R1G220-RD08-02

EC centrifugal fan - RadiCal

backward curved, single inlet

R1G220-RD08-02 ebmpapst Datasheet
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Nominal data

Type	**R1G220-RD08-02**	
Motor	**M1G074-BF**	
Nominal voltage	VDC	48
Nominal voltage range	VDC	36 .. 57
Type of data definition		fa
State		prelim.
Speed (rpm)	min^{-1}	3200
Power input	W	127
Current draw	A	3.8
Min. ambient temperature	°C	-40
Max. ambient temperature	°C	60

ml = Max. load · me = Max. efficiency · fa = Running at free air · cs = Customer specs · cu = Customer unit
Subject to alterations

Data in accordance with ecodesign regulation EU 327/2011

		Actual	Request 2015
01 Overall efficiency η_{es}	%	52.7	42.2
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		72.5	62
05 Variable speed drive		Yes	

09 Power input P_e	kW	0.13
09 Air flow q_v	m^3/h	710
09 Pressure increase p_{fs}	Pa	308
10 Speed (rpm) n	min^{-1}	3050
11 Specific ratio*		1.00

Data definition with optimum efficiency.
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.

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

LU-164793

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Technical features

Mass	1.5 kg
Size	220 mm
Motor size	74
Surface of rotor	Galvanised
Material of electronics housing	Die-cast aluminium, coated in black
Material of impeller	PA plastic
Number of blades	7
Direction of rotation	Clockwise, seen on rotor
Protection rating	IP 24 KM
Type of protection	(motor); electronics IP 66 / 69 K
Insulation class	"B"
Humidity (F) / environmental protection class (H)	H2+
Note ambient temperature	Occasional start-up between -40°C and -25°C is permissible. For continuous operation at ambient temperatures below -25°C (e.g. refrigeration applications) we recommend our fan version with special low-temperature bearings.
Max. permissible ambient motor temp. (transp./ storage)	+70 °C
Min. permissible ambient motor temp. (transp./storage)	-40 °C
Mounting position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensation drainage holes	Rotor-side
Operation mode	S1
Motor bearing	Ball bearing; (sealed)
Technical features	- Tach output - Motor current limit - Soft start - Control input 0-10 VDC / PWM - Overvoltage detection - Over-temperature protected electronics
Motor protection	Reverse polarity and locked-rotor protection
Cable exit	Axial
Approval	EAC; UL 507

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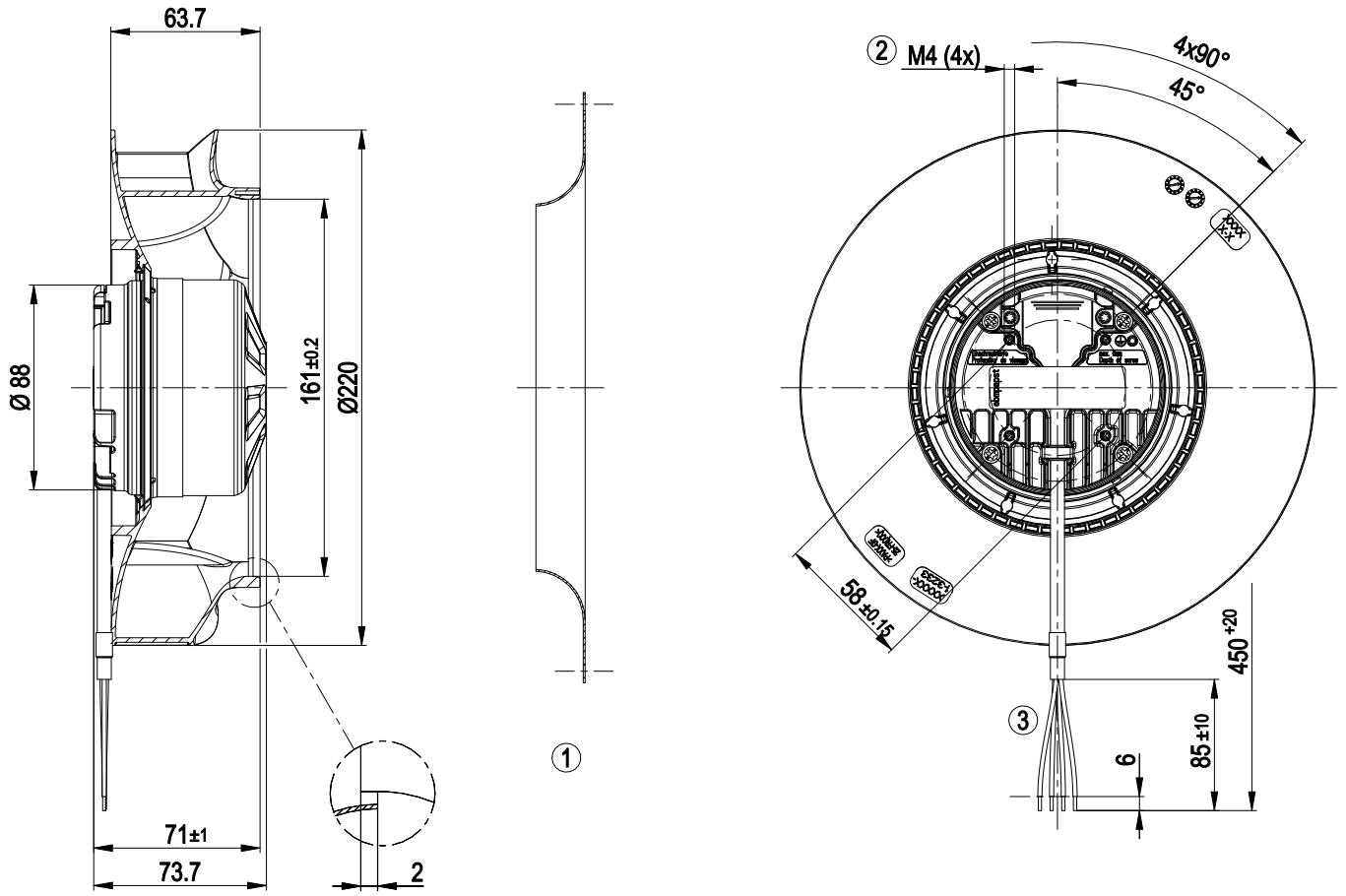
Product drawing



1	Accessory part: Inlet nozzle 09609-2-4013 not included in scope of delivery
2	Thread reach max. 6 mm
3	Connection line PVC 4x AWG18, insulating sleeve, 4x lead tips crimped

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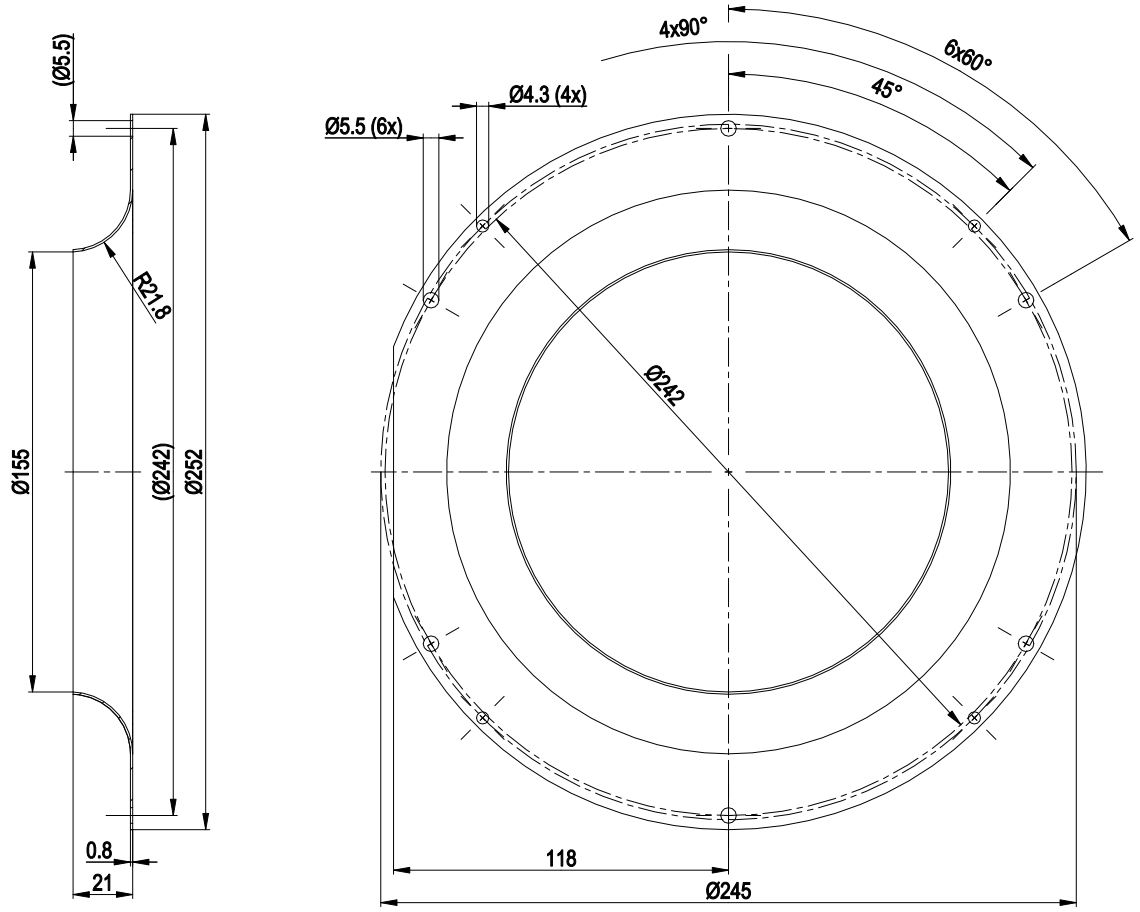
Accessory part



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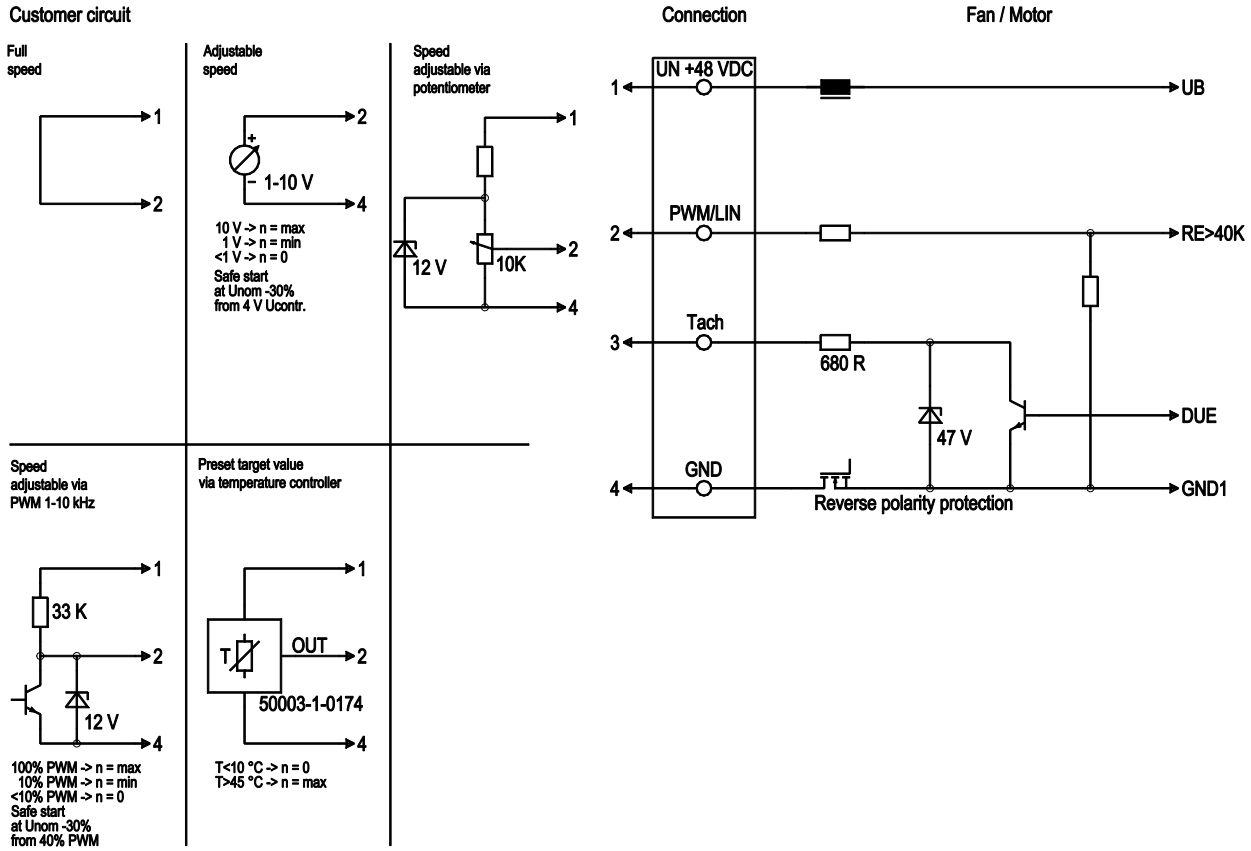
Connection screen



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

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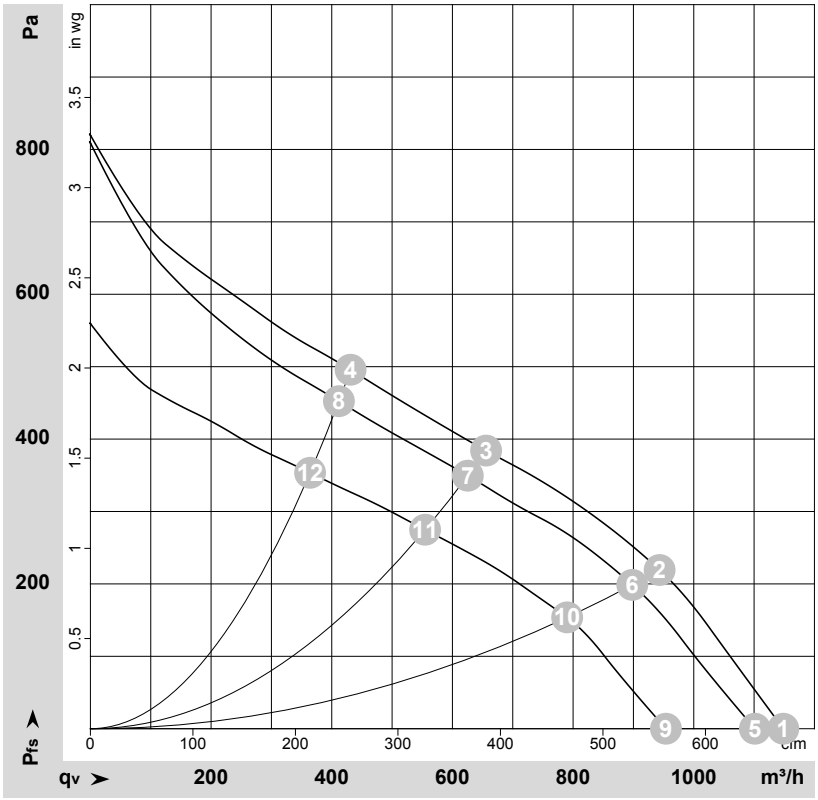
Charts: Air flow



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-164890-1
Measurement: LU-164793-1
Measurement: LU-164889-1

Air performance measured as per ISO 5801 Installation category A. For detailed information on the measuring set-up, please contact ebm-papst. Suction-side noise levels: LwA measured as per ISO 13347 / LpA measured with 1m distance to fan axis. The values given are valid under the measuring conditions mentioned above and may vary according to the actual installation situation. With any deviation from the standard set-up, the specific values have to be checked and reviewed with the unit installed.

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	57	3355	147	4.10			1150	0	675	0.00
2	57	3290	152	4.29			945	219	555	0.88
3	57	3205	160	4.54			655	384	385	1.54
4	57	3295	153	4.31			430	496	255	1.99
5	48	3200	127	3.80	71	79	1100	0	650	0.00
6	48	3135	130	3.90	67	74	900	200	530	0.80
7	48	3040	133	4.07	62	70	625	350	370	1.41
8	48	3140	129	3.89	65	73	410	450	240	1.81
9	36	2825	86	3.06			955	0	560	0.00
10	36	2780	88	3.14			790	154	465	0.62
11	36	2715	90	3.26			555	275	325	1.10
12	36	2780	87	3.14			365	354	215	1.42

U = Supply voltage · n = Speed (rpm) · P_{ed} = Power input · I = Current draw · LpA_{in} = Sound pressure level inlet side · LwA_{in} = Sound power level inlet side · q_V = Air flow · p_{fs} = Pressure increase