1 # EU-TYPE EXAMINATION CERTIFICATE

2 Directive 2014/34/EU of the European Parliament and of the Council of 26 February 2014

3 EU-Type Examination Certificate Number: **CSANe 22ATEX1144X** Issue: **2**

4 Equipment: **FLOWSIC550**

5 Manufacturer: **Endress+Hauser SICK GmbH+Co. KG**

6 Address: Bergener Ring 27, Ottendorf-Okrilla, Saxony, 01458, Germany

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

8 CSA Group Netherlands B.V., Notified Body No. 2813 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 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 reports listed in item 16.2.

9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

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

Where additional criteria beyond those given here have been used, they are listed in item 18 in 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" listed in item 17 of this certificate.

11 This EU-Type Examination Certificate relates only to the technical design of the specified product in accordance with the Directive 2014/34/EU. 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 (additional marking is provided in the Schedule as a part of item 15, if applicable):

II 2(1)G
Ex ia [ia Ga] T4 IIC Gb
or
Ex ia [ia Ga] T4 IIB Gb
or
Ex ia [ia Ga] T4 IIA Gb
Ta = -40°C ... +70°C

A specific Gas Group is marked which is associated with a particular equipment build.

Signed: M Halliwell
Title: Senior Director of Operations
Date 13 March 2026

13 # SCHEDULE

14 **EU-Type Examination Certificate Number: CSANe 22ATEX1144X** Issue: **2**

15 **Description:**

The FLOWSIC550 is an intrinsically safe ultrasonic gas flowmeter which is powered by either two self-contained Ex ia battery packs type 2R20, or by one self-contained battery pack and an external intrinsically safe power supply. The equipment can contain up to four battery packs, but with only one or two of these connected at any time, the remaining battery packs being left unconnected. The battery packs can be replaced in the hazardous area whilst the equipment is energized. The flowmeter has two parts, a Signal Processing Unit (SPU) part containing the electronics which is mounted on a Meterbody part that is inserted in the pipeline. A display is mounted behind a window in the front cover of, and a push button mounted on the side of, the SPU enclosure. A pressure sensor is fitted in the Meterbody which is located in a neck section that joins the SPU and the Meterbody. Ultrasonic transducers are fitted in a recess in the side of the Meterbody, this recess having a removable cover.

The following pressure and/or temperature transmitters, which are supplied as part of the equipment, may optionally be fitted, and are connected via two enclosure mounted M8 connectors in the back of the SPU.

Meterbody:
Digital pressure transmitter type EDT 96

Plant pipework:
Digital temperature transmitter type EDT 34
Digital temperature transmitter type EDT 87

External connections are made to pluggable terminals via cable glands mounted in the side of the SPU enclosure. These connections are an External Power connection and three digital output connections, DO0, DO1 and DO2 and two serial interface connections, RS485-1 and RS485-2. There is also a SPU enclosure mounted M12 connector for a separately certified Endress+Hauser SICK service connection, or for the fitting of an external separately certified Endress+Hauser SICK Bluetooth Dongle.

Supply: 8...16V. max. 50mA
Power consumption: < 1W

The equipment has the following external connections that have the intrinsic safety parameters listed below:

Terminals Ext. Power				
Ui = 20V	Ii = 666mA	Pi = 930mW	Ci = 0	Li = 2.64µH

Terminals DO0			
Ui = 20V	Pi = 1.1W	Ci = 0.024µF	Li = 0

Terminals DO1			
Ui = 20V	Pi = 1.1W	Ci = 0.024µF	Li = 0

Terminals DO2			
Ui = 20V	Pi = 1.1W	Ci = 0.024µF	Li = 0

Terminals RS485-1		
Ui = 15V	Pi = 1.1W	Ci = 2.5µF: IIA versions of the equipment
		Ci = 1.5µF: IIB versions of the equipment
		Ci = 250nF: IIC versions of the equipment

Terminals RS485-2		
Ui = 15V	Pi = 1.1W	Ci = 2.5µF: IIA versions of the equipment
		Ci = 1.5µF: IIB versions of the equipment
		Ci = 250nF: IIC versions of the equipment

M12 Connector - Service / Bluetooth Dongle			
Uo = 8.2V	Io = 410mA	Po = 688mW	Co = 1000µF: IIA versions of the equipment
Lo = 165µH			Co = 81µF: IIB versions of the equipment
			Co = 7.6µF: IIC versions of the equipment

Variation 1 - This variation introduced the following changes:

i. Change of applicant/manufacturer name from SICK Engineering GmbH to Endress+Hauser SICK GmbH+Co. KG.
ii. Update to Label design.
iii. Relocation of power supply values from the IECEx/ATEX label to the Main Unit Label drawing.

Variation 2 - This variation introduced the following changes:

i. Add alternate IR LED.
ii. Add alternate Cable Gland Stopping Plug.

16 **Drawings and documents:**

16.1 **Technical documents:**

Refer to Certificate Annex.

16.2 **Associated reports and certificate history:**

Issue	Date	Report number	Comment
0	23 March 2023	R80143225A	The release of the prime certificate.
1	29 August 2025	R80249136A	The introduction of Variation 1.
2	13 March 2026	R80289773A	The introduction of Variation 2.

17 **Specific conditions of use** (denoted by "X" after the certificate number):

17.1 Only three supply operation modes are allowed:

a) External power.
b) External power plus one battery pack (as backup).
c) Two battery packs without external power (a battery pack serves as a backup).

The use of all power inputs simultaneously is not allowed. Only Endress+Hauser SICK Part No. 2064018 as a battery pack is allowed.

17.2 The equipment pressure sensor and ultrasonic transducers that are mounted in the Meterbody contain piezo-electric devices. The equipment installation shall ensure that these devices are suitably protected from impact.

17.3 The ultrasonic transducers that are mounted in the Meterbody are manufactured from titanium. The equipment installation shall ensure that these devices are suitably protected from impact or friction.

17.4 The adhesive labels that are fitted to the flowmeter may generate an ignition-capable level of electrostatic discharge under certain conditions. The user shall ensure that the equipment is not installed in a location where it may be subjected to external conditions which might cause a build-up of electrostatic charges on these non-conducting surfaces. Additionally, cleaning of the equipment should be done only with a damp cloth.

17.5 The flowmeter is considered not capable of passing a 500V r.m.s. a.c. dielectric strength test according to Clause 6.3.13 of IEC 60079-11:2011 between the intrinsically safe circuits that are associated with the Ext. Power, the Service / Bluetooth M12 Connector connections, and its enclosure. This shall be taken into account in any equipment installation. The circuits associated with external connections DO0, DO1, DO2 RS485-1, RS485-2 are isolated from the equipment enclosure, and are considered capable of passing a 500V r.m.s. a.c. dielectric strength test according to Clause 6.3.13 of IEC 60079-11:2011.

17.6 The flowmeter is considered not capable of passing a 500V r.m.s. a.c. dielectric strength test according to Clause 6.3.13 of IEC 60079-11:2011 between the intrinsically safe circuits that are associated with the M8 connectors to which the pressure and/or temperature transmitters are connected, and its enclosure. This shall be taken into account in any equipment installation. When considering this cognisance shall also be taken of Condition 17.7 b).

17.7 Conditions associated with the Digital temperature transmitter type EDT 87.

a) The capacity of free metal parts is C=24pF. This must be taken into account during installing the equipment.
b) The equipment does not meet the requirements of Clause 6.3 of IEC 60079-11:2011, this must be taken into account during installing the equipment.

17.8 Conditions associated with the Digital temperature transmitter type EDT 96:

a) Under certain extreme circumstances, the plastic enclosure may store ignition-capable level of electrostatic charge. Therefore, the device shall not be installed in a location where the external conditions conducive to the build-up of electrostatic charge. The equipment shall only be cleaned with a damp cloth.

18 **Essential health and safety requirements of Annex II** (EHSRs):

The relevant EHSRs that are not addressed by the standards listed in item 9 of this certificate have been identified and conformity of the product demonstrated in the reports listed in item 16.2.

19 **Remarks and additional information:**

The use of this certificate is subject to the regulations applicable to holders of CSA Group Netherlands B.V. certificates.

Compliance of the product with the applicable safety requirements of the relevant industrial standards has not been verified and is not covered by this certificate.

19.1 **Conditions of manufacture:**

None

Certificate Annexe

Document History

Issue - 0

Documents Introduced or Revised

Drawing	Sheets	Rev.	Date (Stamp)	Title
9181755	1 of 1	-	09 Mar 23	Battery Pack
9186505	1 of 1	04	09 Mar 23	Label Battery Pack
9216800	1 of 1	H	09 Mar 23	VSP1165SPI Pressure Sensor
9356800	1 of 1	-	09 Mar 23	PCBA-Mainboard Potting Cert
9356801	1 to 4	00	09 Mar 23	Ex_PCBD-Mainboard
9359260	1 to 2	00	09 Mar 23	PCBD-Main Board
9359407	1 to 4	00	09 Mar 23	EX-SCH-main Board
9359845	1 of 1	00	09 Mar 23	PCBA-All-Main Board
9361498	1 to 3	-	09 Mar 23	Type Label ATEX/IECEX/UKEX
9363593	1 of 1	-	09 Mar 23	FL550 Complete Cert
9364364	1 to 3	-	09 Mar 23	Type Label MU
9369741	1 of 1	-	21 Mar 23	FL550 Cert
E360893	1 to 8	01	14 Mar 23	Bill of Material
E364431	1 of 1	-	09 Mar 23	Probe H210 Cert
E338353	1 to 127	07	21 Mar 23	Technical Description Project: FLOWSIC550

Issue - 1

Documents Introduced or Revised

Drawing	Sheets	Rev.	Date (Stamp)	Title
E338353	1 to 127	08	08 Jul 25	Technical Description
9364364	1 to 4	01	08 Jul 25	Label FLOWSIC550 MU
9388068	1 to 4	01	08 Jul 25	Label FLOWSIC550 IECEx/ATEX
9363593	1 of 1	01	08 Jul 25	FL550 Complete Cert

Issue - 2

Documents Introduced or Revised

Drawing	Sheets	Rev.	Date (Stamp)	Title
9186505	1 to 3	05	09 Mar 26	Label Battery Pack
E338353	1 to 127	09	18 Feb 26	Technical Description Project: FLOWSIC550
E360893	1 to 7	02	18 Feb 26	Bill of Material