EC centrifugal fan - RadiCal

backward-curved, single-intake

R3G220-RG21-06 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	**R3G220-RG21-06**
Motor	**M3G055-CF**

Phase		1~
Nominal voltage	VAC	115
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min^{-1}	2430
Power consumption	W	73
Current draw	A	1
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

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Technical description

Weight	1.4 kg
Fan size	220 mm
Impeller material	PA plastic
Number of blades	7
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP44
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	Any
Condensation drainage holes	None, open rotor
Cooling hole/opening	On rotor side
Mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 1.1 mA - Tach output - Motor current limitation - Soft start - Control input 0-10 VDC / PWM
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC circuit feedback	According to EN 61000-3-2/3
EMC interference emission	According to EN 61000-6-3 (household environment)
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Motor protection	Thermal overload protector (TOP) internally connected
With cable	Variable
Protection class	I (with customer connection of protective earth)
Approval	UL 2111; CSA C22.2 No. 77

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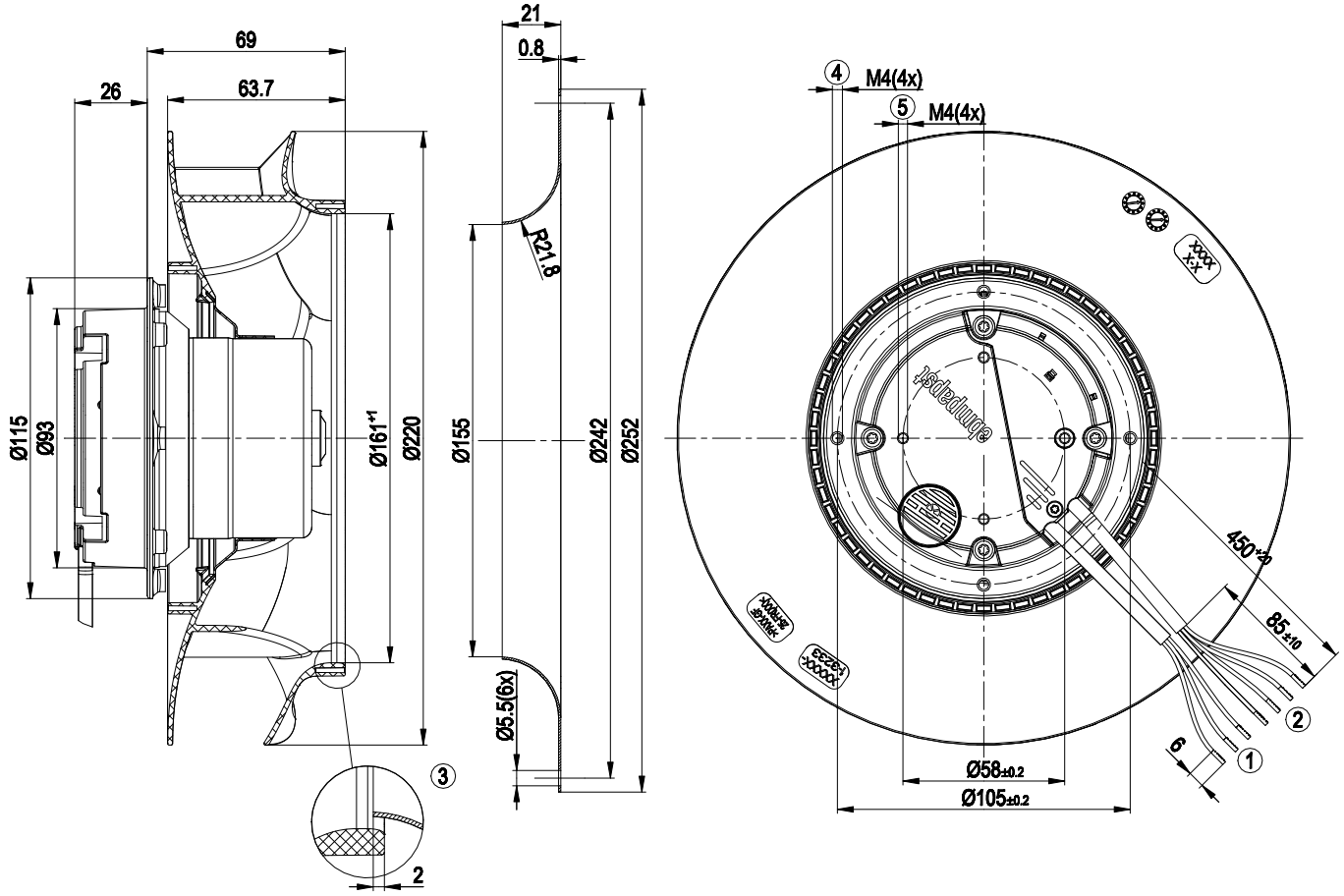
Product drawing



1	Cable PVC 3G 0.5 mm², 3x crimped splices
2	Cable PVC 4x 0.25 mm², 4x crimped splices
3	Accessory part: inlet ring 09609-2-4013 not included in scope of delivery
4	Max. clearance for screw 6 mm
5	Max. clearance for screw 6 mm

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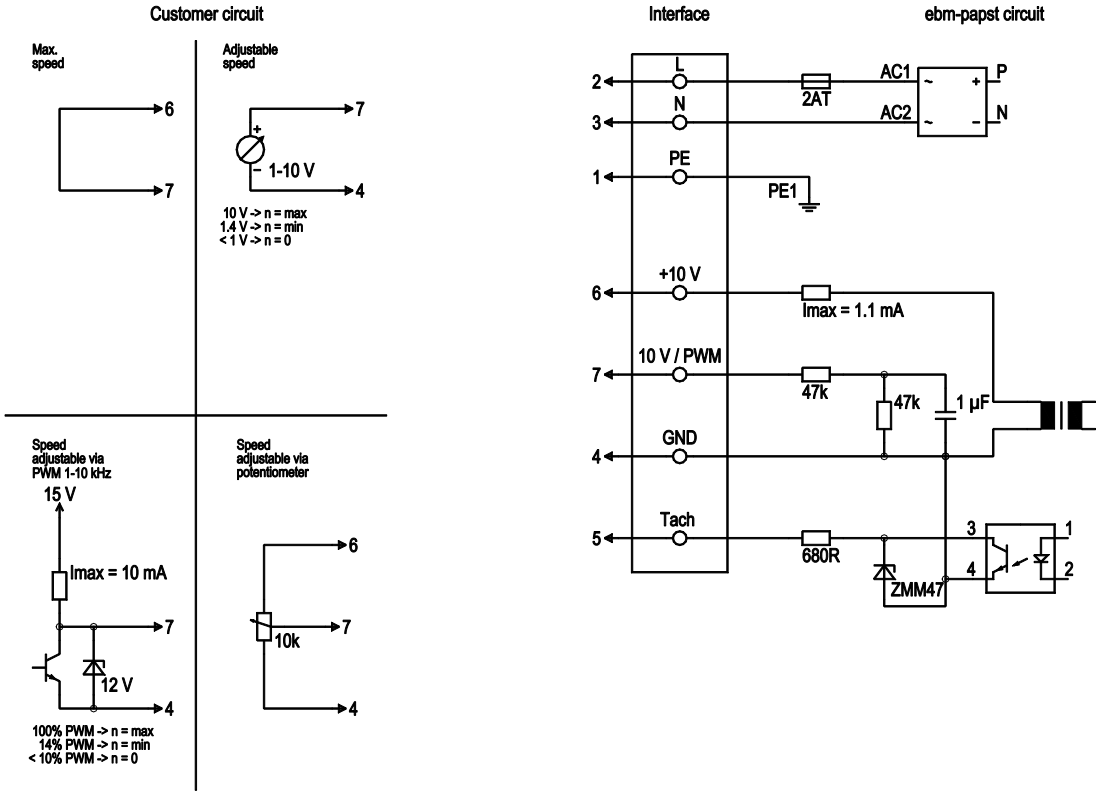
Connection diagram



No.	Conn.	Designation	Color	Function/assignment
	1	PE	green/yellow	Protective earth
	2	L	brown	Power supply 115 VAC, 50-60 Hz, see nameplate for voltage range
	3	N	blue	Neutral conductor
	4	GND	blue	GND connection for control interface
	5	Tach	white	Tach output: open collector, 1 pulse per revolution, electrically isolated
	6	10V/ max. 1,1mA	red	Voltage output 10 V / 1.1mA, electrically isolated
	7	0-10V PWM	yellow	Control input 0-10 V or PWM, electrically isolated

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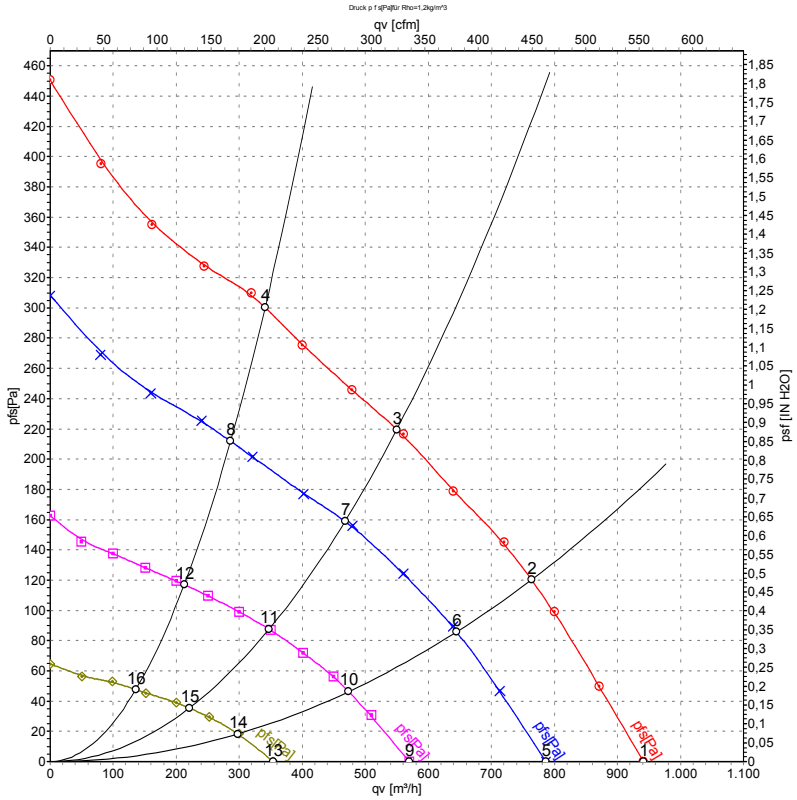
Curves: Air performance 50 Hz



Measurement: LU-138304-1
Measurement: LU-138305-1
Measurement: LU-138306-1
Measurement: LU-138307-1

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	f	n	P_{ed}	I	qv	p_{fs}	qv	p_{fs}
	V	Hz	min^{-1}	W	A	m^3/h	Pa	CFM	inH2O
1	115	50	2525	59	0.80	940	0	555	0.00
2	115	50	2440	67	0.90	765	120	450	0.48
3	115	50	2430	73	1.00	550	220	325	0.88
4	115	50	2440	69	0.92	340	300	200	1.20
5	115	50	2120	36	0.51	785	0	465	0.00
6	115	50	2045	41	0.58	645	87	380	0.35
7	115	50	2010	45	0.62	470	159	275	0.64
8	115	50	2040	43	0.59	285	212	170	0.85
9	115	50	1565	16	0.26	570	0	335	0.00
10	115	50	1530	19	0.29	475	46	280	0.18
11	115	50	1505	21	0.32	345	88	205	0.35
12	115	50	1520	19	0.29	215	117	125	0.47
13	115	50	1000	6.2	0.11	355	0	210	0.00
14	115	50	980	6.8	0.12	300	19	175	0.08
15	115	50	970	7.1	0.13	220	35	130	0.14
16	115	50	975	6.8	0.12	135	48	80	0.19

U = Power supply · f = Frequency · n = Speed (rpm) · P_{ed} = Power consumption · I = Current draw · qv = Air flow · p_{fs} = Pressure increase

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