EU Type Examination Certificate CML 14ATEX2075X Issue 1

1 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

2 Equipment **A5S1 Series Hall-effect Sensor**

3 Manufacturer **Braun GmbH Industrie-Elektronik**

4 Address Esslinger Straße 26,
DE 71334, Waiblingen,
Germany

5 The equipment is specified in the description of this certificate and the documents to which it refers.

6 CML B.V. , Chamber of Commerce No 6738671, Hoogoorddreef 15, Amsterdam, 1101 BA, The Netherlands, Notified Body Number 2776, 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 equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment 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 Section 12.

7 If an 'X' suffix appears after the certificate number, it indicates that the equipment is subject to conditions of safe use (affecting correct installation or safe use). These are specified in Section 14.

8 This EU Type Examination certificate relates only to the design and construction of the specified equipment or component. Further requirements of Directive 2014/34/EU Article 13 apply to the manufacture of the equipment or component and are separately certified.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the confidential report, has been demonstrated through compliance with the following documents:

EN 60079-0:2012:A11:2013 EN 60079-11:2012 EN 60079-26:2007

10 The equipment shall be marked with the following:

Ex II 1 G

Ex ia IIC T* Ga
(T* = T4 or T6 depending on supply power and ambient temperature, see Conditions of Safe Use)

Ta= Up to -40 ºC ≤ Ta ≤ 125 °C

H M Amos MIET
Certificate Manager

11 Description

The A5S1 Series Hall-effect Sensors are non-contact measuring head sensors used to detect the movement of rotating ferromagnetic parts with profiling, eg rotating cog wheels. The measuring head contains a hall-effect sensor, magnet and amplifier circuit encapsulated in a cylindrical stainless steel enclosure with end cap. The power supply and signal output connections are made using either an attached cable or plug and socket connector depending on the model.

The A5S1 Series sensor has a number of options defined by the full model number,

A5S1 Db c d eeee f ggg h iii jj k

Db	=	static/dynamic and speed/frequency range (up to 25kHz)
c	=	frequency and output type
d	=	mechanical configuration
eeee	=	mechanical thread
f	=	cable/connector
ggg	=	sensor length
h	=	cable termination
iii	=	cable length
jj	=	protection type (ia or nA)
k	=	encapsulant type

Alternative model coding may be used in line with specific customer orders

The A5S1 Series sensors are supplied from an intrinsically safe power source and connect to monitoring equipment located outside the hazardous area. The I.S versions have the following safety description,

Ui	=	17V
Ii	=	100mA
Pi	=	125mW or 250mW or 500mW
Ci	=	0.131µF (including cable capacitance for up to 100m of attached cable)
Li	=	0

12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	13 Nov 2014	R217B/00	Issue of the prime certificate
1	21/01/2019	R12231A/00	To transfer certificate to CML B.V

Note: Drawings that describe the equipment or component are listed in the Annex.

13 Conditions of manufacture

The following conditions are required of the manufacturing process for compliance with the certification.

13.1 The sensors shall be subjected to an electric strength test using a test voltage of 500 Vac or a 40% higher d.c voltage may be applied between the circuit and earth for 60 s. Alternatively, a voltage of 20% higher may be applied for 1 s. There shall be no evidence of flashover or breakdown and the maximum current flowing shall not exceed 5 mA.

13.2 When alternative model coding is used in line with specific customer orders, details of the specific construction shall be provided.

14 Specific Conditions of Use (Special Conditions)

The following conditions relate to safe installation and/or use of the equipment.

14.1 The following ambient temperature and supply input limits are to be applied to the sensor arrangement as applicable:

Connection /Type	Temperature class	Minimum ambient temperature	Maximum ambient temperature	Maximum temperature at end cap	Pi
PTFE cable	T4	-40 °C	125 °C	125 °C	125mW
			115 °C		250mW
			100 °C		500mW
PTFE cable with plug/socket	T4	-40 °C	85 °C	125 °C	500mW
PVC cable	T4	-5 °C if cable flexed -30 °C if cable fixed	70 °C if cable flexed 80 °C if cable fixed	125 °C	500mW
All IS types	T6	≥-5 °C	60 °C	80 °C	500mW
	T6	≥-5 °C	70 °C	80 °C	250mW
Note: The worst-case limitation of power and ambient shall always apply if more than one limiting factor is present in the sensor arrangement					

14.2 If a charge-generating mechanism is present, the exposed unearthed/ungrounded metallic enclosure is capable of storing a level of charge that could become incendive for IIC gases. Therefore, the user/installer shall implement precautions to prevent the build-up of electrostatic charge, e.g. earthing the metallic part. This is particularly important if the equipment is installed in a zone 0 location.