

EC axial fan

with brushless DC motor

Automotive


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Nominal data

Type	W3G300-ER38-45	
Motor	M3G074-CF	
Nominal voltage	VDC	27.5
Nominal voltage range	VDC	15 .. 32
Method of obtaining data		fa/ce
Speed (rpm)	min ⁻¹	3320
Power consumption	W	335
Current draw	A	12.2
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

Data according to ErP Directive

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	41.2	30.9
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		50.3	40
05 Variable speed drive		Yes	

Data obtained at optimum efficiency level.

The ErP data is determined using a motor-impeller combination in a standardized measurement setup.

09 Power consumption P_e	kW	0.36
09 Air flow q_v	m ³ /h	2010
09 Pressure increase p_{fs}	Pa	243
10 Speed (rpm) n	min ⁻¹	3255
11 Specific ratio*		1.00

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

LU-67589



Technical description

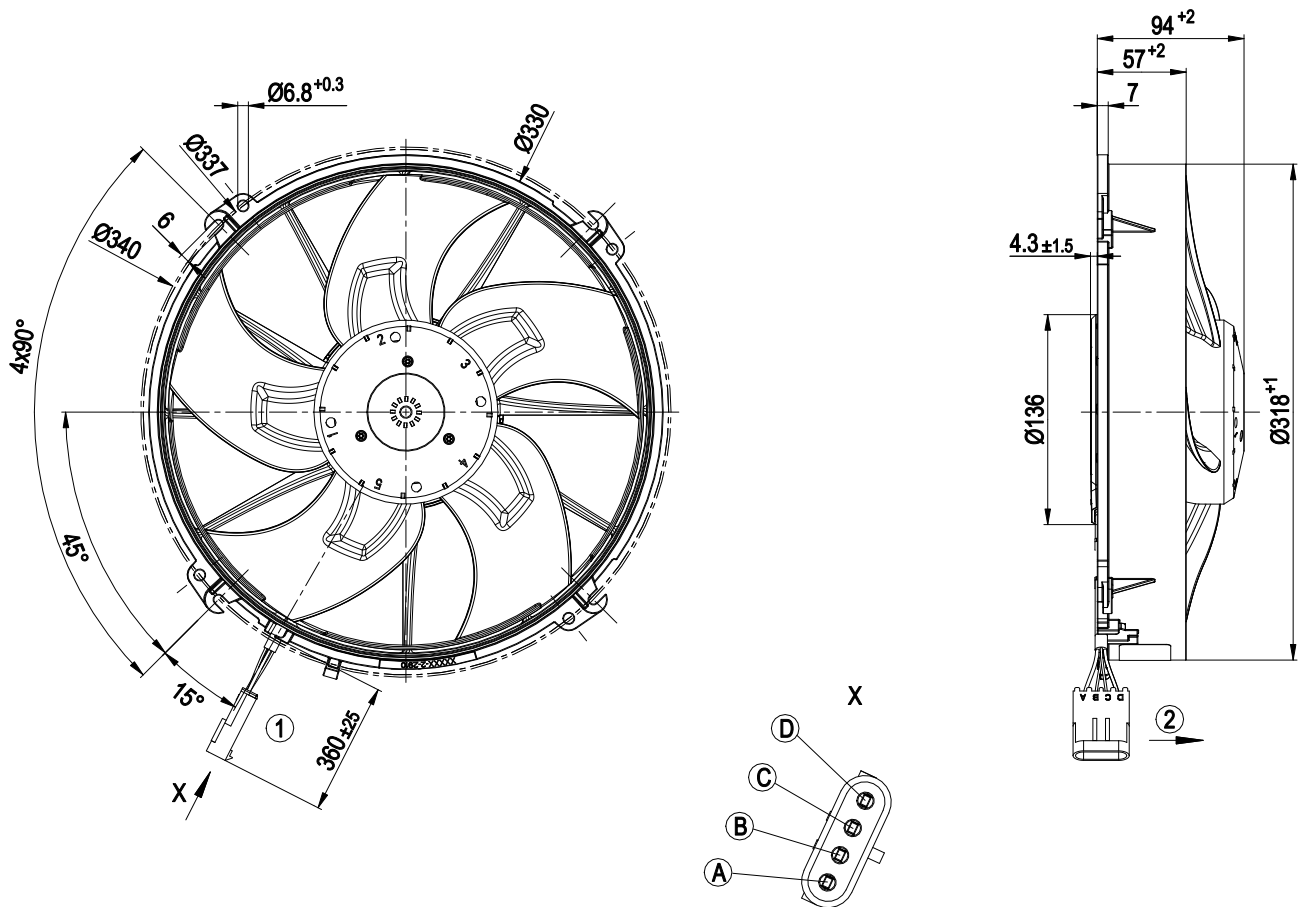
Weight	2.5 kg
Fan size	300 mm
Impeller material	PBT plastic
Fan housing material	PP plastic
Number of blades	5
Airflow direction	"A"
Balancing grade according to DIN ISO 1940-1	G 10
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP24 KM
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	F3-2
Max. permitted ambient temp. for motor (transport/storage)	+70 °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	25,000 h (typical)
Technical features	- Start at 85 °C (2 min permitted) - Load dump protection - Motor current limitation - Soft start - Control input 0-5 VDC - Standstill on cable break - Overvoltage detection - Thermal overload protection for electronics - Undervoltage detection
EMC regulations	According to ECE R10 Rev. 3
Electrical hookup	With plug; Standby current less than 500 µA
Motor protection	Reverse polarity and locked-rotor protection
With cable	Lateral
Approval	EAC; E1

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Product drawing

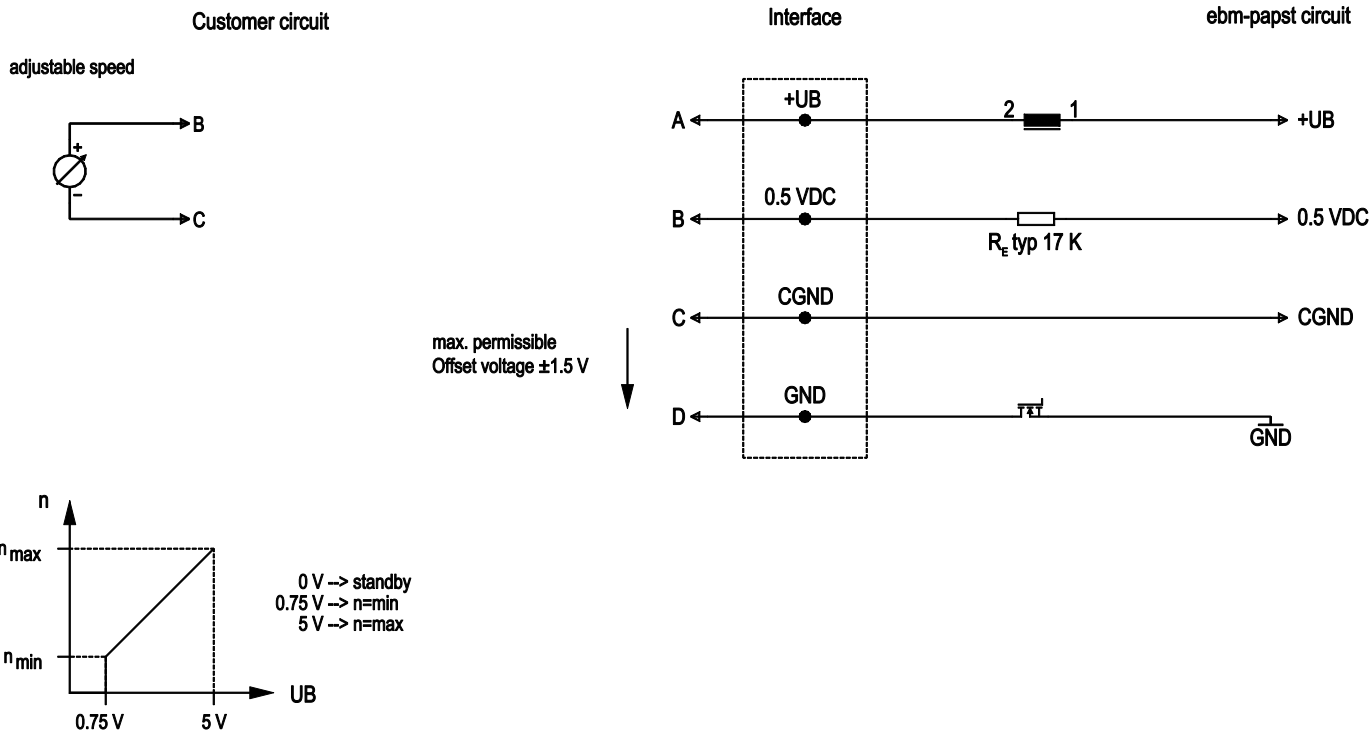


1	Cable with 4-pole coded plug Packard Electric 12010974
2	Direction of air flow "A"
A	+ UB (red)
B	PWM/LIN (blue)
C	CGND (white)
D	GND (black)
	Socket on customer circuit:
	Housing: Packard 12015797
	Plug contacts: Packard 120 89188 and Packard 121 24580
	Seal: Packard 153 24982 and Packard 153 24983

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Connection diagram



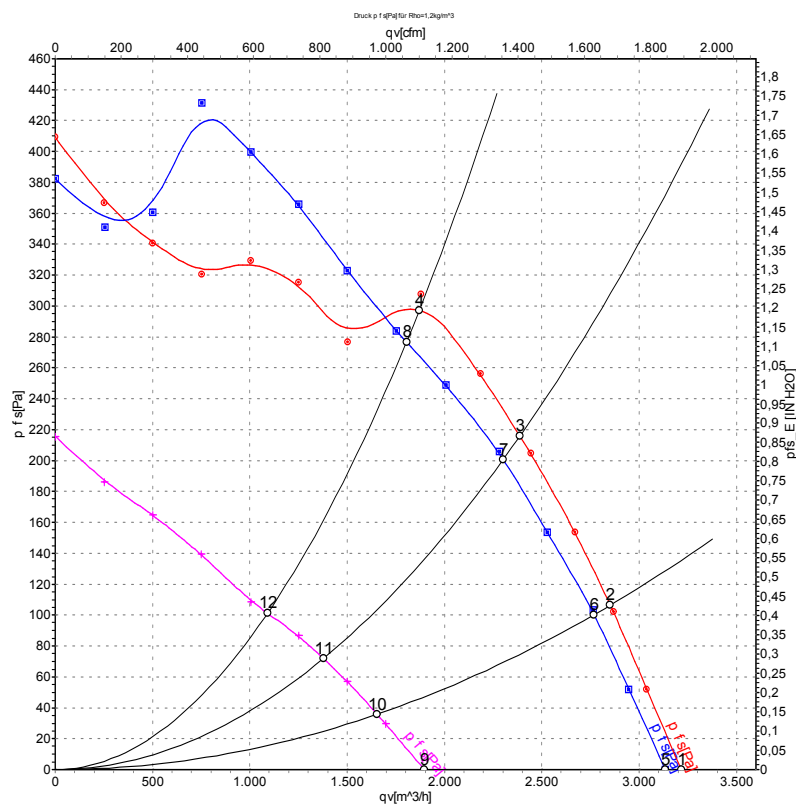
No.	Conn.	Designation	Function/assignment
	A	+UB	Power supply
	B	0-5 VDC	Analog voltage control input 0-5 V
	C	CGND	Control input reference ground, permissible offset $\pm 1.5\text{ V}$
	D	GND	Power supply GND, reference ground



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Curves: Air performance



Measurement: LU-67590-1
Measurement: LU-67589-1
Measurement: LU-67591-1

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	q _v	p _{fs}	q _v	p _{fs}
	V	min ⁻¹	W	A	m³/h	Pa	cfm	inH ₂ O
1	32	3385	356	11.08	3215	0	1890	0.00
2	32	3380	384	11.99	2850	107	1680	0.43
3	32	3385	406	12.69	2390	216	1405	0.87
4	32	3370	428	13.36	1870	307	1100	1.23
5	27.5	3320	335	12.20	3135	0	1845	0.00
6	27.5	3295	353	12.81	2770	102	1630	0.41
7	27.5	3275	364	13.22	2300	202	1355	0.81
8	27.5	3240	377	13.71	1805	277	1060	1.11
9	15	2025	79	5.28	1895	0	1115	0.00
10	15	2005	84	5.58	1655	36	975	0.14
11	15	1995	86	5.76	1380	72	810	0.29
12	15	1980	91	6.04	1090	101	640	0.41

U = Power supply · n = Speed (rpm) · P_{ed} = Power consumption · I = Current draw · q_v = Air flow · p_{fs} = Pressure increase



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