

Improvement
of
Industry & Logistics
Maintenance & Servicing
Processes
with
TECTUS
ATEX certified
LF / HF / NFC / UHF
RFID Readers & RFID Transponders

V.1 04-2012

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**ATEX Certificate-No. BVS 11 ATEX ZQS/E262**

ATEX RFID Technology Overview and Benefits

RFID (Radio Frequency Identification) in general is a proven technology and since more than 15 years in use in applications like automotive tracking and tracing, waste management, industrial logistics, animal identification and security, ticketing and access. Also the gas cylinder identification application was one of the first projects where RFID TAGs were used in volume and series quantities to track process flow and rental supply chain. TECTUS ATEX certified RFID technology has been used successful first in the coal mining industry followed by the oil & gas exploring, the LPG gas cylinder supply chain management and in chemical industry for logistics improvement and optimisation of maintenance in cooperation with ATEX certified handheld PDAs.

There are about 4 different RFID operating frequencies (LF < 135 kHz, HF 13,56 MHz, UHF 868 MHz and 2,45 GHz) in use each to be best proven for different applications.

TECTUS Transponder Technology products and support enables customers to use the

The Most Convenient RFID Solution

- > Improved logistics and maintenance /service process
- > Reduction of "no action" in maintenance
- > Avoidance of difficult object identification
- > Man power and time savings
- > Faster turnaround
- > Better transparency (reduction of failures)
- > Automatic data transmission
- > Precise unique identification of objects
- > Reading reliability with high percentage of success
- > Long term RFID knowhow and professional industry experience
- > Customer oriented price performance ratio
- > Fast implementation based on TECTUS experience



The RFID  perts

ATEX Certificate-No. BVS 11 ATEX ZQS/E262

ATEX RFID from TECTUS Transponder Technology GmbH

TECTUS Transponder Technology GmbH is the leading innovative company in the field of industrial identification and is one of the most experienced ATEX RFID Expert specialist for ATEX certified RFID system components and solution providers worldwide.

TECTUS offers for several applications a complete system component solution for the tracking and “real time available at desk” inventory of assets by means of RFID (radio frequency identification). This system component solution consists of TECTUS ATEX explosion protected RFID equipment, industrial IT hardware, optional also a customer specific dedicated database, communication software and optional also tag placement devices.

Especially developed ATEX RFID TAG devices cooperating with TECTUS ATEX certified stationary and handheld RFID readers enable manufacturers and supplier companies to optimise their supply management and maintenance processes.



**ATEX RFID
Competence– and
Innovation
Center
Moers**

**ATEX RFID Pioneers
with more than
15 years
experience
will support you**

**After
system analysis,
proof of concept,
and consulting
use of ATEX RFID
makes sense**

**We make the use of
RFID technology
in explosion-prone
applications and
areas possible**

**European
Production plant for
RFID readers,
antennas and
RFID transponders**

The RFID  perts





Certificate about acknowledgement of conformity to type

- (1) Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 94/9/EC
- (2) Certificate number: **BVS 11 ATEX ZQSE262**
- (3) Product category: **Electrical equipment and components, equipment-groups I, II and III, categories M2, 2G and 2D: RFID-components**



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

(6) Address: **Eurotecring 39**

Site of manufacture: **47445 Moers, Germany**

(7) The certification body of DEKRA EXAM 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 the manufacturer has a production quality system, which complies with Annex VI of the Directive. In the updated annex all equipment and protective systems and their certificate numbers are listed.

(8) This certificate is based on audit report ZQS/E262/11, issued 2011.08.08 and is valid until 2014.06.14. This certificate can be withdrawn if the manufacturer no longer satisfies the requirements of Annex VI.

Results of periodical re-assessments of the quality system are a part of this certificate.

(9) According to Article 10 (1) of the Directive 94/9/EC the CE marking shall be followed by the identification Number 0158 of DEKRA EXAM GmbH as notified body involved in the production control stage.

DEKRA EXAM GmbH
Bochum, 2011.08.08

Certification body

Special services unit

This is a translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

Page 1 of 1

This certificate may only be reproduced in its entity and without any change.
DEKRA EXAM GmbH Dinnendahlstrasse 9 44809 Bochum Germany Phone +49.234.3696-105 Fax +49.234.3696-110
e-mail zs-exam@dekra.com

ATEX RFID Stationary Products 125 kHz/134 kHz, 13,56* MHz/ UHF*

TECTUS ATEX certified RFID readers are usable in industrial environment and for security & access applications as well. The stationary RFID readers are designed to be used in logistics and maintenance applications in rugged environment and hazardous areas like chemical plants, gas filling stations, refinery, mining, onshore and offshore plants.

TECTUS ATEX RFID readers cooperate perfectly with TECTUS ATEX RFID TAGs and are even useful in applications where metal and humidity may concern.

Each RFID TAG is optimised with our RFID readers and writers. Our flexibility allow you to receive quickly samples and deliveries of our standard ATEX parts. Upon request our engineers would be pleased to develop and support

**Stationary ATEX RFID Reader 125 kHz / 13,56 MHz***

- TPF-35-EX-45 Stationary Dual Antenna ATEX 125 / 134 kHz RFID reader

* = HF in preparation (availability on request)

Stationary ATEX RFID Antennas 125 kHz / 13,56 MHz* see next page

The RFID  perts

ATEX Certificate-No. BVS 11 ATEX ZQS/E262

LF ATEX RFID Antennas for ATEX Zone 1 TPF-35-EX / TPF-35-EX-45 Long Range Reader



120 x 120 x 20 mm



320 x 150 x 25 mm



450 x 150 x 25 mm



320 x 320 x 25 mm



520 x 520 x 25 mm

700 x 60 x 20 mm (no picture)



920 x 640 x 25 mm

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ATEX RFID Stationary UHF Products *

TECTUS ATEX certified RFID readers are usable in industrial environment and for security & access applications as well. The stationary RFID readers are designed to be used in logistics and maintenance applications in rugged environment and hazardous areas like chemical plants, gas filling stations, refinery, mining, onshore and offshore plants.

TECTUS ATEX RFID readers cooperate perfectly with TECTUS ATEX RFID TAGs and are even useful in applications where metal and humidity may concern.

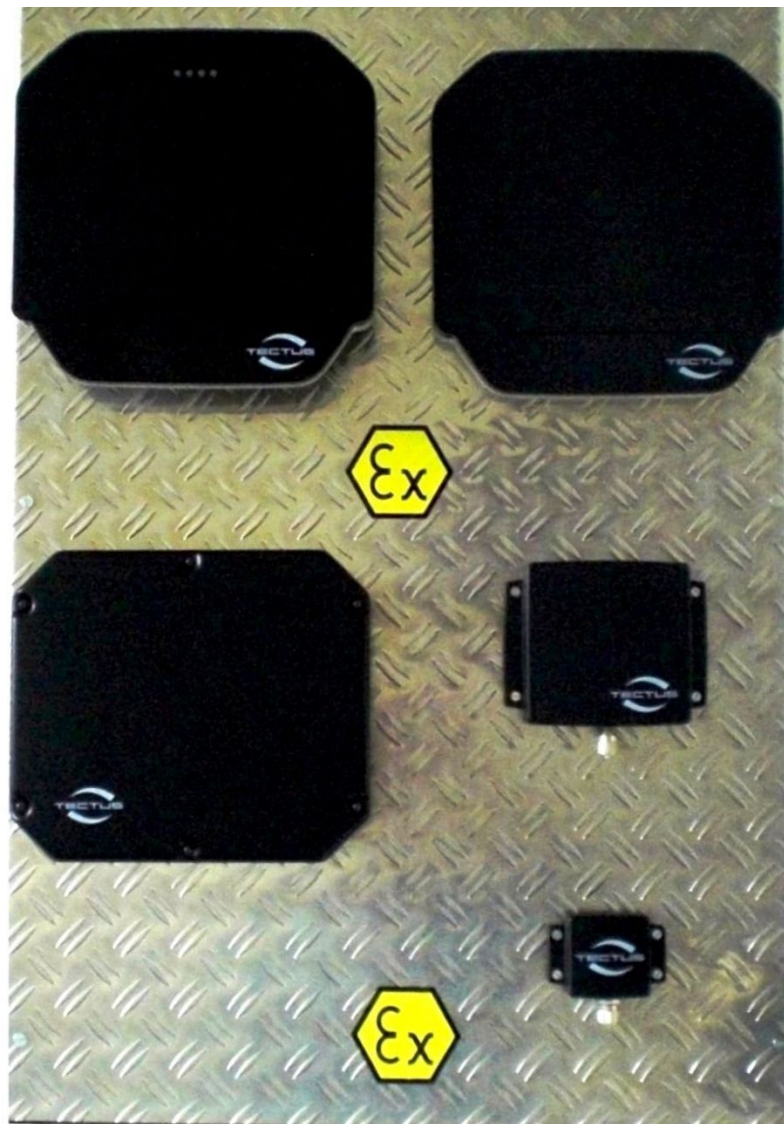
Each RFID TAG is optimised with our RFID readers and writers. Our flexibility allow you to receive quickly samples and deliveries of our standard ATEX parts. Upon request our engineers would be pleased to develop and support

YOUR ATEX SOLUTION.

**Stationary
ATEX RFID
Reader UHF***
868 MHz
Zone 2 / 22
ATEX UHF RFID
Reader and
External
Antennas

**Stationary
ATEX RFID
Antennas**

*= in preparation
(availability
planned for
Q2 - 2012)



ATEX RFID Handheld Products 125 kHz/134 kHz /13,56 MHz /NFC

ATEX certified portable RFID readers are usable in industrial environment and for security & access applications as well. The portable RFID readers are designed to be used in logistics and maintenance applications in rugged environment and hazardous areas like chemical plants, gas filling stations, refinery, mining, onshore and offshore plants. The devices cooperate perfectly with TECTUS ATEX RFID TAGs and are even useful in applications where metal and humidity may concern.

Each RFID TAG is optimised with our RFID readers and writers. Our flexibility allow you to receive quickly samples and deliveries of our standard ATEX parts. Upon request our engineers would be pleased to develop and support

**YOUR ATEX SOLUTION.**

- ① TRISP-LF and HF ATEX Read / Write Handheld PDA (Zone 1 and 2)
- ② TRUSP-HF-CNx- Handheld PDA (Zone 2)
- ③ TPP-80-LF-EX ATEX RFID Read Write LF Handheld PDA (Zone 2/22)

ATEX RFID Handheld Products 125 kHz/134 kHz /13,56 MHz /NFC /UHF

ATEX certified portable RFID readers are usable in industrial environment and for security & access applications as well. The portable RFID readers are designed to be used in logistics and maintenance applications in rugged environment and hazardous areas like chemical plants, gas filling stations, refinery, mining, onshore and offshore plants. The devices cooperate perfectly with TECTUS ATEX RFID TAGs and are even useful in applications where metal and humidity may concern. Each RFID TAG is optimised with our RFID readers and writers. Our flexibility allow you to receive quickly samples and deliveries of our standard ATEX parts. Upon request our engineers would be pleased to develop and support

**YOUR ATEX SOLUTION.**

- ④ TPP-MC-9090 LF / HF / UHF (Zone 1)
- ⑤ TPP-MC-9091 LF / HF / UHF (Zone 2 / 22)
- ⑥ TPP-MC-75Ax-EX-HF-Handheld PDA (Zone 2/22)

ATEX RFID 125 kHz /13,56 MHz /NFC Mount IN and ON Metal Ferrite TAGs

Related ISO-IEC norm is ISO18000-2

TECTUS offers a branch of different ATEX certified RFID TAGs usable in the access management and in industrial environments. Each RFID TRANSPONDER is optimised with our RFID readers and writers. Our flexibility allow you to receive quickly samples and deliveries of our standard ATEX parts.
Upon request our engineers would be pleased to develop **YOUR ATEX TAG**



ATEX High Performance RFID TAGs for in and on metal mounting applications



ATEX RFID CYLINDER TAG 38 mm



ATEX RFID CYLINDER TAG 34 mm



ATEX GLASS TAG 13 mm and 22 mm (LF)



ATEX RFID TILE LF or HF/ NFC TAG with adhesive

The RFID  perts

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ATEX RFID 34 mm TEC PA Transponder Products are available as

LF 125 kHz / 134 kHz

HF 13,56 MHz / NFC

UHF 868 MHz



The RFID  perts

ATEX Certificate-No. BVS 11 ATEX ZQS/E262

ATEX RFID TEC PU / CABLE TIE / ISOCARD Transponder Products are available as 125 kHz / 13,56 MHz / NFC for ON Metal applications.



**ATEX TEC PU
MINI RFID TAG
12 and 15 mm**



LF / HF ATEX TEC PU RFID TAG 34 mm



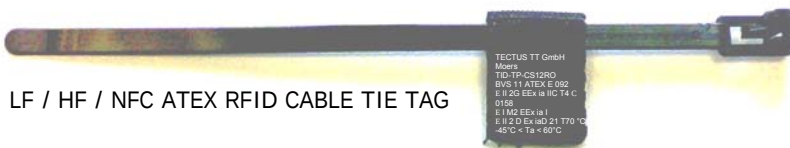
LF / HF / NFC ATEX TEC PU RFID TAG 54mm



LF / HF / NFC ATEX TEC PU RFID TAG 90mm



LF / HF / NFC ATEX RFID STRAP TAG



LF / HF / NFC ATEX RFID CABLE TIE TAG



LF / HF / NFC / UHF ATEX RFID ISOCARD TAG



HF ATEX NFC ON METAL TAG 20 x 20 mm



LF / HF / NFC ATEX EPOXY KEY

ATEX RFID FLAT - DISC, SPACE TAG, Epoxy and TEC EASY Transponders are available as 125 kHz and 13,56 MHz /NFC (optional as ON Metal) versions.



TOP VIEW

ADHESIVE BOTTOM VIEW

LF / HF / NFC ATEX SPACE TAG and TEC EASY TAG 20 mm and 30 mm

LF / HF / NFC ATEX ON METAL TAG
20 x 20 mm

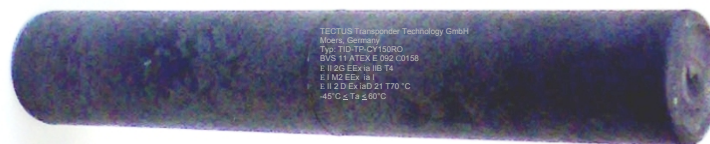


LF / HF / NFC ATEX EPOXY TAG 12, 13, 20 mm
(optional with adhesive and other diameter)



LF / HF / NFC ATEX EPOXY TAG 10 mm, 16 mm, 20 mm, 30 mm and 50 mm

LF / HF / NFC ATEX EPOXY KEY FOB



ATEX TUBE TAG 150 mm (LF only)

The RFID  perts

ATEX Certificate-No. BVS 11 ATEX ZQS/E262

ATEX certified UHF MOUNT ON METAL TAGS

Here you see our Long Range passive UHF ATEX RFID TAGs for industrial use and MOUNT ON METAL. These comply to ISO-IEC 18000-6. Read Only and Read Write types EPC CLASS 1 GEN 2 are available.

For IN METAL ATEX certified UHF RFID technology, see next page.



6 mm / 18 mm and 32 mm ATEX TAG TID-UHF-MTP6 / 17 / 32RW



36 mm x 22 mm ATEX UHF-TAG



34 mm ATEX TAG TID-UHF-MTP34RW



ATEX CABLE TIE UHF-TAG



51mm x 36 mm ATEX TAG TID-UHF-TP51RW



52 mm x 15 mm ATEX UHF-TAG



58 mm x 50 mm ATEX UHF-TAG



150 mm x 23 mm ATEX UHF-TAG

The RFID  perts

ATEX Certificate-No. BVS 11 ATEX ZQS/E262

ATEX certified UHF MOUNT IN METAL TAGs

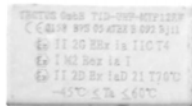
Here you see our Long Range passive UHF ATEX RFID TAGs for industrial use and MOUNT IN METAL.

These comply to ISO-IEC 18000-6.

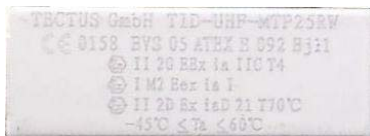
Read Only and Read Write types EPC CLASS 1 GEN 2 are available.



12 x 3 x 2 mm ATEX UHF IN METAL-TAG



12 x 7 x 3 mm ATEX UHF IN METAL-TAG



25 x 9 x 3 mm ATEX UHF IN METAL-TAG



30 x 30 x 3 mm ATEX UHF IN METAL-TAG

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Typical ATEX RFID Applications are the identification of objects in explosive and hazardous atmospheres. TECTUS ATEX RFID makes life easier in supply chain management and industrial logistics of metal container and drums, etc.

In the area of petrochemical plants, the onshore and offshore industry ATEX RFID TAGs are most useful and essential. ATEX RFID based paperless automated maintenance management of valves and pipes avoid failures and optimise processes.



Metal Drum Logistics



LPG Gas Cylinder Tracking



Mining



Bio Gas Production



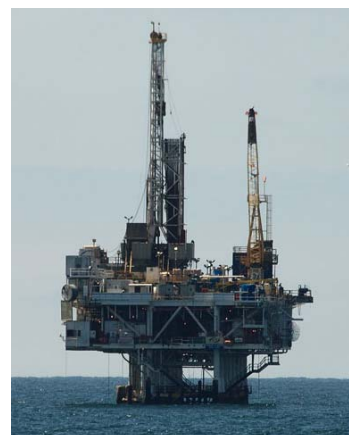
Petro-Chemical Logistics– Maintenance



Food Production



Explosive Dust Area



Oil & Gas
Offshore Drilling Rig

The RFID  perts

ATEX Certificate-No. BVS 11 ATEX ZQS/E262

Typical Industrial and ATEX RFID Maintenance Applications.



Lightning Protection Maintenance



Manhole Maintenance & Repair



Valve Maintenance & Service

The RFID  perts

ATEX Certificate-No. BVS 11 ATEX ZQS/E262

Typical Industrial and ATEX RFID Maintenance Applications.



Tracking of Fire Brigade Equipment



Fire Hydrant Maintenance



Fire Hose Inspection



Fire Extinguisher Inspection



Aircraft Maintenance & Service

The RFID  perts

ATEX Certificate-No. BVS 11 ATEX ZQS/E262