R1G250-RC71-02

EC centrifugal fan - RadiCal

backward-curved, single-intake



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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**R1G250-RC71-02**	
Motor	**M1G074-CF**	
Nominal voltage	VDC	48
Nominal voltage range	VDC	36 .. 57
Method of obtaining data		fa
Speed	min^{-1}	2760
Power consumption	W	165
Current draw	A	5.1
Min. ambient temperature	°C	-40
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 ErP Directive

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	57.3	43.4
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		75.9	62
05 Variable speed drive		Yes	

09 Power consumption P_e	kW	0.17
09 Air flow q_v	m³/h	945
09 Pressure increase p_{fs}	Pa	327
10 Speed n	min^{-1}	2590
11 Specific ratio*		1.00

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-165766

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Technical description

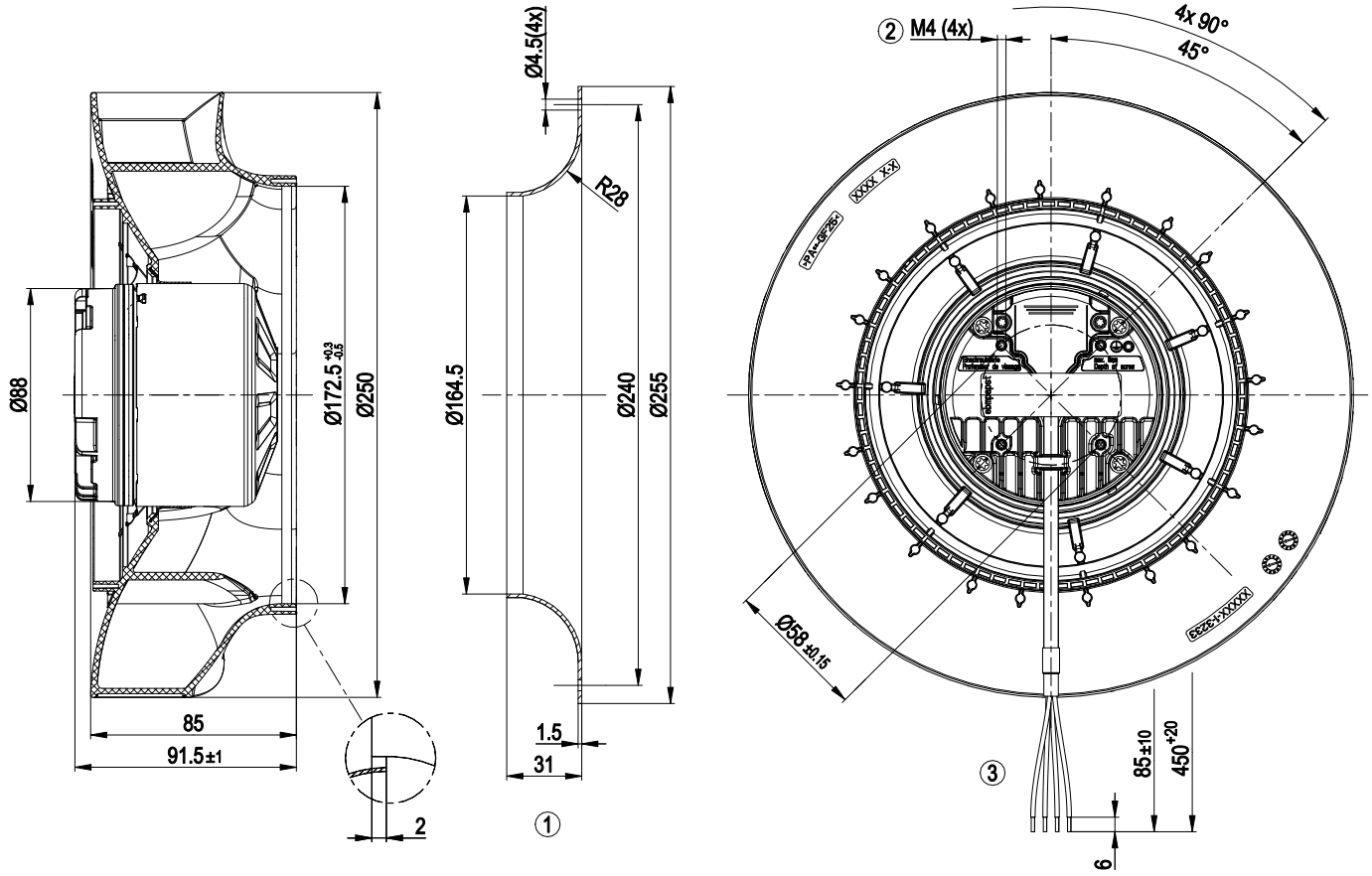
Weight	2 kg
Fan size	250 mm
Rotor surface	Galvanized
Electronics housing material	Die-cast aluminum, painted black
Impeller material	PA plastic
Number of blades	7
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP24 KM; Electronics IP66 / 69K
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	H2+
Ambient temperature note	Occasional start-up between -40°C and -25°C is permissible. For continuous operation at temperatures below -25°C (e.g. refrigeration applications) we recommend our fan design with special low-temperature bearings.
Max. permitted ambient temp. for motor (transport/storage)	+70 °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
Motor protection	Reverse polarity and locked-rotor protection
With cable	Axial
Approval	EAC; UL 507

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Product drawing



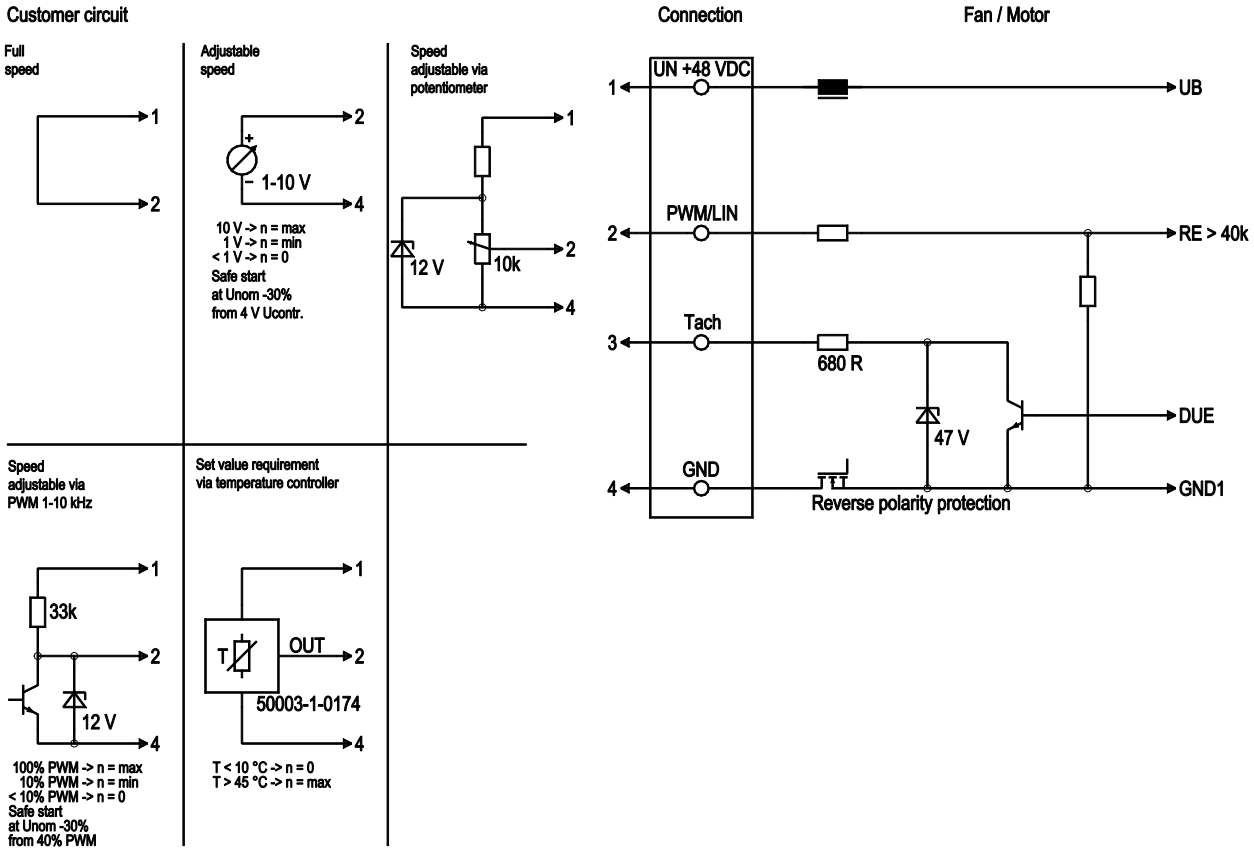
1	Accessory part: inlet ring 96359-2-4013 not included in scope of delivery
2	Max. clearance for screw 6 mm
3	Cable PVC 4x AWG18, insulating hose, 4x crimped splices

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Connection diagram



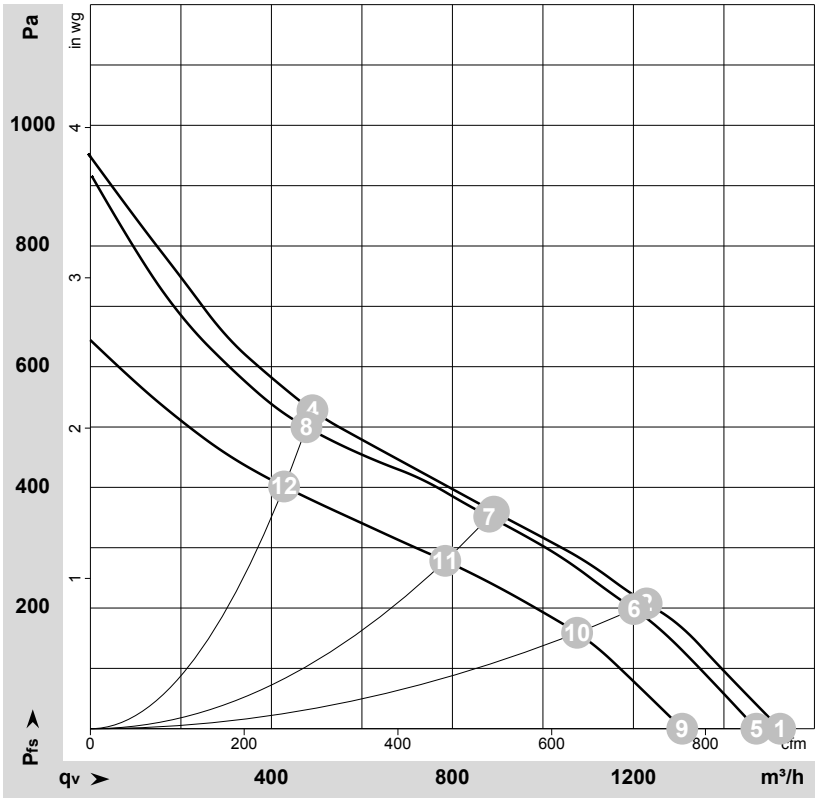
No.	Conn.	Designation	Color	Function/assignment
1	1	UN +48 VDC	red	Power supply 48 VDC, maximum ripple 3.5%
1	2	PWM/LIN	yellow	Control input Re > 100k
1	3	Tach	white	Tach output, 3 pulses per revolution, Isink max = 10 mA
1	4	GND	blue	Reference ground

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Curves: Air performance



ρ = 1.148 kg/m³ ± 2 %

Measurement: LU-166058-1
Measurement: LU-165766-1
Measurement: LU-166057-1

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}	qv	p_{fs}
	V	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa
1	57	2885	184	4.93			1525	0
2	57	2720	179	4.77			1230	207
3	57	2615	180	4.79			890	360
4	57	2755	181	4.83			490	526
5	48	2790	160	4.90	71	79	1470	0
6	48	2665	166	5.19	66	74	1200	200
7	48	2590	171	5.23	62	69	880	350
8	48	2690	165	5.11	66	74	475	500
9	36	2475	111	4.02			1310	0
10	36	2390	116	4.25			1075	160
11	36	2300	118	4.43			785	279
12	36	2400	114	4.20			430	401

U = Power supply · n = Speed · P_{ed} = Power consumption · I = Current draw · LpA_{in} = Sound pressure level intake side · LwA_{in} = Sound power level intake side · qv = Air flow
p_{fs} = Pressure increase

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