ZERTIFIKAT ◆ CERTIFICATE ◆ 認証書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

EC Type Examination Certificate

No.: EX5 02 11 19183 038

TÜV PRODUCT SERVICE

in accordance with Annex III of Council Directive No. 94/9/EC for equipment and protective systems intended for use in potentially explosive atmospheres (ATEX) for

HIMA Paul Hildebrandt GmbH + Co KG
Albert-Bassermann-Straße 28

D-68782 Brühl

Product:	**Electrical apparatus type of protection intrinsically safety i (EX-RL)**
Model:	**Automation device, safety-related** **H 4007/8**
Parameters:	see appendix (4 pages)

The above mentioned product meets the provisions of the Directive.

This certificate is issued on the basis of the product provided for testing and certification and on its technical documentation. The detailed results of the test and the provided technical documentation are listed in

Test report no.: 70019843.1

This certificate pertains only to the sample product submitted to TÜV PRODUCT SERVICE for testing. Therefore this certificate has no specified period of validity.

Released with the above mentioned certificate number by the Certification Body of TÜV PRODUCT SERVICE.

Department: TA-ES/MUC-IQSE / jb
Date: 29.11.2002

TÜV PRODUCT SERVICE GMBH is a Notified Body in accordance with Council Directive 94/9/EC for equipment and protective systems intended for use in potentially explosive atmospheres with the identification number 0123.

Appendix to EC Type Examination Certificate

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TÜV PRODUCT SERVICE

1 Description

The module H 4007 / 8 is an isolation amplifier with one channel. As an associated electrical apparatus it must be installed only outside an atmosphere capable of explosion.
The module consists of one PCB-board which is placed in a terminal box. The terminals X4-13 and X4-15/16 provide an intrinsically safe electric circuit in order to supply (Ex-) transmitters or to switch (Ex-) valves.

The ambient temperature averages $-25°C \leq T_{amb} \leq 50°C$.

From the manual of instruction you will see the general information for safe use.

2 Electrical data

2.1 Intrinsically safe output circuit, terminal X4

One voltage of 25V for the supply of (Ex-) transmitters or switching (Ex-) valves (only H 4007) are provided. These is intrinsically safe and safety separated up to a peak value of 375V against the voltage input circuit.

Connection	Output	Function
13	A-	Voltage output -
15	A+	Voltage output +
16	AR1+	Redundant voltage output +

2.1.1 Output circuits H 4007

Voltage per output circuit, U_O	crest value DC 25 V
Amperage per output circuit, I_O	crest value DC 68 mA
Power per output circuit, P_O	crest value 565 mW
Characteristic curve	trapeze
internal capacitor per output circuit, C_i	negligible
internal inductance per output circuit, L_i	negligible

2.1.1.1 EEx ib IIC

Max. connectable inductance for one output circuit	L_O = 8 mH
Max. connectable capacitance for one output circuit	C_O = 110 nF
Max. connectable inductance for parallel connection of two output circuits	L_O = 1,9 mH
Max. connectable capacitance for parallel connection of two output circuits	C_O = 110 nF

2.1.1.2 EEx ib IIB

Max. connectable inductance for one output circuit	L_O = 30 mH
Max. connectable capacitance per output circuit	C_O = 840 nF
Max. connectable inductance for parallel connection of two output circuits	L_O = 8 mH
Max. connectable capacitance for parallel connection of two output circuits	C_O = 840 nF

2.1.2 Output circuits H 4008

Voltage per output circuit, U_O	crest value DC 17 V
Amperage per output circuit, I_O	crest value DC 68 mA
Power per output circuit, P_O	crest value 565 mW
Characteristic curve	trapeze
internal capacitor per output circuit, C_i	negligible
internal inductance per output circuit, L_i	negligible

2.1.2.1 EEx ib IIC

Max. connectable inductance for one output circuit	L_O = 8 mH
Max. connectable capacitance for one output circuit	C_O = 375 nF
Max. connectable inductance for parallel connection of two output circuits	L_O = 1,9 mH
Max. connectable capacitance for parallel connection of two output circuits	C_O = 375 nF

2.1.2.2 EEx ib IIB

Max. connectable inductance for one output circuit	L_O = 30 mH
Max. connectable capacitance per output circuit	C_O = 2,2 µF
Max. connectable inductance for parallel connection of two output circuits	L_O = 8 mH
Max. connectable capacitance for parallel connection of two output circuits	C_O = 2,2 µF

2.1.3 Control-/Power supply circuits, terminal X1 (non-intrinsically safe)

Control-/Power supply circuit connector 1/2

Nominal voltage, UB	24 V DC
Voltage, UB_{max}	≤ 30 V DC
Power, P	≤ 2,6 W
Absolute maximum voltage without affecting the intrinsic safety, U_m	250 V AC / 125 V DC

3 Identifying marking

The legible and durable marking must include the following option list:

- Name and address of the manufacturer
- Year of construction
- the identifier ⟨Ex⟩ II (2)GD [EEx ib] IIC

4 Production quality assurance

The manufacturer shall operate an approved quality system for production, final equipment inspection and testing according Annex IV directive 94/9/EC.

Munich, November 29th 2002

TÜV AUTOMOTIVE GmbH TA-ES/MUC

Dipl.-Ing. J. Blum