



**Translation**

**EC-Type Examination Certificate**

(1)

(2)

**- Directive 94/9/EC -  
Equipment and protective systems intended for use  
in potentially explosive atmospheres**

(3)

**BVS 05 ATEX E 111 U**

(4)

**Equipment: Signal Processing Device type 800**

(5)

**Manufacturer: Micro Motion, Inc.**

(6)

**Address: Boulder, Co. 80301, USA**

(7)

The design and construction of this component and any acceptable variation thereto are specified in the schedule to this type examination certificate.

(8)

The certification body of EXAM BBG Prüf- und Zertifizier GmbH, notified body no. 0158 in accordance with Article 9 of the Directive 94/9/EC of the European Parliament and the Council of 23 March 1994, certifies that this component 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 test and assessment report BVS PP 05.2075 EG.

(9)

The Essential Health and Safety Requirements are assured by compliance with:

EN 50014:1997+A1-A2 General requirements

EN 50020:2002 Intrinsic safety 'i'

(10)

The sign "U" placed after the certificate number indicates that the certificate must not be mistaken for a certificate for equipment or a protective system. This certificate may only be used as the basis for the certification of equipment or a protective system.

(11)

This EC-Type Examination Certificate relates only to the design, examination and tests of the specified component in accordance to Directive 94/9/EC.

Further requirements of the Directive apply to the manufacturing process and supply of this component. These are not covered by this certificate.

(12)

The marking of the equipment shall include the following:



**II 2G EEx ib IIB/IIC T5**

**EXAM BBG Prüf- und Zertifizier GmbH**

Bochum, dated 21. July 2005

Signed: Migenda

Signed: Dr. Eickhoff

Certification body

Special services unit

(13) Appendix to

(14) **EC-Type Examination Certificate**

**BVS 05 ATEX E 111 U**

(15) 15.1 Subject and type  
Signal Processing Device type 800

15.2 Description

The signal processing device is used for the connection of sensors to transmitters.

The electrical components are completely encapsulated in a plastic housing. On the top of the housing are terminals for the connection of the circuits from/to the transmitter and the connection of the sensor is by means of a permanently connected cable with a 9 pin connector.

15.3 Parameters

15.3.1 Input circuit (terminals J1-1, J1-2, J2-1 and J2-2)

Voltage	U <sub>i</sub>	DC	17,3	V
Current	I <sub>i</sub>		484	mA
Power	P <sub>i</sub>		2,1	W
Effective internal capacitance	C <sub>i</sub>		2200	pF
Effective internal inductance	L <sub>i</sub>		30	μH

15.3.2 Output (sensor) circuits

15.3.2.1 Drive circuit (J4 pins 7 - 8)

Voltage	U <sub>o</sub>	DC	10,5	V
Current	I <sub>o</sub>		2,45	A
Power	P <sub>o</sub>		2,54	W
Internal resistance	R <sub>i</sub>		4,32	Ω

for group IIC

max. external capacitance	C <sub>o</sub>		2,41	μF
max. external inductance	L <sub>o</sub>		5,9	μH
max. external inductance/resistance ratio	L <sub>o</sub> /R <sub>o</sub>		5,5	μH/Ω

for group IIB

max. external capacitance	C <sub>o</sub>		16,8	μF
max. external inductance	L <sub>o</sub>		24	μH
max. external inductance/resistance ratio	L <sub>o</sub> /R <sub>o</sub>		22	μH/Ω

15.3.2.2 Pick-Off circuits (J4 pins 3up to 6)

Voltage	U <sub>o</sub>	DC	17,3	V
Current	I <sub>o</sub>		18,05	mA
Power	P <sub>o</sub>		30	mW

for group IIC				
max. external capacitance	Co	353	nF	
max. external inductance	Lo	109	mH	
max. external inductance/resistance ratio	Lo/Ro	1,19	mH/Ω	

for group IIB				
max. external capacitance	Co	2,06	μF	
max. external inductance	Lo	436	mH	
max. external inductance/resistance ratio	Lo/Ro	4,75	mH/Ω	

15.3.2.3 Temperature sensor circuit (J4 pins 1, 2 and 9)

Voltage	Uo	DC	17,3	V
Current	Io		4,61	mA
Power	Po		20	mW

for group IIC				
max. external capacitance	Co	353	nF	
max. external inductance	Lo	1,67	H	
max. external inductance/resistance ratio	Lo/Ro	1,78	mH/Ω	

for group IIB				
max. external capacitance	Co	2,06	μF	
max. external inductance	Lo	6,69	H	
max. external inductance/resistance ratio	Lo/Ro	7,14	mH/Ω	

15.3.3 Ambient temperature range Ta -40 °C up to +60 °C

(16) Test and assessment report  
BVS PP 05.2075 EG as of 21.07.2005

(17) Special conditions for safe use

- 17.1 The signal processing device has to be mounted inside an enclosure with a min. degree of protection of IP 20 in accordance with EN 60529.
- 17.2 The installation of the signal processing device inside an enclosure has to be done in a way that the clearances between the connection facilities and earthed metal parts is min. 3 mm.

We confirm the correctness of the translation from the German original.  
In the case of arbitration only the German wording shall be valid and binding.

44809 Bochum, 21.07 2005  
BVS-Schu/Mi A 20050328

**EXAM BBG Prüf- und Zertifizier GmbH**

  
\_\_\_\_\_  
Certification body

  
\_\_\_\_\_  
Special services unit