R1G250-RC87-02

EC centrifugal fan - RadiCal

backward-curved, single-intake

R1G250-RC87-02 ebmpapst Datesheet

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Nominal data

Type	**R1G250-RC87-02**
Motor	**M1G074-CF**

Nominal voltage	VDC	24
Nominal voltage range	VDC	16 .. 28
Method of obtaining data		fa
Speed (rpm)	min^{-1}	2500
Power consumption	W	120
Current draw	A	4.9
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 Commission Regulation (EU) 327/2011 (prEN 17166)

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	57.1	42.2
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		76.9	62
05 Variable speed drive		Yes	

09 Power consumption P_e	kW	0.12
09 Air flow q_v	m^3/h	805
09 Pressure increase p_{fs}	Pa	289
10 Speed (rpm) n	min^{-1}	2350
11 Specific ratio*		1.00

Data obtained at optimum efficiency level.

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

LU-183784

The efficiency values displayed for achieving conformity with the Ecodesign Regulation EU 327/2011 has been reached with defined air duct components (e.g. inlet rings).
The dimensions must be requested from ebm-papst. If other air conduction geometries are used on the installation side, the ebm-papst evaluation loses its validity/the conformity must be confirmed again.

The product does not fall within the scope of Regulation (EU) 2019/1781 due to the exception specified in Article 2 (2a) (motors completely integrated into a product).

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Technical description

Weight	2.002 kg
Size	250 mm
Motor size	74
Rotor surface	Galvanized
Electronics housing material	Die-cast aluminum, painted black
Impeller material	PA plastic
Number of blades	7
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	Motor IP24 KM, electronics IP6K9K (mating connector installed)
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	H2+
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 bottom; rotor on top on request
Condensation drainage holes	On rotor side
Mode	S1
Motor bearing	Ball bearing; (sealed)
Technical features	- Tach output - Motor current limitation - Soft start - Control input 0-10 VDC / PWM - Overvoltage detection - Thermal overload protection for electronics - Reverse polarity protection
With cable	Axial
Protection class assignment	III; Requires supply with safety extra-low voltage SELV. This component for installation may have several local protection classes. This information relates to this component's basic design. The final protection class is based on the component's intended installation and connection. If there is a PE connection point on the housing, it must not be visible after installation.
Conformity with standards	CE
Approval	EAC; CSA C22.2 No. 113; UL 507

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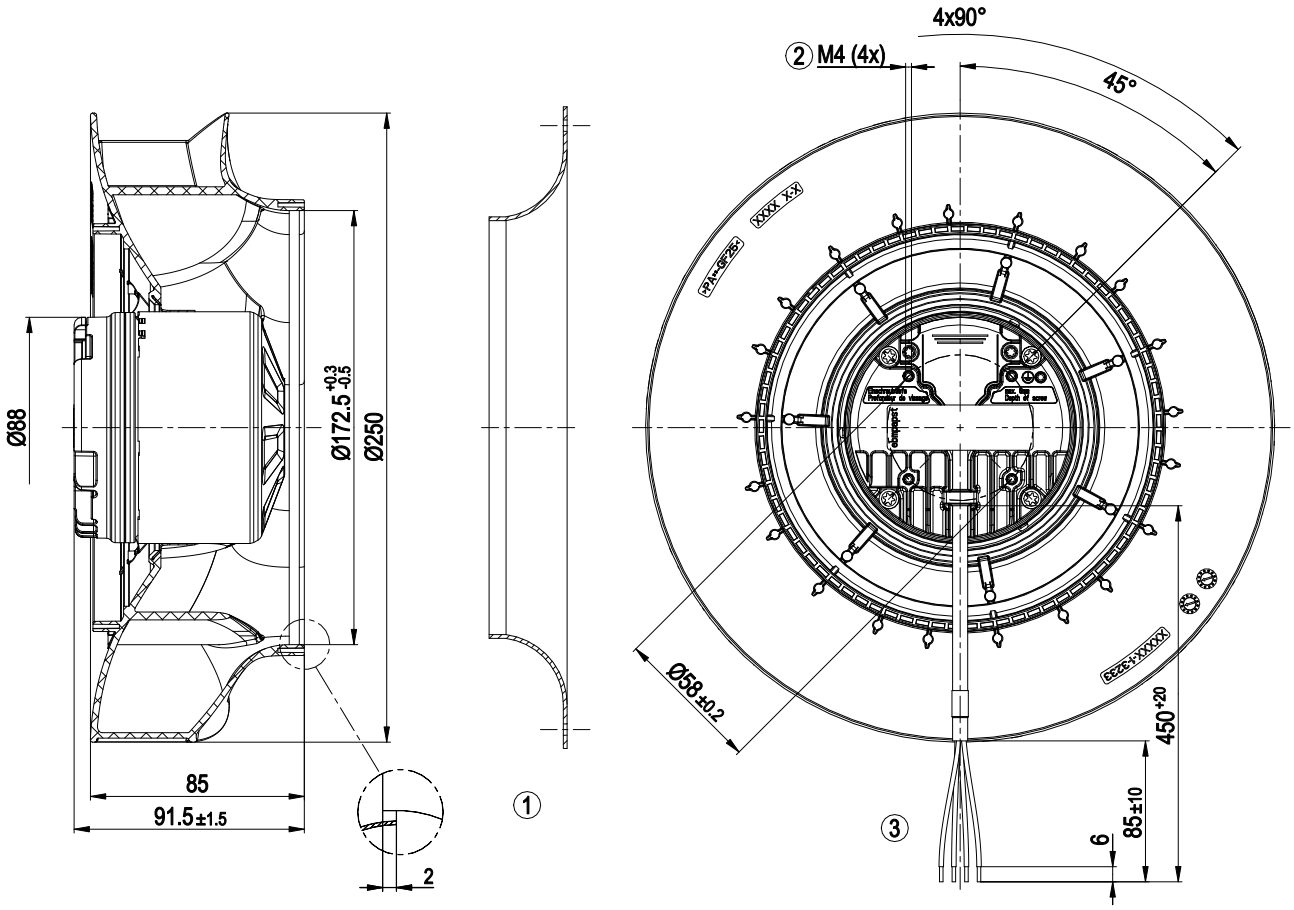
Product drawing



1	Accessory part: inlet ring 96359-2-4013 not included in scope of delivery
2	Max. clearance for screw 6 mm
3	Cable PVC 4x AWG18, insulating hose
	4x splice

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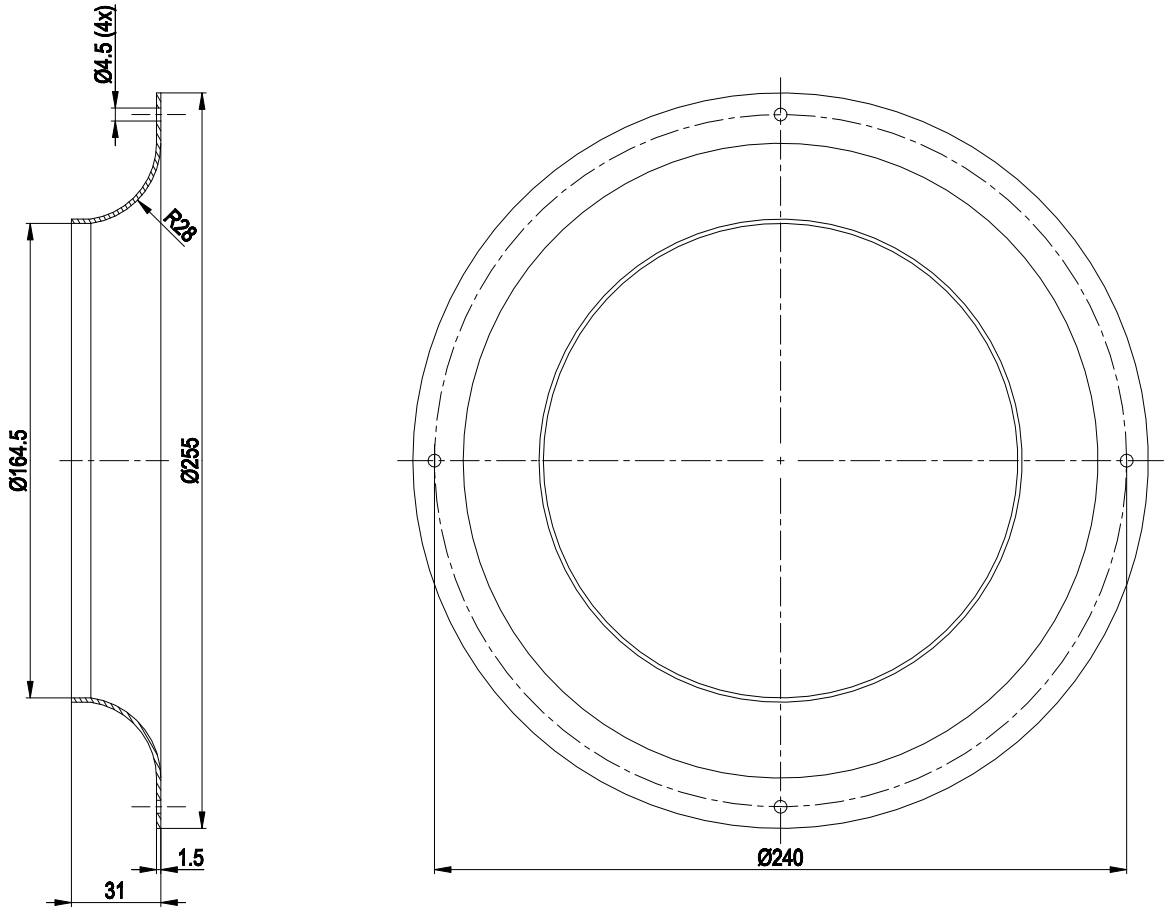
Accessory part



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

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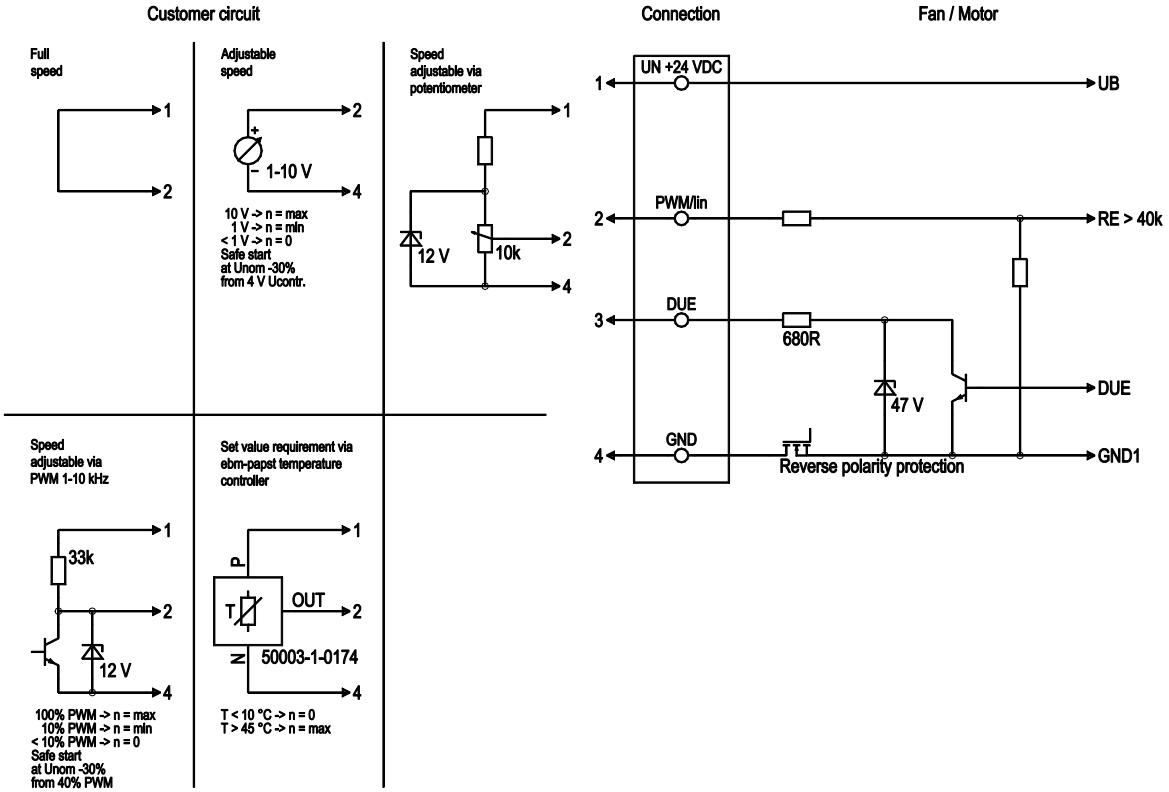
Connection diagram



No.	Conn.	Designation	Color	Function/assignment
	1	UN +24 VDC	red	Power supply 24 VDC, maximum ripple 3.5%
	2	PWM/LIN	yellow	Control input Re > 40k
	3	DUE	white	Tach output, 3 pulses per revolution, Isink max = 10 mA
	4	GND	blue	Reference ground

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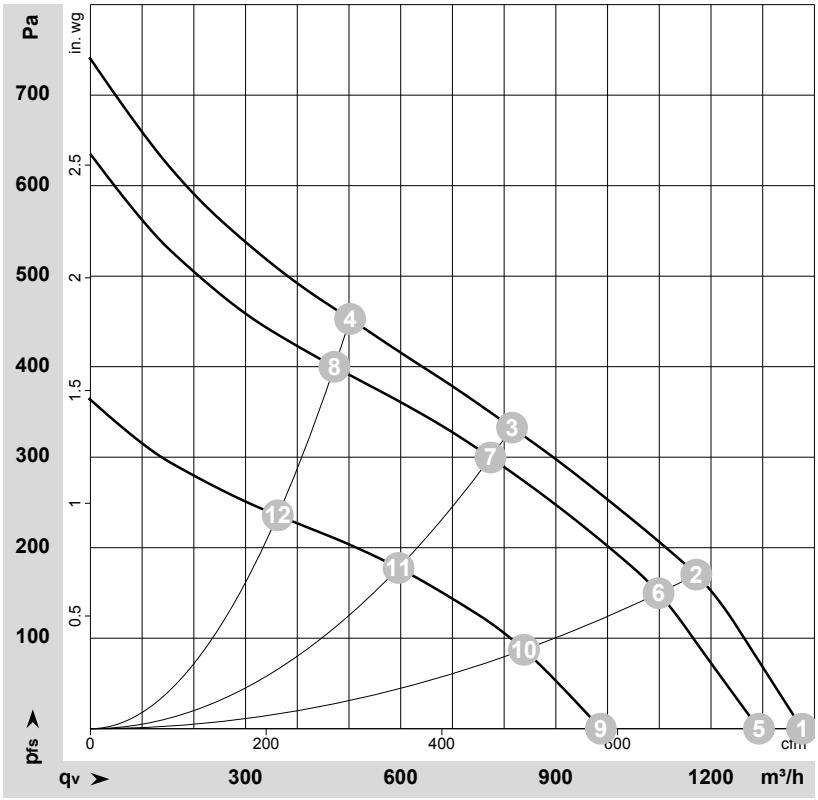
Curves: Air performance



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-192607-1
Measurement: LU-183784-1
Measurement: LU-184033-1

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	n	P_{ed}	I	LpA_{in}	LwA_{in}	q_V	p_{fs}	q_V	p_{fs}
	V	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa	cfm	in. wg
1	28	2645	144	5.11			1375	0	810	0.00
2	28	2565	149	5.32			1170	171	690	0.69
3	28	2455	153	5.46			815	333	480	1.34
4	28	2550	150	5.34			500	453	295	1.82
5	24	2500	120	4.90	67	75	1295	0	760	0.00
6	24	2420	123	5.14	66	73	1100	150	645	0.60
7	24	2350	130	5.39	62	69	775	300	455	1.20
8	24	2420	124	5.16	65	71	470	400	280	1.61
9	16	1910	55	3.40			985	0	580	0.00
10	16	1865	58	3.60			840	87	495	0.35
11	16	1815	61	3.79			595	178	350	0.71
12	16	1860	58	3.61			360	236	215	0.95

U = Voltage · 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