IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEx SIR 17.0015X**

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Certificate history:

Status: **Current**

Issue No: 7

Issue 6 (2024-09-10)
Issue 5 (2023-06-14)
Issue 4 (2022-06-16)
Issue 3 (2020-01-14)
Issue 2 (2019-06-11)
Issue 1 (2018-08-29)
Issue 0 (2017-03-28)

Date of Issue: 2025-05-12

Applicant: **Rotork UK Ltd.**
9 Brown Lane West
Holbeck
Leeds LS12 6BH
United Kingdom

Equipment: **SPI #**

Optional accessory:

Type of Protection: **Increased Safety, Flameproof, Intrinsically Safe, Dust Protection by Enclosure and Mechanical**

Marking: On versions fitted with the flameproof micro-switches.

Ex eb db IIC T4 Gb
Ex h IIC T4 Gb
Ex tb IIIC T135°C Db
IP67

For ambient temperature see annexe

On versions fitted with the intrinsically safe proximity sensors

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

Approved for issue on behalf of the IECEx Certification Body: **Michelle Halliwell**

Position: **Senior Director of Operations**

Signature:
(for printed version)

Date:
(for printed version)

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.

Certificate issued by:

CSA Group Testing UK Ltd
Unit 6, Hawarden Industrial Park
Hawarden, Deeside CH5 3US
United Kingdom

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Manufacturer: **Rotork UK Ltd.**
9 Brown Lane West
Holbeck
Leeds LS12 6BH
United Kingdom

Manufacturing locations: **Rotork UK Ltd.**
9 Brown Lane West
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United Kingdom

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements.This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :
The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Edition:7.0	Explosive atmospheres - Part 0: Equipment - General requirements
IEC 60079-1:2014 Edition:7.0	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-11:2011 Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-31:2013 Edition:2	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
IEC 60079-7:2017 Edition:5.1	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
ISO 80079-36:2016 Edition:1.0	Explosive atmospheres - Part 36: Non-electrical equipment for explosive atmospheres - Basic methods and requirements
ISO 80079-37:2016 Edition:1.0	Explosive atmospheres - Part 37: Non-electrical equipment for explosive atmospheres - Non electrical type of protection constructional safety "c", control of ignition source "b", liquid immersion "k"

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Reports:

GB/SIR/ExTR17.0067/00
GB/SIR/ExTR18.0073/00
GB/SIR/ExTR19.0160/00
GB/SIR/ExTR20.0005/00
GB/SIR/ExTR23.0105/00
GB/SIR/ExTR23.0105/01
GB/SIR/ExTR25.0047/00

Quality Assessment Report:

GB/CSAE/QAR22.0009/02

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EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

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.

Refer to the Annexe for additional information.

SPECIFIC CONDITIONS OF USE: YES as shown below:

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.
2. The SPI product is only for use in manual applications.
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.

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
This Issue, 7, recognises the following changes; refer to the certificate annex to view a comprehensive history:

1. Addition of alternative component certificate numbers for the Phoenix Contact terminal blocks on the GA drawing.
2. Amendments to the Conditions of Manufacturer.
3. Update of SPI nameplate drawing 2035283.
4. Update of SPI General Assembly for Certification drawing ECL-00154-A.

Annex:

IECEx SIR 17.0015X Annexe Issue 7.pdf

Equipment continued

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

Conditions Of Manufacture

1. 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 IEC 60079-7:2017, Ed 5.1, 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.

2. 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:

Manufacturer	Item	Certificate No	Key attributes
Phoenix Contact	PCB Spring-Cage Terminal Block, type ZFKDS 1.5 C	IECEx PTB 06.0096U	Ex eb IIC Gb -50°C to 110°C
		IECEx DEK 22.0001U	Ex eb IIC Gb -60°C to 110°C
BARTEC GmbH	Miniature insert switch Type 07-1501-6520-63	IECEx EPS 14.0038U	Ex db IIC Gb, -60°C to 100°C Ex db I Mb, -60°C to 100°C
Crouzet	Proximity Switch 83.139.1	IECEX LCIE 13.0035U	Ex db IIC Gb, -40°C to 70°C
Pepperl+Puchs SE	Cuboidal inductive proximity sensor NCB2-V3-N0	IECEx PTB 11.0021X	Ex ib IIC T6...T1 Gb, -60°C to +100°C Ui 16 V, Ii 25 mA, Pi 64 mW, Ci 100nF, Li 100µH

Full certificate change history

Issue 1 – this Issue introduced the following changes:

1. An additional base mounting option to be included.
2. A tolerance change to an internal bore dimension.
3. Removal of the optional lower CTI PCB for the Ex ib product version.
4. Minor drawing changes to ECL-00154-A.

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Issue 2 – this Issue introduced the following changes:

1. 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.
2. Update the wiring diagrams to include a note allowing certain modification as long as minimum spacing between electrical connections is assured.
3. Correction of a dimension error related to sealing arrangements.
4. Modification to the marking with respect to the Notified Body Number.
5. Introduction of a design option which incorporates only one micro switch.

Issue 3 – this Issue introduced the following changes:

1. Reduce max working voltage of Ex e d variant from 120 Vac/15 Vdc to 90 Vac /15 Vdc.
2. 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.

Issue 4 – this Issue introduced the following change:

1. GB/SIR/ExTR20.0005/00 was added to the list of ExTR's and the QAR was updated.

Issue 5 – this Issue introduced the following change:

1. Reintroduction of the 120 Vac/15 Vdc option as an alternative on the Bartec Switches only.
2. Update SPI IECEx Certificates to allow for 30Vdc 3A option.
3. Update company name from "Rotork Gears" to "Rotork UK Ltd"
4. Following appropriate assessment to demonstrate compliance with the latest technical knowledge, EN 60079-0:2012+(A11: 2013), EN 60079-1:2007 and EN 60079-7:2007 were replaced by IEC 60079-0:2017 Ed.7, IEC 60079-1:2014 Ed.7 and IEC 60079-7:2017 Ed 5.1, the markings were updated accordingly.
5. Amendments to certification drawing.

Issue 6 – this Issue introduced the following change:

1. Replace the VT-42C PCB with a suitable, alternative PCB (with identical or better technical requirements).

Issue 7 – this Issue introduced the following change:

1. Addition of alternative component certificate numbers for the Phoenix Contact terminal blocks on the GA drawing.
2. Amendments to the Conditions of Manufacturer.
3. Update of SPI nameplate drawing 2035283.
4. Update of SPI General Assembly for Certification drawing ECL-00154-A.

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