EC centrifugal fan - RadiCal

backward curved, single inlet

R1G190-RD04-02 ebmpapst Datasheet
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Nominal data

Type	**R1G190-RD04-02**	
Motor	**M1G074-BF**	
Nominal voltage	VDC	12
Nominal voltage range	VDC	8 .. 16
Type of data definition		fa
Speed (rpm)	min^{-1}	3180
Power input	W	60
Current draw	A	5.7
Min. ambient temperature	°C	-40
Max. ambient temperature	°C	70

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

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Technical features

Mass	1.4 kg
Size	190 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
Motor protection	Reverse polarity and locked-rotor protection
Cable exit	Axial
Approval	EAC; UL 507

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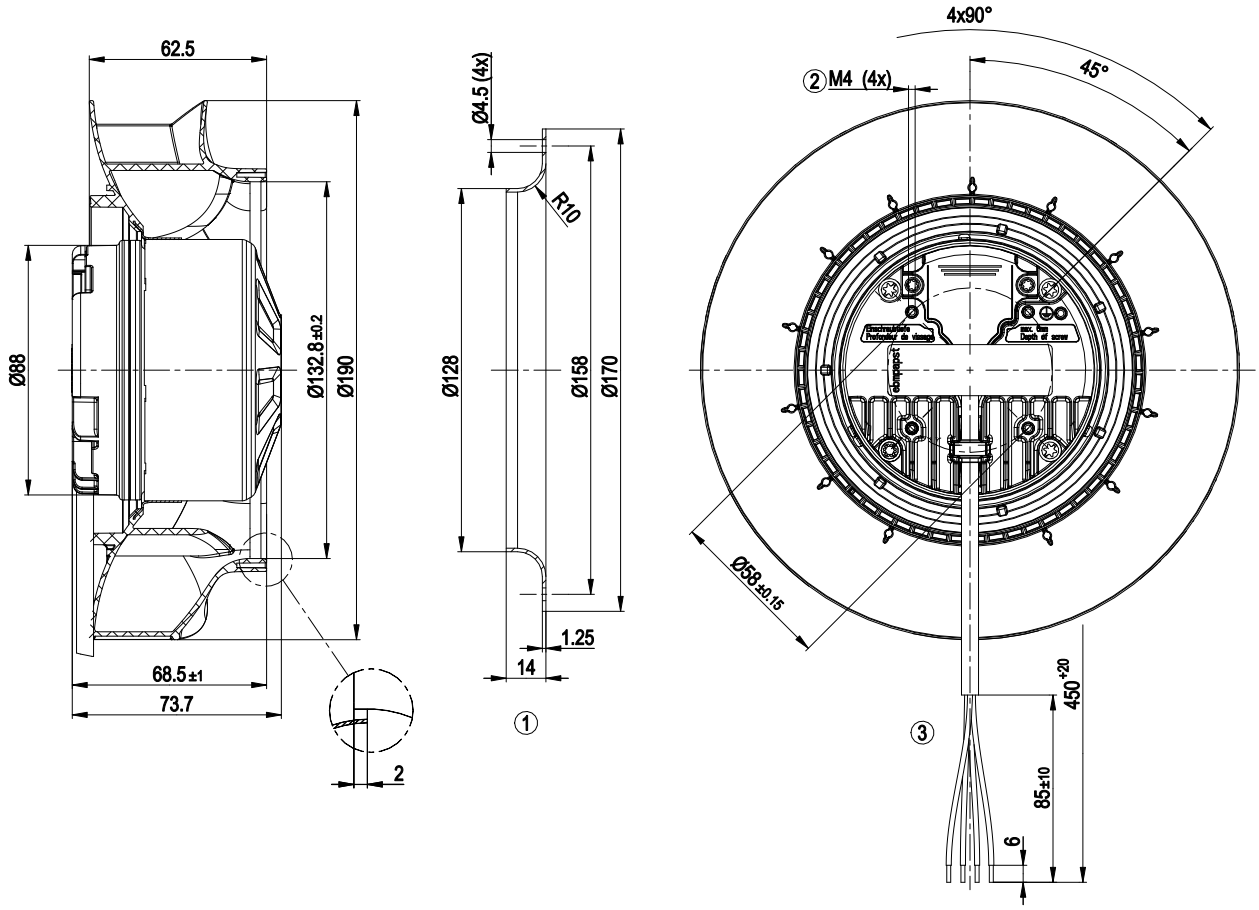
Product drawing



1	Accessory part: Inlet nozzle 09576-2-4013 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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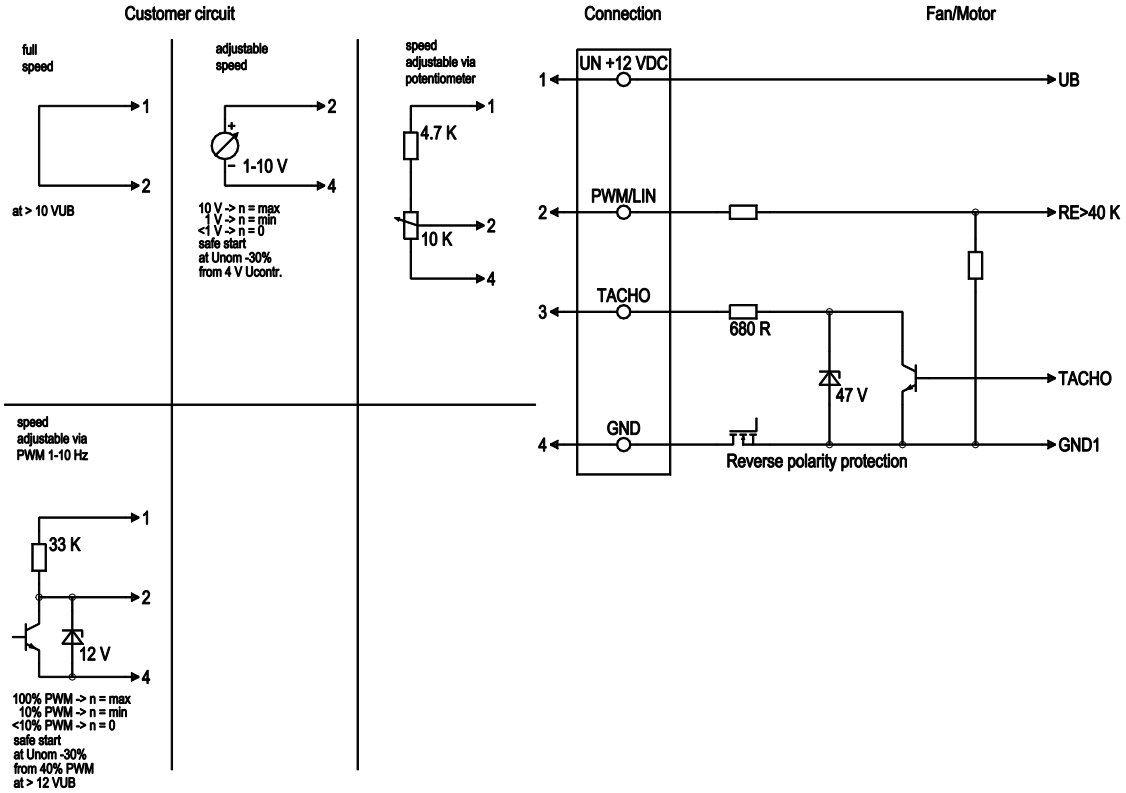
Connection screen



No.	Conn.	Designation	Colour	Function / assignment
	1	Un +12VDC	red	Power supply 12 VDC, see type plate for voltage range, residual ripple 3.5%
	2	PWM/LIN	yellow	Control input Re > 40 k (PWM 1-10 kHz/0-10 V)
	3	Tacho	white	Speed monitoring output, 3 pulses per revolution, Isink max = 10 mA
	4	GND	blue	Reference mass

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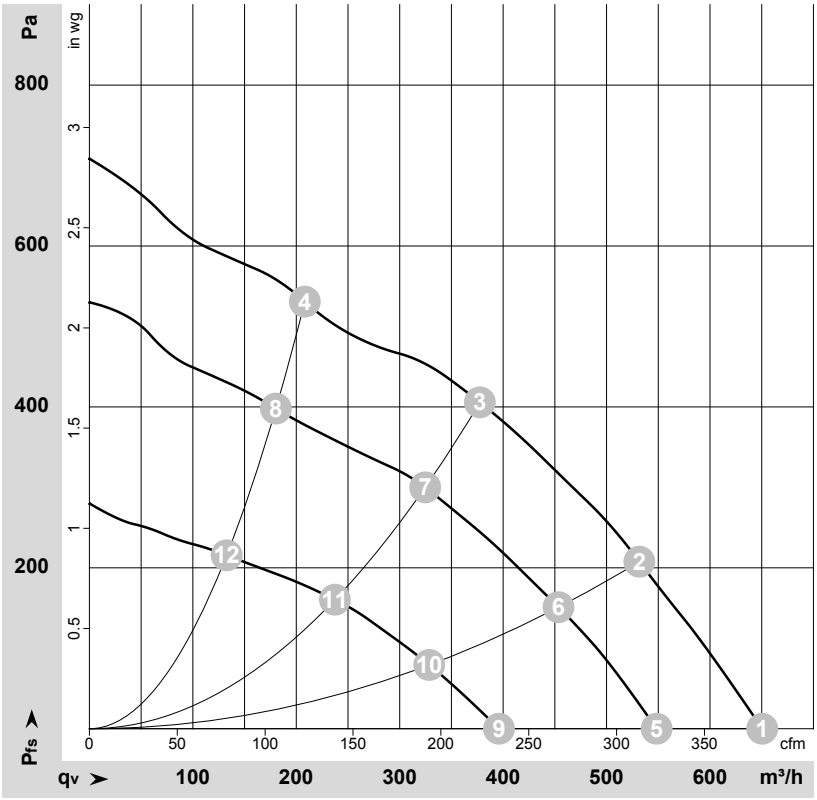
Charts: Air flow



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-164875-1
Measurement: LU-164789-1
Measurement: LU-164872-1

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	16	3695	92	6.70			650	0	385	0.00
2	16	3630	97	7.13			530	208	315	0.84
3	16	3595	103	7.51			375	406	220	1.63
4	16	3715	91	6.67			210	531	120	2.13
5	12	3180	60	5.70	68	76	550	0	325	0.00
6	12	3125	63	5.90	63	71	455	150	265	0.60
7	12	3090	66	6.17	60	68	325	300	190	1.20
8	12	3205	60	5.63	63	71	180	398	105	1.60
9	8	2350	26	3.62			395	0	235	0.00
10	8	2310	26	3.78			330	79	195	0.32
11	8	2285	27	3.92			235	160	140	0.64
12	8	2360	25	3.58			135	216	80	0.87

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