R3G250-RG50-15

EC centrifugal fan

backward-curved

R3G250-RG50-15 ebmpapst Datasheet
sales@fansco.com
www.fansco.com

Limited partnership · Headquarters Mulfingen
Amtsgericht (court of registration) Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen
Amtsgericht (court of registration) Stuttgart · HRB 590142

Nominal data

Type	**R3G250-RG50-15**
Motor	**M3G074-CF**

Phase		1~
Nominal voltage	VAC	230
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min^{-1}	2515
Power consumption	W	163
Current draw	A	1.3
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}	%	58	43.1
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		76.9	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.16
09 Air flow q_v	m^3/h	900
09 Pressure increase p_{fs}	Pa	327
10 Speed (rpm) n	min^{-1}	2495
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

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Technical description

Weight	2.6 kg
Fan size	250 mm
Rotor surface	Thick-film passivated
Electronics housing material	Die-cast aluminum
Impeller material	PA plastic, galvanized sheet-metal plate
Number of blades	7
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP44; installation- and position-dependent
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	- 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 motor
EMC immunity to interference	According to EN 61000-6-2
EMC interference emission	According to EN 61000-6-4 (industrial environment)
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; CE
Approval	CSA C22.2 No. 77; UL 2111

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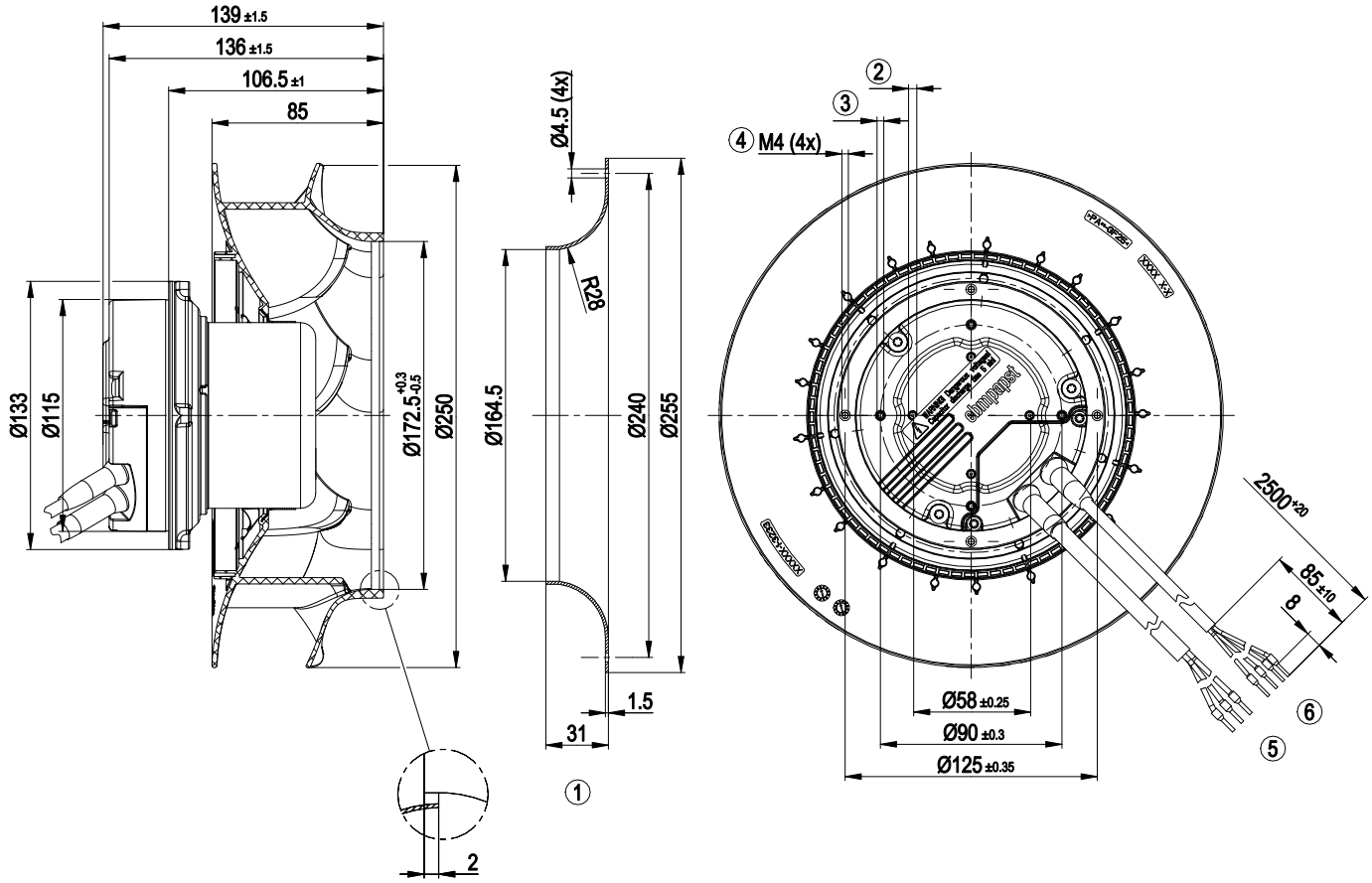
Product drawing



1	Accessory part: inlet ring 96359-2-4013 not included in scope of delivery
2	Tapping hole ready for self-tapping M4 screw, max. clearance for screw 8 mm
3	Tapping hole ready for self-tapping M4 screw, max. clearance for screw 6 mm
4	Clearance for screw 8-10 mm, tightening torque 2.5±0.2 Nm
5	Cable PVC AWG18, 3x crimped ferrules
6	Cable PVC AWG22, 4x crimped ferrules

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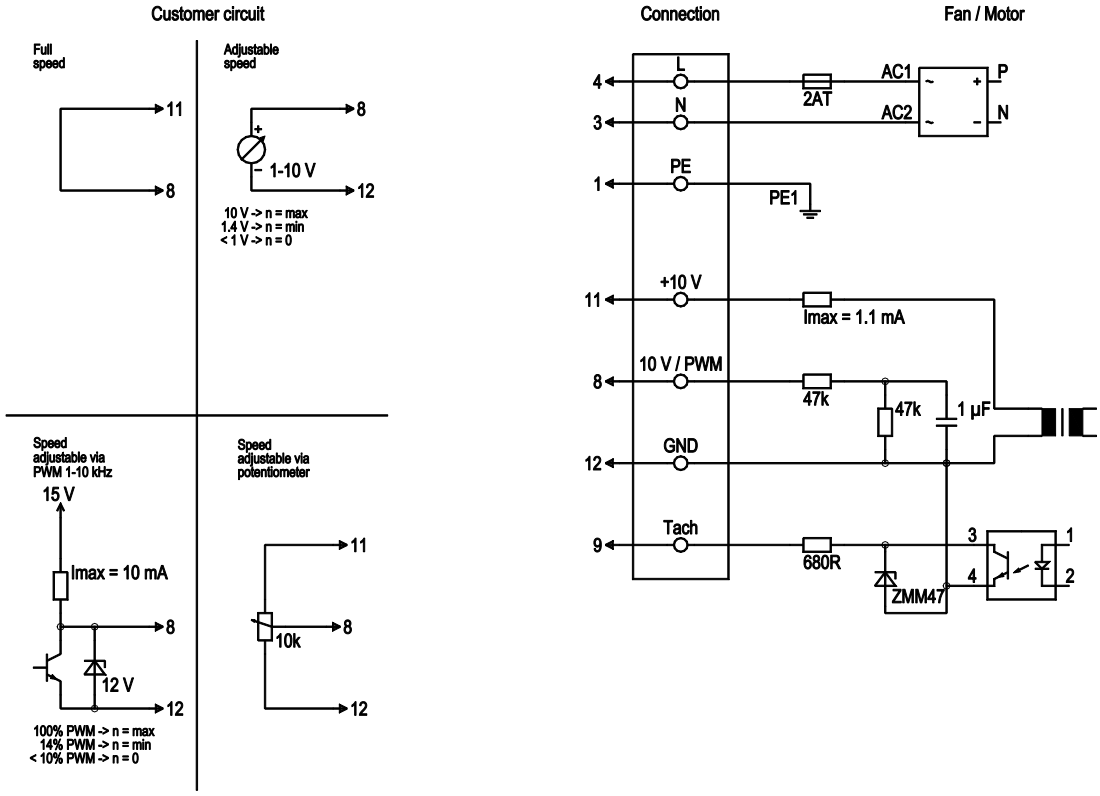
Connection diagram



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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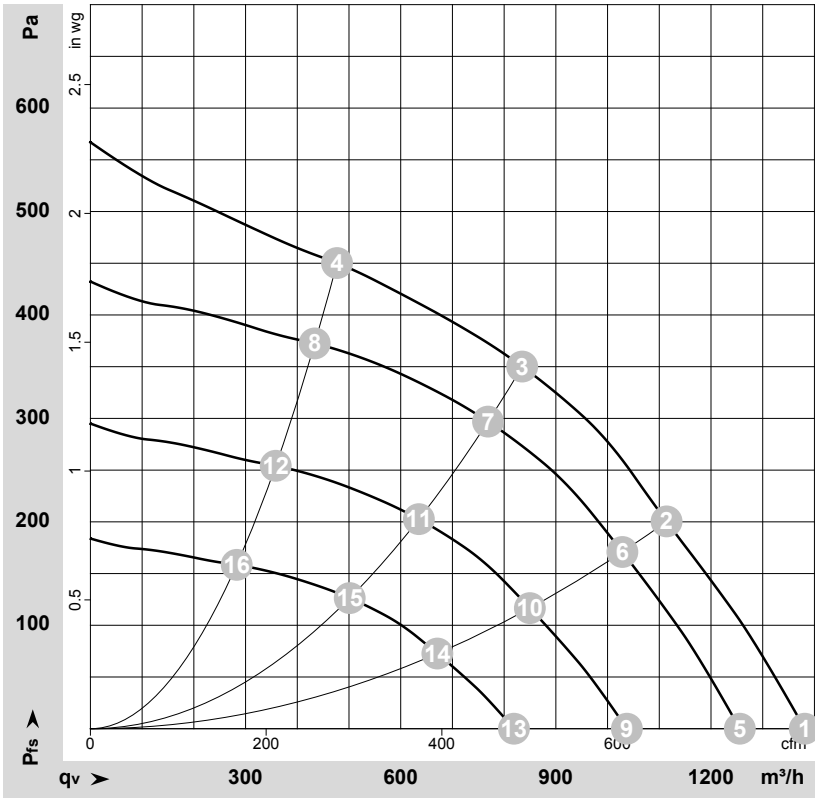
Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-124641-1

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	inH2O
1	230	50	2530	132	1.10	67	75	1380	0	815	0.00
2	230	50	2490	157	1.20	63	71	1115	200	655	0.80
3	230	50	2515	163	1.30	60	67	835	350	490	1.41
4	230	50	2530	148	1.10	65	72	475	450	280	1.81
5	230	50	2300	99	0.69	65	73	1255	0	740	0.00
6	230	50	2300	124	0.87	61	69	1030	171	605	0.69
7	230	50	2300	125	0.87	57	65	770	297	455	1.19
8	230	50	2300	111	0.78	62	70	435	373	255	1.50
9	230	50	1900	56	0.39	60	68	1035	0	610	0.00
10	230	50	1900	70	0.49	56	64	850	117	500	0.47
11	230	50	1900	70	0.49	53	60	635	203	375	0.81
12	230	50	1900	63	0.44	58	65	360	254	210	1.02
13	230	50	1500	27	0.19	54	62	820	0	480	0.00
14	230	50	1500	34	0.24	50	58	670	73	395	0.29
15	230	50	1500	35	0.24	47	54	500	126	295	0.51
16	230	50	1500	31	0.22	52	59	285	159	165	0.64

U = Power supply · 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