W1G300-EC24-01

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-EC24-01**	
Motor	**M1G074-CF**	
Nominal voltage	VDC	26
Nominal voltage range	VDC	18 .. 32
Method of obtaining data		fa
Speed (rpm)	min^{-1}	3040
Power consumption	W	245
Current draw	A	10.5
Min. ambient temperature	°C	-40
Max. ambient temperature	°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

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	40.4	29.9
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		50.5	40
05 Variable speed drive		Yes	

09 Power consumption P_e	kW	0.25
09 Air flow q_v	m^3/h	1605
09 Pressure increase p_{fs}	Pa	202
10 Speed (rpm) n	min^{-1}	2910
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

LU-188866

EC axial fan

with brushless DC motor

Automotive

Technical description

Weight	2.6 kg
Size	300 mm
Motor size	74
Electronics housing material	Die-cast aluminum, painted black
Impeller material	PA6 plastic
Housing material	Die-cast aluminum
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 power derating; External sources of heat above 85°C can affect the service life
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
Technical features	- Load dump (58 V) - Motor current limitation - Soft start - Control input 0-10 VDC - Temperature derating - Overvoltage detection - Thermal overload protection for electronics - Line undervoltage detection
Speed levels	3
Electrical hookup	Plug
Motor protection	Locked-rotor protection
Approval	EAC
Comment	E1 approval in preparation

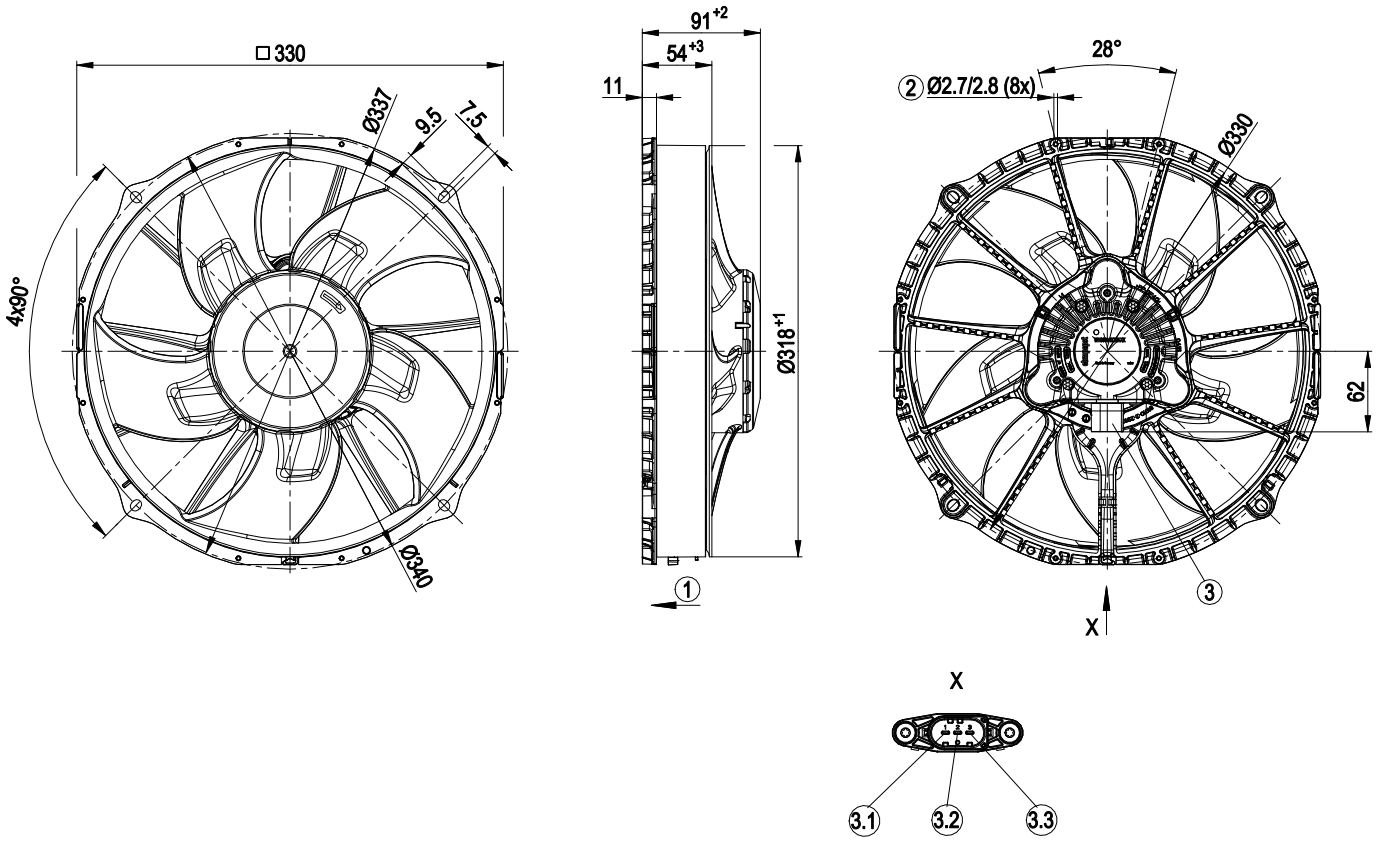
ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

EC axial fan

with brushless DC motor

Automotive

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	+ UB
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 1241388-1, 2x seal TE 963292-1, 1x seal TE 963294-1

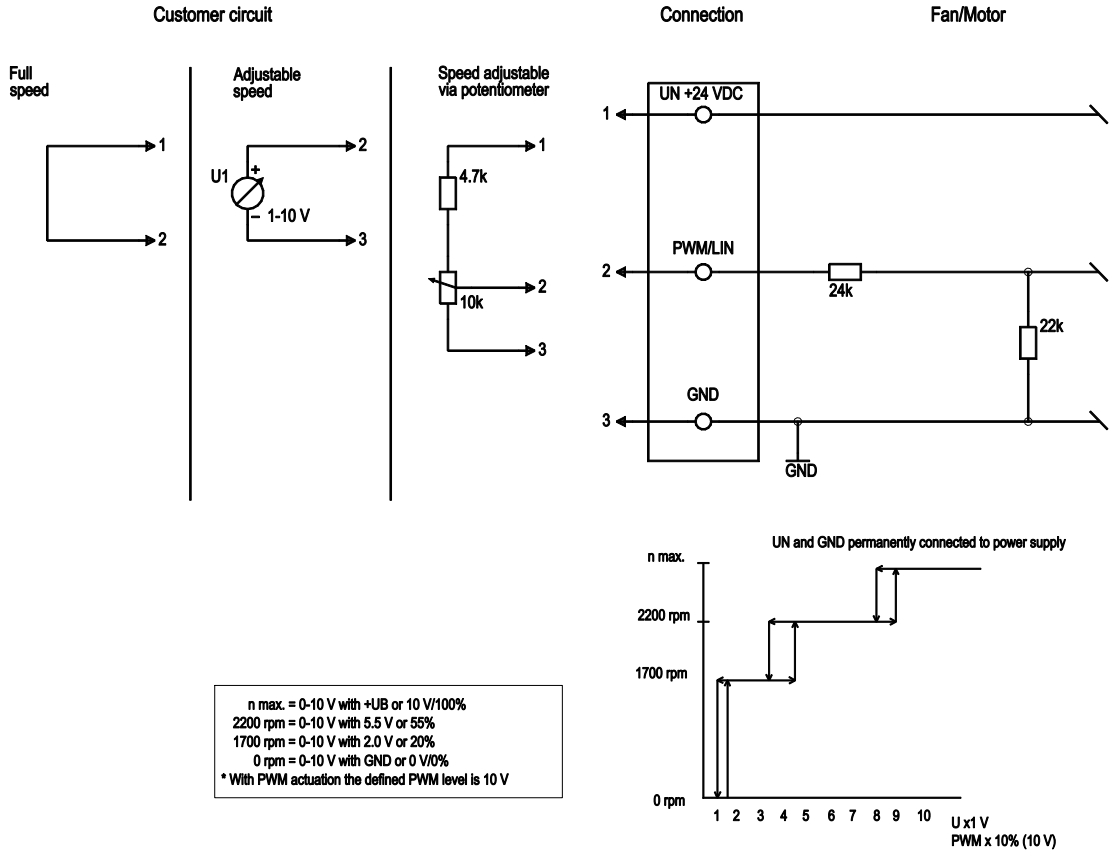
ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

EC axial fan

with brushless DC motor

Automotive

Connection diagram



No.	Conn.	Designation	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 (1-10 kHz/10 V signal level)/three speed levels
3	3	GND	Reference ground

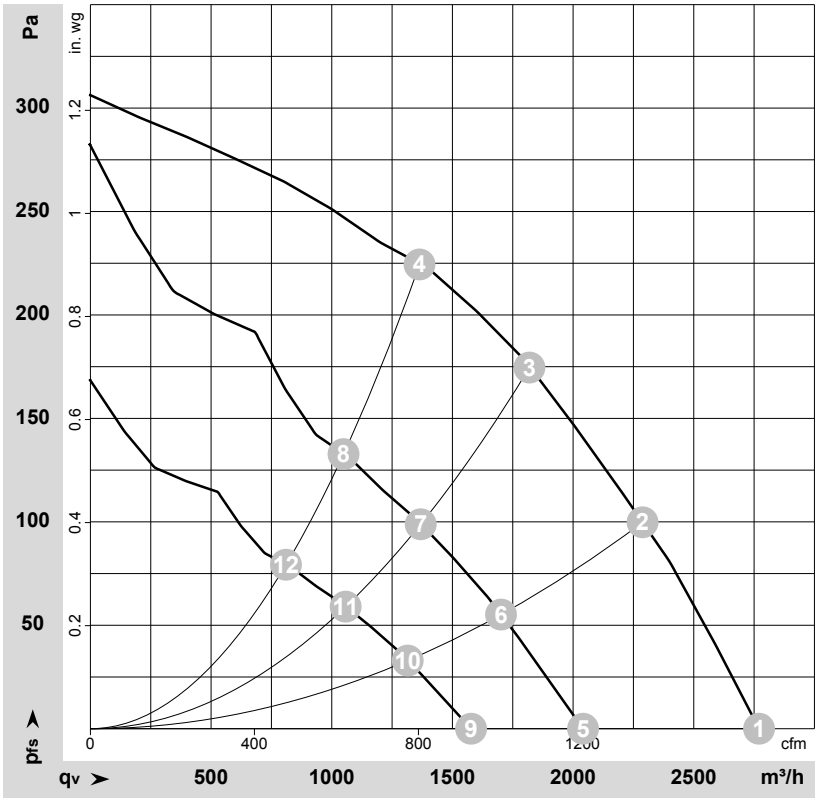
ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

EC axial fan

with brushless DC motor

Automotive

Curves: Air performance



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-188866-1

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	LpA_{in}	LwA_{in}	q_V	p_{fs}	q_V	p_{fs}
	V	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa	cfm	in. wg
1	26	2985	233	8.93	74	80	2770	0	1630	0.00
2	26	2960	252	9.69	74	82	2290	100	1345	0.40
3	26	2925	251	9.63	75	83	1820	175	1070	0.70
4	26	2860	249	9.55	75	84	1365	225	805	0.90
5	26	2200	93	3.57	66	73	2040	0	1200	0.00
6	26	2200	104	3.98	67	75	1700	55	1000	0.22
7	26	2200	107	4.10	68	76	1370	99	805	0.40
8	26	2200	113	4.34	69	78	1050	133	615	0.53
9	26	1700	43	1.65	59	66	1575	0	930	0.00
10	26	1700	48	1.84	60	68	1315	33	775	0.13
11	26	1700	49	1.89	62	70	1060	59	625	0.24
12	26	1700	52	2.00	63	71	810	79	475	0.32

U = Voltage · n = Speed (rpm) · P_{ed} = Power consumption · I = Current draw · LpA_{in} = Sound pressure level intake side · LwA_{in} = Sound power level intake side · q_V = Air flow
p_{fs} = Pressure increase

ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com