Translation

(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

TÜV 99 ATEX 1487 X

(4) Equipment or Protective System: I/P transformer type Doc 901068 and 901069

(5) Manufacturer: Hartmann & Braun GmbH & Co. KG
Geschäftsbereich Gerätetechnik

(6) Address: D-30179 Hannover, Hackethalstr. 7

(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 TÜV Hannover/Sachsen-Anhalt e.V., TÜV Certification Body N° 0032 in accordance with Article 9 of the Council Directive 94/9/EC of March 23, 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements krelating 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 N° 99/PX23890.

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

EN 50 014:1997 **EN 50 020:1994**

(10) If the sign "X" is placed after the certification 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 and construction of the specified equipment or protective system. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment or protective system.

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

II 2 G EEx ia IIC T6

TÜV Hannover/Sachsen-Anhalt e.V.
TÜV CERT-Zertifizierungsstelle
Am TÜV 1
D-30519 Hannover

Hannover, 1999-10-29

Head of the Certification Body

TÜV NORD CERT

This certificate may only be reproduced without any change, schedule included. Excerpts or changes shall be allowed by the TÜV Hannover/Sachsen-Anhalt e.V.

(13) **SCHEDULE**

(14) EC-TYPE EXAMINATION CERTIFICATE N° TÜV 99 ATEX 1487 X

(15) Description of equipment or protective system

The I/P transformer type Doc 901068 and 901069 is used for the transformation of an impressed direct current of the range of 0 ... 20 mA into a proportional pressure. The proportional pressure can be used for the control of pneumatically adjustable devices resp. mechanisms of every manner.

Electrical data

Supply circuit (terminal +,-)	in type of protection "Intrinsic Safety" EEx ia IIC only for the connection to certified intrinsically safe circuits

The permissible ambient temperature range in dependence of the temperature class and of the input current has to be taken from the following table:

temperature class	input current	ambient temperature range
T6	50 mA	-55°C to +60°C
T6	60 mA	-55°C to +55°C
T5	60 mA	-55°C to +70°C
T4	60 mA	-55°C to +85°C
T5	100 mA	-55°C to +55°C
T4	100 mA	-55°C to +85°C
T5	120 mA	-55°C to +45°C
T4	120 mA	-55°C to +80°C
T4	150 mA	-55°C to +70°C

The effective internal inductance and capacitance is negligibly small.

(16) Test documents are listed in the test report N° 99/PX23890.

(17) Special condition for safe use

1. When using combustible gas as auxiliary energy the I/P transformer type Doc 901069 has to erected outdoors.
2. The feeded gas has to be kept free of air or oxygen in such a way that it is ensured that no potentionally explosive atmosphere can occur.
3. The gas must always be purged outwards.

(18) Essential Health and Safety Requirements

no additional ones

Translation

2. SUPPLEMENT to

EC-TYPE EXAMINATION CERTIFICATE No. TÜV 99 ATEX 1487 X

of the company: ABB Automation Products GmbH
Schillerstraße 72
D-32425 Minden

When operated with combustible gases the I/P transformer type DOC 901069 as pneumatic auxiliary power may be installed outdoors resp. indoors when sufficient ventilation is given (see 17 „Special conditions for safe use").

All other data apply unchanged.

(16) The test documents are listed in the test report N° 04YEX551065-1.

(17) Special conditions for safe use

When operated with combustible gases the I/P transformer type DOC 901069 as pneumatic auxiliary power has to be installed outdoors resp. indoors when sufficient ventilation is given.

The supplied gas has to be kept free of air or oxygen so that it cannot form an explosive atmosphere.

The exhaust gases must always be exhausted outside.

(18) Essential Health and Safety Requirements
no additional ones

TÜV NORD CERT GmbH & Co. KG
TÜV CERT-Certification Body
Am TÜV 1
D-30519 Hannover
Tel.: 0511 986-1470
Fax: 0511 986-2555

Hanover, 2004-07-08

Head of the
Certification Body

BA 02 11.03

Ex Grenzwerte für TEIP11 und TZIM
Ex limit values for TEIP11 and TZIM

I_i	U_i	P_i
50 mA	42,5 V	2,125 W
60 mA	38,8 V	2,328 W
100 mA	30 V	3,0 W
120 mA	28 V	3,36 W
150 mA	25,5 V	3,825 W

Innere Induktivität und Kapazität vernachlässigbar.
The effective internal inductance and capacitance is negligibly small.

Die Werte wurden ermittelt aus:
The values are determined from:

Ex-Zertifikat TÜV 99 ATEX 1487 X
Ex certification TÜV 99 ATEX 1487 X

EN 50020 Teil 7, Anhang A, Tabelle A.1
EN 50020 part 7, annex A, table A.1

Zulässiger Kurzschlussstrom entsprechend der Spannung und der Gerätegruppe, für Betriebsmittel der Gruppe IIC mit einem Sicherheitsfaktor von 1,5.

Permissible short circuit current according to the voltage and device group for devices of group IIC with a safety factor of 1.5.

ABB Automation Products GmbH, Schillerstr. 72, D 32425 Minden
Tel. +49 571 830-0, Fax +49 571 830 1860

I/P-Umformer/Converter

TEIP 11

Doc. 901068 Ri = 260 Ω

Schutzart/Protection:
II 2 G EEx ia IIC T6

TÜV 99 ATEX 1487 X

Ii u. Tu siehe Zertifikat 0032

ABB Automation
D 32425 Minden, Made in Germany

I/P-Umformer/Converter

TEIP 11

Doc. 901069 Ri = 260 Ω

Schutzart/Protection:
II 2 G EEx ia IIC T6

TÜV 99 ATEX 1487 X

Ii u. Tu siehe Zertifikat 0032

ABB Automation
D 32425 Minden, Made in Germany

Translation

3. SUPPLEMENT

to Certificate No.	**TÜV 99 ATEX 1487 X**
Equipment:	I/P-Converter TEIP11, type Doc. 901068xxxx resp. I/P-Converter TEIP11-PS, type Doc. 901068xxxx resp. type Doc. 901069xxxx
Manufacturer: Address:	ABB Automation Products GmbH Schillerstraße 72 32425 Minden Germany
Order number:	8000386302
Date of issue:	2012-06-27

Amendments:

The changes relate to a modification of the type designation and the extension or replacement of the electronic circuit boards using conventional placement (wired components) by an electronic circuit board with surface mount components (SMD).
A typification of the SMD versions with appropriate adjustments to the identification, temperature classes and type plates was performed.
Furthermore the equipment was evaluated according to the newest standards.

The device designation "I/P Converter type Doc. 901068 and Doc. 901069" was changed and reads:

I/P-Converter TEIP11, Doc. 901068
resp.
I/P-Converter TEIP11-PS, Doc. 901068 resp. Doc. 901069

For the I/P Converter type TEIP11 resp. TEIP11-PS in the execution Doc. 901068 or Doc. 901069 (wired components) the following electrical data are unchanged until now:

Temperature classes and maximum electrical values:

Temperature class	Eingangsstrom I_i	Ambient temperature range T_a
T6	50 mA	-55 °C to +60 °C
T6	60 mA	-55 °C to +55 °C
T5	60 mA	-55 °C to +70 °C
T4	60 mA	-55 °C to +85 °C
T5	100 mA	-55 °C to +55 °C
T4	100 mA	-55 °C to +85 °C
T5	120 mA	-55 °C to +45 °C
T4	120 mA	-55 °C to +80 °C
T4	150 mA	-55 °C to +70 °C

The execution of the I/P- Converter with the electronic circuit board for surface-mounted devices (SMD) is as follows:

I/P-Converter TEIP11, type Doc. 901068-SMD
resp.
I/P-Converter TEIP11-PS, type Doc. 901068-SMD resp. Doc. 901069-SMD

On the specific housing type plates of the I/P- converter TEIP11 resp. TEIP11-PS the used electronic circuit boards with surface mount components (SMD) is indicated by Doc. 901068-**SMD** resp. Doc. 901069-**SMD**.

For the I/P converter TEIP11 resp. TEIP11-PS in the execution with surface mounted components Doc. 901068-SMD or Doc. 901069-SMD, the number of temperature classes is reduced. In the temperature class T4 a limitation of the maximum input current to 120 mA is required and the associated adjusted ambient temperature range T_a changes as follows:

Temperature classes and maximum electrical values:

Temperatur class	Input current I_i	Ambient temperature range T_a
T4	120 mA	-55 °C to +60 °C
T4	100 mA	-55 °C to +85 °C
T6	60 mA	-55 °C to +40 °C

All other data apply unchanged for this supplement.

The device will then be labeled as follows:

II 2G Ex ia IIC T6 Gb resp. II 2G Ex ia IIC T4 Gb

The equipment incl. of this supplement meets the requirements of these standards:

EN 60079-0:2009 EN 60079-11:2012

(16) The test documents are listed in the test report No. 11 203 386302.

(17) Special conditions for safe use

no additional ones

(18) Essential Health and Safety Requirements

no additional ones

TÜV NORD CERT GmbH, Langemarckstraße 20, 45141 Essen, notified by the central office of the countries for safety engineering (ZLS), Ident. Nr. 0044, legal successor of the TÜV NORD CERT GmbH & Co. KG Ident. Nr. 0032

The head of the notified body

Schwedt

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