SPECIFICATION FOR APPROVAL

CUSTOMER : _____

CUSTOMER PART NO. : _____

CUSTOMER APPROVED	APPROVED BY	CHECKED BY		PREPARED BY
	研發處 2021.07.09 簡文榮	研發處 2021.07.09 陳慶霖	研發處 2021.07.09 廖敏琪	研發處 2021.07.09 歐陽語彤

MODEL NO. : AD04012UB205102 P.S. _____

DESCRIPTION : _____

SPEC NO. : SA-0120210708003

ISSUE DATE : 2021.07.09

REVISION : A00

THIS OFFER IS MADE ACCORDING TO YOUR CURRENT INQUIRY. UNLESS OTHERWISE REVISED, THIS SPECIFICATION WILL BE FINAL FOR ALL FUTURE PRODUCTION OF ORDERS FROM YOUR RESPECTED COMPANY

KINDLY STUDY IN DETAILS AND RETURN TO US THE DUPLICATE DULY SIGNED AS YOUR CONFIRMATION OF SAME.

建準電機股份有限公司 研發處 2021.07.09 發行章

ADDA CORPORATION

Revised Record

Rev.	Revision Description	Change page	Date
A00	Preliminary	—	2021.07.09

研發處
2021.07.09
發行章

D A T A - S H E E T

Engineering

BRUSHLESS AXIAL COOLING FANS

Customer	:	Ref: (RoHS)
Adda Model No	: AD04012UB205102	
Samples attached	: Piece(s),	
Safety Approval	: UL,CUL,TUV,CE	TUV:EN 62368-1 2014+A11 UL:UL507 CE:EN 61000-6-1:2007 EN 61000-6-3:2007+A1

Specifications

ITEM		SPECIFICATION / CONDITION
BEARING TYPE	:	TWO BALL
RATED VOLTAGE	:	12.0 VDC
OPERATING VOLTAGE RANGE	:	10.8 VDC — 13.2 VDC
START－UP VOLTAGE	:	9.0 VDC , (ON/OFF)
RATED CURRENT	:	0.15 Amp + 10 %MAX
		(Approximately REAL CURRENT 0.09 Amp)
RATED POWER	:	1.80 Watt + 10 %MAX
		(Approximately REAL POWER 1.08 Watt)
RATED SPEED	:	10000 RPM ± 10 %
		(IN FREE AIR AT RATED VOLTAGE)
AIR FLOW	:	9.950 CFM (min.: 8.955 CFM)
AIR FLOW	:	0.281 CMM (min.: 0.252 CMM)
		(IN FREE AIR AT RATED VOLTAGE)
STATIC AIR PRESSURE	:	0.445 Inch H_2O (min.: 0.360 Inch H_2O)
STATIC AIR PRESSURE	:	11.303 mm H_2O (min.: 9.155 mm H_2O)
		(IN FREE AIR AT RATED VOLTAGE)
NOISE LEVEL	:	35.2 dB (A) (max.: 39.2 dB(A))
MOTOR PROTECTION	:	BY IC
POLARITY PROTECTION	:	NO
LIFE EXPECTANCY	:	70000 Hours at 40℃ / 65% RH
NET WEIGHT	:	35 Gram. (REF.)
PACKING	:	500 pcs. Per Export Carton.

Unless otherwise stated, the relative humidity is 65%, and the temperature is 25℃ for the standard testing.

Should you have any doubt, please refer to the environmental conditions specified in the acknowledgement document.

Real Current and Real Power are for reference.



SPECIFICATION

1 · 0 SCOPE

1.1 If the information or other related document is inconsistent with this acknowledgement document, please refer to the acknowledge document.

1.2 This documentation defines the mechanical & electrical characteristics of DC brushless fans.

1.3 The specification of this product is described in details in the acknowledgement document. No guarantee is given to our product under the use of over specifications.

1.4 For any change or amendment to the specifications, such change will be noticed in writing beforehand.

1.5 If the product is used on the MIS system, please specify the specification in the purchase order.

2 · 0 MATERIAL

2 · 1 Frame : UL94V-0 Glass Filled polyester (P.B.T)

2 · 2 Fan Blade : UL94V-0 Glass Filled polyester (P.B.T)

2 · 3 RoHS : (V) YES

HF : ( ) YES

3 · 0 DIMENSIONS & CONSTRUCTION

All dimensions, Direction of rotation and air flow were specified as per drawing attached.

4 · 0 CHARACTERISTICS & DEFINITION

4 · 1 Rated Current/Rated Speed/Rated Power：

All shall be measured after 3 minutes of continuous rotation at rated voltage in free air.

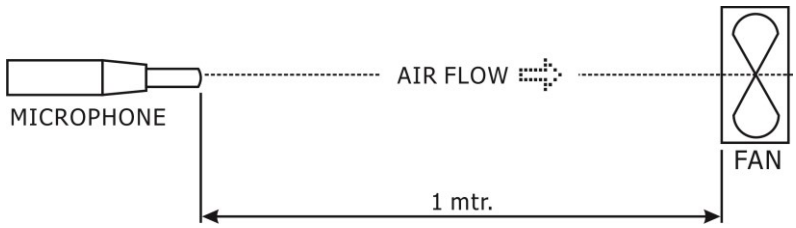
4 · 2 Start Voltage ：The voltage which is able to start the fan to operate by suddenly switching ’ ON ’ .

4 · 3 Locked Rotor Current：Locked current shall be measured within one minute of rotor locked, after 3 minutes of continuous rotation at rated voltage in free air.

4 · 4 Air Flow & Static Pressure：The air flow data and static pressures should be determined in accordance with AMCA-210 standard in a doublechamber testing with intake-side measurement.

4 · 5 Noise Level ：The measurement of noise level is carried out with referenceto ISO7779 in a semi-anechoic chamber with the microphone positioned 1 meter from the air intake.Testing fan shall be hung in clean air .

NOISE LEVEL MEASUREMENT



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5.0 MECHANICAL INSPECTION

5.1 Rotation Direction
Counterclockwise when look into impeller side.

5.2 Protection
All fans have integrated protection against locked rotor condition so that there will be no damage to winding or any electronic component.
Restarting is automatic as soon as any constraint to rotation has been released.
As fan placed at dead angle position, and the switch was changed from off to on. Restarting was automatic normal as soon as and proved that this fan is good fan.

5.3 Locked Rotor Protection
No damage shall be found after 72 hours continuously at condition of rotation locked.
Restarting is automatic as soon as constraint to running has been released.

5.4 Avoid the damage, check the correct voltage and proper polarity before connecting with power.

5.5 Free Drop Shock
In minimum package condition, the fan should withstand drops on any three faces from a height of 30cm onto a wood board of 10mm thick.

5.6 Please do not stick a grease and/or an oil to the fan housing or blade which may have a harmful influence by a chemical reaction at high humidity.

5.7 If the fan is reinstalled, please pay special attention to the noise due to the vibration (or resonance).

5.8 During the testing of the fan, please make sure the finger guard is used for safety.

6.0 ELECTRICAL INSPECTION

6.1 Insulation Resistance
Not less than 10M ohm between housing and positive end of lead wire (red) at 500V DC.

6.2 Dielectric Strength
No damage should be found at 500 VAC for 60 seconds, measured with 1mA trip current between housing and positive end of lead wire.

6.3 Life Expectancy
The continous duty life at given temperature after which, 90% of testing units shall still be running.

6.4 While the fan is running, do not intentionally lock the fan for a long time since the overheating of the motor produced by the long-time locking will damage the fan.

7.0 ENVIRONMENTAL

7.1 Improper use such as disassembling the fan, being covered with dust, or dipping the fan in water that results in defects is not covered in the warranty. Do not use the fan in the environment with corrosive air or liquid. ADDA does not warrant damage to the product caused by outside elements (as dust, condensation, humidity or insects).

7.2 Operating Temperature:-10℃ to +70℃ .

7.3 Operating Humidity:65%+/-20% RH.

7.4 Storage Temperature:-40℃ to +70 ℃.

7.5 Storage Humidity:65%+/-20% RH.

7.6 Do not place or store the fan in the environment with high/low temperature/humidity. If the fan is stored for more than 6 months, functional test is highly recommended before using.



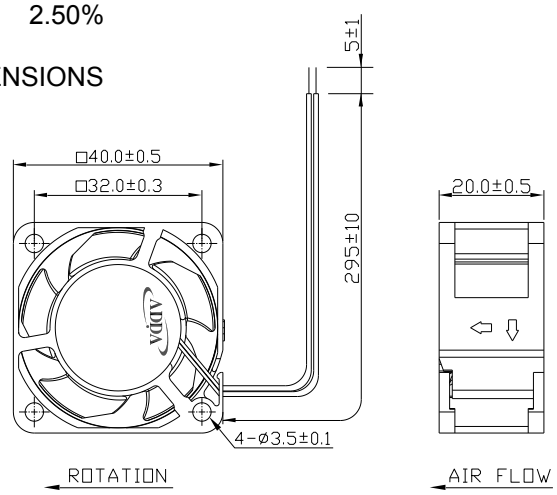
8.0 REMARKS

8.1 Material and construction are subject to change without advance notice. The changes should be within specification.

8.2 All fans shall meet the quality inspection under sampling plan MIL-STD-105E as follow:

Critical	0.25%
Major	1.00%
Minor	2.50%

9.0 OUTLINE STYLING & DIMENSIONS





LEAD WIRES : UL 1061, AWG26;
Red = positive ; Black = negative.

10.0 Notes:

10.1 The information contained in this document is for general information purposes only. While we endeavor to keep the information up to date and correct, ADDA makes no representations or warranties of any kind, whether express or implied, about the completeness, accuracy, reliability, suitability or availability with respect to the document or the information, products or related graphics contained in the document for any purpose. Any reliance you place on such information is therefore strictly at your own risk.

10.2 Please do not touch and push Fan Blade with fingers or others,fan blade and ball bearings may be damaged and it causes noise defect.And suitable fan guard should be fitted to the fan to guard against any potential for personal injury.

10.3 Do not carry the fan by its lead wires.

10.4 If the fan does not have the polarity protection function, the connection of the colored wires should be red + red, and black + black, or else the fan will be damaged in no time.

10.5 For the models without reverse connection of polarity protection, please do not connect the lead wire in reverse

10.6 Please don't install this fan in series with 2x voltage inputs. For example, if a single fan rated at 12V, then don't install two of them in series with 24V input.

10.7.Every specific fan is designed for its certain application (project). Therefore, if you want to use this fan in other application (project), please inform ADDA first so that we can confirm whether there is any issue which might be incurred from the reason of this different application (project) or not.

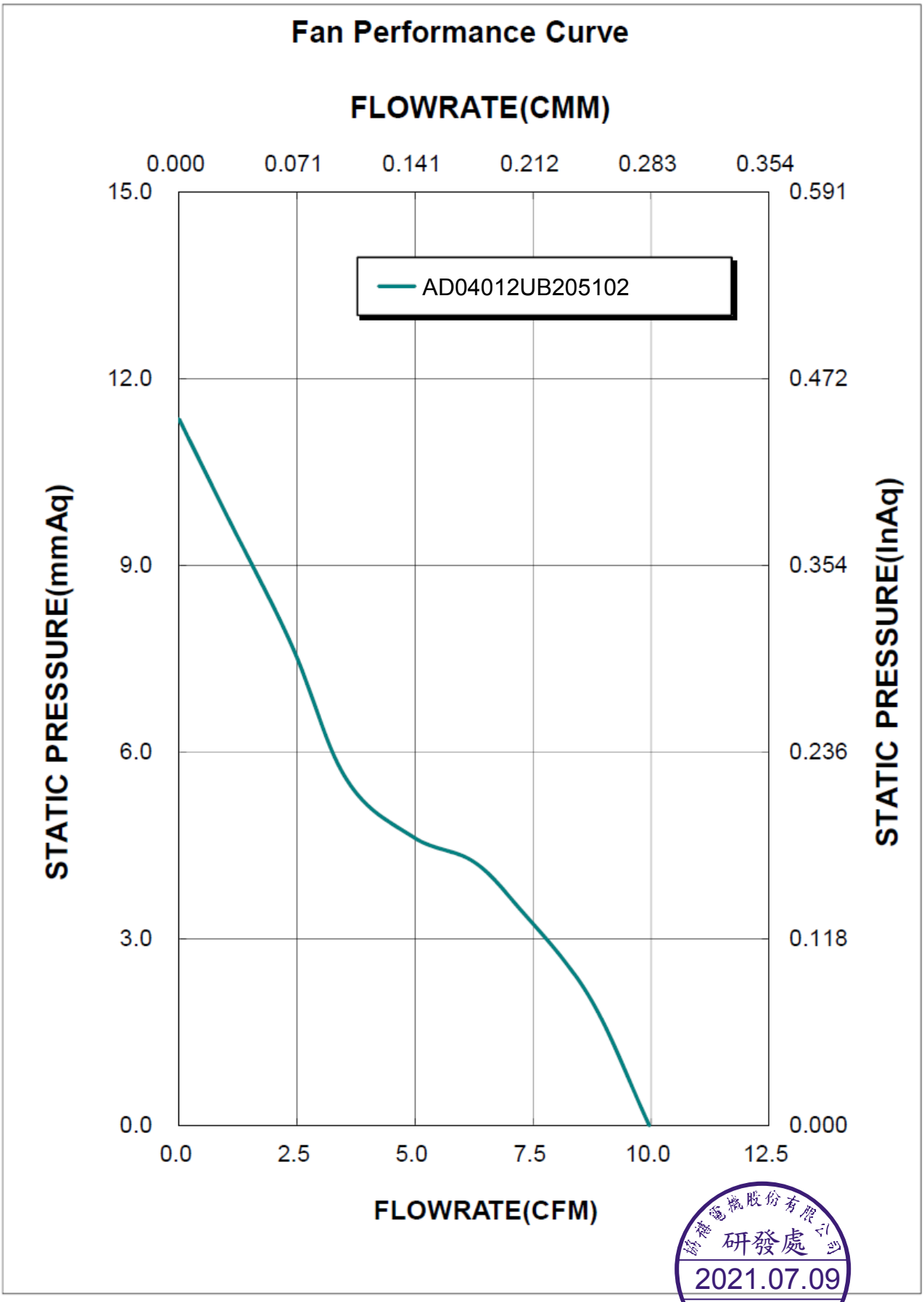
10.8 The"Life Expectancy" of this fan has not been evaluated for use in combination with any end application. Therefore,the Life Expectancy in the Test Reports(L10 and MTTF Report) that relate to this fan is for reference only and shall not construe any kind of warranty of ADDA to the life of any specific fan,either expressed or implied.

10.9 The period of product warranty,unless otherwise agreed by ADDA in writing,shall be 12 months starting from the date of production.

10.10 In Lead Wire, there is a possibility to come off from frame.

10.11 In order to avoid abnormal bumping or interference caused by deformed impeller when fan is fastened, suggested distance of at least 0.5mm is strongly reserved in front of the frame (the sight from the impeller face) .

10.12 Hot swapping or Hot plugging is not allowed to cause damage to fans. Notice in advance is strongly requested if design for Hot swapping or Hot plugging is needed.

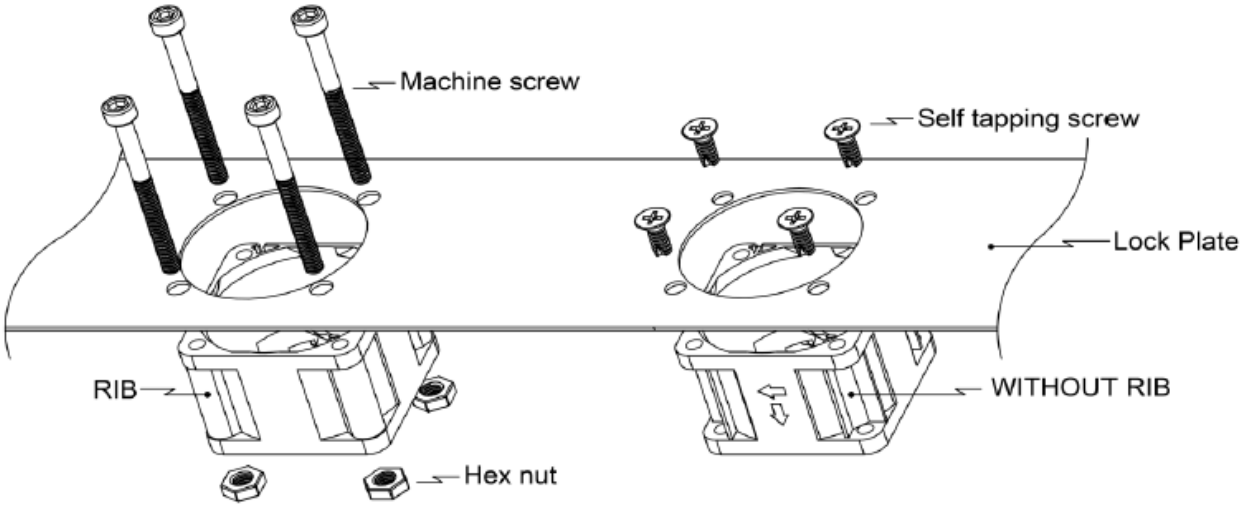


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外框運用說明 (Frame Type Recommended)

*標準框建議使用自攻螺絲,RIB框建議使用機械螺絲。

• We recommend to use self-tapping screw for the standard frame and machine screw for the RIB frame.



協禧電機股份有限公司
研發處
2021.07.09
發行章

CERTIFICATE OF COMPLIANCE

Certificate Number	UL-CA-2126602-0
Report Reference	E132139-20210621
Date	28-Jun-2021
Issued to:	ADDA CORP NO 6 E SECTION INDUSTRY 6 RD PING TUNG Taiwan 900
This is to certify that representative samples of	GPWV8 - Fans, Electric Certified for Canada - Component See Addendum Page for Product Designation(s).
	Have been investigated by UL in accordance with the component requirements in the Standard(s) indicated on this Certificate. UL Recognized components are incomplete in certain constructional features or restricted in performance capabilities and are intended for installation in complete equipment submitted for investigation to UL LLC.
Standard(s) for Safety:	CSA C22.2 NO. 113-18 - 11 th Ed. - Issue Date: 2018-10-01
Additional Information:	See the UL Online Certifications Directory at https://iq.ulprospector.com for additional information

This *Certificate of Compliance* does not provide authorization to apply the UL Recognized Component Mark. Only the UL Follow-Up Services Procedure provides authorization to apply the UL Mark.

Only those products bearing the UL Recognized Component Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Recognized Component Mark on the product.

研發處 2021.07.09 發行章

Bruce Mahrenholz, Director North American Certification Program

UL LLC

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CERTIFICATE OF COMPLIANCE

Certificate Number UL-CA-2126602-0
Report Reference E132139-20210621
Date 28-Jun-2021

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements

Model	Category Description
AD040(F)(D)B205(E)02, Where (F) may be 05, 12, 24, (D) may be L, M, H, U, X, V, E (E) may be 1, 2, 3, 9, B, F.	Electric Fans - Component
AD0824(X)(Y)-D7(C), where(X) may be X, U, H, (Y) may be B, X, S, (C) may be 0, 6.	Electric Fans - Component



Bruce Mahrenholz, Director North American Certification Program

UL LLC

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CERTIFICATE OF COMPLIANCE

Certificate Number	UL-US-2131953-0
Report Reference	E132139-20210621
Date	28-Jun-2021
Issued to:	ADDA CORP NO 6 E SECTION INDUSTRY 6 RD PING TUNG Taiwan 900
This is to certify that representative samples of	GPWV2 - Fans, Electric - Component See Addendum Page for Product Designation(s).
	Have been investigated by UL in accordance with the component requirements in the Standard(s) indicated on this Certificate. UL Recognized components are incomplete in certain constructional features or restricted in performance capabilities and are intended for installation in complete equipment submitted for investigation to UL LLC.
Standard(s) for Safety:	UL 507, 10th Ed., Issue Date: 2017-11-09, Revision Date: 2020-05-27
Additional Information:	See the UL Online Certifications Directory at https://iq.ulprospector.com for additional information

This *Certificate of Compliance* does not provide authorization to apply the UL Recognized Component Mark. Only the UL Follow-Up Services Procedure provides authorization to apply the UL Mark.

Only those products bearing the UL Recognized Component Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

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Bruce Mahrenholz, Director North American Certification Program

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CERTIFICATE OF COMPLIANCE

Certificate Number	UL-US-2131953-0
Report Reference	E132139-20210621
Date	28-Jun-2021

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements

Model	Category Description
AD040(F)(D)B205(E)02, Where (F) may be 05, 12, 24, (D) may be L, M, H, U, X, (E) may be 1, 2, 3, 9, B, F.	Electric Fans - Component
AD0824(X)(Y)-D7(C), where(X) may be X, U, H, (Y) may be B, X, S, (C) may be 0, 6.	Electric Fans - Component



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Zertifikat *Certificate*

TÜVRheinland®

Zertifikat Nr. *Certificate No.*
R 50156693

Blatt *Page*
0135

Ihr Zeichen *Client Reference*	Unser Zeichen *Our Reference*	Ausstellungsdatum	*Date of Issue* (day/mo/yr)
238048597/P00262708	ZTW1-YML- 11016931 120	10.06.2021	

Genehmigungsinhaber *License Holder*
Adda Corporation
6, East Section, Industry 6 Road,
Pingtung City 900
Taiwan, R.O.C.

Fertigungsstätte *Manufacturing Plant*
ADDA Electric Machinery Technology
(Kunshan), Co., Ltd.
No. 88, Jiangfeng Road
Zhangpu Town
Kunshan City
Jiangsu
P.R. China

Prüfzeichen *Test Mark*

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ID 2000000000

Geprüft nach *Tested acc. to*
EN 62368-1:2014+A11
EN 62368-1:2014

Zertifiziertes Produkt (Geräteidentifikation)
Certified Product *(Product Identification)*

Lizenzentgelte - Einheit
License Fee - Unit

Ventilator (DC Fan)

wie Blatt (as page) 01, Ergänzung (Addition)

Bezeichnung : 1) AD04005Z1B205Z202 (ADDA, BERFLO)
(Type Designation) 2) AD04012Z1B205Z202 (ADDA, BERFLO)
3) AD04024Z1B205Z202 (ADDA, BERFLO)

Z1 steht für (stands for):1) L, M, H, U oder (or) X
2)-3) L, M, H, U, X, V oder (or) E

Z2 steht für (stands for) : 1) 1, 2, 3, 9, B oder (or) F
2)-3) 1, 2, 3, 9, B oder (or) F

Nennspannung/Nennstrom : siehe Anlage
(Rated Voltage/Rated Current) (see appendix)

Fortsetzung Blatt (continued on page) 136

研發處 2021.07.09 發行章

ANLAGE (Appendix): 3.1

Dem Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde und es bestätigt die Konformität des Produktes mit den oben genannten Standards und Prüfgrundlagen. Zusätzliche Anforderungen in Ländern, in denen das Produkt in Verkehr gebracht werden soll, müssen zusätzlich betrachtet werden. Die Herstellung des zertifizierten Produktes wird überwacht.
This certificate is based on our Testing and Certification Regulation and states the conformity of the product with the standards and testing requirements as indicated above. Any additional requirements in countries where the product is going to be marketed have to be considered additionally. The manufacturing of the certified product is subject to surveillance.

TÜV Rheinland LGA Products GmbH - Tillystraße 2 - 90431 Nürnberg
Tel.: (+49/221)8 06 - 13 71 e-mail: cert-validity@de.tuv.com
Fax: (+49/221)8 06 - 39 35 http://www.tuv.com/safety

Zertifizierungsstelle

TÜV Rheinland LGA Products GmbH TÜVRheinland® Zertifizierungsstelle

Dipl.-Ing. (FH) A. Klinker

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Zertifikat *Certificate*

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Zertifikat Nr. *Certificate No.*
R 50156693

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0136

Ihr Zeichen *Client Reference*	**Unser Zeichen** *Our Reference*	**Ausstellungsdatum**	*Date of Issue* (day/mo/yr)
238048597/P00262708	ZTW1-YML- 11016931 120	10.06.2021	

Genehmigungsinhaber *License Holder*
Adda Corporation
6, East Section, Industry 6 Road,
Pingtung City 900
Taiwan, R.O.C.

Fertigungsstätte *Manufacturing Plant*
ADDA Electric Machinery Technology
(Kunshan), Co., Ltd.
No. 88, Jiangfeng Road
Zhangpu Town
Kunshan City
Jiangsu
P.R. China

Prüfzeichen *Test Mark*

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ID 2000000000

Geprüft nach *Tested acc. to*
EN 62368-1:2014+A11
EN 62368-1:2014

Zertifiziertes Produkt (Geräteidentifikation) *Certified Product* *(Product Identification)*

Lizenzentgelte - Einheit *License Fee - Unit*

Ventilator (DC Fan)

wie Blatt (as page) 01,

Fortsetzung (Continuation)

Vermerke: Dieses Gerät ist auch klassifizieret
als MS3 in Tabelle 35 von Abschnitt 8.2.1 in Standards
EN 62368-1:2014+A11:2017/EN 62368-1:2014.
Wenn nicht anders angegeben, liegen die klassifizierten
Bedingungen unter der Nennspannung und der normalen
Drehzahl des Lüfterblatts. (Remark: The equipment is also
classified as MS3 according to Table 35 of sub-clause 8.2.1
in standard EN 62368-1:2014+A11:2017/EN 62368-1:2014.
Unless otherwise stated the classified conditions are under
rated voltage and normal rotational speed of the fan blade.)

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ANLAGE (Appendix): 3.1

Dem Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde und es bestätigt die Konformität des Produktes mit den oben genannten Standards und Prüfgrundlagen. Zusätzliche Anforderungen in Ländern, in denen das Produkt in Verkehr gebracht werden soll, müssen zusätzlich betrachtet werden. Die Herstellung des zertifizierten Produktes wird überwacht.
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Zertifizierungsstelle

TÜVRheinland LGA Products GmbH Zertifizierungsstelle

Dipl.-Ing. (FH) A. Klinker

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