

K3G097-AP46-01

EC dual centrifugal fan

forward-curved, with brushless DC motor
with housing, Automotive



K3G097-AP46-01 ebmpapst Datasheet

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Nominal data

Type	K3G097-AP46-01	
Motor	M3G084-BF	
Nominal voltage	VDC	26
Nominal voltage range	VDC	16 .. 32
Method of obtaining data		fa
Speed (rpm)	min ⁻¹	3500
Power consumption	W	320
Current draw	A	12.2
Min. back pressure	Pa	0
Min. back pressure	in. wg	0
Min. ambient temperature	°C	-40
Max. ambient temperature	°C	85

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



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Technical description

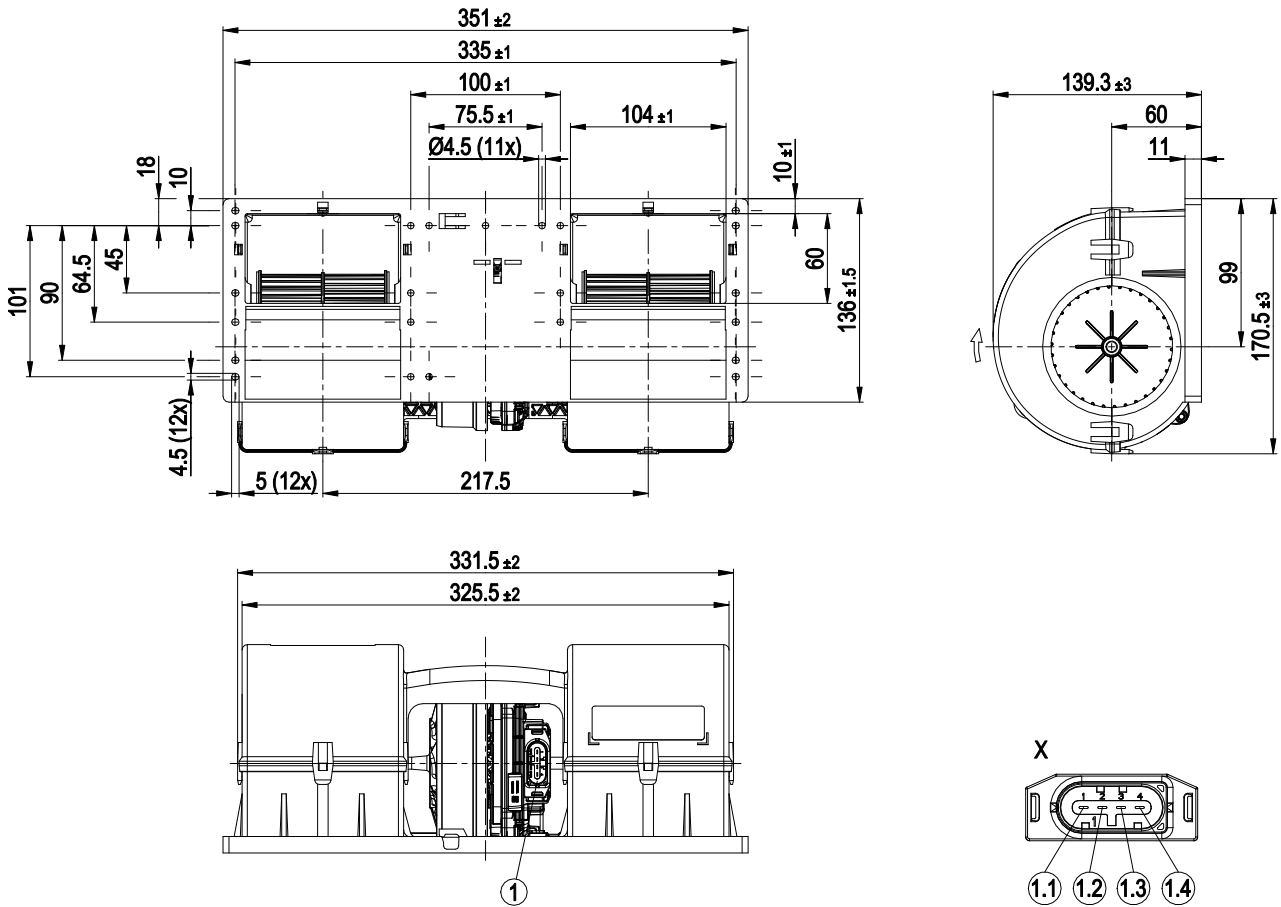
Weight	1.96 kg
Size	97 mm
Motor size	84
Impeller material	PA plastic
Housing material	PP plastic
Balancing grade according to DIN ISO 21940-11	G 2.5
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	Motor IP24 KM, electronics IP6K9K (mating connector installed)
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	H4
Max. permitted ambient temp. for motor (transport/storage)	+85 °C
Min. permitted ambient temp. for motor (transport/storage)	-40 °C
Installation position	Any
Condensation drainage holes	None, open rotor
Mode	S1
Motor bearing	Ball bearing; (sealed)
Life expectancy	40,000 h (depending on load profile and ambient conditions)
Technical features	<ul style="list-style-type: none"> - Locked-rotor detection - Error output (high-side switch) - Power limiter - Load dump protection - Motor current limitation - Soft start - Control input 0-10 VDC / PWM - Temperature derating - Thermal overload protection for electronics - Reverse polarity protection
EMC regulations	According to ECE R10 Rev.6
Electrical hookup	Plug; Standby current less than 500 µA
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.</p>
Approval	E1; EAC
Comment	Type approval number – 069400



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Product drawing



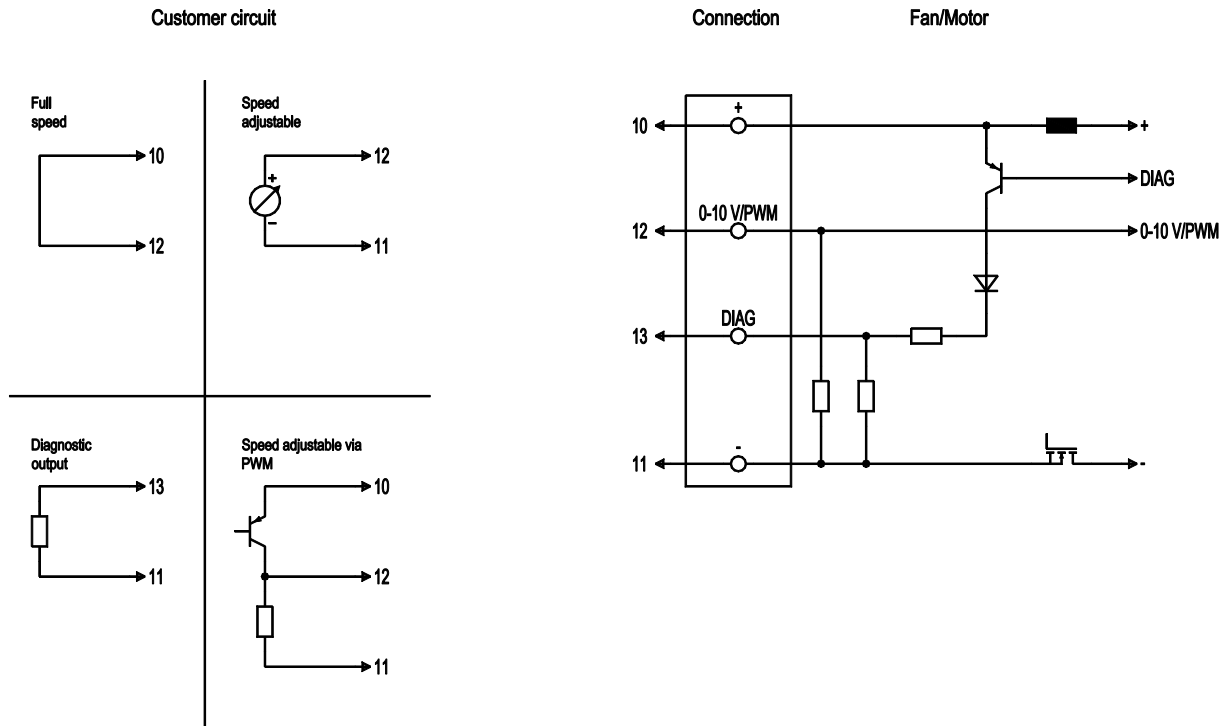
1	4-pole plug, pluggable with cable from accessories
1.1	Diagnostic output
1.2	PWM/LIN
1.3	+ UB
1.4	GND
Accessory part: Cable (460 mm) with mating connector, part no. 02040-4-1021 not included in scope of delivery 4-pole mating connector TE 1-1718628-1, 2x plug contact TE 1-968857-1, 2x plug contact TE 1-968855-1, 2x seal TE 828905-1, 2x seal TE 828904-1	



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Connection diagram



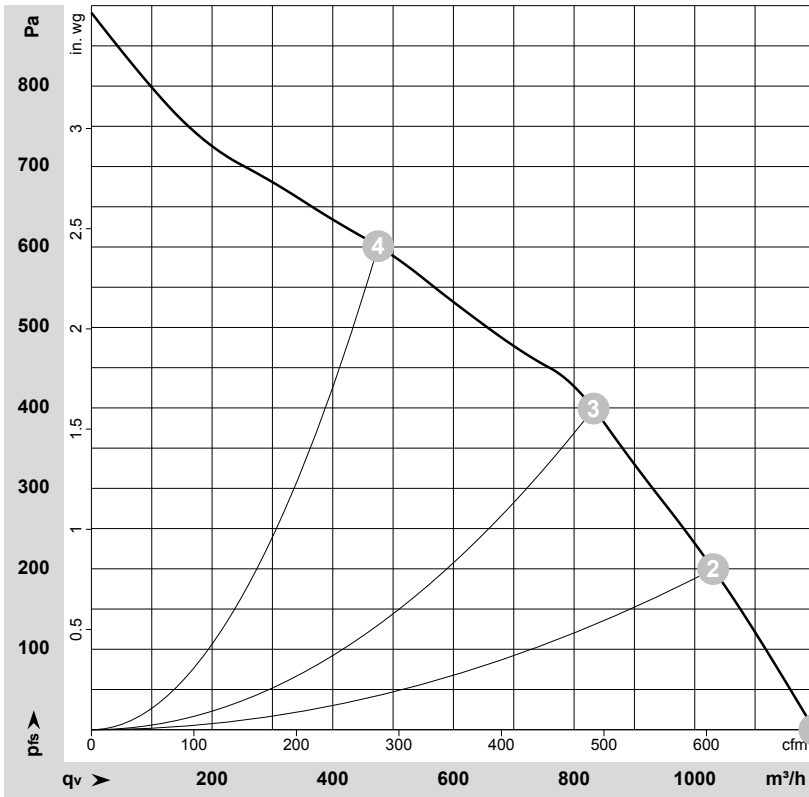
No.	Conn.	Designation	Function/assignment
10	1.3	+	Power supply +
11	1.4	-	Power supply -
12	1.2	0-10 V / PWM	Control input: $R_i > 27 \text{ k}\Omega$ 0-10 V: (typ. $< 0.5 \text{ V} \rightarrow$ standby; $1.5 \text{ V} \rightarrow n = \text{min.}$; $> 9.5 \text{ V} \rightarrow n = \text{max.}$) or PWM: ($12 \text{ V} - U_b$; $1 \text{ kHz} - 10 \text{ kHz}$; typ. $< 1 \% \rightarrow$ standby; $10 \% \rightarrow n = \text{min.}$; $> 95 \% \rightarrow n = \text{max.}$)
13	1.1	DIAG	Diagnostic output: Open Collector, $I_{\text{source max}} = 10 \text{ mA}$, $R_{\text{source}} = 2 \text{ k}\Omega$; $R_{\text{sink}} = 100 \text{ k}\Omega$ fan OK \rightarrow low; fan error \rightarrow high



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Curves: Air performance



$\rho = 1.15 \text{ kg/m}^3 \pm 2 \%$

Measurement: LU-201080-1

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	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	in. wg
1	26	3500	320	12.20	70	81	1200	0	705	0.00
2	26	3780	284	10.90	68	78	1030	200	605	0.80
3	26	4100	246	9.43	66	77	830	400	490	1.61
4	26	4630	183	7.03	67	77	475	600	280	2.41

U = Voltage · 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

