



Translation

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

(2) **- Directive 94/9/EC -**

**Equipment and protective systems intended for use
in potentially explosive atmospheres**

(3) **BVS 05 ATEX E 092**

(4) **Equipment:** Transponder type TID-TP-*****

(5) **Manufacturer:** TECTUS Transponder Technology GmbH

(6) **Address:** 47445 Moers, Germany

(7) The design and construction of this equipment 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 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 test and assessment report BVS PP 05.2062 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
IEC 61241-0:2004 Dust explosion protection - General requirements

31H/171/CDV
(draft IEC 61241-11) Intrinsically safe apparatus

(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 in accordance to Directive 94/9/EC.
Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate

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



II 2 G EEx ia IIC T4 resp.
I M2 EEx ia I resp.
II 2 D Ex iaD 21 T70 °C

EXAM BBG Prüf- und Zertifizier GmbH

Bochum, dated 06. June 2005

Signed: Dr. Jockers

Signed: Dr. Eickhoff

Certification body

Special services unit

(13) Appendix to

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

BVS 05 ATEX E 092

(15) 15.1 Subject and type

Intrinsically safe transponder type TID-TP-*****

For the type designation, the asterisks shall be replaced by the following combinations of letters and numbers:

Asterisks 1 to 4

CL20	Clear Disc d	=	20 mm
CL22	Clear Disc d	=	22 mm
CL30	Clear Disc d	=	30 mm,
CL51	Clear Disc d	=	51 mm
EL20	Epoxy Disc d	=	20 mm
EL30	Epoxy Disc d	=	30 mm
EL50	Epoxy Disc d	=	50 mm
GL13	Glass transponder l	=	13.3 mm
GL22	Glass transponder l	=	22 mm
GL34	Glass transponder l	=	34 mm
IS85	ISO Card		85.6 x 54 mm
LO120	Logitag d	=	12 mm
LO160	Logitag d	=	16 mm
PU30	PU Tag d	=	34 mm
PU50	PU Tag d	=	50 mm
PU70	PU Tag		70 x 100 mm
PU90	PU Tag d	=	90 mm
VO30	Volcano d	=	26 mm
WT20	World Tag d	=	20 mm
WT30	World Tag d	=	30 mm
WT50	World Tag d	=	50 mm

Asterisks 5 and 6

RW for Read Write

RO for Read Only

15.2 Description

The intrinsically safe transponders of types TID-TP-***** are used for the marking of equipment; they can be e.g. vulcanized into conveyor belts and thus serve the purpose of controlling the belt slot or the speed. The transponders are activated by an external magnetic field and then send a response signal.

15.3 Parameters

15.3.1 operating frequency	f	120 up to 140 kHz
max. radiant power	P	125 mW
15.3.2 ambient temperature range		$-45\text{ °C} \leq T_a \leq +60\text{ °C}$

(16) Test and assessment report

BVS PP 05.2062 EG as of 06.06.2005

(17) Special conditions for safe use

None

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, 28.11.2006
BVS-Ha/Ar E 1731/06

EXAM BBG Prüf- und Zertifizier GmbH



Certification body



Special services unit



Translation

1st Supplement

(Supplement in accordance with Directive 94/9/EC Annex III number 6)

**to the EC-Type Examination Certificate
BVS 05 ATEX E 092**

Equipment: Transponder type TID-tt-*****
Manufacturer: TECTUS Transponder Technology GmbH
Address: 47445 Moers, Germany

The transponder type TID-TP-***** may also be manufactured according to the documentation specified in the test report; then, it shall be designated as follows:

Intrinsically safe transponder type TID-tt-*****

For the designation, the letters 'tt' and the asterisk shall be replaced by the following combinations of letters and numbers:

letters 'tt'

tt TP = transponder for a frequency range of 120 to 140 kHz
HF = transponder for a frequency range of 13 to 14 MHz

For the transponders TP and HF

Asterisks 1 to 4

CL20	Clear Disc	d = 20 mm
CL22	Clear Disc	d = 22 mm
CL30	Clear Disc	d = 30 mm
CL51	Clear Disc	d = 51 mm
EL20	Epoxy Disc	d = 20 mm
EL30	Epoxy Disc	d = 30 mm
EL50	Epoxy Disc	d = 50 mm
IS85	ISO Card	85.6 x 54 mm
LO120	Logitag	d = 12 mm
LO160	Logitag	d = 16 mm
PU30	PU Tag	d = 34 mm
PU50	PU Tag	d = 50 mm

PU70	PU Tag	70 x 100 mm
PU90	PU Tag	d = 90 mm
VO30	Volcano	d = 26 mm
WT20	World Tag	d = 20 mm
WT30	World Tag	d = 30 mm
WT50	World Tag	d = 50 mm

For the transponders TP

Asterisks 1 to 4

GL13	Glass transponder l =	13.3 mm
GL22	Glass transponder l =	22 mm
GL34	Glass transponder l =	34 mm

Asterisks 5 and 6

RW for Read Write

RO for Read Only

Description

The intrinsically safe transponders of types TID-tt-***** are used for the marking of equipment; they can be e.g. vulcanized into conveyor belts and thus serve the purpose of controlling the belt slot or the speed. The transponders are activated by an external magnetic field and then send a response signal.

Parameters

- Transponder type TID-TP-*****

operating frequency	f	120 to 140 kHz
max. radiant power	P	125 mW
- Transponder type TID-HF-*****

operating frequency	f	13 to 14 MHz
max. radiant power	P	156 mW
- ambient temperature range for transponders type TID-TP-***** and type TID-HF-*****

		$-45\text{ °C} \leq T_a \leq +60\text{ °C}$
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The Essential Health and Safety Requirements of the modified equipment are assured by compliance with:

EN 50014:1997+A1-A2	General requirements
EN 50020:2002	Intrinsic safety
IEC 61241-0:2004	Dust explosion protection – General requirements
IEC 61241-11:2005	Intrinsically safe apparatus

The marking of the equipment shall include the following:



II 2G EEx ia IIC T4 resp.
I M2 EEx ia I resp.
II 2D Ex iaD 21 T70 °C

Special conditions for safe use

None

Test and assessment report

BVS PP 05.2062 EG as of 30.10.06

EXAM BBG Prüf- und Zertifizier GmbH
Bochum, dated 30. October 2006

Signed: Dr. Eickhoff

Certification body

Signed: Dr. Arnold

Special services unit

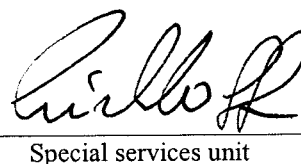
We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

44809 Bochum, 28.11.2006
BVS-Ha/Ar E 1731/06

EXAM BBG Prüf- und Zertifizier GmbH



Certification body



Special services unit



Translation

2nd Supplement

(Supplement in accordance with Directive 94/9/EC Annex III number 6)

to the EC-Type Examination Certificate BVS 05 ATEX E 092

Equipment: Transponder type TID-tt-*****
Manufacturer: TECTUS Transponder Technology GmbH
Address: 47445 Moers, Germany

The transponder type TID-TP-***** may also be manufactured according to the documentation specified in the test report; then, it shall be designated as follows:

Intrinsically safe transponder type TID-tt-*****

For the designation, the letters 'tt' and the asterisk shall be replaced by the following combinations of letters and numbers:

letters 'tt'

tt TP = transponder for a frequency range of 120 to 140 kHz
HF = transponder for a frequency range of 13 to 14 MHz
UHF = transponder for a frequency range of 860 to 960 MHz

For the transponders TP, HF and UHF

Asterisks 1 to 4

CL20	Clear Disc	d = 20 mm
CL22	Clear Disc	d = 22 mm
CL30	Clear Disc	d = 30 mm
CL51	Clear Disc	d = 51 mm
EL20	Epoxy Disc	d = 20 mm
EL30	Epoxy Disc	d = 30 mm
EL50	Epoxy Disc	d = 50 mm
IS85	ISO Card	85.6 x 54 mm
LO120	Logitag	d = 12 mm
LO160	Logitag	d = 16 mm
PU30	PU Tag	d = 34 mm

PU50	PU Tag	d = 50 mm
PU70	PU Tag	70 x 100 mm
PU90	PU Tag	d = 90 mm
VO30	Volcano	d = 26 mm
WT20	World Tag	d = 20 mm
WT30	World Tag	d = 30 mm
WT50	World Tag	d = 50 mm

For the transponders TP and HF

Asterisks 1 to 4

GL13	Glass transponder l = 13.3 mm
GL22	Glass transponder l = 22 mm
GL34	Glass transponder l = 34 mm
CY13	type of the Glass transponder type GL13
CY22	type of the Glass transponder type GL22
CY34	type of the Glass transponder type GL34

For the transponders UHF

MTP148	Transponder
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Asterisks 5 and 6

RW for Read Write

RO for Read Only

Asterisks 7 and 8

HF high temperature variant only for *-PU30, *-PU50 and *-PU90

Description

The intrinsically safe transponders of type TID-tt-***** are used for the marking of equipment; they can be e.g. vulcanized into conveyor belts and thus serve the purpose of controlling the belt slot or the speed. The transponders are activated by an external magnetic field and then send a response signal.

Parameters

1. Transponder type TID-TP-*****

operating frequency	f	120 to 140 kHz
max. radiant power	P	125 mW

2. Transponder type TID-HF-*****

operating frequency	f	13 to 14 MHz
max. radiant power	P	156 mW
3. Transponder type TID-UHF-*****

operating frequency	f	860 to 960 MHz
max. radiant power	P	156 mW

4. ambient temperature range
 - 4.1 for transponders type TID-TP-*****, type TID-HF-***** and type TID-UHF-*****
-45 °C ≤ Ta ≤ +60 °C
 - 4.2 for transponder type TID-**-PU30**HT, type TID-**-PU50**HT and type TID-**-PU90**HT
for the temperature class T4
-45 °C ≤ Ta ≤ +110 °C
for the temperature class T3
-45 °C ≤ Ta ≤ +140 °C

The Essential Health and Safety Requirements of the modified equipment are assured by compliance with:

EN 60079-0:2006	General requirements
EN 60079-11:2007	Intrinsic safety
IEC 61241-0:2004	Dust explosion protection – General requirements
IEC 61241-11:2005	Intrinsically safe apparatus

The marking of the equipment shall include the following:



II 2G Ex ia IIC T4 resp.
I M2 Ex ia I resp.
II 2D Ex iaD 21 T70°C

Special conditions for safe use

None

Test and assessment report

BVS PP 05.2062 EG as of 14.08.08

DEKRA EXAM GmbH

Bochum, dated 14. August 2008

signed: Dr. Jockers

Certification body

signed: Dr. Eickhoff

Special services unit

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.

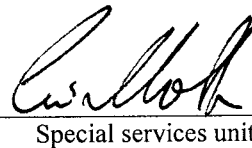
44809 Bochum, 14.08.08

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DEKRA EXAM GmbH



Certification body



Special services unit