



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: ITS02ATEX2035

4. Equipment or Protective System: BA484D SERIAL TEXT DISPLAY

5. Manufacturer: BEKA ASSOCIATES LIMITED

6. Address: Old Charlton Road, 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 ITS 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:
ITS Report Ref 02007502, dated December 2002

9. Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 50014:1997, 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 of the specified equipment or protective system. Further requirements of this Directive apply to the manufacture and supply of this equipment or protection system.

12. The marking of the equipment or protective system shall include the following:-



II 1 G, BEx ia IIC T5 (Tamb= -40°C to 60°C)

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R M Adams
Deputy Certification Manager
20 December 2002

ITS Intertek Testing Services

13. **Schedule**
14. EC-TYPE EXAMINATION CERTIFICATE NUMBER ITS02ATEX2035
15. Description of Equipment or Protective System.

BA484D Serial Text Display is a field mounting equipment designed to display text and simple graphics in the hazardous area. The BA484D incorporates four push-buttons and two solid state outputs to form an operator interface for simple machine and process control applications.

The BA484D comprises a Field Connection Assembly 01, EC-Type Examination Certificate Number ITS02ATEX2042U, a 5051 Power Supply & Communications Board, EC-Type Examination Certificate Number ITS02ATEX2043U, an Alarm Board 01, 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 infallible segregation.

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

TB1 terminals 1 and 2

$U_i = 25V$
 $I_i = 108\text{ mA}$
 $P_i = 0.58W$

The equivalent parameters are:

$C_i = 0.01\ \mu F$
 $L_i = 0.02\text{ mH}$

TB1 terminals 4 and 2

$U_i = 14\text{ V}$
 $I_i = 108\text{ mA}$
 $P_i = 0.45\text{ W}$

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13. Schedule

14. EC-TYPE EXAMINATION CERTIFICATE NUMBER ITS02ATEX2035

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:

$$C_i = 0.01 \mu\text{F}$$

$$L_i = 0.02 \text{ mH}$$

TBS terminals S1 to S7

$$U_o = 14.7 \text{ V}$$

$$I_o = 99 \text{ mA}$$

$$P_o = 0.6 \text{ W}$$

The equivalent parameters are:

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

$$C_i = 0.4 \mu\text{F at } 14.7 \text{ V}$$

$$L_i = 0.3 \text{ mH}$$

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

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

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

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

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

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

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

The equivalent parameters are:

$$C_i = 0.04 \mu\text{F}$$

$$L_i = 0.02 \text{ mH}$$

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 EN 50020: 2002. The equivalent capacitance and inductance are the result of r.f suppression components directly connected to the apparatus terminals.

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ITS Intertek Testing Services

13. **Schedule**
14. EC-TYPE EXAMINATION CERTIFICATE NUMBER ITS02ATEX2035
16. Report No. ITS Report Ref 02007502.
17. SPECIAL CONDITIONS FOR SAFE USE
None
18. Essential Health and Safety Requirements

Essential Health and Safety Requirements not covered by Standards listed at (9)		
Clause	Subject	Compliance
1.01	Principal of integrated explosion protection	The equipment is designed to comply with the requirements of EN 50014, EN 50020 and EN 50284
1.02	Analysis of possible operating faults	The equipment is designed to comply with failure modes specified in EN 50020
1.0.3	Special checking and maintenance conditions	No special requirements
1.2.4	Dust deposits	Certification for gas atmospheres only
1.2.7	Protection against other hazards	The equipment is designed to comply with the requirements of EN 50014
1.6.4	Hazards arising from connections	The equipment is provided with suitable conduit entries

19. **DRAWINGS**

Number	Issue	Date	Description
CI480-01 sheets 1*, 2*, 3* & 5	1	Mar. 02	BA484D Certification Information

* These drawings are common to EC-Type Examination Certificate No ITS02ATEX2036.

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Intertek 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: **ITS02ATEX2035/1**
4. Equipment or Protective System: **BA484D SERIAL TEXT 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 ITS02ATEX2035 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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Intertek ETL SEMKO

Schedule

SUPPLEMENTARY EC-TYPE EXAMINATION CERTIFICATE NUMBER ITS02ATEX2035/1

VARIATION ONE

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 T5 (Tamb= -40°C to 60°C)
ⓂII 1 GD, EEx ia IIC T5 (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.

Report No.

Intertek Ref 04014720

SPECIAL CONDITIONS FOR SAFE USE

None

Essential Health and Safety Requirements

See original certificate

DRAWINGS

Number	Issue	Date	Description
CI480-01, sheets 1, 3, 5	2	July 04	BA484D Certification Information

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