

British Approvals Service for Electrical
Equipment in Flammable Atmospheres



Certificate of Conformity

BAS No. Ex 98D2011

1
2

3 This certificate is issued for the electrical apparatus:

TYPE BA385-IIB INTRINSICALLY SAFE SOUNDER

4 Manufactured and submitted for certification by:

**BEKA ASSOCIATES
of Hitchin, Herts, SG5 2DA**

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:

**EN50 014 (1977) + Amd 1 to 5
EN50 020 (1977) + Amd 1 to 5**

and has successfully met the examination and test requirements recorded in confidential Report number:

97(C)0077 dated 30 January 1998

7 The apparatus marking shall include the code:

EEx ia IIB T4 (-40°C ≤ T_a ≤ +60°C)

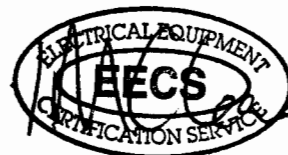
8 The manufacturer of the electrical apparatus referred to in this certificate, has the responsibility to ensure that the apparatus conforms to the specification laid down in the Schedule to this certificate and has satisfied routine verifications and tests specified therein.

9 This apparatus may be marked with the Distinctive Community Mark specified in Annex II to the Council Directive of 16 January 1984 (Doc 84/47/EEC). A facsimile of this mark is printed on sheet 1 of this certificate.

File No: EECS 0121/02/016

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 this certificate is given on the relevant EECS Manufacturing Licence or Verification Certificate.



**I M CLEARE
DIRECTOR**

27 February 1998



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



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

British Approvals Service for Electrical
Equipment in Flammable Atmospheres



Schedule

Certificate of Conformity BAS No. Ex 98D2011

APPARATUS DESCRIPTION

The Type BA385-IIB Intrinsically Safe Sounder is designed to provide an audible warning when activated. The apparatus consists of a printed circuit board with terminal connectors, an inductive sounder, housed in a plastic enclosure. Electrical connection to the terminal connectors is made via a suitable cable entry device.

Terminal Block TB1 - Terminals 1 w.r.t. 4

$$U_i = 28V$$

$$I_i = 110mA$$

$$P_i = 0.8W$$

Terminal Block TB1 - Terminals 2 and 3 w.r.t. 4

$$U_i = 28V$$

$$I_i = 0 \text{ mA}$$

DRAWINGS

<u>Number</u>	<u>Sheet</u>	<u>Issue</u>	<u>Date</u>	<u>Description</u>
CI385-01	1	1	10.97	Contents Sheet
CI385-01	2	1	10.97	Modification Record
CI385-01	3	1	10.97	Circuit Diagram
CI385-01	4	1	10.97	Parts List
CI385-01	5	1	10.97	Parts List
CI385-01	6	1	10.97	Track and Component Layout
CI385-01	7	1	10.97	General Assembly
CI385-01	8	1	10.97	Certification Labels

The above drawings are also associated with BASEEFA Certificate No. Ex 98D2012

VARIATION ONE

To permit the apparatus to be re-named as an A105N-IS-B.

BASEEFA List Keywords

2ALARM

British Approvals Service for Electrical
Equipment in Flammable Atmospheres



Certificate of Conformity - Variation

SUPPLEMENTARY CERTIFICATE BAS No. Ex 98D2011/1

This is to certify that Apparatus Certificate number:

Ex 98D2011

held by:

BEKA ASSOCIATES

of:

Hitchin, Herts, SG5 2DA

for the:

TYPE BA385-IIB INTRINSICALLY SAFE SOUNDER

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 0121/02/016

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**

16 November 1998



Registration Number
020
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certificate number 020



Executive

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

British Approvals Service for Electrical
Equipment in Flammable Atmospheres



Schedule

Supplementary Certificate BAS No. Ex 98D2011/1

VARIATION TWO

To permit the following:

- a. The addition of diode D14
- b. Diodes D10 and D11 may be replaced by resistors
- c. Minor changes to the pcb
- d. An alternative version of the pcb incorporating other minor changes
- e. Change to the shape of the insulating barrier

The above changes do not affect the original intrinsic safety assessment

DRAWINGS

<u>Number</u>	<u>Sheet</u>	<u>Issue</u>	<u>Date</u>	<u>Description</u>
CI385-01	1	2	07.98	Contents Sheet
CI385-01	2	2	07.98	Modification Record
CI385-01	3	2	07.98	Circuit Diagram
CI385-01	4	2	07.98	Parts List
CI385-01	5	2	07.98	Parts List
CI385-01	6	2	07.98	Track and Component Layout
CI385-01	7	2	07.98	General Assembly
CI385-01	8	2	07.98	Certification Labels
CI385-01	9	2	07.98	Alternative Track & Component Layout

The above drawings are associated with BASEEFA Certificate No. Ex 98D2012/1

British Approvals Service for Electrical
Equipment in Flammable Atmospheres



Certificate of Conformity - Variation

SUPPLEMENTARY CERTIFICATE BAS No. Ex 98D2011/2

This is to certify that Apparatus Certificate number:

Ex 98D2011

held by:

BEKA ASSOCIATES

of:

Hitchin, Herts, SG5 2DA

for the:

TYPE BA385-IIB INTRINSICALLY SAFE SOUNDER

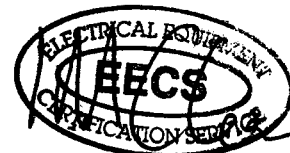
is hereby extended to apply to the apparatus designed and constructed in accordance with the specification set out in the Schedule of the said Certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This Supplementary Certificate shall be held with the original Certificate.

File No: EECS 0121/02/016

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**

3 June 1999



Registration Number
020
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certificate number 020



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

British Approvals Service for Electrical
Equipment in Flammable Atmospheres



Schedule

Supplementary Certificate BAS No. Ex 98D2011/2

VARIATION THREE

To permit the apparatus to be renamed as an 8492/121.

The above changes do not affect the original intrinsic safety assessment.

DRAWINGS

<u>Number</u>	<u>Sheet</u>	<u>Issue</u>	<u>Date</u>	<u>Description</u>
CI385-01	1	3	Dec 98	Contents Sheet
CI385-01	2	3	Dec 98	Modification Record
CI385-01	3	3	Dec 98	Circuit Diagram
CI385-01	4	3	Dec 98	Parts List
CI385-01	5	3	Dec 98	Parts List
CI385-01	6	3	Dec 98	Track and Component Layout
CI385-01	7	3	Dec 98	General Assembly
CI385-01	8	3	Dec 98	Certification Labels
CI385-01	9	3	Dec 98	Alternative Track & Component

The above drawings are associated with BASEEFA Certificate No Ex 98D2012/2

British Approvals Service for Electrical
Equipment in Flammable Atmospheres



Certificate of Conformity - Variation

SUPPLEMENTARY CERTIFICATE BAS No. Ex 98D2011/3

This is to certify that Apparatus Certificate number:

Ex 98D2011

held by:

BEKA ASSOCIATES

of:

Hitchin, Herts, SG5 2DA

for the:

TYPE BA385-IIB INTRINSICALLY SAFE SOUNDER

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 0121/02/016

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**

8 November 2000



Registration Number
020
The use of the Accreditation
Mark indicates accreditation in
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certificate number 020.



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

British Approvals Service for Electrical
Equipment in Flammable Atmospheres



Schedule

Supplementary Certificate BAS No. Ex 98D2011/3

VARIATION FOUR

To permit changes to the drawings to meet the requirements of BASEEFA Certificate No BAS00ATEX1180.

The above changes do not affect the original intrinsic safety assessment.

DRAWINGS

<u>Number</u>	<u>Sheet</u>	<u>Issue</u>	<u>Date</u>	<u>Description</u>
*CI385-01	1	4	10.00	Contents Sheet
*CI385-01	2	4	10.00	Modification Record
*CI385-01	3	4	10.00	Circuit Diagram
*CI385-01	4	4	10.00	Parts List
*CI385-01	5	4	10.00	Parts List
*CI385-01	6	4	10.00	Track and Component Layout
*CI385-01	7	4	10.00	General Assembly
+CI385-01	8	4	10.00	Certification Labels
*CI385-01	9	4	10.00	Alternative Track & Component Layout

Drawings marked * are held on BASEEFA Certificate No. BAS00ATEX1180.

The above drawings are associated with BASEEFA Certificate No Ex 98D2012/3.

The drawing marked + is held on Ex 98D2012/3.

British Approvals Service for Electrical
Equipment in Flammable Atmospheres



Certificate of Conformity

BAS No. Ex 98D2012

1
2

3 This certificate is issued for the electrical apparatus:

TYPE BA385-IIC INTRINSICALLY SAFE SOUNDER

4 Manufactured and submitted for certification by:

**BEKA ASSOCIATES
of Hitchin, Herts, SG5 2DA**

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:

**EN50 014 (1977) + Amd 1 to 5
EN50 020 (1977) + Amd 1 to 5**

and has successfully met the examination and test requirements recorded in confidential Report number:

97(C)0077 dated 30 January 1998

7 The apparatus marking shall include the code:

EEx ia IIC T4 (-40°C ≤ T_a ≤ +60°C)

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 Council Directive of 16 January 1984 (Doc 84/47/EEC). A facsimile of this mark is printed on sheet 1 of this certificate.

File No: EECS 0121/02/016

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 this certificate is given on the relevant EECS Manufacturing Licence or Verification Certificate.



**I M CLEARE
DIRECTOR**

27 February 1998



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



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

Re-issued 3 June 1999 to replace original



Certificate of Conformity BAS No. Ex 98D2012

APPARATUS DESCRIPTION

The Type BA385-IIC Intrinsically Safe Sounder is designed to provide an audible warning when activated. The apparatus consists of a printed circuit board with terminal connectors, an inductive sounder, housed in a plastic enclosure. Electrical connection to the terminal connectors is made via a suitable cable entry device.

Terminal Block TB1 - Terminals 1 w.r.t. 4

$$U_i = 28V$$

$$I_i = 110mA$$

$$P_i = 0.8W$$

Terminal Block TB1 - Terminals 2 and 3 w.r.t. 4

$$U_i = 28V$$

$$I_i = 0 \text{ mA}$$

DRAWINGS

<u>Number</u>	<u>Sheet</u>	<u>Issue</u>	<u>Date</u>	<u>Description</u>
CI385-01	1	1	10.97	Contents Sheet
CI385-01	2	1	10.97	Modification Record
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CI385-01	4	1	10.97	Parts List
CI385-01	5	1	10.97	Parts List
CI385-01	6	1	10.97	Track and Component Layout
CI385-01	7	1	10.97	General Assembly
CI385-01	8	1	10.97	Certification Labels

The above drawings are held with BASEEFA Certificate No. Ex 98D2011

VARIATION ONE

To permit the apparatus to be re-named as an A105N-IS-C.

BASEEFA List Keywords

2ALARM

British Approvals Service for Electrical
Equipment in Flammable Atmospheres



Certificate of Conformity - Variation

SUPPLEMENTARY CERTIFICATE BAS No. Ex 98D2012/1

This is to certify that Apparatus Certificate number:

Ex 98D2012

held by:

BEKA ASSOCIATES

of:

Hitchin, Herts, SG5 2DA

for the:

TYPE BA385-IIC INTRINSICALLY SAFE SOUNDER

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 0121/02/016

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**

16 November 1998



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
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respect of those activities
covered by the accreditation
certificate number 020.



Supplementary Certificate BAS No. Ex 98D2012/1

VARIATION TWO

To permit the following:

- a. The addition of diode D14
- b. Diodes D10 and D11 may be replaced by resistors
- c. Minor changes to the pcb
- d. An alternative version of the pcb incorporating other minor changes
- e. Change to the shape of the insulating barrier

The above changes do not affect the original intrinsic safety assessment

DRAWINGS

<u>Number</u>	<u>Sheet</u>	<u>Issue</u>	<u>Date</u>	<u>Description</u>
CI385-01	1	2	07.98	Contents Sheet
CI385-01	2	2	07.98	Modification Record
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CI385-01	6	2	07.98	Track and Component Layout
CI385-01	7	2	07.98	General Assembly
CI385-01	8	2	07.98	Certification Labels
CI385-01	9	2	07.98	Alternative Track & Component Layout

The above drawings are held on BASEEFA Certificate No. Ex 98D2011/1

British Approvals Service for Electrical
Equipment in Flammable Atmospheres



Certificate of Conformity - Variation

SUPPLEMENTARY CERTIFICATE BAS No. Ex 98D2012/2

This is to certify that Apparatus Certificate number:

Ex 98D2012

held by:

BEKA ASSOCIATES

of:

Hitchin, Herts, SG5 2DA

for the:

TYPE BA385-IIC INTRINSICALLY SAFE SOUNDER

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 0121/02/016

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**

3 June 1999



Registration Number
020
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Electrical Equipment Certification Service
Health and Safety Executive
Harpur Hill, Buxton, Derbyshire. SK17 9JN. United Kingdom
Tel: 01298 28000 Fax: 01298 28244

British Approvals Service for Electrical
Equipment in Flammable Atmospheres



Schedule

Supplementary Certificate BAS No. Ex 98D2012/2

VARIATION THREE

To permit the apparatus to be renamed as an 8492/111.

The above changes do not affect the original intrinsic safety assessment.

DRAWINGS

<u>Number</u>	<u>Sheet</u>	<u>Issue</u>	<u>Date</u>	<u>Description</u>
CI385-01	1	3	Dec 98	Contents Sheet
CI385-01	2	3	Dec 98	Modification Record
CI385-01	3	3	Dec 98	Circuit Diagram
CI385-01	4	3	Dec 98	Parts List
CI385-01	5	3	Dec 98	Parts List
CI385-01	6	3	Dec 98	Track and Component Layout
CI385-01	7	3	Dec 98	General Assembly
CI385-01	8	3	Dec 98	Certification Labels
CI385-01	9	3	Dec 98	Alternative Track & Component

The above drawings are held on BASEEFA Certificate No. Ex 98D2011/2

British Approvals Service for Electrical
Equipment in Flammable Atmospheres



Certificate of Conformity - Variation

SUPPLEMENTARY CERTIFICATE BAS No. Ex 98D2012/3

This is to certify that Apparatus Certificate number:

Ex 98D2012

held by:

BEKA ASSOCIATES

of:

Hitchin, Herts, SG5 2DA

for the:

TYPE BA385-IIC INTRINSICALLY SAFE SOUNDER

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 0121/02/016

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**

8 November 2000



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

British Approvals Service for Electrical
Equipment in Flammable Atmospheres



Schedule

Supplementary Certificate BAS No. Ex 98D2012/3

VARIATION FOUR

To permit changes to the drawings to meet the requirements of BASEEFA Certificate No BAS00ATEX1181.

The above changes do not affect the original intrinsic safety assessment.

DRAWINGS

<u>Number</u>	<u>Sheet</u>	<u>Issue</u>	<u>Date</u>	<u>Description</u>
*CI385-01	1	4	10.00	Contents Sheet
*CI385-01	2	4	10.00	Modification Record
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*CI385-01	4	4	10.00	Parts List
*CI385-01	5	4	10.00	Parts List
*CI385-01	6	4	10.00	Track and Component Layout
*CI385-01	7	4	10.00	General Assembly
CI385-01	8	4	10.00	Certification Labels
*CI385-01	9	4	10.00	Alternative Track & Component Layout

Drawings marked * are held on BASEEFA Certificate No. BAS00ATEX1180.

The above drawings are associated with BASEEFA Certificate No Ex 98D2011/3