W3G300-BV25-82

EC axial fan

with brushless DC motor

for railway applications



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Nominal data

Type	**W3G300-BV25-82**
Motor	**M3G084-BF**

Nominal voltage	VDC	26
Nominal voltage range	VDC	16 .. 32
Type of data definition		fa
Speed (rpm)	min^{-1}	3350
Power input	W	230
Current draw	A	9
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 in accordance with ecodesign regulation EU 327/2011 (EN 17166)

		Actual	Request 2015
01 Overall efficiency η_{es}	%	44.4	30.6
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		53.8	40
05 Variable speed drive		Yes	

09 Power input P_e	kW	0.32
09 Air flow q_v	m^3/h	1795
09 Pressure increase p_{fs}	Pa	260
10 Speed (rpm) n	min^{-1}	3345
11 Specific ratio*		1.00

Data definition with optimum efficiency.

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

LU-154847

The indicated efficiency values for obtaining conformity with the Ecodesign Directive EU 327/2011 were achieved with defined air conduction components (e.g. inlet nozzles).
The dimensions are to be requested from ebm-papst. If other air guide geometries are used on the installation side, the ebm-papst evaluation loses its validity/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 features

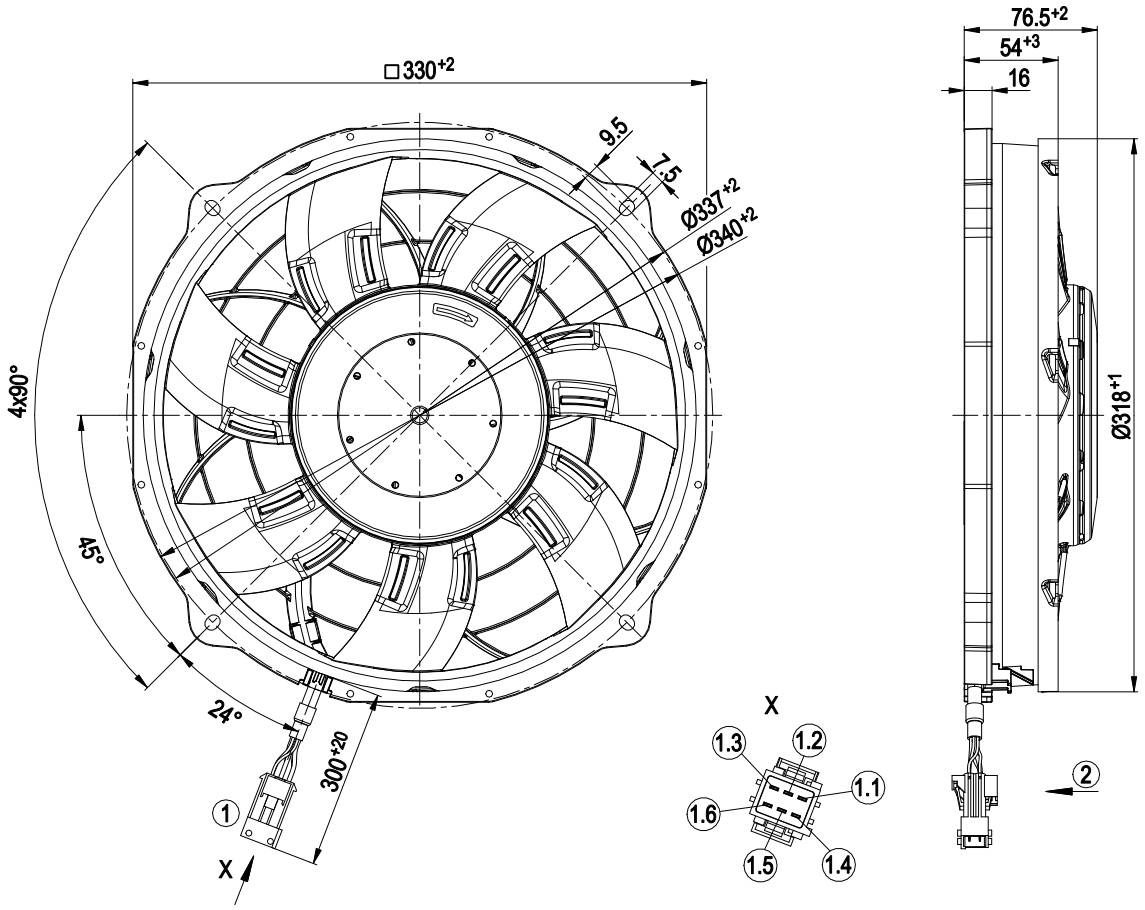
Mass	2.3 kg
Size	300 mm
Motor size	84
Material of blades	PA UL94 V0 plastic
Material of wall ring	PA UL94 V0 plastic
Number of blades	7
Direction of air flow	V
Balance quality per DIN ISO 21940-11	G 10
Direction of rotation	Clockwise, seen on rotor
Type of protection	Motor IP24 KM, electronics IP6K9K (mating connector fitted)
Insulation class	"B"
Humidity (F) / environmental protection class (H)	H3
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	- Lowering input - Error output (high-side switch) - 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 - Reverse polarity protection
EMC directives	According to EN 50121-3-2
Electrical connection	Connector with connection line; Standby current less than 500 µA
Cable exit	Lateral
Safety classification	III; Requires supply with safety extra-low voltage SELV. This component to be built-in can have several local safety classifications. This specification relates to the basic design of this component. The final protection class is based on the intended installation and connection of the components.
Product conforming to standard	EN 45545-2, HL3; EN 50155; EN 61373, Cat. 1B; CE
Approval	EAC

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Product drawing



1	Connection line BETAtrans® 2x GKW R 2.5 mm², 4x GKW R 1.0 mm²
	6-pole connector housing TE 1-962349-1, 2x flat connector TE 2-962916-1, 4x flat connector TE 1-962915-1 1x seal TE 963205-1, 2x seal TE 828905-1, 4x seal TE 828904-1
1.1	+ UB
1.2	GND
1.3	PWM/LIN
1.4	not used
1.5	not used
1.6	Diagnostic output
	Accessory part: Connection line (460 mm) with mating connector, part no. 02002-4-1021 not included in scope of delivery 6-pole mating connector TE 1-963212-1, 4x receptacle TE 929939-1, 2x receptacle TE 929937-1
2	Direction of air flow "V"

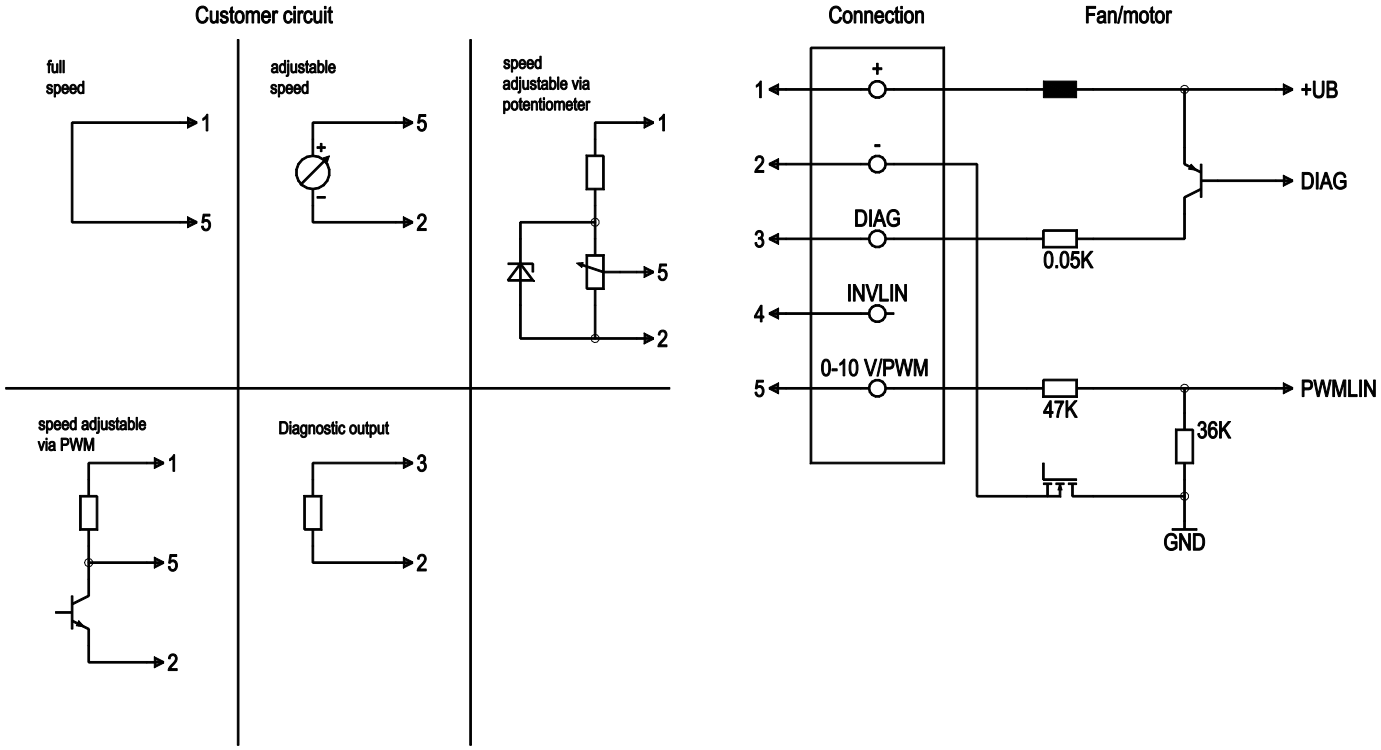
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Connection screen



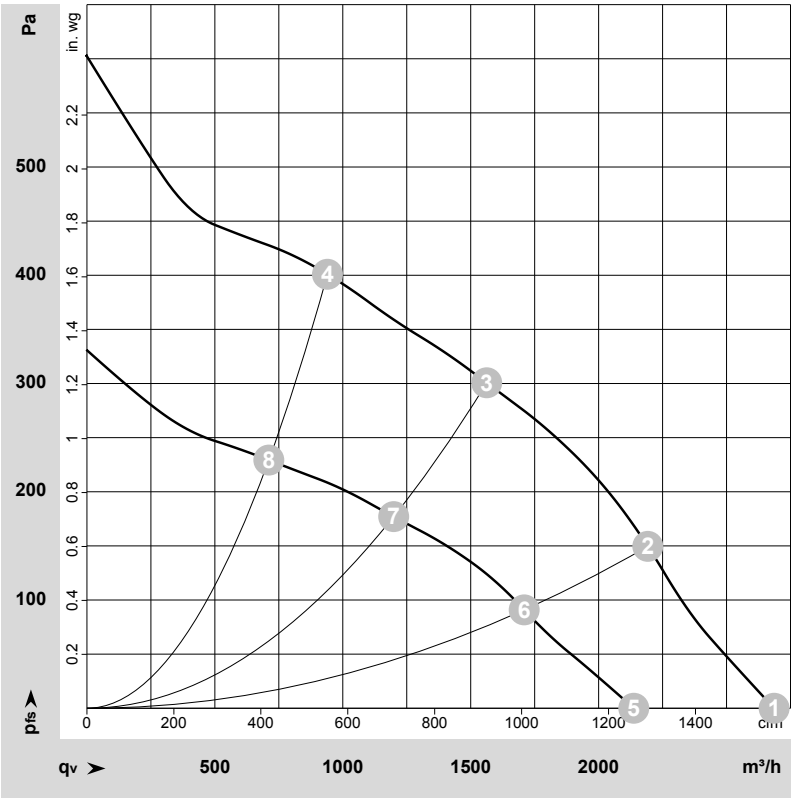
No.	Conn.	Designation	Function / assignment
	1	+	Power supply, see type plate for voltage range
	2	-	Power supply, see type plate for voltage range
	3	DIAG	Diagnostic output: open collector, Isource max = 20 mA, Fan OK -> low; fan error -> high
	4	INVLIN	not used
	5	0-10 V / PWM	Control input: Ri > 47 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)

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Charts: Air flow



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-154847-1
Measurement: LU-154861-1

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	q_V	p_{fs}	q_V	p_{fs}
	V	min^{-1}	W	A	m^3/h	Pa	cfm	in. wg
1	26-32	3350	230	9.00*	2685	0	1580	0.00
2	26-32	3325	280	10.70*	2190	150	1290	0.60
3	26-32	3340	345	13.20*	1565	300	920	1.20
4	26-32	3320	384	14.70*	940	400	555	1.61
5	16	2680	120	7.51	2135	0	1260	0.00
6	16	2640	139	8.66	1710	91	1005	0.37
7	16	2590	160	9.98	1200	177	705	0.71
8	16	2550	172	10.79	710	229	420	0.92

U = Supply voltage · n = Speed (rpm) · P_{ed} = Power input · I = Current draw · * = Current measured at rated voltage · q_V = Air flow · p_{fs} = Pressure increase

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