

EC centrifugal fan

backward-curved, single-intake

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General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen

Amtsgericht (court of registration) Stuttgart · HRB 590142

Nominal data

Type	R1G175-AB63-02	
Motor	M1G055-BD	
Nominal voltage	VDC	24
Nominal voltage range	VDC	16 .. 28
Method of obtaining data		fa
Speed (rpm)	min ⁻¹	3100
Power consumption	W	34
Current draw	A	1.6
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	60

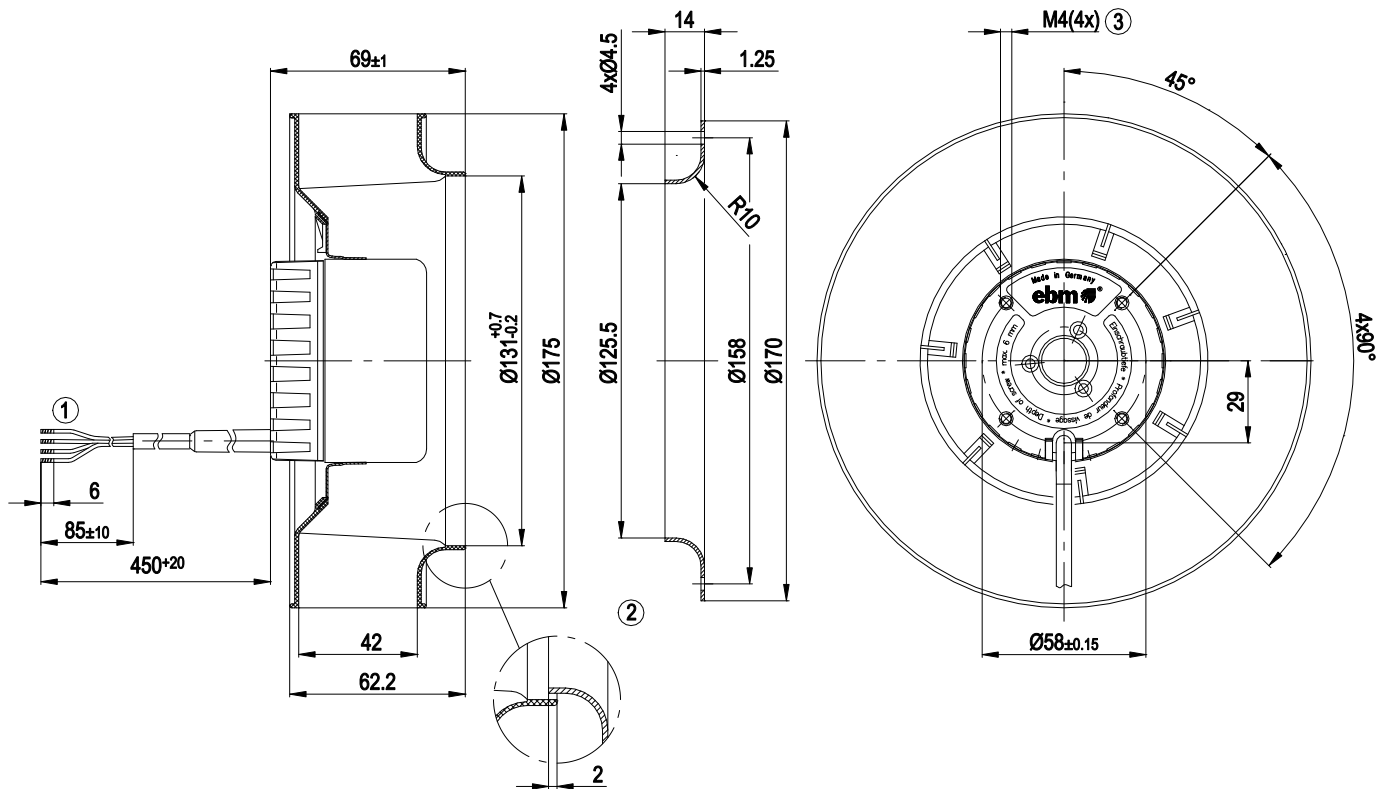
ml = Max. load · me = Max. efficiency · fa = Free air · cs = Customer specification · ce = Customer equipment
Subject to change



Technical description

Weight	0.74 kg
Size	175 mm
Motor size	55
Rotor surface	Thick-film passivated
Impeller material	PA 6.6 plastic, glass-fiber reinforced
Number of blades	7
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP20
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	H0 - dry environment
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 - Reverse polarity protection
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC interference emission	According to EN 55022 (Class B, household environment)
With cable	Variable
Protection class assignment	III; Requires supply with safety extra-low voltage SELV. This component for installation may have several local protection classes. This information relates to this component's basic design. The final protection class is based on the component's intended installation and connection.
Conformity with standards	EN 62368-1
Approval	CSA C22.2 No. 77; EAC; UL 1004-1

Product drawing

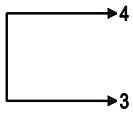


1	Cable AWG20, 4x crimped splices
2	Accessory part: inlet ring 09576-2-4013 not included in scope of delivery
3	Max. clearance for screw 6 mm

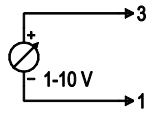
Connection diagram

Customer circuit

full speed

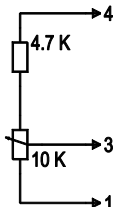


adjustable speed

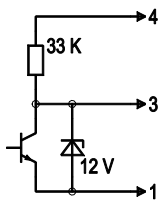


10 V → n = max
1 V → n = min
<1 V → n = 0
safe start
at Unom -30%
from 4 V Ucontr.

speed adjustable with fixed resistor

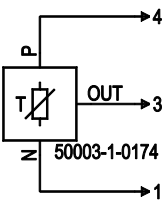


speed adjustable via PWM 1-10 kHz



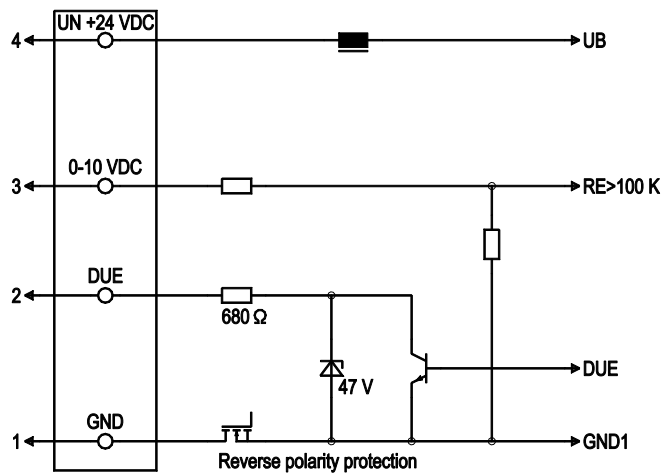
100% PWM → n = max
10% PWM → n = min
<10% PWM → n = 0
safe start
at Unom -30%
from 40% PWM

Set value requirement via temperature controller



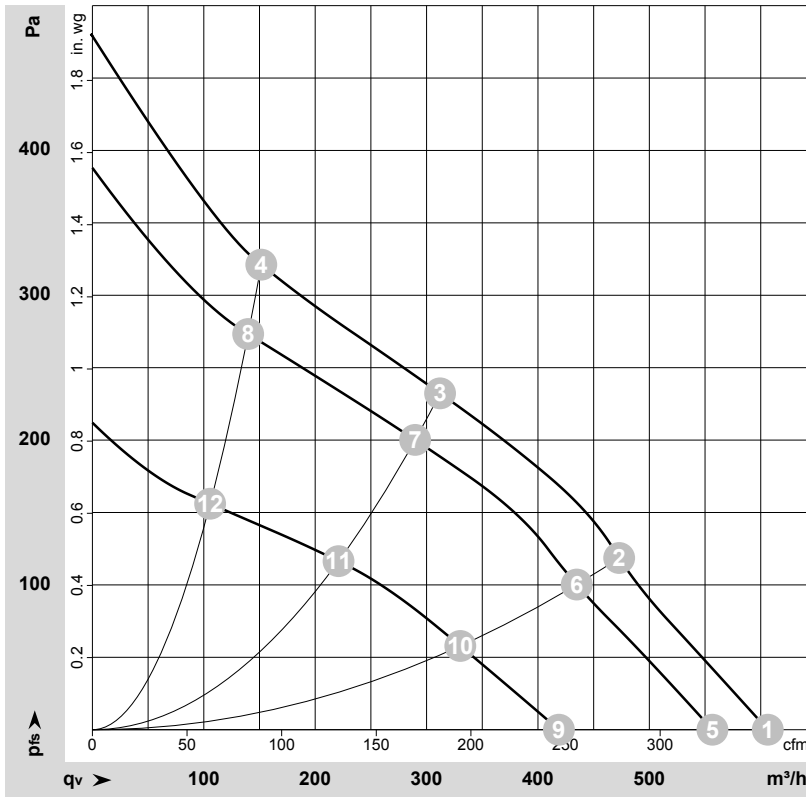
Connection

Fan/Motor



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

Curves: Air performance


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

Measurement: LU-44776-1

Measurement: LU-44775-1

Measurement: LU-44777-1

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	in. wg
1	28	3375	46	1.83	605	0	355	0.00
2	28	3170	48	1.97	475	118	280	0.47
3	28	3105	49	2.01	310	232	185	0.93
4	28	3270	47	1.90	150	321	90	1.29
5	24	3100	34	1.60	555	0	330	0.00
6	24	2915	39	1.79	435	100	255	0.40
7	24	2885	39	1.82	290	200	170	0.80
8	24	3020	36	1.69	140	275	80	1.10
9	16	2320	16	1.10	420	0	245	0.00
10	16	2225	17	1.21	330	58	195	0.23
11	16	2205	18	1.24	220	116	130	0.47
12	16	2280	16	1.15	105	156	60	0.63

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