

UK Type Examination Certificate CML 21UKEX2051X Issue 1

United Kingdom Conformity Assessment

- 1 Product or Protective System Intended for use in Potentially Explosive Atmospheres UKSI 2016:1107 (as amended) – Schedule 3A, Part 1
- 2 Equipment **A5S1 Series Hall-Effect Sensors**
- 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 Eurofins E&E CML Limited, Newport Business Park, New Port Road, Ellesmere Port, CH65 4LZ, United Kingdom, Approved Body Number 2503, in accordance with Regulation 42 of the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016, UKSI 2016:1107 (as amended), 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 Schedule 1 of the Regulations.

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 specific conditions of use (affecting correct installation or safe use). These are specified in Section 14.

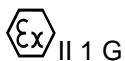
8 This UK Type Examination certificate relates only to the design and construction of the specified equipment. Further requirements of the Regulations apply to the manufacturing process and supply of the product. These are not covered by this certificate.

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 IEC 60079-0:2018

EN 60079-11:2012

10 The equipment shall be marked with the following:



Ex ia IIC T* Ga

Ta**= Up to -40°C to +125°C

* **T4 or T6 depending on supply power and ambient temperature, see Specific Conditions of Use**

** **See Specific Conditions of Use for details**





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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 b c d e f g - xm

- b = Signal frequency (up to 25kHz)
- c = Signal output
- d = Unit of shaft diameter
- e = Thread of shaft diameter
- f = Connection type
- g = Nominal thread length in mm
- x = Length of fixed Teflon® (PTFE/FEP) cable in m

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

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

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

Variation 1:

This variation introduces the following modifications:

- i. Standards update:
 - a. Update to EN IEC 60079-0:2018.
 - b. Removal of EN/IEC 60079-26 standard from the scope.
- ii. Trademark update.
- iii. Address correction.
- iv. Modification of AMB42 documents.

12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	22 Apr 2021	R13681B/00	Issue of Prime Certificate
1	10 Dec 2025	R18858A/00	Issue of Variation 1

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



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13 Conditions of Manufacture

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

- i. The equipment 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.
- ii. 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

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

- i. 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/FEP cable	T4	-40°C	+125°C	+125°C	125mW
			+115°C		250mW
			+100°C		500mW
PTFE/FEP 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 Ex ia 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

- ii. 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.

Certificate Annex

Certificate Number CML 21UKEX2051X
Equipment A5S1 Series Hall-Effect Sensors
Manufacturer Braun GmbH Industrie-Elektronik



The following documents describe the equipment defined in this certificate:

Issue 0

Drawing No	Sheets	Rev	Approved date	Title
EX-10101-AMB42-Schematic	1 of 1	A	22/04/2021	AMB42 Schematic
EX-10102-AMB42-Layout	1 of 1	A	22/04/2021	AMB42-Layout (LP2157v7)
EX-10103-AMB42-BOM	1 of 1	A	22/04/2021	AMB42-BOM
EX-10105-AMB42K9,8-BOM	1 of 1	A	22/04/2021	AMB42K9,8-BOM
EX-10106-AMB42K11-BOM	1 of 1	A	22/04/2021	AMB42K11-BOM
EX-10107-AMB42K15,5-BOM	1 of 1	A	22/04/2021	AMB42K15,5-BOM
EX-10201-AMB64-Schematic	1 of 1	A	22/04/2021	AMB64 Schematic
EX-10202-AMB64-Layout	1 of 1	A	22/04/2021	AMB64-Layout (LP2209v0)
EX-10203-AMB64-BOM	1 of 1	A	22/04/2021	AMB64-BOM
EX-10205-AMB64K9,8-BOM	1 of 1	A	22/04/2021	AMB64K9,8-BOM
EX-10206-AMB64K11-BOM	1 of 1	A	22/04/2021	AMB64K11-BOM
EX-10301-AMB57-Schematic	1 of 1	A	22/04/2021	AMB57 Schematic
EX-10302-AMB57-Layout	1 of 1	A	22/04/2021	AMB57-Layout (LP2186v4)
EX-10303-AMB57-BOM	1 of 1	A	22/04/2021	AMB57-BOM
EX-10305-AMB57K15,5-BOM	1 of 1	A	22/04/2021	AMB57K15,5-BOM
EX-10401-AMB63-Schematic	1 of 1	A	22/04/2021	AMB63 Schematic
EX-10402-AMB63-Layout	1 of 1	A	22/04/2021	AMB63-Layout (LP2208v0)
EX-10403-AMB63-BOM	1 of 1	A	22/04/2021	AMB63-BOM
EX-10405-AMB63K9,8-BOM	1 of 1	A	22/04/2021	AMB63K9,8-BOM
EX-10406-AMB63K11-BOM	1 of 1	A	22/04/2021	AMB63K11-BOM
EX-10520-TubeM12	1 of 1	A	22/04/2021	Dimensions tube M12
EX-10511-XA372	1 of 1	A	22/04/2021	XA372 End Cap Dimensions
EX-10521-TubeM14	1 of 1	A	22/04/2021	Dimensions tube M14
EX-10512-XA403	1 of 1	A	22/04/2021	XA403 End Cap Dimensions
EX-10522-TubeM18	1 of 1	A	22/04/2021	Dimensions tube M18
EX-10513-XA405	1 of 1	A	22/04/2021	XA405 End Cap Dimensions

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Equipment A5S1 Series Hall-Effect Sensors
Manufacturer Braun GmbH Industrie-Elektronik



Drawing No	Sheets	Rev	Approved date	Title
EX-10524-Assembly-L3T-L4T	1 to 12	A	22/04/2021	Cable and connector assembly
EX-10525-L3T24MO-5m-BOM	1 of 1	A	22/04/2021	Cable and connector BOM
EX-10526-L3T25MO-5m-BOM	1 of 1	A	22/04/2021	Cable and connector BOM
EX-10527-L4T09MO-5m-BOM	1 of 1	A	22/04/2021	Cable and connector BOM
EX-10528-L4T10MO-5m-BOM	1 of 1	A	22/04/2021	Cable and connector BOM
EX-10528-L3T-L4T - Torque	1 of 1	A	22/04/2021	L3T-L4T Torque and Cable Data
EX-10523-Typelabel	1 of 1		22/04/2021	Type label of Sensor A5S1
BA03513363	1 to 37	02	22/04/2021	User instructions

Issue 1

Drawing No	Sheets	Rev	Approved date	Title
BA03513363	1 to 9	-	10 Dec 2025	Ex-relevant extract from the instruction manual
EX-10101-AMB42-Schematic	1 of 1	B	10 Dec 2025	AMB42 Schematic
EX-10102-AMB42-Layout	1 of 1	B	10 Dec 2025	AMB42-Layout (LP2154v6)
EX-10103-AMB42-BOM	1 of 1	B	10 Dec 2025	AMB42-BOM
EX-10105-AMB42K9,8-BOM	1 of 1	A	10 Dec 2025	AMB42K9,8-BOM
EX-10106-AMB42K11-BOM	1 of 1	A	10 Dec 2025	AMB42K11-BOM
EX-10107-AMB42K15,5-BOM	1 of 1	A	10 Dec 2025	AMB42K15,5-BOM
EX-10201-AMB64-Schematic	1 of 1	A	10 Dec 2025	AMB64 Schematic
EX-10202-AMB64-Layout	1 of 1	A	10 Dec 2025	AMB64-Layout (LP2209v0)
EX-10203-AMB64-BOM	1 of 1	A	10 Dec 2025	AMB64-BOM
EX-10205-AMB64K9,8-BOM	1 of 1	A	10 Dec 2025	AMB64K9,8-BOM
EX-10206-AMB64K11-BOM	1 of 1	A	10 Dec 2025	AMB64K11-BOM
EX-10301-AMB57-Schematic	1 of 1	A	10 Dec 2025	AMB57 Schematic
EX-10302-AMB57-Layout	1 of 1	A	10 Dec 2025	AMB57-Layout (LP2186v4)
EX-10303-AMB57-BOM	1 of 1	A	10 Dec 2025	AMB57-BOM
EX-10305-AMB57K15,5-BOM	1 of 1	A	10 Dec 2025	AMB57K15,5-BOM
EX-10401-AMB63-Schematic	1 of 1	A	10 Dec 2025	AMB63 Schematic
EX-10402-AMB63-Layout	1 of 1	A	10 Dec 2025	AMB63-Layout (LP2208v0)
EX-10403-AMB63-BOM	1 of 1	A	10 Dec 2025	AMB63-BOM

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Certificate Number CML 21UKEX2051X
Equipment A5S1 Series Hall-Effect Sensors
Manufacturer Braun GmbH Industrie-Elektronik



Drawing No	Sheets	Rev	Approved date	Title
EX-10405-AMB63K9,8-BOM	1 of 1	A	10 Dec 2025	AMB63K9,8-BOM
EX-10406-AMB63K11-BOM	1 of 1	A	10 Dec 2025	AMB63K11-BOM
EX-10511-XA372	1 of 1	A	10 Dec 2025	XA372 End Cap Dimensions
EX-10512-XA403	1 of 1	A	10 Dec 2025	XA403 End Cap Dimensions
EX-10513-XA405	1 of 1	A	10 Dec 2025	XA405 End Cap Dimensions
EX-10520-TubeM12	1 of 1	A	10 Dec 2025	Dimensions tube M12
EX-10521-TubeM14	1 of 1	A	10 Dec 2025	Dimensions tube M14
EX-10522-TubeM18	1 of 1	A	10 Dec 2025	Dimensions tube M18
EX-10523-Typelabel	1 of 2	B	10 Dec 2025	Type label of Sensor A5S1
EX-10524-Assembly-L3T-L4T	1 to 12	A	10 Dec 2025	Cable and connector assembly
EX-10525-L3T24MO-5m-BOM	1 of 1	A	10 Dec 2025	Cable and connector BOM
EX-10526-L3T25MO-5m-BOM	1 of 1	A	10 Dec 2025	Cable and connector BOM
EX-10527-L4T09MO-5m-BOM	1 of 1	A	10 Dec 2025	Cable and connector BOM
EX-10528-L3T-L4T - Torque	1 of 1	A	10 Dec 2025	L3T-L4T Torque and Cable Data
EX-10528-L4T10MO-5m-BOM	1 of 1	A	10 Dec 2025	Cable and connector BOM