W1G300-EC24-03

EC axial fan

with brushless DC motor

Automotive



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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**W1G300-EC24-03**	
Motor	**M1G074-CF**	
Nominal voltage	VDC	26
Nominal voltage range	VDC	18 .. 32
Type of data definition		fa
State		prelim.
Speed	min^{-1}	3080
Power input	W	255
Current draw	A	9.8
Min. ambient temperature	°C	-40
Max. ambient temperature	°C	70/85

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*	1.00

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

		Actual	Request 2013	Request 2015
Overall efficiency η_{es}	%	41.6	25.9	29.9
Efficiency grade N		51.7	36	40
Power input P_e	kW	0.25		
Air flow q_v	m^3/h	1505		
Pressure increase p_{fs}	Pa	223		
Speed n	min^{-1}	2890		

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

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Technical features

Mass	2.6 kg
Size	300 mm
Material of electronics housing	Die-cast aluminium, coated in black
Material of impeller	PA plastic
Housing material	Die-cast aluminium
Material of wall ring	PP plastic
Number of blades	5
Motor suspension	Motor mounted vibration-free on both sides
Direction of air flow	"V"
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 24 KM
Insulation class	"B"
Note ambient temperature	Over +70° C with power derating
Max. permissible ambient motor temp. (transp./ storage)	+90 °C
Min. permissible ambient motor temp. (transp./storage)	-40 °C
Mounting position	Any
Condensate discharge holes	None, open rotor
Cooling bore / aperture	Rotor-side
Operation mode	S1
Motor bearing	Ball bearing
Technical features	-Load dump (58 V) - Motor current limit - Soft start - Overvoltage detection - Over-temperature protected electronics - Line undervoltage detection
Speed steps	3
EMC directives	accord. to ECE R10 Rev.3
Electrical leads	Integrated connector (directly pluggable at fan)
Motor protection	Locked-rotor protection
Approval	E1

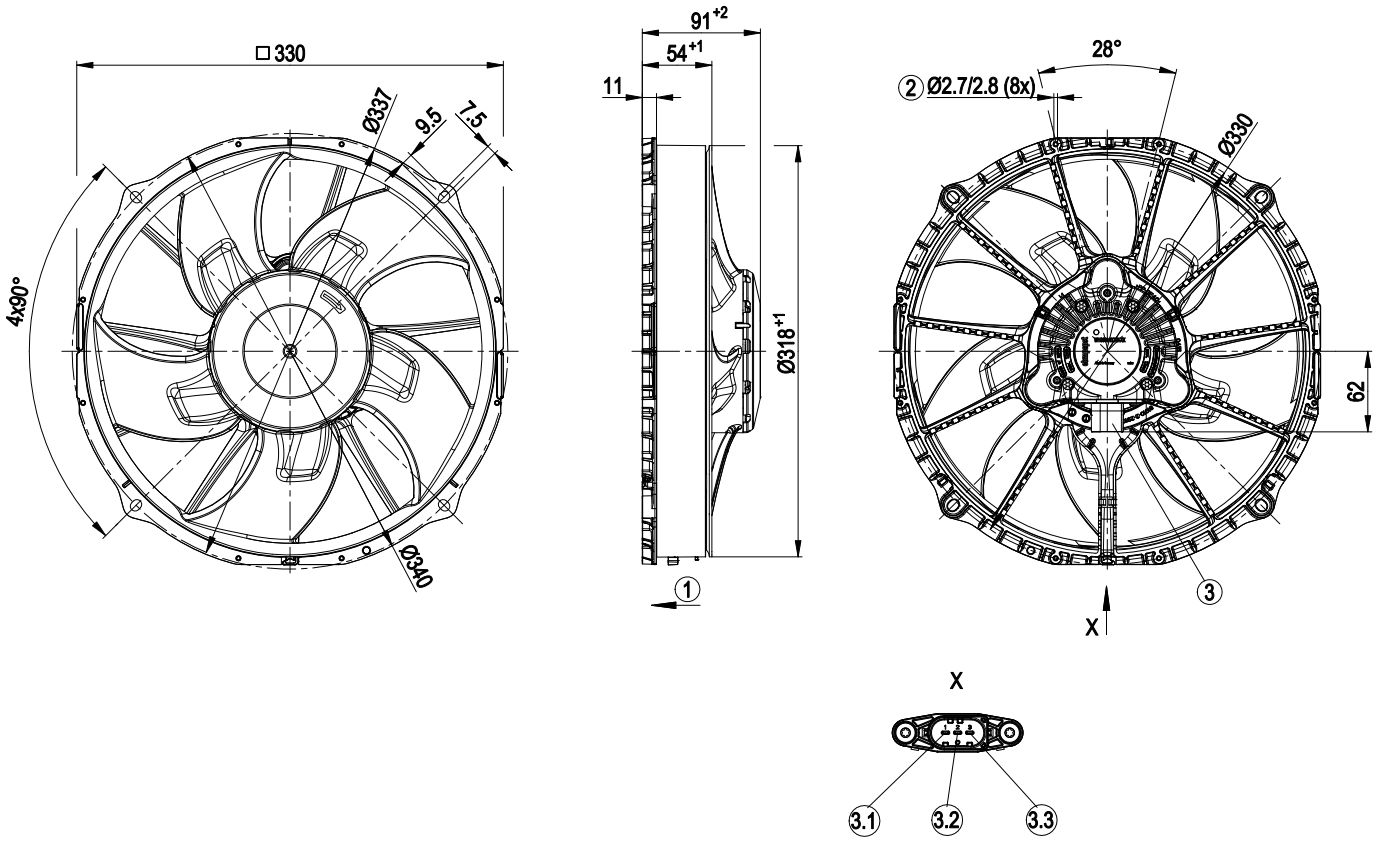
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Product drawing



1	Direction of airflow "V"
2	on both sides for Ø 3,5 mm plastic screws
3	Connector plug TE MCP 2.8, 3-pole, coded (connection line 02020-4-1021 with mating connector not included in scope of delivery, housing: TE MCP 2.8 :1-1718627-1, plug contacts: 2,8 mm TE 1241388-1 and TE 1241396-1, sealing: 1,2-2,1 mm TE 963294-1 and 2,7-3,0 mm TE 963292-1)
3.1	+ UB
3.2	PWM/LIN
3.3	GND

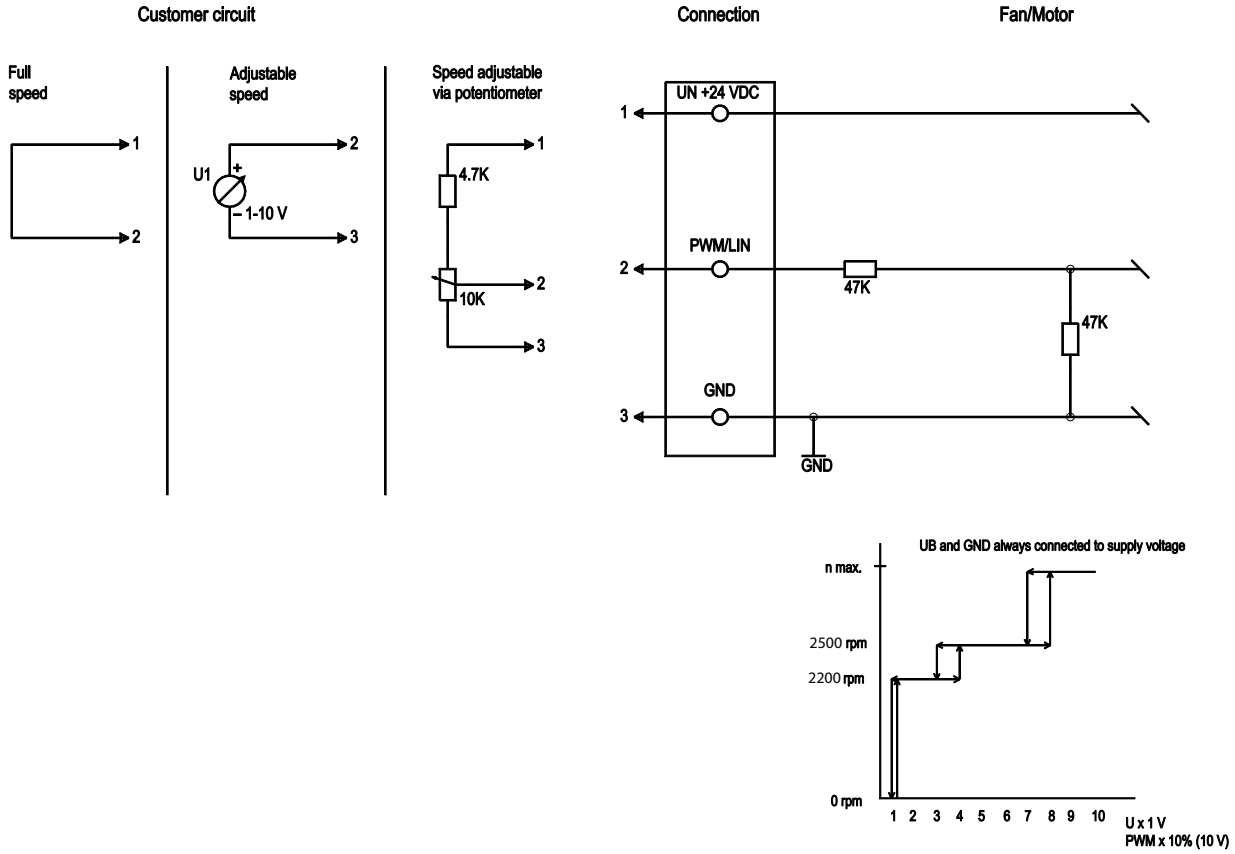
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Connection screen



No.	Pin	Signal	Function / assignment
1	1	UN +24 VDC	Power supply 24 VDC, maximum ripple 3.5 %
2	2	PWM/LIN	Control input analog voltage 0-10 V or PWM
3	3	GND	Reference ground

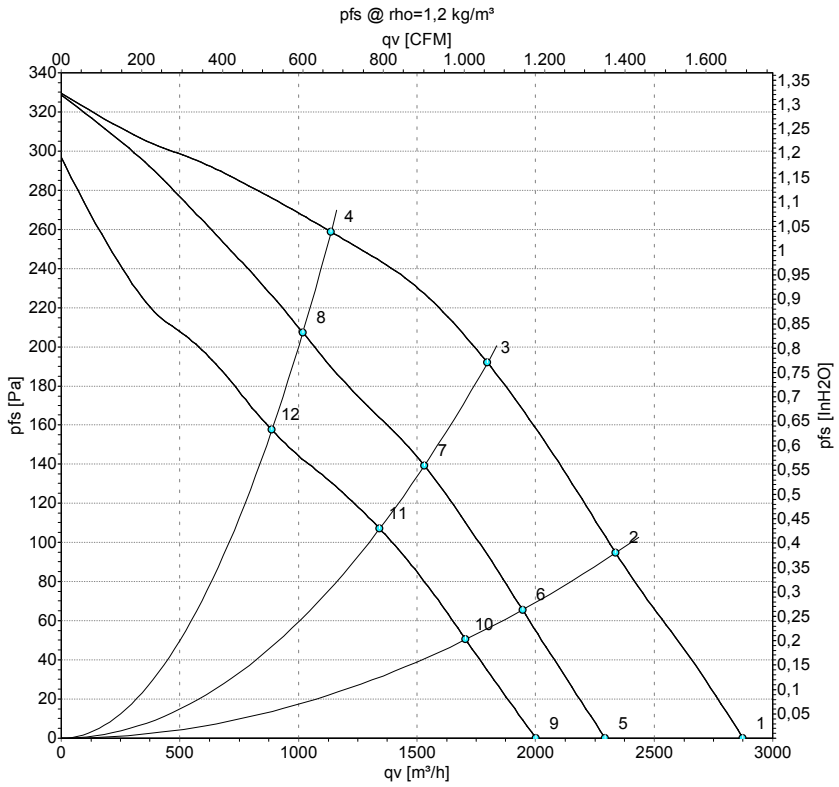
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Charts: Air flow



Measurement: LU-159644
Measurement: LU-159645
Measurement: LU-159646

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	3080	254	11.41	74	82	2875	0
2	26	2960	253	11.39	74	83	2340	94
3	26	2905	252	11.33	75	83	1800	193
4	26	2780	247	11.00	76	84	1140	259
5	26	2490	129	5.16	69	76	2295	0
6	26	2485	146	5.93	70	78	1945	66
7	26	2490	156	6.39	71	79	1530	141
8	26	2485	174	7.27	72	81	1020	207
9	26	2190	89	3.51	66	73	2000	0
10	26	2185	100	3.95	66	74	1705	50
11	26	2190	106	4.20	68	76	1345	107
12	26	2190	115	4.58	69	77	890	155

U = Supply voltage · n = Speed · P_{ed} = Power input · I = Current draw · 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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