IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	IECEx ITS 05.0003 issue No.:2	Certificate history: Issue No. 2 (2009-8-21) Issue No. 1 (2005-1-29)
Status:	**Current**	
Date of Issue:	**2009-08-21**	Page 1 of 4

Applicant: **BEKA Associates Limited**
Old Charlton Road
Hitchin
Herts
SG5 2DA
United Kingdom

Electrical Apparatus: **BA 327C Loop Powered 4½ Digit Indicator**
Optional accessory:

Type of Protection: **Intrinsic Safety**

Marking: **Ex ia IIC T5**
Ta = -40°C to 60°C

Approved for issue on behalf of the IECEx Certification Body: A M Smart

Position: Certification Officer

Signature:
(for printed version)

Date: 2009-9-2

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

Certificate issued by:

Intertek Testing & Certification Limited
ITS House, Cleeve Road,
Leatherhead,
Surrey, KT22 7SB
United Kingdom

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Manufacturer: **BEKA Associates Limited**
Old Charlton Road
Hitchin
Herts
SG5 2DA
United Kingdom

Manufacturing location(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:
The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2000 Edition: 3.1	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
IEC 60079-11 : 1999 Edition: 4	Electrical apparatus for explosive gas atmospheres - Part 11: Intrinsic safety 'i'

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

IECEx ATR:
UK/ITS/05/04014952A

GB/ITS/ExTR07.0003/00

File Reference:
04014952
02006736
07023732

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Schedule

EQUIPMENT:
Equipment and systems covered by this certificate are as follows:

The BA327C Loop Powered 4½ Digit Indicator is a two wire apparatus designed to be connected in a 4/20 mA process loop and provide a display in engineering.
The BA327C 4½ Digit Indicator may alternatively be identified as a DA4-Ex/40 or GSI 27 4½ Loop Powered Digit Indicator.
The BA327 4½ Digit Indicator is a panel mounting indicator comprising a main board and a display board and an optional alarm interface board and may additionally fitted with an optional backlight board, 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, suppression of inductance, use of intrinsically safe transformers (alarm interface board) and infallible segregation.
The equivalent resistance of the apparatus at terminals 1 and 3 is 14.85 Ω minimum in normal operation and 24.75 Ω 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

P_i = 0.85 W

The equivalent parameters of the apparatus at the supply terminals are:

C_i = 0.02 μF

L_i = 0.01 mH

Terminals 8 and 9, 10 and 11 (Alarm Interface)

U_i = 28 V dc

I_i = 200 mA

P_i = 0.85 W

The equivalent parameters are:

C_i = 0.04 μF

L_i = 0.02 mH

Terminals 12 and 13 (Separately powered back light)

U_i = 28 V dc

I_i = 110 mA

P_i = 0.77 W

The equivalent parameters are:

C_i = 0.045 μF

L_i = 0.02 mH

Terminals 1 and 13 (Indicator connected to loop powered back light- terminals 3 and 12 connected in series)

Ci = 0.04 μF

L_i = 0.03 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 IEC 60079:1999. The equivalent capacitance and inductance are the result of r.f. suppression components directly connected to the apparatus terminals.

VARIATION 0.1

To permit the use of a larger display board than the BA327C to form a BA328C 4½ DIGIT INDICATOR
The equivalent parameters are unchanged i.e.

C_i = 0.045 μF

L_i = 0.02 mH

The BA328C 4½ Digit Indicator may alternatively be identified as a DA4-Ex/45 or GSI 28 4½ Digit Indicator

CONDITIONS OF CERTIFICATION: NO

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Issue 2:

Correction of unit, C_i = 0.04 mF to C_i = 0.04 μF for terminals 1 and 13