R3G250-AL54-01

EC centrifugal fan

backward-curved, single-intake

R3G250-AL54-01 ebmpapst Datasheet
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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**R3G250-AL54-01**
Motor	**M3G074-CF**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min^{-1}	2530
Power consumption	W	165
Current draw	A	1.25
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}	%	49.8	43.1
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		68.7	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.16
09 Air flow q_v	m^3/h	720
09 Pressure increase p_{fs}	Pa	359
10 Speed (rpm) n	min^{-1}	2555
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-77198

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Technical description

Weight	2.9 kg
Fan size	250 mm
Rotor surface	Thick-film passivated
Electronics housing material	Die-cast aluminum
Impeller material	Sheet steel, galvanized
Number of blades	11
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP44
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 top; rotor on bottom on request
Condensation drainage holes	None
Mode	S1
Motor bearing	Ball bearing
Technical features	- Control input 0-10 VDC / PWM - Output 10 VDC max. 1.1 mA - Tach output - Thermal overload protection for electronics/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)	<= 3.5 mA
Motor protection	Thermal overload protector (TOP) internally connected
With cable	Variable
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 60335-1; EN 61800-5-1; EN 60950-1; CE
Approval	UL 2111; CSA C22.2 No. 77; CCC

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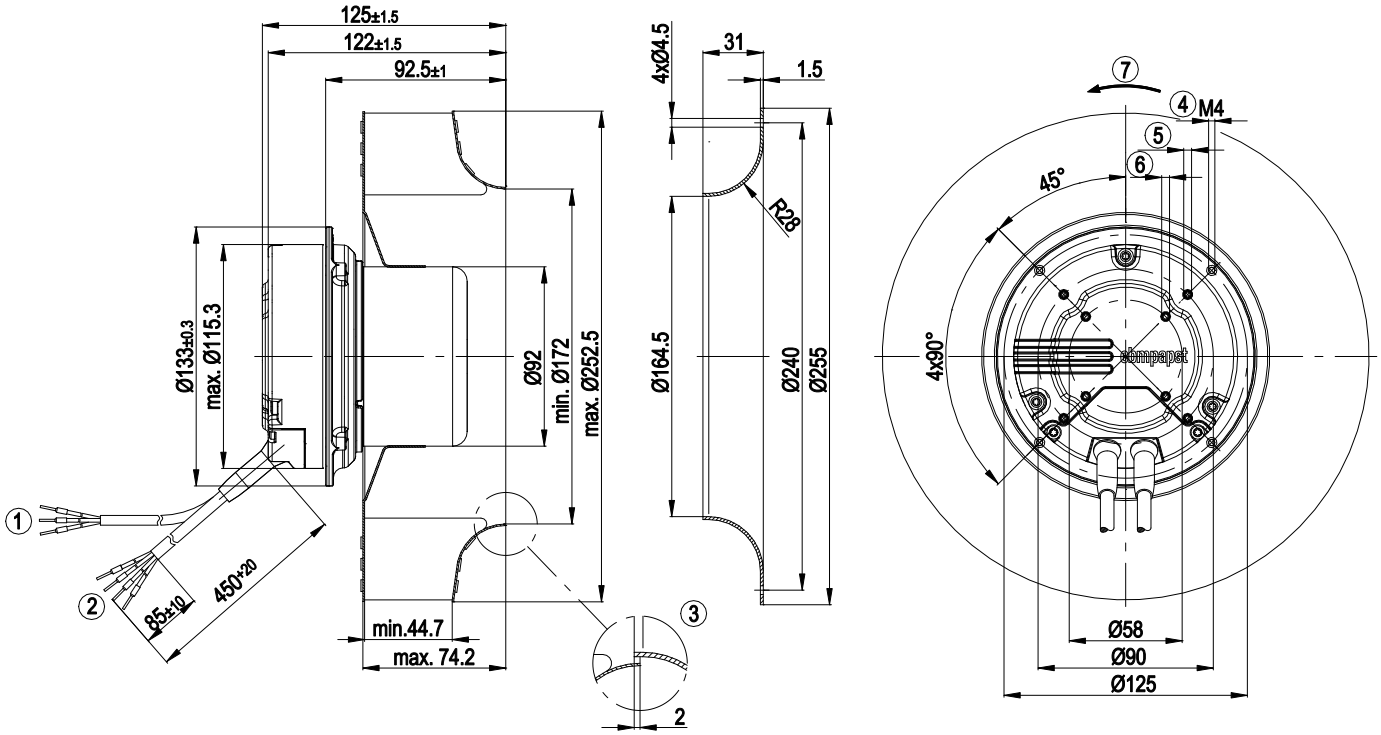
Product drawing



1	Cable AWG18, 3 x crimped ferrules
2	Cable AWG22, 4 x crimped ferrules
3	Accessory part: Inlet ring 96359-2-4013 not included in scope of delivery, other inlet rings on request
4	Clearance for screw 8-10 mm, tightening torque 2.5±0.2 Nm; gluing the screws is recommended
5	Tapping hole ready for self-tapping M4 screw, max. clearance for screw 6 mm
6	Tapping hole ready for self-tapping M4 screw, max. clearance for screw 8 mm
7	Direction of rotation clockwise, viewed toward rotor

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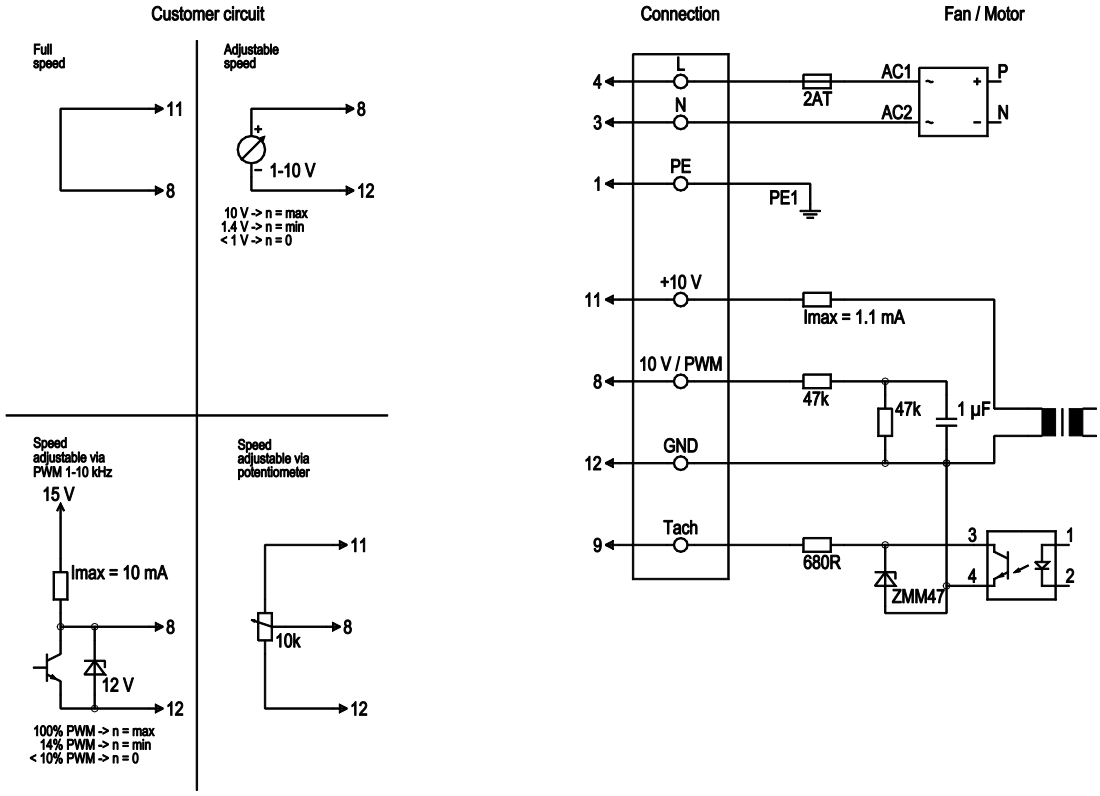
Connection diagram



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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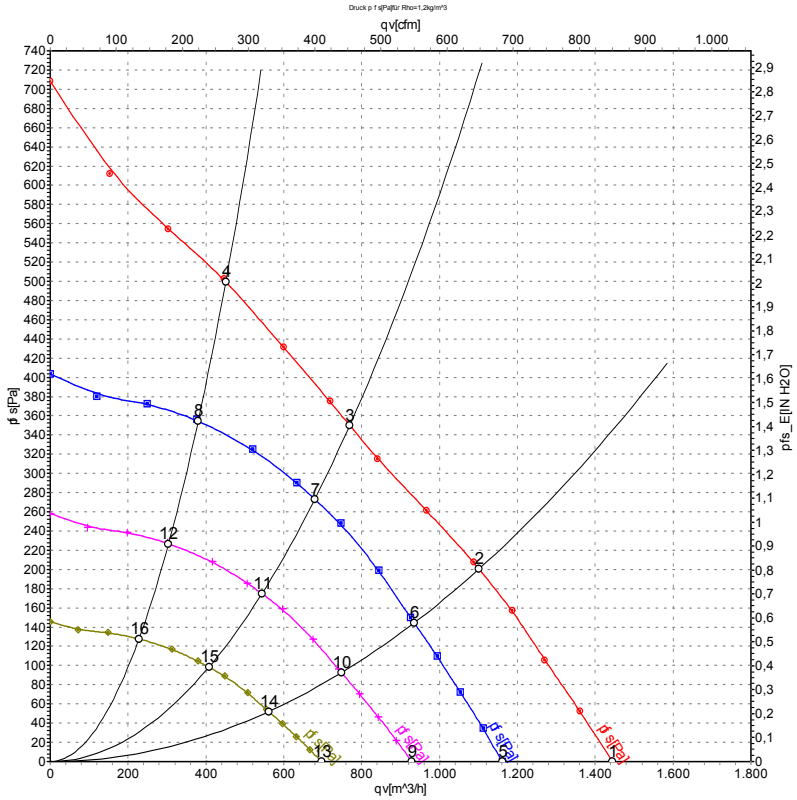
Curves: Air performance 50 Hz



Measurement: LU-77198-1

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	qv	p_{fs}	qv	p_{fs}
	V	Hz	min^{-1}	W	A	m^3/h	Pa	CFM	inH2O
1	230	50	2800	142	1.10	1445	0	850	0.00
2	230	50	2655	164	1.24	1100	201	650	0.81
3	230	50	2545	165	1.24	770	350	455	1.41
4	230	50	2670	162	1.23	450	501	265	2.01
5	230	50	2250	74	0.57	1160	0	685	0.00
6	230	50	2250	100	0.75	935	144	550	0.58
7	230	50	2250	114	0.86	680	273	400	1.10
8	230	50	2250	97	0.74	380	356	225	1.43
9	230	50	1800	38	0.29	930	0	545	0.00
10	230	50	1800	51	0.39	750	92	440	0.37
11	230	50	1800	58	0.44	545	175	320	0.70
12	230	50	1800	50	0.38	305	228	180	0.92
13	230	50	1350	16	0.12	695	0	410	0.00
14	230	50	1350	22	0.16	560	52	330	0.21
15	230	50	1350	25	0.19	410	98	240	0.39
16	230	50	1350	21	0.16	230	128	135	0.51

U = Power supply · f = Frequency · n = Speed (rpm) · P_{ed} = Power consumption · I = Current draw · qv = Air flow · p_{fs} = Pressure increase