



IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

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

Certificate No.: IECEx BAS 13.0116X issue No.:1

Status: Current

Certificate history:
Issue No. 1 (2016-2-1)
Issue No. 0 (2014-4-7)

Date of Issue: 2016-02-01 Page 1 of 4

Applicant: **Don Electronics Limited**
Westfield Industrial Estate,
Kirk Lane,
Yeadon,
Leeds
LS19 7LX
United Kingdom

Electrical Apparatus: **Range of Motion Sensors and Switches.**
Optional accessory:


Type of Protection: **Protection by Enclosure**

Marking: **Ex tb IIIC T80°C Db IP66 Tamb -20°C to +40°C**

Approved for issue on behalf of the IECEx Certification Body: R S Sinclair

Position: Technical Manager

Signature:
(for printed version)


2 FEBRUARY 2016

Date:

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 the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

SGS Baseefa Limited
Rockhead Business Park
Staden Lane
Buxton
Derbyshire
SK17 9RZ
United Kingdom





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Manufacturer: **Don Electronics Limited**
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Kirk Lane,
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Additional Manufacturing location
(s):

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 electrical apparatus 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 : 2011 Explosive atmospheres - Part 0: General requirements
Edition: 6.0

IEC 60079-31 : 2013 Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
Edition: 2

This Certificate does not indicate compliance with electrical 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 Report:

[GB/BAS/ExTR13.0248/00](#)

[GB/BAS/ExTR16.0035/00](#)

Quality Assessment Report:

[GB/BAS/QAR07.0005/08](#)



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Certificate No.: IECEx BAS 13.0116X

Date of Issue: 2016-02-01

Issue No.: 1

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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The range of sensors and switches consist of:

Tap Switch: Types TP11AI, TP11TAI, TP12AI, TP12TAI, TP21AI, TP21TAI, TP22AI and TP22TAI
BAP Motion Alignment Sensors: Types BAP21V34** and BAP22V34**
TS Touch Switches: Types TS1V3**, TS1V4**, TS2V3** and TSV4**

The TAP switch consists of a metal enclosure complete with a simple Normally Open/ Normally Closed switch.

The BAP sensor consists of a metal enclosure complete with inductive sensor and control circuit, LED and Potentiometer

The TS Touch Switch sensors consist of a metal enclosure complete with switch circuit with an internal cavity with a strain gauge located in the centre of the enclosure, and a relay that allows the switch to operate an external circuit, and an LED and Potentiometer.

The TAP, BAP and TS circuits are mounted inside a 2mm thick painted steel enclosure. The enclosure is in the form of a small cylinder, approximately 52mm diameter by 33mm deep, open at one end. The open end has an 86mm diameter external flange with four equally spaced 6.5mm holes on a 73.54mm PCD to allow the enclosure to be fastened in position.
SEE ANNEX FOR FULL DESCRIPTION

CONDITIONS OF CERTIFICATION: YES as shown below:

1. Do not allow dust layers to build up on this product.
2. The Sensors/switches shall be connected to a suitable external earth via the mounting arrangement or via the flange mounting screws and a suitable ring crimp lug and accessories.
3. The integral cable shall be terminated in a suitably certified enclosure or in the safe area.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Variation 1.1

To add an alternative switch in the Tapswitch.

ExTR: GB/BAS/ExTR16.0035/00

File Reference: 15/0909



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IEC Certification Scheme for Explosive Atmospheres
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Certificate No.: **IECEX BAS 13.0116X** issue No.: **0** Certificate history:

Status: **Current**

Date of Issue: **2014-04-07** Page 1 of 3

Applicant: **Don Electronics Limited**
Westfield Industrial Estate,
Kirk Lane,
Yeadon,
Leeds
LS19 7LX
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Electrical Apparatus: **Range of Motion Sensors and Switches.**
Optional accessory:


Type of Protection: **Protection by Enclosure**

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Approved for issue on behalf of the IECEx Certification Body: **R S Sinclair**

Position: **General Manager**

Signature:
(for printed version)


11-4-14

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[GB/BAS/ExTR13.0248/00](#)

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The TS Touch Switch sensors consist of a metal enclosure complete with switch circuit with an internal cavity with a strain gauge located in the centre of the enclosure, and a relay that allows the switch to operate an external circuit, and an LED and Potentiometer.

The TAP, BAP and TS circuits are mounted inside a 2mm thick painted steel enclosure. The enclosure is in the form of a small cylinder, approximately 52mm diameter by 33mm deep, open at one end. The open end has an 86mm diameter external flange with four equally spaced 6.5mm holes on a 73.54mm PCD to allow the enclosure to be fastened in position.
SEE ANNEX FOR FULL DESCRIPTION

CONDITIONS OF CERTIFICATION: YES as shown below:

1. Do not allow dust layers to build up on this product.
2. The Sensors/switches shall be connected to a suitable external earth via the mounting arrangement or via the flange mounting screws and a suitable ring crimp lug and accessories.
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ANNEX to IECEx BAS 13.0116X

Issue No. 0

Date: 2014/04/07

Description:

The range of sensors and switches consist of:

Tap Switch: Types TP11AI, TP11TAI, TP12AI, TP12TAI, TP21AI, TP21TAI, TP22AI and TP22TAI

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The open end of the enclosure is sealed with a cover as follows:

TAP Switch: The cover is a flexible stainless steel diaphragm that is 0.15mm thick and incorporates a centrally located 50mm diameter by 20mm stainless steel switch button. The button is sealed and secured to the diaphragm cover by silicone sealant over the button interface and then three sealed type rivets. The cover is sealed to the enclosure flange by silicone sealant and then secured by a circular collar and four rivets.

BAP Sensor: The cover is a $\varnothing 86\text{mm} \times 2\text{mm}$ thick stainless steel plate with fixing holes aligned with the enclosure flange, that is secured to the enclosure flange using rivets. The cover is sealed to the enclosure flange with silicone sealant.

TS Touch Switch: The cover is a $\varnothing 86\text{mm} \times 2\text{mm}$ thick stainless steel plate with fixing holes aligned with the enclosure flange that is secured to the enclosure flange using rivets. The cover is sealed to the enclosure flange with silicone sealant. The cover also includes a $\varnothing 50\text{mm} \times 19\text{mm}$ thick stainless steel button.

Cable entry point into the enclosure:

Electrical connection to the TAP, BAP and TS is via an integral cable/flying lead which enters the enclosure through a hole in the side fitted with a rubber gland or alternatively the enclosure can be supplied with an integral $\frac{1}{2}$ "NPT threaded conduit entry connection so that the flying leads can be mechanically protected using suitable conduit.

Circuits & earth connections:

The circuits in the BAP and TS are protected by a fuse, 2 parallel zener diodes and a 73DegC $\pm 8\%$ thermal fuse that is located no more than 24mm away from any of the circuit components.

An external earth facility is provided via one of the M5 or M6 flange mounting screws and suitable ring crimp lug and accessories.

The Tap Switch is designed for connection to a maximum supply 250V AC 4A

The BAP Sensor and TS Touch Switch are designed for connection to a maximum supply voltage of 12 or 24V DC.