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 05.0006 issue No.:2	Certificate history: Issue No. 2 (2009-7-28) Issue No. 1 (2005-5-13)
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: **BA484DF Fieldbus Display**
Optional accessory:

Type of Protection: **Intrinsic Safety**

Marking: **Ex ia IIC T4**
Ta = -40°C to 60°C
Ex ia IIC T4
DIP A21 TA 125°C IP66
Ta = -20°C 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

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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'
IEC 61241-1-1 : 1999 Edition: 2	Electrical apparatus for use in the presence of combustible dust - Part 1-1: Electrical apparatus protected by enclosures and surface temperature limitation - Specification for apparatus

*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/ExTR09.0030/00

File Reference:
04014952
04014722
09039456

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Schedule

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

BA484DF Fieldbus Display is a field mounting equipment designed to display up to eight fieldbus process variables in the hazardous area. The BA484DF incorporates four push buttons. The BA484DF Fieldbus Display can be supplied with six optional alarm outputs that may be linked to any of the displayed fieldbus variables. The BA484DF is powered by fieldbus.

The BA484DF comprises a Field Connection Assembly 02, a Fieldbus Interface CI-PC134, two Alarm Board 01's, and a CPU and Display, all housed within a two parts plastic enclosure.
The enclosure provides a Degree of Protection of IP66.
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 V
I_i = 380 mA
P_i = 5.32 W
Terminals 1 and 2 comply with Intrinsically Safe Concept (FISCO) to the IEC TS 60079-27 standard.
The equivalent parameters are:
C_i = 1 nF
L_i = 8 uH
TB1 terminals A1 & A2, A3 & A4, A5 & A6 (each channel)
TB2 terminals A7 & A8, A9 & A10, A11 & A12 (each channel)
U_i = 28 V U_o = 1.49 V
I_i = 200 mA I_o = 1 uA
P_i = 0.85 W P_o = 3 uW
The equivalent parameters are:
C_i = 0.04 uF
L_i = 0.02 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.
TB1 terminals S1 to S7
U_o = 14.7 V
I_o = 146.7 mA
P_o = 0.58 W

The equivalent parameters are:
C_i = 30 uF at 6 V
C_i = 0.54 uF at 14.7 V
L_i = 0.3 mH

CONDITIONS OF CERTIFICATION: NO

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

Issue 2: GB/ITS/ExTR09.0030/00

1. Correction of values of output parameters from mA to uA and equivalent parameters of capacitance from mF to uF, where appropriate; and correction of degree of protection to IP66.

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.