EC axial fan

A3G450-AP02-11 ebmpapst Datasheet
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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**A3G450-AP02-11**
Motor	**M3G074-DF**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 240
Frequency	Hz	50/60
Method of obtaining data		ml
Speed	min^{-1}	980
Power consumption	W	163
Current draw	A	1.34
Max. back pressure	Pa	74
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	55

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}	%	39.8	28.6
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		51.2	40
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.16
09 Air flow q_v	m^3/h	3505
09 Pressure increase p_{fs}	Pa	61
10 Speed n	min^{-1}	1000
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-138244

EC axial fan

Technical description

Weight	2.9 kg
Fan size	450 mm
Blade material	Press-fitted sheet steel blank, sprayed with PP plastic
Number of blades	5
Airflow direction	"V"
Direction of rotation	Counterclockwise, viewed toward rotor
Degree of protection	IP54
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	H2
Max. permitted ambient temp. for motor (transport/storage)	+ 80 °C
Min. permitted ambient temp. for motor (transport/storage)	- 40 °C
Installation position	Shaft horizontal or rotor on bottom
Condensation drainage holes	None, open rotor
Cooling hole/opening	On rotor side
Mode	S1
Motor storage	Ball bearing made of stainless steel
Technical features	- Output 10 VDC, max. 1.1 mA - Tach output - Power limiter - Motor current limitation - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Thermal overload protection for electronics/motor
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Motor protection	PTC thermistor
With cable	Variable
Protection class	I (with customer connection of protective earth)
Conformity with standards	CE

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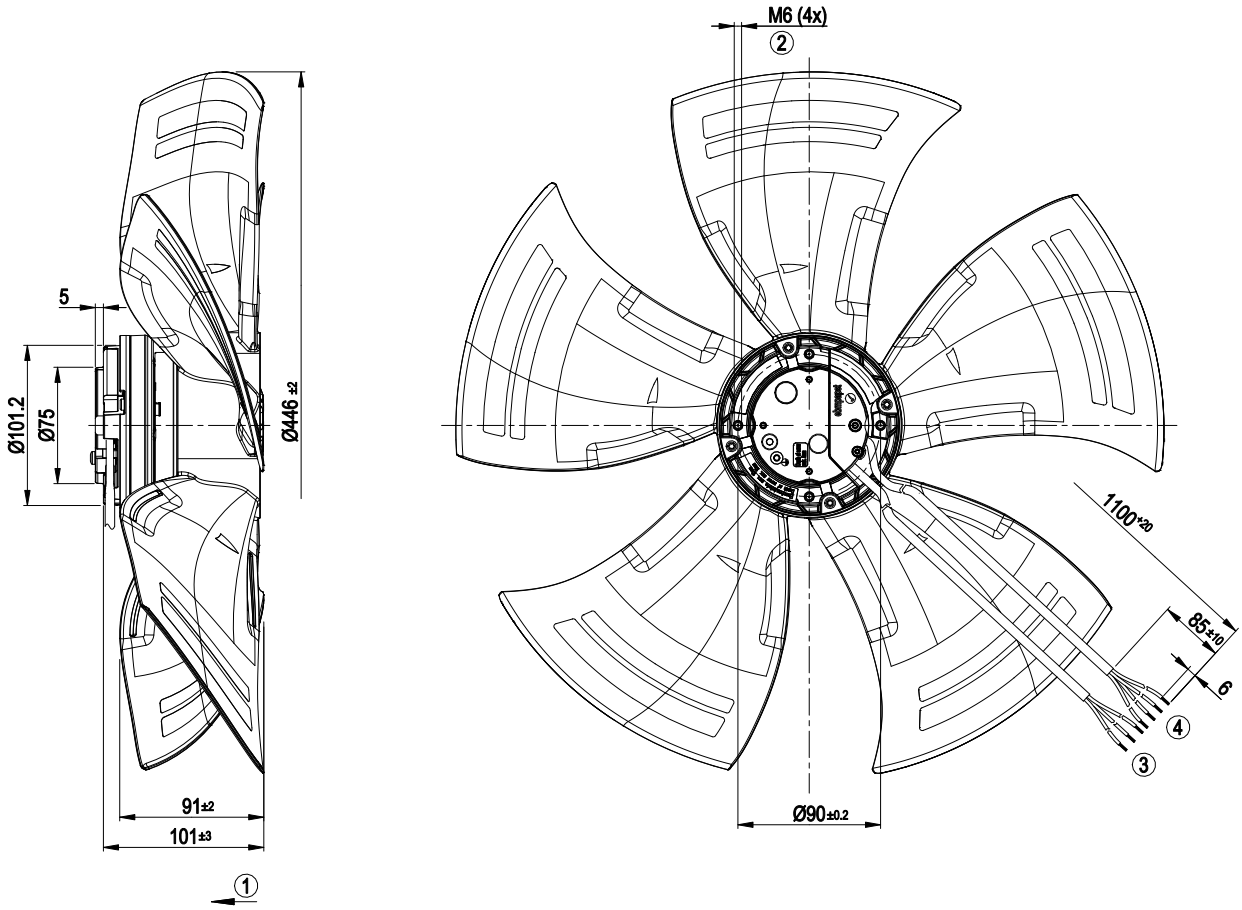
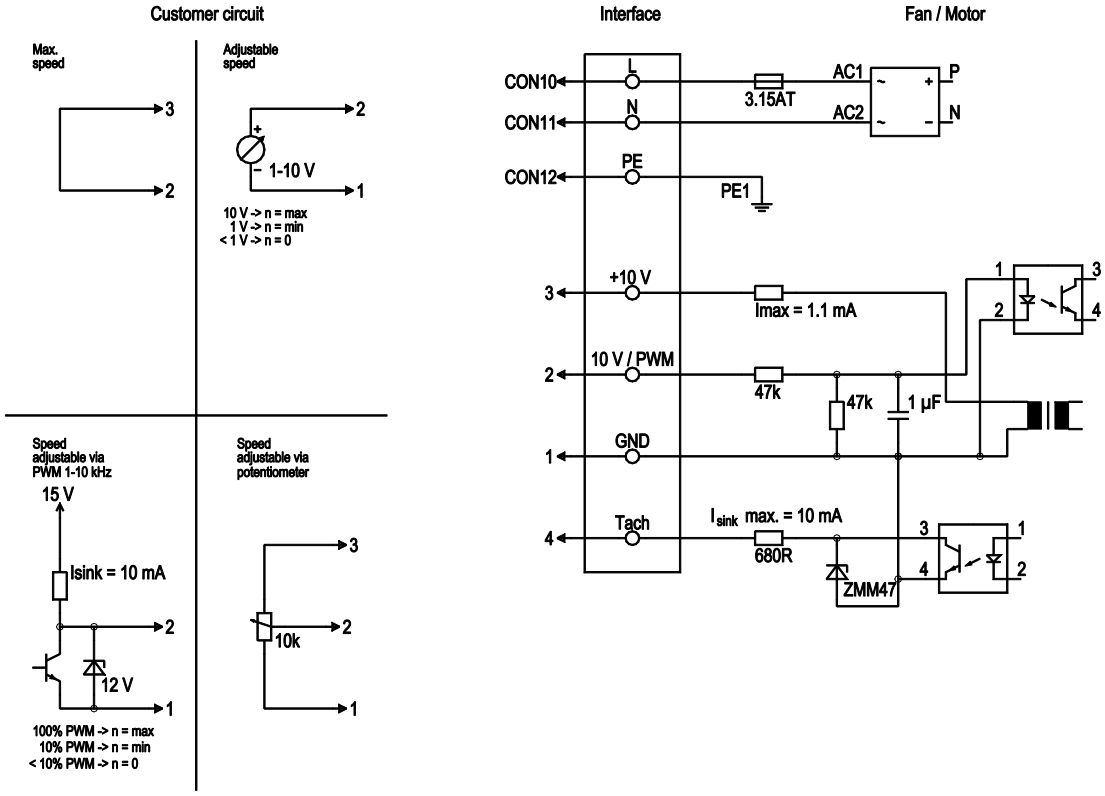
Product drawing



1	Direction of air flow "V"
2	Max. clearance for screw 10 mm
3	Cable PVC AWG20, 3x crimped splices
4	Cable PVC AWG22, 4x crimped splices

Connection diagram



No.	Conn.	Designation	Color	Function/assignment
	CON10	L	black	Power supply 230 VAC, 50-60 Hz, see nameplate for voltage range
	CON11	N	blue	Neutral conductor
	CON12	PE	green/yellow	Protective earth
	1	GND	blue	GND connection for control interface
	2	0- 10V PWM	yellow	Control input 0-10 V or PWM, electrically isolated
	3	10V/ max 1.1mA	red	Voltage output 10 V / 1.1 mA, electrically isolated, not short-circuit-proof, Isink = 10 mA
	4	Tach	white	Tach output: Open collector, 1 pulse per revolution, electrically isolated, Isink max = 10 mA

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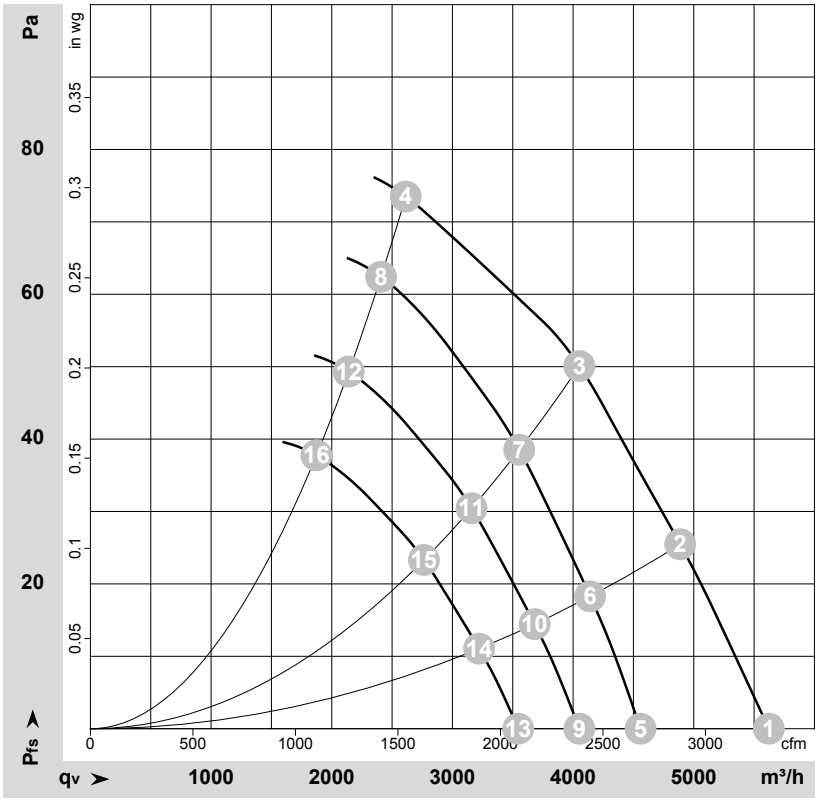
Curves: Air performance 50 Hz



ρ = 1,15 kg/m³ ± 2%

Measurement: LU-138244

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	f	n	P_{ed}	I	LpA_{in}	LwA_{in}	qv	p_{fs}
	V	Hz	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa
1	230	50	1110	163	1.34	59	66	5620	0
2	230	50	1060	163	1.34	57	64	4890	25
3	230	50	1025	163	1.34	54	61	4050	50
4	230	50	980	163	1.34	61	68	2615	74
5	230	50	900	89	0.72	54	60	4560	0
6	230	50	900	102	0.83	53	60	4140	18
7	230	50	900	113	0.93	51	58	3555	39
8	230	50	900	131	1.09	59	66	2410	63
9	230	50	800	63	0.51	51	57	4050	0
10	230	50	800	72	0.58	50	57	3680	14
11	230	50	800	80	0.65	48	55	3160	31
12	230	50	800	92	0.76	56	63	2140	49
13	230	50	700	42	0.34	48	54	3545	0
14	230	50	700	48	0.39	47	53	3220	11
15	230	50	700	53	0.44	45	51	2765	23
16	230	50	700	62	0.51	52	60	1875	38

U = Power supply · f = Frequency · n = Speed · P_{ed} = Power consumption · I = Current draw · LpA_{in} = Sound pressure level intake side · LwA_{in} = Sound power level intake side
qv = Air flow · p_{fs} = Pressure increase