



(1) **EC-TYPE-EXAMINATION CERTIFICATE**

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

(3) EC-TYPE-EXAMINATION CERTIFICATE Number:

ZELM 04 ATEX 0216 X

(4) Equipment: **2600T Series Pressure Transmitters, Profibus-PA/Foundation Fieldbus, Type 264 and Field Indicator Type 264IB**

(5) Manufacturer: **ABB SACE SpA**

(6) Address: **Via Statale 113, 22016 Lenno (Como), Italy**

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

(8) The Prüf- und Zertifizierungsstelle ZELM Ex, notified body No. 0820 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 ZELM Ex 0700417299.

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

EN 50 014: 1997+A1+A2
EN 50 281-1-1: 1998

EN 50 020:1994
EN 1127-1: 1997

EN 50 018: 2000
EN 50 284: 1999

(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, 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 shall include the following:



II 1 GD T 50°C EEx ia IIC T6 resp. II 1 GD T 95°C EEx ia IIC T4
or **II 1/2 GD T 50°C EEx ia IIC T6 resp. II 1/2 GD T 95°C EEx ia IIC T4**
or **II 1/2 GD EEx d IIC T6 IP67 T85°C**
or **II 2 GD EEx d IIC T6 IP67 T85°C**

Zertifizierungsstelle ZELM Ex



Braunschweig, October 05, 2004

H. Zelm
Dipl.-Ing. Harald Zelm



Prüf- und Zertifizierungsstelle

ZELM Ex



(13) **SCHEDULE**

(14) **EC-TYPE-EXAMINATION CERTIFICATE ZELM 04 ATEX 0216 X**

(15) Description of equipment

The 2600T Series Pressure Transmitters, Profibus-PA / Foundation Fieldbus are used for measurement and conversion of the physical quantities pressure above atmospheric and differential pressure absolute pressure into an electrical standard signal of digital communication in accordance with Profibus-PA or Foundation Fieldbus protocol in the hazardous area.

Depending on the measurement range and the amount of pressure, an inductive, capacitive or a piezoresistive sensors are used for pressure and absolute pressure transmitters. All types of sensors contain a mechanical separation element and are equipped with a flameproof device.

The 2600T Series Pressure Transmitters are intrinsically safe and have got an enclosure with the flameproof protection concept "EEx d". From this fact results the possibility to apply these devices either in accordance with the intrinsic safety or with the flameproof type of protection in the hazardous area.

The customer decides on the protection concept of the device and according to this decision the marking on the safety marking plate should be done.

The Type 264 of the Pressure Transmitters 2600T Series is also allowed to be installed into the separation wall between the hazardous areas of the category 1 and the category 2. In this case the Transmitter itself is installed into the hazardous area of the category 2.

The maximum permissible ambient temperature is: -40 °C to $+85\text{ °C}$.

For Transmitters used in accordance with the flameproof type of protection the maximum permissible ambient temperature is: -40 °C to $+75\text{ °C}$.

The special version of the 2600T series Pressure Transmitters, Foundation Fieldbus FF, the Field Indicator Model 264IB is an accessory device of the 2600T Series. It has been designed for implementing different functions for different purposes. This device can be used as Field Indicator of selected variables, as a Control Function Blocks container to improve the control strategies with such Function Blocks as an Arithmetic or PID Block or it can be configured as the Link Active Scheduler (LAS) backup device to maintain alive the control loop whenever the primary LAS device fails. The construction of the Field Indicator Model 264IB based on the construction of the 2600T Series Pressure Transmitters but it does not contain a pressure sensor. The secondary electronics originates from the 2600T Series Pressure Transmitters Foundation Fieldbus.

Degree of protection: IP 67 according to EN 60529:1991

Model code

2600T Series Pressure Transmitters, Profibus-PA / Foundation Fieldbus

Type 264...

Instead of the dots of the model code, another letters or digits combinations will be stated, which describe several variations and versions of the equipment.

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EC-type-examination Certificates without signature and stamp are not valid. The certificates may only be circulated without alteration. Extracts or alterations are subject to approval by the Prüf- und Zertifizierungsstelle ZELM Ex. This English version is based on the German text. In the case of dispute, the German text shall prevail.



Schedule to EC-TYPE-EXAMINATION CERTIFICATE ZELM 04 ATEX 0216 X

The model code of the special version of the 2600T Series Pressure Transmitters, the Field Indicator is:

2600T Series Field Indicator **Type 264IB...**

Instead of the dots of the model code, another letters or digits combinations will be stated, which describe several variations and versions of the equipment.

Electrical data

Supply and
signal circuit
(terminals signal +,-)

1. Use in accordance with the intrinsic safety type of protection "ia"

for connection to approved intrinsically safe circuits with following maximum values:

	Linear Barrier	FISCO Model
U_i	24 V	17,5 V
I_i	250 mA	380 mA
P_i	1,2 W	5,32 W
C_i	5 nF	5 nF
L_i	20 μ F	10 μ F

max. ambient temperature, the temperature class and max. surface temperature of the enclosure for "Dust" atmosphere, these values are to be taken from the subsequent table:

Tem- perature class	lower limit of ambient temperature	upper limit of ambient temperature	max. surface temperature for Dust atmosphere
T4	- 40 °C	+ 85 °C	95 °C
T5	- 40 °C	+ 40 °C	95 °C
T6	- 40 °C	+ 40 °C	50 °C

or

2. Use in accordance with the flameproof type of protection „d“

Rated values:

$$U = 42 \text{ V}$$

$$P = 2 \text{ W}$$



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Schedule to EC-TYPE-EXAMINATION CERTIFICATE ZELM 04 ATEX 0216 X

(16) Report No.

ZELM Ex 0700417299

(17) Special conditions for safe use

1. The Equipment meets requirements of both alternative protection concepts: the intrinsic safety and the flameproof therefore the electrical parameters, applications and arrangement conditions applying for each of these both types of protection have to be considered.
2. Before installation of the Device, the customer decides on its use either in accordance with the intrinsic safety "EEx ia" or with the flameproof "EEx d" type of protection and signs his choice on the safety label. This marking should be made permanent (e.g. with the letter embossing tool) and it should consider specific ambient conditions, e.g. chemical corrosion. The selected protection concept is allowed to be changed only by manufacturer after a new satisfactory evaluation.
3. The connection of cables and conduits to the Device as well as the blind stops of unused openings shall be made in accordance with requirements of the selected type of protection and must be certified for this protection concept. Additionally, for use in accordance with the intrinsic safety type of protection these components have to fulfilled requirements of the standards EN 50014 and EN 50281-1-1 and for use in accordance with the flameproof type of protection also requirements of the standard EN 50018.
4. The instruction manual has to be considered, in particular the maximum thickness of dust layers permitted for the hazardous area of category 1D and the sufficient equipotential bonding and grounding and the overvoltage protection.
For the use in dust atmosphere the degree of protection IP 67 must be ensured in regard to the enclosure and the cable entry fitting.
5. The Devices are allowed to be installed in such chemical atmosphere where sufficient permanence of its isolating diaphragm is guaranteed (consider operating instruction).

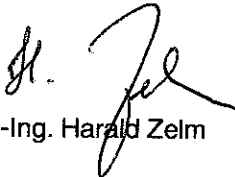
(18) Essential Health and Safety Requirements

met by standards

Zertifizierungsstelle ZELM Ex



Braunschweig, October 05, 2004


Dipl.-Ing. Harald Zelm

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1. Supplement

(Supplement according to EC-Directive 94/9 Annex III letter 6)

to EC-type-examination Certificate

ZELM 04 ATEX 0216 X

Equipment: **2600T Series Pressure Transmitter, Profibus-PA/Foundation Fieldbus Type 264 und Fieldindicator Type 264IB**

Manufacturer: **ABB SACE SpA**

Address: **Via Statale 113, 22016 Lenno (Como), Italien**

Description of supplement

The equipment is extended by an optional version of the housing cover.

The type of protection, the electrical data and all further data as well as the special conditions remain unchanged and also apply to this 1. Supplement.

The Pressure Transmitter Series 2600T Profibus-PA/Foundation Fieldbus and the Fieldindicator Type 264IB may be manufactured in future in consideration of this Supplement.

References:

The instruction manual has to be observed.

Report No.

ZELM Ex 0070517392

Essential Health and Safety Requirements

met by adherence to the standards

EN 50 014: 1997+A1+A2
EN 50 281-1-1: 1998

EN 50 020:1994
EN 1127-1: 1997

EN 50 018: 2000
EN 50 284: 1999

Zertifizierungsstelle ZELM Ex



Braunschweig, April 29, 2005


Dipl.-Ing. Harald Zelm

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ZELM Ex



2. Supplement

(Supplement according to EC-Directive 94/9 Annex III letter 6)

to EC-type-examination Certificate

ZELM 04 ATEX 0216 X

Equipment: **2600T Series Pressure Transmitter, Profibus-PA/Foundation Fieldbus Type 264 und Fieldindicator Type 264IB**

Manufacturer: **ABB SACE SpA**

Address: **Via Statale 113, 22016 Lenno (Como), Italien**

Description of supplement

The 2. Supplement applies exclusively to the 2600T Series Pressure Transmitter with Foundation Fieldbus communication protocol. Within the scope of the 2. Supplement the microprocessor of the Transmitter was replaced by more powerful one. Further, several not safety relevant components was added to the equipment.

The type of protection, the electrical data and all further data as well as the special conditions remain unchanged and also apply to this 2. Supplement.

The Pressure Transmitter Series 2600T Foundation Fieldbus may be manufactured in future in consideration of this Supplement.

References:

The instruction manual has to be observed.

Report No.

ZELM Ex 1390517427

Essential Health and Safety Requirements

met by adherence to the standards

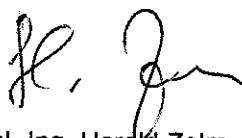
EN 50 014: 1997+A1+A2
EN 50 281-1-1: 1998

EN 50 020:1994
EN 1127-1: 1997

EN 50 018: 2000
EN 50 284: 1999

Zertifizierungsstelle ZELM Ex

Braunschweig, November 10, 2005


Dipl.-Ing. Harald Zelm



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3. Supplement

(Supplement according to EC-Directive 94/9 Annex III letter 6)

to EC-type-examination Certificate

ZELM 04 ATEX 0216 X

Equipment: **2600T Series Pressure Transmitter, Profibus-PA/Foundation Fieldbus Type 264 und Fieldindicator Type 264IB**

Manufacturer: **ABB SACE SpA**

Address: **Via Statale 113, 22016 Lenno (Como), Italien**

Description of supplement

The 3. Supplement applies exclusively to the 264 IB Field Indicator. Within the scope of this Supplement the previous construction of the sensor housing plug has been replaced by a modified one. The type of protection, the electrical data and all further data as well as the special conditions remain unchanged and also apply to this 3. Supplement. The equipment may be manufactured in future in consideration of this Supplement.

References:

The instruction manual has to be observed.

Report No.

ZELM Ex 0910717558

Essential Health and Safety Requirements

Essential Health and Safety Requirements are still fulfilled by compliance with the Standards mentioned in the EC-type-examination Certificate.

Zertifizierungsstelle ZELM Ex

Braunschweig, October 02, 2007




Dipl.-Ing. Harald Zelm

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4. Supplement

(Supplement according to EC-Directive 94/9 Annex III letter 6)

ZELM ex

to EC-type-examination Certificate

ZELM 04 ATEX 0216 X

Equipment: **2600T Series Pressure Transmitters, Profibus-PA/Foundation Fieldbus, Type 264 and Field Indicator, Type 264IB**
Manufacturer: **ABB SACE SpA.**
Address: **Via Statale 113, 22016 Lenno (Como), Italy**

Description of supplement

The 4. Supplement concerns modification of the internal layout of the Profibus-PA Transmitters. Furthermore the name of the manufacturer has been changed and the agreement of the equipment with current standards has been checked and the marking has been adapted correspondingly.

The name of the manufacturer is in the future:

ABB SpA

The marking of the device is in the future:



II 1G Ex ia IIC T6 resp. T5 resp. T4 and II 1/2G Ex ia IIC T6 resp. T5 resp. T4

II 1D Ex iaD 20 T95°C and II 1/2D Ex iaD 21 T95°C

II 1/2G Ex d IIC T6 resp. T5 resp. T4 and II 1/2D Ex tD A21 IP67 T85°C

Electrical data and all other technical data as well as special condition for safe use remain unchanged and are also applicable for this 4. Supplement.

The equipment may be manufactured in future also in accordance with the 4. Supplement.

Report No.

ZELM Ex 2100817668

Essential Health and Safety Requirements

Within the scope of this 4. Supplement the agreement of the device with current standards has been checked.

The essential health and safety requirements are still fulfilled by compliance with following Standards:

EN 60079-0:2006
EN 60079-27:2008
EN 1127-1:2007

EN 60079-1:2007
EN 61241-0:2006

EN 60079-11:2007
EN 61241-1:2004

EN 60079-26:2007
EN 61241-11:2006

Braunschweig, January 26, 2009

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