

# SPECIFICATION FOR APPROVAL

CUSTOMER : \_\_\_\_\_

CUSTOMER PART NO. : \_\_\_\_\_

| CUSTOMER<br>APPROVED | APPROVED BY                                                                       | CHECKED BY                                                                                                                                                           | PREPARED BY                                                                         |
|----------------------|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                      |  |   |  |

MODEL NO. : AD08012XB257B04

DESCRIPTION : \_\_\_\_\_

SPEC NO. : SA-0120180420003

ISSUE DATE : 2026.08.19

REVISION : A04

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.



**ADDA CORPORATION**

## Revised Record

[illegible]

# DATA - SHEET

Engineering

BRUSHLESS AXIAL COOLING FANS

Printed On: 26/08/19

|                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                           |                                |                                                                                                                                       |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| Customer                                                                                                                                                                                                                                                                                                                                                                                                                                         | :                         |                                | Ref: (RoHS)                                                                                                                           |
| Adda Model No                                                                                                                                                                                                                                                                                                                                                                                                                                    | :                         | AD08012XB257B04                |                                                                                                                                       |
| Samples attached                                                                                                                                                                                                                                                                                                                                                                                                                                 | :                         | Piece(s),                      |                                                                                                                                       |
| Safety Approval                                                                                                                                                                                                                                                                                                                                                                                                                                  | :                         | UL,CUL,TUV,CE,UKCA             | TUV:EN 62368-1 2014+A11<br>UL:UL507<br>CE:EN 61000-6-1:2019<br>EN 61000-6-3:2021<br>UKCA:BS EN 61000-6-1:2019<br>BS EN 61000-6-3:2021 |
| <u>Specifications</u>                                                                                                                                                                                                                                                                                                                                                                                                                            |                           |                                |                                                                                                                                       |
| ITEM                                                                                                                                                                                                                                                                                                                                                                                                                                             | SPECIFICATION / CONDITION |                                |                                                                                                                                       |
| DIMENSIONS                                                                                                                                                                                                                                                                                                                                                                                                                                       | :                         | 80x80x25                       | mm                                                                                                                                    |
| BEARING TYPE                                                                                                                                                                                                                                                                                                                                                                                                                                     | :                         | TWO BALL                       |                                                                                                                                       |
| RATED VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                    | :                         | 12                             | VDC                                                                                                                                   |
| OPERATING VOLTAGE RANGE                                                                                                                                                                                                                                                                                                                                                                                                                          | :                         | 11.4                           | VDC — 12.6 VDC                                                                                                                        |
| OPERATING DUTY CYCLE RANGE                                                                                                                                                                                                                                                                                                                                                                                                                       | :                         | 30% ~ 100%                     |                                                                                                                                       |
| START-UP DUTY CYCLE                                                                                                                                                                                                                                                                                                                                                                                                                              | :                         | 30% Max (AT RATED VOLTAGE)     |                                                                                                                                       |
| REAL CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                     | :                         | 0.30                           | Amp                                                                                                                                   |
| REAL POWER                                                                                                                                                                                                                                                                                                                                                                                                                                       | :                         | 3.60                           | Watt                                                                                                                                  |
| RATED CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                    | :                         | 0.45                           | Amp + 10 %MAX (Duty cycle 100%)                                                                                                       |
| RATED POWER                                                                                                                                                                                                                                                                                                                                                                                                                                      | :                         | 5.40                           | Watt (Duty cycle 100%)                                                                                                                |
| RATED SPEED                                                                                                                                                                                                                                                                                                                                                                                                                                      | :                         | 4500                           | RPM ± 10 % (Duty cycle 100%)                                                                                                          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                  | :                         | Rotatable (Duty cycle 0%)      |                                                                                                                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                           | (IN FREE AIR AT RATED VOLTAGE) |                                                                                                                                       |
| AIR FLOW                                                                                                                                                                                                                                                                                                                                                                                                                                         | :                         | 56.830                         | CFM (min.: 51.147 CFM)                                                                                                                |
| AIR FLOW                                                                                                                                                                                                                                                                                                                                                                                                                                         | :                         | 1.608                          | CMM (min.: 1.447 CMM)                                                                                                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                           | (IN FREE AIR AT RATED VOLTAGE) |                                                                                                                                       |
| STATIC AIR PRESSURE                                                                                                                                                                                                                                                                                                                                                                                                                              | :                         | 0.350                          | Inch H <sub>2</sub> O (min.: 0.283 Inch H <sub>2</sub> O)                                                                             |
| STATIC AIR PRESSURE                                                                                                                                                                                                                                                                                                                                                                                                                              | :                         | 8.890                          | mm H <sub>2</sub> O (min.: 7.200 mm H <sub>2</sub> O)                                                                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                           | (IN FREE AIR AT RATED VOLTAGE) |                                                                                                                                       |
| NOISE LEVEL                                                                                                                                                                                                                                                                                                                                                                                                                                      | :                         | 48.1                           | dB (A) (max.: 52.1 dB(A))                                                                                                             |
| MOTOR PROTECTION                                                                                                                                                                                                                                                                                                                                                                                                                                 | :                         | BY                             | IC                                                                                                                                    |
| POLARITY PROTECTION                                                                                                                                                                                                                                                                                                                                                                                                                              | :                         | YES                            |                                                                                                                                       |
| CONNECTION LEAD TYPE                                                                                                                                                                                                                                                                                                                                                                                                                             | :                         | WIRE, AWG#                     | 26                                                                                                                                    |
| LIFE EXPECTANCY                                                                                                                                                                                                                                                                                                                                                                                                                                  | :                         | 70000                          | Hours at 40°C / 65% RH (L10)                                                                                                          |
| NET WEIGHT                                                                                                                                                                                                                                                                                                                                                                                                                                       | :                         | 86                             | Gram.                                                                                                                                 |
| PACKING                                                                                                                                                                                                                                                                                                                                                                                                                                          | :                         | 200                            | pcs. Per Export Carton.                                                                                                               |
| <p>* If no PWM signal is present (no connection to the PWM drive signal),<br/>the fan should be run at rated speed RPM.</p> <p>* The fan should be run,at Max of start -up duty cycle.</p> <p>Unless otherwise stated, the relative humidity is 65%, and the temperature is 25°C<br/>for the standard testing.</p> <p>Should you have any doubt, please refer to the environmental conditions specified in the<br/>acknowledgement document.</p> |                           |                                |                                                                                                                                       |
| ADDA CORPORATION                                                                                                                                                                                                                                                                                                                                                                                                                                 |                           | Model No.: AD08012XB257B04     | Page 1/6                                                                                                                              |



- ## 2.0 MATERIAL

- ### 3.0 DIMENSIONS & CONSTRUCTION

## 4.0 CHARACTERISTICS & DEFINITION

- NOISE LEVEL MEASUREMENT



## SPECIFICATION

### 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 continuous 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.

#### 7.2 Operating Temperature / Humidity

-10°C to +70°C at humidity 65%+/-20% RH.

#### 7.3 Storage Temperature

All function shall be normal after 500 hours storage at -40°C to +70 °C with a 24 hour recovery period at room temperature.

#### 7.4 Humidity

After 96 hours, 95% RH, 40+/-2°C per MIL-STD-202F, method 103B humidity test, the measured data on insulation resistance and dielectric strength shall meet the specification.

#### 7.5 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.



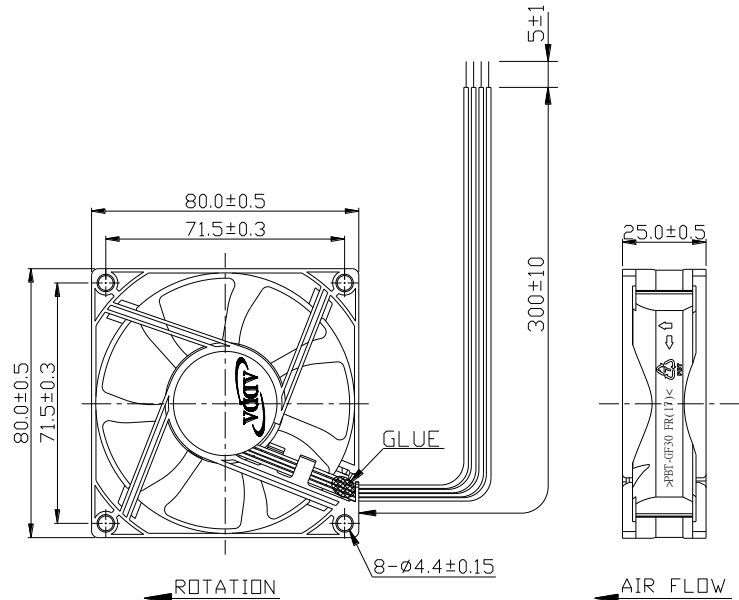
SPECIFICATION

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 , L = 300± 10 mm  
Red = positive ; Black = negative.  
White = FG ; Blue = PWM



10.0 Notes:

- 10.1 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.
- 10.2 Do not carry the fan by its lead wires.
- 10.3 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.
- 10.4 For the models without reverse connection of polarity protection, please do not connect the lead wire in reverse
- 10.5 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.
- 10.6 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.
- 10.7 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.
- 10.8 The period of product warranty, unless otherwise agreed by ADDA in written, shall be 12 months starting from the date of production.
- 10.9 In Lead Wire, there is a possibility to come off from frame.
- 10.10 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).
- 10.11 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.

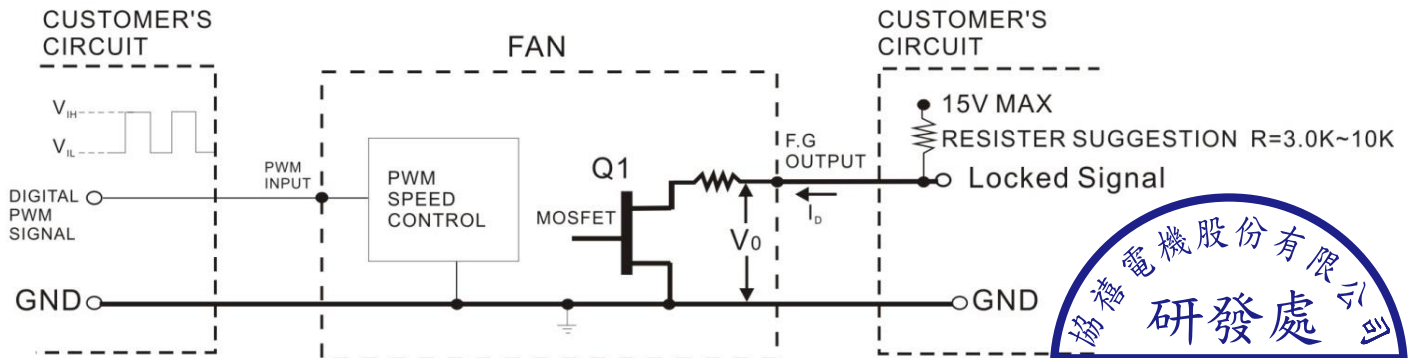


## PROVISION OF DIGITAL PWM SPEED CONTROL & LOCKED SIGNAL(F.G)

- OUTPUT OF LOCKED SIGNAL -----OPEN DRAIN TYPE

\*Electrical design suggestion:  $R=3K\sim 10K$

(External signal function design is decided by customer)



\*MOSFET Q1 AT "ON" POSITION

DRAIN CURRENT----- $I_D=5mA\ MAX$

SATURATION VOLTAGE----- $V_{OL}=1.0V\ MAX$

\*MOSFET Q1 AT "OFF" POSITION

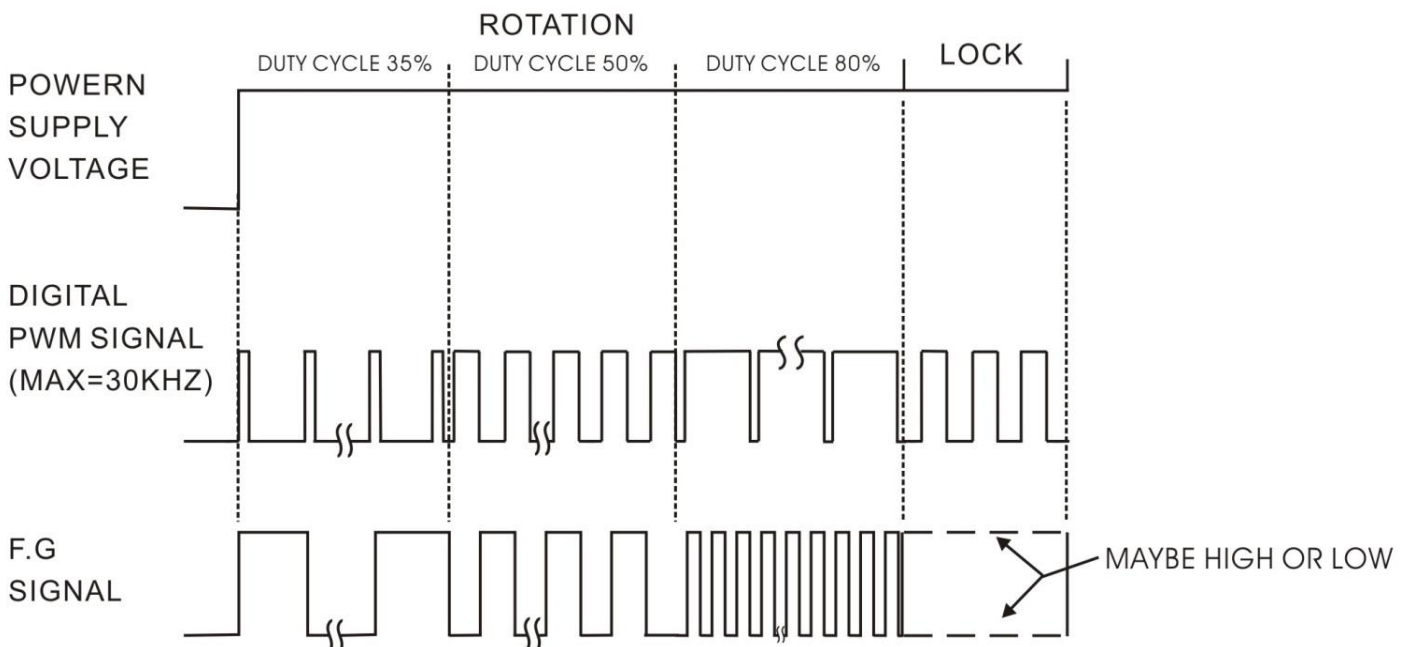
RELEASE VOLTAGE----- $V_{OH}=15V\ MAX$

\*DIGITAL PWM SPEED CONTROL POSITION

PWM INPUT VOLTAGE HIGH----- $V_{IH}=3V\sim 5.5V$

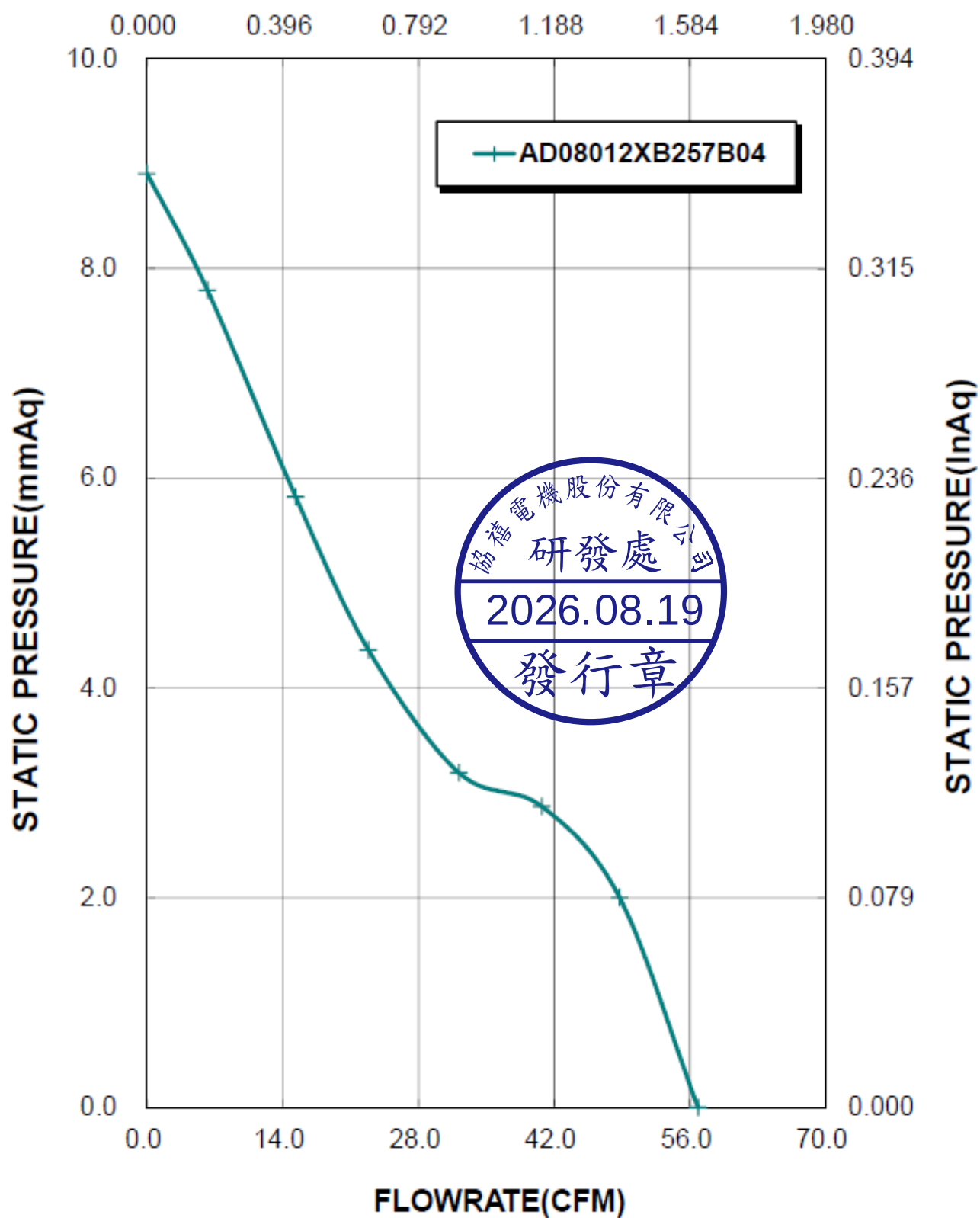
PWM INPUT VOLTAGE LOW----- $V_{IL}=0V\sim 0.5V$

\*PWM INPUT FREQUENCY-----  $FPWM:18\sim 30KHZ$



# Fan Performance Curve

FLOWRATE(CMM)



# Zertifikat Certificate



Zertifikat Nr. Certificate No.  
R 50156693

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0112

| Ihr Zeichen Client Reference | Unser Zeichen Our Reference | Ausstellungsdatum | Date of Issue  |
|------------------------------|-----------------------------|-------------------|----------------|
| 12090972/ST030816            | ZTW1-YML- 11016931 099      | 24.08.2016        | (day/month/yr) |

## 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 Province  
P.R. China

## Prüfzeichen Test Mark



## Geprüft nach Tested acc. to

EN 60950-1:2006+A11+A1+A12+A2

Zertifiziertes Produkt (Geräteidentifikation)  
Certified Product (Product Identification)

Ventilator (DC Fan)

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

|                                |                                        |   |
|--------------------------------|----------------------------------------|---|
| Bezeichnung (Type Designation) | : 1) AD0414Z1B-C70GP (ADDA, BERFLO)    | 1 |
|                                | : 2) AD08012Z1Z2257Z304 (ADDA, BERFLO) | 1 |
| Z1 steht für (stands for)      | : 1) U, X oder (or) V                  | 1 |
|                                | : 2) X, U, H, M oder (or) L            |   |
| Z2 steht für (stands for)      | : 2) X oder (or) B                     | 1 |
| Z3 steht für (stands for)      | : 2) 1, 2, 3, 9, B oder (or) F         | 1 |
| Nennspannung (Rated Voltage)   | : 1) DC 14V                            |   |
|                                | : 2) DC 12V                            |   |
| Nennstrom (Rated Current)      | : siehe Anlage (see appendix)          |   |

Hinweis: Dieses Ausweisblatt ersetzt Zertifikat R 50156693, Blatt 0112 vom 22.08.2016.  
(Remark: This license sheet replaces Certificate R 50156693, sheet 0112 dated 22.08.2016.)

ANLAGE (Appendix): 1.92

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



Albin Yang

# Zertifikat Certificate



Zertifikat Nr. Certificate No.  
R 50156693

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0128

| Ihr Zeichen Client Reference | Unser Zeichen Our Reference | Ausstellungsdatum | Date of Issue |
|------------------------------|-----------------------------|-------------------|---------------|
| 238014414                    | ZTW1-YML- 11016931 115      | 13.08.2020        | (day/mo/yr)   |

## 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



Bauart geprüft  
Sicherheit  
Regelmäßige  
Produktions-  
überwachung

www.tuv.com  
ID 2000000000

## Geprüft nach Tested acc. to

EN 62368-1:2014+A11

Zertifiziertes Produkt (Geräteidentifikation)  
Certified Product (Product Identification)

Lizenzentgelte - Einheit  
License Fee - Unit

Ventilator (DC Fan)

wie Blatt (as page) 01

Änderung  
(Change)

Prüfgrundlage : siehe oben  
(Test Requirement) (see above)

Vermerke: Dieses Netzgerät ist auch geprüft und  
Klassifiziert als MS3 in Tabelle 35 von Abschnitt 8.2.1 in  
Standards EN 62368-1:2014. Wenn nicht anders angegeben,  
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. Unless otherwise stated the classified  
conditions are under rated voltage and normal rotational  
speed of the fan blade.)

ANLAGE (Appendix): 2.6

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



Dipl.-Ing. (FH) A. Klinker