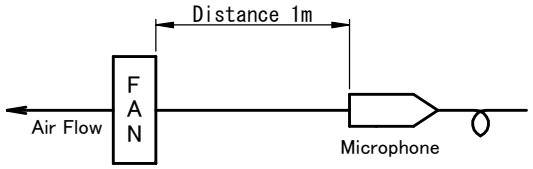
(Description)

Items		Rating
Motor type		DC Brushless Motor
Duty		Countinuous
Rating Voltage (V)		24
Operating Voltage (V)		14 ~ 26.4
Starting Voltage (V) Duty 100%		14.0
☆3☆4☆5 (Speed) [min^{-1}]	Average	7000
	Minimum	6700
☆1☆4☆5 (Max Air Flow) [m^3/min]	Average	4.12
	Minimum	3.90
☆2☆4☆5 (Max Static Pressure) [Pa]	Average	280
	Minimum	252
☆3☆4☆5 (Current) [A]	Average	1.18
	Maximum	1.47
☆3☆4☆5 (Input Power) [W]	Average	27.12
	Maximum	35.28
(Acoustica		62.0

* Measuring Conditions

1. (Measurement with in anechoic test chamber under free air condition.)
2. (Microphone is placed at a distance of 1m on the axis of air intake side.)
3. (Chamber back ground noise max 16dB.)
4. (Acoustical noise at average speed.)



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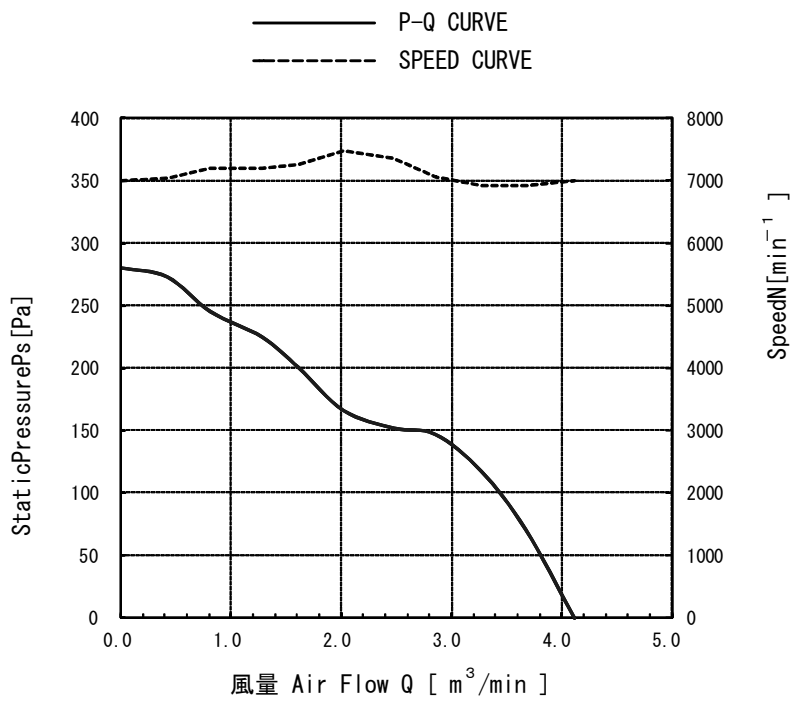


*NOTE
☆1 At 0 static presure
☆2 At 0 air flow
☆3 At free air
☆4 At rating voltage 25°C 65% RH
☆5 At factory shipping inspection

SEMIC TRADE

△SYM	No.	DATE	REASON / ECN No.	ENGINEER	APPROVED

Minebea
Minebea Co., Ltd.

APPROVED	CHECKED	DRAWN
ETKH	HASE	HKT

単位 UNIT mm
尺度 SCALE :

TOL		
	L≦4	±0.1
	4<L≦16	±0.2
	16<L≦63	±0.3
	63<L≦250	±0.5
	250<L≦1000	±0.8
	角度DEG	±0.5

材質 MATERIAL
表面粗さ SURF. ROUGH
熱処理 HEAT TREAT
表面処理 FINISH

作成日 DATE 2015 / 12 / 16
品名 DESCRIPTION AUTO RESTART TYPE DC BRUSHLESS FAN
品番 PART No. (MODEL No.) 3615RL-05W-B76-EQ3
葉番 SHEET 1 / 5
図番 DRAWING No. 3615RL-05W-B76-EQ3
改訂 REV. .

規格 (Standard)

(Insulation Resistance)	(min 10MΩ by DC 500V Megger) (Between Frame and (+) Terminal)
(Dielectric Withstand Voltage)	AC 700V 1s ☆6 (Between Frame and (+) Terminal)
(Life Expectation (L10 Life))	(90,000h at 56℃) (The motor life is decided as follows Current : more than +15% of initial value Speed : less than −15% of initial value)
(Allowable Ambient Temperature)	−10℃～+70℃ (Operating) −40℃～+70℃ (Storage) ☆7 (No dew formation at operating and storage condition)
(Mass)	230g
(Protection)	(Auto Restart) (Protection Polarity) ☆8
JISC60068-2-6 (Vibration Test)	(Peak to Peak value of vibration): 1.5mm (Frequency):10～55Hz (1h in 3 Directions, "X, Y, Z" Each)
JISC60068-2-27 (Shock Test)	(Acceleration of Gravity) :1000m/s^2 (Time):6ms (1 time in 3 Directions, "X, Y, Z" Each)
(Insulation Class) E	(UL: Class A)
(Rotation)	(CW Viewed From Name Plate Side)
(Air Flow Direction)	(Name Plate Side)
cULus File No.	E89936
VDE File No.	1507300 ☆9
(Producing Country)	JAPAN, CHINA

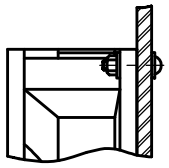


Fig. 1

*NOTE

☆6 Guarantee AC 500 V 1 min.

☆7 (To be free of defects on practical use after 100 hours of stored at −40℃～+70℃ and 24 hours to ambient humidity.)

☆8 (Motor withstands reverse connection for positive and negative leads.)

☆9 (Please note following notice at readable position for users when this product is to be used. This request is based on the requirement of VDE standard.)

WARNING
Hazardous moving parts
Keep away from moving fan blades

Additional Notice

1) (Any modification to these specifications requested by customer shall be negotiated between the manufacturer and the customer.)

2) (The manufacturer reserves the right to change design, parts or manufacturing processes in order to improve the performance of the fan motor.)

3) (Storage area should not be in high temperature, high humidity environment, and storage term shall be within 6 months as much as possible.)

4) (In case of locked rotor condition, the current shutdown feature of the fan motor protects the motor for 72 hours at the rated voltage.)

5) (We shall be free from compensation for any damage induced due to failure of fan motor.)

6) (To be used one side flange only at fan mount as Fig.1.)

7) (PCB ASS'Y component side shall be coated with HC1000 (TORAY DOW CORNING Co., Ltd.).)

8) (Shall be apply to soldering lead wire part by Silicone "KE45B"(Shin-Etsu Chemical Co., Ltd.).)

9) (All these products do not have specifications that can handle applications that require extremely high levels of reliability,such as medical equipment or other applications whose failure can be reasonably expected to result in serious physical and/or material damage.
Consult with your NMB/Minebea representative nearest you before using any NMB/Minebea products described or contained herein in such applications.)

10) (The fan is designed to fulfill the dust and water ingress protection level to【IP54】according to the testing result of【BS EN60529:1992.】)

SEMIC TRADE

△SYM	No.	DATE	REASON / ECN No.	ENGINEER	APPROVED

Minebea Co., Ltd.

APPROVED	CHECKED	DRAWN
ETKH	HASE	HKT

単位 UNIT mm　尺度 SCALE :

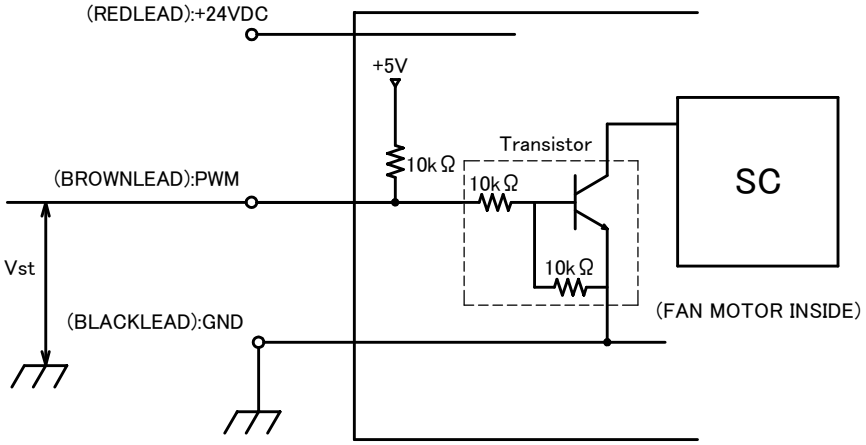
一般公差 TOL		
	L≦4	±0.1
	4<L≦16	±0.2
	16<L≦63	±0.3
	63<L≦250	±0.5
	250<L≦1000	±0.8
	角度DEG	±0.5

材質 MATERIAL
表面粗さ SURF. ROUGH
熱処理 HEAT TREAT
表面処理 FINISH

作成日 DATE 2015 / 12 / 16
品名 DESCRIPTION AUTO RESTART TYPE DC BRUSHLESS FAN
品番 PART No. (MODEL No.) 3615RL-05W-B76-EQ3
葉番 SHEET 2 / 5
図番 DRAWING No. 3615RL-05W-B76-EQ3
改訂 REV. .

PWMCONTROL

● (CONNECTION)



1.Vst: (PWMCONTROLVOLTAGE)

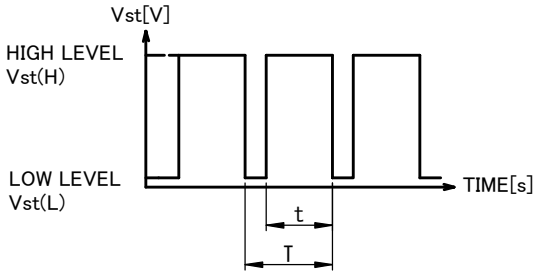
Vst = 0V ～ 0.4V → Stop (On Duty 0%)
Vst = 3.3V ～ 5.0V → Full Speed (On Duty 100%)
Vst = Open → Full Speed (On Duty 100%)
(At Rating Voltage, Ambient Temp : Ta = 25℃.)

2. (PWMDUTY&INPUTPULSE)

(PWM duty is specified as a ratio of high level time(t) / PWM input cycle(T).)
(PWM duty : (t / T) × 100 [%])

(PWMFrequency)

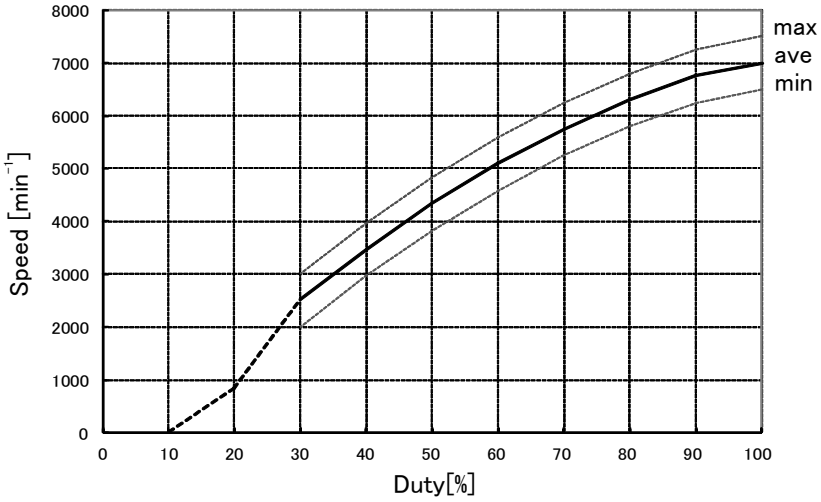
f = 1/T = 2±0.5kHz



3. (The condition for PWM control are as follows.)

- (In case of PWM control, it is suggested to confirm the operation of fan installed inside the system Fan Motor may not start up caused by PWM control at very Low Speed Condition.)
- (To run at Rating Voltage.)
- (It needs minimum 30% of duties at f = 2kHz PWM control to drive the fan At Rating Voltage, Ta = 25℃.)

PWM Duty vs Speed Curve
<Reference Value>
Conditions : At Rating Voltage, Vst(H)=5.0V, f=2kHz, Ta=25℃



SEMIC TRADE
Semic Trade, s.r.o., Volutová 2521/18, 158 00 Praha 5
Telephone: +420 251 625 331, 251 625 332, 251 625 377
GSM: +420 605 999 994 Fax:+420 251 626 252, 251 626 393
www.semic.cz
semic@semic.cz

△SYM	No.	DATE	REASON / ECN No.	ENGINEER	APPROVED

Minebea
Minebea Co., Ltd.

APPROVED	CHECKED	DRAWN
ETKH	HASE	HKT

単位 UNIT: mm
尺度 SCALE: :

一般公差 TOL

L≦4	±0.1
4<L≦16	±0.2
16<L≦63	±0.3
63<L≦250	±0.5
250<L≦1000	±0.8
角度DEG	±0.5

材質 MATERIAL
表面粗さ SURF. ROUGH
熱処理 HEAT TREAT
表面処理 FINISH

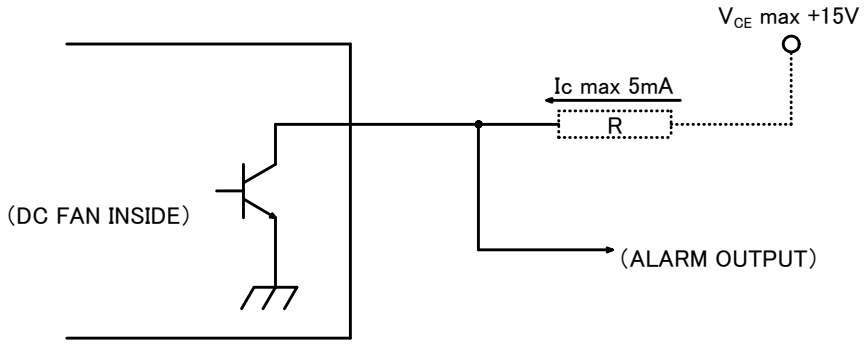
作成日 DATE: 2015 / 12 / 16
品名 DESCRIPTION: AUTO RESTART TYPE DC BRUSHLESS FAN
品番 PART No. (MODEL No.): 3615RL-05W-B76-EQ3
葉番 SHEET: 3 / 5
図番 DRAWING No.: 3615RL-05W-B76-EQ3
改訂 REV.: .

TACHSIGNAL

1. (OUTPUTCIRCUIT:OPENCOLLECTOR)

2. (SPECIFICATION)

Absolute Maximum Ratings at Ta=25℃
V_{CE} max : +15V
Ic max : 5mA [V_{CE}(sat)max = 0.5V]



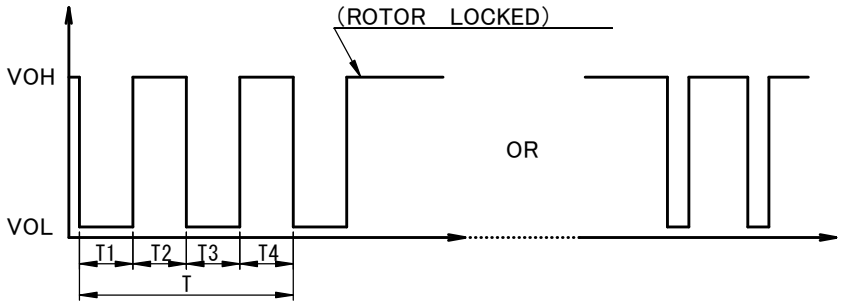
(ALARMSIGNALCIRCUIT)

We shall be free from compensation, if it occurs trouble due to insertion of opposite direction.

3. (OUTPUTWAVEFORM): (ATRATEDVOLTAGE)

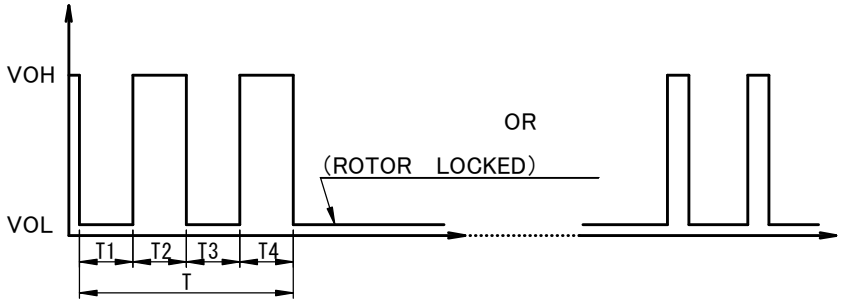
(OUTPUTSIGNALVOLTAGE)

3-1 (Case 1)



1 Rotation

3-2 (Case 2)



1 Rotation

1) (When the rotor is locked at VOH position of signal, signal keeps VOH position or signal becomes to VOL position for a few seconds at any time of the auto-restart motion.)

2) (When the rotor is locked at VOL position of signal, signal keeps VOL position or signal becomes to VOH position for a few seconds at any time of the auto-restart motion.)

3) T=T1+T2+T3+T4=60/m= (1rotation)

m: (min^{-1})

Tach Duty Cycle=50%±10%

△SYM	No.	DATE	REASON / ECN No.	ENGINEER	APPROVED

Minebea Co., Ltd.

APPROVED	CHECKED	DRAWN
ETKH	HASE	HKT

TOL		
	L≦4	±0.1
	4<L≦16	±0.2
	16<L≦63	±0.3
	63<L≦250	±0.5
	250<L≦1000	±0.8
	角度DEG	±0.5

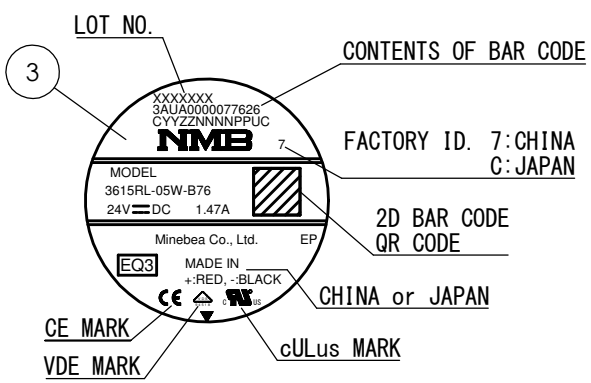
単位 UNIT mm
尺度 SCALE :

材質 MATERIAL
表面粗さ SURF. ROUGH
熱処理 HEAT TREAT
表面処理 FINISH

作成日 DATE 2015 / 12 / 16
品名 DESCRIPTION AUTO RESTART TYPE DC BRUSHLESS FAN
品番 PART No. (MODEL No.) 3615RL-05W-B76-EQ3
葉番 SHEET 4 / 5
図番 DRAWING No. 3615RL-05W-B76-EQ3
改訂 REV. .

SEMIC TRADE

(NamePlate)



2D BAR CODE INDICATION

3AUA0000077626CYYZZNNNNPPUC

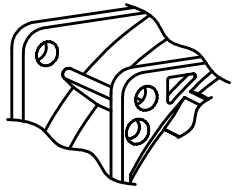
- ABB LVAC DRIVE MATERIAL CODE
- C=CUSTOMER REVISION
- YY=YEAR(2016=16, 2017=17, 2018=18, 2019=19, ...)
- ZZ=WEEK(1WEEK=01, 2WEEK=02,...5WEEK=05)
- NNNN=SERIAL NUMBER (START FROM 0001 TO 9999)
- PP=FACTORY SYMBOL (CHINA=NS, JAPAN=JP)
- BEARING TYPE (UREA GREASE=U, UREA GREASE+CERAMIC BALL=UC)

FIXED CHARACTER
CHANGEABLE CHARACTER

(PartsList)

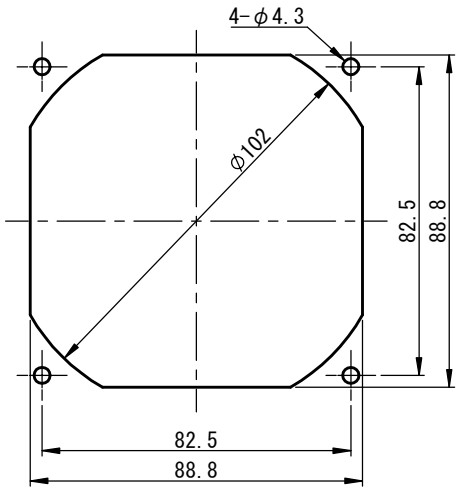
(Item No.)	(Description)	(Material)	(QTY)	(Remarks)
1	(Casing)	(Plastic)	1	Black UL94 V-0
2	(Impeller)	(Plastic)	1	Black UL94 V-0
3	(Name Plate)		1	
4	(Lead Wire)	UL3385 AWG26	(1 for each)	(+)/RedPinNo.1 (−)/BlackPinNo.2 (Tach)/WhitePinNo.3 (PWM)/BrownPinNo.4
5	(Connector Housing)	794805-1	1	TE Connectivity
6	(Contact)	770902-1 or 770986-1	4	TE Connectivity
7	(Plug Housing Seal)	3-794772-3	1	TE Connectivity
8	(Gang Wire Seal)	1586359-4	1	TE Connectivity
9	(Insulation Tube)	SSG-2 φ5.0	1	NISSEI ELECTRIC CO.,LTD.
	(Bearing)	(Ceramic Ball Bearing)	2	

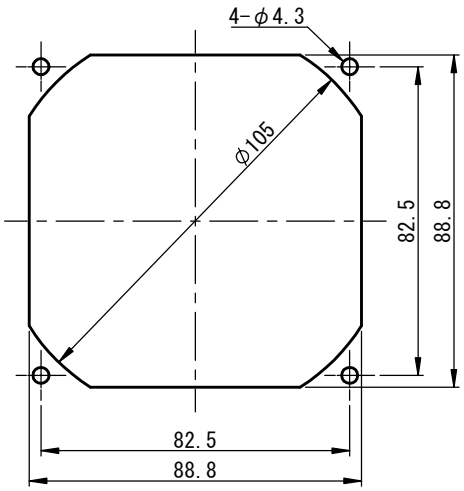
(Outline)



Flange TYPE

(PanelOut-line)





(INLET SIDE + OUTLET SIDE)

SEMIC TRADE

△SYM	No.	DATE	REASON / ECN No.	ENGINEER	APPROVED

Minebea Co., Ltd.

APPROVED	CHECKED	DRAWN
ETKH	HASE	HKT

単位 UNIT mm　尺度 SCALE :

一般公差 TOL	寸法	公差
	L≦4	±0.1
	4<L≦16	±0.2
	16<L≦63	±0.3
	63<L≦250	±0.5
	250<L≦1000	±0.8
	角度DEG	±0.5

材質 MATERIAL

表面粗さ SURF. ROUGH

熱処理 HEAT TREAT

表面処理 FINISH

作成日 DATE 2015 / 12 / 16

品名 DESCRIPTION
AUTO RESTART TYPE
DC BRUSHLESS FAN

品番 PART No. (MODEL No.) 3615RL-05W-B76-EQ3

葉番 SHEET 5 / 5

図番 DRAWING No. 3615RL-05W-B76-EQ3

改訂 REV. .