with the Distinctive Community Mark specified in Annex II to the Commission Directive of 16 January 1984 (Doc 84/47/EEC). A facsimile of this mark is printed on sheet 1 of this certificate.

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This certificate is granted subject to conditions applicable to the Approval Service, it does not necessarily indicate that the apparatus may lawfully be used in particular industries or circumstances.

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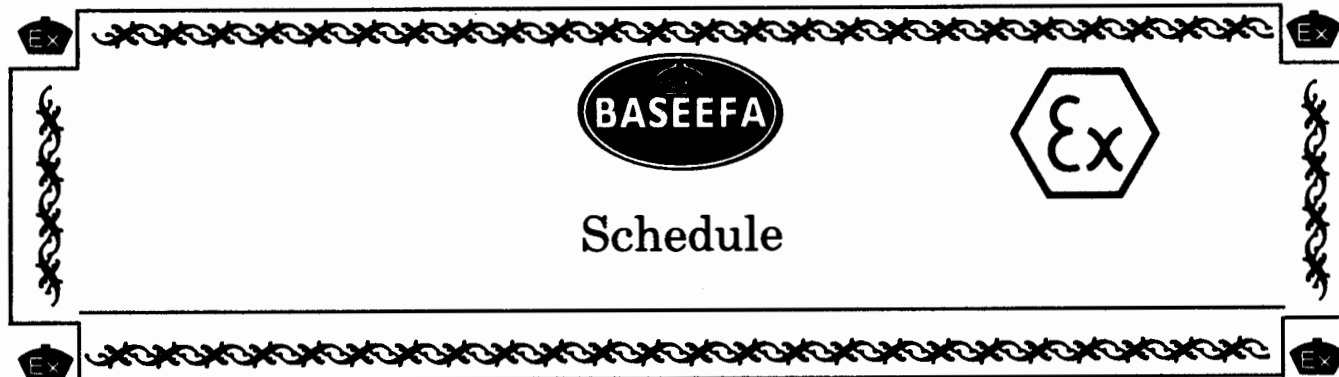


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Ex

Ex



Certificate of Conformity BAS No Ex 93C2181 dated 17 August 1993

### APPARATUS

A BA326B 4/20 mA COMBINED INDICATOR is a panel mounted loop powered 4/20 mA indicator with a 100 segment bar graph display and a digital display.

The BA326B consists of four printed circuit boards containing electronic components all housed within a plastics enclosure which provides a degree of protection IP20 when the connectors are mated.

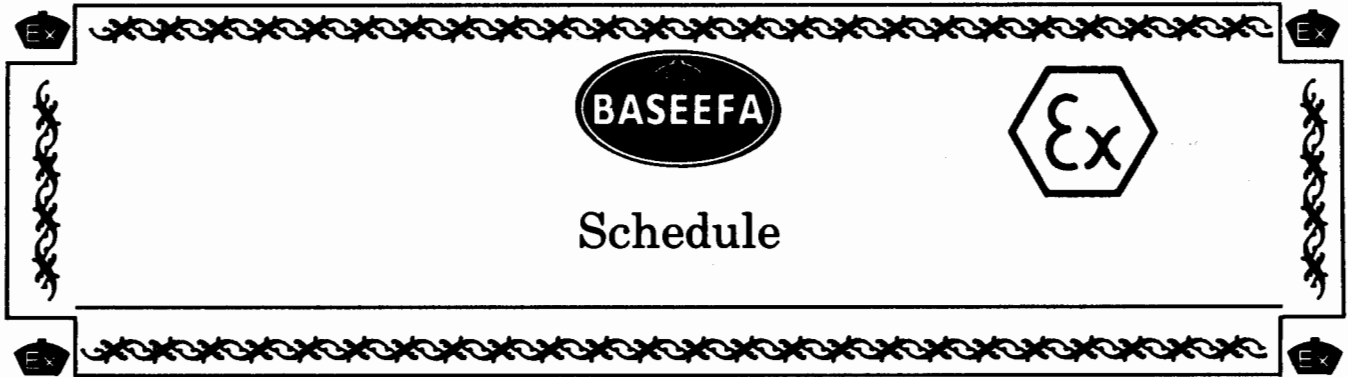
Intrinsic safety is assured by limitation of capacitance, suppression of inductance by shunt components, internal voltage limitation, and limitation of input current and power.

The BA326B must be connected to an intrinsically safe circuit whose output parameters do not exceed the following:

$$I_{\text{max:out}} = 200 \text{ mA dc}$$

$$W_{\text{max:out}} = 0.85 \text{ W}$$

The equivalent resistance at the input terminals is 15.4 ohm minimum in normal operation and 24 ohm maximum under fault conditions. The internal segregation of the meter satisfies the requirements for a peak voltage of 60V.



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The equivalent output parameters of the apparatus are:-

$U_{\text{max:out}} = 1.2\text{V dc}$

$I_{\text{max:out}} = 75\text{mA dc}$

$W_{\text{max:out}} = 20\text{mW}$

$C_{\text{eq}} = 0.02\mu\text{F}$

$L_{\text{eq}} = 2\mu\text{H}$

For intrinsic safety considerations the output parameters at the apparatus terminals do not exceed those specified in Clause 1.3 of EN50 014. The equivalent capacitance and inductance are the result of r.f. suppression components directly connected to the input terminals.

#### DRAWINGS

Number	Issue	Date	Description
CI326-01 Sheets 1-19	1	Dec 92	Certification Information

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## *Certificate of Conformity - Variation*

**SUPPLEMENTARY CERTIFICATE BAS No. Ex 93C2181/1**

This is to certify that Apparatus Certificate number:

**Ex 93C2181**

held by:

**BEKA ASSOCIATES**

of:

**Hitchin, Herts, SG5 2DA**

for the:

**BA326B 4/20mA COMBINED INDICATOR**

is hereby extended to apply to the apparatus 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.

File No: EECS 0121/02/008

Sheet 1 of 2

This certificate is granted subject to the general conditions of the Electrical Equipment Certification Service. It does not necessarily indicate that the apparatus may be used in particular industries or circumstances. Representation of equipment as "Certified" is valid only when the number of the prime certificate to which this certificate is a supplement is given on the relevant EECS Manufacturing Licence or Verification Certificate.



**I M CLEARE  
DIRECTOR**

**15 May 1997**



**Electrical Equipment Certification Service**  
Health and Safety Executive  
Harpur Hill, Buxton, Derbyshire. SK17 9JN. United Kingdom  
Tel: 01298 28000 Fax: 01298 28244



Registration Number  
020  
The use of the Accreditation  
Mark indicates accreditation in  
respect of those activities  
covered by the accreditation  
certificate number 020

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## *Schedule*

Supplementary Certificate BAS No. Ex 93C2181/1

### **VARIATION ONE**

To permit

- (i) A number of minor changes to the drawings.
- (ii) The apparatus to have an alternative title, namely a BS126 4/20mA Combined Indicator.

The intrinsic safety assessment is not impaired.

### **DRAWINGS**

<u>Number</u>	<u>Issue</u>	<u>Date</u>	<u>Description</u>
CI326-01 Sheet 2 of 19	2	April 97	Modification record
CI326-01 Sheet 11 of 19	2	April 97	Parts list
CI326-01 Sheet 13 of 19	2	April 97	General assembly
CI326-01 Sheet 19 of 19	2	April 97	Label details