



UNITED KINGDOM CONFORMITY ASSESSMENT

1 **UK TYPE EXAMINATION CERTIFICATE**

2 Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
UKSI 2016:1107 (as amended) – Schedule 3A, Part 1

3 Certificate Number: **CSAE 23UKEX1099X** Issue: **0**

4 Product: **SPI #**

5 Manufacturer: **Rotork UK Ltd.**

6 Address: **9 Brown Lane, West Holbeck, Leeds LS12 6BH, England**

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 Testing UK Limited, Approved Body number 0518, 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 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 Schedule 1 of the Regulations. The examination and test results are recorded in the confidential reports listed in Section 14.2.

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

EN IEC 60079-0:2018 EN 60079-1:2014 EN 60079-7:2015/A1:2018 EN 60079-11:2012
EN 60079-31:2014 EN ISO 80079-36:2016 EN ISO 80079-37:2016

Except in respect of those requirements listed at Section 16 of the schedule to this certificate. The above standards may not appear on the UKAS Scope of Accreditation, but have been added through flexible scope of accreditation, which is available on request.

10 If the sign 'X' is placed after the certificate number, it indicates that the product is subject to Specific Conditions of Use identified in the schedule to this certificate.

11 This UK TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Regulations apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12 The marking of this product shall be in accordance with Regulation 41 and include the following:

On versions fitted with the flameproof micro-switches



II 2 GD
Ex eb db IIC T4 Gb
Ex h IIC T4 Gb
Ex tb IIIC T135°C Db
IP67
See Section 13 for ambient temperature

On versions fitted with the intrinsically safe proximity sensor



II 2 G
Ex ib IIC T4 Gb
Ex h IIC T4 Gb
IP67
Ta = -25°C to +100°C
Ui 16V, Ii 25mA, Pi 64 mW, Ci 100 nF, Li 100 µH

Name: M Halliwell
Title: Director of Operations



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13 DESCRIPTION OF PRODUCT

Ambient temperature for versions fitted with the flameproof micro-switches.

SWITCH TYPE	VOLTAGE RATING	CURRENT RATING	AMBIENT TEMPERATURE RATING
BARTEC 07-1501	120 V AC	5A	-25°C TO +65°C
BARTEC 07-1501	30 V DC	3A	-25°C TO +65°C
BARTEC 07-1501	15 V DC	5A	-25°C TO +65°C
CROUZET 831391	90 V AC	1.5A	-25°C TO +65°C
CROUZET 831391	90 V AC	5A	-25°C TO +40°C
PEPPERL + FUCHS NCB2-V3-N0	16V	25mA	-25°C TO +100°C

The SPI consists of a housing, base and cover made from anodized aluminium. The housing comprises two compartments. The lower mechanical compartment contains a speed reducing gear drive chain. The upper electrical compartment contains electrical terminals, limit switches and striker cam arrangement. Facilities are provided that allow the input/output shafts to pass through both compartments whilst rotating. The electrical compartment is completed with an aluminium cover secured by four M6 cap head screws. The mechanical compartment is completed by the aluminium base which is secured by four M6 cap head screws. All enclosure joints and shaft entry and exit points, are provided with elastomer sealing arrangements.

The mechanical compartment contains a gear train which provides rotational reduction between the input and output shafts, the input shaft fits coaxially inside the output shaft and gear wheel. The mechanical compartment is packed with grease, and is intended to be sealed for life. An optional thrust base can be fitted to the SPI to allow it to be mounted directly to valves where the reacting thrust from operating the valve is taken by the SPI. The type designation SPI # allows a last digit to be applied 1 through 4, the latter cross referencing to a functional specification and indicating the gear ratio.

The electrical compartment includes micro switches or proximity sensors activated by cam arrangements the latter being rotated with the output shaft. The micro switches are flameproof, the proximity sensors are intrinsically safe, also included is a PCB mounted increased safety terminal facility. The electrical compartment is provided with two threaded entry point designed for the installation of suitably certified cable entry devices.

The SPI product is only for use in manual applications. The SPI is not a safety related device as defined in accordance with Directive 2014/34/EU.

Incorporated Amendments

The product description includes the following applicable amendments from the ATEX certificate, only amendments directly applicable to UKCA certification have been included in this list:

- i. An additional base mounting option to be included.
- ii. A tolerance change to an internal bore dimension.
- iii. Removal of the optional lower CTI PCB for the Ex ib product version.
- iv. Included two additional drive shafts (2034697 and 2035504, Item 12), the design of which has been updated to increase the clearance between this component's running diameter and the base.
- v. Update the wiring diagrams to include a note allowing certain modification as long as minimum spacing between electrical connections is assured.

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- vi. Introduction of a design option which incorporates only one micro switch.
- vii. Reduce max working voltage of Ex e d variant from 120 Vac/15 Vdc to 90 Vac /15 Vdc.
- viii. Amend conditions of manufacture to state that dielectric strength test is to be carried out at 500 Vrms / 700 Vdc for 1 minute or 600 Vrms / 840 Vdc for 100 ms. Add statement to clarify that this requirement only applies to the Ex e d product versions.
- ix. Reintroduction of the 120 Vac/15 Vdc option as an alternative on the Bartec Switches only.
- x. Update SPI ATEX Certificates to allow for 30Vdc, 3A option.

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Reports and Certificate History

Issue	Date	Report number	Comment
0	05 September 2023	R80095520A	The release of the prime certificate.

15 SPECIFIC CONDITIONS OF USE (denoted by X after the certificate number)

- 15.1 This equipment incorporates an anodized outer surface. To avoid the possibility of electrostatic charges, cleaning must only be carried out with a damp cloth.
- 15.2 The SPI product is only for use in manual applications.
- 15.3 In cases where two intrinsically safe proximity sensors are installed the associated circuits are to be considered as separate intrinsically safe circuits. The stated input parameters being applied to each circuit separately.

16 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS (REGULATIONS SCHEDULE 1)

In addition to the Essential Health and Safety Requirements covered by the standards listed in Section 9, all other requirements are demonstrated in the relevant reports.

17 PRODUCTION CONTROL

- 17.1 Holders of this certificate are required to comply with production control requirements defined in Schedule 3A, as applicable, and CSA Group Testing UK Regulations for Certificate Holders.
- 17.2 Each Ex e d version of the SPI when manufactured shall be subject to a routine dielectric strength test in accordance with clause 7.1 of EN 60079-7:2015/A1 :2018, without dielectric breakdown occurring. The following test voltages will be applied:

For ratings up to 120 Vac

1 500 V R.M.S +5% -0% for 1 min or 1 800 V R.M.S +5% -0% for 100 ms

For ratings up to 90 Vac

500 V R.M.S +5% -0% for 1 min or 600 V R.M.S +5% -0% for 100 ms

In all cases, alternative DC voltages at 140% of the R.M.S is permitted.

- 17.3 This certificate relies on the following previously certified products. When they are used as part of the SPI, they shall still be covered by their original certificate:



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Phoenix Contact	Item	Certificate No	Key attributes
BARTEC GmbH	PCB Spring-Cage Terminal Block, type ZFKDS 1.5 C	PTB 06ATEX 1073U	⊕ II 2 G, Ex eb IIC Gb - 50°C to 110°C
Crouzet	Miniature insert switch Type 07-1501-6520-63	EPS 14ATEX1688U	⊕ II 2G Ex db IIC Gb, ⊕ I M2 Ex db I Mb, -60°C to 100°C
Pepperl+Fuchs SE	Proximity Switch 83.139.1	LCIE 02 ATEX 0034U	⊕ II 2 G, Ex db IIC Gb, - 40°C to 70°C
Phoenix Contact	Cuboidal inductive proximity sensor NCB2-V3-N0	ATEX PTB 00 ATEX2032X	⊕ II 2 G Ex ib IIC T6...T1 Gb, -60°C to +100°C Ui 16 V, Ii 25 mA, Pi 64 mW, Ci 100nF, Li 100µH



Certificate Annexe

Certificate Number: CSAE 23UKEX1099X
Product: SPI #
Manufacturer: Rotork UK Ltd.

Issue 0

Drawing	Sheets	Rev.	Date (Stamp)	Title
2020511	1 to 2	2-0	22 Mar 17	SPI Nameplate
ECL-00154-A	1 to 5	5-1	08 Dec 22	SPI General Assembly for Certification First: Smart Position Indicator
2058771	1 to 2	4-0	14 Aug 23	SPI NAMEPLATE - UKCA Mark Update

