S3G420-AO03-40

EC axial fan

sickle-shaped blades (S series)

with guard grille for short nozzle

S3G420-AO03-40 ebmpapst Datasheet
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Nominal data

Type	**S3G420-AO03-40**
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}	1090
Power consumption	W	165
Current draw	A	1.35
Max. back pressure	Pa	70
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	60

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}	%	38	28.7
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		49.4	40
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.16
09 Air flow q_v	m^3/h	3205
09 Pressure increase p_{fs}	Pa	62
10 Speed n	min^{-1}	1095
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-139132

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Technical description

Weight	4.66 kg
Fan size	420 mm
Rotor surface	Thick-film passivated
Electronics housing material	Die-cast aluminum
Impeller material	PP plastic
Guard grille material	Steel, coated with black plastic (RAL 9005)
Number of blades	5
Airflow direction	"A"
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP54
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	F3-1
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; rotor on top on request
Condensation drainage holes	None, open rotor
Cooling hole/opening	On rotor side
Mode	S1
Motor storage	Ball bearing
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	EN 60335-1

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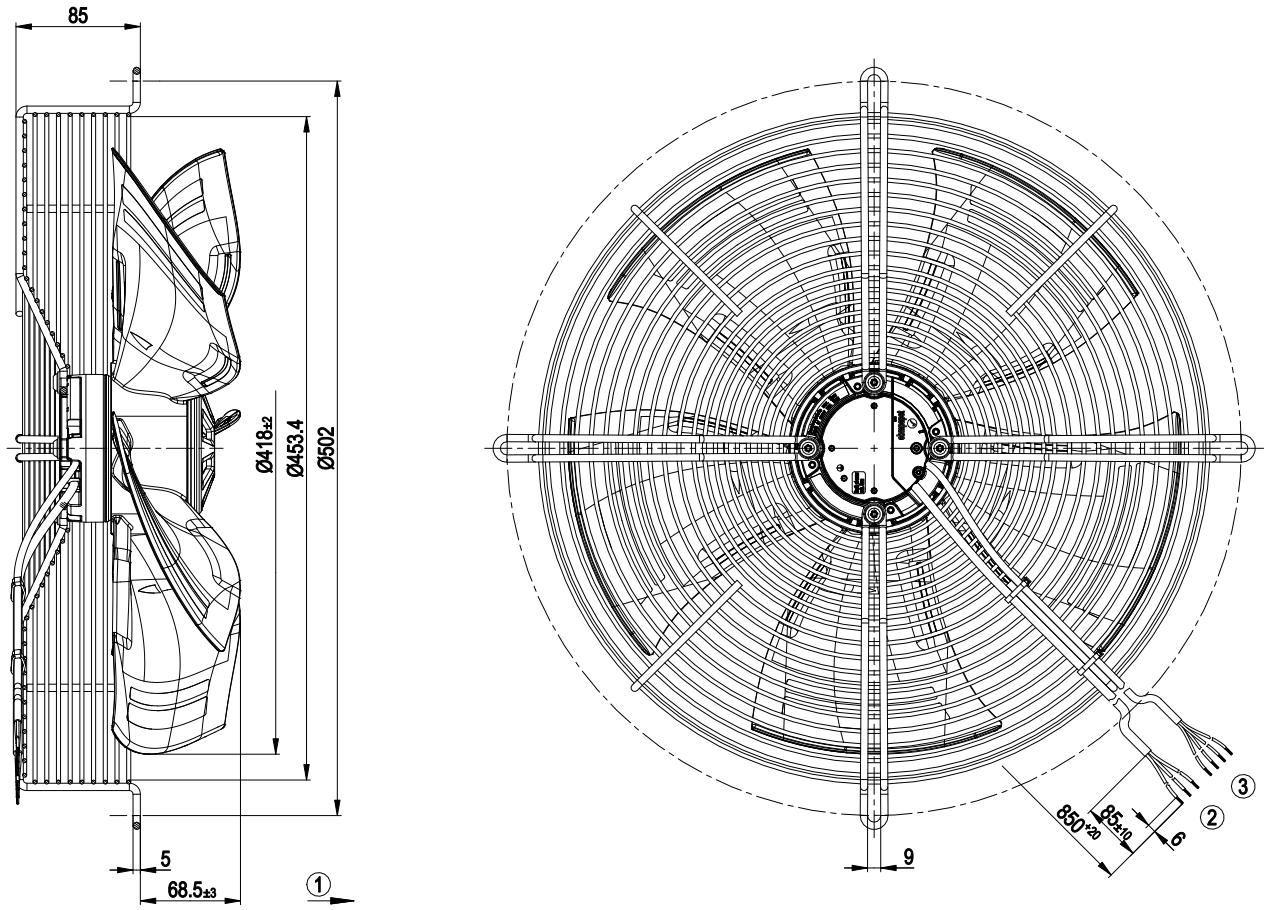
Product drawing



1	Direction of air flow "A"
2	Cable PVC AWG20, 3x crimped splices
3	Cable PVC AWG22, 4x crimped splices

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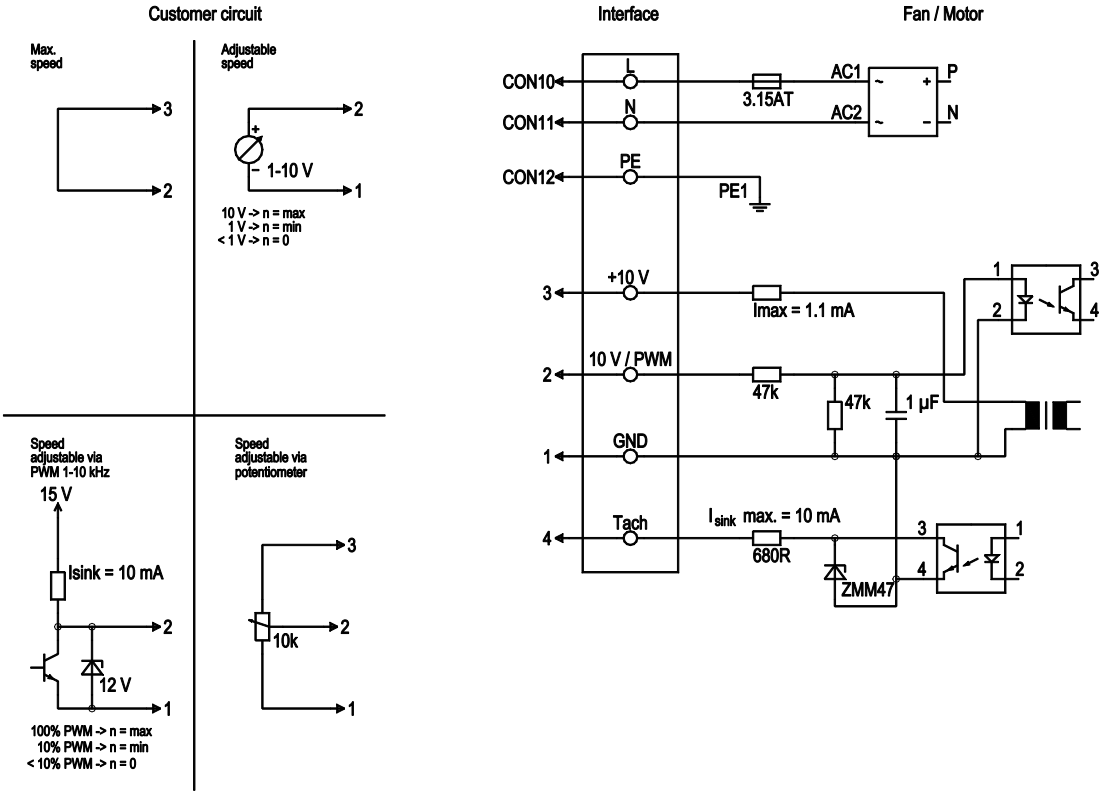
Connection diagram



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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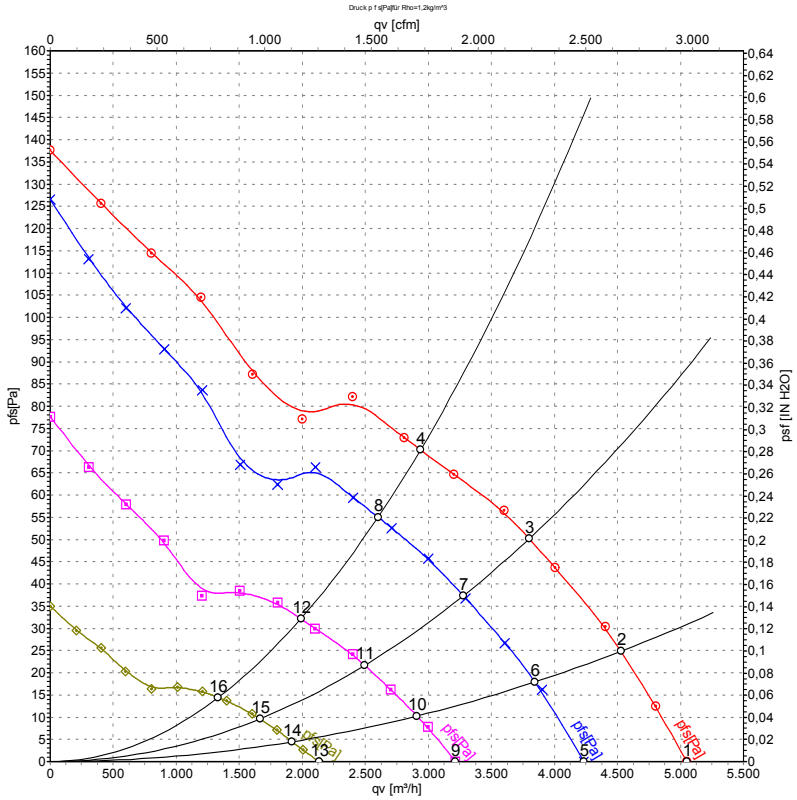
Curves: Air performance 50 Hz



Measurement: LU-139132
Measurement: LU-139137
Measurement: LU-139138
Measurement: LU-139141

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	1185	152	1.24	60	67	5050	0
2	230	50	1170	162	1.32	59	65	4525	25
3	230	50	1130	165	1.35	56	63	3800	50
4	230	50	1090	165	1.35	54	62	2935	70
5	230	50	1000	93	0.80			4235	0
6	230	50	990	100	0.86			3845	18
7	230	50	980	106	0.92			3275	37
8	230	50	960	114	0.96			2600	55
9	230	50	760	42	0.38			3215	0
10	230	50	755	46	0.41			2910	10
11	230	50	745	49	0.44			2495	22
12	230	50	740	53	0.48			1990	32
13	230	50	510	15	0.15			2135	0
14	230	50	505	16	0.16			1920	4
15	230	50	500	17	0.17			1665	10
16	230	50	495	18	0.18			1330	14

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