Product Data Sheet 3214 J/39HU-205

ebmpapst

The engineer's choice



GREEN TECH

3214 J/39HU-205

INDEX

1 General 3

2 Mechanics 3

2.1 General 3
2.2 Connections 3

3 Operating Data 4

3.1 Electrical Operating Data 4
3.2 Electrical Interface - Output 5
3.3 Electrical Features 6
3.4 Aerodynamics 7
3.5 Sound Data 8

4 Environment 8

4.1 General 8
4.2 Climatic Requirements 8

5 Safety 9

5.1 Electrical Safety 9
5.2 Approval Tests 9

6 Reliability 9

6.1 General 9

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

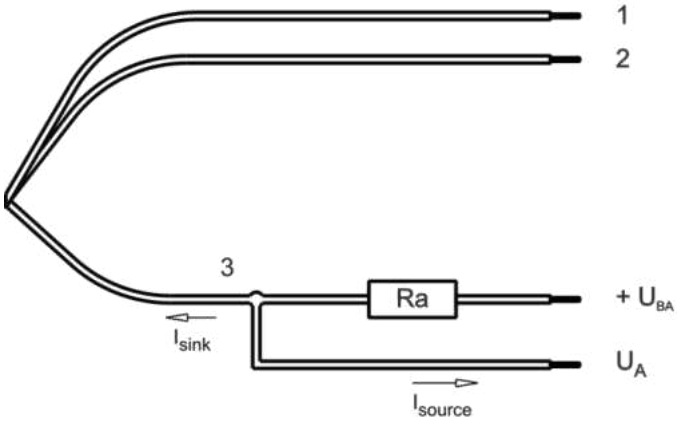
2.1 General

Width	92,0 mm	
Height	92,0 mm	
Depth	38,0 mm	
Mass	0,250 kg	
Housing material	Plastic	
Impeller material	Plastic	
Max. torque when mounted across both mounting flanges Screw size	Wire outlet corner: 30 Ncm Remaining corners: 30 Ncm ISO 4762 - M4 degreased, without an additional brace and without washer	

2.2 Connections

Electrical connection	Cable	
Lead wire length Tolerance	L = 190 mm	
Wire size (AWG)	20	
Insulation diameter	1,50 mm	
Plug	See drawing	
Contact	See drawing	





Wire	Color	Operation
1	red	+ UB
2	black	- GND
3	brown	Alarm

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

3 Operating Data

3.1 Electrical Operating Data

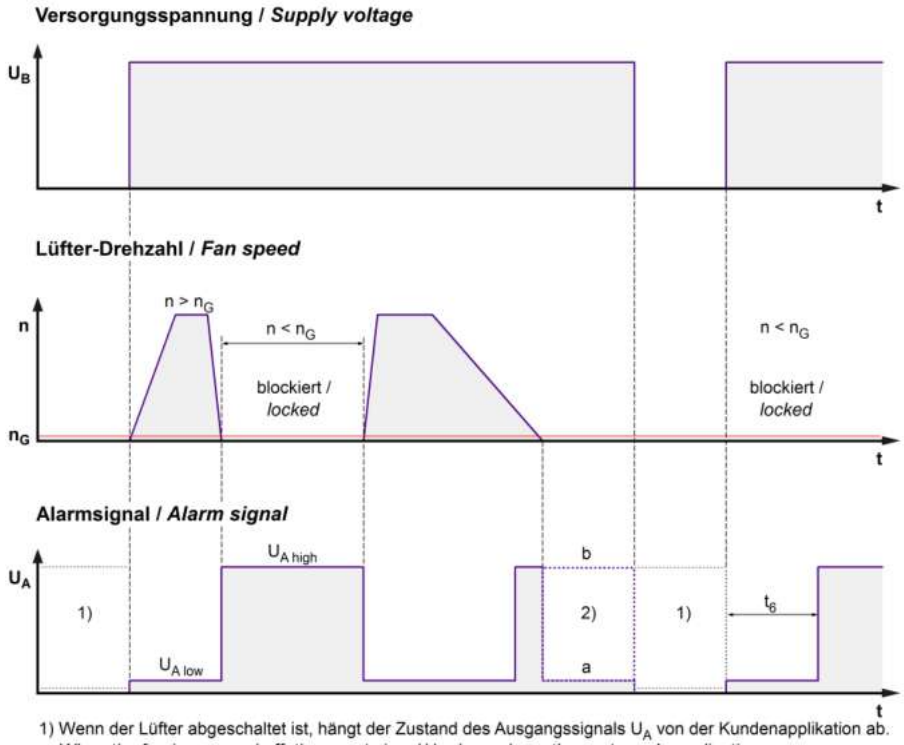
Measurement conditions: Normal air density = 1,2 kg/m3; Temperature 23°C +/- 3°C; Motor axis horizontal; warm-up time before measuring 5 minutes (unless otherwise specified). In the intake and outlet area should not be any solid obstruction within 0,5 m.

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

Features	Condition	Symbol	Values		
Voltage range		U	18,5 V		30,2 V
Nominal voltage		U_N		24 V	
Power consumption Tolerance	$\Delta p = 0$ 0010	P	5,5 W +- 17,5 %	9 W +- 17,5 %	9,5 W +- 25 %
Current consumption Tolerance	$\Delta p = 0$ 0010	I	300 mA +- 17,5 %	375 mA +- 17,5 %	310 mA +- 25 %
Speed Tolerance	$\Delta p = 0$ 0010	n	5.700 1/min +- 12,5 %	6.800 1/min +- 5 %	6.800 1/min +- 5 %
Starting current consumption				1.300 mA	

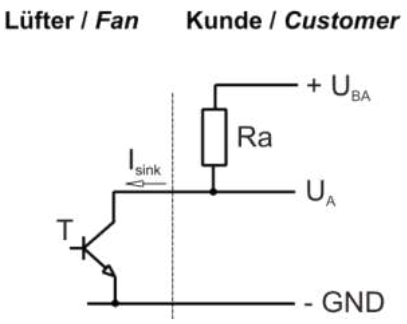
3.2 Electrical Interface - Output

Alarm type	/39 (low = ok, open collector)



1) Wenn der Lüfter abgeschaltet ist, hängt der Zustand des Ausgangssignals U_A von der Kundenapplikation ab.
When the fan is powered off, the ouput signal U_A depends on the customer's application.
2) Für den gültigen Zustand (a oder b) siehe Alarmunterdrückung in der Tabelle.
For the valid condition (a or b) see alarm suppression in the table.

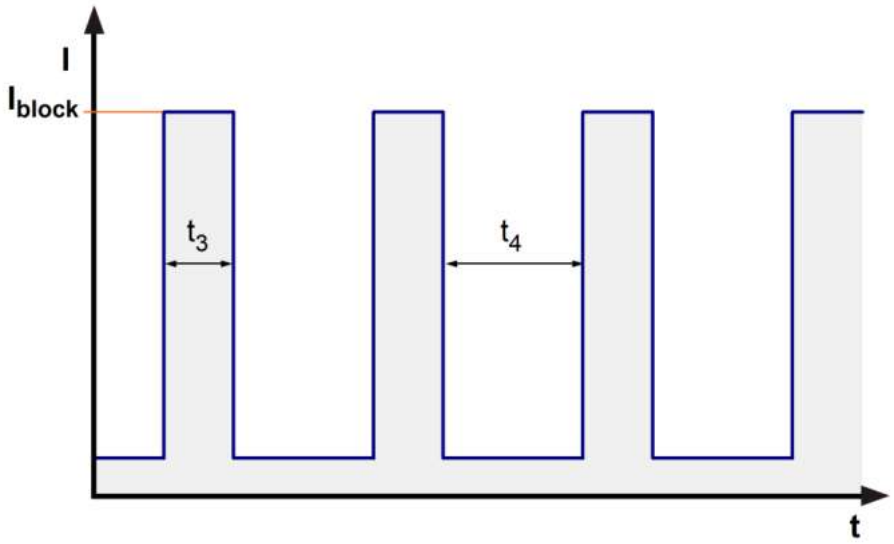
$$Ra = \frac{U_{BA} - U_{A\,low}}{I_{sink}}$$



Features		Note	Values
Alarm operating voltage	U_{BA}		<= 60 V
Alarm signal Low	$U_{A\,low}$	I sink: 2 mA	
Alarm signal High	$U_{A\,high}$	I source: 0 mA	
Maximum sink current	I_{sink}		<= 4 mA
Maximum source current			0 mA
External resistor		External resistor Ra from UBA to UA required. All voltage measured to GND.	
Alarm start-up delay time	t_6		5 s
Alarm trip speed limit	n_G		850 1/min

3.3 Electrical Features

Electronic function	Speed-Controlled	
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. 1.300 mA	
Clock signal at locked rotor	t_3 / t_4 typical: 0,7 s / 20,0 s	



Special clock signal at locked rotor: t4 two times 1,2s then 20s

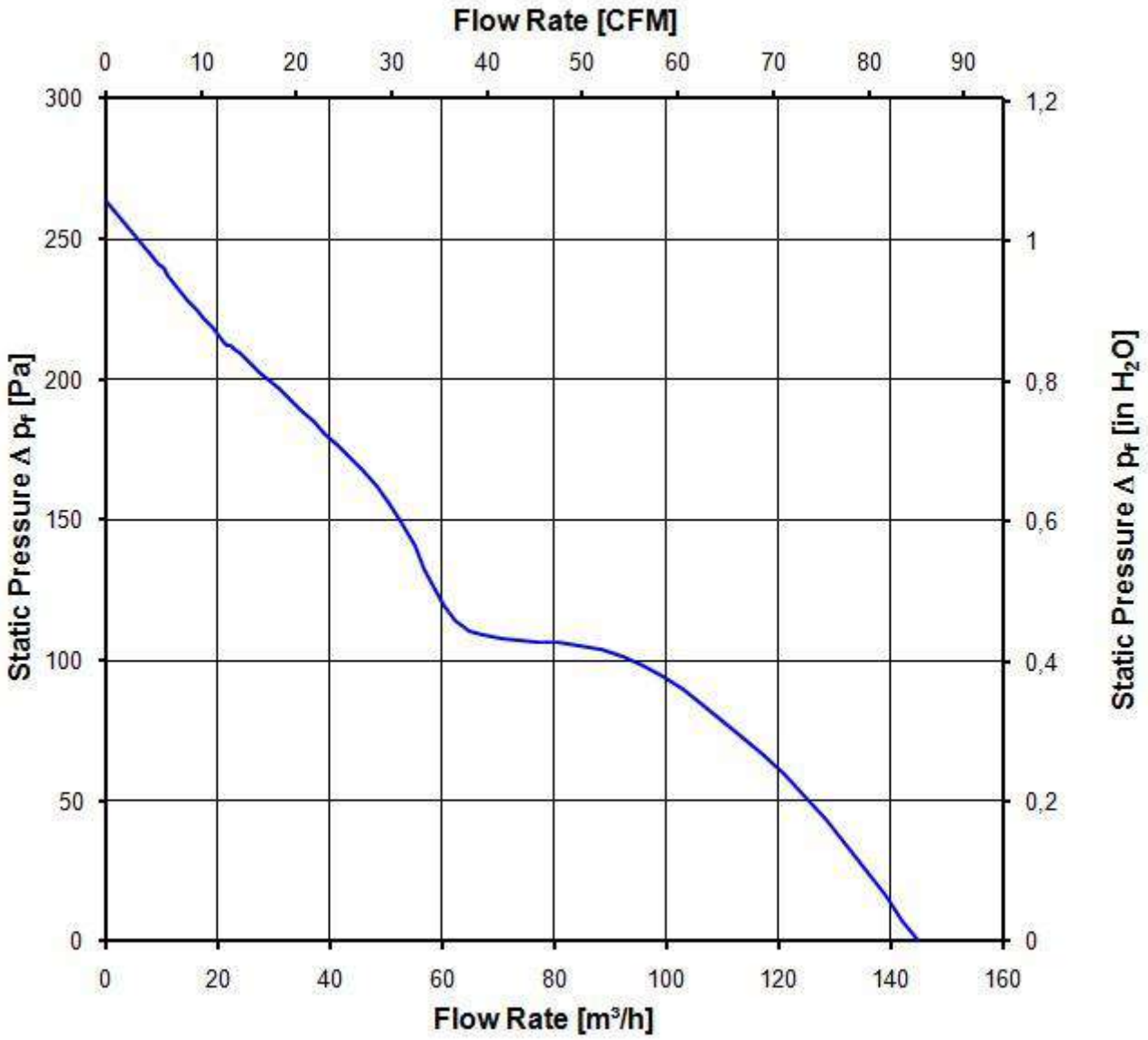
3.4 Aerodynamics

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:

6.800 1/min at free air flow

Max. free-air flow (Δp = 0 / $\dot{V}$ = max.)	146,0 m3/h	
Max. static pressure (Δp = max. / $\dot{V}$ =0)	265 Pa	



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 semianchoic chamber with a background noise level of Lp(A) < 5 dB(A) For further measurement conditions see chapter aerodynamics.

a.) Operation condition:

6.800 1/min at free air flow

Optimal operating point	94,0 m3/h @ 93 Pa	
Sound power level at the optimal operating point	6,4 bel(A)	
Sound pressure level at free air flow, measured in rubber bands	55,0 dB(A)	

4 Environment

4.1 General

Min. permitted ambient temperature TU min.	-20 °C	
Max. permitted ambient temperature TU max.	65 °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	
Dust requirements	Dust check IP5X; according to DIN EN 60529 VDE 0470, not certified	
Salt fog requirements	None	

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.

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 / 1,2 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
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	Not applicable

6 Reliability

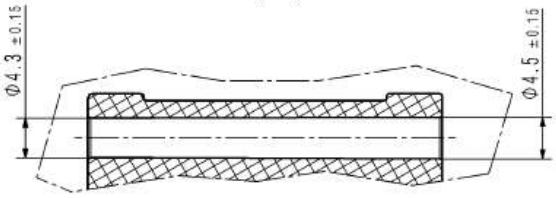
6.1 General

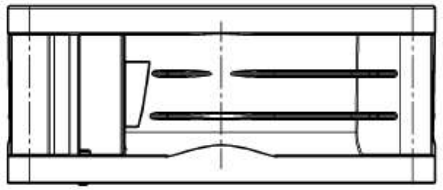
Life expectancy L10 at TU = 40 °C	70.000 h	
Life expectancy L10 acc. to IPC 9591 at TU = 40 °C	117.500 h	

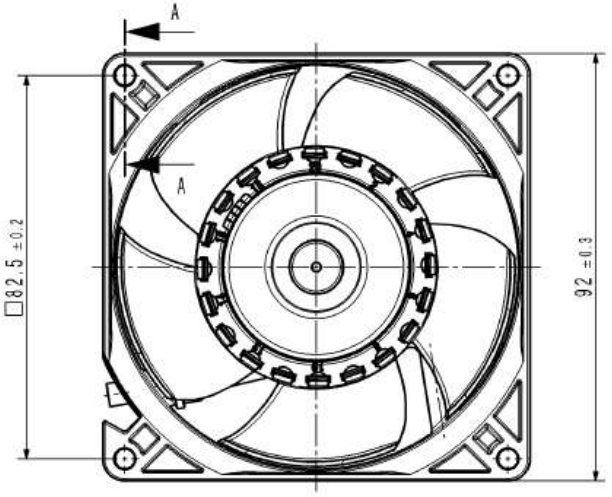
Copying of this document, and giving it to others and the use or communication of the contents thereof, are forbidden without express authority. Offenders are liable to the payment of damages. All rights are reserved in the event of the grant of a patent or the registration of a utility model or design.

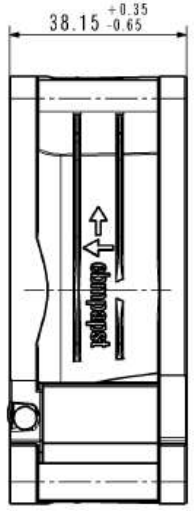
Bezeichnungen nach DIN ISO 16016 (Vakuum) / Refer to protection value DIN ISO 16016 (

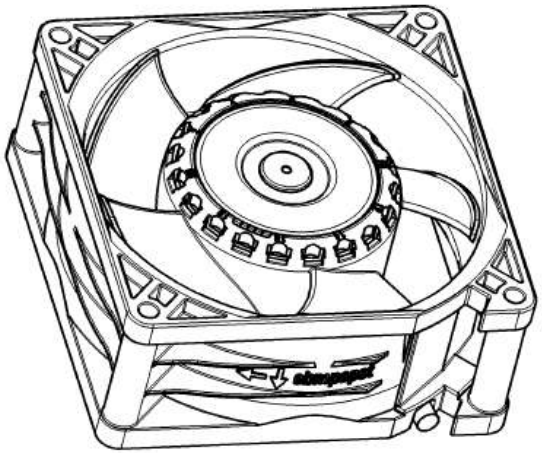
A-A (2:1)











Kabelbaum nicht dargestellt.
Wiring harness not view.

Kein Axialspiel (Kugellagerung mit Federausgleich).
No axial clearene of ball bearings conditional on pre-load spring.

FR		V5R19	PAPST	Werkstoff / Material:	Volumen / Volume (mm^3):
SAP Status/State	Aend.-Nr./ Change-No.	CATIA-System-Version/ CATIA-System-Version	CAD-Umgebung/ CAD-Environment		Gewicht / Mass (g):
		Datum	Name		
		Bearb./ Drawn 26.03.2010	HELBLING	Artikel / Title:	
Toleranzen / Tolerances: DIN 7167		Gepr./ Checked 05.10.2010	HELBLING	Axiallüfter	
		Freig./ Releas. 05.10.2010	WEISSERN	axial blower	
Allgemeintoleranzen / Gen. Tolerances: DIN ISO 2768-mK-E		ebmpapst		Zchg.-Nr./ Drawing No: 1693510205	Ers.f.Zchg. / Replaces:
		ebm-papst St.Georgen GmbH & Co KG		Dokumenttyp / Type of Document C2D	Teildokument (Blatt/Page) 002 / Index / Index - / Format / Size: A3 / Massstab/Scale (2:1) 1:1

Vertraulich / Confidential Information 06.07.2017