W1G300-EC24-14

EC axial fan

with brushless DC motor

Automotive



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
Amtsgericht (court of registration) Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen
Amtsgericht (court of registration) Stuttgart · HRB 590142

Nominal data

Type	**W1G300-EC24-14**
Motor	**M1G074-CF**

Nominal voltage	VDC	26
Nominal voltage range	VDC	18 .. 32
Method of obtaining data		fa
Speed (rpm)	min^{-1}	3000
Power consumption	W	225
Current draw	A	8.5
Min. ambient temperature	°C	-40
Max. ambient temperature	°C	70
-with power derating to	°C	85

ml = Max. load · me = Max. efficiency · fa = Free air · cs = Customer specification · ce = Customer equipment
Subject to change

Data according to Commission Regulation (EU) 327/2011 (EN 17166)

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	40.9	29.7
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		51.2	40
05 Variable speed drive		Yes	

09 Power consumption P_e	kW	0.23
09 Air flow q_v	m^3/h	1600
09 Pressure increase p_{fs}	Pa	196
10 Speed (rpm) n	min^{-1}	2860
11 Specific ratio*		1.00

Data obtained at optimum efficiency level.
The ErP data is determined using a motor-impeller combination in a standardized measurement setup.

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

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Technical description

Weight	2.6 kg
Size	300 mm
Motor size	74
Electronics housing material	Die-cast aluminum, painted black
Impeller material	PP plastic
Fan housing material	PP plastic
Number of blades	5
Motor suspension	Motor vibration-damped on both sides
Airflow direction	V
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	Motor IP24 KM, electronics IP6K9K (mating connector installed)
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	H4
Ambient temperature note	Above +70°C with temperature derating; External sources of heat above +85°C can affect the service life; Occasional start-up at temperatures between -40°C and -25°C is permitted. For continuous operation at ambient temperatures below -25°C (such as refrigeration applications), a fan design with special low-temperature bearings must be used.
Max. permitted ambient temp. for motor (transport/storage)	+90 °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)
Technical features	-Start at 85 °C (2 min) permitted - Locked-rotor detection - Motor current limitation - Soft start - Control input 0-10 VDC - Temperature derating - Thermal overload protection for electronics
Electrical hookup	Plug; Integrated connector (pluggable directly on fan)
Protection class assignment	III; Requires supply with safety extra-low voltage SELV. This component for installation may have several local protection classes. This information relates to this component's basic design. The final protection class is based on the component's intended installation and connection.
Approval	EAC

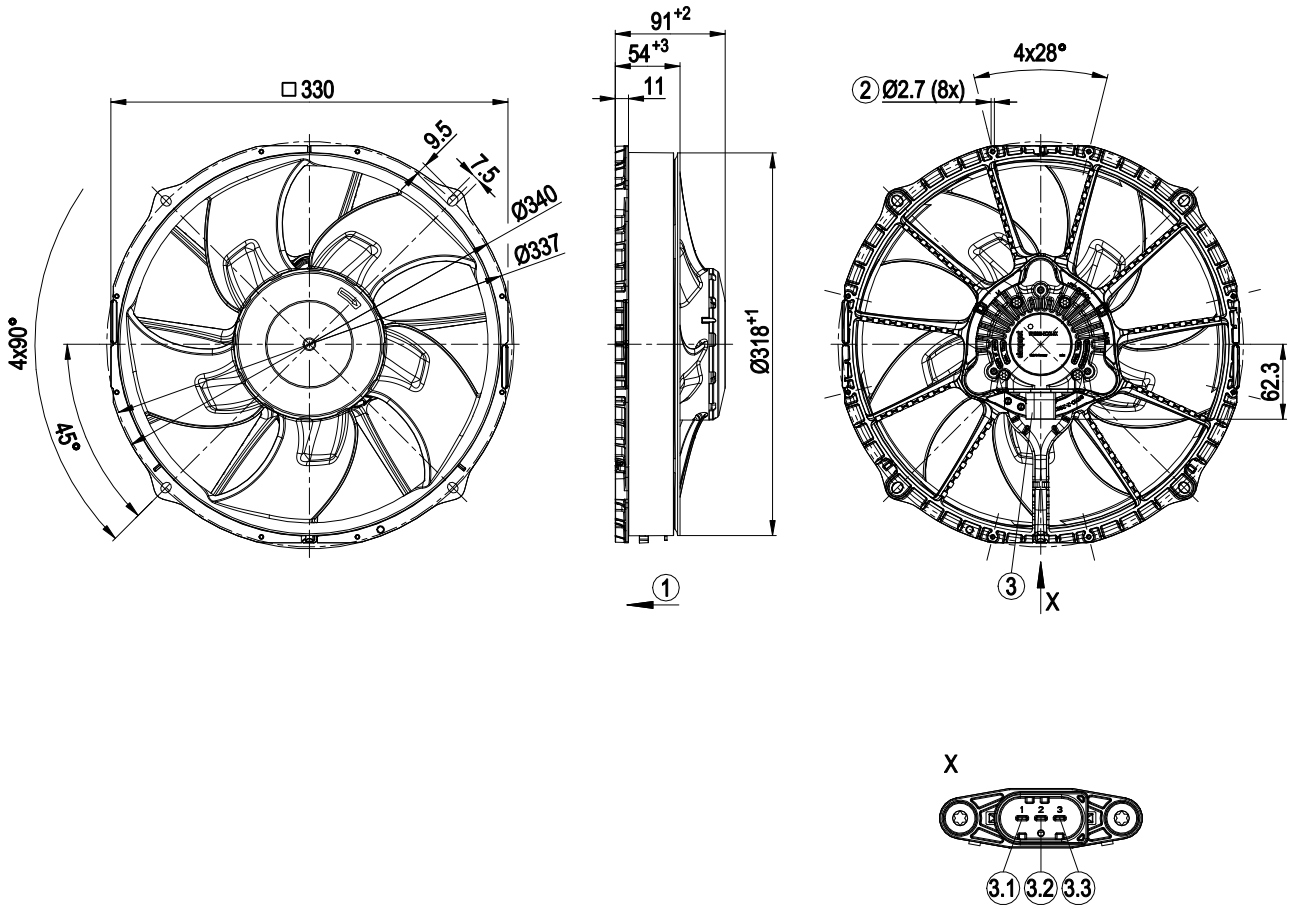
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Product drawing



1	Airflow direction "V"
2	on both sides for screws for fastening plastics, Ø 3.5 mm
3	3-pole plug, pluggable with cable from accessories
3.1	+ UN
3.2	0-10 V
3.3	GND
	Accessory part: Cable (420 mm) with mating connector, part no. 02020-4-1021 not included in scope of delivery 3-pole mating connector TE 1-1718627-1, 2x socket TE 1241396-1, 1x socket TE 1241394-1, 2x seal TE 963292-1, 1x seal TE 963294-1

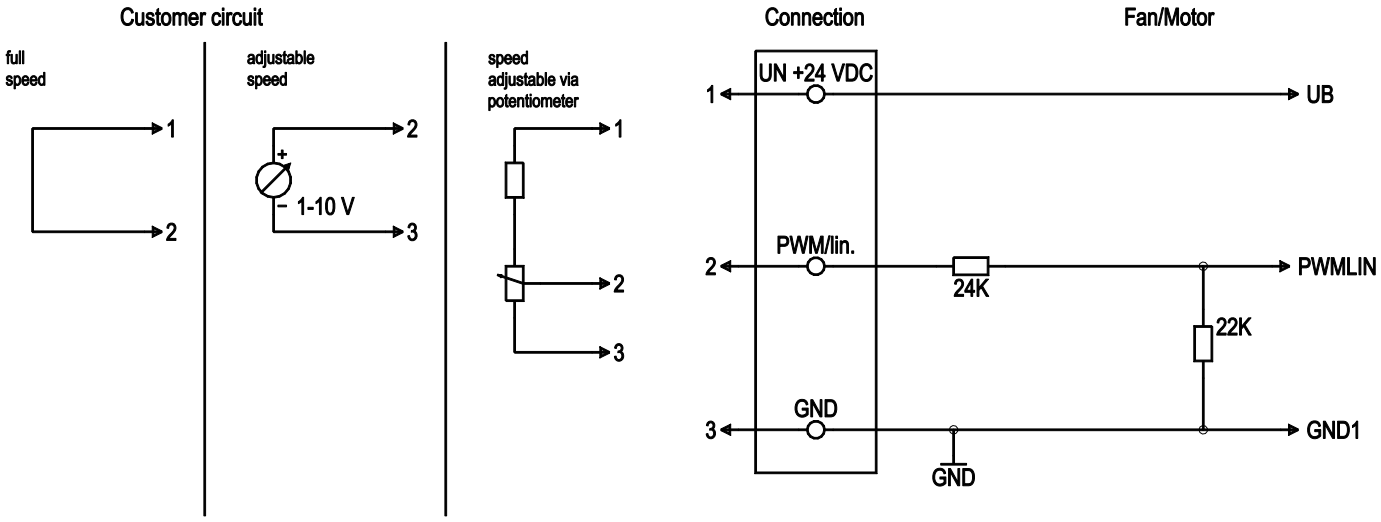
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Connection diagram



No.	Conn.	Designation	Function/assignment
	1	UN +24 VDC	Power supply 24 VDC, maximum ripple ±3.5%
	2	PWM/LIN	Control input 0-10 V
	3	GND	Reference ground

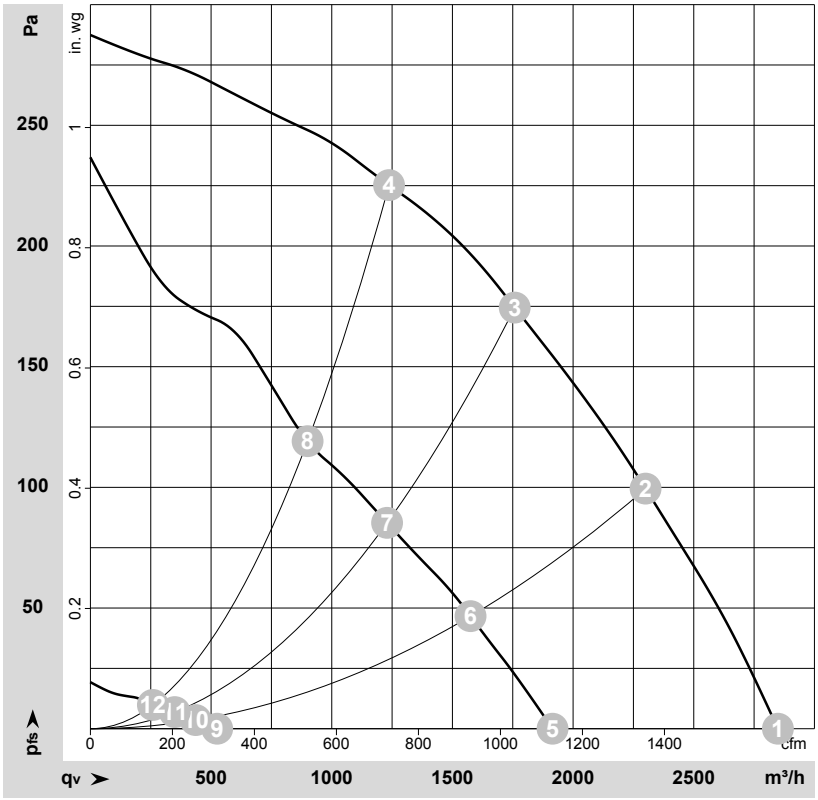
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Curves: Air performance



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-198141-1
Measurement: LU-208417-1

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	m^3/h	Pa	cfm	in. wg
1	26	3000	225	8.50	2850	0	1675	0.00
2	26	2925	241	9.28	2300	100	1355	0.40
3	26	2885	239	9.19	1760	175	1035	0.70
4	26	2790	237	9.12	1235	225	730	0.90
5	26	2040	73	2.82	1915	0	1125	0.00
6	26	2040	81	3.11	1575	47	925	0.19
7	26	2040	84	3.22	1230	85	725	0.34
8	26	2040	91	3.48	900	118	530	0.47
9	26	600	5.0	0.18	525	0	310	0.00
10	26	600	5.0	0.18	435	4	255	0.02
11	26	600	5.0	0.19	350	7	205	0.03
12	26	600	5.0	0.19	260	10	150	0.04

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

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