

EU - Type Examination Certificate

- (1)
- (2) Equipment and protective systems intended for use in potentially explosive atmospheres – **Directive 2014/34/EU**
- (3) EU - Type Examination Certificate Number

EPS 21 ATEX 1 085 X

Revision 0

- (4) Equipment: Electropneumatic positioner type SP520
- (5) Manufacturer: SHINHWA ENG CO., LTD
- (6) Address: (80B-2L) 242, Cheongneung-daero, Namdong-gu, Incheon, 21695, Korea
- (7) This equipment and any acceptable variation thereto are specified in the annex to this certificate and the documentation therein referred to.
- (8) Bureau Veritas Consumer Products Services Germany GmbH, notified body No. 2004 in accordance with Article 21 given in the Directive 2014/34/EU of the European Parliament and of the Council of 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 equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II of the Directive. The examination and test results are recorded in the confidential documentation under the reference number 20TH0536.
- (9) Compliance with the essential health and safety requirements has been assured by compliance with:

EN IEC 60079-0:2018

EN 60079-18:2015/A1:2017

EN 60079-1:2014

EN 60079-11:2012

EN 60079-31:2014

- (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 annex to this certificate.
- (11) This EU - Type Examination Certificate relates only to the design and construction of the specified equipment in accordance with Directive 2014/34/EU. Further requirements of this Directive apply to the manufacture of this equipment and its placing on the market. Those requirements are not covered by this certificate.
- (12) The marking of the equipment shall include the following:

II 2G Ex db mb IIB/IIC T6/T5 Gb



II 2D Ex tb IIIC T80°C/T100°C Db IP66

II 2G Ex ia IIC T6/T5 Gb

II 2D Ex ia IIIC T80°C/T100°C Db



Certification department of explosion protection

Tuerkheim, 2022-05-20

Ulrich Feike

Certificates without signature and seal are void. This certificate is allowed to be distributed only if not modified. Extracts or modifications must be authorized by Bureau Veritas Consumer Products Services Germany GmbH.

(13)

Annex

(14) **EU - Type Examination Certificate EPS 21 ATEX 1 085 X**

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(15) Description of equipment:

Electro-Pneumatic valve positioner SP520 series controls the valve stroke in response to an input signal of 4~20mA DC from the control panel, DCS or calibrator. Enclosure fulfils IP66 rating according to IEC/EN 60529. The SP520 is designed in different types of ignition protection: Flameproof enclosure "db" and encapsulated coil type "mb", or Intrinsic safety protection "i". In the case of intrinsic safety, the ignition protection type is "ia" and the equipment protection level EPL is Gb or Db. The unit is suitable for gas group IIC and dust group IIIC. The SP520 contains 3 separate circuit areas: IP module, feedback electronics and limit switch L/S. Each area is galvanically isolated and is supplied by a galvanically isolated intrinsically safe power supply unit or barrier. Non Ex-i variant is constructed by flameproof enclosure junction box and IP66 enclosure incorporating encapsulated coil in type of protection "mb".

Electrical data:

Supply: 4~20mA DC

Intrinsically safe version:

Main power: U _i = 28 V I _i = 93 mA P _i = 650 mW C _i = 0.5 nF L _i = 10 uH	Feedback signal power: U _i = 28 V I _i = 93 mA P _i = 650 mW C _i = 57.5 nF L _i = 10 uH	Limit switch power: U _i = 28 V I _i = 100 mA P _i = 650 mW C _i = 0 uF L _i = 0 mH
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Ambient conditions:

T5 / T100°C: -20 °C ≤ Ta ≤ +60 °C

T6 / T80°C: -20 °C ≤ Ta ≤ +40 °C

(16) Reference number: 20TH0536

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(17) Special conditions for safe use:

Intrinsic safe version must be supplied by certified power supply.

Do not open the power terminal box cover of the SP520 product in potentially explosive atmosphere.

For Ex-mb type a fuse corresponding to the device's rating current (max. 3 x IN or, resp. IB according to IEC/EN 60127-2) shall be used in supply circuit.

Enclosure with viewing window must be protected from high impact energy.

Flameproof type junction box must be equipped with certified Ex-d cable glands. Ex-i and Ex-tb type junction box must be equipped with min. IP64 rated Ex certified cable glands.

The layout uses Annex F of EN 60079-11. Therefore, the installation environment shall comply with IEC/EN 60664-1 pollution degree 2 requirements.

(18) Essential health and safety requirements:

Met by compliance with standards.

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Tuerkheim, 2022-05-20

