EU TYPE-EXAMINATION CERTIFICATE

1. **EU type-examination Certificate (Module B)**

2. **Equipment or Protective System intended for use in potentially explosive atmospheres (Directive 2014/34/EU)**

3. **EU type examination certificate Nr** **ITS09ATEX26156X R.1**

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

5. **Manufacturer:** BEKA associates Limited **Applicant:** BEKA associates Limited

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

7. This product and any acceptable variation thereto are specified in the schedule to this certificate and therein referred to.

8. INTERTEK ITALIA S.p.A., Notified Body n° 2575 in accordance with article 17 of the Directive 2014/34/EU of the European Parliament and Council of the 26 February 2014, certifies that the 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 system intended for use in potentially explosive atmosphere, given in Annex II of the Directive.

   The examination and tests results are recorded in confidential technical evaluation Intertek Report Nr. 104596361LHD-003 dated 20th May 2022.

9. Compliance with the Essential Health and Safety Requirements has been assured by compliance with EN IEC 60079-0:2018 & EN 60079-11:2012 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 product is subject to Specific Conditions of Use specified in the schedule to this certificate.

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

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

II 1 G Ex ia IIC T5 Ga
Tamb: -40°C ≤ Ta ≤ +70°C

Certificate issue date

5th July 2022

M Newman
Certification Officer
Intertek Italia S.p.A. (NB 2575)

This certificate has been issued by Intertek Italia S.p.A. NB 2575 on transfer from Intertek Testing & Certification Ltd. (NB 0359) using the same issued original certificate number.

PDR N° 277B

Membro degli Accordi di Mutuo Riconoscimento EA, IAF e ILAC

Signatory of EA, IAF and ILAC Mutual Recognition Agreements

SCHEDULE

EU TYPE EXAMINATION CERTIFICATE NUMBER: ITS09ATEX26156X R.1

13. DESCRIPTION OF THE EQUIPMENT 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	

CE Marking shall be accompanied by the identification number of the Notified Body responsible for surveillance of production.

14. DRAWINGS AND DOCUMENTS

TITLE	DOCUMENT Nr	LEVEL	DATE
*ATEX & IECEx Certification Information for BA474D & BA478C Indicating Temperature Transmitters Sheets 1-23, 25-28	CI470-01 (27 Sheets)	4	April 2022

Note: An * is included before the title of documents that are new or revised.
Copies of the above listed documents are kept at Intertek Italia S.p.A. archive.

SCHEDULE

EU TYPE EXAMINATION CERTIFICATE NUMBER: ITS09ATEX26156X R.1

15. **SPECIFIC 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.

16. **ESSENTIAL HEALTH AND SAFETY REQUIREMENTS**

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

17. **ROUTINE (FACTORY) 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.

18. **DETAIL OF CERTIFICATE CHANGES**

R.0 (13th January 2022):

This variation comprises the following changes to the equipment:

- Update product standards EN 60079-0 & EN 60079-11 to latest revision
- Introduction of alternative components for obsolete optocouplers.
- EN 60079-26, Ed.2 has been removed from the certificate listing. All requirements are considered to be covered by latest editions of EN 60079-0 & EN 60079-11.
- Initial release by Intertek Italia S.p.A. NB 2575 based on the assessment performed on January 2021 and on the certificate legal ownership transferred from Intertek Testing & Certification Ltd. (NB 0359); the same issued original certificate number is used.

R.1 (5th July 2022):

This variation comprises the following changes to the equipment:

- Revision to opto-isolator assembly.