EC centrifugal fan - RadiCal

backward curved

R3G250-RG50-17 ebmpapst Datasheet
sales@fansco.com
www.fansco.com

Limited partnership · Headquarters Mulfingen
County court Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen
County court Stuttgart · HRB 590142

Nominal data

Type	**R3G250-RG50-17**
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 (rpm)	min^{-1}	2515
Power input	W	163
Current draw	A	1.3
Min. ambient temperature	°C	-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 in accordance with ecodesign regulation EU 327/2011

		Actual	Request 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 input 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 definition with optimum efficiency.
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.

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

LU-124641

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Technical features

Mass	2.4 kg
Size	250 mm
Surface of rotor	Thick layer passivated
Material of electronics housing	Die-cast aluminium
Material of impeller	PA plastic, galvanised round sheet-metal plate
Number of blades	7
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 44; Depending on installation and position
Insulation class	"B"
Humidity (F)/environmental protection class (H)	H1
Max. permissible ambient motor temp. (transp./ storage)	+ 80 °C
Min. permissible ambient motor temp. (transp./storage)	- 40 °C
Mounting position	Any
Condensate discharge holes	Rotor-side
Operation mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 1.1 mA - Tach output - Output limit - Motor current limit - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Over-temperature protected motor
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 60034-1; EN 60204-1; CE
Approval	CSA C22.2 No.77; UL 2111

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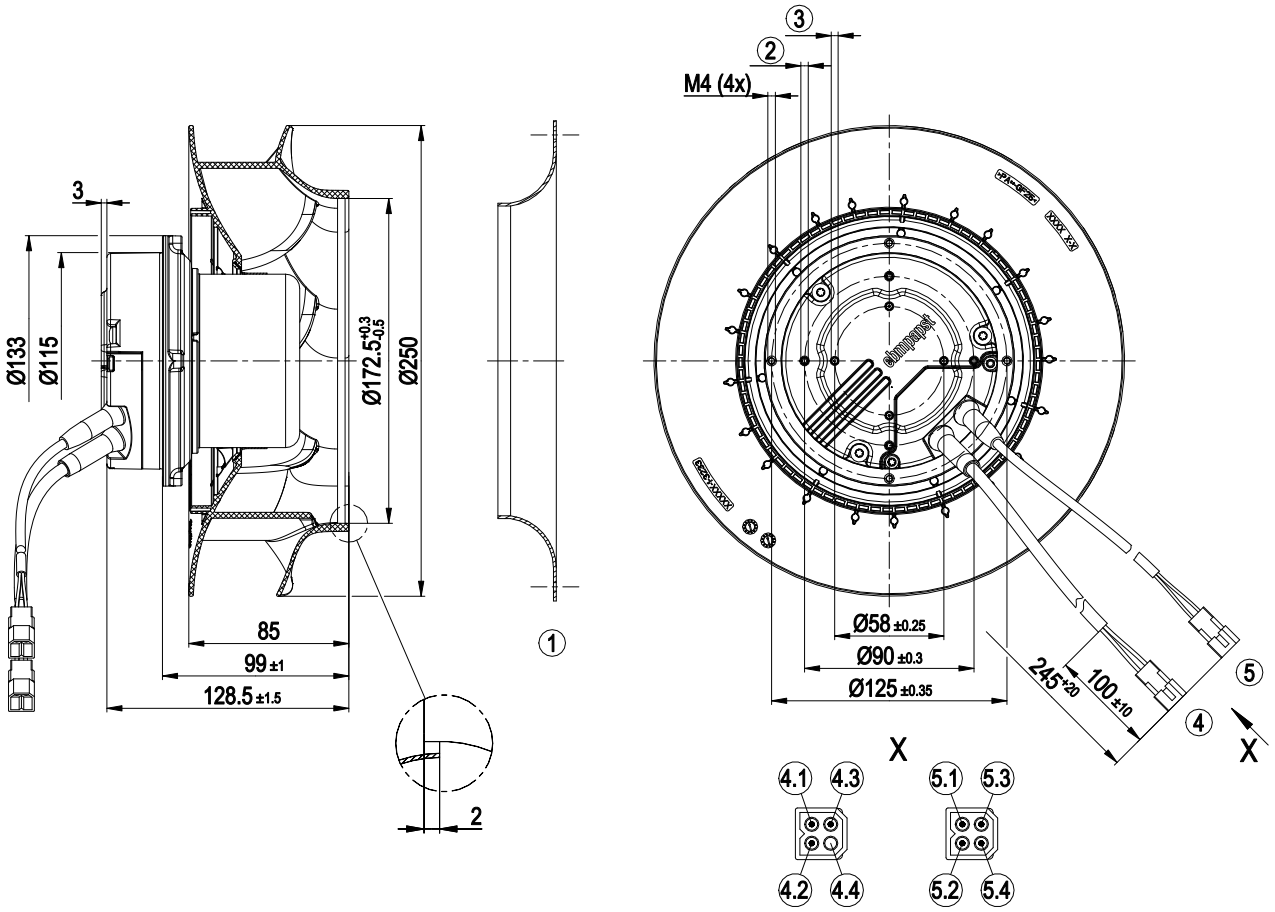
Product drawing



1	Accessory part: Inlet nozzle 96359-2-4013 not included in scope of delivery
2	Pilot hole prepared for M4 self-tapping screw, thread reach max. 6 mm
3	Pilot hole prepared for M4 self-tapping screw, thread reach max. 8 mm
4	Connection line PVC AWG18, connector housing 4-pole Molex 03-09-2049, 3x plug pin Molex 02-09-2116
4.1	PE (green/yellow)
4.2	N (blue)
4.3	L (black)
4.4	not used
5	Connection line PVC AWG22, connector housing 4-pole Molex 03-09-2049, 4x female connector Molex 02-09-1117
5.1	GND (blue)
5.2	0-10 V PWM (yellow)
5.3	+10 V (red)
5.4	Tach (white)

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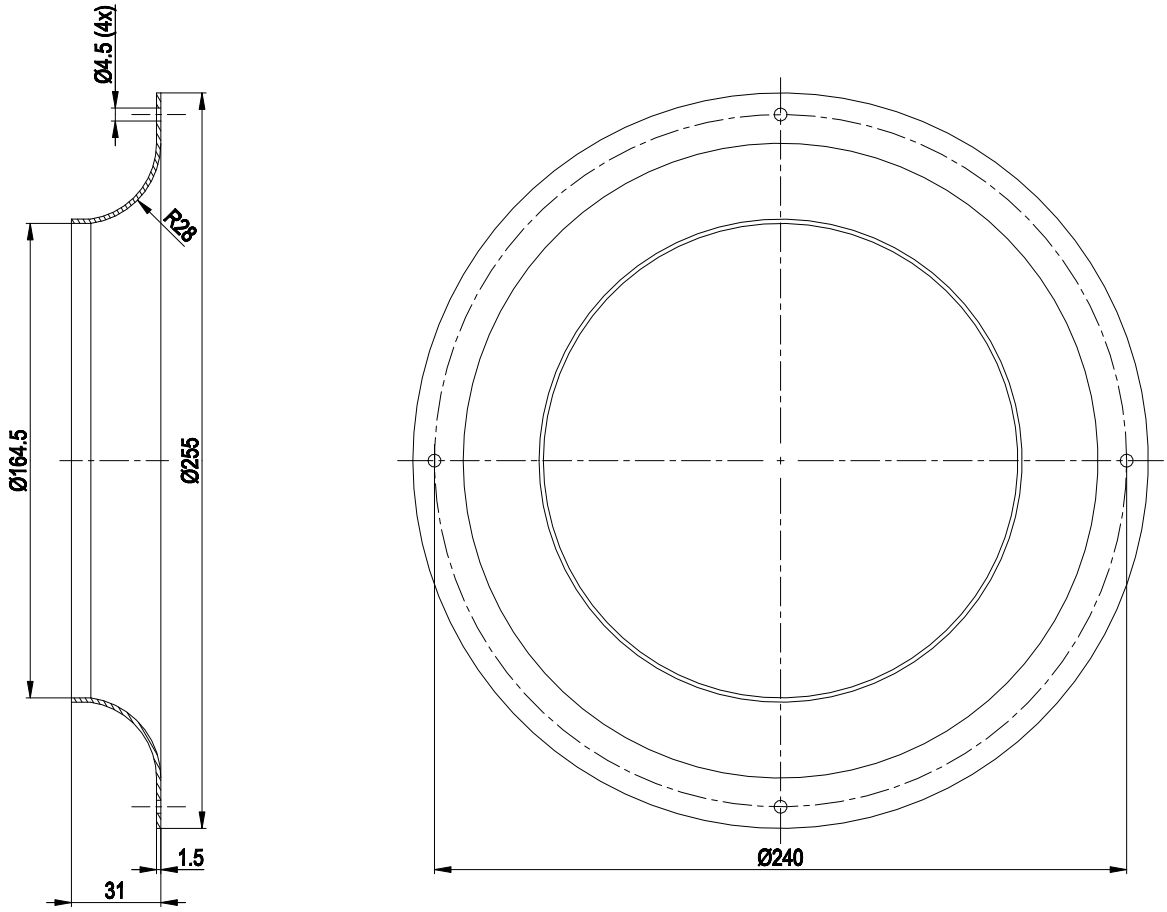
Accessory part



Accessory part: Inlet nozzle 96359-2-4013 not included in scope of delivery

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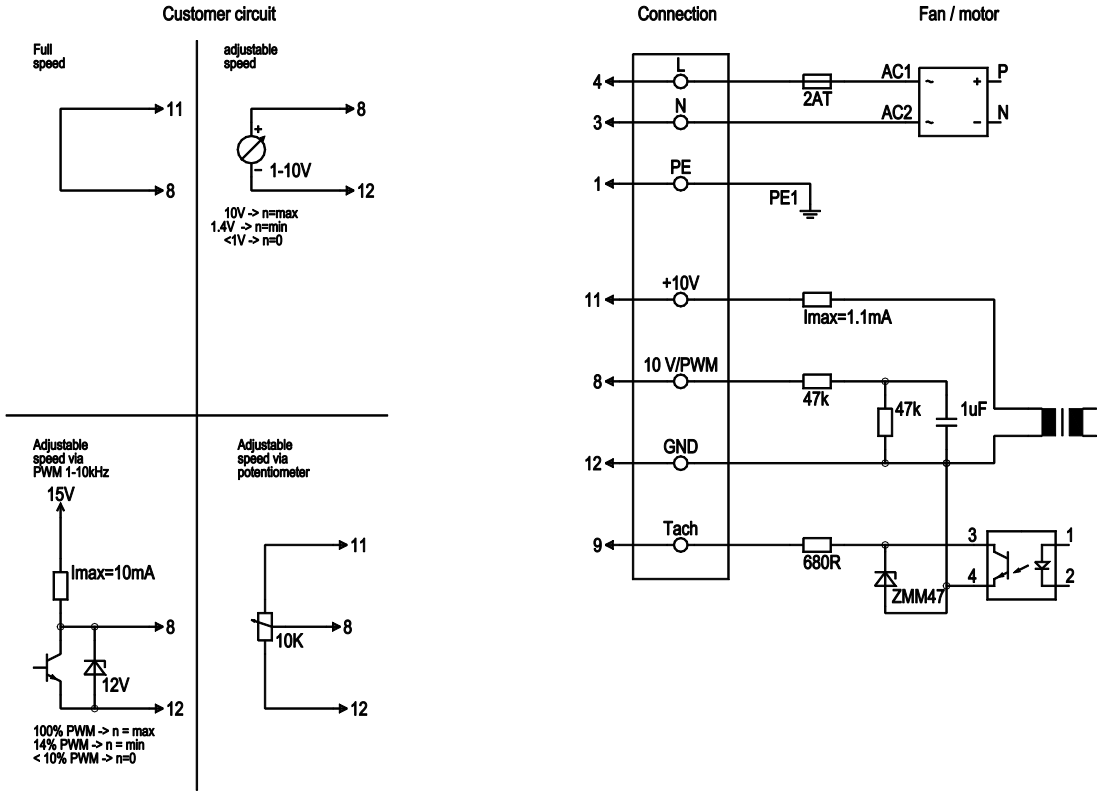
Connection screen



No.	Conn.	Designation	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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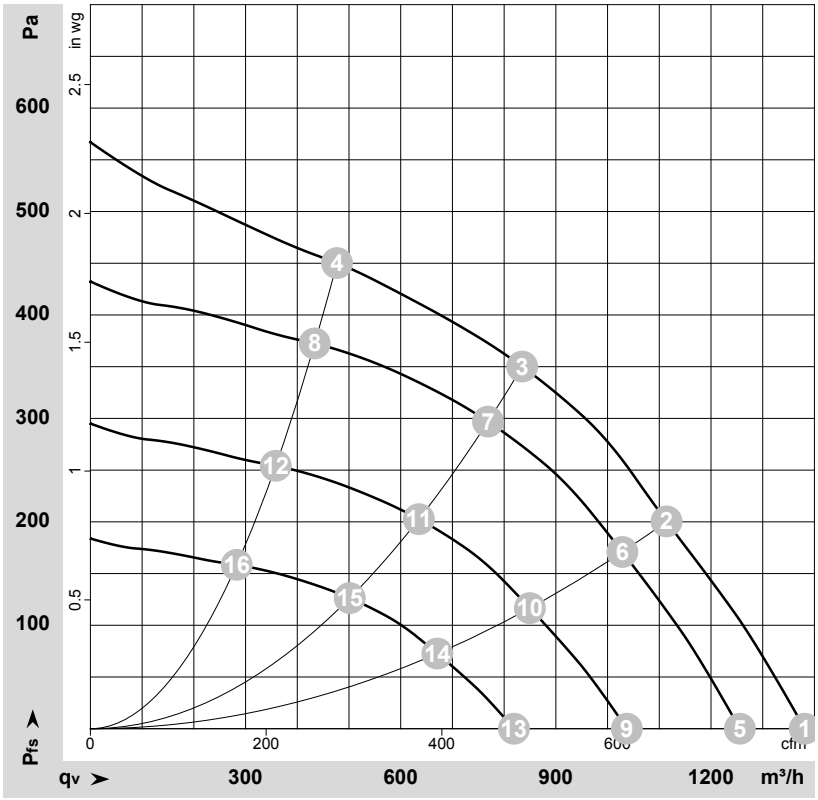
Charts: Air flow 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-124641-1

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	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 = Supply voltage · f = Frequency · n = Speed (rpm) · P_{ed} = Power input · I = Current draw · LpA_{in} = Sound pressure level inlet side · LwA_{in} = Sound power level inlet side · q_V = Air flow p_{fs} = Pressure increase