R3G190-RV65-01

EC centrifugal fan - RadiCal

backward-curved, single-intake

for rail applications



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Nominal data

Type	**R3G190-RV65-01**
Motor	**M3G074-BF**

Nominal voltage	VDC	110
Method of obtaining data		ml
Speed (rpm)	min^{-1}	3950
Power consumption	W	155
Current draw	A	1.4
Min. ambient temperature	°C	-40
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 Commission Regulation (EU) 327/2011 (EN 17166)

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	45.6	42.9
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		64.7	62
05 Variable speed drive		Yes	

09 Power consumption P_e	kW	0.15
09 Air flow q_v	m^3/h	410
09 Pressure increase p_{fs}	Pa	532
10 Speed (rpm) n	min^{-1}	3975
11 Specific ratio*		1.01

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-159560

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Technical description

Weight	1.87 kg
Size	190 mm
Motor size	74
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	PA plastic UL94 V0
Number of blades	7
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP44; installation- and position-dependent
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	H3
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	- Output 10 VDC, max. 10 mA - Alarm relay - Run monitoring - Power limiter - Motor current limitation - Soft start - Control input 0-10 VDC / PWM - Thermal overload protection for electronics/motor - Reverse polarity protection
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, HL3: 2013; EN 50155: 2008; EN 61373, Cat. 1B: 2010; CE
Approval	EAC
Comment	Only suitable for indoor use; if supply potential (e.g. 230 VAC) is passed through the alarm relay, the SELV signal wires lose their property of reinforced insulation and they then have only basic insulation The SELV property (reinforced insulation) is not lost when voltages of up to 110 VDC are passed through the alarm relay.

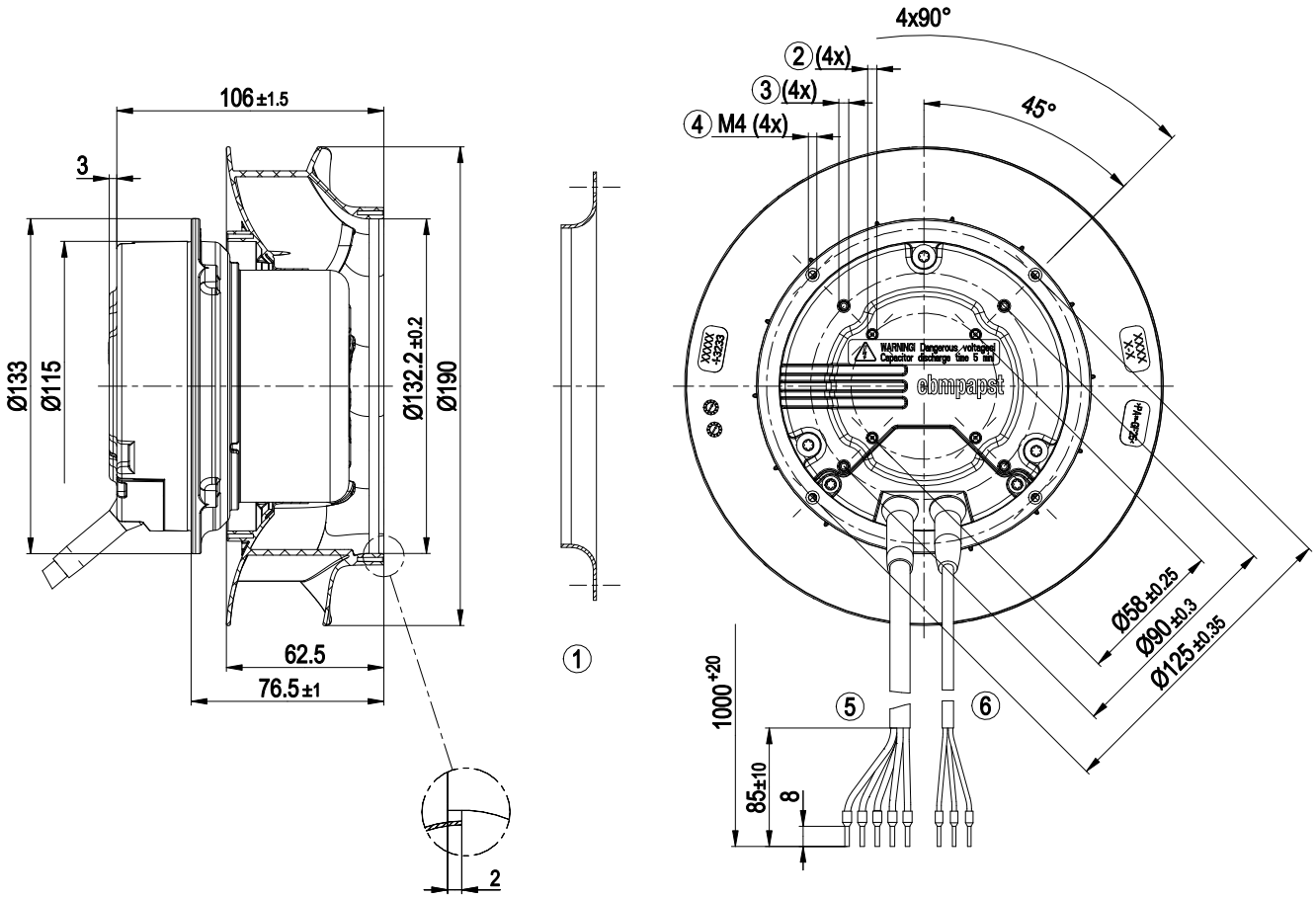
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Product drawing



1	Accessory part: inlet ring 09576-2-4013 not included in scope of delivery
2	Tapping hole prepared for self-tapping M4 screw, max. screw-in depth 8 mm
3	Tapping hole prepared for self-tapping M4 screw, max. screw-in depth 6 mm
4	Max. clearance for screw 10 mm
5	Cable, halogen-free, railway application EN 45545, 5G 1.0 mm²
	5x wire-end ferrule
6	Cable, halogen-free, railway application EN 45545, 3x 0.33 mm²
	3x wire-end ferrule

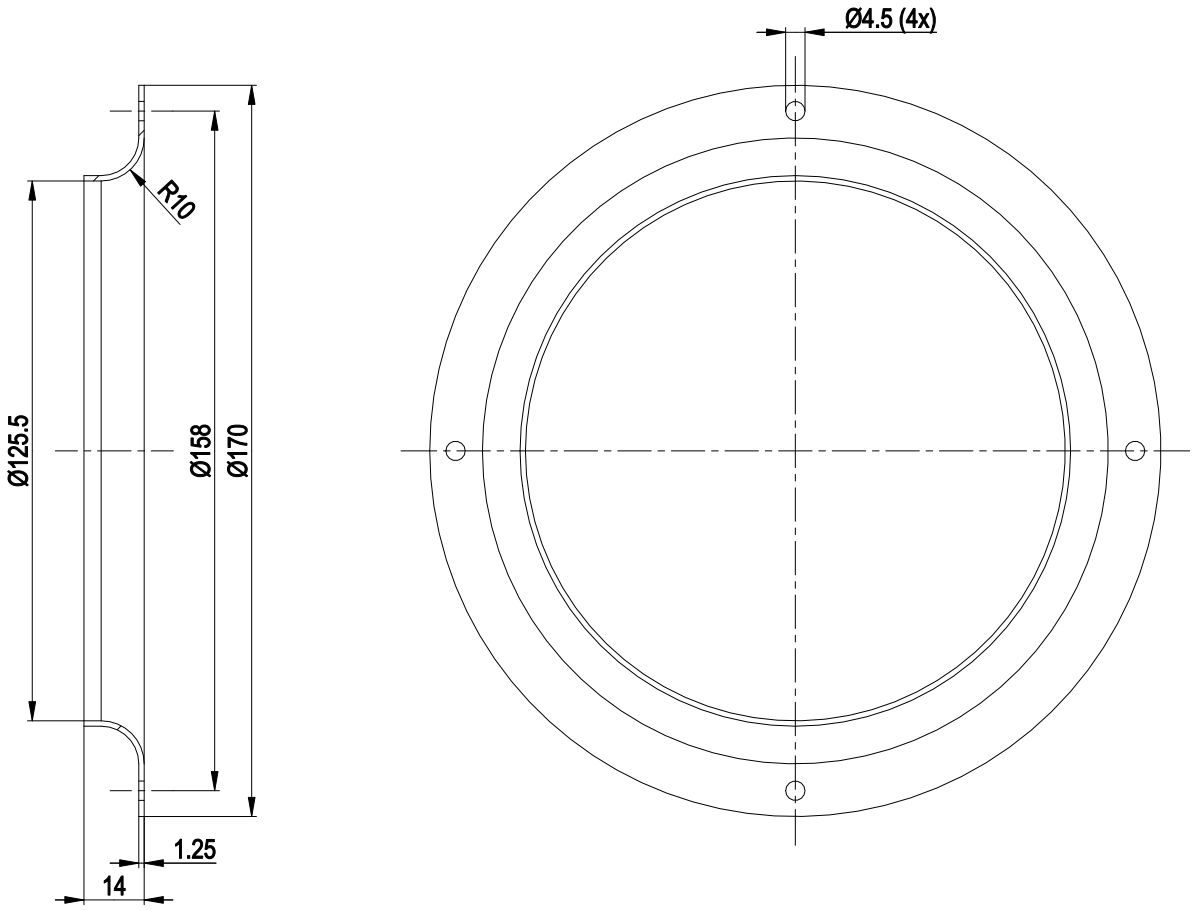
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Accessory part



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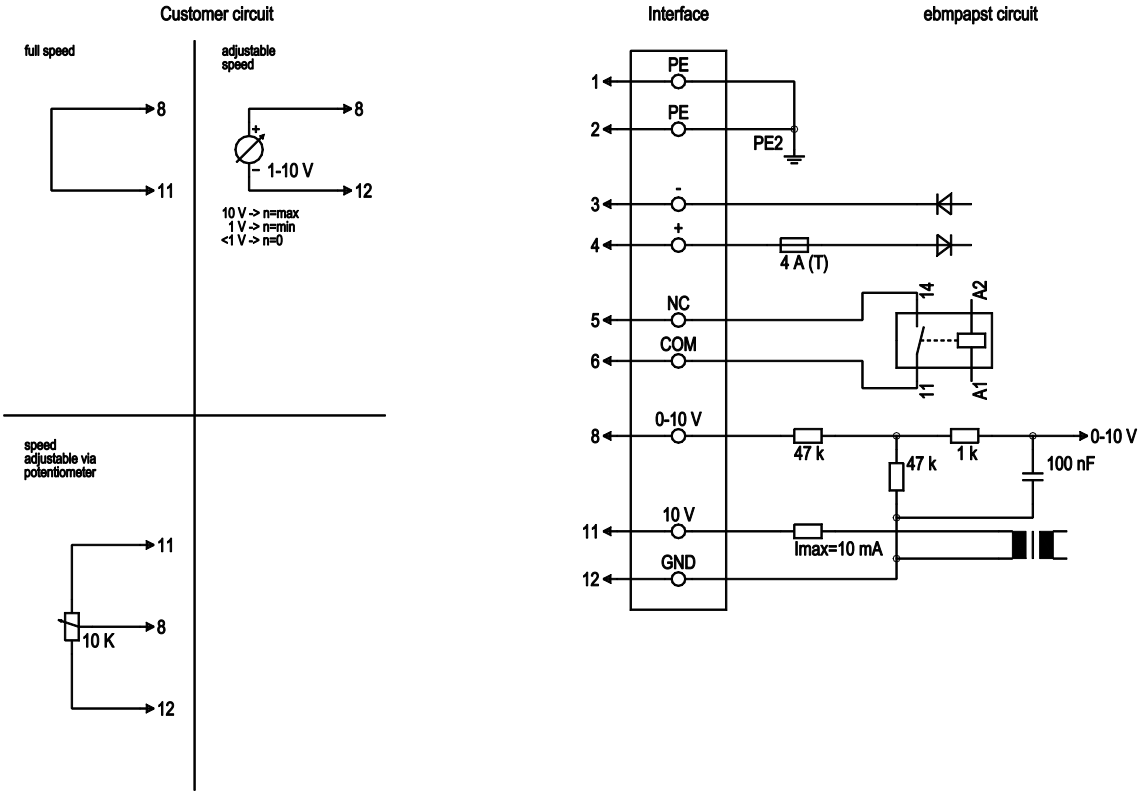
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Connection diagram



No.	Conn.	Designation	Color	Function/assignment
1	1, 2	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)

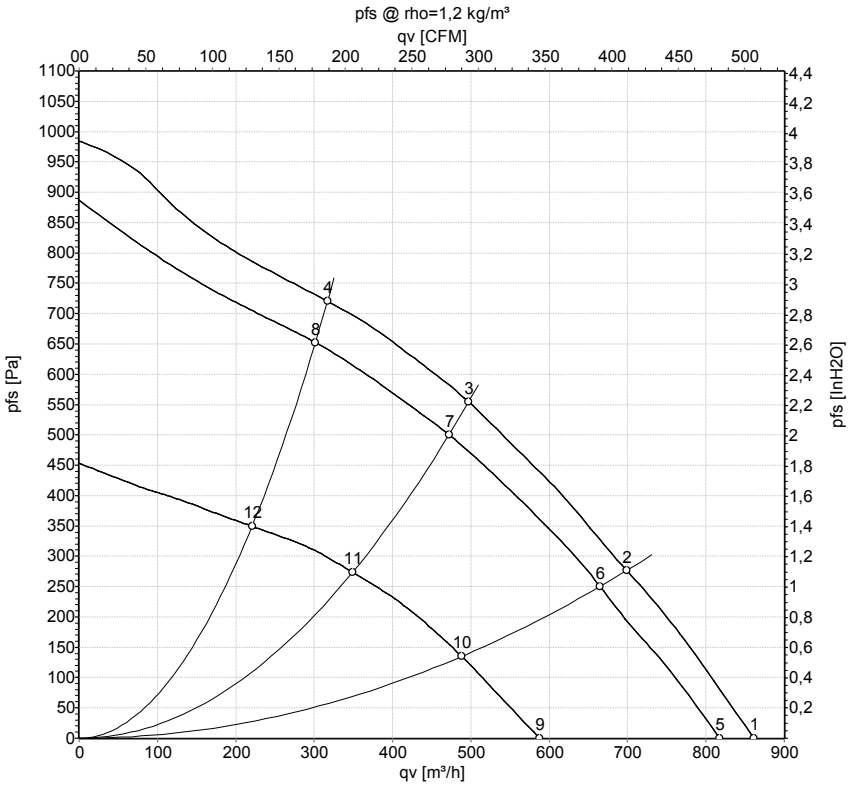
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Curves: Air performance



Measurement: LU-159693-1
Measurement: LU-159560-1
Measurement: LU-159692-1

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	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	138	4330	151	1.10			860	0	505	0.00
2	138	4220	165	1.20			700	276	410	1.11
3	138	4150	173	1.26			495	557	295	2.24
4	138	4250	164	1.19			315	721	185	2.89
5	110	4130	131	1.19	69	77	815	0	480	0.00
6	110	4015	146	1.33	67	74	665	250	390	1.00
7	110	3950	155	1.40	66	73	470	500	280	2.01
8	110	4025	144	1.32	68	75	300	650	180	2.61
9	77	3010	55	0.71			590	0	345	0.00
10	77	2970	61	0.79			490	135	285	0.54
11	77	2935	68	0.88			350	274	205	1.10
12	77	2965	61	0.79			220	349	130	1.40

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

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