R3G280-RV70-10

EC centrifugal fan - RadiCal

backward-curved, single-intake

for rail applications

R3G280-RV70-10 ebmpapst Datasheet
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Limited partnership · Headquarters Mulfingen
Amtsgericht (court of registration) Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen
Amtsgericht (court of registration) Stuttgart · HRB 590142

Nominal data

Type	**R3G280-RV70-10**	
Motor	**M3G074-CF**	
Nominal voltage	VDC	110
Nominal voltage range	VDC	77 .. 137
Method of obtaining data		ml
Speed	min-1	1670
Power consumption	W	135
Current draw	A	1.25
Min. ambient temperature	°C	-40
Max. ambient temperature	°C	50

ml = Max. load · me = Max. efficiency · fa = Free air · cs = Customer specification · ce = Customer equipment
Subject to change

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Technical description

Weight	2.8 kg
Fan size	280 mm
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	PA plastic, sheet-metal plate painted black
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP44; installation- and position-dependent as per EN 60034-5
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	F3-1
Max. permitted ambient temp. for motor (transport/storage)	+ 70 °C
Min. permitted ambient temp. for motor (transport/storage)	- 40 °C
Installation position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensation drainage holes	On rotor side
Mode	S1
Motor storage	Ball bearing with low-temperature lubricant
Technical features	- Output 10 VDC, max. 10 mA - Operation and alarm display - Alarm relay - Run monitoring - Motor current limitation - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Thermal overload protection for electronics
EMC regulations	According to EN 50121-3-2
Motor protection	Thermal overload protector (TOP) internally connected
With cable	Variable
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 15085-1, CPC3: 2007; EN 45545-2, R22/R23, HL3: 2013; EN 50155: 2007; EN 61373, Cat. 1B: 2010

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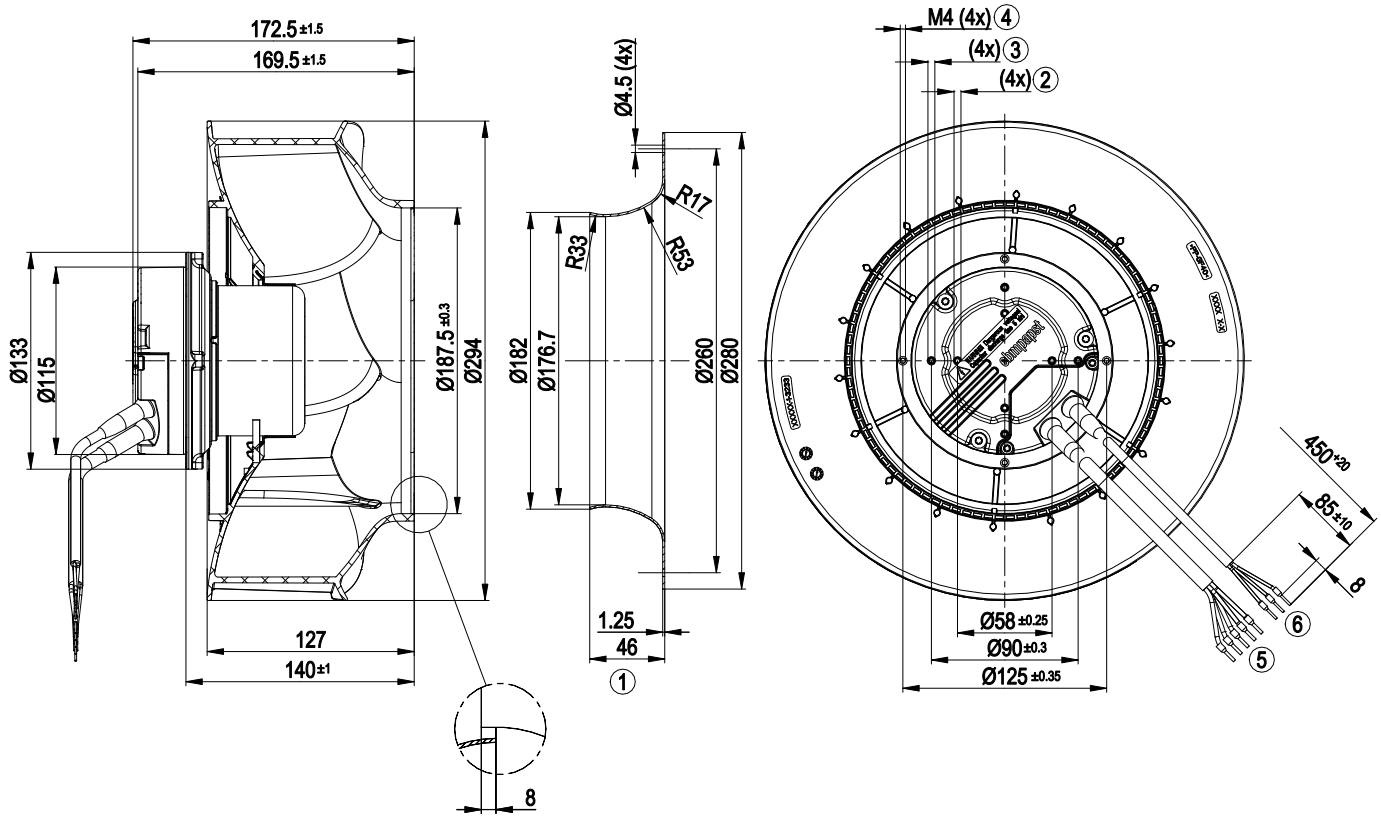
Product drawing



1	Accessory part: inlet ring 28000-2-4013 not included in scope of delivery
2	Tapping hole ready for self-tapping M4 screw, max. clearance for screw 8 mm
3	Tapping hole ready for self-tapping M4 screw, max. clearance for screw 6 mm
4	Clearance for screw 8-10 mm
5	Cable halogen-free XLPE/XLPO 5G 1.00 mm², 5x crimped ferrules
6	Cable halogen-free XLPE/XLPO, 3x 0.33 mm², 3x crimped ferrules

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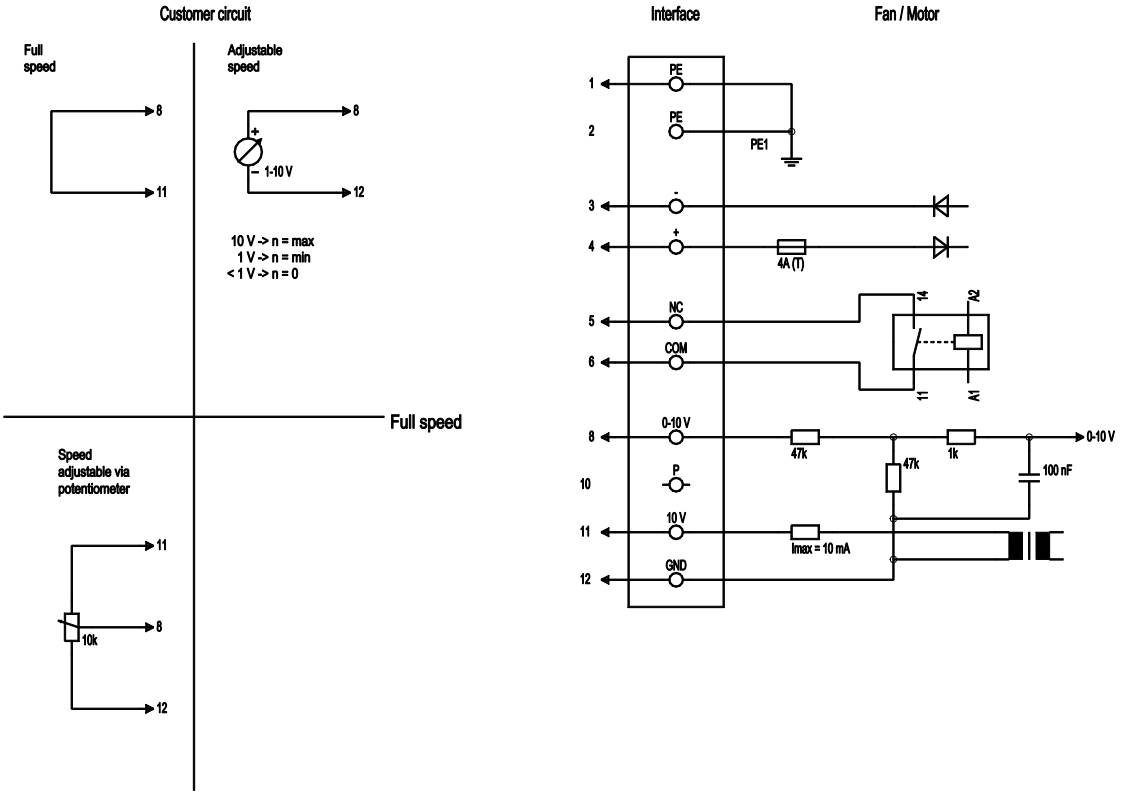
Connection diagram



No.	Conn.	Designation	Color	Function/assignment
1	1	PE	green/yellow	Protective earth
1	3	-	blue	Power supply, GND (110 VDC)
1	4	+	red	Power supply, 110 VDC
1	5	NC	white 2	Floating status contact (0.3 A - 110 VDC, 1 A - 60 VDC, 3 A - 30 VDC), closed at n >= 100 rpm, break for failure
1	6	COM	white 1	Floating status contact, closed at n >= 100 rpm, break for failure
2	8	0-10 V	yellow	Control input, set value 0-10 VDC, impedance 100 kΩ, SELV
2	11	10 VDC	red	Voltage output 10 VDC (±3%), max. 10 mA, power supply for external devices (e.g. potentiometer), SELV
2	12	GND	blue	Reference ground for control interface (SELV)

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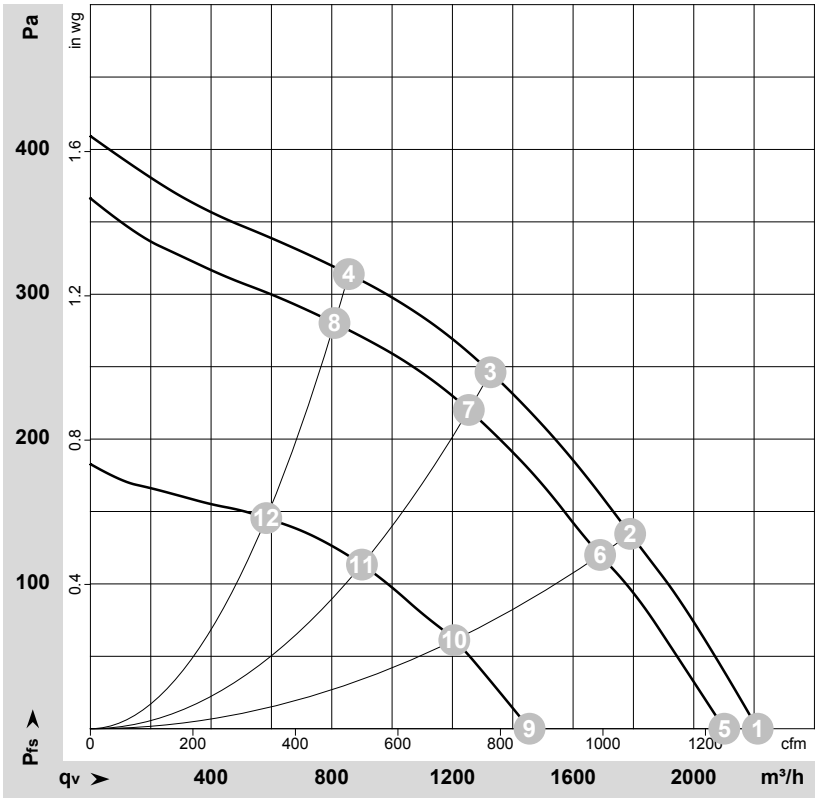
Curves: Air performance



ρ = 1,15 kg/m³ ± 2%

Measurement: LU-170613
Measurement: LU-170589
Measurement: LU-170612

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	LpA_{in}	LwA_{in}	qv	p_{fs}
	V	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa
1	137	1835	129	0.94	66	73	2210	0
2	137	1795	150	1.10	60	67	1790	135
3	137	1770	160	1.17	57	64	1325	246
4	137	1790	150	1.09	57	65	855	314
5	110	1730	109	0.99	64	71	2100	0
6	110	1690	126	1.15	59	66	1690	120
7	110	1670	135	1.25	56	63	1255	220
8	110	1695	129	1.18	56	63	810	280
9	77	1240	42	0.55			1455	0
10	77	1215	52	0.67			1205	62
11	77	1210	53	0.69			900	114
12	77	1220	50	0.65			585	145

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

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