



# 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 05.0007

Issue No.:1

Certificate history:

Issue No. 1 (2009-7-28)

Issue No. 0 (2005-2-15)

Status:

Current

Date of Issue:

2009-07-28

Page 1 of 4

Applicant:

**BEKA Associates Limited**

Old Charlton Road

Hitchin

Herts

SG5 2DA

United Kingdom

Electrical Apparatus:

**BA488CF Fieldbus Display**

*Optional accessory:*

Type of Protection:

**Intrinsic Safety**

Marking:

**Ex ia IIC T4**

**Ta = -40C to 60°C**

*Approved for issue on behalf of the IECEx  
Certification Body:*

A T Austin

*Position:*

Certification Officer

*Signature:  
(for printed version)*

*Date:*

2009-07-29

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





# IECEX Certificate of Conformity

Certificate No.: IECEx ITS 05.0007

Date of Issue: 2009-07-28

Issue No.: 1

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:

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

*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/05/04014952C

GB/ITS/ExTR09.0031/00

File Reference:  
04014952  
04014722  
09039456



# IECEX Certificate of Conformity

Certificate No.: IECEx ITS 05.0007

Date of Issue: 2009-07-28

Issue No.: 1

Page 3 of 4

## Schedule

### EQUIPMENT:

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

BA488CF Fieldbus Display is a panel mounting equipment designed to display up to eight fieldbus process variables in the hazardous area. The BA488CF incorporates six push buttons. The BA488CF Fieldbus Display can be supplied with six optional alarm outputs that may be linked to any of the displayed fieldbus variables. The BA488CF is powered by fieldbus.

The BA488CF comprises a Fieldbus Interface CI-PC134, two Alarm Board 01's, and a CPU and Display, all housed within a metallic enclosure.

The enclosure provides a Degree of Protection of at least IP20.

Intrinsic safety is assured by the use of certified components, which provide limitation of voltage, current and power, limitation of capacitance and inductance, and infallible segregation.

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

#### TB1 terminals 1 and 2

$U_i = 17.5 \text{ V}$

$I_i = 380 \text{ mA}$

$P_i = 5.32 \text{ W}$

The equivalent parameters are:

$C_i = 1 \text{ nF}$

$L_i = 8 \text{ uH}$

Terminals 1 and 2 comply with Intrinsically Safe Concept (FISCO) to the IEC TS 60079-27 standard.

**TBA1 terminals A1 & A2, A3 & A4 and TBA2 terminals A5 & A6 (each channel)**

**TBA3 terminals A7 & A8, A9 & A10 and TBA4 terminals A11 & A12 (each channel)**

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

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

$P_i = 0.85 \text{ W}$                        $P_o = 3 \text{ uW}$

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 do not exceed those specified in Clause 5.4 of IEC 60079-11:1999. The equivalent capacitance and inductance are the result of r.f suppression components directly connected to the apparatus terminals.

#### TBS terminals S1 to S7

$U_o = 14.7 \text{ V}$

$I_o = 146.7 \text{ mA}$

$P_o = 0.58 \text{ W}$

The equivalent parameters are:

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

$C_i = 0.54 \text{ uF at } 14.7 \text{ V}$

$L_i = 0.3 \text{ mH}$

CONDITIONS OF CERTIFICATION: NO



# IECEX Certificate of Conformity

Certificate No.: IECEx ITS 05.0007

Date of Issue: 2009-07-28

Issue No.: 1

Page 4 of 4

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

Issue 1: GB/ITS/EXTR09.0031/00

1. Correction of values of output parameters from mA to uA and equivalent parameters of capacitance from mF to uF, where appropriate.
2. Following changes carried out on the Fieldbus Interface CI-PC134:
  - a) Integrated circuit changed to an alternative type
  - b) Deletion of shunt zener diodes D11 and D12
  - c) Deletion of capacitor C30, 1.2 uF
  - d) Addition of shunt zener diodes D20 and D21
  - e) Change of value of capacitor C39 to 1.2 uF maximum
  - f) Minor changes to the circuit and non-safety related components
  - g) Minor modifications to the printed circuit boards PC133 and PC134 due to above changes

The above changes do not impair intrinsic safety.