K3G097-AS81-81

EC dual centrifugal fan

forward curved, dual inlet

with housing, for railway applications



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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**K3G097-AS81-81**	
Motor	**M3G084-BF**	
Nominal voltage	VDC	26
Nominal voltage range	VDC	16 .. 32
Type of data definition		fa
Speed	min^{-1}	3900
Power input	W	435
Min. back pressure	Pa	0
Min. ambient temperature	°C	-40
Max. ambient temperature	°C	85

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

Data according to ErP directive

Installation category	A
Efficiency category	Static
Variable speed drive	Yes
Specific ratio*	1.01

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

		Actual	Request 2013	Request 2015
Overall efficiency η_{es}	%	45.8	27.1	34.1
Efficiency grade N		55.7	37	44
Power input P_e	kW	0.27		
Air flow q_v	m³/h	705		
Pressure increase p_{fs}	Pa	573		
Speed n	min^{-1}	4730		

Data definition with optimum efficiency. LU-163258
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.

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Technical features

Mass	2 kg
Size	97 mm
Material of impeller	PA UL94 V0 plastic
Housing material	PA UL94 V0 plastic
Number of blades	34
Balance quality according to DIN ISO 1940-1	G 2.5
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 24 KM; (motor); electronics IP 6K9K
Insulation class	"B"
Humidity class	F4-1
Note ambient temperature	Over +70° C with power derating
Max. permissible ambient motor temp. (transp./ storage)	+85 °C
Min. permissible ambient motor temp. (transp./storage)	-40 °C
Mounting position	Any
Condensate discharge holes	None, open rotor
Operation mode	S1
Motor bearing	Ball bearing; (sealed)
Life expectancies	40,000 h (typical)
Technical features	- Lowering input - Fault output (high-side switch max. 30 mA) - INVLIN (control input, inverse linear) - Output limit -Load dump (58 V) - Motor current limit - Soft start - Control input 0-10 VDC / PWM - Temperature derating - Overvoltage detection - Over-temperature protected electronics - Line undervoltage detection
Electrical leads	With plug; Standby current less than 500 µA
Motor protection	Reverse polarity and locked-rotor protection
Protection class	III
Product conforming to standard	EN 45545-2, HL3: 2013; EN 50155: 2008; EN 61373, Cat. 1B: 2010
Approval	EAC
Remark	E1 approval in preparation; EMC regulation: EN 50121-3-2 in preparation

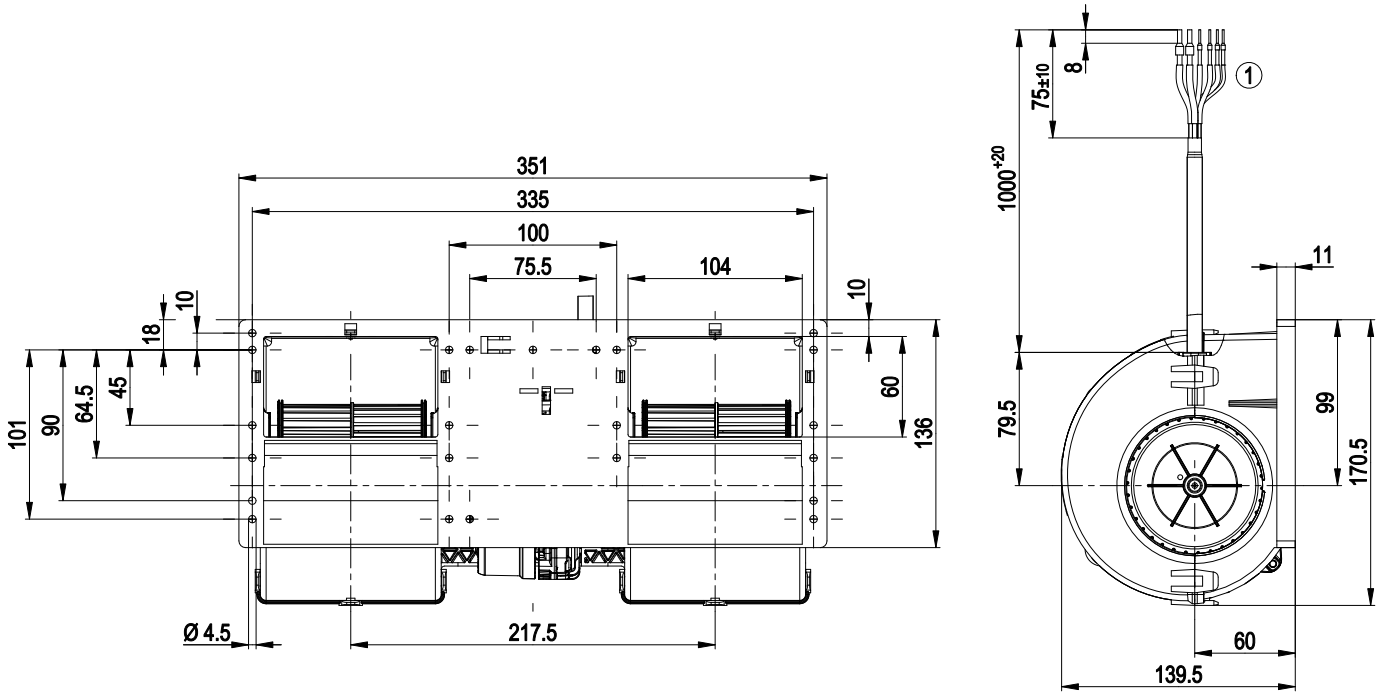
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Product drawing



1	Connection line halogen-free, BETAtrans® GKW R 2.5 mm², 2x crimped core-end sleeves (brown, black), BETAtrans® GKW R 1.0 mm², 4x crimped core-end sleeves (yellow, orange, blue, white)
	+ UB (black)
	GND (brown)
	PWM/LIN (yellow)
	INVLIN (orange)
	ABSENK (blue)
	Diagnostic output (white)

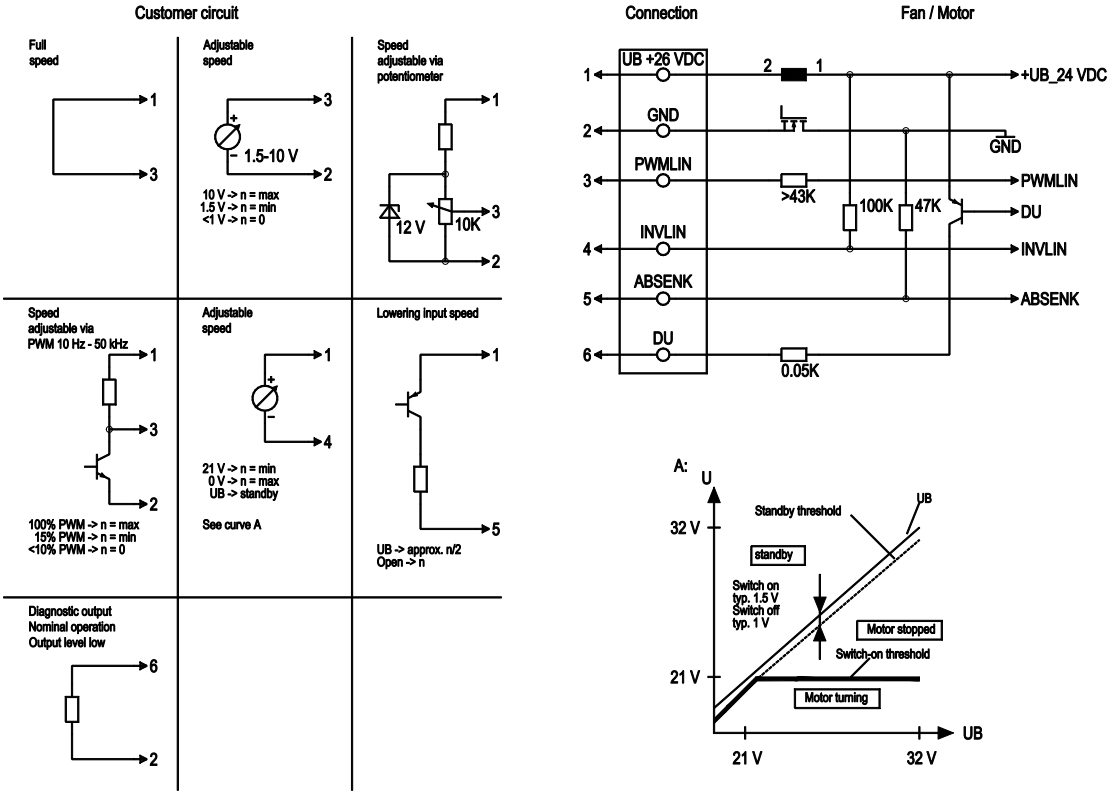
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Connection screen



No.	Conn.	Designation	Function / assignment
	1	UB +26 VDC	Power supply 26 VDC
	2	GND	Power supply GND, reference ground
	3	PWMLIN	Analogue voltage control input 0 -10 V or PWM
	4	INVLIN	Control input, inverse linear
	5	ABSENK	Lowering input
	6	DU	Diagnostic output

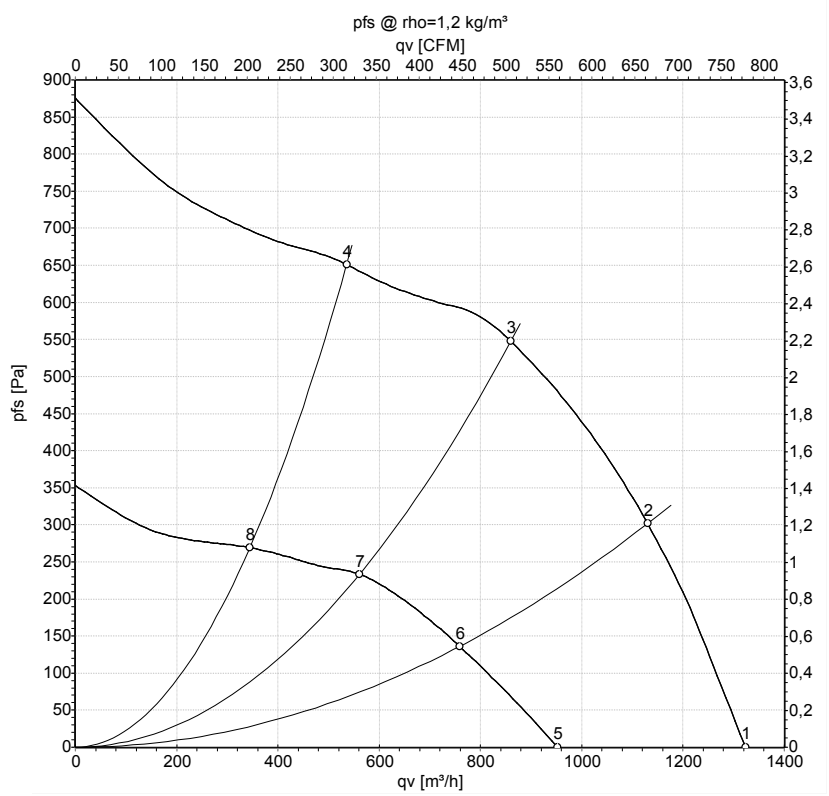
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Charts: Air flow



Measurement: LU-163258
Measurement: LU-163419

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}	qv	p_{fs}
	V	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa
1	26-32	3900	435	16.6*	73	84	1325	0
2	26-32	4375	412	15.8*	71	82	1130	300
3	26-32	4620	324	12.5*	69	80	860	550
4	26-32	4820	233	9.0*	69	79	535	650
5	16	2845	165	10.34			950	0
6	16	2955	128	7.98			760	136
7	16	3040	97	6.08			560	236
8	16	3120	69	4.34			345	269

U = Supply voltage · n = Speed · P_{ed} = Power input · I = Current draw · * = Current measured at rated voltage · LpA_{in} = Sound pressure level inlet side · LwA_{in} = Sound power level inlet side
qv = Air flow · p_{fs} = Pressure increase

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