



British Approvals Service for Electrical
Equipment in Flammable Atmospheres



Certificate of Conformity

BAS No. Ex 96D2447

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3 This certificate is issued for the intrinsically safe electrical system:

TYPE XB8 XENON BEACON SYSTEM

4 Submitted for certification by:

MEDC
of Pinxton, NG16 6JF

5 This electrical system 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 system has been found to comply with harmonised European Standards:

EN50 039: 1980

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

96(C)0316 (ERA Report Ref 3627/796)

7 The system is coded:

EEx ia IIB T4 or EEx ia IIC T4

8 It is the responsibility of the system certificate holder to supply the relevant documentation to the installer of the intrinsically safe electrical system referred to in this certificate.

The installer has the responsibility to ensure that the system conforms to the specification laid down in the Schedule to this certificate and has satisfied routine verifications and tests specified therein.

9 This system 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.

File No: EECS 0676/02/008

Sheet 1 of 5

This certificate is granted subject to the general conditions of the Electrical Equipment Certification Service. It does not necessarily indicate that the system may be used in particular industries or circumstances. A system is an assembly of apparatus (all of which are subject to certification and licensing requirements in their own right) and is therefore not listed on an EECS Manufacturing Licence.

I M CLEARE
DIRECTOR

5 February 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



Re-issued 21 April 1997 to replace original





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SYSTEM DESCRIPTION

A XB8 Xenon Beacon System comprises:

1. Apparatus located in a non-hazardous area.
 - 1.1 Apparatus which is unspecified except that it must not be supplied from nor contain under normal or abnormal conditions a source of potential with respect to earth in excess of 250V rms or 250V dc.
 - 1.2 A shunt zener diode safety barrier certified by an EEC Approved Body to [EEx ia] IIC having the following output parameters:

$$U_z = 28V, I_o = 120mA, P_o = 0.84W$$

The output current from the barrier must be limited by a resistor R such that $I_o = U_z/R$.

2. Apparatus which may be located in the hazardous area.
 - 2.1 A XB8-24C Xenon Beacon, Certificate BAS No Ex 96D2446, coded EEx ia IIC T4 ($T_{amb} = -55^{\circ}C$ to $+60^{\circ}C$).
3. Permissible Interconnecting Cables.
 - 3.1 The capacitance and inductance or inductance to resistance (L/R) ratio of the cable connected to the output (hazardous area) terminals of the barrier must not exceed the following values:

GROUP	CAPACITANCE in μF	INDUCTANCE in mH	OR L/R RATIO in $\mu H/ohm$
IIC	0.083	2.47	42
IIB	0.65	7.41	126
IIA	2.15	19.76	336

DRAWING

<u>Number</u>	<u>Issue</u>	<u>Date</u>	<u>Description</u>
213-113	B	4.1.97	System Diagram 24C



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VARIATION ONE

1. Apparatus located in a non-hazardous area.
 - 1.1 Apparatus which is unspecified except that it must not be supplied from nor contain under normal or abnormal conditions a source of potential with respect to earth in excess of 250V rms or 250V dc.
 - 1.2 A shunt zener diode safety barrier certified by an EEC Approved Body to [EEEx ia] IIB having the following output parameters:

$$U_z = 28V, I_o = 171mA, P_o = 1.2W$$

The output current from the barrier must be limited by a resistor R such that $I_o = U_z/R$.

2. Apparatus which may be located in the hazardous area.
 - 2.1 A XB8-24B Xenon Beacon, Certificate BAS No Ex 96D2446, coded EEx ia IIB T4 ($T_{amb} = -55^{\circ}C$ to $+60^{\circ}C$).
3. Permissible Interconnecting Cables.
 - 3.1 The capacitance and inductance or inductance to resistance (L/R) ratio of the cable connected to the output (hazardous area) terminals of the barrier must not exceed the following values:

GROUP	CAPACITANCE in μF	INDUCTANCE in mH	OR L/R RATIO in $\mu H/ohm$
IIB	0.65	5	121
IIA	2.15	13.3	322

DRAWING

<u>Number</u>	<u>Issue</u>	<u>Date</u>	<u>Description</u>
213-114	B	4.1.97	System Diagram 24B



Certificate of Conformity BAS No. Ex 96D2447

VARIATION TWO

1. Apparatus located in a non-hazardous area.
 - 1.1 Apparatus which is unspecified except that it must not be supplied from nor contain under normal or abnormal conditions a source of potential with respect to earth in excess of 250V rms or 250V dc.
 - 1.2 A shunt zener diode safety barrier certified by an EEC Approved Body to [EEx ia] IIC having the following output parameters:

$$U_z = 15.7V, I_o = 300mA, P_o = 1.2W$$

The output current from the barrier must be limited by a resistor R such that $I_o = U_z/R$.

2. Apparatus which may be located in the hazardous area.
 - 2.1 A XB8-12C Xenon Beacon, Certificate BAS No Ex 96D2446, coded EEx ia IIC T4 ($T_{amb} = -55^{\circ}C$ to $+60^{\circ}C$).
3. Permissible Interconnecting Cables.
 - 3.1 The capacitance and inductance or inductance to resistance (L/R) ratio of the cable connected to the output (hazardous area) terminals of the barrier must not exceed the following values:

GROUP	CAPACITANCE in μF	INDUCTANCE in mH	OR L/R RATIO in $\mu H/ohm$
IIC	0.22	0.32	25
IIB	2.95	0.96	75
IIA	11.9	2.56	200

DRAWINGS

<u>Number</u>	<u>Issue</u>	<u>Date</u>	<u>Description</u>
213-115	B	4.1.97	System Diagram 12C



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VARIATION THREE

1. Apparatus located in a non-hazardous area.
 - 1.1 Apparatus which is unspecified except that it must not be supplied from nor contain under normal or abnormal conditions a source of potential with respect to earth in excess of 250V rms or 250V dc.
 - 1.2 A shunt zener diode safety barrier certified by an EEC Approved Body to [EEx ia] IIB having the following output parameters:

 $U_z = 15.7V$, $I_o = 300mA$, $P_o = 1.2W$

The output current from the barrier must be limited by a resistor R such that $I_o = U_z/R$.
2. Apparatus which may be located in the hazardous area.
 - 2.1 A XB8-12B Xenon Beacon, Certificate BAS No Ex 96D2446, coded EEx ia IIB T4 ($T_{amb} = -55^{\circ}C$ to $+60^{\circ}C$).
3. Permissible Interconnecting Cables.
 - 3.1 The capacitance and inductance or inductance to resistance (L/R) ratio of the cable connected to the output (hazardous area) terminals of the barrier must not exceed the following values:

GROUP	CAPACITANCE in μF	INDUCTANCE in mH	OR L/R RATIO in $\mu H/ohm$
IIB	2.95	0.96	75
IIA	11.9	2.56	200

DRAWING

<u>Number</u>	<u>Issue</u>	<u>Date</u>	<u>Description</u>
213-116	B	4.1.97	System Diagram 12B

BASEEFA List Keywords

2FLODLUM