EC centrifugal fan - RadiCal

backward-curved, single-intake

R3G250-RO33-82 ebmpapst Datasheet
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Nominal data

Type	**R3G250-RO33-82**
Motor	**M3G084-DF**

Phase		1~
Nominal voltage	VAC	115
Nominal voltage range	VAC	100 .. 130
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min^{-1}	3330
Power consumption	W	375
Current draw	A	4.6
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	55

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

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	57.5	46.9
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		72.6	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.36
09 Air flow q_v	m^3/h	1055
09 Pressure increase p_{fs}	Pa	641
10 Speed (rpm) n	min^{-1}	3325
11 Specific ratio*		1.01

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-159219

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Technical description

Size	250 mm
Motor size	84
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	PA plastic
Number of blades	7
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP54
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	Any
Condensation drainage holes	None
Mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 1.1 mA - Alarm relay - Motor current limitation - PFC, passive - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Thermal overload protection for electronics/motor - Line undervoltage detection
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Electrical hookup	Connector with cable
Motor protection	Thermal overload protector (TOP) internally connected
With cable	Variable
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE
Approval	CSA C22.2 No. 77; EAC; UL 1004-3

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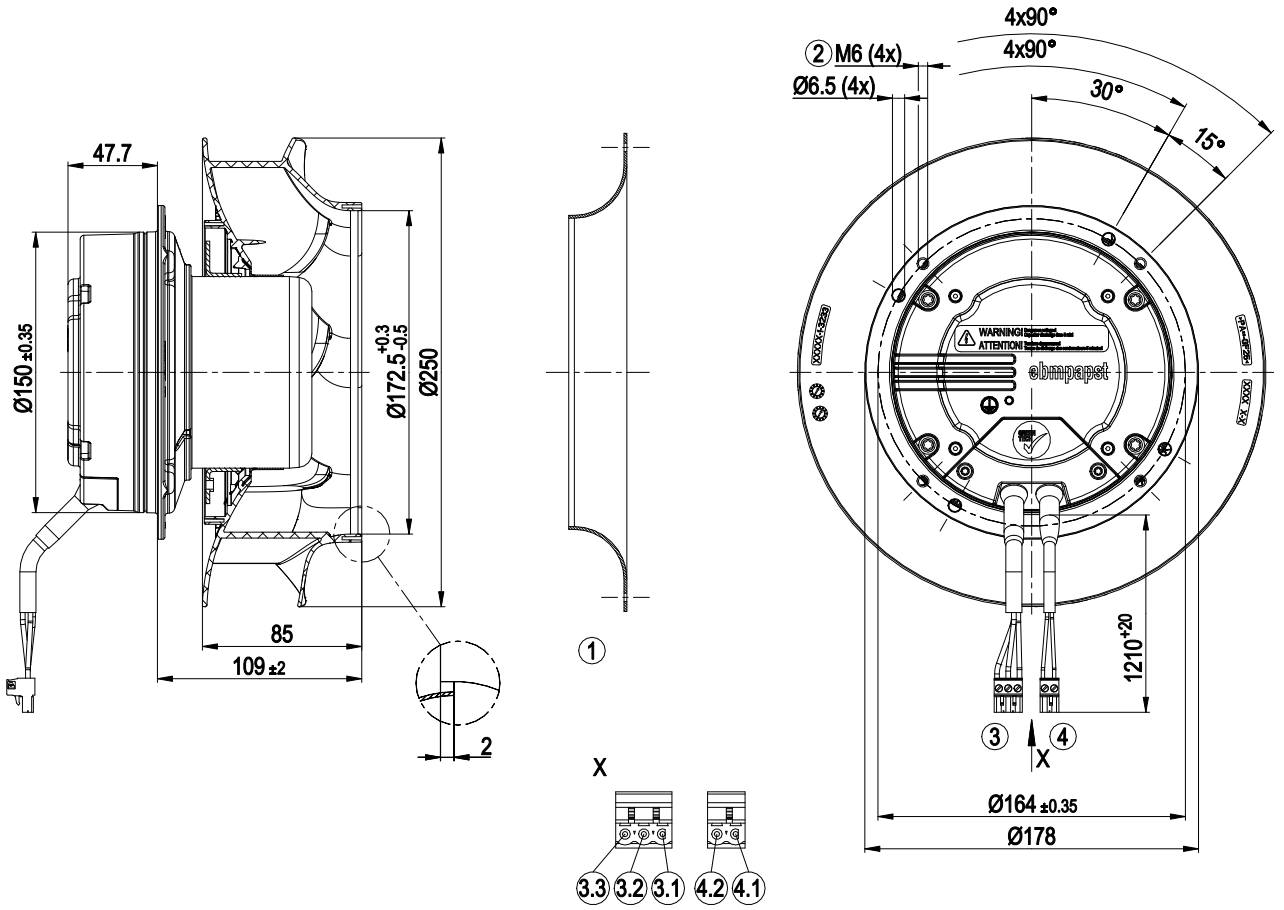
Product drawing



1	Accessory part: inlet ring 96359-2-4013 not included in scope of delivery
2	Max. clearance for screw 10 mm
3	Cable PVC AWG18
	3-pole connector housing Phoenix MSTB 2.5/3-ST
3.1	PE
3.2	L
3.3	N
4	Cable PVC AWG22
	2-pole connector housing Phoenix MSTB 2.5/2-ST
4.1	0-10 V/PWM
4.2	GND

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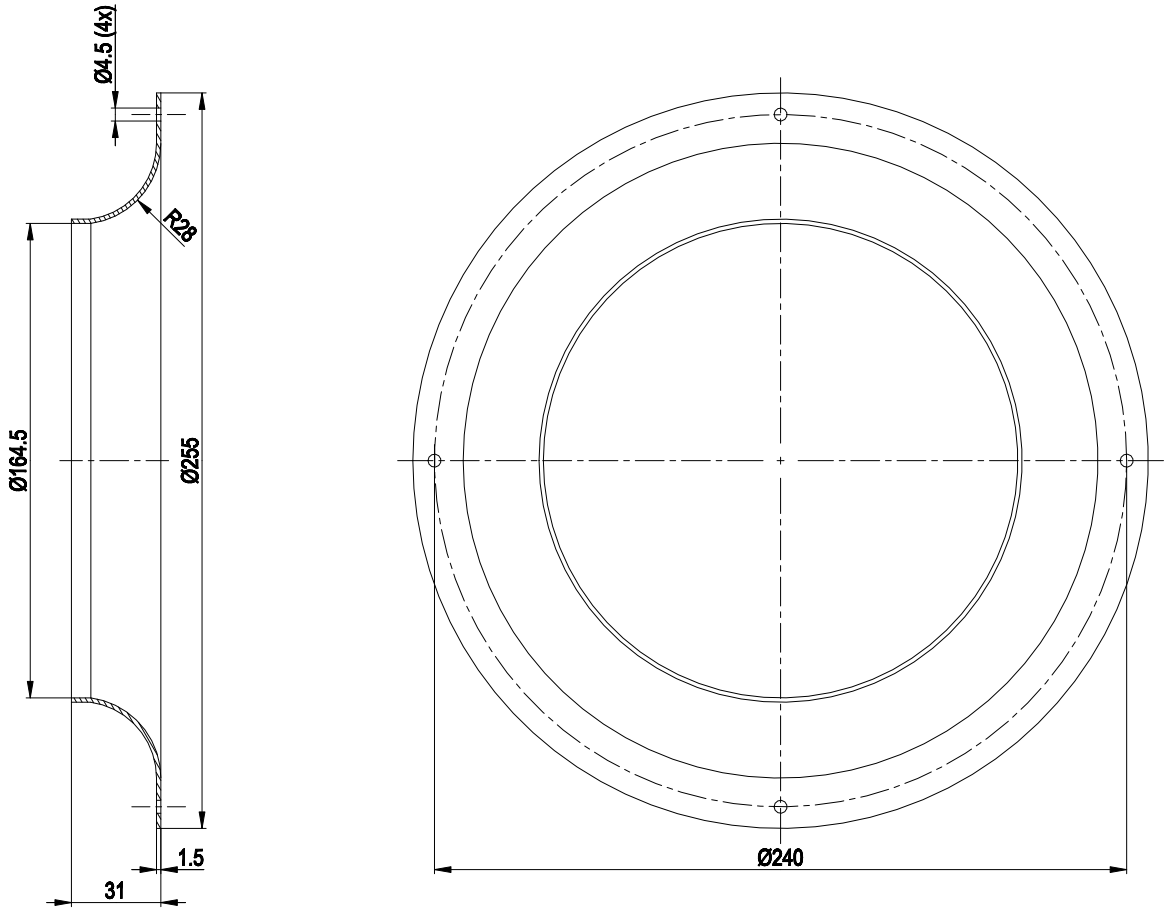
Accessory part



Accessory part: inlet ring 96359-2-4013 not included in scope of delivery

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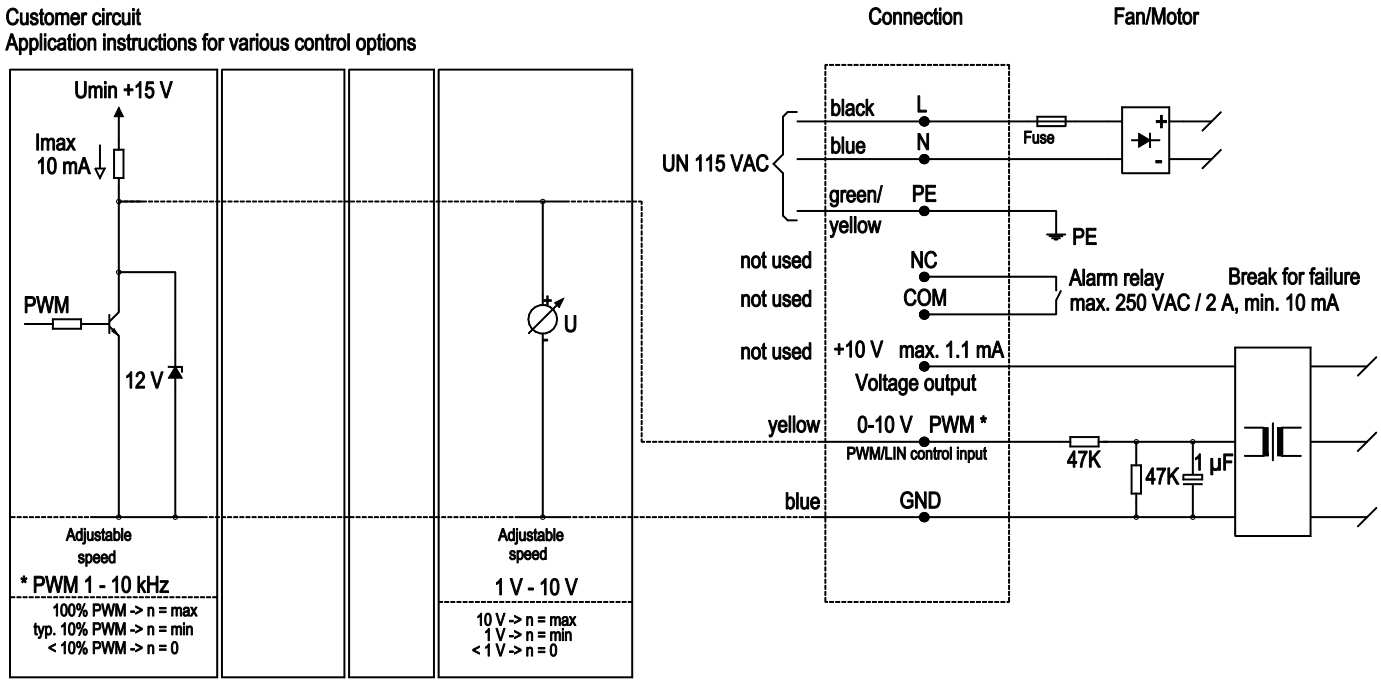
Connection diagram



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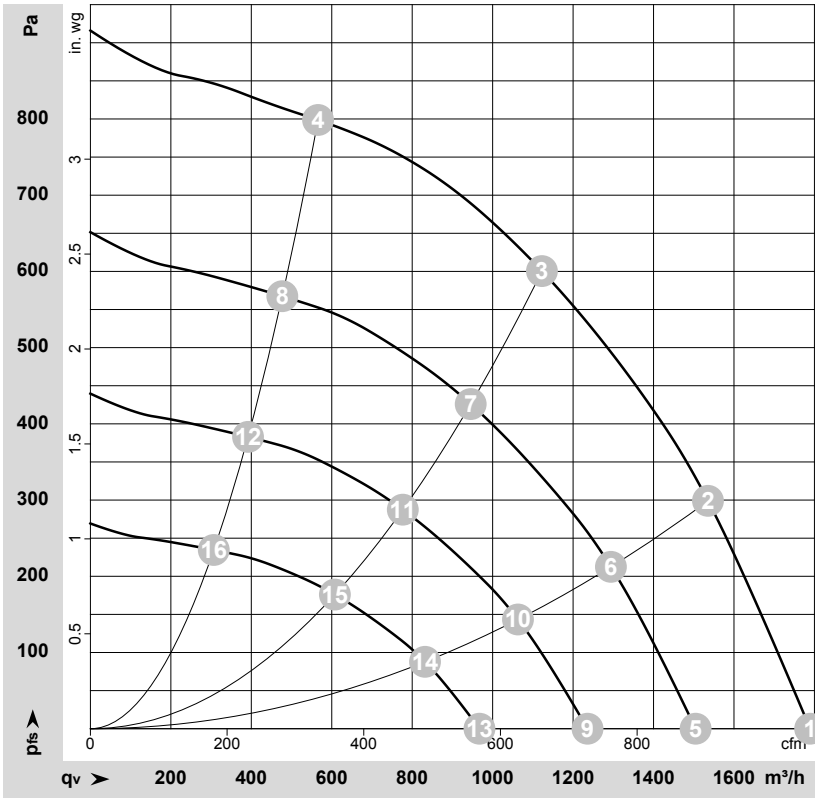
Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-159219-1

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

	Wired	U	f	n	P_{ed}	I	q_V	p_{fs}	q_V	p_{fs}
		V	Hz	min^{-1}	W	A	m^3/h	Pa	cfm	in. wg
1	1~	115	50	3330	289	3.62	1790	0	1055	0.00
2	1~	115	50	3330	338	4.18	1535	300	905	1.20
3	1~	115	50	3330	375	4.60	1125	600	660	2.41
4	1~	115	50	3330	316	3.92	565	800	335	3.21
5	1~	115	50	2800	172	2.15	1505	0	885	0.00
6	1~	115	50	2800	203	2.50	1295	214	760	0.86
7	1~	115	50	2800	217	2.67	945	426	555	1.71
8	1~	115	50	2800	189	2.35	475	568	280	2.28
9	1~	115	50	2300	95	1.19	1235	0	725	0.00
10	1~	115	50	2300	112	1.39	1065	144	625	0.58
11	1~	115	50	2300	120	1.48	775	287	455	1.15
12	1~	115	50	2300	105	1.30	390	383	230	1.54
13	1~	115	50	1800	46	0.57	965	0	570	0.00
14	1~	115	50	1800	54	0.66	830	88	490	0.35
15	1~	115	50	1800	58	0.71	610	176	360	0.71
16	1~	115	50	1800	50	0.62	305	235	180	0.94

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