



## EC-type-examination Certificate

(Translation)



(2) Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres - **Directive 94/9/EC**

(3) EC-type-examination Certificate Number:

**PTB 97 ATEX 2169 X**

(4) Equipment: Supply unit EURAX B811 type 811-2...

(5) Manufacturer: Camille Bauer AG

(6) Address: Aargauerstrasse 7, CH-5610 Wohlen

(7) This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

(8) The Physikalisch-Technische Bundesanstalt, notified body No. 0102 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment 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 the confidential report PTB Ex 97-27291.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

**DIN EN 50 014:1994-03**

**DIN EN 50020:1996-04**

**DIN EN 50014/prA1:1996**

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment 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 and construction of the specified equipment in accordance with Directive 94/9/EC. Further requirements of this Directive apply to the manufacture and supply of this equipment.

(12) The marking of the equipment shall include the following:



**II (1) G [EEx ia] IIC**

Zertifizierungsstelle Explosionsschutz

By order

Dr.-Ing. U. Johannsmeyer  
Oberregierungsrat



Braunschweig, 29.08.1997

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(13)

## Schedule

(14)

**EC-type-examination Certificate No. PTB 97 ATEX 2169 X**

(15) Description of equipment

The supply unit is used for the supply of 2-wire-measuring transducers installed inside the explosion hazardous area as well as for the electrical isolation of the measured signal. Optionally the supply unit facilitates the communication between correspondingly equipped measuring transducers and suitable hand-held terminals or host-computers.

The supply unit B811 is mounted on a PCB in Euro format according to DIN 41494.

The maximum permissible ambient temperature is 55 °C.

### Electrical data

Auxiliary power (terminals d32 and z30)	<b>type 811-23...</b>		
	direct voltage	24 - 60 V -15% / +33%	(U <sub>m</sub> = 125 V)
	or		
	alternating voltage	24 - 60 V ± 15%	(U <sub>m</sub> = 253 V)
	resp.		
	<b>type 811-24...</b>		
Measuring-output-circuits (terminals d22 and z22 resp. d24 and z24)	direct voltage	85 - 110 V -15% / +10%	(U <sub>m</sub> = 125 V)
	or		
	alternating voltage	85 - 230 V ± 10%	(U <sub>m</sub> = 253 V)
Contact circuit (terminals d18, b18 and z18)	per circuit U <sub>max</sub> = 15 V; I <sub>max</sub> = 25 mA		
	maximum voltage	(U <sub>m</sub> = 253 V)	
	switching contacts		
	alternating voltage	up to 250 V, up to	5 A
	direct voltage	up to 125 V, up to	0,24 A
	or	up to 30 V, up to	1 A
	maximum voltage U <sub>m</sub> = 253 V		

Measuring-supply-circuit  
(terminals d2 and d4)

type of protection Intrinsic Safety EEx ia IIB/IIC  
resp. EEx ib IIB/IIC  
(trapezoidal output characteristic))

maximum values:  $U_o = 21 \text{ V}$   
 $I_o = 75 \text{ mA}$   
 $P_o = 660 \text{ mW}$

**IIC resp. IIB**

max. permissible external inductance 6,7 mH 25 mH  
max. permissible external capacitance 178 nF 1260 nF

A certified intrinsically safe circuit of a hand-held terminal for communication with an interconnected intelligent measuring transducer may also be connected to the terminals d2 and d4 considering the following maximum values:

maximum values:  $U_i = 9,4 \text{ V}$   
 $I_i = 25 \text{ mA}$   
 $P_i = 60 \text{ mW}$

If a hand-held terminal is connected, the interconnection determines the maximum values of the measuring-supply-circuit as mentioned below. The category "ia" is only possible, if the intrinsically safe circuit of the hand-held terminal corresponds to category "ia" too.

Measuring-supply-circuit  
(terminals d2 and d4)

type of protection Intrinsic Safety EEx ia IIB/IIC  
resp. EEx ib IIB/IIC  
(trapezoidal output characteristic)

maximum values:  $U_o = 21 \text{ V}$   
 $I_o = 100 \text{ mA}$   
 $P_o = 660 \text{ mW}$

**IIC resp. IIB**

max. permissible external inductance 4 mH 15 mH  
max. permissible external capacitance 178 nF 1260 nF

Additionally the possible effective internal reactances of the hand-held terminal must be taken into account.

The measuring-supply-circuit is safely electrically isolated from all further circuits up to a peak value of the nominal voltage of 375 V.

(16) Report PTB Ex 97-27291

(17) Special conditions for safe use

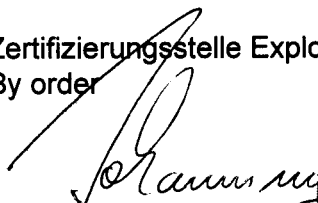
1. The supply unit shall be installed outside the explosion hazardous area only.
2. The supply unit shall be installed in such a way, that the requirements of type of protection IP 20 according to IEC publication 529 are met.
3. A mechanical facility (partition plate) has to be inserted between the terminals of the intrinsically safe circuits and the non-intrinsically safe circuits in such a way, that the minimum distance is 50 mm (thread measure) or every single terminal must be coated by shrink tube.

(18) Essential Health and Safety Requirements

met by standards

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