



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.: issue No.:

Status:

Date of Issue: **2009-06-05** Page 1 of 4

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

Electrical Apparatus: **BA478C Indicating Temperature Transmitter**
Optional accessory:

Type of Protection: **Ex ia**

Marking: **IECEX ITS 09.0006X**
Ex ia IIC T5 Ga
-40°C < Ta < +70°C

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

Position: **Certification Manager**

Signature:
(for printed version)

Date: 2009-06-08

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 : 2007-10 Explosive atmospheres - Part 0: Equipment - General requirements
Edition: 5
IEC 60079-11 : 2006 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "I"
Edition: 5
IEC 60079-26 : 2006 Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga
Edition: 2

*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/ExTR09.0006/00

Quality Assessment Report:

GB/ITS/QAR06.0002/01



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

BA478C Indicating Temperature Transmitter is a panel mounting loop powered indicating temperature transmitter designed to display temperature in the hazardous process area and to transmit a linearised 4/20 mA current to the non-hazardous area. It provides galvanic isolation between the input and output connections.

The BA478C may optionally be fitted with an Alarm board and may additionally be fitted with an optional Back Light board.

The BA478C Indicating Temperature Transmitter comprises a panel terminal board, a main display board, and an optional Alarm board, and/or an optional Back Light board, all housed within a metallic enclosure surrounded by a bezel of plastic material having a surface resistance of less than 1 GΩ. The enclosure provides a degree of protection of at least IP20.

CONDITIONS OF CERTIFICATION: YES as shown below:

The BA478C Indicating Temperature Transmitter when installed in Zone 0 potentially explosive atmosphere shall be installed such that even in the event of rare incidents, an ignition source due to impact or friction between aluminium enclosure at the rear of the instrument mounting panel and iron/steel is excluded.



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EQUIPMENT(continued):

The maximum intrinsically safe input and output parameters at the terminals for external connections are:

Terminals TB2 - 5 & 6

$U_i = 28 \text{ V}$

$I_i = 200 \text{ mA}$

$P_i = 0.85 \text{ W}$

The equivalent parameters are:

$C_i = 46.42 \text{ nF}$

$L_i = 0.01 \text{ mH}$

$C_o = 36.58 \text{ nF}$

$L_o = 0.69 \text{ mH}$

Terminals TB601 - 8 & 9; 10 & 11

$U_i = 30 \text{ V}$ $U_o = 0.7 \text{ V}$

$I_i = 200 \text{ mA}$ $I_o = 1.3 \text{ uA}$

$P_i = 0.85 \text{ mW}$ $P_o = 4 \text{ uW}$

The equivalent parameters are:

$C_i = 0.02 \text{ uF}$

$L_i = 0.01 \text{ mH}$

$C_o = 46 \text{ nF}$

$L_o = 0.69 \text{ mH}$

Terminals TB1 - 1, 2, 3 & 4

$U_i = 6 \text{ V}$ $U_o = 6 \text{ V}$

$I_i = 100 \text{ mA}$ $I_o = 30.3 \text{ mA}$

$P_i = 194 \text{ mW}$ $P_o = 46 \text{ mW}$

The equivalent parameters are:

$C_i = 16.16 \text{ uF}$

$L_i = 0$

$C_o = 23.84 \text{ uF}$

$L_o = 3 \text{ mH}$

For intrinsic safety considerations, under fault conditions, the voltage, current and power at terminals TB601 - 8 & 9; 10 & 11 do not exceed those specified in clause 5.7 of IEC 60079-11. The equivalent capacitance and inductance are the result of r.f. suppression components directly connected across the apparatus terminals.