EC centrifugal fan - RadiCal

backward-curved, single-intake

R3G250-RNB5-02 ebmpapst Datesheet

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Nominal data

Type	**R3G250-RNB5-02**	
Motor	**M3G074-CF**	
Nominal voltage	VDC	48
Nominal voltage range	VDC	36 .. 57
Method of obtaining data		fa
Speed (rpm)	min^{-1}	3100
Power consumption	W	230
Current draw	A	4.8
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}	%	59.5	45.5	09 Power consumption P_e	kW	0.26
02 Measurement category		A		09 Air flow q_v	m^3/h	1055
03 Efficiency category		Static		09 Pressure increase p_{fs}	Pa	479
04 Efficiency grade N		76	62	10 Speed (rpm) n	min^{-1}	3025
05 Variable speed drive		Yes		11 Specific ratio*		1.01

Data obtained at optimum efficiency level.

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

LU-154768

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 = Moist – occasional or constantly high level of humidity
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
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC interference emission	According to EN 55022 (Class B, household environment)
With cable	Variable
Protection class assignment	III; Supply with safety extra-low voltage SELV. The built-in component has several local protection class assignments. The final protection class is determined by the intended installation.
Conformity with standards	EN 62368-1; CE
Approval	CCC; EAC

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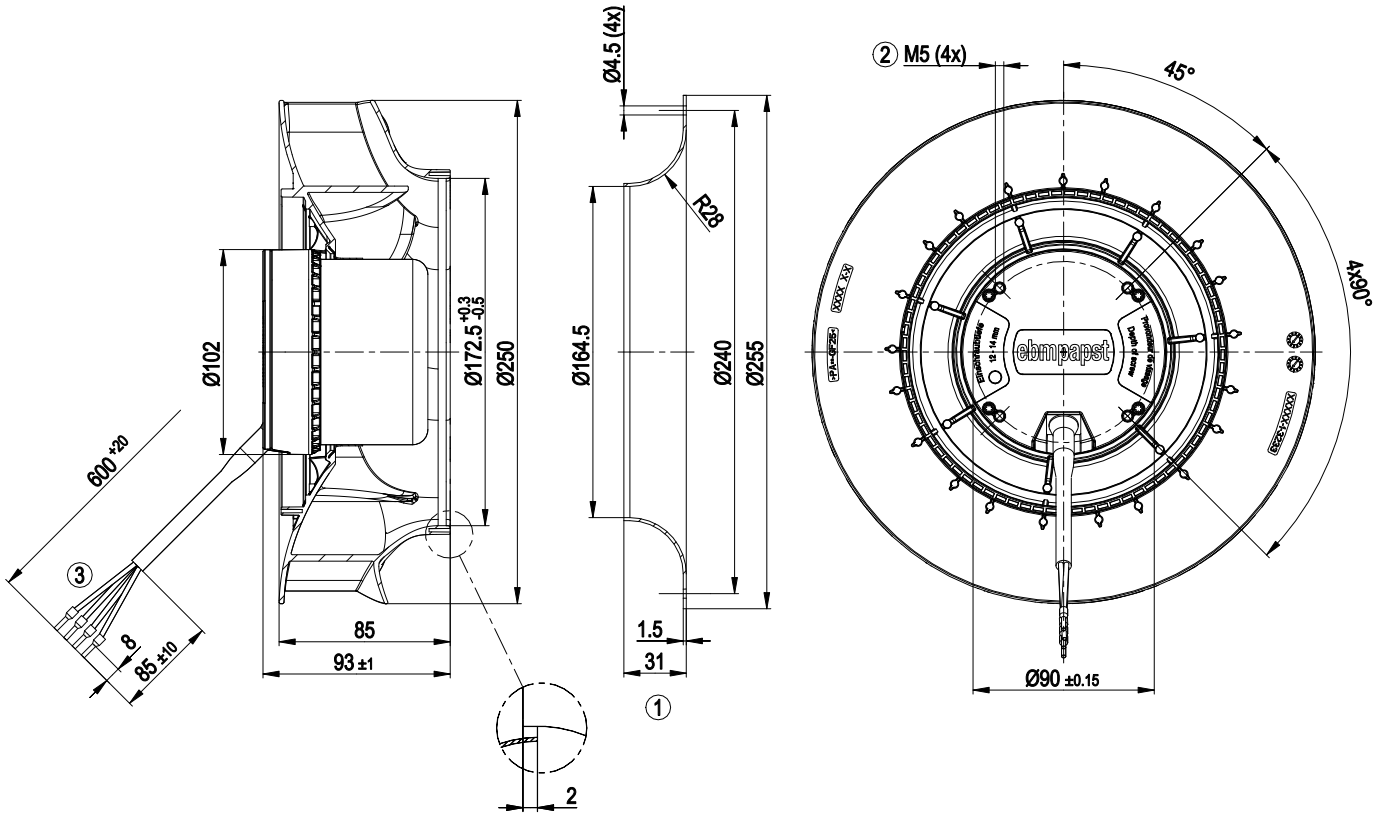
Product drawing



1	Accessory part: inlet ring 96359-2-4013 not included in scope of delivery
2	Max. screw-in depth 12 - 14 mm
3	Cable PVC AWG16
	4x wire-end ferrule

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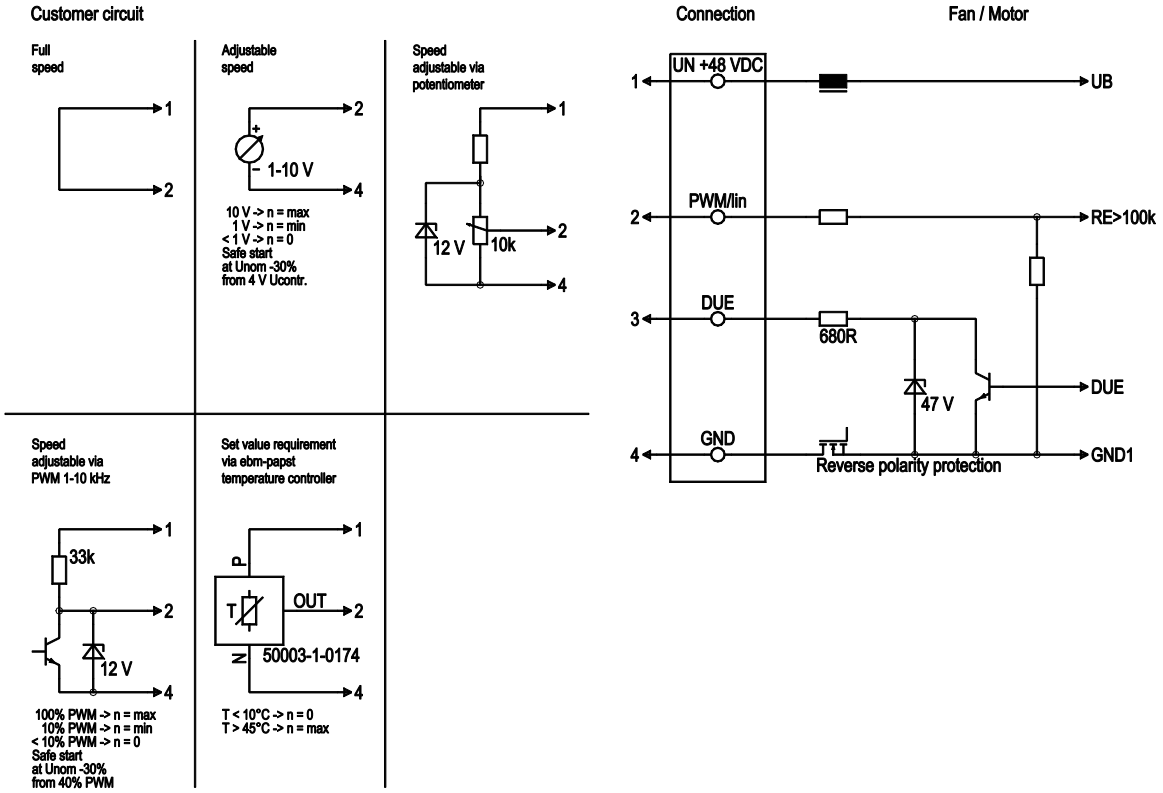
Connection diagram



No.	Conn.	Designation	Color	Function/assignment
	1	Un +48 VDC	red	Power supply 48 VDC, maximum ripple 3.5%
	2	0-10 VDC	yellow	Control input Re > 100 K
	3	Tach	white	Tach output, 3 pulses per revolution, Isink max = 10 mA
	4	GND	blue	Reference ground

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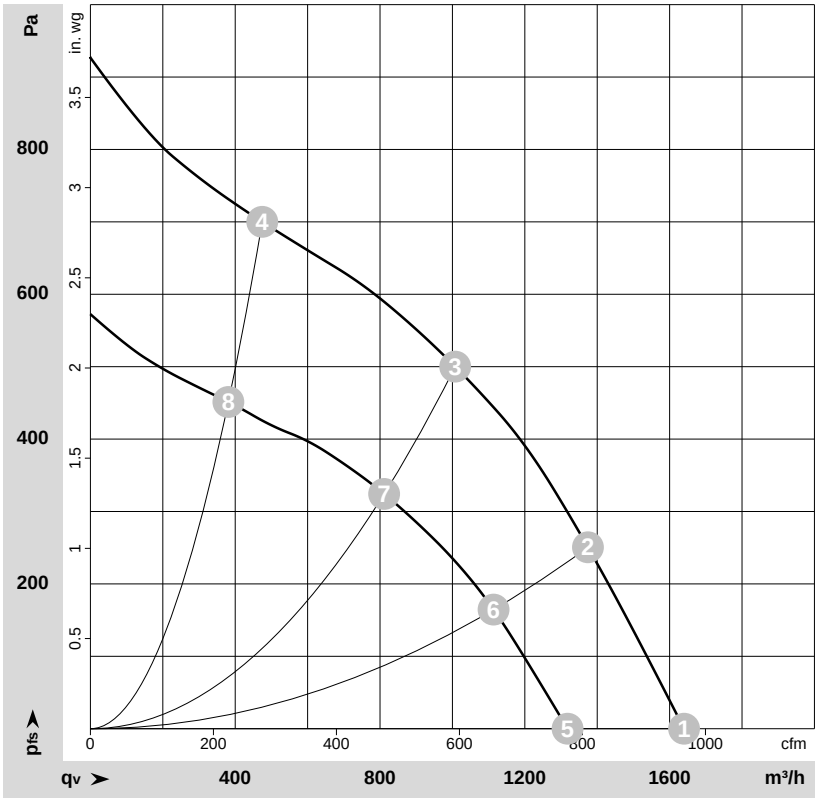
Curves: Air performance



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-154768-1
Date: 2013-04-12
Nozzle: 25011-2-2911

Measurement: LU-154771-1
Date: 2013-04-12
Nozzle: 25011-2-2911

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	q_V	p_{fs}	q_V	p_{fs}
	V	min^{-1}	W	A	m^3/h	Pa	cfm	in. wg
1	48-57	3100	230	4.80*	1640	0	965	0.00
2	48-57	3065	250	5.20*	1375	250	810	1.00
3	48-57	3025	266	5.60*	1010	500	595	2.01
4	48-57	3115	236	4.90*	475	700	280	2.81
5	36	2510	119	3.31	1320	0	775	0.00
6	36	2465	132	3.66	1115	166	655	0.67
7	36	2440	139	3.88	810	325	475	1.30
8	36	2500	121	3.37	380	452	225	1.81

U = Voltage · n = Speed (rpm) · P_{ed} = Power consumption · I = Current draw · * = Current measured at nominal voltage · q_V = Air flow · p_{fs} = Pressure increase