Product Data Sheet 4418 MU

ebmpapst

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GREEN TECH

4418 MU
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1 General

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

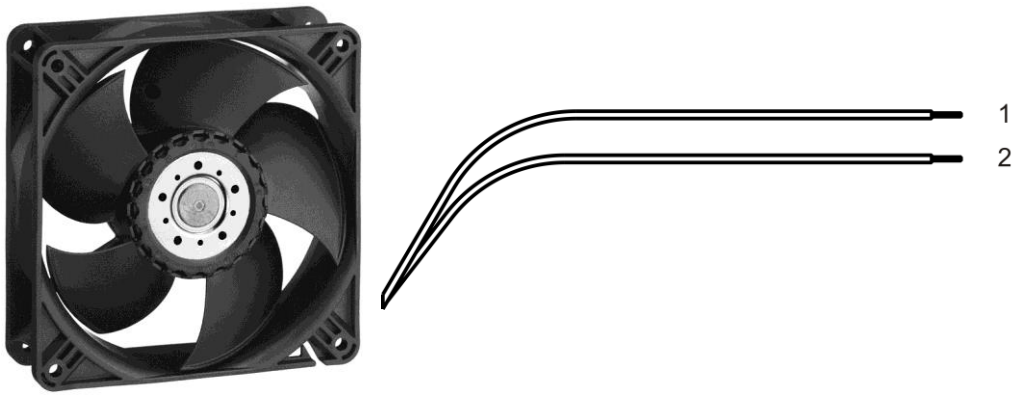
2 Mechanics

2.1 General

Width	119 mm	
Height	119 mm	
Depth	38 mm	
Mass	0,275 kg	
Housing material	Plastic	
Impeller material	Plastic	
Max. torque when mounted across both mounting flanges Screw size	wire outlet corner: 80 Ncm remaining corners: 80 Ncm ISO 4762 - M4 degreased, without an additional brace and without washer	

2.2 Connections

Electrical connection	Wires	
Lead wire length Tolerance	L = 310 mm +- 10 mm	
Wire size (AWG)	24	
Insulation diameter	1,10 mm	
Contact	See drawing	



Wire	Colour	Operation
1	red	+ UB
2	blue	- GND

3 Operating Data

3.1 Electrical Operating Data

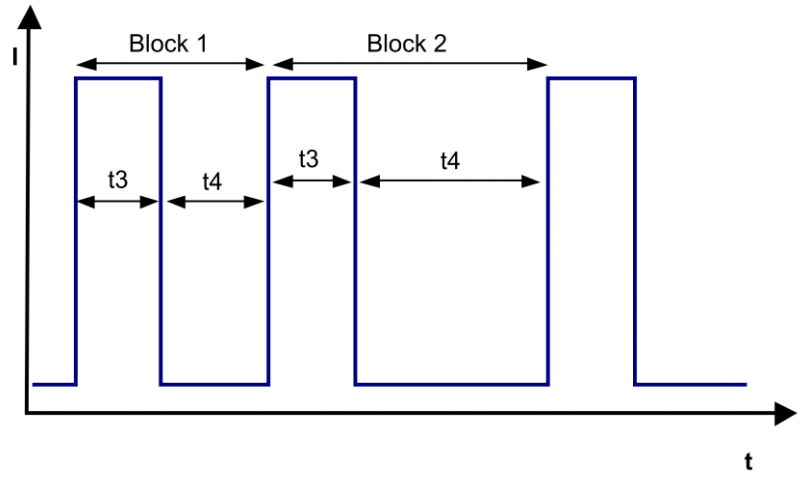
Measurement conditions: Normal air density = 1,2 kg/m3; Temperature 23°C +/- 3°C; Motor axis horizontal; warm-up time before measuring 5 minutes (unless otherwise specified). In the intake and outlet area should not be any solid obstruction within 0,5 m.

Δp = 0: corresp. to free air flow (see section 3.5)
I: corresp. to arithm. mean current value

Features	Condition	Symbol	Values		
Voltage range		U	36 V		60 V
Nominal voltage		U_N		48 V	
Power consumption Tolerance	Δp = 0 0010	P	2,7 W +- 17,5 %	4,5 W +- 12,5 %	7,8 W +- 15 %
Current consumption Tolerance	Δp = 0 0010	I	76 mA +- 17,5 %	94 mA +- 12,5 %	130 mA +- 15 %
Speed Tolerance	Δp = 0 0010	n	2.600 1/min +- 12,5 %	3.300 1/min +- 7,5 %	3.860 1/min +- 10 %

3.2 Electrical Features

Electronic function	None	
Reversed polarity protection Max. residual current at U_N	Rectifying diode I_F < 100 uA	
Locked rotor protection	Auto restart	
Locked rotor current at U_N	I_{block} approx. 600 mA	
Clock signal at locked rotor	t_3 / t_4 Typical: 0,6 s / 10 s	



Block1: special locked rotor protection: 5 cycles t3 / t4 = 0,6 s / 1 s Block2: locked rotor protection t3 / t4 = 0,6 s / 10 s

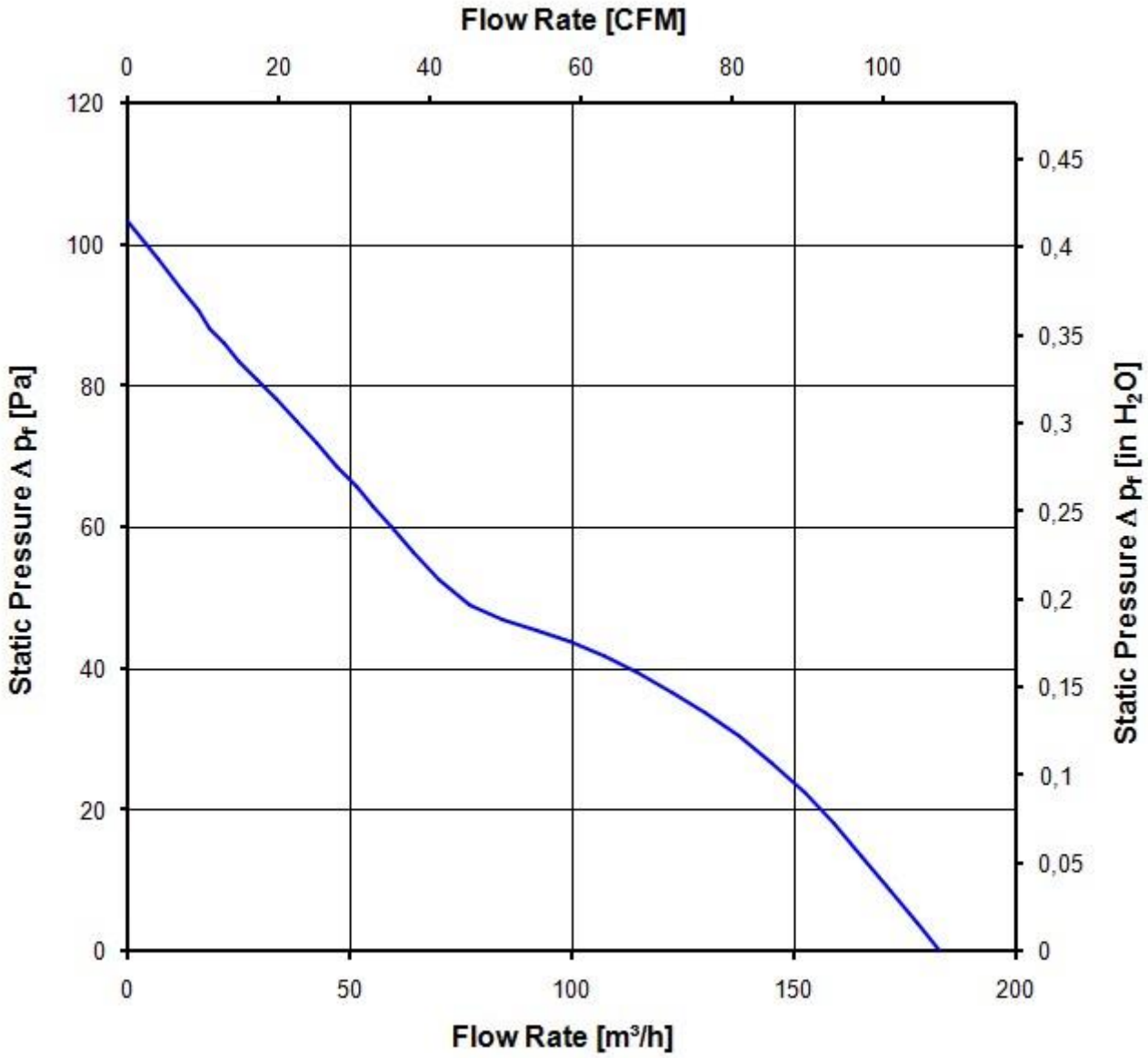
3.3 Aerodynamics

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. 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:

3.300 1/min at free air flow

Max. free-air flow (Δp = 0 / $\dot{V}$ = max.)	184,0 m3/h	
Max. static pressure (Δp = max. / $\dot{V}$ =0)	103 Pa	



3.4 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:

3.300 1/min at free air flow

Optimal operating point	106,0 m3/h @ 38 Pa	
Sound power level at the optimal operating point	5,3 bel(A)	
Sound pressure level at free air flow, measured in rubber bands	43,0 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.	85 °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	
Dust requirements	Dust check IP5X; according to DIN EN 60529 VDE 0470, not certified	
Salt fog requirements	salt fog, cyclic, in operation; according to DIN EN 60068-2-52, 3 cycle	

*) Permittet application area:
The product is for the use in open and unsheltered areas. Direct exposure to water as well as saline ambient conditions are allowed provided that this does not prevent the normal operation.

Pollution degree 3 (according DIN EN 60664-1)
It occurs conductive pollution or dry non-conductive pollution which becomes conductive due to condensation.

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

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.	500 VAC / 1 Min. 500 VAC / 1 Sec.	
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 / 1,5 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
VDE	Association for Electrical, Electronic and Information Technologies	Yes / Approval acc. to EN 60950 (VDE 0805) - Information technology equipment
CSA	Canadian Standards Association	Yes / C22.2 No. 113 Fans and Ventilators
CCC	China Compulsory Certification	Yes / GB 12350 Safety Requirements for small Power Motors

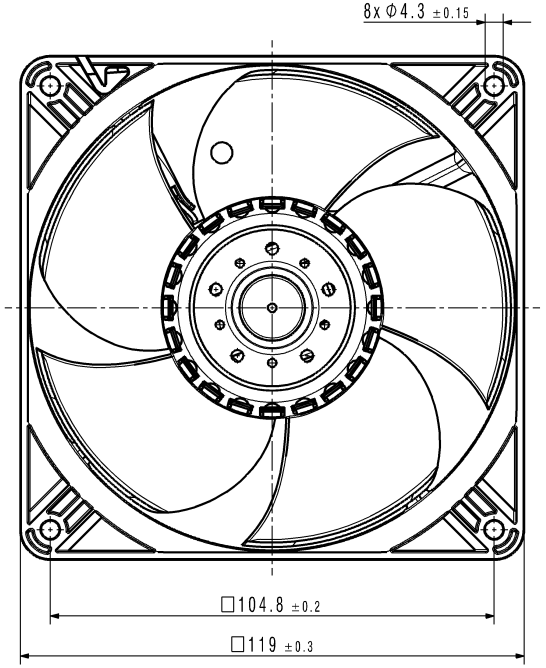
6 Reliability

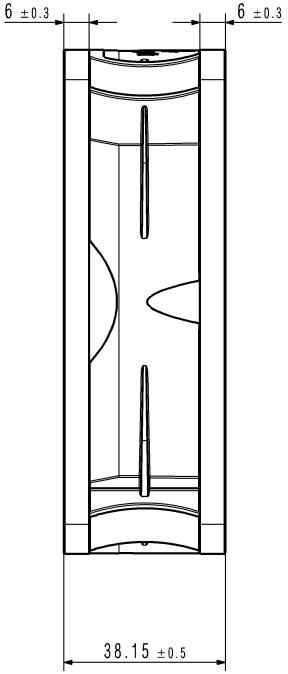
6.1 General

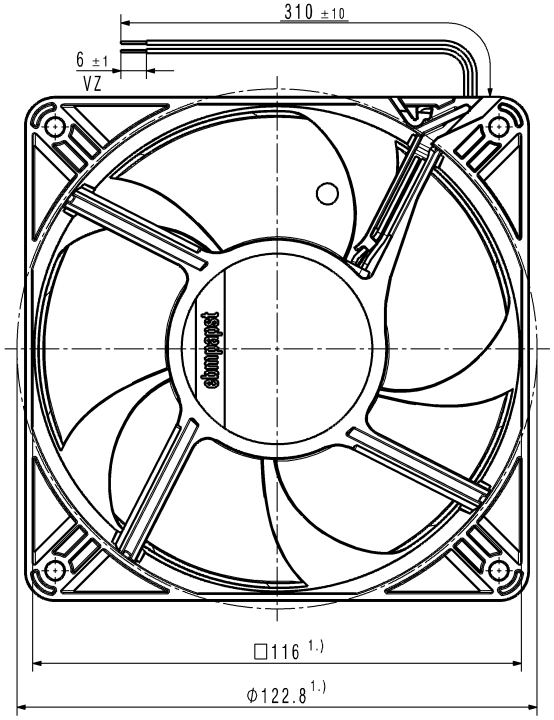
Life expectancy L10 at TU = 40 °C	65.000 h	
Life expectancy L10 at TU max.	32.500 h	
Life expectancy L10 acc. to IPC 9591 at TU = 40 °C	110.000 h	

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Schutzvermerk nach DIN 34 beachten !
Refer to protection notice DIN 34 !







1.) Maße fuer Montageausschnitt
- Axialspiel: mit Feder spielfrei verspannt
- Max. Anzugsmoment bei Montage über beide Befestigungsflansche = 0.8 Nm

1.) measures for mounting cut-out
- without axial clearance by a pre-loaded spring
- Max. torque when mounted across both mounting flanges = 0.8 Nm

VZ= verzinnt / tinned

SAP-Status/State	Aend.-Nr./ Change-No.	CATIA-System-Version/ CATIA-System-Version	CAD-Umgebung/ CAD-Environment
		92935T0596 CPR000-	
		3D-Referenzmodell / 3D-Referencemodel	
Tolerierung / Tolerances:		Datum	Name
	Bearb./ Drawn		
Allgemeintoleranzen / Gen. Tolerances:	Gepr./ Checked		
	Freig./ Release		

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Werkstoff / Material:				Volumen / Volume (mm^3):	
				Gewicht / Mass (g):	
Artikel / Title:					
Zchg.-Nr./ Drawing No:				Ers.f.Zchg. / Replaces:	
Dokumenttyp / Type of Document	Teildokument (Blatt/Page)	Index / Index		Format / Size:	Massstab/Scale