R1G190-RD59-02

EC centrifugal fan - RadiCal

backward curved, single inlet



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Nominal data

Type	**R1G190-RD59-02**	
Motor	**M1G074-BF**	
Nominal voltage	VDC	24
Nominal voltage range	VDC	16 .. 28
Type of data definition		fa
Speed (rpm)	min^{-1}	4120
Power input	W	130
Current draw	A	7.0
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}	%	47.9	42.2
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		67.7	62
05 Variable speed drive		Yes	

09 Power input P_e	kW	0.13
09 Air flow q_v	m³/h	430
09 Pressure increase p_{fs}	Pa	490
10 Speed (rpm) n	min^{-1}	3990
11 Specific ratio*		1.01

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-166809

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Technical features

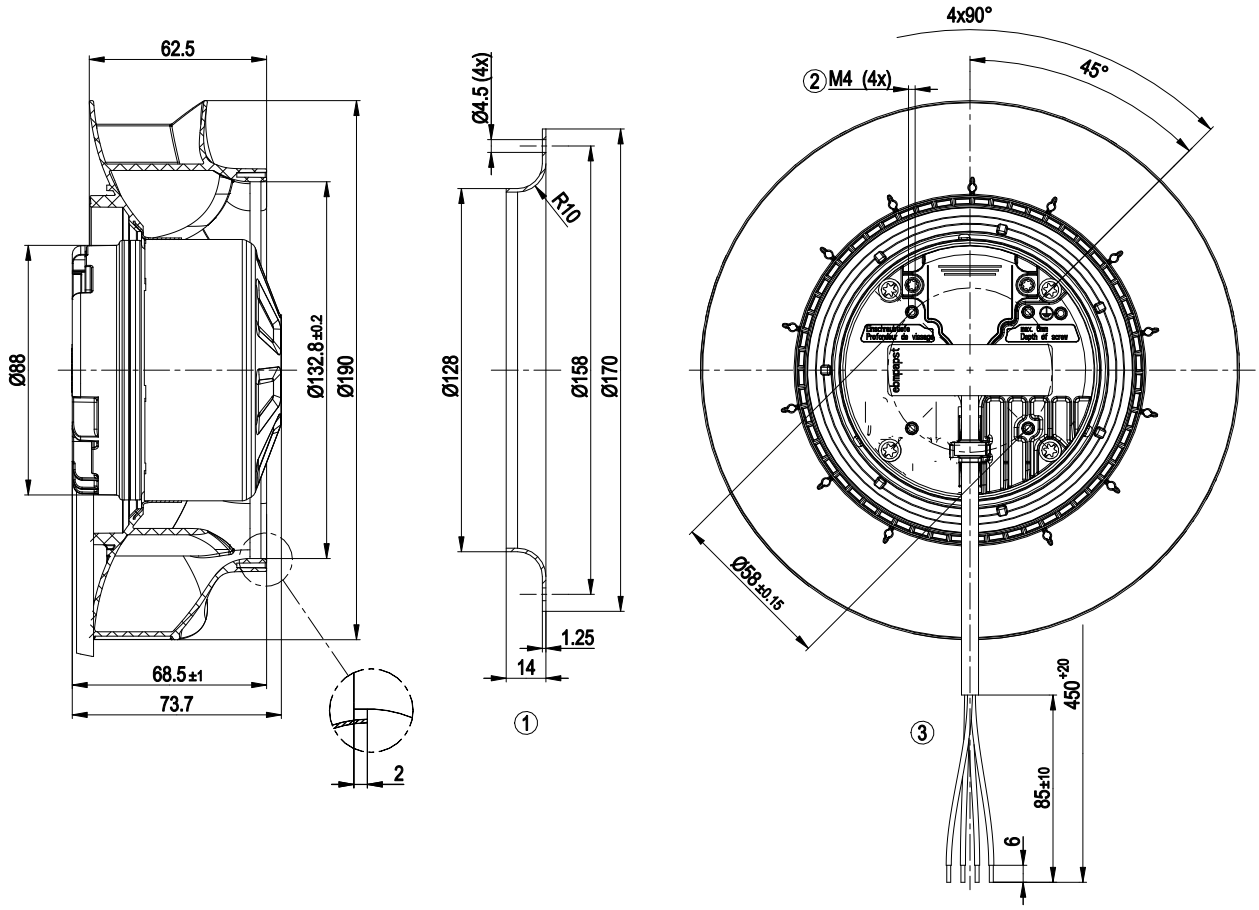
Mass	1.4 kg
Size	190 mm
Motor size	74
Surface of rotor	Galvanised
Material of electronics housing	Die-cast aluminium, coated in black
Material of impeller	PA plastic
Number of blades	7
Direction of rotation	Clockwise, seen on rotor
Protection rating	IP 24 KM
Type of protection	(motor); electronics IP 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 - Temperature derating
Motor protection	Reverse polarity and locked-rotor protection
Cable exit	Axial
Approval	EAC; UL 507

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Product drawing



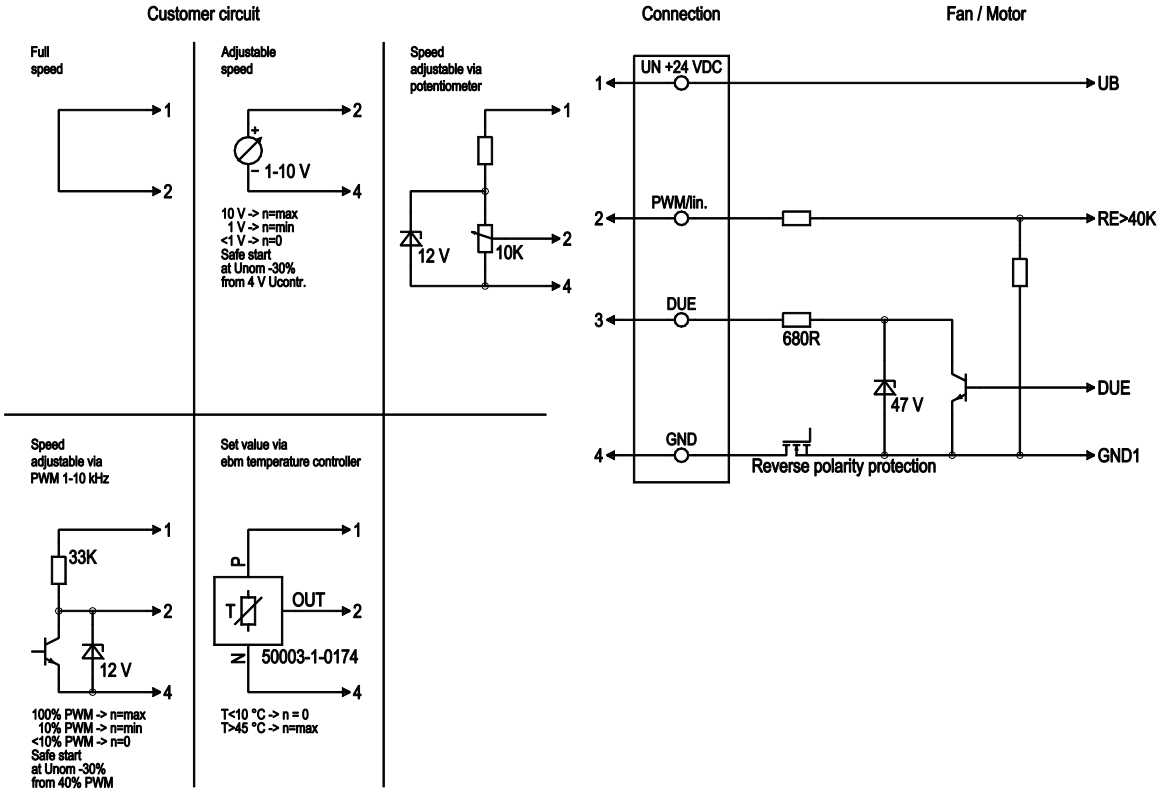
1	Accessory part: Inlet nozzle 09576-2-4013 not included in scope of delivery
2	Thread reach max. 6 mm
3	Connection line PVC 4x AWG18, insulating sleeve, 4x lead tips crimped

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Connection screen



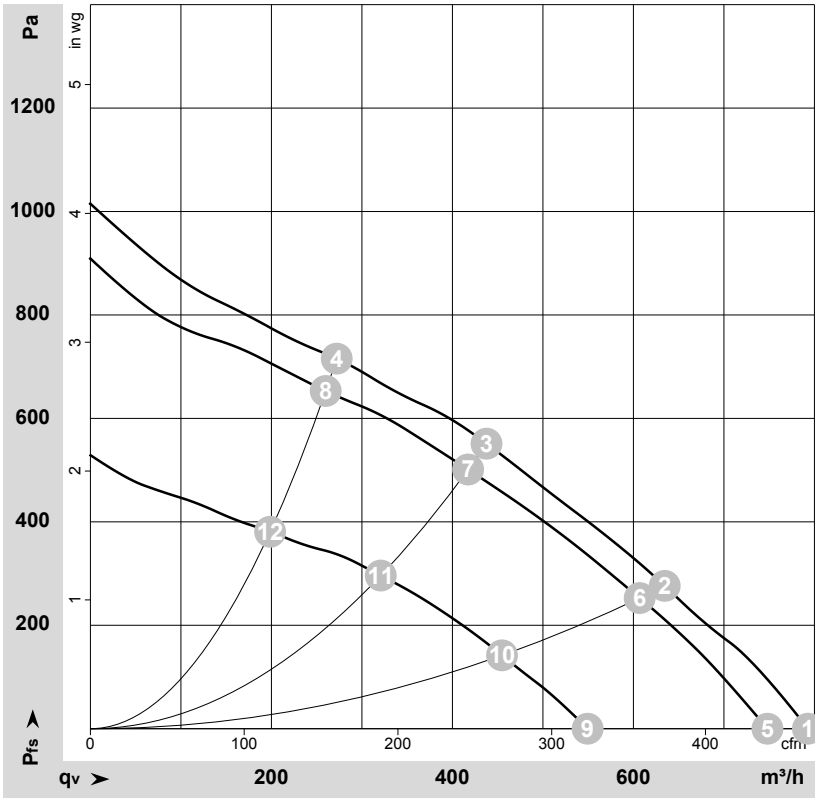
No.	Conn.	Designation	Colour	Function / assignment
	1	UN +24 VDC	red	Power supply 24 VDC, maximum ripple 3.5 %
	2	PWM/LIN	yellow	Control input Re > 40k
	3	DUE	white	Speed monitoring output, 3 pulses per revolution, Isink max = 10 mA
	4	GND	blue	Reference earth

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Charts: Air flow



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-166834-1
Measurement: LU-166809-1
Measurement: LU-166828-1

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	28	4370	148	7.34			795	0	465	0.00
2	28	4250	156	7.79			635	277	375	1.11
3	28	4170	161	8.08			440	551	260	2.21
4	28	4315	153	7.60			270	717	160	2.88
5	24	4120	130	7.00	74	82	750	0	440	0.00
6	24	4080	135	7.25	69	77	605	250	355	1.00
7	24	3995	140	7.54	66	74	415	500	245	2.01
8	24	4130	133	7.12	70	78	260	650	155	2.61
9	16	3165	59	4.62			550	0	325	0.00
10	16	3115	61	4.83			455	142	270	0.57
11	16	3070	64	5.07			320	296	190	1.19
12	16	3150	60	4.73			200	381	115	1.53

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

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