[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 **IBExU12ATEX1120** | Issue 2

[4] Product:

Hand scanner type	Designation
SD160^{ex}	SD.112.***0.**
SD260^{ex}	SD.115.***0.**
SD260^{ex}3rd	SD.11A.****.**
SD164^{ex}	SD.11D.****.**
SD264^{ex}	SD.11E.****.**

[5] Manufacturer: Sigmann Delta GmbH

[6] Address: Beim Braunstall 4
97980 Bad Mergentheim
GERMANY

[7] This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

[8] IBExU Institut für Sicherheitstechnik GmbH, notified body number 0637 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product 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 IB-22-3-0184.

[9] Compliance with the essential health and safety requirements has been assured by compliance with:
EN IEC 60079-0:2018, EN 60079-11:2012 and EN 60079-28:2015
except in respect of those requirements listed at item [18] of the schedule.

[10] If the sign "X" is placed after the certificate number, it indicates that the product 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 product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

[12] The marking of the product shall include the following:

Type SD160^{ex} SD.112.***0.**:

Ⓔx II 2G Ex ib IIC T4 Gb
Ⓔx II 2D Ex ib IIIC T135 °C Db
$-20\ °C \leq T_{amb} \leq +50\ °C$

Type SD260^{ex} SD.115.***0.**:

Ⓔx II 2G Ex ib IIB T4 Gb
Ⓔx II 2D Ex ib IIIC T135 °C Db
$-20\ °C \leq T_{amb} \leq +50\ °C$

Type SD260^{ex}3rd SD.11A.****.**:

Ⓔx II 2G Ex ib op is IIB T4 Gb
Ⓔx II 2D Ex ib op is IIIC T135 °C Db
-20 °C ≤ T_{amb} ≤ +50 °C

Type SD164^{ex} SD.11D.****.**:

Ⓔx II 2G Ex ib IIB T4 Gb
Ⓔx II 2D Ex ib IIIC T135 °C Db
-20 °C ≤ T_{amb} ≤ +50 °C

Type SD264^{ex} SD.11E.****.**:

Ⓔx II 2G Ex ib op is IIB T4 Gb
Ⓔx II 2D Ex ib op is IIIC T135 °C Db
-20 °C ≤ T_{amb} ≤ +50 °C

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By order

Dr.-Ing. P. Cimalla

Zertifizierungsstelle Explosionsschutz IBExU Institut für Sicherheitstechnik GmbH Kenn-Nr. 0637
– Seal –
(notified body number 0637)

Certificates without signature and seal are not valid. Certificates may only be duplicated completely and unchanged. In case of dispute, the German text shall prevail.

Freiberg, 2023-03-09

[13] **Schedule**

[14] **Certificate number IBExU12ATEX1120** | Issue 2

[15] **Description of product**

The hand scanners SD160^{ex}, SD260^{ex} and SD260^{ex}3rd as well as SD164^{ex} and SD264^{ex} are used as hand-held units in hazardous areas which require equipment for category 2G and 2D. They are used to capture 1D codes (barcodes) and 2D codes (stacked-codes). The hand scanners consist of a housing made of plastic including window. The housing contains the electronic circuits and the light sources.
The hand scanners are connected by means of supply cable SD.Z10.****.** with an intrinsically safe power supply.

Technical Data

- Ambient temperature range: -20 °C to +50 °C
- Light Source; Target laser: visible red light, $P_{opt.}$ < 35 mW or 5 mW/mm²
- Current consumption: ≤ 420 mA (standby 220 mA; scan 420 mA)

Electrical data:

	connecting cable	maximum input voltage U_i	maximum input current I_i	maximum input power P_i	maximum internal inductance L_i	maximum internal capacitance C_i
SD160^{ex} SD.112.*0.****	SD.Z10.0007.**	5.6 V	480 mA	1.25 W	negligible	46 µF
SD160^{ex} SD.112.*0.****	SD.Z10.0008.**	4.9 V	480 mA	1.25 W	negligible	112,4 µF
SD160^{ex} SD.112.*0.****	SD.Z10.0009.**	4.9 V	480 mA	1.25 W	negligible	112,4 µF
SD260^{ex} SD.115.*0.****	SD.Z10.0008.**	4.9 V	750 mA	2 W	negligible	202 µF
SD260^{ex} SD.115.*0.****	SD.Z10.0008.**	4.9 V	780 mA	2 W	negligible	202 µF
SD260^{ex}3rd SD.11A.**.****	SD.Z10.0008.**	5.6 V	1180 mA	4.5 W	negligible	869 µF
SD260^{ex}3rd SD.11A.**.****	SD.Z10.0009.**	5.6 V	1180 mA	4.5 W	negligible	869 µF
SD164^{ex} SD.11D.**.****	SD.Z10.0007.**	5.6 V	480 mA	1.25 W	negligible	46 µF
SD164^{ex} SD.11D.**.****	SD.Z10.0008.**	4.9 V	480 mA	1.25 W	negligible	141 µF
SD164^{ex} SD.11D.**.****	SD.Z10.0009.**	4.9 V	480 mA	1.25 W	negligible	141 µF
SD264^{ex} SD.11E.**.****	SD.Z10.0008.**	5.6 V	1180 mA	4.5 W	negligible	373 µF
SD264^{ex} SD.11E.**.****	SD.Z10.0009.**	5.6 V	1180 mA	4.5 W	negligible	373 µF

Variations compared to issue 1 of this certificate:

Variation 1
The manufacturer's address has been changed.

Variation 2
Two new types have been added.

Variation 3
The circuits have been changed without affecting the intrinsic safety parameters.

[16] **Test report**
The test results are recorded in the confidential test report IB-22-3-0184 of 2023-01-30.
The test documents are part of the test report and they are listed there.

Summary of the test results
The hand scanner mentioned under [4] further comply with the requirements of explosion protection for electrical equipment of Group II and category 2G and 2D in type of protection intrinsic safety in combination with Protection of equipment and transmission systems using optical radiation.

[17] **Specific conditions of use**
None

[18] **Essential health and safety requirements**
In addition to the essential health and safety requirements (EHSRs) covered by the standards listed at item [9], the following are considered relevant to this product, and conformity is demonstrated in the test report:
None

[19] **Drawings and Documents**
The documents are listed in the test report.

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09599 Freiberg, GERMANY

By order

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Freiberg, 2023-03-09