

EU-TYPE EXAMINATION CERTIFICATE

Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive
2014/34/EU

1. **EU-Type Examination Certificate Number:** ITS04ATEX22778 **Issue 3**
2. **Product:** BA484DF Fieldbus Display
3. **Manufacturer:** BEKA associates Ltd.
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, Notified Body number 0359 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council dated 26 February 2014, certifies that the 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 Annex II of the Directive.
7. Compliance with the Essential Health and Safety Requirements has been assured by compliance with EN IEC 60079-0:2018 and 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 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.
10. The marking of the product shall include the following:

⊕ Ex II 1 G, Ex ia IIC T4 Ga
II 1 D, Ex ia IIIC T125°C Da
-40°C ≤ Ta ≤ +60°C

Certification Officer:



V K Varma

Date:

18-Mar-2020

SCHEDULE:

EU-Type Examination Certificate Number: ITS04ATEX22778 Issue 3

11. Description of Equipment or Protective System

The BEKA BA484DF Fieldbus Display is a field mounting equipment designed to display up to eight fieldbus process variables in the hazardous area. The BA484DF incorporates four push buttons. The BA484DF Fieldbus Display can be supplied with six optional alarm outputs that may be linked to any of the displayed fieldbus variables. The BA484DF is powered by fieldbus.

The BA484DF comprises a Field Connection Assembly 02, a Fieldbus Interface CI-PC134, two Alarm Board 01's, and a CPU and Display, 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:

$U_i = 17.5V$
 $I_i = 380\text{ mA}$
 $P_i = 5.32\text{ W}$

Terminals 1 and 2 comply with Intrinsically Safe Concept (FISCO) to the IEC TS 60079-27 standard.

The equivalent parameters are:

$C_i = 1\text{ nF}$
 $L_i = 8\text{ }\mu\text{H}$

TB1 terminals A1 & A2, A3 & A4, A5 & A6 (each channel):

TB2 terminals A7 & A8, A9 & A10, A11 & A12 (each channel):

$U_i = 28\text{ V}$	$U_o = 1.49\text{ V}$
$I_i = 200\text{ mA}$	$I_o = 1\text{ }\mu\text{A}$
$P_i = 0.85\text{ W}$	$P_o = 3\text{ }\mu\text{W}$

The equivalent parameters are:

$C_i = 0.04\text{ }\mu\text{F}$
 $L_i = 8\text{ }\mu\text{H}$

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 60079-11:2012. The equivalent capacitance and inductance are the result of RF suppression components directly connected to the apparatus terminals.

TB1 terminals S1 to S7:

$U_o = 14.7\text{ V}$
 $I_o = 146.7\text{ mA}$
 $P_o = 0.58\text{ W}$

SCHEDULE:

EU-Type Examination Certificate Number: ITS04ATEX22778 Issue 3

The equivalent parameters are:

Ci = 30 μ F at 6 V

Ci = 0.54 μ F at 14.7V

Li = 0.3 mH

12. Report Number

Intertek Report: 104210303LHD-001, dated 14th February 2020.

13. Special Conditions of Certification

- (a). Special Conditions of Use
- None.
- (b). Conditions of Manufacture - Routine Tests
- None.

14. Essential Health and Safety Requirements (EHSRs)

The relevant Essential Health and Safety Requirements (EHSRs) have been identified and assessed in Intertek Report: 104210303LHD-001, dated 14th February 2020.

15. Drawings and Documents

Title:	Drawing No.:	Rev. Level:	Date:
Certification Information for BA484DF & BA488CF Fieldbus Display (sheets: 1,2,3 and 5)	CI480-01	3	Oct. 11
Certification Information for Alarm Board 01	CI-PC109, sheets 1 to 11	3	Nov. 10

16. Details of Certificate changes

Variation 1 (ITS04ATEX22778/1):

- 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 T4 (Tamb= -40°C to 60°C)
II 1 GD, EEx ia IIC T4 (Tamb= -20°C to 60°C)
- Alternative method of printing the label- laser marked onto aluminium label or thermally printed onto polyester label with acrylic self-adhesive backing.

Variation 2 (ITS04ATEX22778/2):

- Addition of alternative Alarm Board 01 (PC175). The entity parameter, Li, is changed from 20 μ H to 8 μ H at the TBA Terminals for each Alarm channel when PC175 is fitted. The remaining entity parameters are unchanged.
- 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.
- Assessment of the BA484DF Field bus Display to the latest standards listed below:
IEC 60079-0:2011
IEC 60079-11 :2011

SCHEDULE:

EU-Type Examination Certificate Number: ITS04ATEX22778 Issue 3

IEC 60079-26:2006

IEC 61241-11:2005

The equipment coding is:

II 1 G, Ex ia IIC T4 Ga (Tamb = -40°C to +60° C)

II 1 D, Ex ia IIIC T125°C Da (Tamb = -40°C to +60°C) IP66

Variation 3 (ITS04ATEX22778 Issue 3):

- Update to the standard from EN 60079-0:2009 to EN IEC 60079-0:2018.
- Removal of standards IEC 60079-26:2006 and IEC 61241-11:2005 from the scope of the certification. The requirements from these standards related to this product are incorporated within IEC 60079-11, 6th Edition.
- Removal of the reference to the IEC TS 60079-27 standard for FISCO apparatus from the report.

