



# 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: **ITS04ATEX22779**
4. Equipment or Protective System: **BA488CF FIELDBUS DISPLAY**
5. Manufacturer: **BEKA ASSOCIATES LIMITED**
6. Address: **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 04014722, dated September 2004**
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 T4 (Tamb = -40°C to 60°C)

R M Adams  
Certification Manager  
29 September 2004

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13. **Schedule**
14. EC-TYPE EXAMINATION CERTIFICATE NUMBER ITS04ATEX22779
15. Description of Equipment or Protective System.

BA488CF Fieldbus Display is a panel mounting equipment designed to display up to eight fieldbus process variables in the hazardous area. The BA488CF incorporates six push buttons. The BA488CF Fieldbus Display can be supplied with six optional alarm outputs that may be linked to any of the displayed fieldbus variables. The BA488CF is powered by fieldbus.

The BA488CF comprises a Fieldbus Interface CI-PC134, EC-Type Examination Certificate Number ITS04ATEX22023U, two Alarm Board 01's, EC-Type Examination Certificate Number ITS02ATEX2044U and a CPU and Display, EC-Type Examination Certificate Number ITS02ATEX2045U, all housed within a metallic 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**

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

The equivalent parameters are:

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

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

**TBA1 terminals A1 & A2, A3 & A4 and TBA2 terminals A5 & A6 (each channel)  
TBA3 terminals A7 & A8, A9 & A10 and TBA4 terminals A11 & A12 (each channel)**

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

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13. **Schedule**
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The equivalent parameters are:

$$C_i = 0.04 \mu\text{F}$$
$$L_i = 0.02\text{mH}$$

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 50020: 2002. The equivalent capacitance and inductance are the result of r.f. suppression components directly connected to the apparatus terminals.

**TBS terminals S1 to S7**

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

The equivalent parameters are:

$$C_i = 30 \mu\text{F at } 6 \text{ V}$$
$$C_i = 0.54 \mu\text{F at } 14.7\text{V}$$
$$L_i = 0.3 \text{ mH}$$

16. Report No. Intertek Report Ref 04014722, dated September 2004

17. SPECIAL CONDITIONS FOR SAFE USE

None

18. Essential Health and Safety Requirements

The essential health and safety requirements not covered by reference to the standards identified in Section 9 above have been addressed in Intertek Report Reference 04014722

19. **DRAWINGS**

Number	Issue	Date	Description
CI480-11 sheets 1*, 2*, 3* & 4	1	May 04	BA488CF Certification Information

\* These drawings are common to and held with EC-Type Examination Certificate No ITS04ATEX22778.

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