



(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 07 ATEX 2020

(4) Equipment: Power supply unit, type SA920S

(5) Manufacturer: ABB Automation GmbH DEATG

(6) Address: Schillerstr. 72, 32425 Minden, Germany

(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 07-26227.

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

EN 60079-0:2006

EN 60079-1:2004

EN 60079-7:2003

EN 60079-11:2007

(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 the 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 Ex de [ib] IIC T4

Zertifizierungsstelle Explosionsschutz
By order:

Braunschweig, August 9, 2007

J. Gerlach
Dr.-Ing. U. Gerlach
Oberregierungsrat

SCHEDULE

(13)

(14) **EC-TYPE-EXAMINATION CERTIFICATE PTB 07 ATEX 2020**

(15) Description of equipment

As a component of the system the power supply unit, type SA920S is used to supply the explosion protected remote I/O-fieldbus system S900 an shall be operated only as part of this system. Depending on the variant a multilayer connection is carried out by the termination unit, type TU ... – Ex certified under PTB 00 ATEX 2156 U.

The equipment is installed inside the hazardous area.

The permissible range of the ambient temperature is -20 °C ... +70 °C.

Electrical data

Maximum voltage for all circuits: $U_m = 60 \text{ V}$

I. Power supply

Supply circuit U_{in} type of protection Increased Safety Ex e
(L+: z24, b24, d24 $U_{in} = 18...32 \text{ V DC}$ (residual ripple $\pm 10 \%$)
L-: z28, b28, d28)

PE not connected

AC-output circuit U_{out} $U_{out} = 20 \text{ V}$ (amplitude)
(z2, b2, d2, $P_{out} = 70 \text{ W}$
z6, b6, d6) 300 ... 314 kHz (rectangular)

The AC-output circuit U_{out} is safely electrically isolated from the supply circuit U_{in} and from all other circuits up to a voltage value of 60 V. The external current limitation required for this circuit is provided for by the system S 900.

Multiple-spring wire plug PA (equipotential bonding)

II. System-internal circuits

(ineffective towards the outside)

Release circuit of the locking mechanism type of protection Intrinsic Safety Ex ib IIC
Plug connector (z16, d16)

Maximum values:

$$\begin{aligned}U_o &= 6 \text{ V} \\I_o &= 5.2 \text{ mA} \\C_i &= 2.1 \text{ }\mu\text{F} \\L_i &\text{ negligibly low}\end{aligned}$$

Connection to a second power supply unit (if existing)

Clock out type of protection Intrinsic Safety Ex ib IIC
Plug connector (z14, z18)

Maximum values:

$$\begin{aligned}U_o &= 6 \text{ V} \\I_o &= 80.8 \text{ mA} \\C_i &\text{ negligibly low} \\L_i &\text{ negligibly low}\end{aligned}$$

Clock in type of protection Intrinsic Safety Ex ib IIC
Plug connector (d14, d18)

Maximum values:

$$\begin{aligned}U_o &= 6 \text{ V} \\I_o &= 32.3 \text{ mA} \\C_i &\text{ negligibly low} \\L_i &\text{ negligibly low}\end{aligned}$$

Internal system connection to the type of protection Intrinsic Safety Ex ib IIC
communication interfaces
Plug connector (d12)

Maximum values:

$$\begin{aligned}U_o &= 6 \text{ V} \\I_o &= 6.1 \text{ mA} \\C_i &\text{ negligibly low} \\L_i &\text{ negligibly low}\end{aligned}$$

GND (Ex).....The system-internal circuits clock out, clock
Plug connector (z12, b12, b14) in and the internal system connection to the
communication interfaces are electrically
interconnected by these terminals.

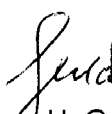
(16) Test reports PTB Ex 07-26227 and PTB Ex 07-15193

(17) Special conditions for safe use
none

(18) Essential health and safety requirements
met by compliance with the standards mentioned above

Zertifizierungsstelle Explosionschutz
By order:

Braunschweig, August 9, 2007


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