IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	IECEx BVS 10.0086 issue No.:0	Certificate history:
Status:	Current	
Date of Issue:	2010-11-12	Page 1 of 3

Applicant: **ABB Automations Products GmbH**
Borsigstr. 2
63755 Alzenau
Germany

Electrical Apparatus: **Temperature Sensor Process Industry Type TSP***-* .*.....**, Temperature Transmitter Fieldhousing Type TTF...-**, Temperature Transmitter Dual chamber Type TTF350-******

Optional accessory:

Type of Protection: **Protection by enclosures "tD"**

Marking: **Ex tD A20 IP66 T ...°C (type TSP***-*.*.....**)**
Ex tD A20/21 IP66 T ...°C (type TSP*-*.*.....**)**
Ex tD A20 IP66 T 135 °C (type TTF- and type TTF-350-******)**

Approved for issue on behalf of the IECEx Certification Body: P. Migenda

Position: Deputy Head of Certification Body

Signature: (for printed version) P. Migenda

Date: 2010-11-12

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

Certificate issued by:

DEKRA EXAM GmbH
Dinnendahlstrasse 9
44809 Bochum
Germany

DEKRA
DEKRA EXAM GmbH

IECEx Certificate of Conformity

Certificate No.: IECEx BVS 10.0086

Date of Issue: **2010-11-12** Issue No.: **0**

Manufacturer: **ABB Automations Products GmbH**
Borsigstr. 2
63755 Alzenau
Germany

Manufacturing location(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:
The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 61241-0 : 2004 Edition: 1	Electrical apparatus for use in the presence of combustible dust - Part 0: General requirements
IEC 61241-1 : 2004 Edition: 1	Electrical apparatus for use in the presence of combustible dust - Part 1: Protection by enclosures "tD"

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:

DE/BVS/ExTR10.0115/00

Quality Assessment Report:
DE/PTB/QAR07.0003/01

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Schedule

EQUIPMENT:
Equipment and systems covered by this certificate are as follows:

Subject and type

See Annex

Parameter

See Annex

CONDITIONS OF CERTIFICATION: NO

Annexe: BVS_10_0086_ABB_Annex.pdf

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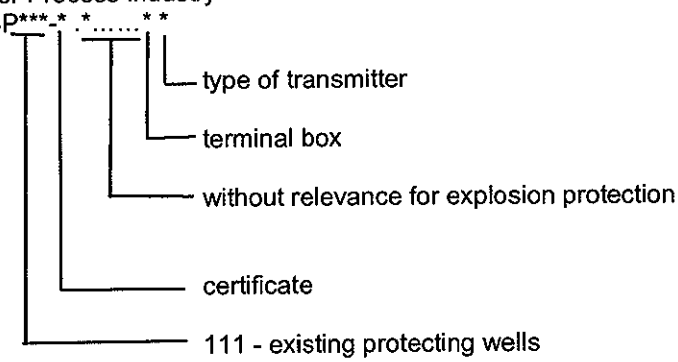
Certificate No.: **IECEx BVS 10.0086**
Annex

Subject and Type

Type TSP***-*.*.....* *: Temperature Sensor Process Industry



The Temperature Sensor Process Industry Type TSP***-*.*.....* * is used for measuring the temperature in containers in which granular or powdery materials are stored.
The temperature sensor consists of a terminal box and a protection tube with measuring element (thermocouple or resistance thermometer). It is mounted in the wall of the container.
The control and evaluation electronic is located either in the terminal box or outside the hazardous area.
The supply can be realised either by a power supply with intrinsically safe output circuit Ex ia IIB or Ex ia IIC or none intrinsically safe. In case the supply is none intrinsically safe the current will be limited by a series fuse with a rated current of 32 mA.

Intrinsically safe version:
Measuring circuit or sensor circuit in type of protection Intrinsic Safety Ex ia IIB/IIC only for connection to a certified intrinsically safe circuit
maximum values:
Ui = 30 V
Ii = 101 mA
Pi = 0,5 W
Li = 15 µH per meter
Ci = 280 pF per meter

Non intrinsically safe version:
supply voltage 42 V DC (for external transmitter secured by an IEC fuse, non intrinsically safe)
max. power loss ≤ 3 W (2 transmitter or 1 transmitter + display)
max. power loss measuring insert ≤ 0,5 W (sensor)

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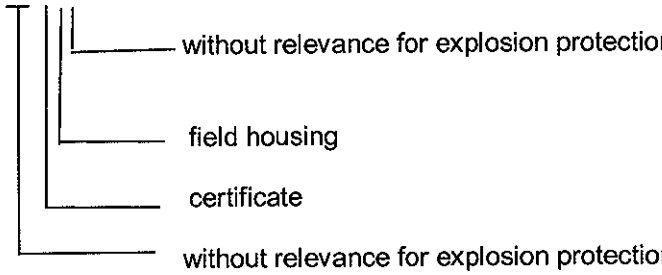
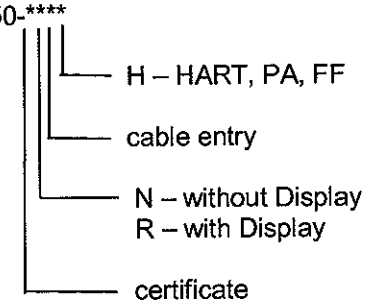
Type TTF...-** and type TTF350:

Temperature Transmitter Fieldhousing TypeTTF...-** .



Temperature Transmitter dual chamberType TTF350-****



The Temperature Transmitter Fieldhousing Type TTF*** and Type TTF350 (dual chamber) serves the purpose to record, enforce and transfer thermal data used together with other transmitters.
It consists of either a terminal box of one of the following types: AGL, AGLH, AGLHD, AGS, AGSH or AGSHD respectively; or a field housing of one of the following types: AGSF, AGSFH AGLF, AGLFH, AGLFD or AGSFD respectively with the electronics inside. Both the head-mounted as well as the field-mounted types can house two transmitters maximum.
Terminal box and field housing in the light metal and stainless steel versions are constructed in the same way. The light metal version is certified for gas in type of protection Flameproof Enclosure "d" (PTB Ex 99-19133, PTB Ex 01-11103, PTB Ex 06-16197).

Type TTF*** temperature transmitter is used as none intrinsically safe and intrinsically safe version with EC-Type examination certificate. In case the supply is non-intrinsically safe the current will be limited by a series fuse with a rated current of 32 mA.

max. supply voltage U_i = 30 V DC
max. input power P_i = 800 mW

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Thermal data Type TTF...-** and type TTF350:

permitted ambient temperature range: -40 °C ≤ T_{amb} ≤ +85°C

maximum surface temperature: T135°C

Thermal data Type TSP***-*.*.....* *:

	permitted ambient temperature at terminal box	permitted process temperature at the protection tube	max. temperature at the flange on the side of the terminal box	max. surface temperature at the terminal box	max. surface temperature at the protection tube
Zone 20 or zone 20/21 with built in transmitter in intrinsic safety "ia"	-40°C...+85°C	-40 °C... +85 °C -40 °C...+200 °C* -40 °C...+300 °C* -40 °C...+400 °C*	+85 °C +164 °C +251 °C +346 °C	+120 °C	+133 °C +200 °C +300 °C +400 °C
Zone 20 or zone 20/21 with built in transmitter secured by an external IEC fuse	-40 °C...+85 °C	-40 °C... +85 °C -40 °C...+200 °C* -40 °C...+300 °C* -40 °C...+400 °C*	85 °C 164 °C 251 °C 346 °C	+133 °C** +150 °C ***	+133 °C +200 °C +300 °C +400 °C
Zone 20 or zone 20/21 measuring circuit in intrinsic safety "ia", transmitter extern or non intrinsic safe with external IEC-fuse in the supply circuit of the external transmitter	-40 °C... +85 °C -40 °C...+200 °C -40 °C...+200 °C -40 °C...+200 °C	-40 °C... +85 °C -40 °C...+200 °C -40 °C...+300 °C -40 °C...+400 °C	+85 °C +200 °C +251 °C +346 °C	+85 °C +200 °C +200 °C +200 °C	+133 °C +200 °C +300 °C +400 °C

* by adequate means the user avoids the max. permitted ambient temperature of 85 °C at the terminal box from being exceeded
** equipped with one transmitter with or without display
*** equipped with two transmitters