R3G280-RNB1-02

EC centrifugal fan - RadiCal

backward-curved, single-intake



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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**R3G280-RNB1-02**	
Motor	**M3G074-CF**	
Nominal voltage	VDC	48
Nominal voltage range	VDC	36 .. 57
Method of obtaining data		fa
Speed (rpm)	min^{-1}	1910
Power consumption	W	140
Current draw	A	2.9
Min. ambient temperature	°C	-25
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}	%	67.1	43.1
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		86	62
05 Variable speed drive		Yes	

09 Power consumption P_e	kW	0.16
09 Air flow q_v	m³/h	1205
09 Pressure increase p_{fs}	Pa	287
10 Speed (rpm) n	min^{-1}	1830
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-155541

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Technical description

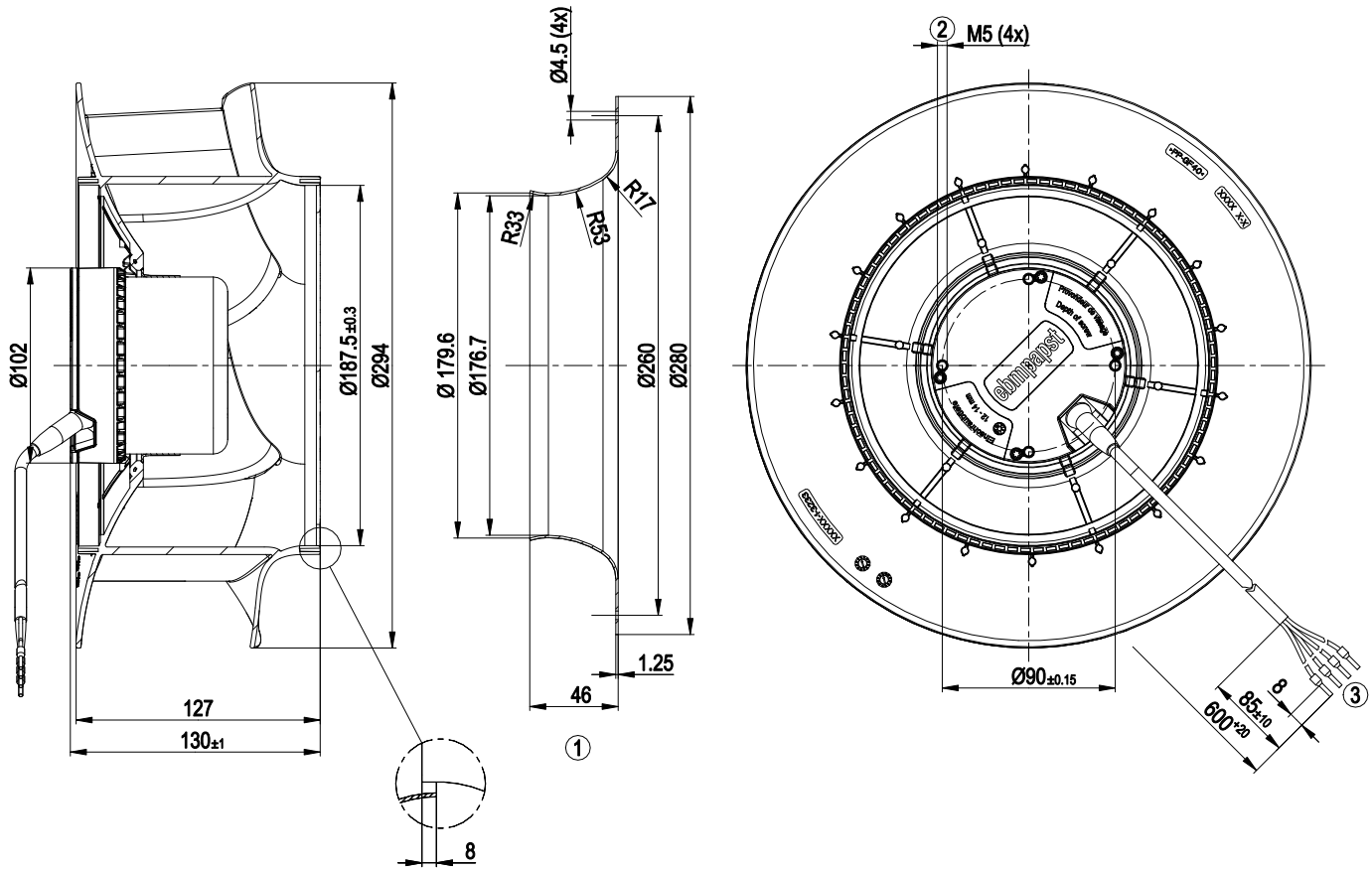
Weight	2.41 kg
Fan size	280 mm
Rotor surface	Painted black
Impeller material	PP plastic
Number of blades	6
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP44; installation- and position-dependent
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	F3-1
Max. permitted ambient temp. for motor (transport/storage)	+80 °C
Min. permitted ambient temp. for motor (transport/storage)	-40 °C
Installation position	Shaft horizontal or rotor on top; rotor on bottom on request
Condensation drainage holes	None
Mode	S1
Motor bearing	Ball bearing
Technical features	- Tach output - Motor current limitation - Soft start - Control input 0-10 VDC / PWM - Overvoltage detection
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC interference emission	According to EN 55022 (Class B, household environment)
Motor protection	Reverse polarity and locked-rotor protection
With cable	Variable
Conformity with standards	EN 60950-1
Approval	EAC; CCC

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Product drawing



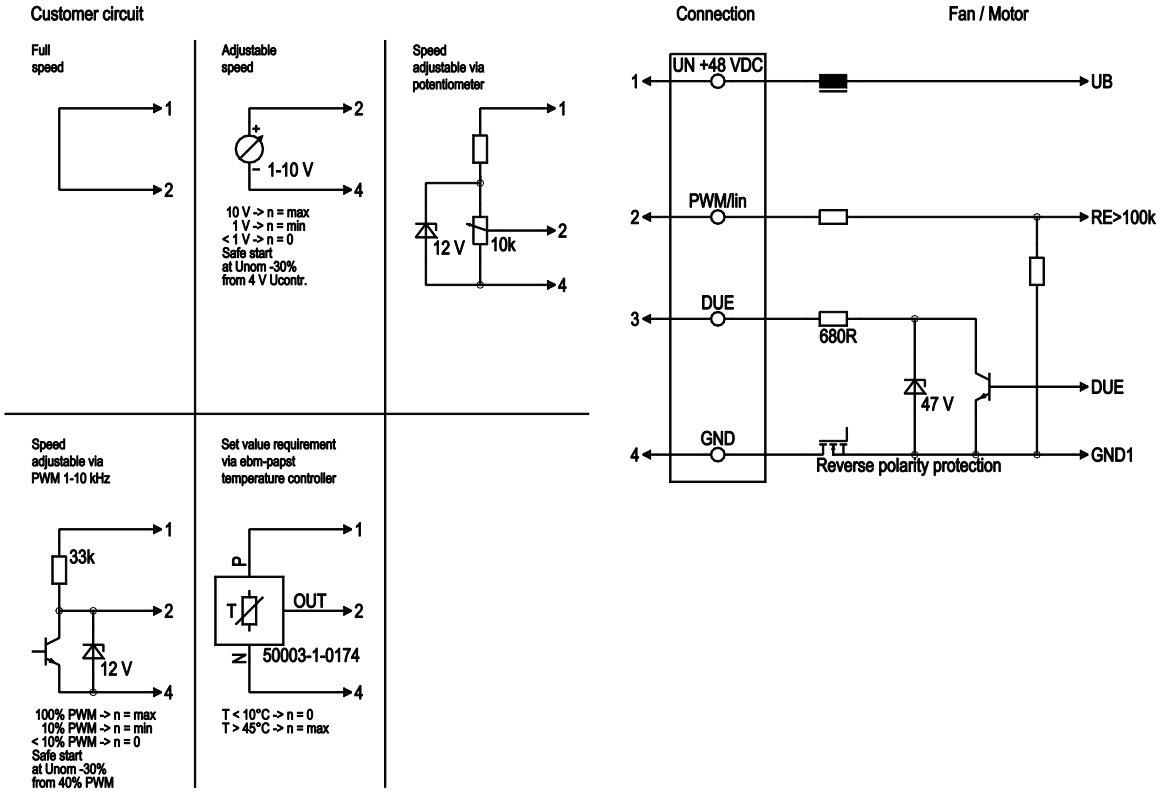
1	Accessory part: inlet ring 28000-2-4013 not included in scope of delivery
2	Max. clearance for screw 14 mm
3	Cable PVC AWG 16, 4x crimped ferrules

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Connection diagram



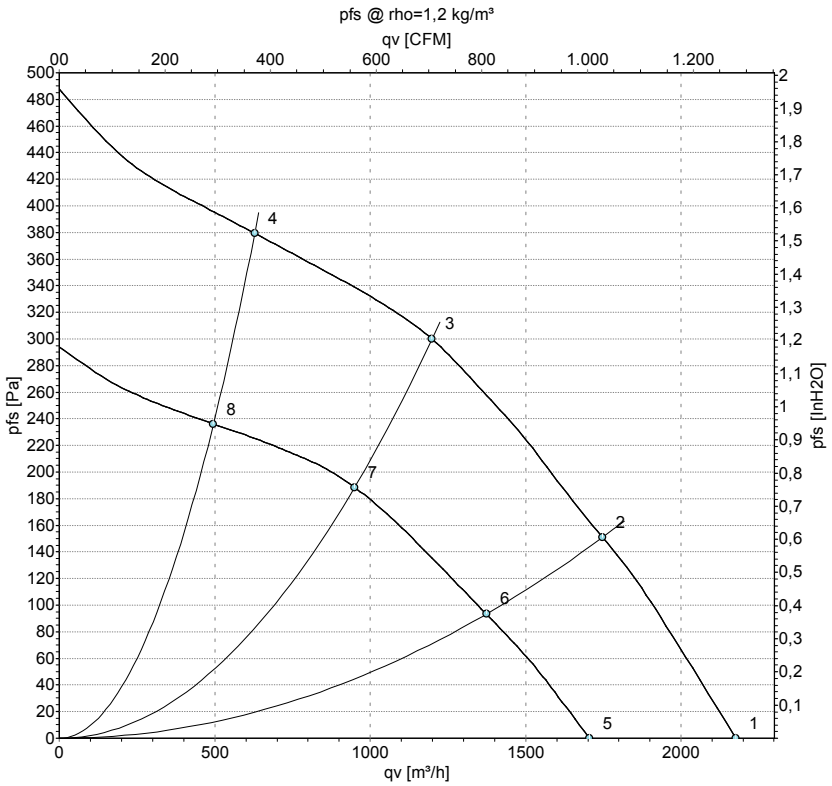
No.	Conn.	Designation	Color	Function/assignment
	1	Un +48 VDC	red	Power supply 48 VDC, maximum ripple 3.5%
	2	0-10 VDC	yellow	Control input Re > 100 K
	3	Tach	white	Tach output, 3 pulses per revolution, Isink max = 10 mA
	4	GND	blue	Reference ground

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Curves: Air performance



Measurement: LU-155541-1
Measurement: LU-155543-1

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	LwA_{in}	qv	p_{fs}	qv	p_{fs}
	V	min^{-1}	W	A	dB(A)	m^3/h	Pa	CFM	inH2O
1	48-57	1910	140		74	2175	0	1280	0.00
2	48-57	1845	158		67	1745	150	1030	0.60
3	48-57	1830	163		64	1200	300	705	1.20
4	48-57	1900	141		68	630	380	370	1.53
5	36	1505	69	1.92		1705	0	1005	0.00
6	36	1475	79	2.19		1375	93	810	0.37
7	36	1460	82	2.30		950	189	560	0.76
8	36	1505	70	1.94		495	236	290	0.95

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

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