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: ITS03ATEX21378

4. Equipment or Protective System: BA454D BATCH CONTROLLER

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 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 03010033 Issue 1, dated October 2003

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 T5 (Tamb= -40°C to 60°C)

R M Adams
Deputy Certification Manager
14 October 2003

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13. # Schedule

14. EC-TYPE EXAMINATION CERTIFICATE NUMBER ITS03ATEX21378

15. Description of Equipment or Protective System.

BA454D Batch Controller is a field mounting equipment designed to control the dispensing of liquids, solids or components in the hazardous area. The BA484D incorporates a selection of operator display screens identifying the function of the push-button switches.

The BA454D comprises a Field Connection Assembly 02, EC-Type Examination Certificate Number ITS03ATEX21375U, a Simple Power Supply Board, EC-Type Examination Certificate Number ITS03ATEX21376U, a Current and Pulse Input Board 01, EC-Type Examination Certificate Number ITS03ATEX21377U, two 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 inductance, and infallible segregation.

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

TB1 terminals 1 and 2
$U_i = 28$ V
$I_i = 96$ mA
$P_i = 0.84$ W

The equivalent parameters are:
$C_i = 15$ nF
$L_i = 8$ µH

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13. Schedule

14. EC-TYPE EXAMINATION CERTIFICATE NUMBER ITS03ATEX21378

TB1 terminals S1 to S7
Uo = 14.7 V
Io = 99 mA
Po = 0.6 W

The equivalent parameters are:
C_i = 30 µF at 6 V
C_i = 0.47 µF at 14.7V
L_i = 0.3 mH

TB1 terminals A1 & A2, A3 & A4, A5 & A6 (each Alarm channel)
TB2 terminals A7 & A8, A9 & A10, A11 & A12 (each Alarm channel)

U_i = 28 V	U_O = 1.49 V
I_i = 200 mA	I_O = 1 µA
P_i = 0.85 W	P_O = 3 µW

The equivalent parameters are:

C_i = 0.04 µF
L_i = 0.02mH

For intrinsic safety considerations, under fault conditions the output 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.

TB2 terminals 11 and 12
U_o = 10.6 V
I_o = 20 mA
P_o = 50 mW

The equivalent parameters are:
C_i = 15 nF
L_i = 8 µH

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13. Schedule

14. EC-TYPE EXAMINATION CERTIFICATE NUMBER ITS03ATEX21378

TB2 terminals 13 to 17

U_i = 28 V	U_O = 1.1 V
I_i = 100 mA	I_O = 0.12 mA
P_i = 0.66 W	P_O = 35 μW

The equivalent parameters are:
C_i = 18 nF
L_i = 0.02 mH

For intrinsic safety considerations, under fault conditions the output 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.

TB2 terminals 18 to 20
U_o = 11.7 V
I_o = 2.4 mA
P_o = 7 mW

The equivalent parameters are:
C_i = 3.6 nF
L_i = 0

16. Report No. Intertek Report Ref 03010033.

17. SPECIAL CONDITIONS FOR SAFE USE
None

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13. Schedule

14. EC-TYPE EXAMINATION CERTIFICATE NUMBER ITS03ATEX21378

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**
CI450-01 sheets 1*, 2*, 3* & 5	1	Feb. 03	BA454D Certification Information

* These drawings are common to EC-Type Examination Certificate No ITS03ATEX21379.

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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: **ITS03ATEX21378/1**

4. Equipment or Protective System: **BA454D BATCH CONTROLLER**

5. Manufacturer: **BEKA ASSOCIATES LIMITED**

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

7. This supplementary certificate extends EC-Type Examination Certificate Number ITS03TEX21378 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 ITS03ATEX21378/1

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: ⟨Ex⟩II 1 G, EEx ia IIC T5 (Tamb= -40°C to 60°C)
⟨Ex⟩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
CI450-01, sheets 1, 3, 5	2	July 04	BA454D 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: **ITS03ATEX21378/2**

4. Equipment or Protective System: **BA454D Batch Controller**

5. Manufacturer: **BEKA ASSOCIATES LIMITED**

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

7. This supplementary certificate extends EC-Type Examination Certificate Number ITS03ATEX21378 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 Report Ref 10050420A dated January 2012.

   This Supplementary Certificate shall be held with the original Certificate

In accordance with EC NOTICE TO STAKEHOLDERS WITHDRAWAL OF THE UNITED KINGDOM AND EU RULES IN THE FIELD OF INDUSTRIAL PRODUCTS dated 13 March 2020.

This issued certificate - Certificate No: ITS03ATEX21378

and supporting Technical Construction File underwent a legal transfer of new ownership by signed agreement between the named applicant on this certificate and the 3rd party bodies involved in the transfer from NB0359 to NB2575 on 17 December 2020

Name: Fabrizio Massei

Position: ATEX Certification Officer

Signature:

Date: 17 December 2020

A T Austin
Certification Officer
23 January 2012

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Schedule

SUPPLEMENTARY EC-TYPE EXAMINATION CERTIFICATE NUMBER ITS03ATEX21378/2

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 µH to 8 µH 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 BA454D Batch Controller 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 T5 Ga (Tamb = –40°C to +60°C)

II 1 D, Ex ia IIIC T80°C Da (Tamb = –40°C to +60°C) IP66

Report No.

Intertek Report Ref 10050420A dated January 2012.

SPECIAL CONDITIONS FOR SAFE USE

None

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Schedule

SUPPLEMENTARY EC-TYPE EXAMINATION CERTIFICATE NUMBER ITS03ATEX21378/2

Essential Health and Safety Requirements

See original certificate

DRAWINGS

Number	Sheets	Issue	Date	Description
CI450-01	1*, 2*, 3* & 5	3	Oct. 11	Certification Information for BA454D & BA458C

* These drawings are common to EC-Type Examination Certificate No ITS02ATEX2036/1X

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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