

**UK Type Examination Certificate CML 21UKEX2893X Issue 0****United Kingdom Conformity Assessment**

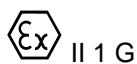
- 1 Product or Protective System Intended for use in Potentially Explosive Atmospheres UKSI 2016:1107 (as amended) – Schedule 3A, Part 1
- 2 Equipment **Slot-type proximity sensors Types SJ... and SC...**
- 3 Manufacturer **Pepperl+Fuchs SE**
- 4 Address **Lilienthalstrasse 200  
68307 Mannheim  
Germany**

- 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 43 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.

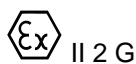
The examination and test results are recorded in the confidential reports listed in Section 12.

- 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:



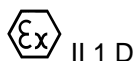
Ex ia IIC T6...T1 Ga



Ex ia IIC T6...T1 Gb



Ex ia I Mb



Ex ia IIIC T<sub>200</sub> 135°C Da



CML 21UKEX2893X  
Issue 0

## 11 Description

The slot-type proximity sensors of types SJ... and SC... are used to convert mechanical displacements into an electrical signal.

The sensors are supplied from an intrinsically safe circuit and they are suitable to be used in hazardous areas of group I, II and group III.

The area classification of the slot-type sensors depends on the level of protection of the intrinsically safe circuit the sensors are connected to.

### Electrical data

Evaluation and supply circuit      Only for connection to a certified intrinsically safe circuit

Ex ia IIC/IIB for EPL Ga

resp. Ex ia IIIC for EPL Da

resp. Ex ia IIC/IIB or Ex ib IIC/IIB for EPL Gb

resp. Ex ia IIIC or Ex ib IIIC for EPL Db

Maximum values:

	power type 1	power type 2	power type 3	power type 4
Ui	16 V	16 V	16 V	16 V
Ii	25 mA	25 mA	52 mA	76 mA
Pi	34 mW	64 mW	169 mW	242 mW

For relationship between type of the connected circuit, maximum permissible ambient temperature for group II (EPL Ga/Gb), group III (EPL Da) resp. group I (EPL Mb) equipment and temperature class as well as the effective internal reactances for the individual types of slot-type proximity sensors, reference is made to the following tables:



CML 21UKEX2893X  
Issue 0

**Table 2: Application as Group I equipment, EPL Mb:**

Group I (EPL Mb)			power type 1 Ui= 16V Ii=25mA Pi=34mW	power type 2 Ui= 16V Ii=25mA Pi=64mW	power type 3 Ui= 16V Ii=52mA Pi=169mW	power type 4 Ui= 16V Ii=76mA Pi=242mW
maximum permissible ambient temperature						
Family	Ci [nF]	Li [μH]	T [°C]	T [°C]	T [°C]	T [°C]
SC2-N0...	150	150	100	100	75	54
SC3,5-N0-Y...	150	150	100	100	75	54
SC3,5...-N0...	150	150	100	100	89	74
SJ1,8-N-Y...	30	100	100	100	78	57
SJ2,2-N...	30	100	100	100	78	57
SJ2-N...	30	100	100	100	78	57
SJ3,5...-N...	50	250	100	100	89	74
SJ3,5-H...	50	250	100	100	89	74
SJ5...-N...	50	250	100	100	89	74
SJ5-K...	50	550	100	100	82	63
SJ10-N...	50	1000	100	100	82	63
SJ15-N...	150	1200	100	100	82	63
SJ30-N...	150	1250	100	100	82	63

**Table 3: Application as Group II equipment, EPL Ga/Gb**

Group II (EPL Ga/Gb)				power type 1 Ui= 16V Ii=25mA Pi=34mW		power type 2 Ui= 16V Ii=25mA Pi=64mW		power type 3 Ui= 16V Ii=52mA Pi=169mW		power type 4 Ui= 16V Ii=76mA Pi=242mW					
maximum permissible ambient temperature in °C for application in temperature class															
Family	EPL	Ci [nF]	Li [μH]	T6	T5	T4-T1	T6	T5	T4-T1	T6	T5	T4-T1	T6	T5	T4-T1
SC2-N0...	Ga/Gb	150	150	72	87	100	65	80	100	40	55	75	23	38	54
SC3,5-N0-Y...	Ga/Gb	150	150	72	87	100	65	80	100	40	55	75	23	38	54
SC3,5...-N0...	Ga/Gb	150	150	73	88	100	66	81	100	45	60	89	30	45	74
SJ1,8-N-Y...	Gb	30	100	73	88	100	67	82	100	45	60	78	30	45	57
SJ2,2-N...	Gb	30	100	73	88	100	67	82	100	45	60	78	30	45	57
SJ2-N...	Ga/Gb	30	100	73	88	100	67	82	100	45	60	78	30	45	57
SJ3,5...-N...	Ga/Gb	50	250	73	88	100	66	81	100	45	60	89	30	45	74
SJ3,5-H...	Gb	50	250	73	88	100	66	81	100	45	60	89	30	45	74
SJ5...-N...	Ga/Gb	50	250	73	88	100	66	81	100	45	60	89	30	45	74
SJ5-K...	Ga/Gb	50	550	72	87	100	66	81	100	42	57	82	26	41	63
SJ10-N...	Ga/Gb	50	1000	72	87	100	66	81	100	42	57	82	26	41	63
SJ15-N...	Ga/Gb	150	1200	72	87	100	66	81	100	42	57	82	26	41	63
SJ30-N...	Ga/Gb	150	1250	72	87	100	66	81	100	42	57	82	26	41	63



CML 21UKEX2893X  
Issue 0

**Table 4: Application as Group III equipment, EPL Da:**

Group III (EPL Da)			power type 1 Ui= 16V Ii=25mA Pi=34mW	power type 2 Ui= 16V Ii=25mA Pi=64mW	power type 3 Ui= 16V Ii=52mA Pi=169mW	power type 4 Ui= 16V Ii=76mA Pi=242mW
<b>maximum permissible ambient temperature</b>						
Family	Ci [nF]	Li [μH]	T [°C]	T [°C]	T [°C]	T [°C]
SC2-N0...	150	150	100	99	57	not applicable
SC3,5-N0-Y...	150	150	100	99	57	
SC3,5...-N0...	150	150	100	100	71	
SJ1,8-N-Y...	30	100	100	100	59	
SJ2,2-N...	30	100	100	100	59	
SJ2-N...	30	100	100	100	59	
SJ3,5...-N...	50	250	100	100	71	
SJ3,5-H...	50	250	100	100	71	
SJ5...-N...	50	250	100	100	71	
SJ5-K...	50	550	100	100	63	
SJ10-N...	50	1000	100	100	63	
SJ15-N...	150	1200	100	100	63	
SJ30-N...	150	1250	100	100	63	

The dots in the labelling represent free definable parameters. This free definable parameters can be omitted or replaced by letters or digits.

When assigning the actual sensor to the table use the model description which describes the sensor best. Letters and digits describe the different types according to the model description key.

The sum of all capacitances and inductances, including tolerance and a 10 m cable, result to the given values for Ci and Li shown above.

## 12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	27 Aug 2021	R14112AR/00	Prime Certificate issued.

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

## 13 Conditions of Manufacture

None.



CML 21UKEX2893X  
Issue 0

#### 14 Specific Conditions of Use

1. For relationship between type of the connected circuit, maximum permissible ambient temperature and temperature class as well as the effective internal reactances for the individual types of Slot type proximity sensors, reference is made to tables 2 to 4 given in this certificate and in the operating instructions manual.

2. Appropriate measures need to be taken to protect the Slot-type proximity sensors against mechanical damage due to impact if they are used within an ambient temperature range between – 60 °C and –20°C. An ambient temperature below – 60°C is not permissible.

3. The connection facilities of the Slot-type proximity sensors shall be installed as such that a minimum degree of protection of IP20 according IEC 60529 is complied with.

4. Inadmissible electrostatic charge of the plastic enclosures shall be avoided for the application of the following types of Slot-type proximity sensors according to the explosion groups and EPL specified in the following Table 5. When the respective types of Slot-type proximity sensors are applied in potentially explosive gas atmospheres a corresponding warning note shall be affixed on the Slot-type proximity sensors or near the Slot-type proximity sensors respectively.

When these are applied in potentially explosive gas or dust atmospheres the corresponding notes given in the operating instructions manual shall be considered.

Type	Group I	Group II (EPL Ga)	Group II (EPL Gb)	Group III
SC2-N0...	-	-	-	-
SC3,5-N0-Y...	-	-	-	III
SC3,5...-N0...	-	-	-	III
SJ1,8-N-Y...	-	Not permitted	-	III
SJ2,2-N...	-	Not permitted	-	-
SJ2-N...	-	-	-	-
SJ3,5-...-N...	-	-	-	III
SJ3,5-H...	-	Not permitted	-	-
SJ5-...-N...	-	-	-	III
SJ5-K...	-	IIC	-	III
SJ10-N...	-	IIC	-	III
SJ15-N...	-	IIC	-	III
SJ30-N...	-	IIA/IIB/IIC	IIC	III

Slot-type proximity sensors which are marked (IIC or IIB or IIA or III) in column “Group ...” need to be protected against dangerous electrostatic charges.



**CML 21UKEX2893X  
Issue 0**

5. For the application of the following Slot-type proximity sensors in hazardous areas of group I, II and III appropriate measures need to be taken to protect the free resin surface against mechanical damage if the free resin surface is accessible after installation:

**Type**

SC2-N0...  
SC3,5-N0-Y...  
SC3,5...-N0...  
SJ1,8-N-Y...  
SJ2-N-Y34361  
SJ2-N-Y43896  
SJ2-N-Y43897  
SJ3,5...-N...  
SJ3,5-H...  
SJ5...-N...  
SJ5-K...  
SJ10-N...  
SJ15-N...  
SJ30-N...

## Certificate Annex

**Certificate Number** CML 21UKEX2893X  
**Equipment** Slot-type proximity sensors Types SJ... and SC...  
**Manufacturer** Pepperl+Fuchs SE



The following documents describe the equipment defined in this certificate:

### Issue 0

For drawings describing the equipment, refer to attached certificate IECEx PTB 11.0091X, Issue 2. In addition to the drawings listed on IECEx PTB 11.0091X, Issue 2, the following drawings include the additional marking required for this UK Type Examination certification:

Drawing No	Sheets	Rev	Approved date	Title
16-1555CM-10	1 to 2	0	27 Aug 2021	Additional Marking Requirements for UKCA