

K3G097-AP46-01

EC dual centrifugal fan

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



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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

Data according to Commission Regulation (EU) 327/2011 (EN 17166)

		Actual	Req. 2015			
01 Overall efficiency η_{es}	%	49.4	33.1	09 Power consumption P_e	kW	0.18
02 Measurement category		A		09 Air flow q_v	m ³ /h	500
03 Efficiency category		Static		09 Pressure increase p_{fs}	Pa	592
04 Efficiency grade N		60.3	44	10 Speed (rpm) n	min ⁻¹	4600
05 Variable speed drive		Yes		11 Specific ratio*		1.01

Data obtained at optimum efficiency level.

* Specific ratio = $1 + p_{fs} / 100\,000\text{ Pa}$

LU-201080

The efficiency values displayed for achieving conformity with the Ecodesign Regulation EU 327/2011 has been reached with defined air duct components (e.g. inlet rings).
The dimensions must be requested from ebm-papst. If other air conduction geometries are used on the installation side, the ebm-papst evaluation loses its validity/the conformity must be confirmed again.
The product does not fall within the scope of Regulation (EU) 2019/1781 due to the exception specified in Article 2 (2a) (motors completely integrated into a product).



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Technical description

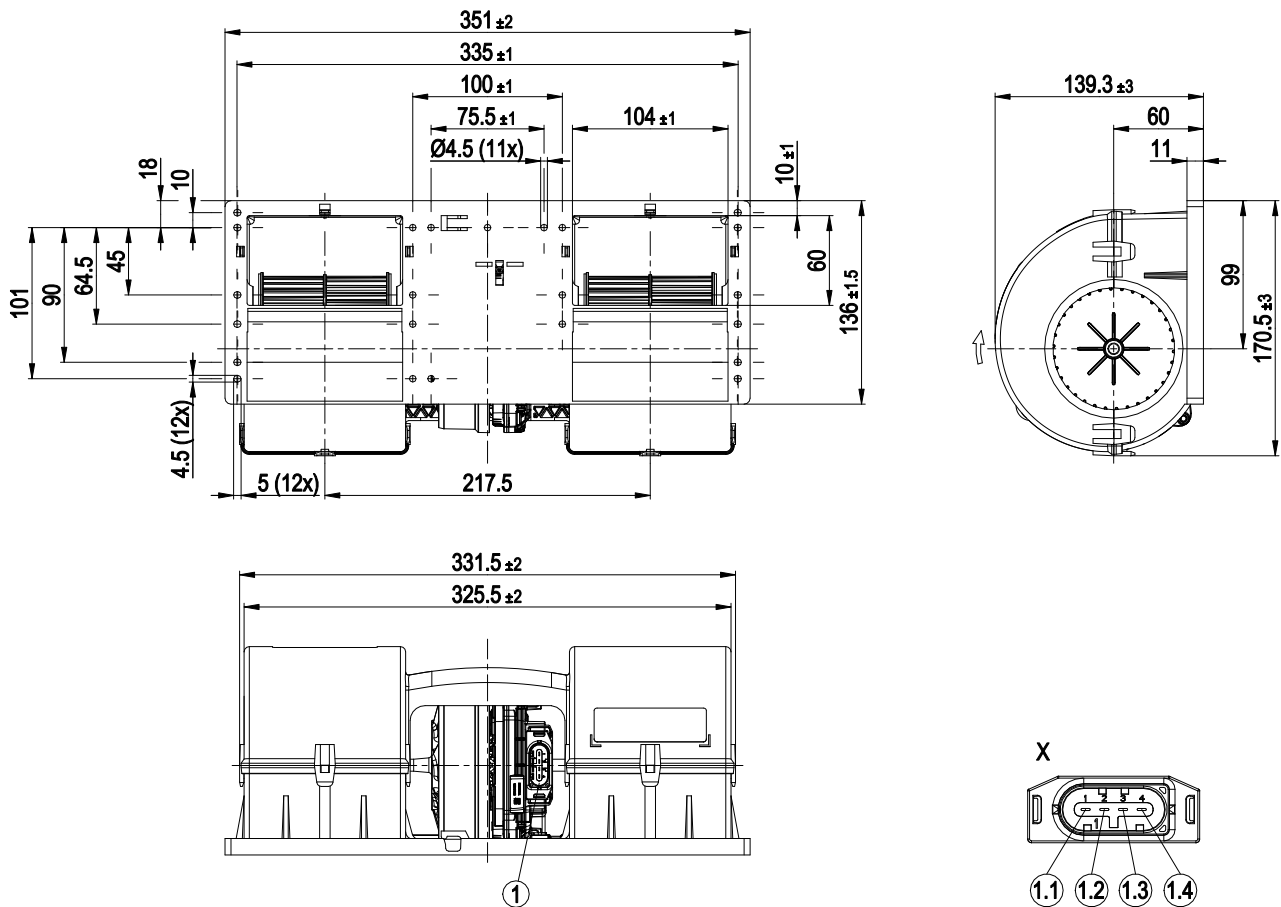
Weight	1.96 kg
Size	97 mm
Motor size	84
Impeller material	PA plastic
Housing material	PP plastic
Balancing grade according to DIN ISO 21940-11	G 2.5
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	Motor IP24 KM, electronics IP6K9K (mating connector installed)
Insulation class	"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	- 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
Electrical hookup	Plug; Standby current less than 500 µA
Protection class assignment	III; Requires supply with safety extra-low voltage SELV. This component for installation may have several local protection classes. This information relates to this component's basic design. The final protection class is based on the component's intended installation and connection.
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

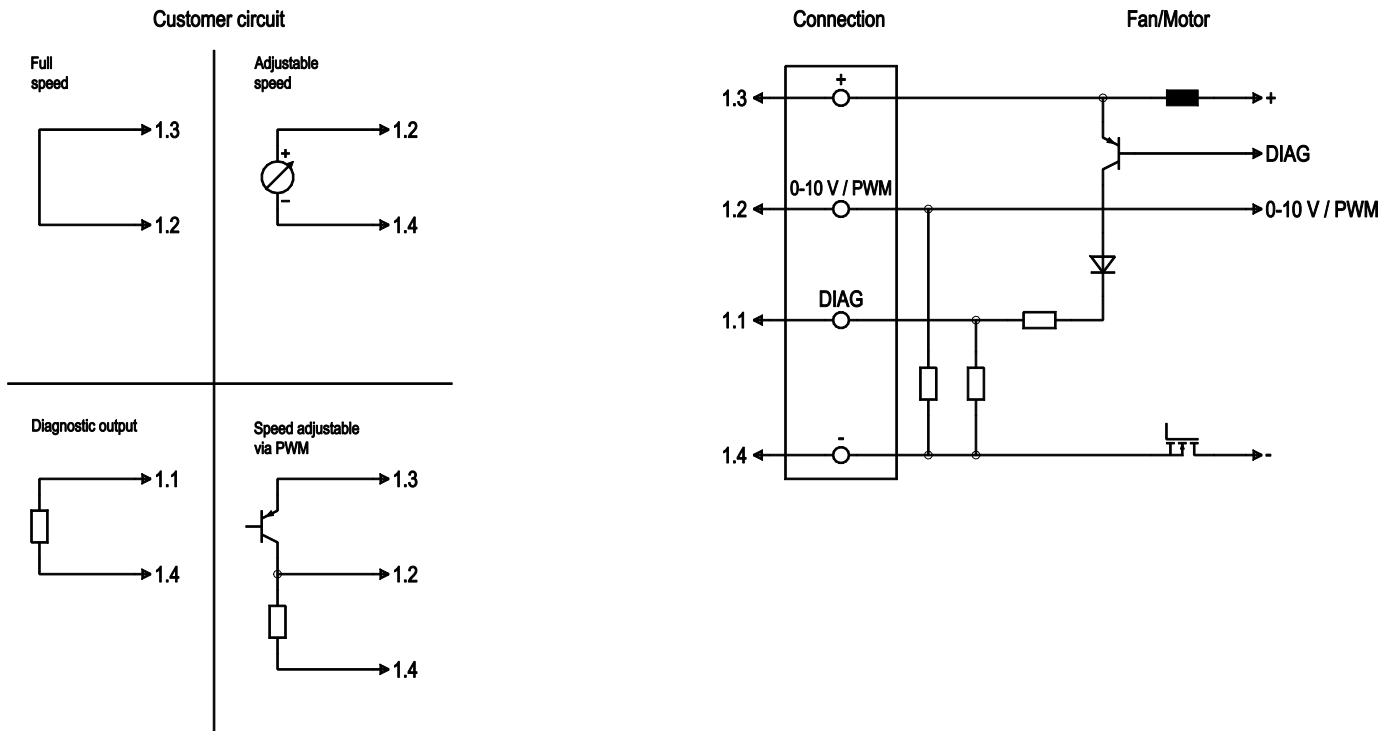
4-pole mating connector TE 1-1718628-1, 2x plug contact TE 1-968857-1, 2x plug contact TE 1-968855-1,

2x seal TE 828905-1, 2x seal TE 828904-1

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Connection diagram

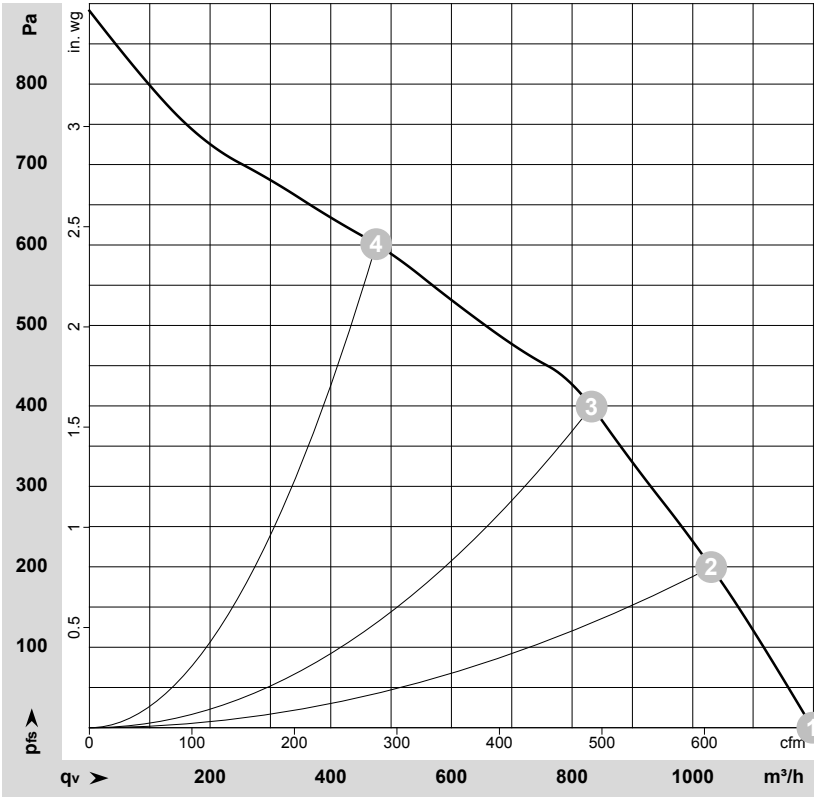


No.	Conn.	Designation	Function/assignment
	1.3	+	Power supply +
	1.4	-	Power supply -
	1.2	0-10 V / PWM	Control input: $R_i > 27 \text{ k}\Omega$ 0-10 V: (typ. 0.5 V -> Standby; 1.5 V -> n = min.; 9.5 V -> n = max.) or PWM: (12 V - U_b ; 1 kHz - 10 kHz; typ. < 1% -> standby; 10% -> n = min.; 95% -> n = max.)
	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 -> low; fan error -> 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 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	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

