



The engineer's choice

**ebmpapst**

# 614 NHHU-274

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**1 General**

Fan type	Fan	
Rotational direction looking at rotor	clockwise	
Airflow direction	Air outlet over struts	
Bearing system	Ball bearing	
Mounting position	any	

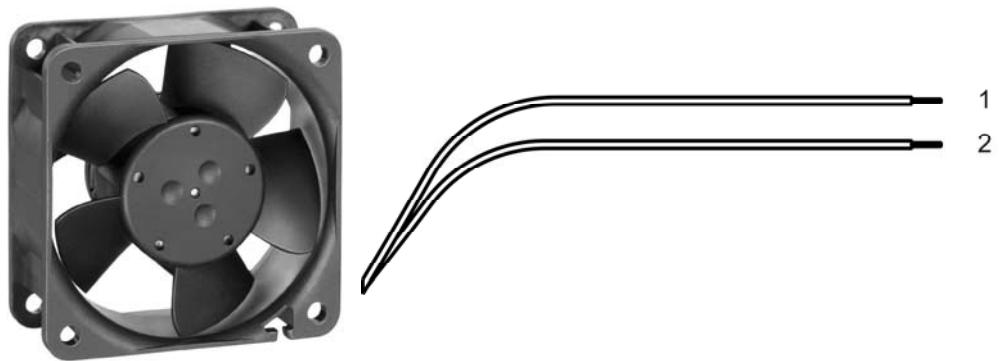
**2 Mechanics**

**2.1 General**

Width	60,0 mm	
Height	60,0 mm	
Depth	25,0 mm	
Weight	0,072 kg	
Housing material	Plastic	
Impeller material	Plastic	
Max. torque when mounted across both mounting flanges	wire outlet corner: 50 Ncm remaining corners: 70 Ncm	
Screw size	ISO 4762 - M4 degreased, without an additional brace and without washer	

**2.2 Connections**

Electrical connection	Wires	
Length of lead wire	310 mm	
Tolerance	+/- 10,0 mm	
Wire gauge (AWG)	22	
Insulation diameter	1,70 mm	
Contact	see drawing	



	Colour	Operation
Wire 1	red	+ UB
Wire 2	blue	- GND

**3 Operating Data**

**3.1 Operating Data - Electrical Interface - Input**

Control input	None
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### 3.2 Electrical Operating Data

Measurement conditions: Normal air density = 1,2 kg/m<sup>3</sup>; Temperature 23°C +/- 3°C; Motor axis horizontal; warm-up time before measuring 5 minutes (unless otherwise specified). In the intake and outlet area should not be any solid obstruction within 0,5 m.

$\Delta p = 0$ : corresp. to free air flow (see section 3.5)  
I: corresp. to arithm. mean current value

Features	Condition	Symbol	Values		
Voltage range	$\Delta p = 0$	U	18,0 V		26,0 V
Nominal voltage	$\Delta p = 0$	$U_N$		24,0 V	
Power consumption	$\Delta p = 0$	P	1,6 W	2,9 W	3,5 W
Tolerance	0001		+/- 17,5 %	+/- 12,5 %	+/- 17,5 %
Current consumption	$\Delta p = 0$	I	90 mA	120 mA	135 mA
Tolerance	0001		+/- 17,5 %	+/- 12,5 %	+/- 17,5 %
Speed	$\Delta p = 0$	n	5.300 1/min	6.850 1/min	7.300 1/min
Tolerance	0001		+/- 15,0 %	+/- 10,0 %	+/- 15,0 %

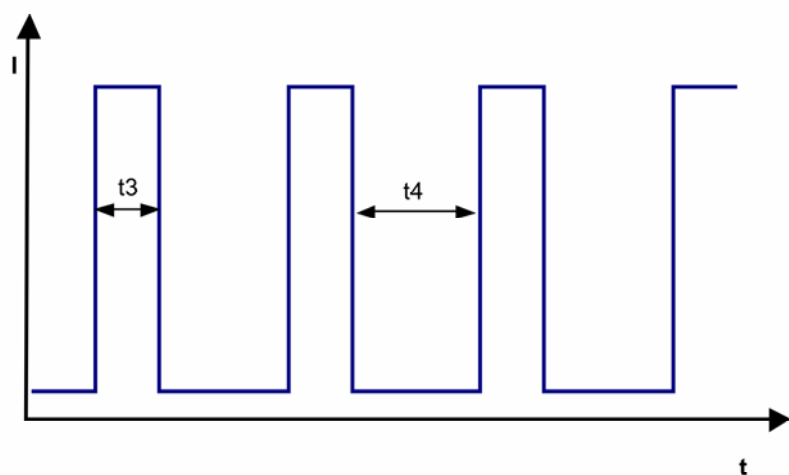
### 3.3 Operating Data - Electrical Interface -Output

Tacho type	None
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Alarm type	None
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### 3.4 Electrical Features

Electronic function	None	
Reversed polarity protection Max. residual current at $U_n$	Rectifying diode	
Locked rotor protection	Auto restart	
Locked rotor current at $U_n$		
Clock signal $t_3/t_4$ at locked rotor	Typical: 0,2 s / 1 s	



### 3.5 Aerodynamic

Measurement conditions: Measured with a double chamber intake rig acc. to DIN EN ISO 5801.  
 Normal air density = 1,2 kg/m<sup>3</sup>; Temperature 23°C +/- 3°C;  
 In the intake and outlet area should not be any solid obstruction within 0,5 m.

a.) Operation condition:

6.850 1/min at free air flow		
Max. free-air flow ( $\Delta p = 0 / \dot{V} = \text{max.}$ )	54,0 m <sup>3</sup> /h	
Max. static pressure ( $\Delta p = \text{max.} / \dot{V} = 0$ )	134 Pa	

### 3.6 Sound Data

Measurement conditions: Sound pressure level: 1 Meter distance between microphone and the air intake.  
 Sound power level: Acc. to DIN 45635 part 38 (ISO 10302)  
 Measured in a semianchoic chamber with a background noise level of Lp(A) < 5 dB(A)  
 For further measurement conditions see section 3.5

a.) Operation condition:

6.850 1/min at free air flow		
Optimal operating point	34,0 m <sup>3</sup> /h @ 33 Pa	
Sound power level at the optimal operating point	5,6 bel(A)	
Sound pressure level at free air flow, measured in rubber bands	42,0 dB(A)	

## 4 Environment

### 4.1 General

Min. permitted ambient temperature TU min.	-20 °C	
Max. permitted ambient temperature TU max.	70 °C	
Min. permitted storage temperature TL min.	-40 °C	
Max. permitted storage temperature TL max.	80 °C	

### 4.2 Climatic requirements\*)

Humidity requirements	humid temperature, cyclic; according to DIN EN 60068-2-38, 10 cycle and condensation water check; according to DIN EN ISO 6270-2, 14 days	
Water exposure	Splash water check IPX4; according to DIN EN 60529 VDE 0470, not certified	
Radiation exposure	Solar radiation; according to DIN EN 60068-2-5	
Dust requirements	Dust check IP5X; according to DIN EN 60529 VDE 0470, not certified	
Salt fog requirements	None	

Harmful gas requirements	None	
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\*) Permitted application area:

The product is for the use in partial sheltered rooms or open, roofed areas. Direct exposure to water is allowed provided that this does not prevent the normal operation. Saline ambient conditions must be avoided.

Pollution degree 3 (according DIN EN 60664-1)

It occurs conductive pollution or dry non-conductive pollution which becomes conductive due to condensation.



## 5 Safety

### 5.1 Electrical Safety

Dielectric strength DIN EN 60950 (VDE 0805) and DIN EN 60335 (VDE 0700) A.) Type test Measuring conditions: After 48h of storage at 95% R.H. and 25°C. No arcing or breakdown is allowed! All connections together to ground. B.) Routine test Measuring conditions: At indoor climate. No arcing or breakdown is allowed! All connections together to ground.	Not applicable  Not applicable	
Isolation resistance Measuring conditions: After 48h of storage at 95% R.H. and 25°C measured with U=500 VDC for 1 min.	RI > 10 MOhm	
Air and leakage distances	1,0 mm / 1,2 mm	
Protection class	III	

### 5.2 Approval Tests

CE	Yes
UL	Yes / UL507, Electric Fans
VDE	Yes / Approval acc. to EN 60950 (VDE 0805) - Information technology equipment
CSA	Yes / C22.2 No. 113 Fans and Ventilators
CCC	No

The approval tests are observed to:

U approval max.: 28,0 V @ TU approval max.: 70,0 °C

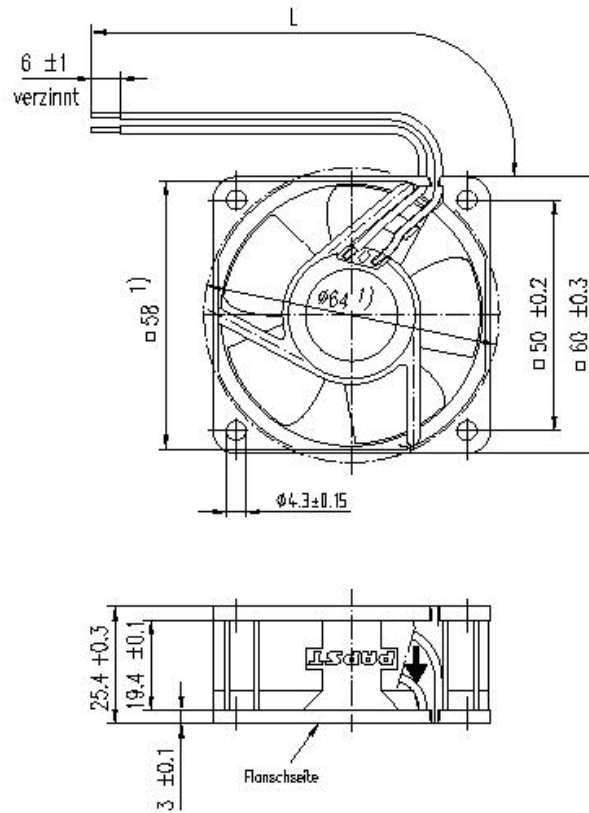
## 6 Reliability

### 6.1 General

Life expectancy L10 at TU = 40 °C	60.000 h	
Life expectancy L10 at TU max.	30.000 h	
Life expectancy L10 Delta (40 °C)	120.000 h	

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Schutzvermerk nach DIN 34, beachten



Anzahl und Länge der Litze s. Bv. Bl. 1

1) Maße für Montagewand

Axialspiel bei

- Kugellagerung (K): 0 (mit Federausgleich)
- Gleitlagerung (G): 0.1 - 0.9

Tolerierung: DIN 7167  
Allgemeintoleranzen:

516					Datum	Name	Artikel	Maßstab
210				Erstellt				
232				Geprüft				
235							Zchg.-Nr.	Blatt
240	Index	Änd.-Nr.	Datum	Geändert von	<b>PAPST</b> PAPST-MOTOREN GmbH & Co KG D-78112 St. Georgen Germany		Ers.f.Zchg.	
3.	Zur Verwendung in Verteiler freigegeben		an					