(1) # EU - Type Examination Certificate

(2) Equipment and protective systems intended for use in potentially explosive atmospheres – **Directive 2014/34/EU**

(3) EU - Type Examination Certificate Number

EPS 20 ATEX 1 115 **Revision 4**

(4) Equipment: X-Rayl® Sensor S2 and S2 with external PT1000,
X-Rayl® Sensor S3 (S3ACC-D, S3ATT-D, S3MEP-D, S3VIB-D, S3LUX-D),
X-Rayl® Sensor S3 with external PT1000 (S3TMP-D),
X-Rayl® Sensor S3 with integrated pressure sensor (S3PRS-D),
X-Rayl® Sensor S3 with external pressure sensor (S3PRS-D) and
X-Rayl® Sensor S3 with integrated distance sensor (version "Distance") (S3DST)

(5) Manufacturer: DOT Telematik und Systemtechnik GmbH

(6) Address: DOT-Solarpark, Im Atzersfeld 2
2100 Leobendorf
Austria

(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 20TH0251.

(9) Compliance with the essential health and safety requirements has been assured by compliance with:

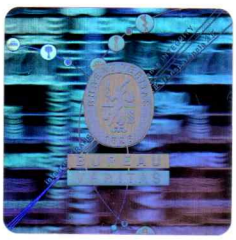
EN IEC 60079-0:2018 **EN 60079-11:2012**

(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 ib IIC T6 Gb
II 2D Ex ib IIIC T85°C Db



Certification department of explosion protection

Ulrich Feike

Tuerkheim, 2022-06-30

Bureau Veritas Consumer Products Services Germany GmbH
www.bureauveritas.de/cps
Businesspark A96
86842 Tuerkheim
certification.deu@bureauveritas.com

(13) # Annex

(14) **EU - Type Examination Certificate EPS 20 ATEX 1 115** **Revision 4**

(15) Description of equipment:

The X-Rayl® Sensors S2 and S3 are wireless radio sensors and serve as extension module for the patented X-Rayl® GPS system. They work in combination with the X-Rayl® Solar Pointer and are used to detect temperature, 3-axis accelerations, pressure and distance. Several sensors S2 or S3 can be mounted on a railway freight car or container, which communicate with a single X-Rayl® Solar Pointer. The recorded data are transmitted by the X-Rayl® Solar Pointer via mobile communication to a server and are displayed in the cloud-based web portal "DOT-Link" or imported into customer-specific ERP systems via common interfaces.

The X-Rayl® Sensor S2 with external PT1000 is equipped with a permanently connected external temperature sensor PT1000 and includes a display.

The X-Rayl® Sensor S3 with external PT1000 is equipped with a permanently connected external temperature sensor PT1000 or reed contact and includes a display.

The X-Rayl® Sensor S3 with external pressure sensor is equipped with a permanently connected external pressure sensor and includes a display.

The X-Rayl® Sensor S3 with integrated pressure sensor is equipped with an integrated pressure sensor and includes a display.

The X-Rayl® Sensor S3 with integrated distance sensor (version “Distance”) is optionally equipped with a permanently connected external temperature sensor PT1000, reed contact or pressure sensor. A display is not included in this version.

The permissible ambient temperature range is: -40 °C ≤ T_a ≤ +60 °C

The revision 4 concerns the following changes / modifications:

1. Substitution of one integrated circuit and adaptation of the layout to the different pin design
2. Addition of the internal abbreviated designation to the model designation

Electrical data:

All versions of the X-Rayl® Sensors S2 and S3 are powered only by an internal primary battery.

The maximum length of the optional permanently connected cable is 5 m.

RF-Module: transmission power ≤ 63 mW

(16) Reference number: 20TH0251

(17) Special conditions for safe use:

None

(18) Essential health and safety requirements:

Met by compliance with standards.

ZERTIFIZIERUNGSSTELLE BUREAU VERITAS 1828 Bureau Veritas CPS Germany GmbH

Certification department of explosion protection

Tuerkheim, 2022-06-30

Ulrich Feike

IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	**IECEx EPS 20.0043**	Page 1 of 4	Certificate history:
Status:	**Current**	Issue No: 5	Issue 4 (2021-07-26) Issue 3 (2021-07-01) Issue 2 (2021-01-25) Issue 1 (2020-09-18) Issue 0 (2020-07-24)
Date of Issue:	2022-06-30		

Applicant: **DOT Telematik und Systemtechnik GmbH**
DOT-Solarpark, Im Atzersfeld 2
2100 Leobendorf
Austria

Equipment: **X-Rayl® Sensor S2 and S2 with external PT1000, X-Rayl® Sensor S3 (S3ACC-D, S3ATT-D, S3MEP-D, S3VIB-D, S3LUX-D), X-Rayl® Sensor S3 with external PT1000 (S3TMP-D), X-Rayl® Sensor S3 with integrated pressure sensor (S3PRS-D), X-Rayl® Sensor S3 with external pressure sensor (S3PRS-D) and X-Rayl® Sensor S3 with integrated distance sensor (version "Distance") (S3DST)**

Optional accessory:

Type of Protection: **Intrinsic Safety "i"**

Marking: Ex ib IIC T6 Gb

Ex ib IIIC T85°C Db

Approved for issue on behalf of the IECEx Certification Body: **Ulrich Feike**

Position: **Head of Certification**

Signature: (for printed version)

Date: (for printed version) 2022-06-30

ZERTIFIZIERUNGSSTELLE BUREAU VERITAS Bureau Veritas CPS Germany GmbH 1828

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.

Certificate issued by:

Bureau Veritas Consumer Products Services Germany GmbH
Businesspark A96
86842 Türkheim
Germany

BUREAU VERITAS

IECEx Certificate of Conformity

Certificate No.:	**IECEx EPS 20.0043**	Page 2 of 4
Date of issue:	2022-06-30	Issue No: 5

Manufacturer: **DOT Telematik und Systemtechnik GmbH**
DOT-Solarpark, Im Atzersfeld 2
2100 Leobendorf
Austria

Manufacturing locations: **DOT Telematik und Systemtechnik GmbH**
DOT-Solarpark, Im Atzersfeld 2
2100 Leobendorf
Austria

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements.This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :
The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Edition:7.0 — Explosive atmospheres - Part 0: Equipment - General requirements

IEC 60079-11:2011 Edition:6.0 — Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

DE/EPS/ExTR20.0044/05

Quality Assessment Report:

DE/EPS/QAR20.0001/02

IECEx Certificate of Conformity

EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

The X-Rayl® Sensors S2 and S3 are wireless radio sensors and serve as extension module for the patented X-Rayl® GPS system. They work in combination with the X-Rayl® Solar Pointer and are used to detect temperature, 3-axis accelerations, pressure and distance. Several sensors S2 or S3 can be mounted on a railway freight car or container, which communicate with a single X-Rayl® Solar Pointer. The recorded data are transmitted by the X-Rayl® Solar Pointer via mobile communication to a server and are displayed in the cloud-based web portal "DOT-Link" or imported into customer-specific ERP systems via common interfaces.

The X-Rayl® Sensor S2 with external PT1000 is equipped with a permanently connected external temperature sensor PT1000 and includes a display.

The X-Rayl® Sensor S3 with external PT1000 is equipped with a permanently connected external temperature sensor PT1000 or reed contact and includes a display.

The X-Rayl® Sensor S3 with external pressure sensor is equipped with a permanently connected external pressure sensor and includes a display.

The X-Rayl® Sensor S3 with integrated pressure sensor is equipped with an integrated pressure sensor and includes a display.

The X-Rayl® Sensor S3 with integrated distance sensor (version “Distance”) is optionally equipped with a permanently connected external temperature sensor PT1000, reed contact or pressure sensor. A display is not included in this version.

The permissible ambient temperature range is: $-40\ °C \leq T_a \leq +60\ °C$

Electrical data:

All versions of the X-Rayl® Sensors S2 and S3 are powered only by an internal primary battery.

The maximum length of the optional permanently connected cable is 5 m.

RF-Module: transmission power ≤ 63 mW

SPECIFIC CONDITIONS OF USE: NO

IECEx Certificate of Conformity

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

The issue 5 concerns the following changes / modifications:

1. Substitution of one integrated circuit and adaptation of the layout to the different pin design
2. Addition of the internal abbreviated designation to the model designation

(1) # UK - Type Examination Certificate

(2) Equipment and protective systems intended for use in potentially explosive atmospheres – **UKSI 2016:1107 (as amended)**

(3) UK - Type Examination Certificate Number

EPS 22 UKEX 1 018 **Revision 0**

(4) Equipment: X-Ray!® Sensor S3 (S3ACC-D, S3ATT-D, S3MEP-D, S3VIB-D, S3LUX-D),
X-Ray!® Sensor S3 with external PT1000 (S3TMP-D),
X-Ray!® Sensor S3 with integrated pressure sensor (S3PRS-D),
X-Ray!® Sensor S3 with external pressure sensor (S3PRS-D) and
X-Ray!® Sensor S3 with integrated distance sensor (version "Distance") (S3DST)

(5) Manufacturer: DOT Telematik und Systemtechnik GmbH

(6) Address: DOT-Solarpark, Im Atzersfeld 2
2100 Leobendorf
Austria

(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 United Kingdom Limited, approved body No. 8507 in accordance with UKSI 2016:1107 (as amended) Part 4, 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 Schedule 1 of UKSI 2016:1107 (as amended). The examination and test results are recorded in the confidential documentation under the reference number 20TH0251.

(9) Compliance with the essential health and safety requirements has been assured by compliance with:

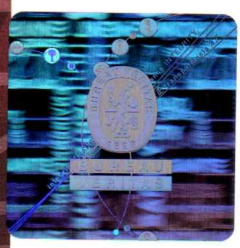
EN IEC 60079-0:2018 **EN 60079-11:2012**

(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 UK - Type Examination Certificate relates only to the design and construction of the specified equipment in accordance with UKSI 2016:1107 (as amended). Further requirements 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 ib IIC T6 Gb
II 2D Ex ib IIIC T85°C Db



Certification department of explosion protection

Warrington, 2022-06-30

Natalie Wilkinson

Bureau Veritas Consumer Products Services United Kingdom Limited
https://www.bureauveritas.co.uk/consumer-products-testing
+44 (0) 1925 854 360

Registered Office: 31 Kingsland Grange,
Woolston, Warrington, Cheshire, WA1 4RW

Registered in England & Wales
Company Number: 00852439

(13) # Annex

(14) **UK - Type Examination Certificate EPS 22 UKEX 1 018** **Revision 0**

(15) Description of equipment:

The X-Rayl® Sensors S3 are wireless radio sensors and serve as extension module for the patented X-Rayl® GPS system. They work in combination with the X-Rayl® Solar Pointer and are used to detect temperature, 3-axis accelerations, pressure and distance. Several sensors S3 can be mounted on a railway freight car or container, which communicate with a single X-Rayl® Solar Pointer. The recorded data are transmitted by the X-Rayl® Solar Pointer via mobile communication to a server and are displayed in the cloud-based web portal "DOT-Link" or imported into customer-specific ERP systems via common interfaces.

The X-Rayl® Sensor S3 with external PT1000 is equipped with a permanently connected external temperature sensor PT1000 or reed contact and includes a display.

The X-Rayl® Sensor S3 with external pressure sensor is equipped with a permanently connected external pressure sensor and includes a display.

The X-Rayl® Sensor S3 with integrated pressure sensor is equipped with an integrated pressure sensor and includes a display.

The X-Rayl® Sensor S3 with integrated distance sensor (version "Distance") is optionally equipped with a permanently connected external temperature sensor PT1000, reed contact or pressure sensor. A display is not included in this version.

The permissible ambient temperature range is: -40 °C ≤ T_a ≤ +60 °C

Electrical data:

All versions of the X-Rayl® Sensors S3 are powered by an internal battery or solar panel.

The maximum length of the optional permanently connected cable is 5 m.

RF-Module: transmission power = 63 mW

(16) Reference number: 20TH0251

(17) Special conditions for safe use:

None

(18) Essential health and safety requirements:

Met by compliance with standards.

Certification department of explosion protection

Warrington, 2022-06-30

Natalie Wilkinson

Bureau Veritas Consumer Products Services United Kingdom Limited
https://www.bureauveritas.co.uk/consumer-products-testing
+44 (0) 1925 854 360

Registered Office: 31 Kingsland Grange,
Woolston, Warrington, Cheshire, WA1 4RW

Registered in England & Wales
Company Number: 00852439