

EC centrifugal fan

backward-curved, single-intake

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Amtsgericht (court of registration) Stuttgart · HRB 590142

Nominal data

Type	R1G190-AB27-02	
Motor	M1G055-CF	
Nominal voltage	VDC	24
Nominal voltage range	VDC	16 .. 28
Method of obtaining data		fa
Speed (rpm)	min ⁻¹	2950
Power consumption	W	51
Current draw	A	2.3
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	40

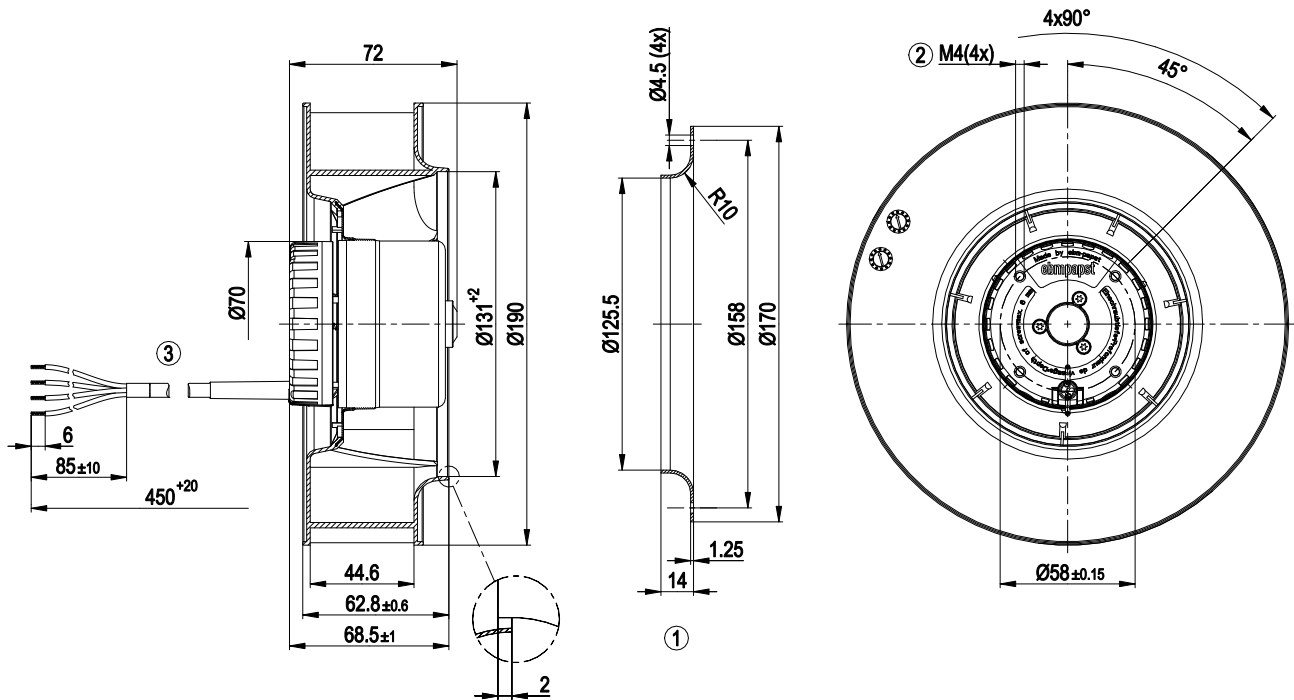
ml = Max. load · me = Max. efficiency · fa = Free air · cs = Customer specification · ce = Customer equipment
Subject to change



Technical description

Weight	1 kg
Fan size	190 mm
Rotor surface	Painted black
Impeller material	PA plastic
Number of blades	7
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP20; installation- and position-dependent
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	F0
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
Mode	S1
Motor bearing	Ball bearing
Technical features	- Tach output - Motor current limitation - Soft start - Control input 0-10 VDC / PWM
Motor protection	Reverse polarity and locked-rotor protection
With cable	Variable
Conformity with standards	EN 60950-1
Approval	EAC

Product drawing

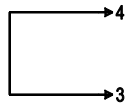


- | | |
|---|---|
| 1 | Accessory part: inlet ring 09576-2-4013 not included in scope of delivery |
| 2 | Max. clearance for screw 6 mm |
| 3 | Cable PVC AWG20, 4x crimped splices |

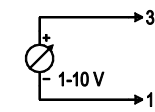
Connection diagram

Customer circuit

Full speed

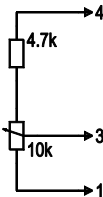


Adjustable speed

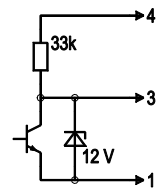


10 V → n = max
1 V → n = min
< 1 V → n = 0
Safe start
at Unom -30%
from 4 V Ucontr.

Speed adjustable with fixed resistor

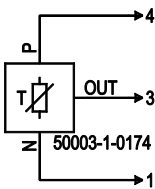


Speed adjustable via PWM 1-10 kHz



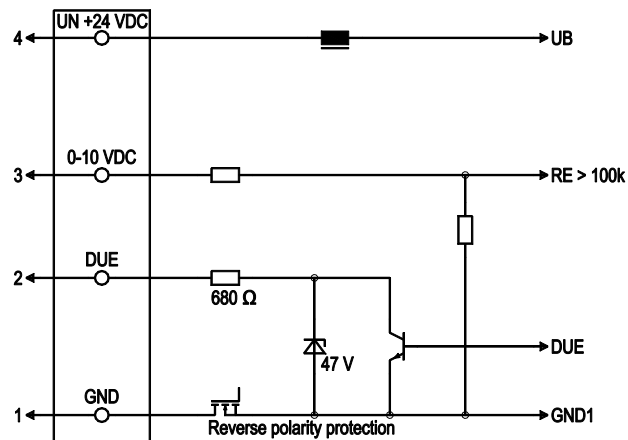
100% PWM → n = max
10% PWM → n = min
< 10% PWM → n = 0
Safe start
at Unom -30%
from 40% PWM

Set value requirement via temperature controller



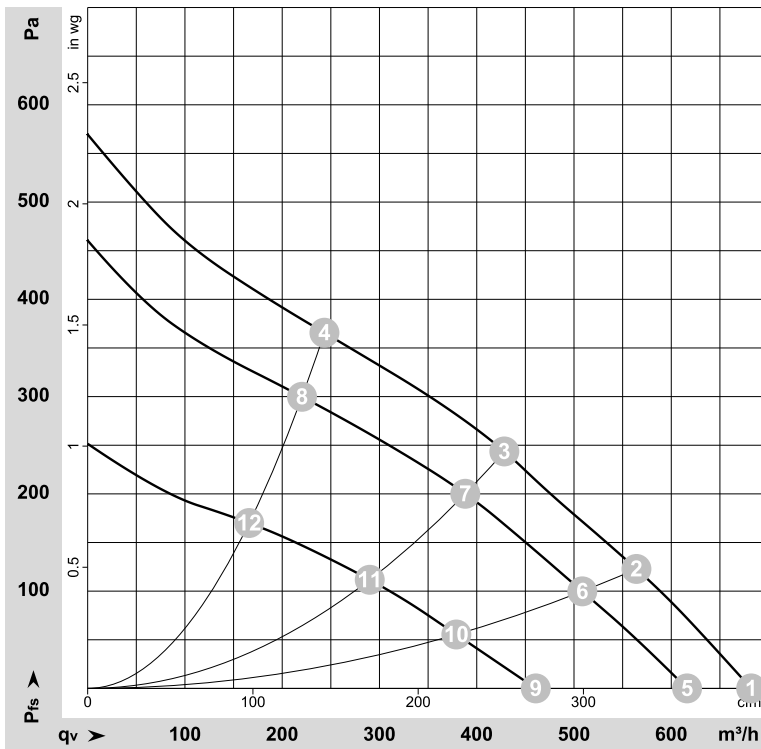
Connection

Fan / Motor



No.	Conn.	Designation	Color	Function/assignment
1	1	GND	blue	Reference ground
1	2	Tach	white	Tach output, 2 pulses per revolution, Isink max = 10 mA
1	3	0-10 VDC	yellow	Control input Re > 100k
1	4	Un +24 VDC	red	Power supply 24 VDC, maximum ripple 3.5%

Curves: Air performance



$$\rho = 1.15 \text{ kg/m}^3 \pm 2 \%$$

Measurement: LU-51392-1
 Measurement: LU-51390-1
 Measurement: LU-51393-1

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	q_v	P_{fs}	q_v	P_{fs}
	V	min ⁻¹	W	A	m ³ /h	Pa	CFM	inH ₂ O
1	28	3250	68	2.69	680	0	400	0.00
2	28	3160	72	2.86	565	123	330	0.49
3	28	3100	74	2.95	430	245	250	0.98
4	28	3180	71	2.82	245	366	145	1.47
5	24	2950	51	2.30	615	0	365	0.00
6	24	2865	53	2.45	510	100	300	0.40
7	24	2815	55	2.55	390	200	230	0.80
8	24	2875	53	2.43	220	300	130	1.20
9	16	2185	22	1.58	460	0	270	0.00
10	16	2145	23	1.65	380	55	225	0.22
11	16	2120	24	1.71	290	112	170	0.45
12	16	2155	23	1.64	165	170	100	0.68

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



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