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:** ITS06ATEX25313X Issue 2

4. **Equipment or Protective System:** BA414DF FIELDBUS INDICATOR

5. **Manufacturer:** BEKA ASSOCIATES LIMITED

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

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. 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 Intertek Report Ref G102060830 dated September 2015, Intertek Report Ref 08033580, dated July 2008, Intertek Report Ref 09043172A, dated October 2009 and Intertek Report Ref 06020618, dated August 2006.

9. Compliance with the Essential Health and Safety Requirements has been assured by compliance with standards EN 60079-0:2012/A11:2013 and EN 60079-11:2012 except in respect of those requirements referred to at item 16 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 D	Ex ia IIC T4 Ga, - 40°C ≤ Ta ≤ +70°C Ex ia IIIC T100°C Da IP66, - 20°C ≤ Ta ≤ +60°C FISCO Field Device Ex ia IIC T4 Ga
II 3 G D	Ex ic IIC T4 Gc, - 40°C ≤ Ta ≤ +70°C Ex ic IIIC T100°C Dc IP66, - 20°C ≤ Ta ≤ +60°C

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A M Smart
Certification Officer
29 October 2015

SCHEDULE

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13. **Description of Equipment or Protective System**

BA414DF Fieldbus Indicator is a field mounting equipment designed to display one fieldbus process variable on a 5 digit LCD and 31 segment analogue bar graph.

The BA414DF comprises a field terminal board and a main display board, all housed within a stainless steel enclosure or a plastic enclosure. In each case the enclosure is fitted with a glass window.

The enclosure provides a Degree of Protection of at least IP20 for gas.

The BA414DF field terminal board and a main display board may alternatively be housed within a plastic enclosure fitted with a polycarbonate window or a toughened glass window

The enclosure provides a Degree of Protection of IP66 for dust.

Intrinsic safety is assured by limitation of voltage, current and power, limitation of capacitance and inductance, and infallible segregation.

The maximum intrinsically safe input parameters are as follows:

U_i = 17.5 V, I_i = 380 mA and P_i = 5.32 W (FISCO) OR,
U_i = 22 V, I_i = 250 mA and P_i = 1.2 W (Non-FISCO) OR,
Ui = 32V, Ii = 125mA and Pi = 1W (For "ic" only)

The equivalent parameters are:
C_i = 0
L_i = 8 µH
C_o = 165 nF
L_o = 0.15 mH

14. **Report Number**

Intertek Report Ref G102060830, dated September 2015
Intertek Report Ref 09043172A, dated October 2009
Intertek Report Ref 08033580, dated July 2008
Intertek Report Ref 06020618, dated August 2006.

15. **Conditions of Certification**

(a). Special Conditions for safe use

- When installed in a Zone 0 potentially explosive atmosphere requiring EPL Ga apparatus, the instrument shall be installed such that even in the event of rare incidents, an ignition source due to impact or friction between the aluminium label and iron/steel is excluded.

(b). Conditions of Manufacture

- None

SCHEDULE

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16. **Essential Health and Safety Requirements (EHSR's)**

The relevant EHSR's have been identified and assessed in Intertek Report Ref 06020618, dated August 2006.

17. **Drawings and Documents**

Title	Drawing No.:	Rev. Level:	Date:
BA414DF Certification Information	CI410-01 sheets 1* to 9*, 11, 14 & 16*	1	Mar '06

18. **Revisions**

Variation One; Intertek Report Ref 08033580, dated July 2008, ITS06ATEX25313X/1

- Addition of C125, D118, D119, IC110 and additional connectors to two optional keypads and an optional switch support board, PC158, on the main display board, PC144.
- Deletion of C114, D112 and D113 on the main display board, PC144.
- Change to the aggregate capacitance values on the main display board, PC144.
- Addition of terminal 4, two test points and a revised fuse footprint on the terminal board, PC146.
- Change to the certification label details to include a '+' before the higher ambient temperature.
- Changes to the printed circuit board track layouts on PC144 and PC146 to reflect the above changes.
- Changes to the Certification Information drawing, CI410-01, to reflect the above changes.

Title	Drawing No.:	Rev. Level:	Date:
BA414DF, BA414CF & BA418CF Certification Information	CI410-01, Sheets 1-17	2	May '08

Variation Two; Intertek Report Ref 09043172A, dated October 2009, ITS06ATEX25313X/2

- Title of the equipment changed from BA414DF Fieldbus Display to BA414DF Fieldbus Indicator.
- Value of R119 reduced from 209Ω to 171Ω.
- BA414DF may alternatively be identified as a BA444DF Fieldbus Indicator, or a BA444DL Fieldbus Listener, or a BA424DF Fieldbus Set-Point Station, or a BA434DF (product name yet to be defined). The above alternate models are due to changes in the firmware.
- Addition of FISCO Field Device input parameters:
  U_i = 17.5 V
  I_i = 380 mA
  P_i = 5.32 W

Title	Drawing No.:	Rev. Level:	Date:
BA414DF, BA414CF & BA418CF Certification Information	CI410-01, Sheets 2, 6, 7, & 16	3	Aug '09

SCHEDULE

EC-TYPE EXAMINATION CERTIFICATE NUMBER ITS06ATEX25313X Issue 2

Variation Three; Intertek Report Ref G102060830 dated September 2015, ITS06ATEX25313X Issue 2

- Re-assessments of the Field bus Indicators to the requirements of the latest standards EN 60079-0: 2012 and EN 60079-11:2012.
- Addition of the entity parameters; Ui = 32V, Ii = 125mA and Pi = 1W when located in Zone 2 with level of protection "ic".
- Changes to appropriate documents to reflect the above changes.

Title	Drawing No.:	Rev. Level:	Date:
ATEX and IECEX Certification Information for BA414CF BA414DF and BA418CF	CI410-1	4	September 2015

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