



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 BVS 13.0111X**

Page 1 of 4

Certificate history:

Status: **Current**

Issue No: 5

[Issue 4 \(2025-06-23\)](#)

[Issue 3 \(2023-07-21\)](#)

[Issue 2 \(2018-12-21\)](#)

[Issue 1 \(2018-03-28\)](#)

[Issue 0 \(2013-11-18\)](#)

Date of Issue: 2025-09-19

Applicant: **Endress+Hauser SICK GmbH+Co. KG**
Bergener Ring 27
01458 Ottendorf-Okrilla
Germany

Equipment: **Measuring unit with Power supply type TSA151 and Transmitter type TRANSIC151LP-*****

Optional accessory:

Type of Protection: **Intrinsic Safety "i", Protection by Encapsulation "m", Protection by Enclosure "t", Increased Safety "e",
Equipment with Equipment Protection Level (EPL) Ga, Optical Radiation**

Marking:	Group II	Power supply	Ex eb mb [ib] IIB T4 Gb
		Transmitter	Ex op is / ib IIB T4 Ga/Gb
	Group III	Power supply	Ex tb [ib] IIIC T85°C Db
		Transmitter	Ex ib tb op is IIIC T85°C Db

Approved for issue on behalf of the IECEx
Certification Body:

Dr Michael Wittler

Position:

Deputy Head of Certification Body

Signature:
(for printed version)

Date:
(for printed version)

2025-09-19

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:

DEKRA Testing and Certification GmbH
Certification Body
Dinnendahlstrasse 9
44809 Bochum
Germany





IECEx Certificate of Conformity

Certificate No.: **IECEx BVS 13.0111X**

Page 2 of 4

Date of issue: 2025-09-19

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Manufacturer: **Endress+Hauser SICK GmbH+Co. KG**
Bergener Ring 27
01458 Ottendorf-Okrilla
Germany

Manufacturing locations: **Endress+Hauser SICK GmbH+Co. KG**
Poppenbütteler Bogen 9b
22399 Hamburg
Germany

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](#) Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

[IEC 60079-11:2011](#) Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

[IEC 60079-18:2017](#) Explosive atmospheres - Part 18: Protection by encapsulation "m"
Edition:4.1

[IEC 60079-26:2014](#) Explosive atmospheres – Part 26: Equipment with Equipment Protection Level (EPL) Ga
Edition:3.0

[IEC 60079-28:2015](#) Explosive atmospheres - Part 28: Protection of equipment and transmission systems using optical radiation
Edition:2

[IEC 60079-31:2013](#) Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
Edition:2

[IEC 60079-7:2017](#) Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

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/BVS/ExTR13.0122/05](#)

Quality Assessment Report:

[DE/TUN/QAR09.0005/13](#)



IECEx Certificate of Conformity

Certificate No.: **IECEx BVS 13.0111X**

Page 3 of 4

Date of issue: 2025-09-19

Issue No: 5

EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

Description:

The measuring unit is an optical device for measuring oxygen concentration in gases by absorption of light from a laser diode (Tuneable Diode Laser Absorption Spectroscopy TDLAS). The measurement takes place in a probe made of stainless steel by injection of a laser beam through a lens and reflection on a mirror surface.

The measuring unit consists of a power supply type TSA151 which will be installed in an area requiring EPL Gb or EPL Db equipment and a transmitter type TRANSIC151LP-***, which will be mounted into a boundary wall between areas EPL Gb and EPL Ga or in areas requiring EPL Db equipment; instead of the *** in the complete denomination of the transmitter letters or numerals will be inserted which have no influence on explosion protection. The power supply consists of a light metal enclosure, inside fastened a totally encapsulated electronic device and terminals for the connection of the non-intrinsically safe supply circuit and for the connection of the intrinsically safe circuits.

The transmitter consists of a light metal enclosure and an optical measuring device.

Inside the enclosure the electronic for measuring and evaluation is fastened. The optical measuring device can be mounted into a boundary wall between areas EPL Gb and EPL Ga; a temperature measuring element extends into the area EPL Ga and the optical signal will be led into this area.

The connection between power supply and transmitter is done via an up to 5 m long cable.

At the service interface connection only an USB Service Interface type 2066710 may be connected outside the hazardous area.

Parameters:

See Annex

SPECIFIC CONDITIONS OF USE: YES as shown below:

- 1 The non-intrinsically safe power supply circuit of the power supply type TSA151 has been specified with a maximum voltage $U_m = 60$ VDC and therefore only a PELV power supply may be connected.
The wall of the temperature measuring element (temperature probe) of the transmitter type TRANSIC151LP-*** going into Zone 0 is made of steel (1.4571) and has a thickness of $0.2 < d < 1$ mm. In order to maintain the zone separation, the temperature probe shall not be exposed to corrosive atmosphere that can endanger zone separation.
- 2
- 3 At the service interface connection only an USB Service Interface type 2066710 may be connected outside the hazardous area.



IECEx Certificate of Conformity

Certificate No.: **IECEx BVS 13.0111X**

Page 4 of 4

Date of issue: 2025-09-19

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

- Adding additional transmitter-enclosure material with slight changes in enclosure-dimensions

Annex:

[BVS_13_0111X_EHS_Annex_Issue5.pdf](#)



IECEX Certificate of Conformity



Certificate No.: IECEx BVS 13.0111 X issue No: 5

Annex

Page 1 of 1

Parameters

Power supply type TSA151				
Supply circuit (connection U_{in})				
Nominal voltage	U_N	DC	24 $\pm$ 10 %	V
Max. voltage (by a PELV supply)	U_m	DC	60	V

Intrinsically safe power output (connection "to TRANSIC151LP-***")				
Voltage	U_o	DC	8.25	V
Current	I_o		650	mA
Power	P_o		5.37	W
Max. external inductance (at $C_o = 0 \mu F$)	L_o		15	μH
Max. external capacitance (at $L_o = 0 \mu H$)	C_o		55	μF

Intrinsically safe analog output (connection Analog Out)				
Voltage	U_o	DC	8.25	V
Current	I_o		121	mA
Power	P_o		250	mW
Max. external inductance (at $C_o = 0 \mu F$)	L_o		5	mH
Max. external capacitance (at $L_o = 0 \mu H$)	C_o		1	μF
Floating switching contact (connection Digital Out)				
Voltage	U_i	DC	10	V
Current	I_i		10	mA
Power	P_i		100	mW
Effective internal capacitance	C_i		132	nF
Effective internal inductance	L_i		3.5	μH

Ambient temperature range	T_a	-20 °C up to +60 °C
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Transmitter type TRANSIC151LP-***		
Ambient temperature range	T_a	-20 °C up to +60 °C
Process temperature range (only for probe)		-20 °C up to +80 °C