

Intertek ETL SEMKO

1. EC-TYPE EXAMINATION CERTIFICATE
2. **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive 94/9/EC**
3. EC-Type Examination Certificate Number: **ITS04ATEX22778**
4. Equipment or Protective System: **BA484DF FIELD BUS DISPLAY**
5. Manufacturer: **BEKA ASSOCIATES LIMITED**
6. Address: **Hitchin, Herts, SG5 2DA**
7. This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
8. The Intertek Testing and Certification Limited, notified body number 0359 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential Report Number:
Intertek Report Ref 04014722, dated September 2004
9. Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 50014:1997+ Amds 1 & 2, EN 50020:2002 and EN 50284:1999
except in respect of those requirements listed at item 18 of the Schedule.
10. If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.
11. This EC Type Examination Certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.
12. The marking of the equipment or protective system shall include the following:-



II 1 G, EEx ia IIC T4 (Tamb = -40°C to 60°C)

Intertek Testing & Certification Limited
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Registered No 3272281 Registered Office: 25 Savile Row London W1X 1AA

R M Adams
Certification Manager
29 September 2004

13. **Schedule**
14. EC-TYPE EXAMINATION CERTIFICATE NUMBER ITS04ATEX22778
15. Description of Equipment or Protective System.

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, EC-Type Examination Certificate Number ITS03ATEX21375U, a Fieldbus Interface CI-PC134, EC-Type Examination Certificate Number ITS04ATEX22023U, two Alarm Board 01's, EC-Type Examination Certificate Number ITS02ATEX2044U and a CPU and Display, EC-Type Examination Certificate Number ITS02ATEX2045U, all housed within a two parts plastic 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

$$U_i = 17.5V$$

$$I_i = 380 \text{ mA}$$

$$P_i = 5.32 \text{ W}$$

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

The equivalent parameters are:

$$C_i = 1 \text{ nF}$$

$$L_i = 8 \text{ } \mu\text{H}$$

TB1 terminals A1 & A2, A3 & A4, A5 & A6 (each channel)

TB2 terminals A7 & A8, A9 & A10, A11 & A12 (each channel)

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

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

$$I_i = 200 \text{ mA}$$

$$I_o = 1 \text{ } \mu\text{A}$$

$$P_i = 0.85 \text{ W}$$

$$P_o = 3 \text{ } \mu\text{W}$$

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13. **Schedule**

14. **EC-TYPE EXAMINATION CERTIFICATE NUMBER ITS04ATEX22778**

The equivalent parameters are:

$$C_i = 0.04 \mu F$$

$$L_i = 0.02 mH$$

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 EN 50020: 2002. 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:

$$C_i = 30 \mu F \text{ at } 6 V$$

$$C_i = 0.54 \mu F \text{ at } 14.7V$$

$$L_i = 0.3 mH$$

16. Report No. Intertek Report Ref 04014722, dated September 2004

17. **SPECIAL CONDITIONS FOR SAFE USE**

None

18. **Essential Health and Safety Requirements**

The essential health and safety requirements not covered by reference to the standards identified in Section 9 above have been addressed in Intertek Report Reference 04014722

19. **DRAWINGS**

Number	Issue	Date	Description
CI480-11 sheets 1*, 2*, 3* & 5	1	May 04	BA484DF Certification Information

* These drawings are common to EC-Type Examination Certificate No ITS04ATEX22779.

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ETL SEMKO

1. **SUPPLEMENTARY EC-TYPE EXAMINATION CERTIFICATE**
2. **Equipment or Protective System Intended for use in
Potentially Explosive Atmospheres Directive 94/9/EC**
3. Supplementary EC-Type Examination Certificate Number: **ITS04ATEX22778/1**
4. Equipment or Protective System: **BA484DF FIELDBUS DISPLAY**
5. Manufacturer: **BEKA ASSOCIATES LIMITED**
6. Address: **Old Charlton Road, Hitchin, Herts, SG5 2DA**
7. This supplementary certificate extends EC-Type Examination Certificate Number ITS04ATEX22778 to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said Certificate but having variations specified in the Schedule attached to this certificate and the documents therein referred to.

Intertek Ref 04014720

This Supplementary Certificate shall be held with the original Certificate

R M Adams
Certification Manager
30 November 2004

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Schedule

SUPPLEMENTARY EC-TYPE EXAMINATION CERTIFICATE NUMBER ITS04ATEX22778/1

VARIATION 1.1

Description of the Variation to the Equipment or Protective System.

To permit the following changes:

- a) Minor mechanical modifications to the apparatus enclosure to enable it for use in the presence of combustible dust. The enclosure provides a degree of protection IP66

The codes are:  II 1 G, EEx ia IIC T4 (Tamb= -40°C to 60°C)

 II 1 GD, EEx ia IIC T4 (Tamb= -20°C to 60°C)

- b) Alternative method of printing the label- laser marked onto aluminium label or thermally printed onto polyester label with acrylic self-adhesive backing.

The above changes do not impair intrinsic safety.

SPECIAL CONDITIONS FOR SAFE USE

None

Essential Health and Safety Requirements

See original certificate

DRAWINGS

Number	Issue	Date	Description
CI480-11, sheets 1, 3, 5	2	Oct 04	BA484DF- Certification Information

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1. **SUPPLEMENTARY EC-TYPE EXAMINATION CERTIFICATE**

2. **Equipment or Protective System Intended for use in
Potentially Explosive Atmospheres Directive 94/9/EC**

3. Supplementary EC-Type Examination Certificate Number: **ITS04ATEX22778/2**

4. Equipment or Protective System: **BA484DF Fieldbus Display**

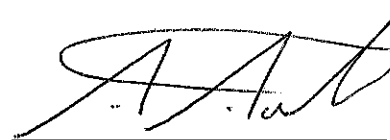
5. Manufacturer: **BEKA ASSOCIATES LIMITED**

6. Address: **Old Charlton Road, Hitchin, Herts, SG5 2DA**

7. This supplementary certificate extends EC-Type Examination Certificate Number ITS04ATEX22778 to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said Certificate but having variations specified in the Schedule attached to this certificate and the documents therein referred to.

Intertek Project No 10050420 (IECEx Test Report GB/ITS/ExTR09.0030/01 dated 2012-01-16).

This Supplementary Certificate shall be held with the original Certificate



A T Austin
Certification Officer
23 January 2012

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Schedule

**SUPPLEMENTARY EC-TYPE EXAMINATION CERTIFICATE NUMBER
ITS04ATEX22778/2**

VARIATION TWO

Description of the Variation to the Equipment or Protective System.

To permit the following changes:

- 1.1 Addition of alternative Alarm Board 01 (PC175). The entity parameter, Li, is changed from 20 μ H to 8 μ H at the TBA Terminals for each Alarm channel when PC175 is fitted. The remaining entity parameters are unchanged.
- 1.2 The lower ambient temperature is revised from -20°C to -40°C for Dust applications. The upper ambient temperature of +60°C remains the same.
- 1.2 Assessment of the BA484DF Fieldbus Display to the latest standards listed below.

IEC 60079-0:2011
IEC 60079-11:2011
IEC 60079-26:2006
IEC 61241-11:2005

The equipment coding is:



II 1 G, Ex ia IIC T4 Ga (Tamb = -40°C to +60°C)



II 1 D, Ex ia IIIC T125°C Da (Tamb = -40°C to +60°C) IP66

Report No.

Intertek Project No 10050420 (IECEx Test Report GB/ITS/ExTR09.0030/01 dated 2012-01-16)

SPECIAL CONDITIONS FOR SAFE USE

None

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The Intertek logo is a black rounded rectangle with the word "Intertek" in white sans-serif font.

Schedule

**SUPPLEMENTARY EC-TYPE EXAMINATION CERTIFICATE NUMBER
ITS04ATEX22778/2**

Essential Health and Safety Requirements

See original certificate

DRAWINGS

Number	Sheets	Issue	Date	Description
CI480-01	1*, 2*, 3* & 5	3	Oct. 11	Certification Information for BA484DF & BA488CF Fieldbus Display

* These drawings are common to EC-Type Examination Certificate No ITS04ATEX22778/1X

This Certificate is for the exclusive use of Intertek's client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this Certificate. Only the Client is authorized to permit copying or distribution of this Certificate and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek.

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