

# Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin



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

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



(3) EC-type-examination Certificate Number:

**PTB 00 ATEX 2199**

(4) Equipment: POWER SUPPLY Typ PS24-Ex

(5) Manufacturer: ABB Automation Products

(6) Address: D-63754 Alzenau

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

(8) The Physikalisch-Technische Bundesanstalt, notified body No. 0102 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 PTB Ex 01-21107.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:  
EN 50014:1997+A1+A2      EN 50019:1997      EN 50020:1994      EN 50028:1987

(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 and construction of the specified equipment in accordance with Directive 94/9/EC. Further requirements of this Directive apply to the manufacture and supply of this equipment.

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



**II 2 G EEx m [ib] e IIC T4**

Zertifizierungsstelle Explosionsschutz  
By order:

Braunschweig,

Dr.-Ing. U. Johannsmeyer  
Regierungsdirektor

sheet 1/3

# Physikalisch-Technische Bundesanstalt

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## (13) SCHEDULE

### (14) EC-TYPE-EXAMINATION CERTIFICATE PTB 00 ATEX 2199

#### (15) Description of equipment

The Power Supply Type PS24-Ex is a part of the explosion-proof S900 Remote I/O Fieldbus System and may only be used with this system. A system description valid for all system S900 components defines the basic conditions for their connection and operation.

The power supply is a central unit powering the entire fieldbus system with the defined energy, via the approved Termination Unit Type TU..., PTB 00 ATEX 2156 U. The pluggable power supply module is supplied via an internal Ex-e type internal multilayer implemented in the termination unit and generates a safely limited output AC voltage for all modules plugged in the termination unit, i.e. a maximum of two bus couplers and up to 16 system modules. A maximum of two power supply modules of the same type may be run redundantly in the same termination unit. Like all other system modules, the power supply modules may be plugged in and removed under power when installed in a Zone 1 area.

Except for the inputs, i.e. the mains supply side, the entire power supply module has a protection of type "Encapsulation". Intrinsically safe auxiliary circuits inside the encapsulation permit to plug in and remove the power supply module while operation is running and to communicate with the bus coupler and a second power supply.

Prior to removing and upon plugging in the power supply module the four release contacts must be actuated via the four mandatory fastening screws.

Type of protection: II 2 G EEx m [ib] e IIC T4  
Permissible ambient temperature range: -20 °C...+70 °C

#### Electrical specifications

Valid for all electrical current circuits of the power supply module:  $V_m = 60 \text{ V}$

#### **Power supply circuits**

##### Power supply $V_{in}$

Multilayer feed lines, via Termination Unit (PTB 00 ATEX 2156 U)

Test contact strip	Type of protection "Increased safety" EEx e
L+ : z24, b24, d24	$V_{in} = 18...32 \text{ V DC}$ (residual ripple $\pm 10 \%$ )
L- : z28, b28, d28	
PE : z32, b32, d32	not used

sheet 2/3

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EC-type-examination Certificates without signature and official stamp shall not be valid. The certificates may be circulated only without alteration. Extracts or alterations are subject to approval by the Physikalisch-Technische Bundesanstalt. In case of dispute, the German text shall prevail.

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## SCHEDULE TO EC-TYPE-EXAMINATION CERTIFICATE PTB 00 ATEX 2199

AC output voltage  $V_{out}$  only effective within the S 900 System Termination Unit TU...

Test contact strip  $V_{out} \leq 20$  V (amplitude)  
z2, b2, d2 300...314 kHz (rectangular)  
z6, b6, d6  $P_{out} < 75$  W (see test report)

The current circuits requires external current limiting, which is ensured through the S900 System.

Bunch plug PA (potential equalization)

### Internal system connections

Only effective within the S900 System Termination Unit TU... .

The AC output voltage  $V_{out}$  with safe voltage limiting has a safe electrical isolation up to a voltage of 60 V from the power supply circuit  $V_{in}$  and from all other current circuits .

(16) Test report PTB Ex 01-21107

(17) Special conditions for safe use

None

(18) Essential health and safety requirements

Covered by the standards and regulations stated above.

Zertifizierungsstelle Explosionsschutz  
By order:

Braunschweig,

Dr.-Ing. U. Johannsmeyer  
Regierungsdirektor