R1G280-RC81-02

EC centrifugal fan - RadiCal

backward curved, single inlet

R1G280-RC81-02 ebmpapst Datasheet
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Nominal data

Type	**R1G280-RC81-02**	
Motor	**M1G074-CF**	
Nominal voltage	VDC	48
Nominal voltage range	VDC	36 .. 57
Type of data definition		fa
State		prelim.
Speed (rpm)	min^{-1}	1710
Power input	W	100
Current draw	A	3.0
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

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Technical features

Mass	2.3 kg
Size	280 mm
Surface of rotor	Galvanised
Material of electronics housing	Die-cast aluminium, coated in black
Material of impeller	Plastic, PP (black)
Number of blades	6
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 24 KM; 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
Condensate discharge 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	Variable
Approval	UL 507; EAC

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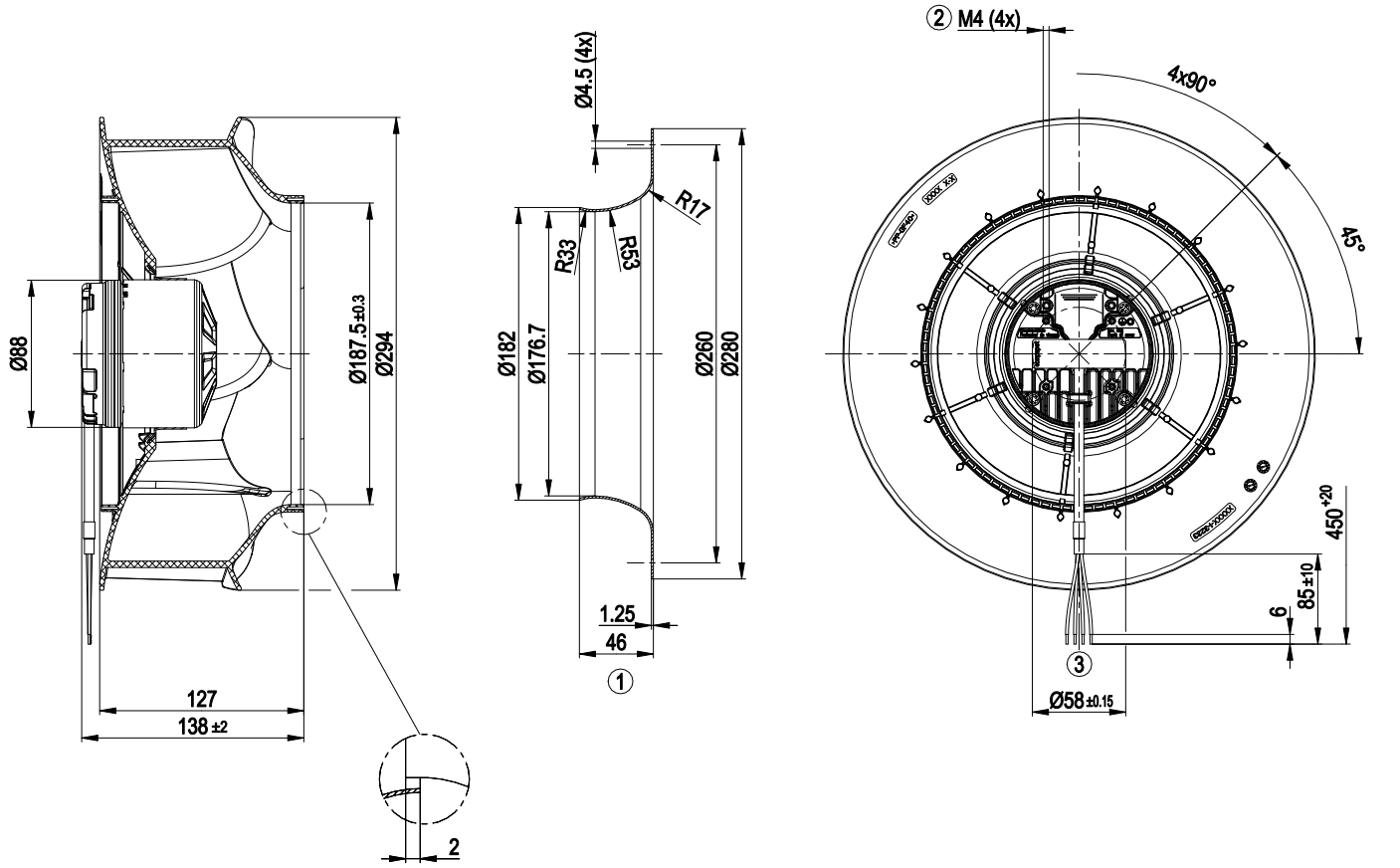
Product drawing



1	Accessory part: Inlet nozzle 28000-2-4013 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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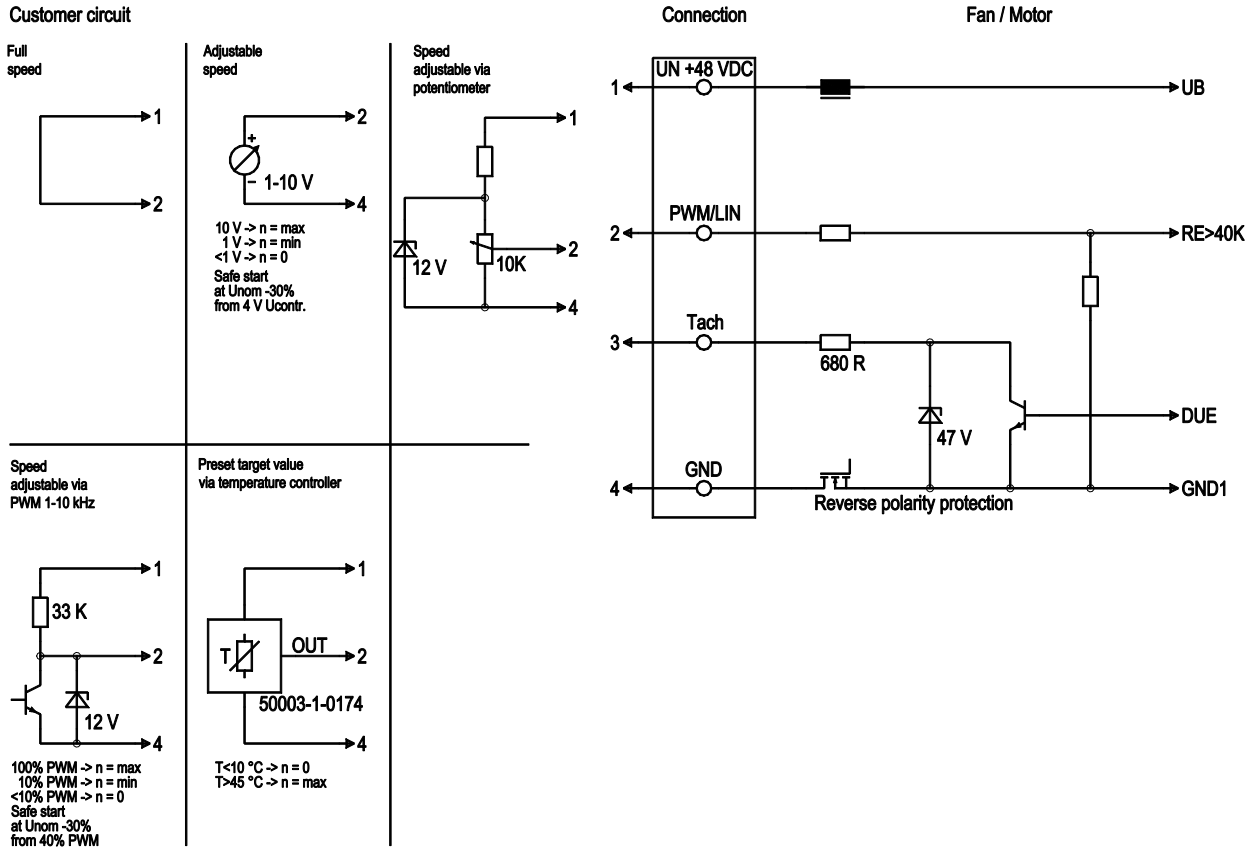
Connection screen



No.	Conn.	Designation	Colour	Function / assignment
1	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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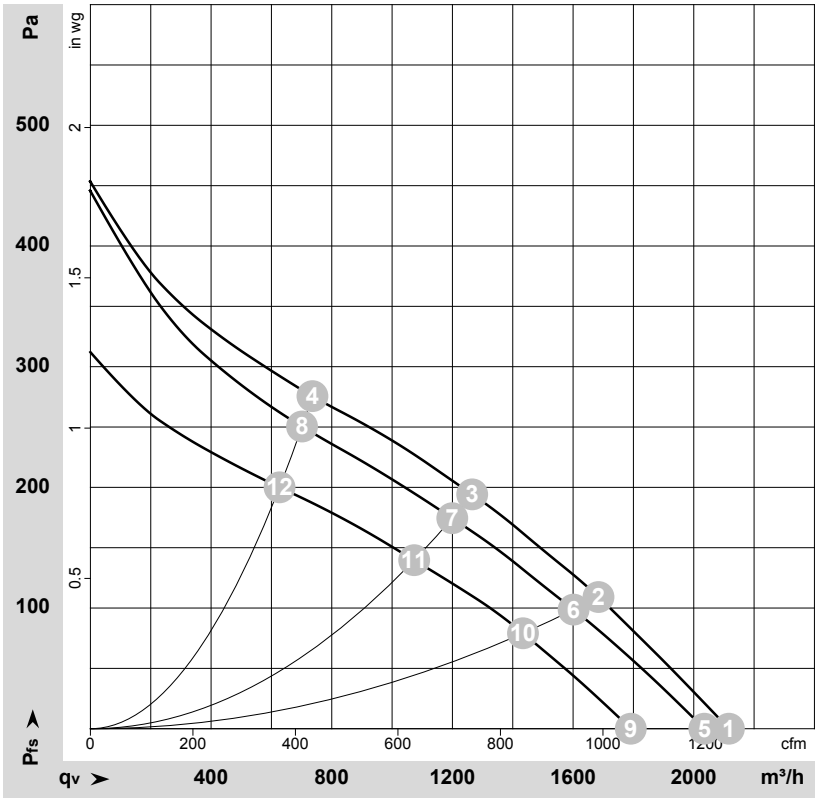
Charts: Air flow



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-164918-1
Measurement: LU-164882-1
Measurement: LU-164917-1

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	inH2O
1	57	1775	118	3.22			2115	0	1245	0.00
2	57	1665	131	3.63			1685	109	990	0.44
3	57	1635	136	3.77			1265	194	745	0.78
4	57	1690	129	3.55			735	275	435	1.10
5	48	1710	100	3.00	63	71	2035	0	1200	0.00
6	48	1590	109	3.27	57	64	1600	100	945	0.40
7	48	1550	110	3.34	53	60	1200	175	705	0.70
8	48	1610	106	3.17	55	63	700	250	415	1.00
9	36	1505	66	2.34			1790	0	1055	0.00
10	36	1415	73	2.61			1435	79	845	0.32
11	36	1385	75	2.70			1075	140	630	0.56
12	36	1430	72	2.57			625	200	370	0.80

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