S3G250-AC54-01

EC axial fan

sickle-shaped blades (S series)

with guard grille for short nozzle

S3G250-AC54-01 ebmpapst Datasheet
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Nominal data

Type	**S3G250-AC54-01**
Motor	**M3G074-CF**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50/60
Speed (rpm)	min^{-1}	3050
Power consumption	W	170
Current draw	A	1.25
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 Commission Regulation (EU) 327/2011 (prEN 17166)

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	40	28.9
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		51.1	40
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.17
09 Air flow q_v	m^3/h	1505
09 Pressure increase p_{fs}	Pa	157
10 Speed (rpm) n	min^{-1}	2875
11 Specific ratio*		1.00

Data obtained at optimum efficiency level.

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

LU-127645

The efficiency values displayed for achieving conformity with the Ecodesign Regulation EU 327/2011 has been reached with defined air duct components (e.g. inlet rings).
The dimensions must be requested from ebm-papst. If other air conduction geometries are used on the installation side, the ebm-papst evaluation loses its validity/the conformity must be confirmed again.

The product does not fall within the scope of Regulation (EU) 2019/1781 due to the exception specified in Article 2 (2a) (motors completely integrated into a product).

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Technical description

Weight	2.8 kg
Size	250 mm
Motor size	74
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Blade material	Sheet steel, painted black
Guard grille material	Steel, coated with black plastic (RAL 9005)
Number of blades	7
Airflow direction	V
Direction of rotation	Counterclockwise, viewed toward rotor
Degree of protection	IP44
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	H1
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	On rotor side
Mode	S1
Motor bearing	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 - Overvoltage detection - Thermal overload protection for motor
EMC immunity to interference	According to EN 61000-6-2
EMC circuit feedback	According to EN 61000-3-2/3
EMC interference emission	According to EN 61000-6-3
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	- mA
Motor protection	Thermal overload protector (TOP) internally connected
With cable	Variable
Protection class assignment	I; If a protective earth is connected by the customer 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.
Conformity with standards	EN 60034-1; EN 60204-1; EN 60335-1; EN 61800-5-1; EN 62368-1; CE
Approval	UL 1004-7 + 60730-1; CCC; CSA C22.2 No. 77 + CAN/CSA-E60730-1

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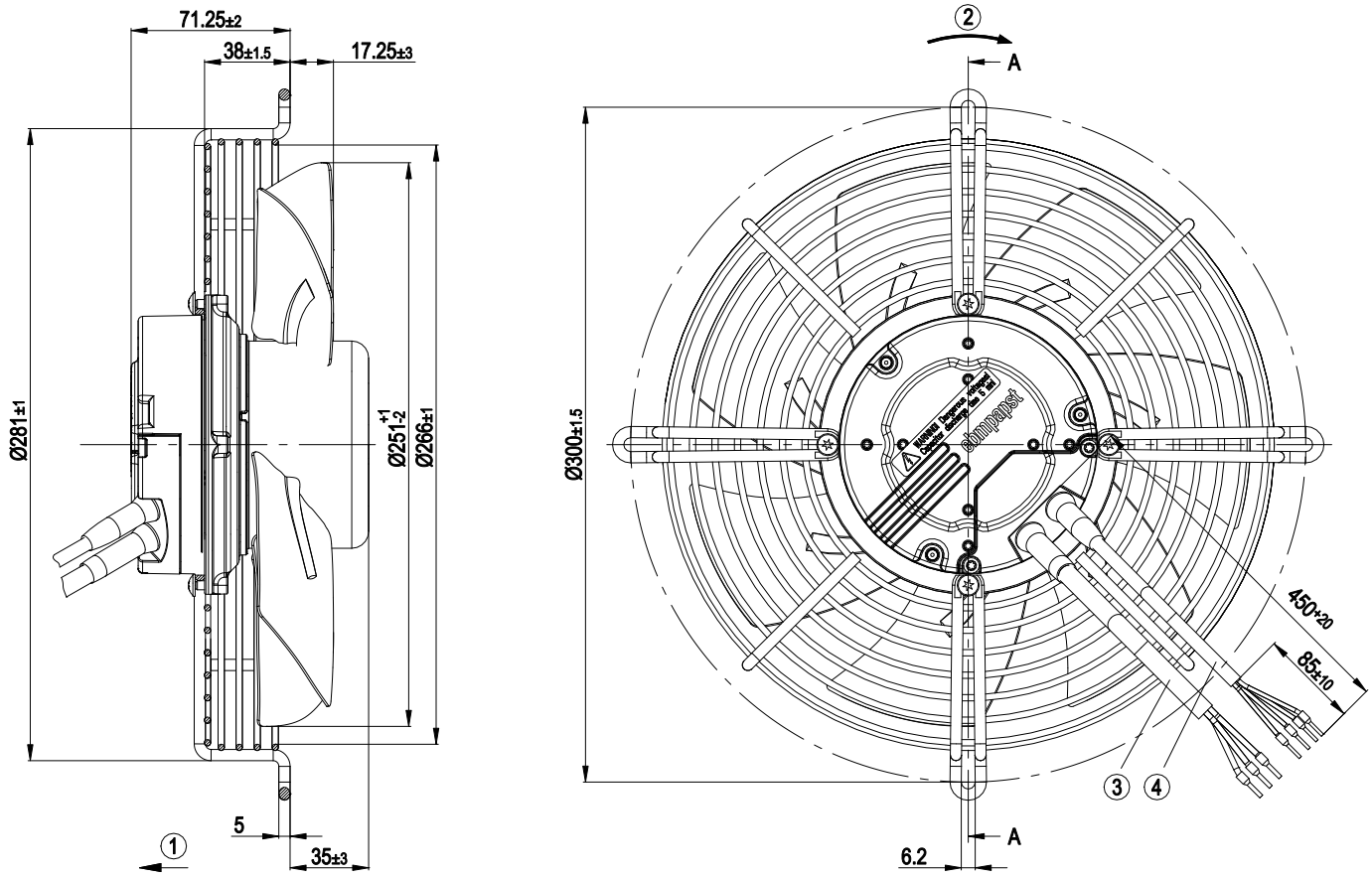
Product drawing



1	Direction of air flow "V"
2	Direction of rotation counterclockwise, viewed toward rotor
3	Cable AWG18, 3 x crimped ferrules
4	Cable AWG22, 4 x crimped ferrules

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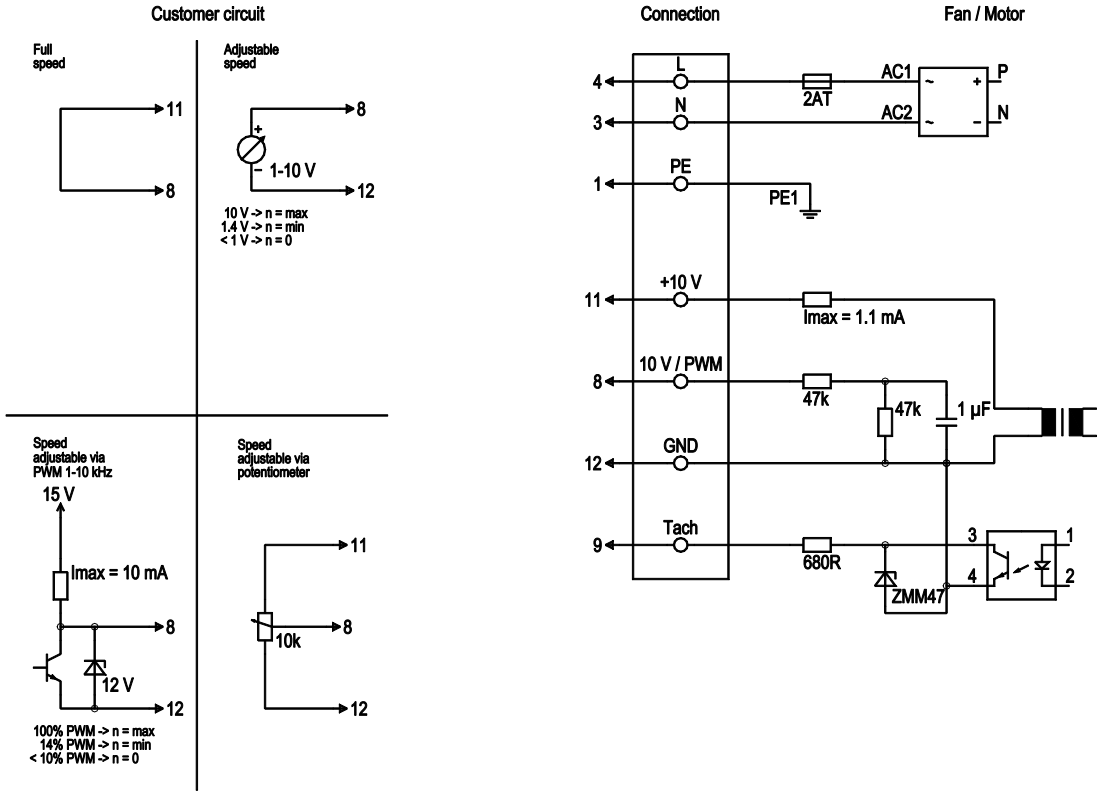
Connection diagram



No.	Conn.	Designation	Color	Function/assignment
	4	L	black	Power supply 230 VAC, 50-60 Hz, see nameplate for voltage range
	3	N	blue	Neutral conductor
	1	PE	green/yellow	Protective earth
	8	0-10 V PWM	yellow	Control input 0-10 V or PWM, electrically isolated
	9	Tach	white	Tach output: open collector, 1 pulse per revolution, electrically isolated
	11	10V / max 1.1 mA	red	Voltage output 10 V/max. 1.1 mA, electrically isolated
	12	GND	blue	GND connection for control interface

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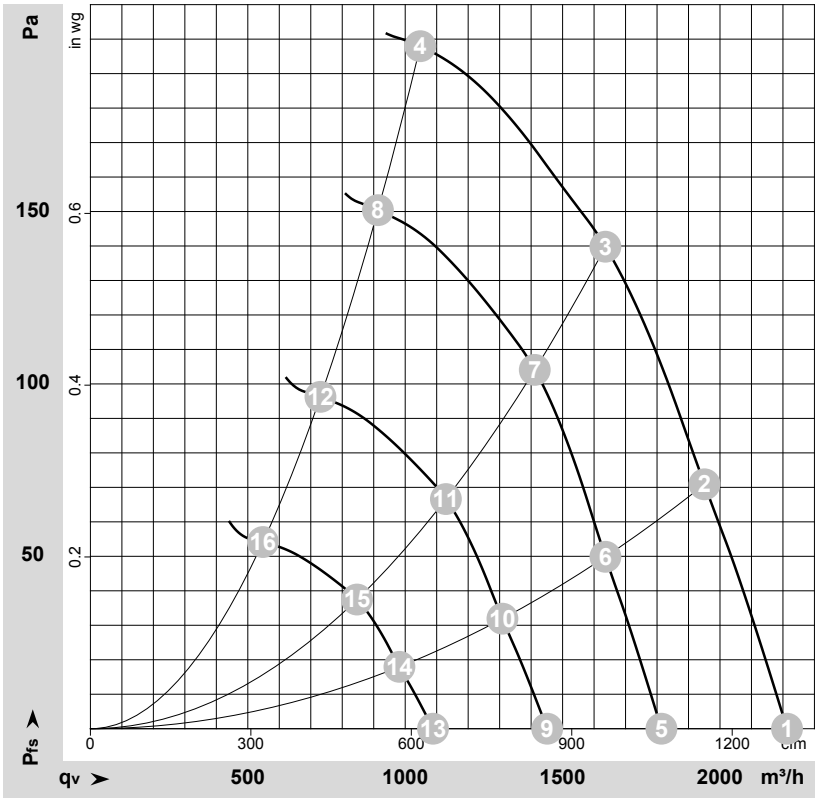
Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-127645-1

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	f	n	P_{ed}	I	LpA_{in}	LwA_{in}	q_V	p_{fs}	q_V	p_{fs}
	V	Hz	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa	cfm	in. wg
1	230	50	3050	170	1.25	72	79	2215	0	1305	0.00
2	230	50	2980	170	1.37	73	80	1950	70	1150	0.28
3	230	50	2895	170	1.38	74	81	1635	140	965	0.56
4	230	50	2870	170	1.38	74	82	1050	200	615	0.80
5	230	50	2500	92	0.73	67	73	1815	0	1070	0.00
6	230	50	2500	103	0.81	68	75	1635	49	965	0.20
7	230	50	2500	113	0.89	70	77	1410	105	830	0.42
8	230	50	2500	116	0.91	71	79	915	151	535	0.61
9	230	50	2000	47	0.38	61	68	1450	0	855	0.00
10	230	50	2000	53	0.41	63	70	1310	32	770	0.13
11	230	50	2000	58	0.46	65	72	1130	67	665	0.27
12	230	50	2000	59	0.47	65	73	730	96	430	0.39
13	230	50	1500	20	0.16	54	61	1090	0	640	0.00
14	230	50	1500	22	0.17	55	62	980	18	580	0.07
15	230	50	1500	24	0.19	57	65	845	38	500	0.15
16	230	50	1500	25	0.20	58	66	550	54	325	0.22

U = Voltage · f = Frequency · 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