UK-TYPE EXAMINATION
CERTIFICATE

Product or Protective Systems Intended for Use in Potentially Explosive Atmospheres

UKSI 2016:1107 (as amended) – Schedule 3A, Part 1

1. **UK-Type Examination Certificate Number:** **ITS21UKEX0309X** **Issue 1**

2. **Product:** BA478C Indicating Temperature Transmitter

3. **Manufacturer:** BEKA associates Limited

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

5. This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

6. Intertek Testing and Certification Limited, Approved Body number 0359, in accordance with Regulation 42 of the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016, UKSI 2016:1107 (as amended), certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Schedule 1 of the Regulations.

   The examination and test results are recorded in the confidential report 104596361LHD-003 dated 20th May 2022.

7. Compliance with the Essential Health and Safety Requirements has been assured by compliance with EN IEC 60079-0:2018 & EN 60079-11:2012 except in respect of those requirements referred to within item 14 of the Schedule.

8. If the sign "X" is placed after the certificate number, it indicates that the product is subject to the special conditions of use specified in the Schedule to this certificate.

9. This UK-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Regulations apply to the manufacturing process and supply of this product. These are not covered by this certificate.

10. The marking of the product shall include the following:

II 1 G Ex ia IIC T5 Ga

Tamb: -40°C ≤ Ta ≤ +70°C

Certification Officer: M Newman **Date:** 5th July 2022

SCHEDULE:

UK-Type Examination Certificate Number: ITS21UKEX0309X Issue 1

11. Description of Product or Protective System

BA478C Indicating Temperature Transmitter is a panel mounting loop powered equipment designed to display temperature in a 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.

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

The BA478C Indicating Temperature Transmitter comprises a panel terminal board PC156, a main display board, PC157 and optional Alarm board, PC62, and/or Back Light board, PC161 all housed within a metallic enclosure.

The BA478C utilize the following terminals:

- 4/20 mA loop powered input terminals, TB2, which will also power the optional backlight circuit. A link is provided if the backlight circuit is not used.
- The sensor input terminals, TB1.
- The optional Alarm Interface input terminals, TB601.

Terminals TB2- 5 & 6		Terminals TB601 - 8 & 9; 10 & 11	
	The equivalent parameters are:		The equivalent parameters are:
Ui = 28 V	Ci = 46.42 nF	Ui = 30 V	Ci = 0.02 µF
Ii = 200 mA	Li = 0.01 mH	Ii = 200 mA	Li = 0.01 mH
Pi = 0.85 W	Co = 36.58 nF	Pi = 0.85 W	Co = 46 nF
	Lo = 0.69 mH	Uo = 0.7 V	Lo = 0.69 mH
		Io = 1.3 µA	
		Po = 4.0 µW	
Terminals TB1- 1, 2, 3 & 4			
	The equivalent parameters are:		
Ui = 6 V	Ci = 16.16 µF		
Ii = 100mA	Li = 0		
Pi = 194 mW	Co = 23.84 µF		
Uo = 6 V	Lo = 3 mH		
Io = 30.3 mA			
Po = 46 mW			

12. Report Number

Intertek Report: 104596361LHD-003 dated 20th May 2022.

SCHEDULE:

UK-Type Examination Certificate Number: ITS21UKEX0309X Issue 1

13. Special Conditions of Certification

(a). Special Conditions of Use

- 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.

(b). Conditions of Manufacture - Routine Tests

- The voltages applied to infallible transformers shall conform to the values given in Table 10 as per the requirements of EN 60079-11:2012 Clause 11.2, Routine tests for infallible transformers.

14. Essential Health and Safety Requirements (EHSRs)

The relevant Essential Health and Safety Requirements (EHSRs) have been identified and assessed in Intertek Report: 104596361LHD-003 dated 20th May 2022.

15. Drawings and Documents

Title:	Drawing No.:	Rev. Level:	Date:
ATEX & IECEx Certification Information for BA474D & BA478C Indicating Temperature Transmitters Sheets 1-23 & 25-28	CI470-01 (27 Sheets)	4	April 2022

16. Details of Certificate changes

Issue 1 (5th July 2022):

This variation covers the following changes:

- Revision to the opto-isolator assembly.