

K3G097-AK28-20

# EC dual centrifugal fan

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



K3G097-AK28-20 ebmpapst Datasheet

[sales@fansco.com](mailto:sales@fansco.com)

[www.fansco.com](http://www.fansco.com)

## Nominal data

Type	K3G097-AK28-20	
Motor	M3G074-CF	
Nominal voltage	VDC	26
Nominal voltage range	VDC	16 .. 32
Method of obtaining data		fa
Status		prelim.
Speed (rpm)	min <sup>-1</sup>	3500
Power consumption	W	345
Current draw	A	13.2
Min. back pressure	Pa	0
Min. back pressure	in. wg	0
Min. ambient temperature	°C	-40
Max. ambient temperature	°C	70

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



# EC dual centrifugal fan

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

## Technical description

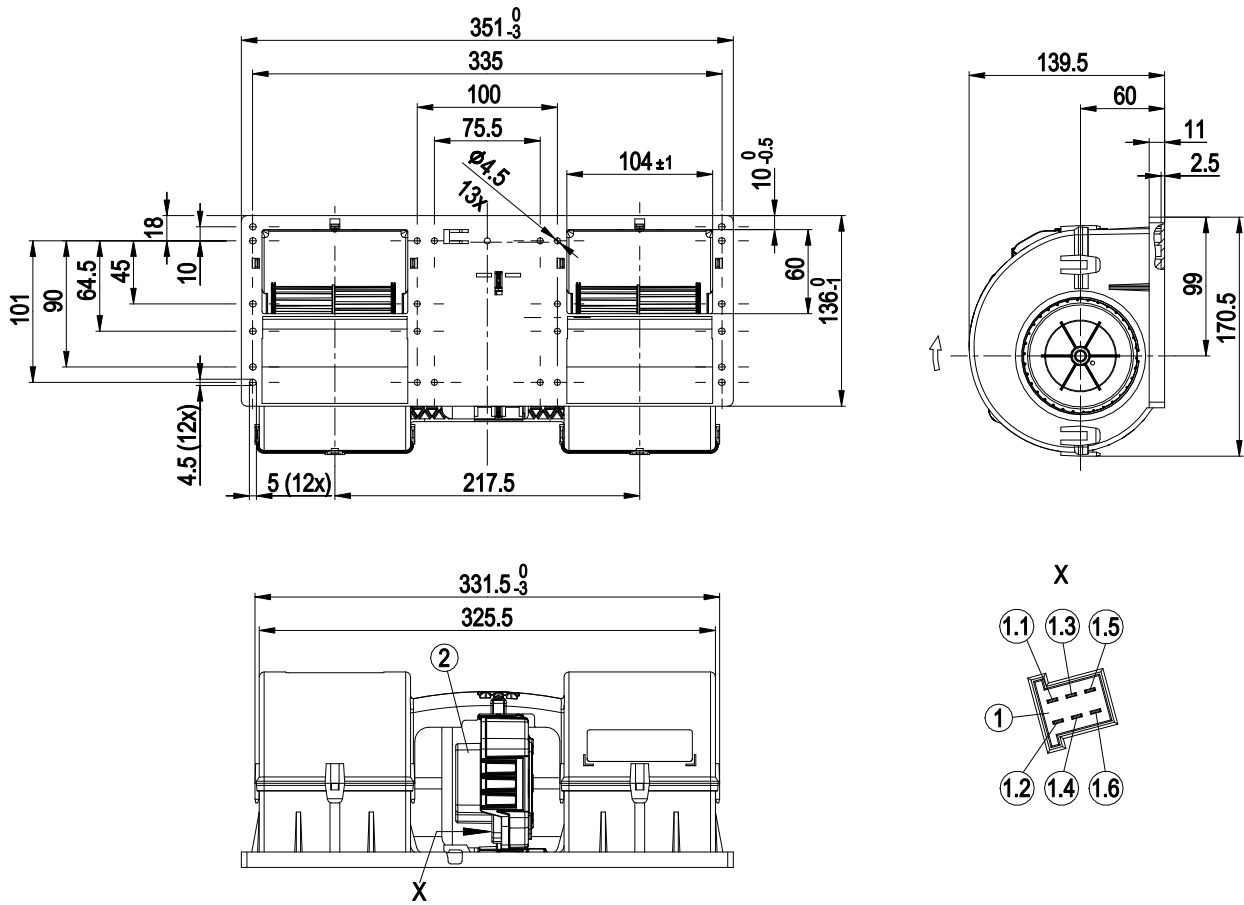
Weight	2.18 kg
Size	97 mm
Motor size	74
Impeller material	PA plastic UL94 HB (black)
Housing material	PP plastic (black)
Balancing grade according to DIN ISO 21940-11	G 6.3
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	Motor IP24 KM
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	H1
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
Cooling hole/opening	On rotor side
Mode	S1
Motor bearing	Ball bearing; (sealed)
Life expectancy	40,000 h (typical)
Technical features	<ul style="list-style-type: none"> <li>- Locked-rotor detection</li> <li>- Power limiter</li> <li>- Load dump (58 V)</li> <li>- Motor current limitation</li> <li>- Soft start</li> <li>- Control input 0-10 VDC / PWM</li> <li>- Temperature derating</li> <li>- Overvoltage detection</li> <li>- Thermal overload protection for electronics</li> <li>- Line undervoltage detection</li> </ul>
EMC regulations	According to ECE R10 Rev.6
Electrical hookup	Plug; Standby current less than 500 µA
Motor protection	Passive reverse polarity and locked-rotor protection
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 – 069362



# EC dual centrifugal fan

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

## Product drawing



1	6-pole header TE Junior Power Timer WE_9901118
1.1	+ UB
1.2	GND
1.3	PWM/LIN, 100% speed
1.4	80% speed
1.5	60% speed
1.6	Not used / no function
	Accessory part: Cable (460 mm) with mating connector, part no. 02001-4-1021 not included in scope of delivery 6-pole mating connector TE 929504-2, 4x plug contact TE 927771-1, 2x plug contact TE 927768-1
2	Electronics cover blue (RAL 5015)

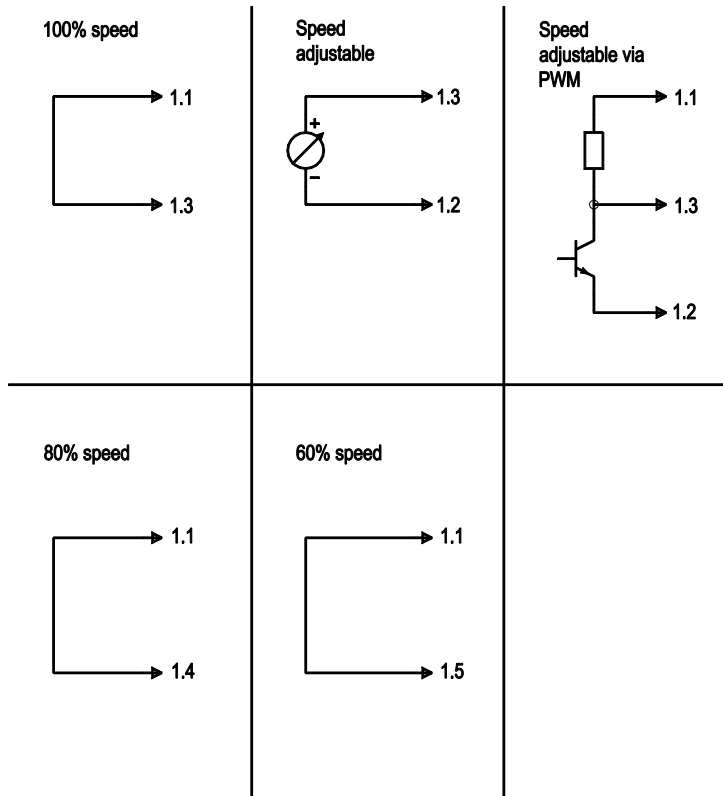


# EC dual centrifugal fan

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

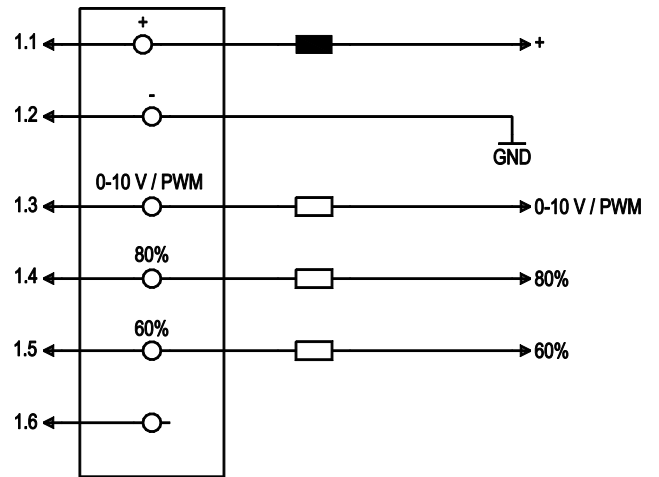
## Connection diagram

Customer circuit



Connection

Fan/Motor



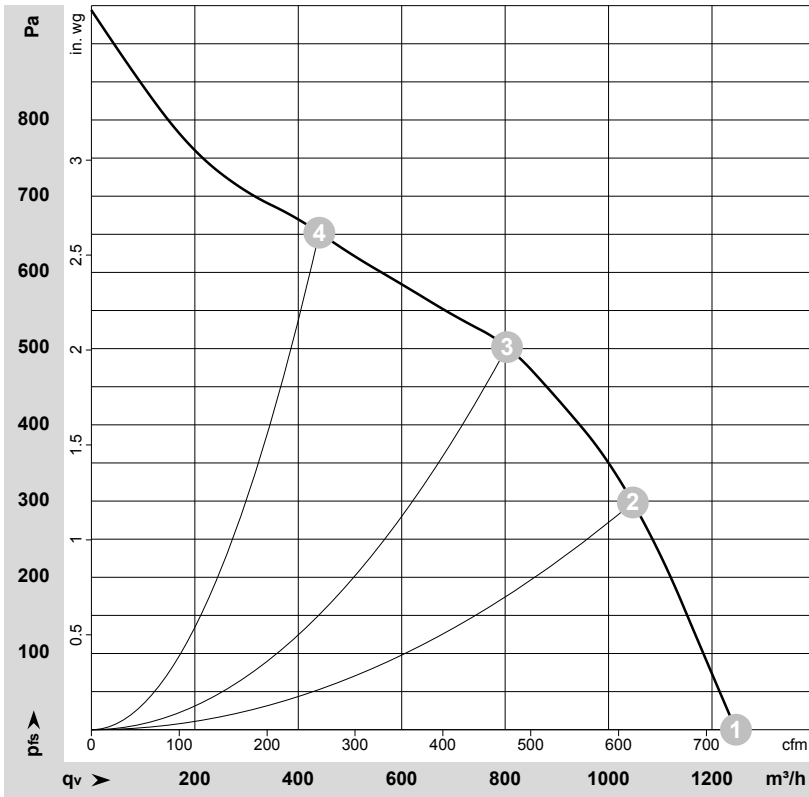
No.	Conn.	Designation	Function/assignment
	1.1	+	Power supply
	1.2	-	Power supply
	1.3	0-10 V / PWM	Control input: $R_i > 47\text{ k}\Omega$ 0-10 V (typ. $< 1\text{ V} \rightarrow n=0$ ; $1.2\text{ V} \rightarrow n=\text{min}$ ; $> 10\text{ V} \rightarrow n=\text{max}$ ) or PWM (amplitude = power supply; 10 kHz-50kHz)
	1.4	80%	Control input: $R_i > 47\text{ k}\Omega$ 80% speed level
	1.5	60%	Control input: $R_i > 47\text{ k}\Omega$ 60% speed level
	1.6		not used



# EC dual centrifugal fan

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

## Curves: Air performance



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

Measurement: LU-208001-1

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	3500	345	13.20	70	81	1245	0	735	0.00
2	26	4095	336	12.93	68	78	1045	300	615	1.20
3	26	4420	275	10.55	67	77	805	500	475	2.01
4	26	4835	186	7.15	68	78	440	650	260	2.61

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

