

W1G208-BA35-52

EC axial compact fan

sickle-shaped blades (S series)



W1G208-BA35-52 ebmpapst Datasheet

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Nominal data

Type	W1G208-BA35-52	
Motor	M1G074-BF	
Nominal voltage	VDC	24
Nominal voltage range	VDC	16 .. 28
Method of obtaining data		fa
Speed (rpm)	min ⁻¹	3500
Power consumption	W	96
Current draw	A	4.4
Max. back pressure	Pa	230
Max. back pressure	in. wg	0.92
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	72

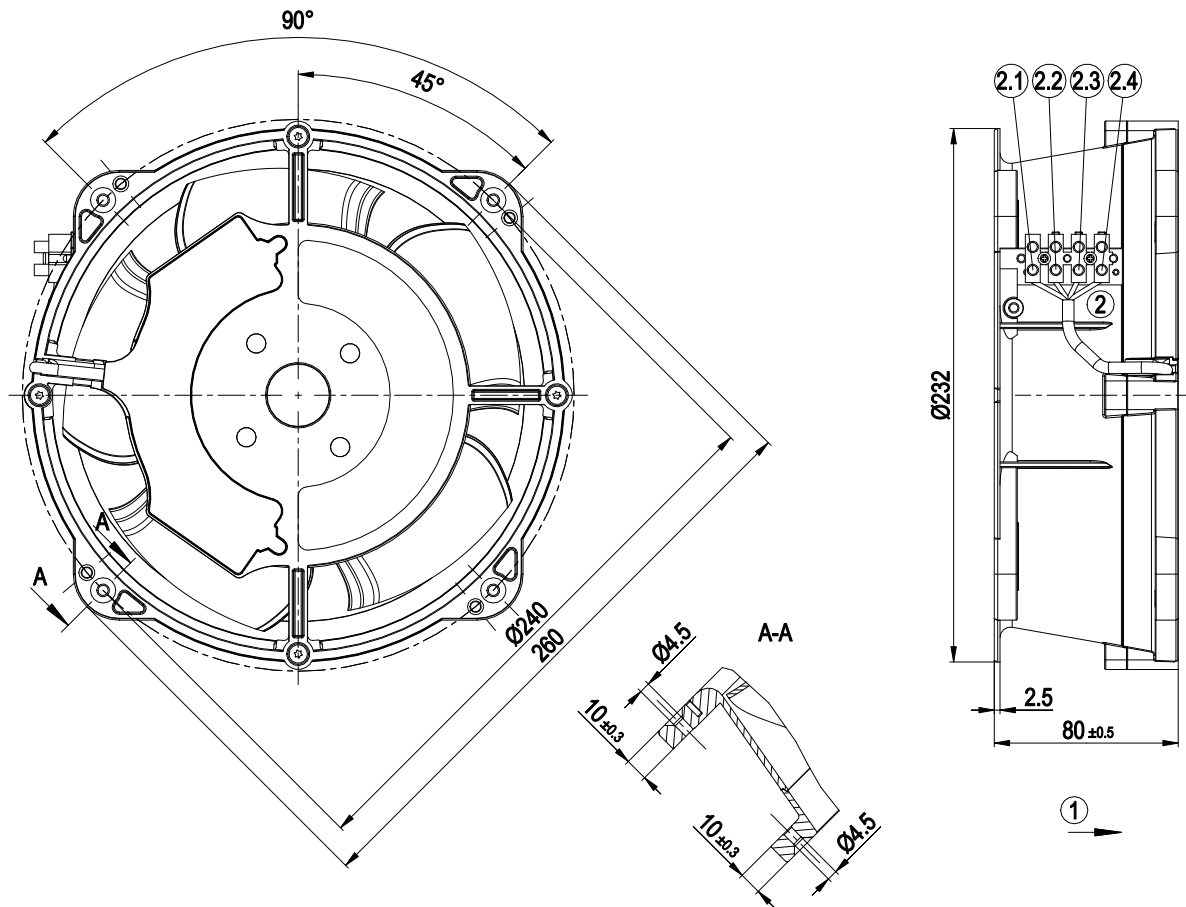
ml = Max. load · me = Max. efficiency · fa = Free air · cs = Customer specification · ce = Customer equipment
Subject to change



Technical description

Weight	2.3 kg
Size	208 mm
Motor size	74
Rotor surface	Painted black
Impeller material	PA plastic
Fan housing material	Die-cast aluminum, painted black
Number of blades	5
Airflow direction	V
Direction of rotation	Counterclockwise, viewed toward rotor
Degree of protection	IP20
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	H0+
Max. permitted ambient temp. for motor (transport/storage)	+80 °C
Min. permitted ambient temp. for motor (transport/storage)	-40 °C
Installation position	Any
Condensation drainage holes	None
Mode	S1
Motor bearing	Ball bearing
Technical features	<ul style="list-style-type: none"> - Tach output - Motor current limitation - Soft start - Control input 0-10 VDC / PWM - Reverse polarity protection
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC interference emission	According to EN 55022 (Class B)
Electrical hookup	Plug; Via terminal strip
With cable	Variable
Protection class assignment	<p>III; Requires supply with safety extra-low voltage SELV.</p> <p>This component for installation may have several local protection classes. This information relates to this component's basic design.</p> <p>The final protection class is based on the component's intended installation and connection. If there is a PE connection point on the housing, it must not be visible after installation.</p>
Conformity with standards	EN 62368-1
Approval	EAC; UL 507

Product drawing

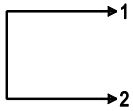


1	Direction of air flow "V"
2	Connection: terminal strip with 4 terminals
2.1	UN +24 VDC (red)
2.2	GND (blue)
2.3	DUE (white)
2.4	0-10 VDC (yellow)

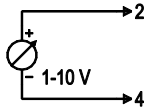
Connection diagram

Customer circuit

Full speed

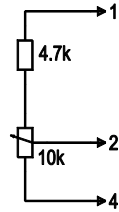


Adjustable speed

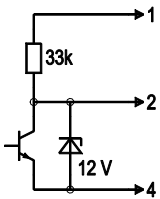


10 V → n = max
1 V → n = min
< 1 V → n = 0
Safe start at Unom -30% from 4 V Ucontr.

Speed adjustable via potentiometer

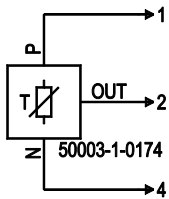


Speed adjustable via PWM 1-10 kHz



100% PWM → n = max
10% PWM → n = min
< 10% PWM → n = 0
Safe start at Unom -30% from 40% PWM

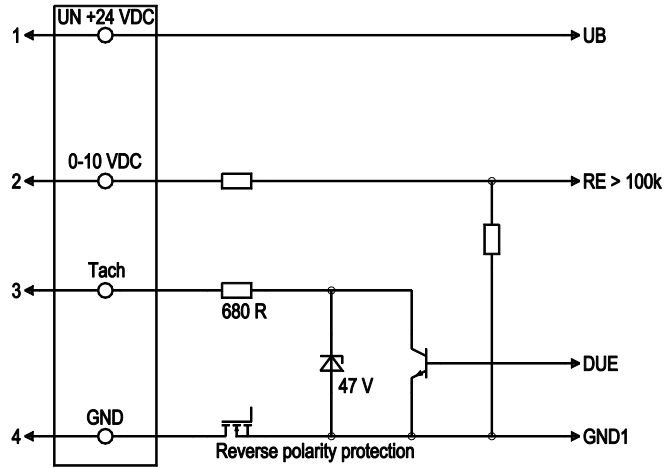
Set value requirement via temperature controller



T < 10 °C → n = 0
T > 45 °C → n = max

Connection

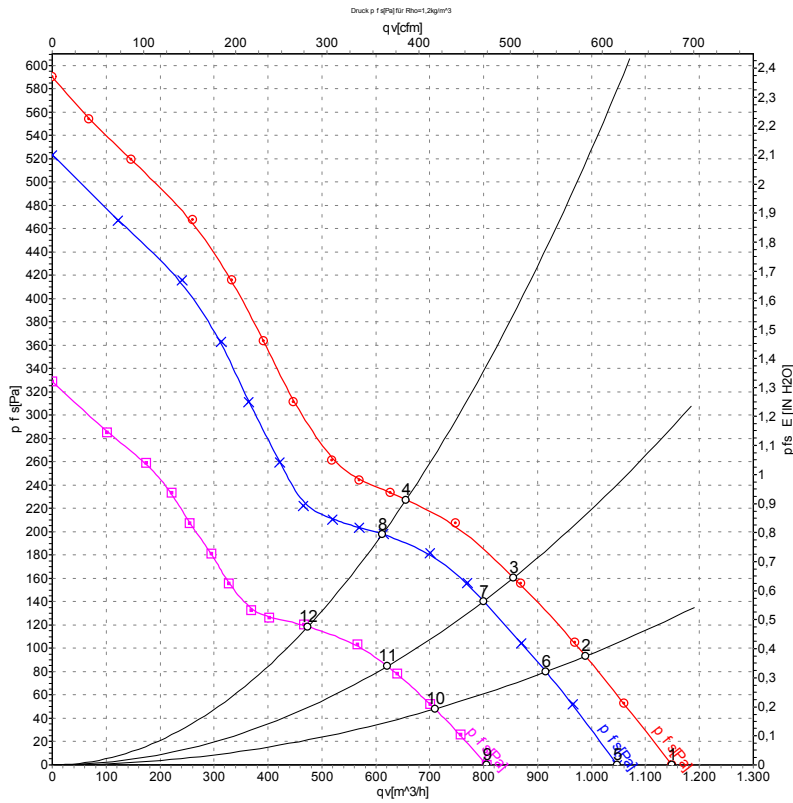
Fan / Motor



No.	Conn.	Designation	Color	Function/assignment
1	1	Un +24 VDC	red	Power supply 24 VDC, maximum ripple 3.5 %
1	2	0-10 VDC	yellow	Control input Re > 100k
1	3	Tach	white	Tach output, 3 pulses per revolution, Isink max = 10 mA
1	4	GND	blue	Reference ground



Curves: Air performance



Measurement: LU-48146-1
 Measurement: LU-48145-1
 Measurement: LU-48147-1

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebmpapst. Intake sound level: Sound power level according to ISO 13347 / sound pressure level measured at 1 m distance from fan axis. The values given are valid under the specified measuring conditions and may vary due to conditions of installation. For deviations from the standard configuration, the parameters have to be checked on the installed unit.

Measured values

	U	n	P _{ed}	I	q _v	p _{fs}	q _v	p _{fs}
	V	min ⁻¹	W	A	m ³ /h	Pa	cfm	in. wg
1	28	3805	122	4.91	1150	0	675	0.00
2	28	3640	124	5.06	990	94	580	0.38
3	28	3535	125	5.16	855	161	505	0.65
4	28	3585	124	5.11	655	230	385	0.92
5	24	3500	96	4.40	1045	0	615	0.00
6	24	3375	99	4.62	915	80	540	0.32
7	24	3305	102	4.78	800	140	470	0.56
8	24	3325	102	4.74	610	200	360	0.80
9	16	2705	45	3.19	805	0	475	0.00
10	16	2630	48	3.37	710	48	420	0.19
11	16	2585	49	3.45	620	85	365	0.34
12	16	2600	49	3.42	475	119	280	0.48

U = Voltage · n = Speed (rpm) · P_{ed} = Power consumption · I = Current draw · q_v = Air flow · p_{fs} = Pressure increase

