K3G097-AS82-82

EC dual centrifugal fan

forward curved, with brushless DC motor

with housing, for railway applications



ebm-papst Mulfingen GmbH & Co. KG
Bachmühle 2 · D-74673 Mulfingen
Phone +49 7938 81-0
Fax +49 7938 81-110
info1@de.ebmpapst.com
www.ebmpapst.com

Limited partnership · Headquarters Mulfingen
County court Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen
County court Stuttgart · HRB 590142

Nominal data

Type	**K3G097-AS82-82**	
Motor	**M3G084-BF**	
Nominal voltage	VDC	26
Nominal voltage range	VDC	16 .. 32
Frequency	Hz	DC
Type of data definition		ml
Speed (rpm)	min^{-1}	4680
Power input	W	740
Current draw	A	28
Min. back pressure	Pa	0
Min. ambient temperature	°C	-40
Max. ambient temperature	°C	70

ml = Max. load · me = Max. efficiency · fa = Running at free air · cs = Customer specs · cu = Customer unit
Subject to alterations

Data in accordance with ecodesign regulation EU 327/2011 (EN 17166)

		Actual	Request 2015
01 Overall efficiency η_{es}	%	45.4	35.2
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		54.2	44
05 Variable speed drive		Yes	

09 Power input P_e	kW	0.4
09 Air flow q_v	m^3/h	725
09 Pressure increase p_{fs}	Pa	817
10 Speed (rpm) n	min^{-1}	5510
11 Specific ratio*		1.01

Data definition with optimum efficiency.
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.

* Specific ratio = 1 + p_{fs} / 100 000 Pa

LU-175168

EC dual centrifugal fan

forward curved, with brushless DC motor
with housing, for railway applications

Technical features

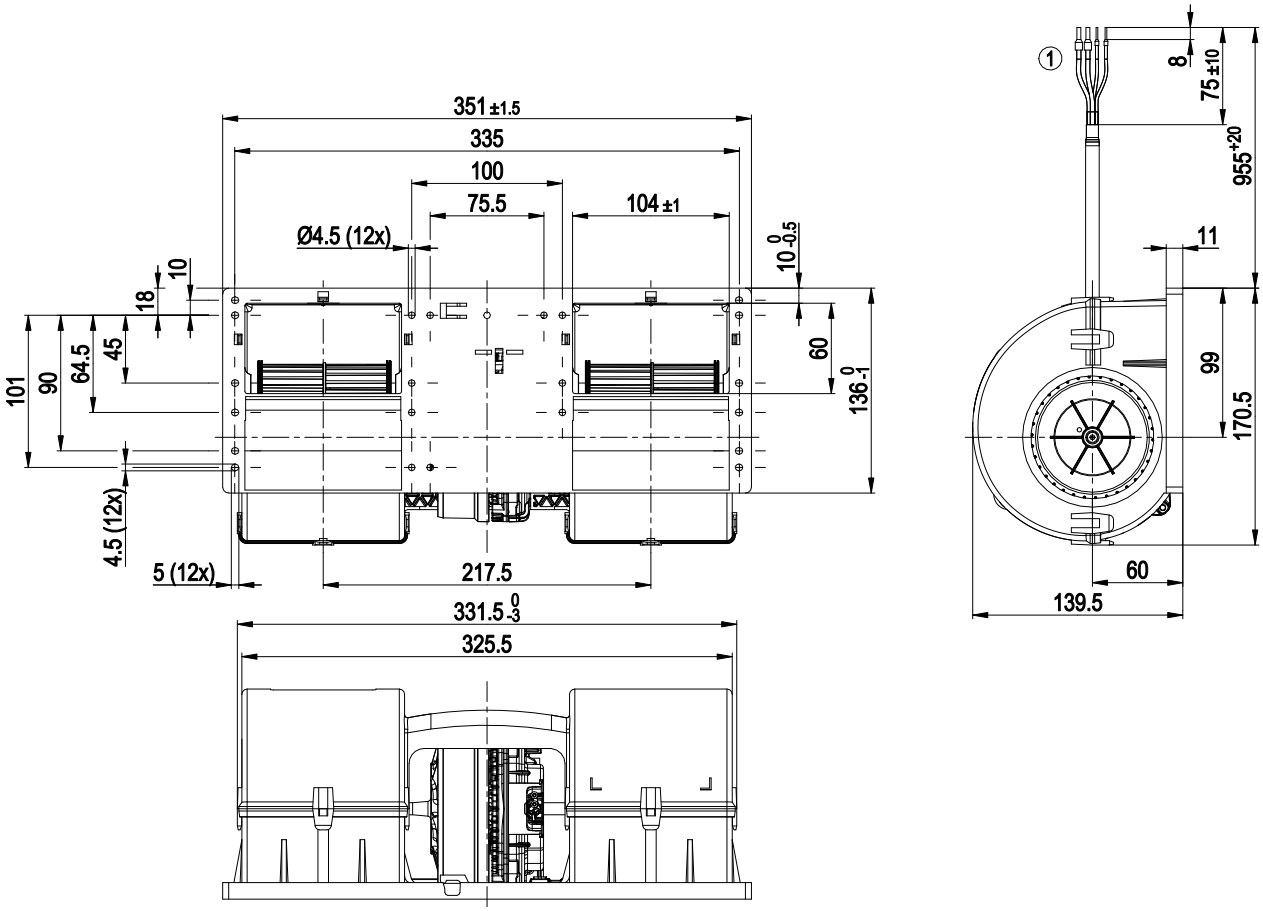
Mass	2.3 kg
Size	97 mm
Motor size	84
Material of impeller	PA UL94 V0 plastic
Housing material	PA UL94 V0 plastic
Direction of rotation	Clockwise, seen on rotor
Type of protection	Motor IP24 KM, electronics IP6K9K (mating connector fitted)
Insulation class	"B"
Humidity (F) / environmental protection class (H)	H3
Note ambient temperature	Occasional start-up between -40 °C and -25 °C is permissible. For continuous operation at ambient temperatures below -25 °C (e.g. refrigeration applications), a fan version with special low-temperature bearings must be used.
Max. permissible ambient motor temp. (transp./ storage)	+85 °C
Min. permissible ambient motor temp. (transp./storage)	-40 °C
Mounting position	Any
Condensation drainage holes	None, open rotor
Operation mode	S1
Motor bearing	Ball bearing; (sealed)
Life expectancies	40,000 h (typical)
Technical features	- Fault output (open collector) -Load dump (58 V) - Motor current limit - Soft start - Control input 0-10 VDC / PWM - Temperature derating (Error message via diagnostic output in derating operation) - Overvoltage detection - Over-temperature protected electronics - Reverse polarity protection
EMC directives	According to EN 50121-3-2
Electrical connection	Standby current less than 500 µA
Product conforming to standard	EN 15085-1, CPC3; EN 45545-2, HL3; EN 50155; EN 61373, Cat. 1B; CE
Approval	EAC

ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

EC dual centrifugal fan

forward curved, with brushless DC motor
with housing, for railway applications

Product drawing



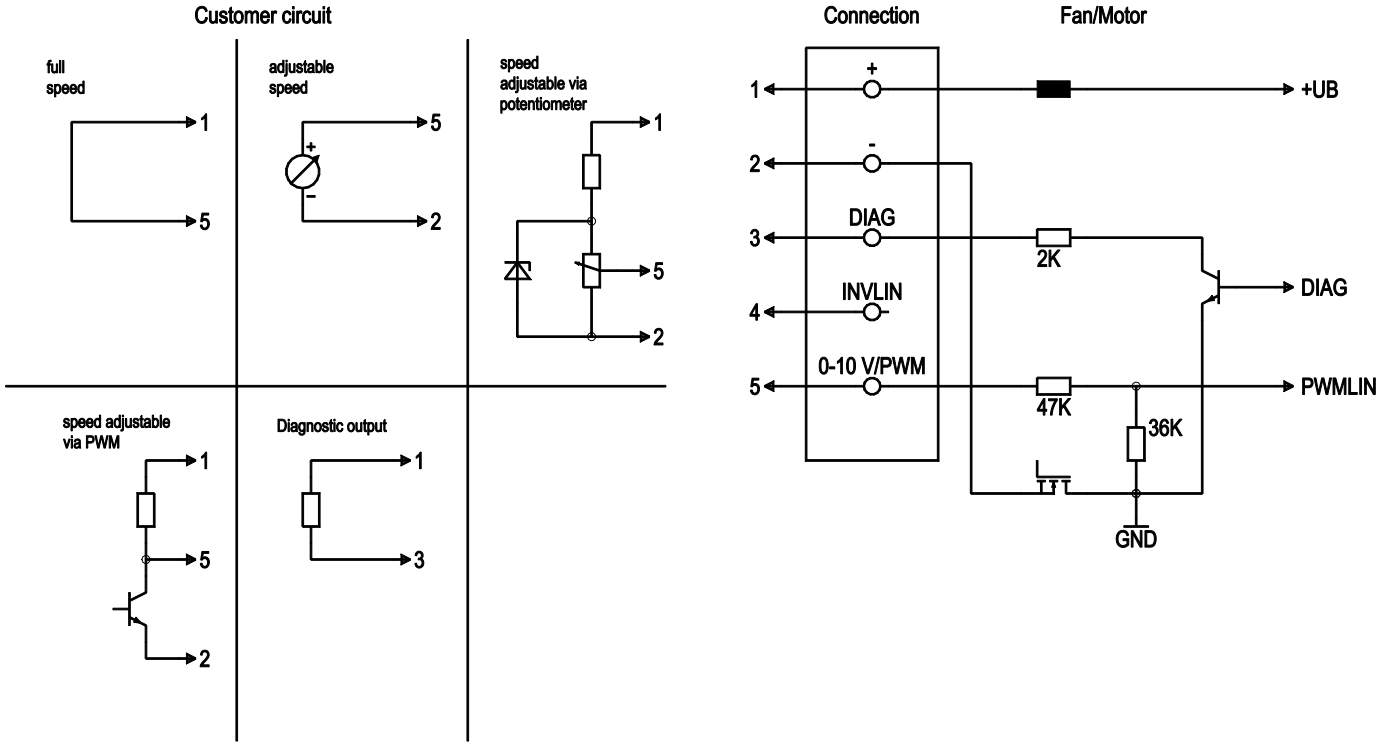
1	Connection line, halogen-free, railway application EN 45545, 2x 6.0 mm², 2x 1.0 mm²
	4x core-end sleeve

ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

EC dual centrifugal fan

forward curved, with brushless DC motor
with housing, for railway applications

Connection screen



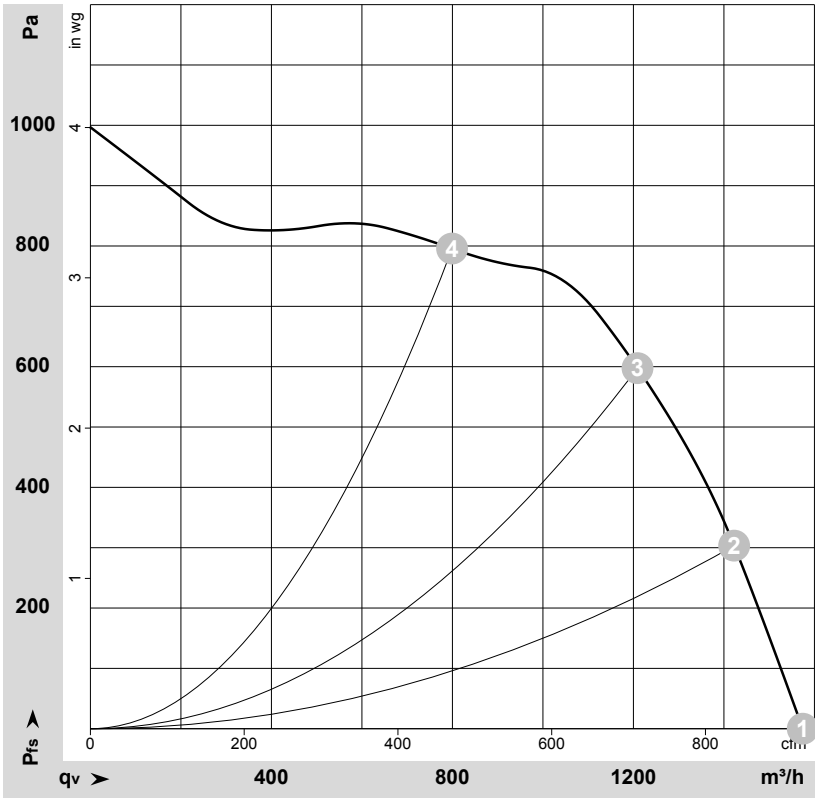
No.	Conn.	Designation	Colour	Function / assignment
	1	+	black	Power supply, see type plate for voltage range
	2	-	brown	Power supply, see type plate for voltage range
	3	DIAG	white	Diagnostic output: Open collector, Isink max = 10 mA, Ri > 50 Ω Fan OK -> High; Fan error -> Low
	4	INVLIN		not used
	5	0-10 V / PWM	yellow	Control input: Ri > 47 kΩ 0-10 V (typ. < 1 V -> n=0; 1.5 V -> n=min; >10 V -> n=max) PWM (amplitude 10 V; 1-50 kHz; typ. < 5 % -> n=0; 15% -> n=min; > 100% -> n=max)

ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

EC dual centrifugal fan

forward curved, with brushless DC motor
with housing, for railway applications

Charts: Air flow



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-175168-1

Air performance measured as per ISO 5801 Installation category A. For detailed information on the measuring set-up, please contact ebm-papst. Suction-side noise levels: LwA measured as per ISO 13347 / LpA measured with 1m distance to fan axis. The values given are valid under the measuring conditions mentioned above and may vary according to the actual installation situation. With any deviation from the standard set-up, the specific values have to be checked and reviewed with the unit installed.

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	4680	740	28.00	78	88	1575	0	925	0.00
2	26	5025	740	28.00	76	87	1425	300	840	1.20
3	26	5380	659	25.31	75	85	1210	600	710	2.41
4	26	5500	441	16.92	73	84	800	800	470	3.21

U = Supply voltage · n = Speed (rpm) · P_{ed} = Power input · I = Current draw · LpA_{in} = Sound pressure level inlet side · LwA_{in} = Sound power level inlet side · q_V = Air flow · p_{fs} = Pressure increase

ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com