



(1) **EU-TYPE-EXAMINATION CERTIFICATE**
(Translation)

(2) Equipment or Protective Systems Intended for Use in
Potentially Explosive Atmospheres - **Directive 2014/34/EU**

(3) EU-Type Examination Certificate Number:

PTB 15 ATEX 5018 X

Issue: 0

(4) Equipment: High voltage power supply "smart-E" of types smart-E 209,
smart-E 310x, smart-E 510x, smart-E 310Dx and smart-E 510Dx

(5) Manufacturer: SCHNIER Elektrostatik GmbH

(6) Address: Bayernstraße 13, 72768 Reutlingen, Germany

(7) This equipment and any acceptable variation thereto is 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 17 of the Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres, given in Annex II to the Directive.

The examination and test results are recorded in the confidential Test Report PTB Ex 16-55171.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 50176:2009, EN 50177:2009, EN 50223:2010, EN 50348:2010

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to the Specific Conditions of Use specified in the schedule to this certificate.

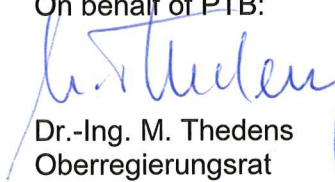
(11) This EU-Type Examination Certificate relates only to the design and construction of the specified equipment in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

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

 II 2G T6 oder  II 2D 80 °C

Konformitätsbewertungsstelle, Sektor Explosionsschutz
On behalf of PTB:

Braunschweig, August 10, 2016


Dr.-Ing. M. Thedens
Oberregierungsrat



sheet 1/4

EU-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.

(13)

SCHEDULE

(14) **EU-Type Examination Certificate Number PTB 15 ATEX 5018 X, Issue: 0**

(15) Description of equipment

The high voltage power supply "smart-E" of types smart-E 209, smart-E 310x, smart-E 510x as well as smart-E 310Dx with built-in rapid discharge and smart-E 510Dx with built-in rapid discharge serves as equipment of category 2 with the function as a safety, controlling and regulating device for controlling and regulating electrostatic spraying equipment of category 2 as well as equipment of category 3 for processing of ignitable coating materials or ignitable coating powders or ignitable flocking material or electrostatic spraying equipment for processing of non-ignitable coating materials.

The high voltage power supply "smart-E" of types smart-E 209, smart-E 310x, smart-E 510x as well as smart-E 310Dx with built-in rapid discharge and smart-E 510Dx with built-in rapid discharge is designed for use with the electrostatic spraying equipment of conventional design and electrostatic spraying equipment designed as high-speed rotary atomizer, having an appropriate EU-Type Examination Certificate. The electrostatic spraying equipment may be operated in accordance with its EU-Type Examination Certificate with direct charging or external charging in voltage-controlled and constant-voltage mode as well as constant-current mode.

The designation smart-E with the added x indicates the bus system used to control the high voltage power supply and will be replaced by the letters c, e, p, or t. The letters mean:

c	bus system: CAN
e	bus system: Ethernet/IP
p	bus system: Profinet
t	bus system: Ethercat

The item number can be followed by an arbitrary character string in the form of /XXX. This arbitrary character string is used for the identification of a safety-related identical but customer-specific built high voltage power supply "smart-E".

Maximum permissible data of the high voltage power supply "smart-E" of type:

smart-E 209,

Item number 810346/001, 810380, 810382, 810386

Output current $I_{\max} = 275 \mu\text{A}$

Output voltage $U_{\max} = 100 \text{ kV}$

smart-E 310x,

Item number 810366, 810368, 810377, 810401

Output current $I_{\max} = 300 \mu\text{A}$

Output voltage $U_{\max} = 100 \text{ kV}$

sheet 2/4

SCHEDULE TO EU-TYPE EXAMINATION CERTIFICATE PTB 15 ATEX 5018 X, Issue: 0

smart-E 310Dx with built-in rapid discharger smart-D 210,
Item number 810394, 810400, 810402

Output current $I_{\max} = 300 \mu\text{A}$

Output voltage $U_{\max} = 100 \text{ kV}$

smart-E 510x,

Item number 810370, 810372, 810376, 810378

Output current $I_{\max} = 600 \mu\text{A}$ 800 μA

Output voltage $U_{\max} = 100 \text{ kV}$ 80 kV

smart-E 510Dx with built-in rapid discharger smart-D 210,
Item number 810395, 810399, 810403

Output current $I_{\max} = 600 \mu\text{A}$ 800 μA

Output voltage $U_{\max} = 100 \text{ kV}$ 80 kV

(16) Test Report PTB Ex16-55171

The requirements of 5.1 of EN 50176:2009 as well as the relevant requirements of EN 50177:2009, EN 50223:2010 or EN 50348:2010 were calculated by $W = \frac{1}{2} C U^2$ and checked by measuring the transferred charge in accordance with EN 50050-1:2013 Annex A.

The requirements of 6.4 of EN 50176:2009 as well as the relevant requirements of EN 50177:2009, EN 50223:2010 or EN 50348:2010 were certainly fulfilled e.g. with the values:

$U_{\text{set}} = 65 \text{ kV}$, $U_{\text{min}} = 20 \text{ kV}$,

$I_{\text{set}} = 150 \mu\text{A}$, $I_{\text{max}} = 150 \mu\text{A}$

in voltage-controlled and constant voltage mode and

$U_{\text{set}} = 65 \text{ kV}$, $U_{\text{min}} = 20 \text{ kV}$ and 30 kV,

$I_{\text{set}} = 80 \mu\text{A}$, $I_{\text{max}} = 150 \mu\text{A}$

in constant-current mode.

(17) Specific conditions of use

The respective type of electrostatic spraying equipment is to be determined on the basis of their EU-Type Examination Certificate in assembly with the high-voltage control "smart-E".

It is to ensure by inspection prior to commissioning and periodic testing that the values of the output current and the output voltage of the electrostatic spraying equipment referred in the EU-Type Examination Certificates are not exceeded.

Notes for manufacture and operation:

It is to ensure by routine test, inspection prior to commissioning and periodic testing that the maximum values mentioned in (15) are not exceeded.

It is to ensure by inspection prior to commissioning and periodic testing that the requirements of 5.3.1, 6.3.3.2, 6.3.4.2, 6.3.5, 6.3.6 and 6.4 of EN 50176:2009 respectively the relevant requirements of EN 50177:2009, EN 50223:2010 or EN 50348:2010 are fulfilled.

SCHEDULE TO EU-TYPE EXAMINATION CERTIFICATE PTB 15 ATEX 5018 X, Issue: 0

The high voltage power supply "smart-E" of types smart-E 209, smart-E 310x, smart-E 510x as well as smart-E 310Dx with built-in rapid discharge and smart-E 510Dx with built-in rapid discharge are permitted to be used in accordance with the requirements of EN 50176, EN 50177:2009, EN 50223:2010 or EN 50348:2010 and other relevant regulations.

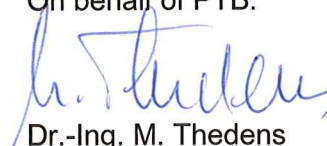
The high voltage power supply "smart-E" of types smart-E 209, smart-E 310x, smart-E 510x as well as smart-E 310Dx with built-in rapid discharge and smart-E 510Dx with built-in rapid discharge are permitted to be used in hazardous areas only for reasons of the operation of spraying systems.

(18) Essential health and safety requirements

Met by compliance with the aforementioned standards.

Konformitätsbewertungsstelle, Sektor Explosionsschutz
On behalf of PTB:

Braunschweig, August 10, 2016


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