

K1G220-AA89-02

EC centrifugal fan

backward-curved, single-intake
with housing (without flange)

K1G220-AA89-02 ebmpapst Datasheet

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Nominal data

Type	K1G220-AA89-02	
Motor	M1G074-BF	
Nominal voltage	VDC	24
Nominal voltage range	VDC	16 .. 28
Method of obtaining data		fa
Speed (rpm)	min ⁻¹	2800
Power consumption	W	68
Current draw	A	3.2
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	60

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



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Technical description

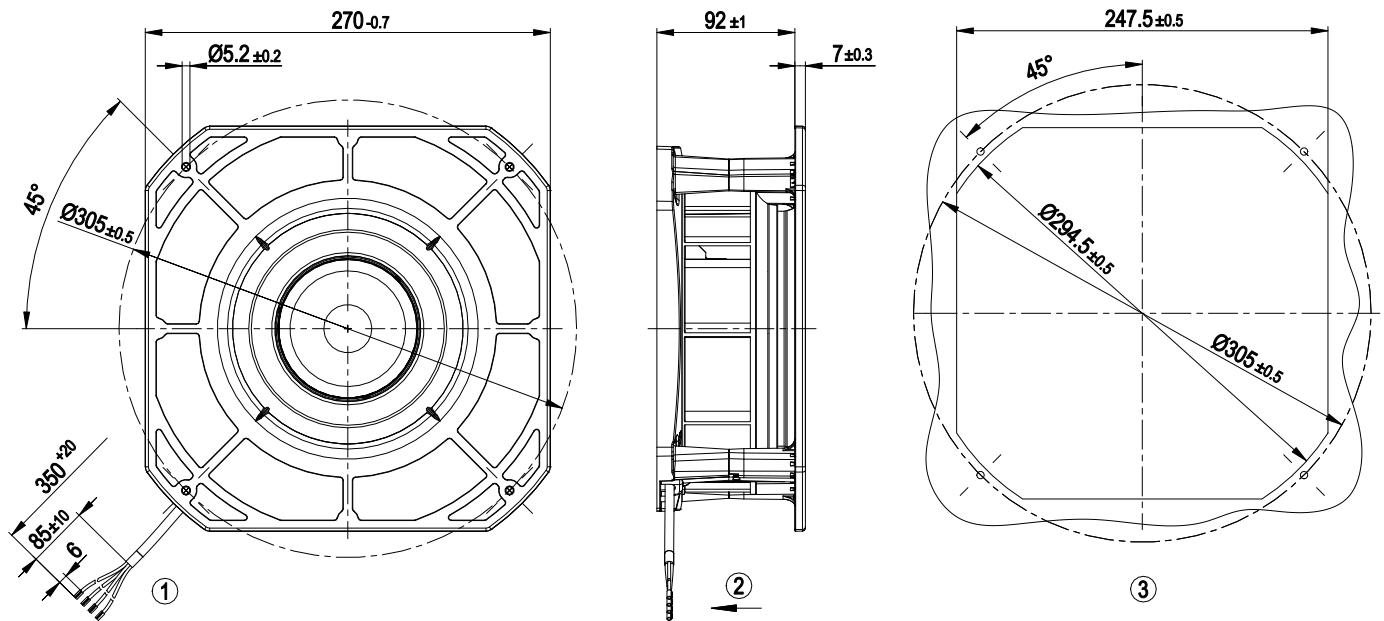
Weight	2 kg
Fan size	220 mm
Impeller material	PA plastic
Housing material	PA plastic
Number of blades	7
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP42
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	F0
Max. permitted ambient temp. for motor (transport/storage)	+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
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC interference emission	According to EN 55022 (Class B, household environment)
Motor protection	Reverse polarity and locked-rotor protection
With cable	Variable
Conformity with standards	EN 60950-1
Approval	EAC; CSA C22.2 No. 77; UL 1004-1



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Product drawing



1	Cable PVC AWG20, 4x crimped splice
2	Direction of air flow "V"
3	Mounting dimensions

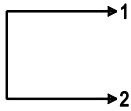
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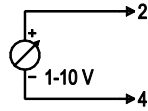
Connection diagram

Customer circuit

Full speed

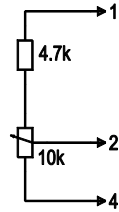


Adjustable speed

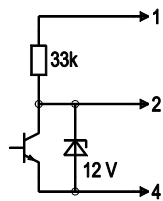


10 V → n = max
1 V → n = min
< 1 V → n = 0
Safe start at Unom -30% from 4 V Ucontr.

Speed adjustable via potentiometer

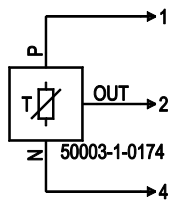


Speed adjustable via PWM 1-10 kHz



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

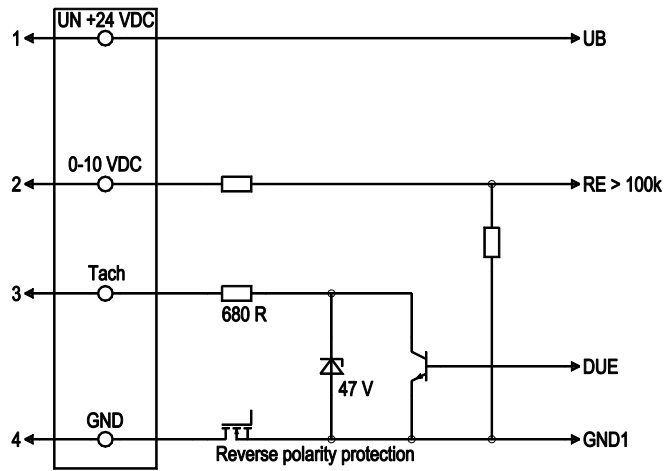
Set value requirement via temperature controller



T < 10 °C → n = 0
T > 45 °C → n = max

Connection

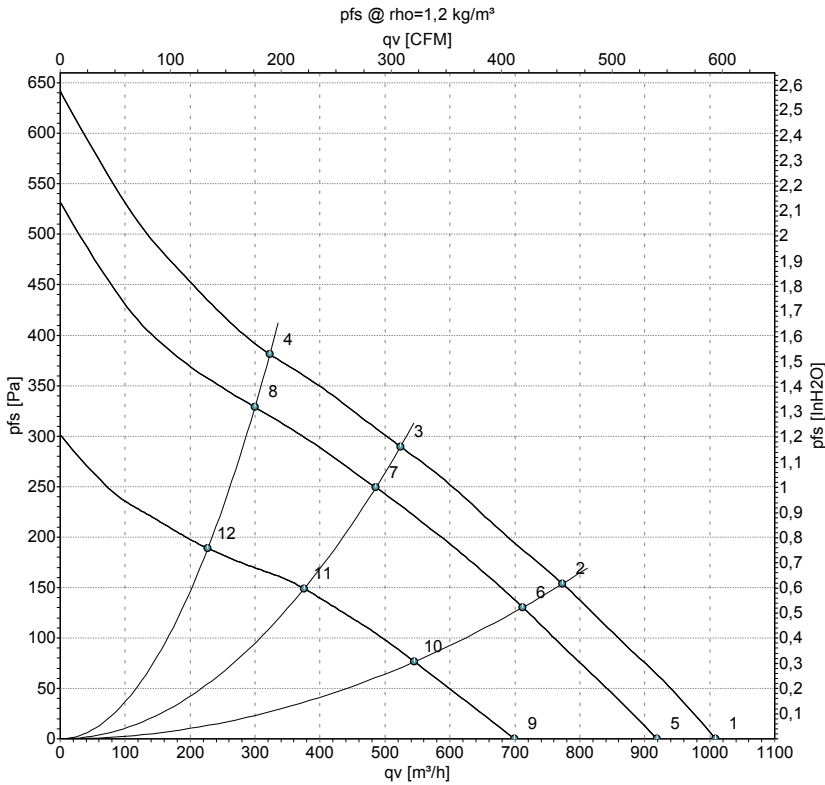
Fan / Motor



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-118711-1
Measurement: LU-118710-1
Measurement: LU-118713-1

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebm-papst. 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	LpA _{in}	LwA _{in}	q _v	P _{fs}	q _v	P _{fs}
	V	min ⁻¹	W	A	dB(A)	dB(A)	m ³ /h	Pa	cfm	inH2O
1	28	2960	88	3.48	70	77	1010	0	595	0.00
2	28	2705	95	3.83	65	73	775	155	455	0.62
3	28	2605	96	3.95	63	70	525	289	310	1.16
4	28	2720	94	3.81	65	72	325	380	190	1.53
5	24	2800	68	3.20	67	74	920	0	540	0.00
6	24	2490	75	3.50	64	71	710	130	420	0.52
7	24	2425	78	3.63	62	69	485	250	285	1.00
8	24	2480	76	3.51	63	71	300	330	175	1.32
9	16	2055	31	2.18			700	0	410	0.00
10	16	1930	35	2.45			545	76	320	0.31
11	16	1885	37	2.57			375	149	220	0.60
12	16	1920	36	2.48			225	188	135	0.75

U = Power supply · n = Speed (rpm) · P_{ed} = Power consumption · I = Current draw · LpA_{in} = Sound pressure level intake side · LwA_{in} = Sound power level intake side · q_v = Air flow
P_{fs} = Pressure increase

