



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 BAS 05.0031X	Page 1 of 4	<u>Certificate history:</u>
Status:	Current	Issue No: 4	Issue 3 (2011-04-12)
Date of Issue:	2023-12-08		Issue 2 (2009-06-05)
Applicant:	Don Electronics Limited Westfield Industrial Estate Kirk Lane Yeadon Leeds LS19 7LX United Kingdom		Issue 1 (2005-11-10)
Equipment:	Motion Alignment Sensor Type WDA4		
Optional accessory:			
Type of Protection:	Enclosure		
Marking:	Type WDA4****AI, fitted with a 76°C Thermal Fuse: Ex ta IIIC T₂₀₀120°C Da IP66 Tamb -20°C to +50°C Type WDA4****AI-HT, fitted with a 102°C Thermal Fuse: Ex ta IIIC T₂₀₀150°C Da IP66 Tamb -20°C to +50°C		

Approved for issue on behalf of the IECEx
Certification Body:

R. S. Sinclair

Position:

Technical Manager

Signature:
(for printed version)

Date:
(for printed version)

19/12/2023

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:

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





IECEX Certificate of Conformity

Certificate No.: **IECEX BAS 05.0031X**

Page 2 of 4

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

Manufacturing locations: **Don Electronics Limited**
Westfield Industrial Estate
Kirk Lane
Yeadon
Leeds
LS19 7LX
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](#) Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

[IEC 60079-31:2022](#) Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t"
Edition:3.0

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/BAS/ExTR11.0026/00](#)

[GB/BAS/ExTR23.0049/00](#)

Quality Assessment Report:

[GB/BAS/QAR07.0005/13](#)

IECEX ATR:

File reference:



IECEX Certificate of Conformity

Certificate No.: **IECEX BAS 05.0031X**

Page 3 of 4

Date of issue: 2023-12-08

Issue No: 4

EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The Don Electronics Motion Alignment Sensor type WDA4 has two options:

Type WDA4****AI

Type WDA4****AI-HT

The WDA4 consists of an inductive sensor and control circuit within a 1.5mm thick stainless steel enclosure. The enclosure is in the form of a cylinder $\varnothing 51\text{mm} \times 153\text{mm}$ long incorporating a $\varnothing 56\text{mm} \times 23\text{mm}$ long end plug at one end, and a stainless steel 1.5mm thick circular end cap at the other. The end plug has two small holes to allow access to a potentiometer for the adjustment of the sensitivity of the device and an LED which indicates motion detection. The potentiometer and the LED are recessed below the metal surface of the enclosure. The enclosure is filled with resin.

An integral cable is provided for connection to a 12-24V DC supply. An internal earth connection is provided to the inside of the enclosure for connection by the end user via one of the wires in the integral cable. The sensor is provided with one of three external earth options, via the end users' earthed metal conduit, via an external metal earth stud assembly on the sensor end cap, or via Don Electronics' metal mounting bracket.

The maximum power supplied to the sensor circuit is controlled by a 50mA fuse, zenor diode and thermal fuses rated at either 76°C or 102°C (dependent on the T Class). A thermal fuse is on the input and another is located on the output, both fuses are located within 24 mm of the critically defined input and output components.

MARKING:

WDA4****AI (fitted with 76°C thermal fuse)

Ex ta IIIC T200 120°C Da IP66 Tamb -20°C to +50°C

WDA4****AI-HT (fitted with 102°C thermal fuse)

Ex ta IIIC T200 150°C Da IP66 Tamb -20°C to +50°C

For Product Nomenclature see Annex

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. The integral cable shall be terminated in a suitably certified junction box or in a safe area.
2. The sensor shall be internally earthed via the green wire of the integral cable.
3. The sensor shall be externally earthed via one of the following three methods:
 - i) Via the ½" NPT threaded entry in the metallic end cap of the WDA4 sensor that is fitted with metal conduit by the end user. The conduit shall be earthed by the end user and they shall check that the earth connection is less than 500 Milli Ohms, between the metallic end cap of the WDA4 sensor and the metallic conduit.
 - ii) Via the Don Electronics WDA4 metallic mounting bracket, that is fitted around the sensor housing. The mounting bracket is fitted directly to the end users earthed machine housing, via the mounting brackets' 4 off bolts complete with anti-rotation and anti-vibration fixings. The end user shall check that the earth connection is less than 500 Milli Ohms, between the metallic body of the WDA4 sensor and the metallic mounting bracket, and between the mounting bracket and machine housing.
 - iii) Via a wire and ring crimp fitted on the external earth stud arrangement located on the WDA4 sensor end cap and wire connection to the site earth point.
4. The supply circuit of the system where the equipment is connected shall be protected by a suitably rated fuse capable of interrupting a prospective short circuit current of 1.5 kA.



IECEX Certificate of Conformity

Certificate No.: **IECEX BAS 05.0031X**

Page 4 of 4

Date of issue: 2023-12-08

Issue No: 4

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Variation 4.1

To confirm the current design meets the requirements of IEC 60079-0: 2017 and IEC 60079-31: 2022 including the revision of the equipment marking in accordance with these standards.

Variation 4.2

To include to include 2 new external earth options. The sensor can now be earthed via one of the following 3 options: via Metal Bracket (existing), 1/2" NPT conduit entry or Earth stud on the end cap.

Variation 4.3

To include minor modifications to the sealing method, a redesign of the circuit layout and thermal protection, and to conduct full testing.

Variation 4.4

To update to the Specific Conditions of Use.

Variation 4.5

To change the product name from Motion Alignment Sensor type WDA3 to Motion Alignment Sensor type WDA4.

ExTR: GB/BAS/ExTR23.0049/00	File Reference: 21/0616
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Annex:

[IECEX BAS 05.0031X Annex.pdf](#)

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



ANNEX to IECEx BAS 05.0031X

Issue No. 0

Date: 7 December 2023

PRODUCT NOMENCLATURE

WDA4V **A B C D /X**

A: VOLTAGE

OPERATIONAL VOLTAGE

- 3. 12 VDC
- 4. 24 VDC
- 34. 12-24 VDC

B: CONDUIT ENTRY

THREAD SIZE

- 1. 1/2" NPT THREAD
- 2. 1/2" NPT THREAD
WITH EARTH STUD

C: CERTIFICATIONS

APPROVALS

- C NRTL (NORTH AMERICA)
- A ATEX, UKEX
- I IECEX
- N INMETRO
- CAI NRTL, ATEX, UKEX, IECEX

D: T CLASS VERSION

D = -HT (IF THE HIGH T CLASS VERSION IS MANUFACTURED)

D WILL BE OMITTED FOR THE STANDARD T CLASS VERSION

/X: Cable length

DEFAULT CABLE LENGTH IS THREE METERS

/X WILL BE OMITTED FOR THE DEFAULT CABLE LENGTH

EXAMPLE PART NUMBER
 WDAV32AI