

K3G097-BP46-01

# EC dual centrifugal fan

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



K3G097-BP46-01 ebmpapst Datasheet

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## Nominal data

Type	K3G097-BP46-01	
Motor	M3G084-BF	
Nominal voltage	VDC	26
Nominal voltage range	VDC	16 .. 32
Method of obtaining data		fa
Speed (rpm)	min <sup>-1</sup>	3475
Power consumption	W	295
Current draw	A	11.2
Min. back pressure	Pa	0
Min. back pressure	in. wg	0
Min. ambient temperature	°C	-40
Max. ambient temperature	°C	75
-with power derating to	°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

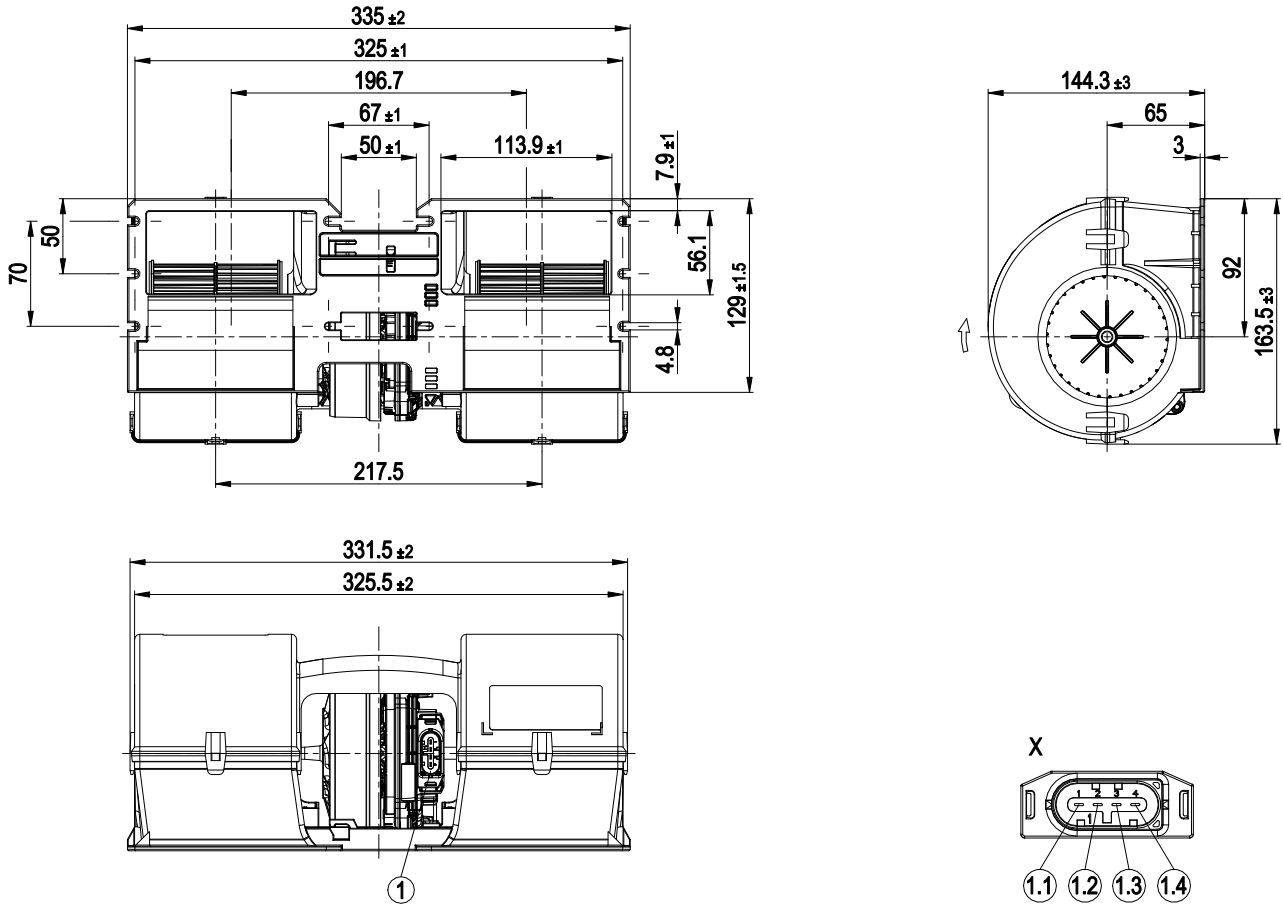
<b>Weight</b>	1.95 kg
<b>Size</b>	97 mm
<b>Motor size</b>	84
<b>Impeller material</b>	PA plastic
<b>Housing material</b>	PP plastic
<b>Direction of rotation</b>	Clockwise, viewed toward rotor
<b>Degree of protection</b>	Motor IP24 KM, electronics IP6K9K (mating connector installed)
<b>Insulation class</b>	"B"
<b>Moisture (F) / Environmental (H) protection class</b>	H4
<b>Ambient temperature note</b>	Over +75°C with power derating
<b>Max. permitted ambient temp. for motor (transport/storage)</b>	+85 °C
<b>Min. permitted ambient temp. for motor (transport/storage)</b>	-40 °C
<b>Installation position</b>	Any
<b>Condensation drainage holes</b>	None, open rotor
<b>Mode</b>	S1
<b>Motor bearing</b>	Ball bearing; (sealed)
<b>Life expectancy</b>	40,000 h (depending on load profile and ambient conditions)
<b>Technical features</b>	<ul style="list-style-type: none"> <li>- Locked-rotor detection</li> <li>- Error output (high-side switch)</li> <li>- Power limiter</li> <li>- Load dump protection</li> <li>- Motor current limitation</li> <li>- Soft start</li> <li>- Control input 0-10 VDC / PWM</li> <li>- Temperature derating</li> <li>- Thermal overload protection for electronics</li> <li>- Reverse polarity protection</li> </ul>
<b>EMC regulations</b>	According to ECE R10 Rev.6
<b>Electrical hookup</b>	Plug; Standby current less than 500 µA
<b>Protection class assignment</b>	<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>
<b>Comment on CE</b>	Ecodesign Directive 2009/125/EC + Fan Regulation (EC) No. 327/2011 does not apply, as use only in means of transport for transporting persons or goods.
<b>Approval</b>	E1; EAC
<b>Comment</b>	Type approval number – 069400



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## Product drawing



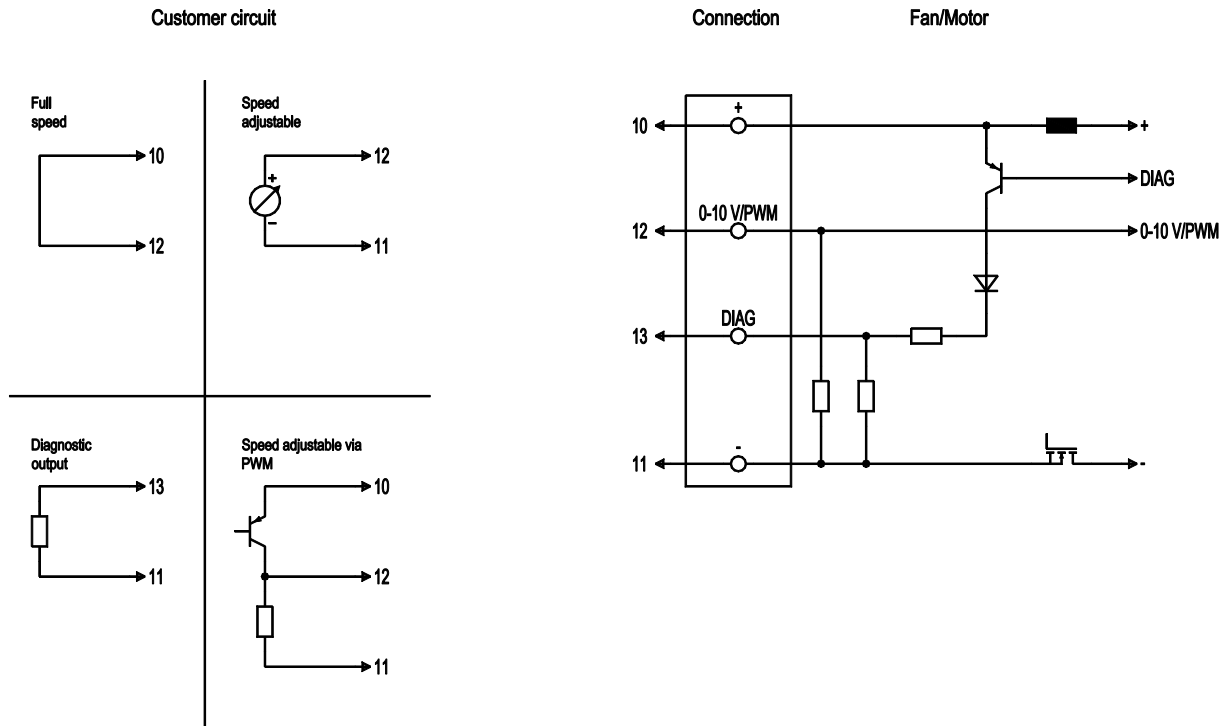
1	4-pole plug, pluggable with cable from accessories
1.1	Diagnostic output
1.2	PWM/LIN
1.3	+ UB
1.4	GND
Accessory part: Cable (460 mm) with mating connector, part no. 02040-4-1021 not included in scope of delivery 4-pole mating connector TE 1-1718628-1, 2x plug contact TE 1-968857-1, 2x plug contact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



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## Connection diagram



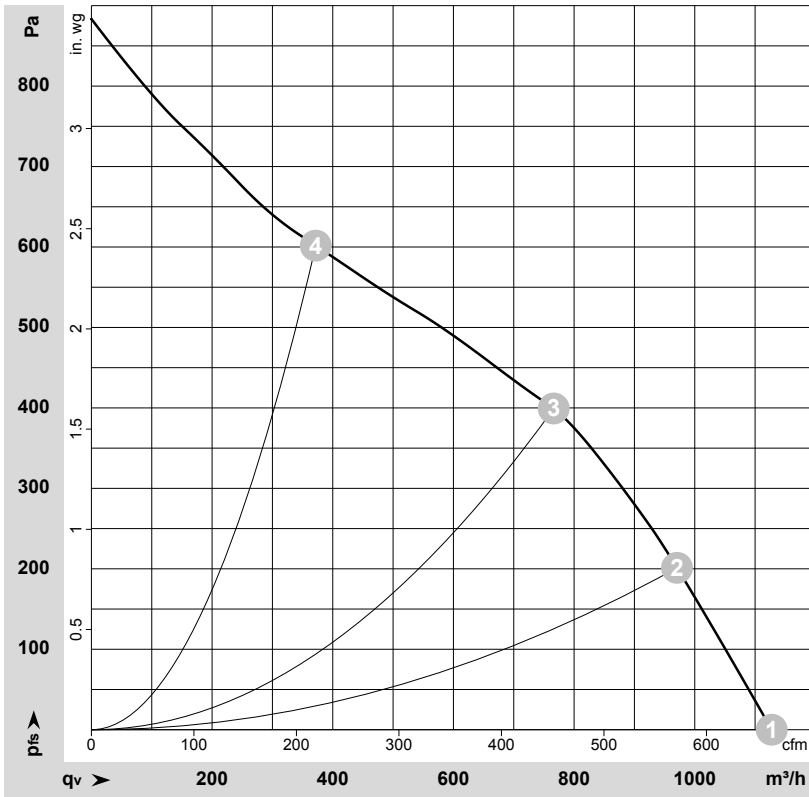
No.	Conn.	Designation	Function/assignment
10	1.3	+	Power supply +
11	1.4	-	Power supply -
12	1.2	0-10 V / PWM	Control input: $R_i > 27 \text{ k}\Omega$ 0-10 V: (typ. $< 0.5 \text{ V} \rightarrow$ standby; $1.5 \text{ V} \rightarrow n = \text{min.}$ ; $> 9.5 \text{ V} \rightarrow n = \text{max.}$ ) or 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-209221-1

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 <sub>ed</sub>	I	LpA <sub>in</sub>	LwA <sub>in</sub>	q <sub>v</sub>	p <sub>fs</sub>	q <sub>v</sub>	p <sub>fs</sub>
	V	min <sup>-1</sup>	W	A	dB(A)	dB(A)	m <sup>3</sup> /h	Pa	cfm	in. wg
1	26	3475	295	11.20	70	80	1130	0	665	0.00
2	26	3765	262	10.06	67	77	970	200	570	0.80
3	26	4115	227	8.73	66	76	765	400	450	1.61
4	26	4690	152	5.82	67	77	370	600	220	2.41

U = Voltage · n = Speed (rpm) · P<sub>ed</sub> = Power consumption · I = Current draw · LpA<sub>in</sub> = Sound pressure level intake side · LwA<sub>in</sub> = Sound power level intake side · q<sub>v</sub> = Air flow  
p<sub>fs</sub> = Pressure increase

