



# 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](http://www.iecex.com)

Certificate No.: IECEx ITS 07.0021 issue No.:0 Certificate history:

Status: Current

Date of Issue: 2007-12-14 Page 1 of 4

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

Electrical Apparatus: BA488C  
Optional accessory:

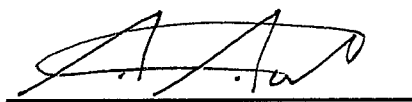
Type of Protection: Intrinsic Safety, Ex ib

Marking: IECEx ITS 07.0021  
Ex ib IIC T5  
-40°C < Ta < +60°C

Approved for issue on behalf of the IECEx Certification Body: A T Austin

Position: Deputy Certification Manager

Signature:  
(for printed version)

  
19TH December 2007

Date:

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 Ltd  
ITS House, Cleeve Road,  
Leatherhead,  
Surrey, KT22 7SB  
United Kingdom

**Intertek** ETL SEMKO

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Certificate No.: IECEx ITS 07.0021

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Page 2 of 4

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:

<b>IEC 60079-0 : 2004</b> Edition: 4.0	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
<b>IEC 60079-11 : 2006</b> Edition: 5	Explosive atmospheres - Part 11: Equipment protection by 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*

Test Report:

GB/ITS/ExTR07.0028/00

Quality Assessment Report:

GB/ITS/QAR06.0002/00



# IECEx Certificate of Conformity

Certificate No.: IECEx ITS 07.0021

Date of Issue: 2007-12-14

Issue No.: 0

Page 3 of 4

## Schedule

### EQUIPMENT:

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

BA488C Serial Text Display is a panel mounting equipment designed to display text and simple graphics in the hazardous area. The BA488C incorporates four push-buttons and two solid state outputs to form an operator interface for simple machine and process control applications.

The BA488C comprises a 5051 Power Supply & Communications Board, an Alarm Board 01 and a CPU and Display 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 and infallible segregation.

The maximum intrinsically safe input and output parameters are as follows:

**TB1 terminals 1 and 2**

$U_i = 25 \text{ V}$

$I_i = 108 \text{ mA}$

$P_i = 0.58 \text{ W}$

The equivalent parameters are:

$C_i = 0.01 \text{ uF}$

$L_i = 0.02 \text{ mH}$

**CONDITIONS OF CERTIFICATION: NO**



# IECEx Certificate of Conformity

Certificate No.: IECEx ITS 07.0021

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Page 4 of 4

## EQUIPMENT(continued):

### TB1 terminals 4 and 2

$U_i = 14 \text{ V}$

$I_i = 108 \text{ mA}$

$P_i = 0.45 \text{ W}$

The equivalent parameters are:

$C_i = 0$

$L_i = 0$

### TB1 terminals 1, 2, 5 and 6

$U_i = 20 \text{ V}$

$I_i = 139 \text{ mA}$

$P_i = 0.46 \text{ W}$

The equivalent parameters are:

$C_i = 0.01 \text{ uF}$

$L_i = 0.02 \text{ mH}$

### TBS terminals S1 to S7

$U_i = 14.7 \text{ V}$

$I_i = 99 \text{ mA}$

$P_i = 0.6 \text{ W}$

The equivalent parameters are:

$C_i = 30 \text{ uF at } 6 \text{ V}$

$C_i = 0.4 \text{ uF at } 14.7 \text{ V}$

$L_i = 0.3 \text{ mH}$

### TBA terminals A1 & A2, A3 & A4 (each Alarm channel)

$U_i = 28 \text{ V}$        $U_o = 1.49 \text{ V}$

$I_i = 200 \text{ mA}$        $I_o = 1 \text{ uA}$

$P_i = 0.84 \text{ W}$        $P_o = 3 \text{ uW}$

The equivalent parameters are:

$C_i = 0.04 \text{ uF}$

$L_i = 0.02 \text{ mH}$

For intrinsic safety considerations, under fault conditions the voltage, current and power at the above terminals, TBA, do not exceed those specified in clause 5.7 of IEC 60079-11:2006. The equivalent capacitance and inductance are the result of r.f. suppression components directly connected to the apparatus terminals.