EC centrifugal fan - RadiCal

backward-curved, single-intake

R3G250-RN46-01 ebmpapst Datesheet

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Nominal data

Type	**R3G250-RN46-01**
Motor	**M3G074-CF**

Nominal voltage	VDC	24
Nominal voltage range	VDC	16 .. 28
Method of obtaining data		fa
Speed (rpm)	min^{-1}	2850
Power consumption	W	175
Current draw	A	7.2
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}	%	59.6	44.4
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		77.2	62
05 Variable speed drive		Yes	

09 Power consumption P_e	kW	0.21
09 Air flow q_v	m^3/h	905
09 Pressure increase p_{fs}	Pa	441
10 Speed (rpm) n	min^{-1}	2795
11 Specific ratio*		1.00

Data obtained at optimum efficiency level.

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

LU-164291

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	2.1 kg
Size	250 mm
Motor size	74
Rotor surface	Painted black
Impeller material	PA plastic
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	H1
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	- Tach output - Motor current limitation - Soft start - Control input 0-10 VDC / PWM - Overvoltage detection - Reverse polarity protection
With cable	Variable
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	EN 62368-1; CE
Approval	EAC

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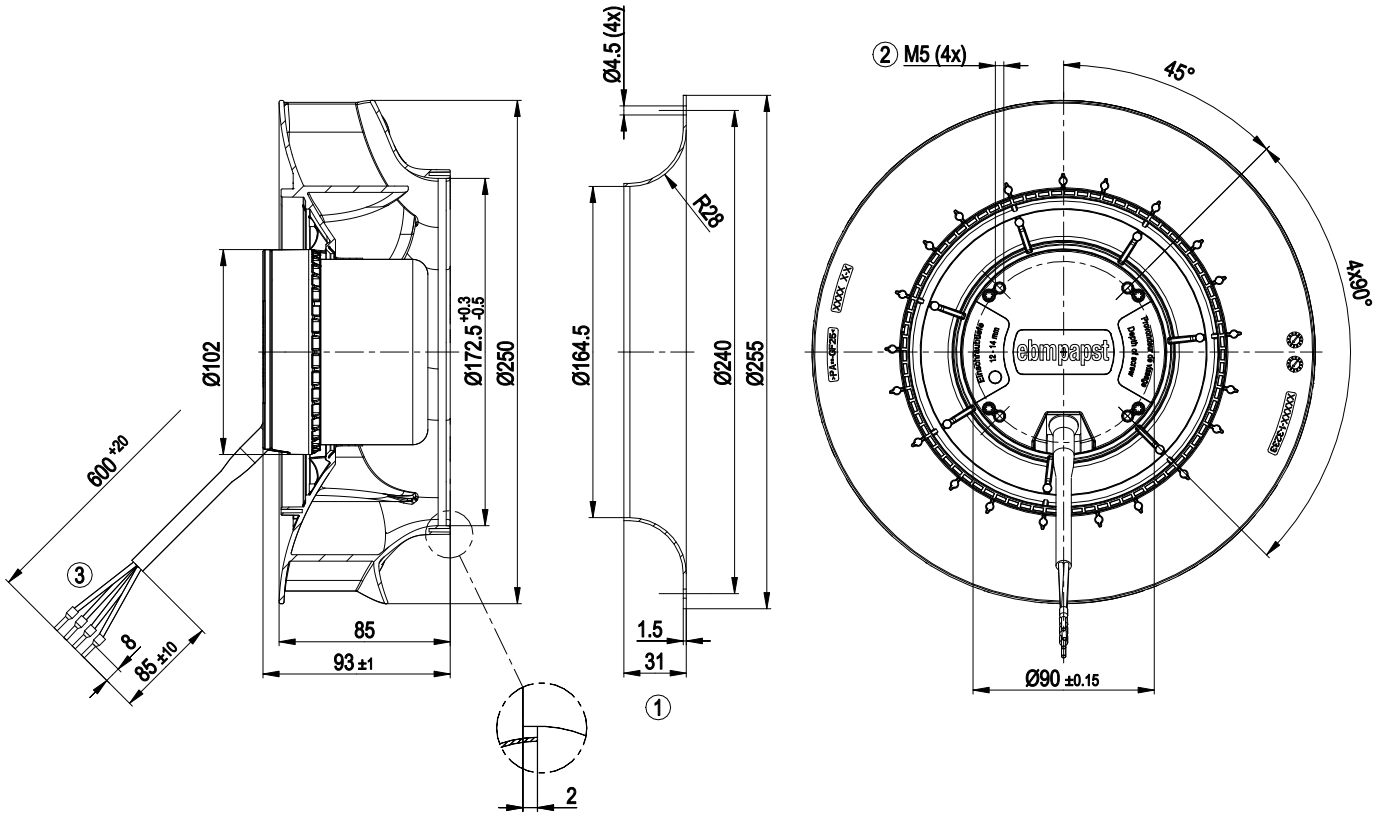
Product drawing



1	Accessory part: inlet ring 96359-2-4013 not included in scope of delivery
2	Cable PVC AWG 16, 4x crimped ferrules
3	Max. clearance for screw 12-14 mm

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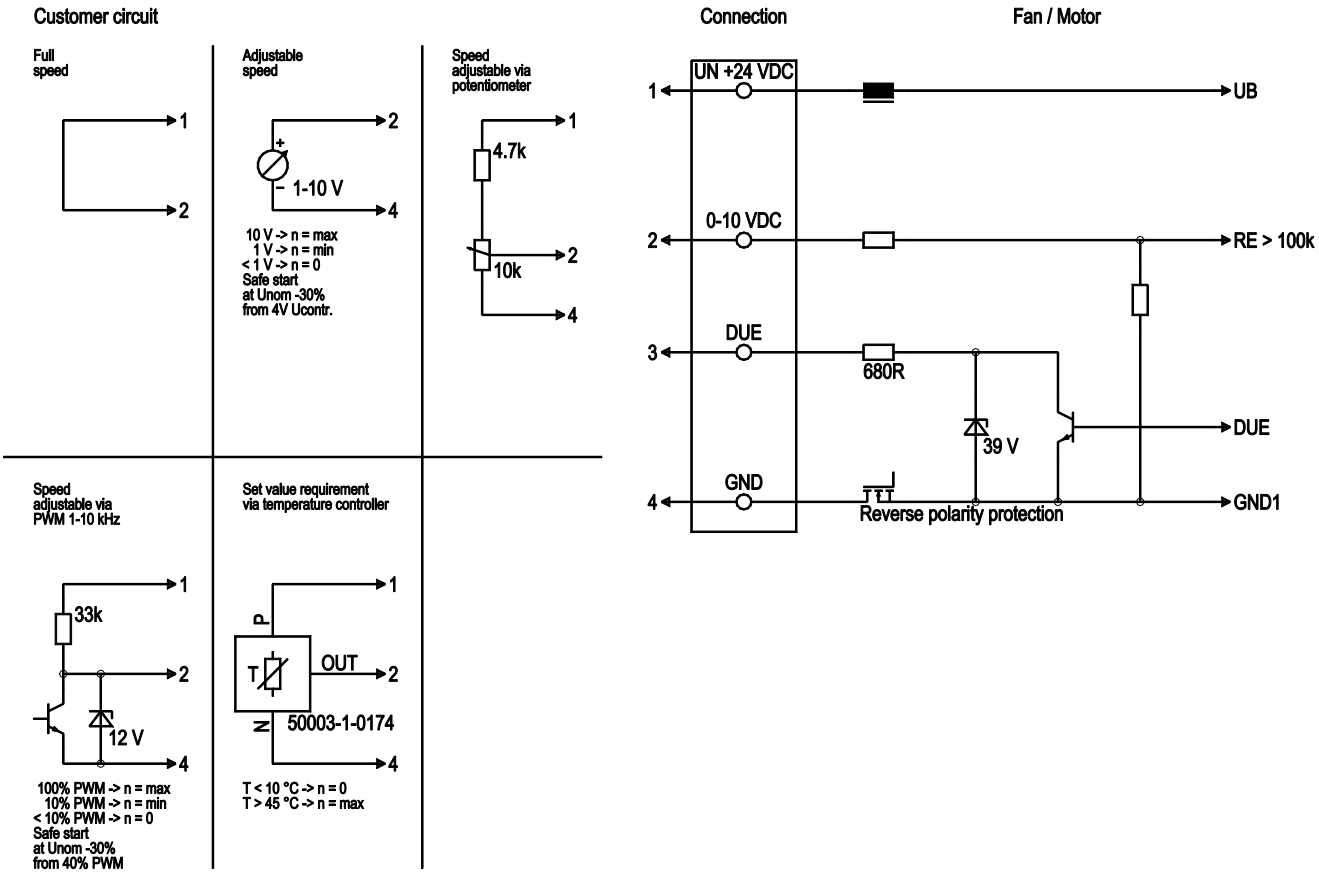
Connection diagram



No.	Conn.	Designation	Color	Function/assignment
	1	Un +24 VDC	red	Power supply 24 VDC, maximum ripple 3.5%
	2	0-10 VDC	yellow	Control input Re > 100k
	3	Tach	white	Tach output, 3 pulses per revolution, Isink max = 10 mA
	4	GND	blue	Reference ground

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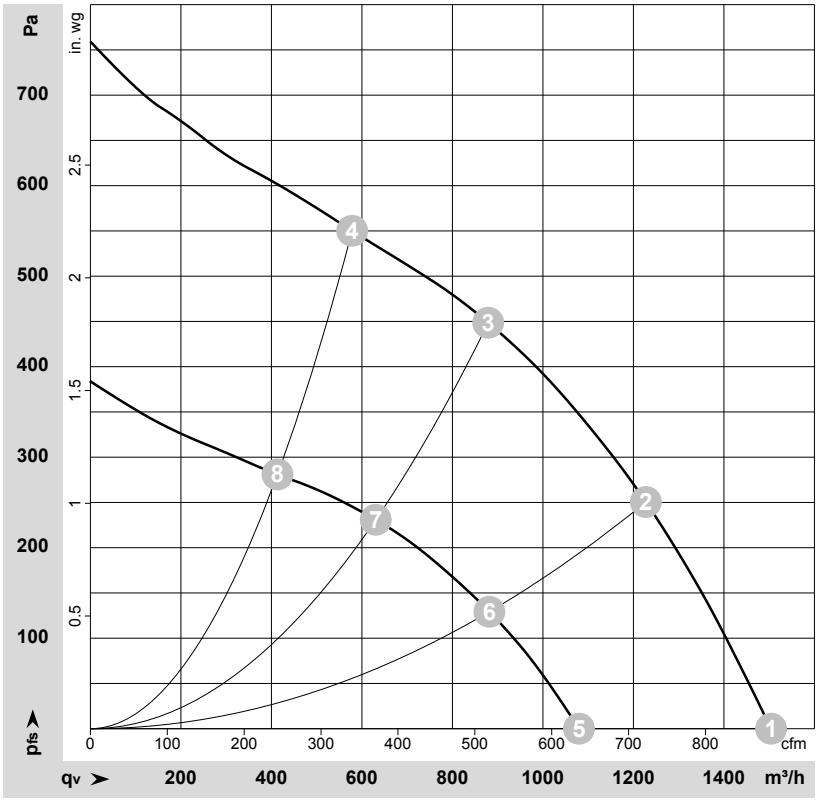
Curves: Air performance



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-164291-1
Measurement: LU-164393-1

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	24-28	2850	175	7.20*	74	81	1505	0	885	0.00
2	24-28	2820	195	8.10*	69	77	1225	250	720	1.00
3	24-28	2795	210	8.70*	63	71	880	450	515	1.81
4	24-28	2840	197	8.20*	66	74	580	550	340	2.21
5	16	2065	68	4.26			1080	0	635	0.00
6	16	2035	75	4.70			880	130	520	0.52
7	16	2025	81	5.04			630	231	370	0.93
8	16	2040	75	4.67			415	281	245	1.13

U = Voltage · n = Speed (rpm) · P_{ed} = Power consumption · I = Current draw · * = Current measured at nominal voltage · LpA_{in} = Sound pressure level intake side · LwA_{in} = Sound power level intake side
q_V = Air flow · p_{fs} = Pressure increase