

KARTA KATALOGOWA

614 N/2HH

Wentylator osiowy kompaktowy DC

Producent: ebm-papst



Dane znamionowe		Budowa	
Napięcie znamionowe	24 V DC (18...28 V DC)	Wymiary	60 × 60 × 25 mm
Prędkość obrotowa	6850 obr/min	Materiał wirnika	tworzywo sztuczne
Pobór mocy	2,3 W	Obudowa	tworzywo sztuczne
Pobór prądu	95 mA	Kierunek przepływu	wydmuch przez żebra
Wydajność	54 m³/h	Łożyskowanie	kulkowe
Maks. ciśnienie statyczne	134 Pa	Podłączenie	przewody
Poziom ciśnienia akustycznego	42 dB(A)	Trwałość L10 (40 °C)	60000 h
Poziom mocy akustycznej	5,6 B		
Temperatura otoczenia	-20...+70 °C		

Dane na okładce odczytane z karty produktu ebm-papst (oryginał na kolejnych stronach).
 Producent zastrzega możliwość zmian.

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Product Data Sheet **9292206121**
VWCD060YJEGS
614 N/2HH-121

ebm**papst**

engineering a better life



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1 General

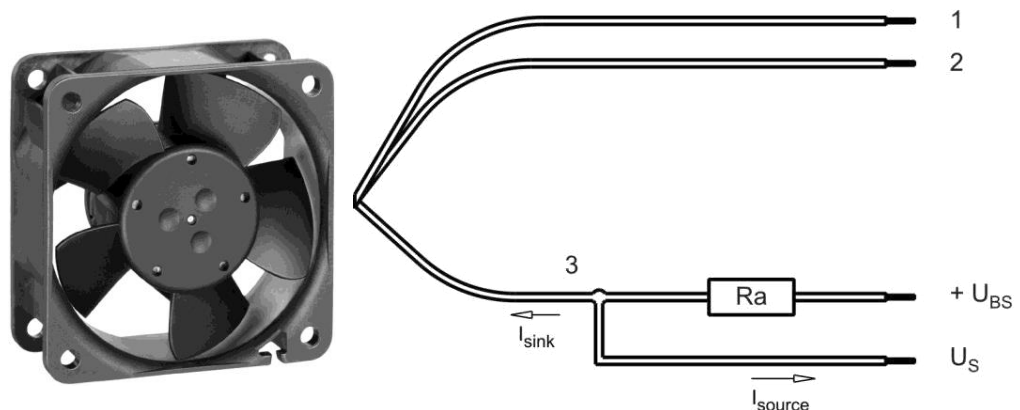
Fan type	Axial	
Rotating direction looking at rotor	Clockwise	
Airflow direction	Air outlet over struts	
Bearing system	Ball bearing	
Mounting position - shaft	Any	

2 Mechanics
2.1 General

Width	60,0 mm	
Height	60,0 mm	
Depth	25,0 mm	
Mass	0,066 kg	
Housing material	Plastic	
Impeller material	Plastic	
Max. torque when mounted across both mounting flanges	Wire outlet corner: 20 Ncm Remaining corners: 40 Ncm	
Screw size	ISO 4762 - M3 degreased, without an additional brace and without washer	

2.2 Connections

Electrical connection	Wires	
Lead wire length	L = 310 mm	
Tolerance	+/- 10,0 mm	



Wire	Color	Operation	Wire size	Insulation diameter
1	red	+ UB	AWG 24	1,50 mm
2	blue	- GND	AWG 24	1,50 mm
3	white	Tacho	AWG 24	1,50 mm

The auxiliaries shown on the schematic diagram (which are required for the intended use) are not part of our delivery.

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3 Operating Data
3.1 Electrical Operating Data

Measurement conditions: Normal air density = 1,2 kg/m³; 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.

Δp = 0: corresp. to free air flow (see chapter aerodynamics)
 I: corresp. to arithm. mean current value

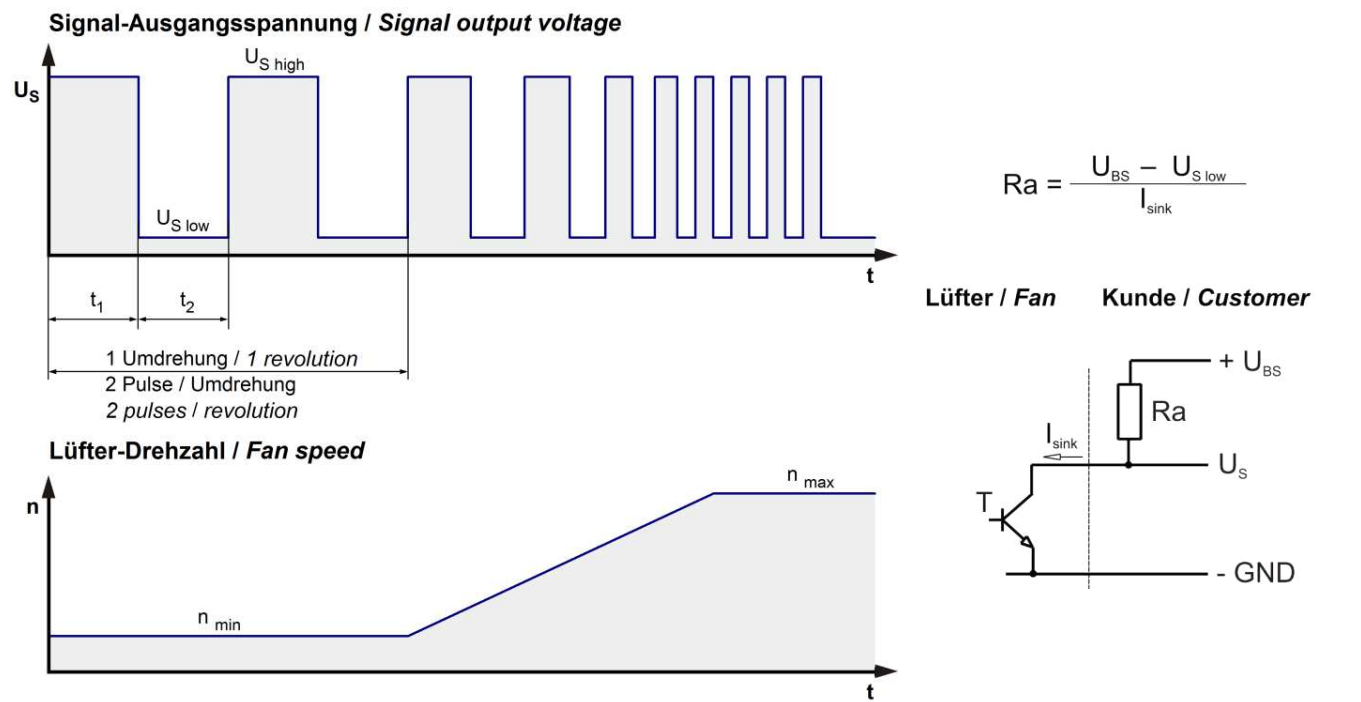
Features	Condition	Symbol	Values		
Voltage range		U	18,0 V		28,0 V
Nominal voltage		U _N		24,0 V	
Power consumption	Δp = 0	P	1,24 W	2,3 W	3,2 W
Tolerance	0010		+/- 17,5 %	+/- 12,5 %	+/- 17,5 %
Current consumption	Δp = 0	I	69 mA	95 mA	113 mA
Tolerance	0010		+/- 17,5 %	+/- 12,5 %	+/- 17,5 %
Speed	Δp = 0	n	5.340 1/min	6.850 1/min	7.850 1/min
Tolerance	0010		+/- 10,0 %	+/- 7,5 %	+/- 10,0 %
Starting current consumption				< 390 mA	

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3.2 Electrical Interface - Output

Tacho type	/2 (open collector)
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Features	Note	Values
Tacho operating voltage	U_{BS}	$\leq 30\ V$
Tacho signal Low	$U_{S\ low}$	$I_{sink}: 2\ mA$ $\leq 0,4\ V$
Tacho signal High	$U_{S\ high}$	$I_{source}: 0\ mA$ $\leq 30\ V$
Maximum sink current	I_{sink}	$\leq 4\ mA$
External resistor	External resistor R_a from U_{BS} to U_S required. All voltages measured to GND.	
Tacho frequency	$(2 \times n) / 60$	
Tacho isolated from motor	No	
Slew rate		$\geq 0,5\ V/\mu s$

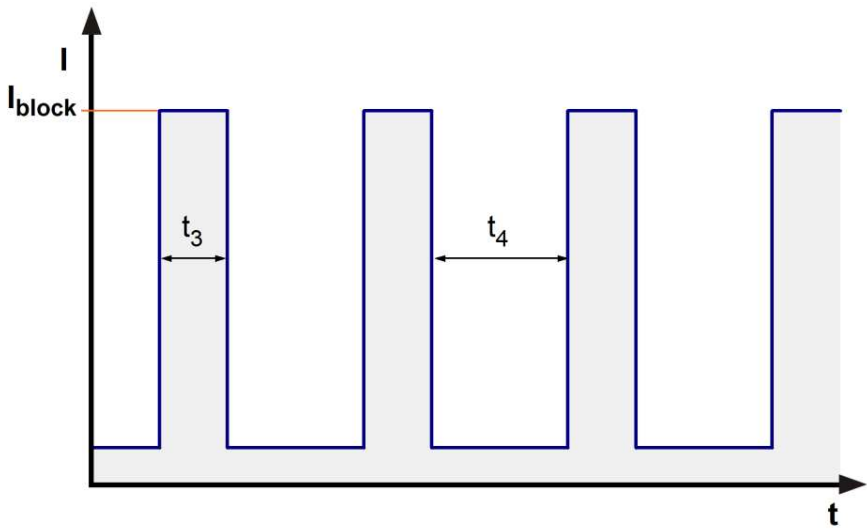
n = revolutions per minute (1/min)

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3.3 Electrical Features

Electronic function	None	
Reversed polarity protection	Rectifying diode	
Max. residual current at U_N	$I_F \leq 1 \text{ mA}$	
Locked rotor protection	Auto restart	
Locked rotor current at U_N	I_{block} approx. 310 mA	
Clock signal at locked rotor	t_3 / t_4 typical: 0,33 s / 4 s	



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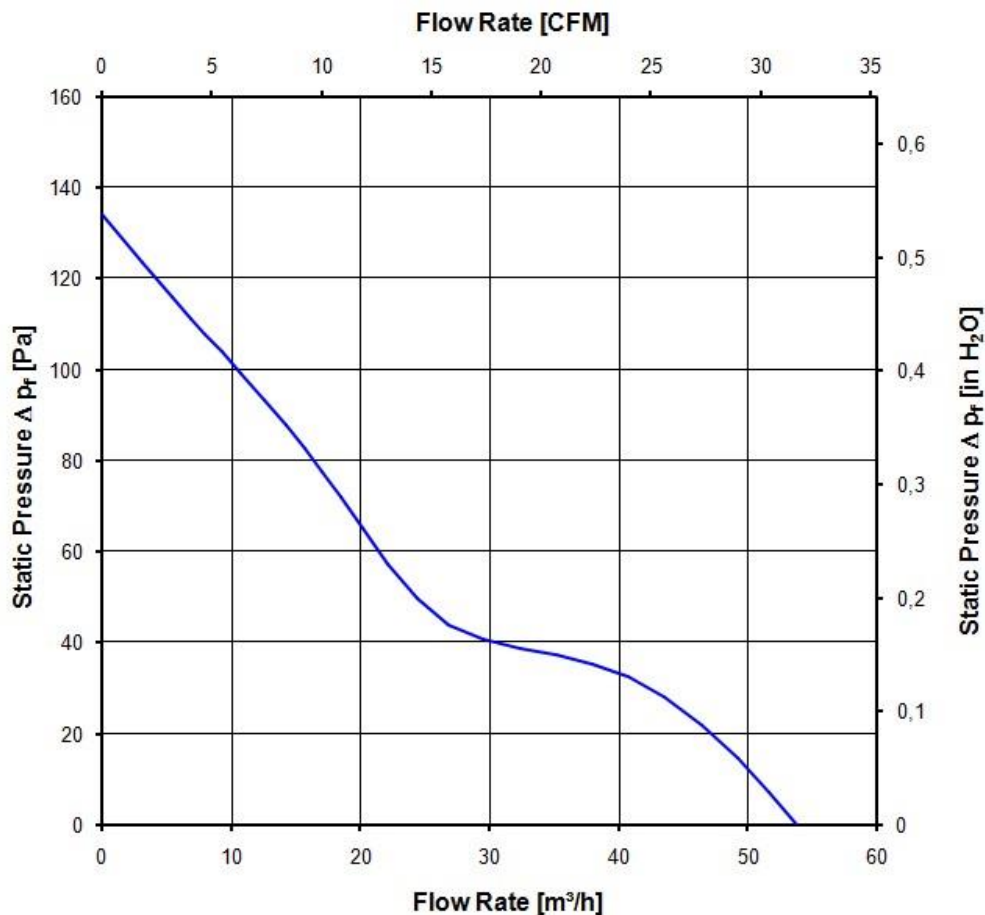
3.4 Aerodynamics

Measurement conditions: Measured with a double chamber intake rig acc. to DIN EN ISO 5801.
 Normal air density = 1,2 kg/m³; Temperature 23°C +/- 3°C;
 In the intake and outlet area should not be any solid obstruction within 0,5 m. Motor shaft horizontal.
 The information is only valid under the specified test conditions and may be changed by the installation conditions. If there are deviations from the standard test conditions, the characteristic values must be checked under the installed conditions.

a.) Operation condition:

6.850 1/min at free air flow

Max. free-air flow ($\Delta p = 0 / \dot{V} = \max.$)	54,0 m ³ /h	
Max. static pressure ($\Delta p = \max. / \dot{V} = 0$)	134 Pa	



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3.5 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 semianechoic chamber with a background noise level of $L_p(A) < 5 \text{ dB(A)}$
For further measurement conditions see chapter aerodynamics.

a.) Operation condition:

6.850 1/min at free air flow

Optimal operating point	34,0 m3/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 heat, constant; according to DIN EN 60068-2-78, 14 days	
Water exposure	None	
Dust requirements	None	
Salt fog requirements	None	

Permitted application area:

The product is intended for use in sheltered rooms with controlled temperature and controlled humidity. Directly exposure to water must be avoided.

Pollution degree 1 (according DIN EN 60664-1)

There is either no pollution or it occurs only dry, non-conductive pollution. The pollution has no negative impact.

Please require severity levels and specification parameters from the responsible development departments.

4.3 EMC

Kind	Radiated Emission; 30 MHz - 1000 MHz
According	DIN EN 55032:2016-02
Check accuracy / Limit	Class B
Result	Below limit Class B

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Kind	Electrostatic Discharge Immunity Test
According	DIN EN 61000-4-2:2001-12
Ceck accuracy / Limit	Contact Discharge +/- 4 kV; Air Discharge +/- 8 kV
Result	A: The monitored function operates as designed during and after exposure to a disturbance.

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5 Safety
5.1 Electrical Safety

Dielectric strength DIN EN 62368 and DIN EN 60335 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	
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	
Clearance / creepage distance	1,0 mm / 1,2 mm	
Protection class	III	

5.2 Approval Tests

CE	EC Declaration of Conformity	Yes
EAC	Eurasian Conformity	Yes
UL	Underwriters Laboratories	Yes / UL507, Electric Fans E38324
VDE	Association for Electrical, Electronic and Information Technologies	Yes / Approval acc. to EN 62368 - Audio/video, information and communication technology equipment
CSA	Canadian Standards Association	Yes / C22.2 No. 113 Fans and Ventilators
CCC	China Compulsory Certification	Not applicable

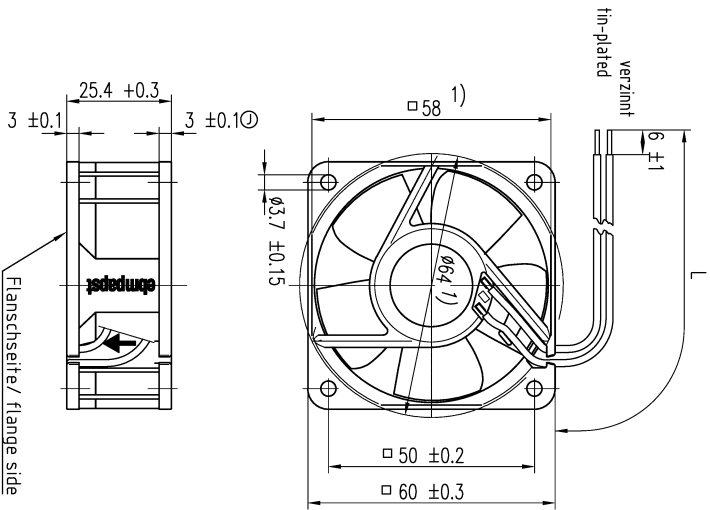
6 Reliability
6.1 General

Life expectancy L10 at TU = 40 °C	60.000 h	
Life expectancy L10 at TU = 60 °C	37.500 h	
Life expectancy L10 at TU max.	30.000 h	
Life expectancy L10 acc. to IPC 9591 at TU = 40 °C	102.500 h	

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Schutzvermerk nach DIN ISO 16016 beachten!
Refer to protection notice DIN ISO 16016!

Anzahl und Länge der Litze s. Spezifikation
length and number of wires see design specification



1) Maße für Montagewand
1) dimensions for assembly wall

SPR Status/State		Art. Nr./Design No.		ehmpapst		Werkstoff/Material:		Volumen/Volume (cm³)	
Anzahl/Quantity		Material/Material		Zusätzliche Merkmale/Additional Features		Artikel/Title		Gewicht/Mass (g)	
Bezeichnung/Description		Bezeichnung/Description		Bezeichnung/Description		Bezeichnung/Description		Bezeichnung/Description	
Allgemein/General		Allgemein/General		Allgemein/General		Allgemein/General		Allgemein/General	
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