R3G250-AL54-01

EC centrifugal fan

backward curved, single inlet



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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
Type of data definition		ml
Speed	min^{-1}	2530
Power input	W	165
Current draw	A	1.25
Max. ambient temperature	°C	60

ml = max. load · me = max. efficiency · fa = running at free air · cs = customer specs · cu = customer unit
Subject to alterations

Data according to ErP directive

Installation category	A
Efficiency category	Static
Variable speed drive	Yes
Specific ratio*	1.00

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

		Actual	Request 2013	Request 2015
Overall efficiency η_{es}		49.8	39.1	43.1
Efficiency grade N		68.7	58	62
Power input P_{ed}	kW	0.16		
Air flow q_v	m^3/h	720		
Pressure increase p_{fs}	Pa	359		
Speed n	min^{-1}	2555		

Data established at point of optimum efficiency

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Technical features

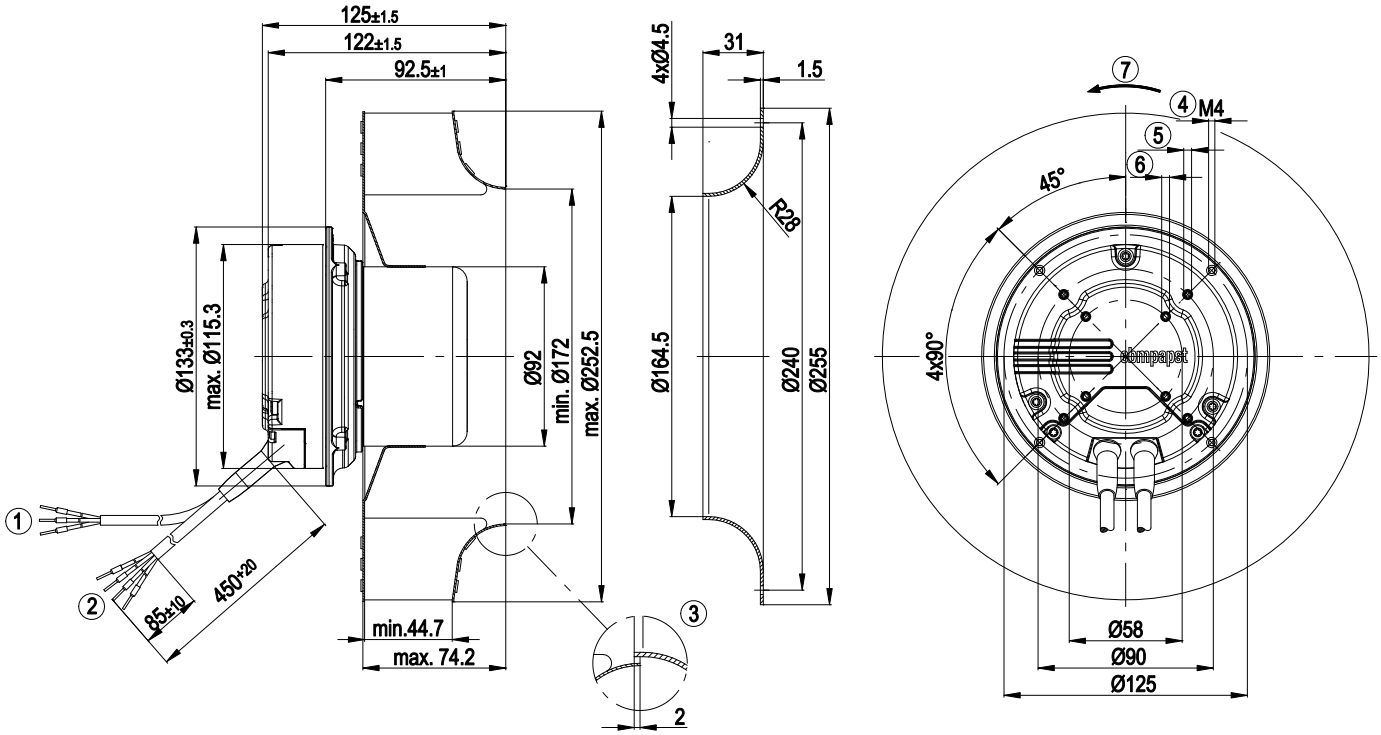
Mass	2.9 kg
Size	250 mm
Surface of rotor	Thick layer passivated
Material of electronics housing	Die-cast aluminium
Material of impeller	Sheet steel, galvanised
Number of blades	11
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 44
Insulation class	"B"
Humidity class	F3-1
Max. permissible ambient motor temp. (transp./ storage)	+80 °C
Min. permissible ambient motor temp. (transp./storage)	-40 °C
Mounting position	Shaft horizontal or rotor on top; rotor on bottom on request
Condensate discharge holes	None
Operation mode	S1
Motor bearing	Ball bearing
Technical features	- Control input 0-10 VDC / PWM - Output 10 VDC max. 1.1 mA - Speed output - Over-temperature protected electronics / motor
EMC interference immunity	Acc. to EN 61000-6-2
EMC harmonics	Acc. to EN 61000-3-2/3
EMC interference emission	Acc. to EN 61000-6-3
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3.5 mA
Motor protection	Thermal overload protector (TOP) wired internally
Cable exit	Variable
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 60335-1; EN 61800-5-1; EN 60950-1
Approval	UL 2111; CCC; CSA C22.2 Nr.77

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Product drawing



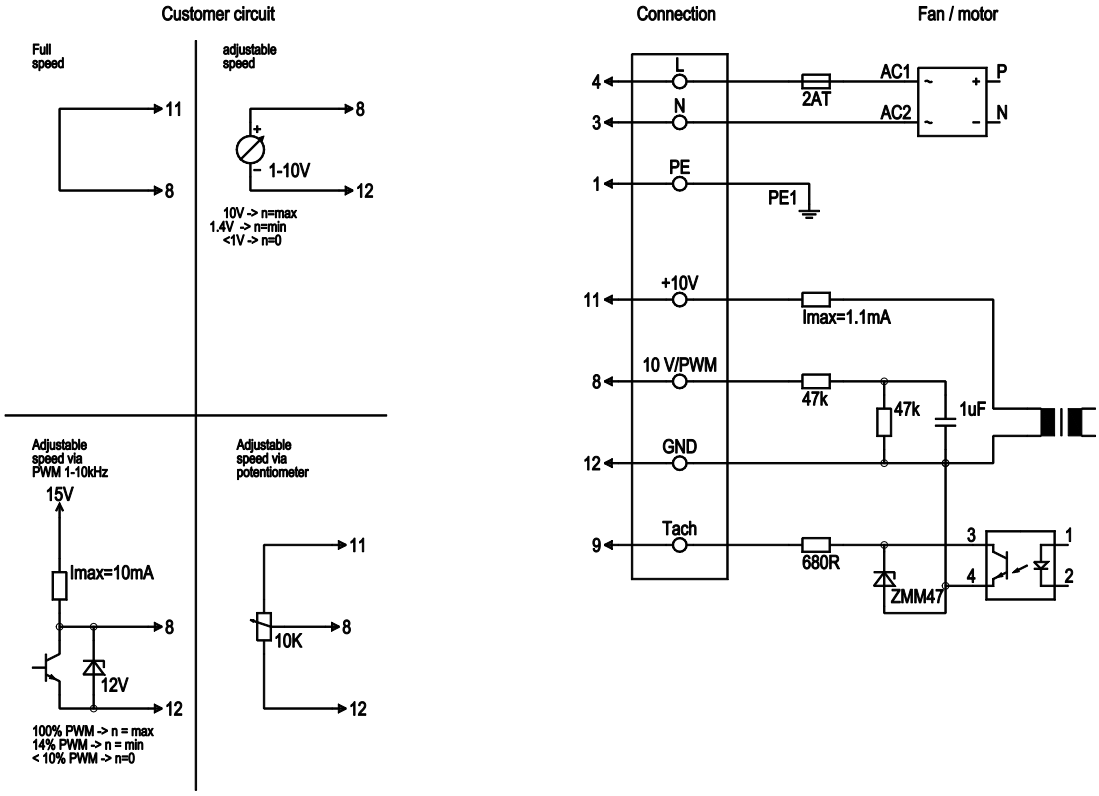
1	Connecting line AWG18, 3 x crimped core-end sleeves
2	Connecting line AWG22, 4 x crimped core-end sleeves
3	Accessory part: Inlet nozzle 96359-2-4013 not included in delivery, other inlet nozzles on request
4	Depth of screw 8 - 10 mm, tightening torque 2.5±0.2 Nm; gluing the screws is recommended
5	Pilot hole prepared for self-tapping screw M4, depth of screw max. 6 mm
6	Pilot hole prepared for self-tapping screw M4, depth of screw max. 8 mm
7	Direction of rotation clockwise, seen on rotor

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Connection screen



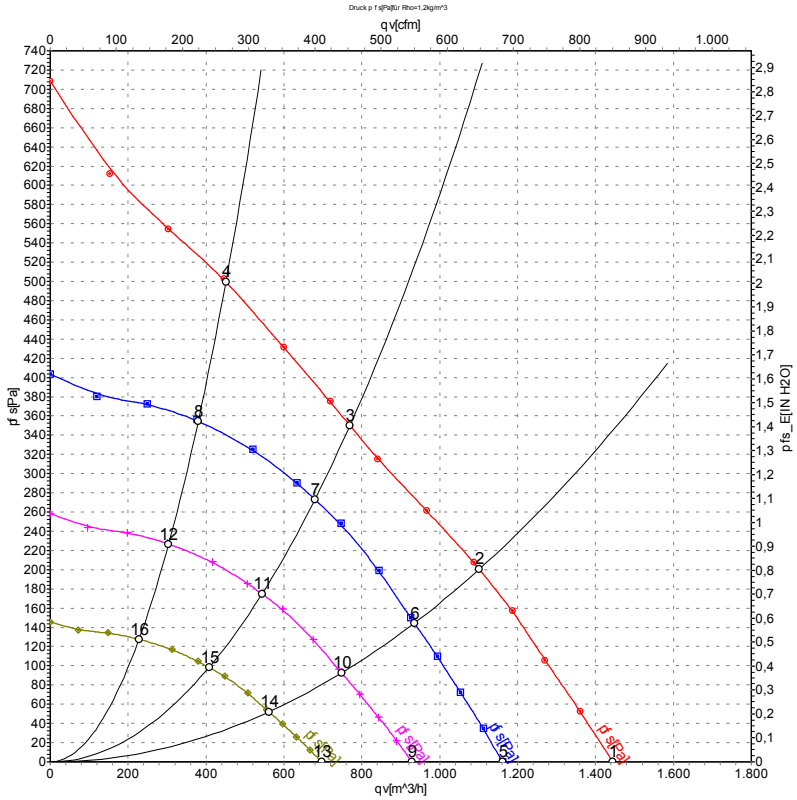
Line	No.	Signal	Colour	Function / assignment
	4	L	black	Power supply 230 VAC, 50-60 Hz, see type plate for voltage range
	3	N	blue	Neutral conductor
	1	PE	green/yellow	Protective earth
	8	0-10 V PWM	yellow	Control input 0 - 10 V or PWM, electrically isolated
	9	Tach	white	Tach output: open collector, 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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Charts: Air flow 50 Hz



Measurement: LU-77198

Air performance measured as per ISO 5801 Installation category A. For detailed information on the measuring set-up, please contact ebm-papst. Suction-side noise levels: LwA measured as per ISO 13347 / LpA measured with 1m distance to fan axis. The values given are valid under the measuring conditions mentioned above and may vary according to the actual installation situation. With any deviation from the standard set-up, the specific values have to be checked and reviewed with the unit installed.

Measured values

	U	f	n	P_{ed}	I	qv	p_{fs}
	V	Hz	min^{-1}	W	A	m^3/h	Pa
1	230	50	2800	142	1.10	1445	0
2	230	50	2655	164	1.24	1100	201
3	230	50	2545	165	1.24	770	350
4	230	50	2670	162	1.23	450	501
5	230	50	2250	74	0.57	1160	0
6	230	50	2250	100	0.75	935	144
7	230	50	2250	114	0.86	680	273
8	230	50	2250	97	0.74	380	356
9	230	50	1800	38	0.29	930	0
10	230	50	1800	51	0.39	750	92
11	230	50	1800	58	0.44	545	175
12	230	50	1800	50	0.38	305	228
13	230	50	1350	16	0.12	695	0
14	230	50	1350	22	0.16	560	52
15	230	50	1350	25	0.19	410	98
16	230	50	1350	21	0.16	230	128

U = Supply voltage · f = Frequency · n = Speed · P_{ed} = Power input · I = Current draw · qv = Air flow · p_{fs} = Pressure increase

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