CERTIFICATE

(1) EU-Type Examination

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

(3) EU-Type Examination Certificate Number: **DEKRA 22ATEX0102 X** Issue Number: **0**

(4) Product: **Digital Tachograph SMART2 type SE5000-8.1**

(5) Manufacturer: **Stoneridge Electronics AB**

(6) Address: **Gustav III:s Boulevard 26, 169 03 Solna, Sweden**

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

(8) DEKRA Certification B.V., Notified Body number 0344 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 confidential test report number 226998200 issue 0.

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

EN IEC 60079-0 : 2018 **EN 60079-15 : 2010** **EN 60079-11 : 2012**

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:

II 3(2) G Ex nA [ib Gb] IIC T6...T4 Gc

Date of certification: 23 August 2023

DEKRA Certification B.V.

R. Schuller
Certification Manager

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(13) # SCHEDULE

(14) **to EU-Type Examination Certificate DEKRA 22ATEX0102 X** Issue No. **0**

(15) **Description**

The Tachograph SMART2 type SE5000-8.1 is a digital recording Tachograph. This vehicle unit is specially designed for trucks that carry dangerous goods and/or may be exposed to potentially explosive atmospheres. It shall be connected to an intrinsic safe motion sensor outside the cabin. There is BLE functionality for wireless communication available.

Explosion safety is guaranteed only with the vehicle ignition or main switch in OFF state (ADR mode).

Ambient temperature range: -25 °C to + 65 °C.

The printer shall only be used when the area is known to be free of potentially explosive atmospheres. Temperature classification T4 is met by default. Temperature classification T6 is met when the printer has not been used for at least 21 minutes.

The Tachograph is intended to be powered via the 24 V battery system of the truck.
Measures shall be taken to keep the supply and interface signal voltage below 32 V.

The enclosure has a protection of IP4X in accordance with EN IEC 60079-0. The Tachograph is intended to be installed within the truck cabin dashboard in a clean and dry environment.

The module has four connectors at the back for connecting plugs with functionality per pin as described in the ISO 16844-1.

Connector A:	Pin 1 (KL30 Battery plus +):	+24 VDC permanent power supply line.
	Pin 3 (KL15 Ignition supply):	+24 VDC signal via ignition and main switch.
	Pin 5 (Battery minus -):	Return line for the battery supply.
	Pin 6 (Chassis Ground):	Return line for ignition supply, normally connected to local chassis ground.
	See instructions for other signal pins.	
Connector B:	Pin 1 (Positive supply to motion sensor)	
	Pin 2 (Battery minus to motion sensor)	
	Pin 3 (Speed sensor signal)	Real time speed signal from the motion sensor.
	Pin 4 (Speed data signal)	Speed Data Signal, IO.
	See instructions for other signal pins.	
Connector C:	See instructions for type of signals.	
Connector D:	See instructions for type of signals.	

The rear connectors shall only be separated or connected in the absence of an explosive atmosphere.

(13) # SCHEDULE

(14) **to EU-Type Examination Certificate DEKRA 22ATEX0102 X** Issue No. **0**

Electrical data

Supply (A1 and A3): U_n = 24 VDC, U_m = 32 V.

Motion sensor Supply/Output/Input circuit (Connector B; pin 1 to 4):
in type of protection intrinsic safety Ex ib IIC, with the following maximum values:
U_o = 12,2 V; I_o = 42 mA; P_o = 500 mW; C_o = 0,17 µF; L_o = 50 µH.

The motion sensor and its wiring shall be installed such that insulation ensures the connection to chassis is prevented even under fault conditions.

Other interface signals: As defined by ISO 16844-1.

Installation instructions

The instructions provided with the product shall be followed in detail to assure safe operation.

(16) **Report Number**

No. 226998200 issue 0.

(17) **Specific conditions of use**

Precautions shall be taken to prevent the risk from electrostatic discharge at the enclosure; clean only using a damp cloth.

The equipment shall be installed in such a way that:
- it is protected against the entry of solid foreign objects or water capable of impairing the safety of the apparatus.
- the area provide at least pollution degree level 2, as defined in IEC 60664-1.
- the risk for mechanical damage is minimized.
- it cannot be subjected to UV light.

Use in hazardous areas where category 3 equipment is required is only permitted with the printer cover and smart card trays closed.

(18) **Essential Health and Safety Requirements**

Covered by the standards listed at item (9).

(19) **Test documentation**

As listed in Report No. 226998200 issue 0.

(20) **Certificate history**

Issue 0 - 226998200 initial certificate