

D1G133-AB29-18

EC centrifugal fan

forward-curved, dual-intake

with housing (flange), for rail applications



ebm-papst Mulfingen GmbH & Co. KG

Bachmühle 2 · D-74673 Mulfingen

Phone +49 7938 81-0

Fax +49 7938 81-110

info1@de.ebmpapst.com

www.ebmpapst.com

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	D1G133-AB29-18	
Motor	M1G074-BF	
Nominal voltage	VDC	24
Nominal voltage range	VDC	16 .. 28
Method of obtaining data		fa
Speed (rpm)	min ⁻¹	1780
Power consumption	W	105
Current draw	A	5.6
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



EC centrifugal fan

forward-curved, dual-intake

with housing (flange), for rail applications

Technical description

Weight	3.1 kg
Size	133 mm
Motor size	74
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	Sheet steel, galvanized
Housing material	Sheet steel, galvanized
Motor suspension	Motor vibration-damped on both sides
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP44
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	H2
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
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.
Approval	UL 1004-1; CSA C22.2 No. 77; EAC



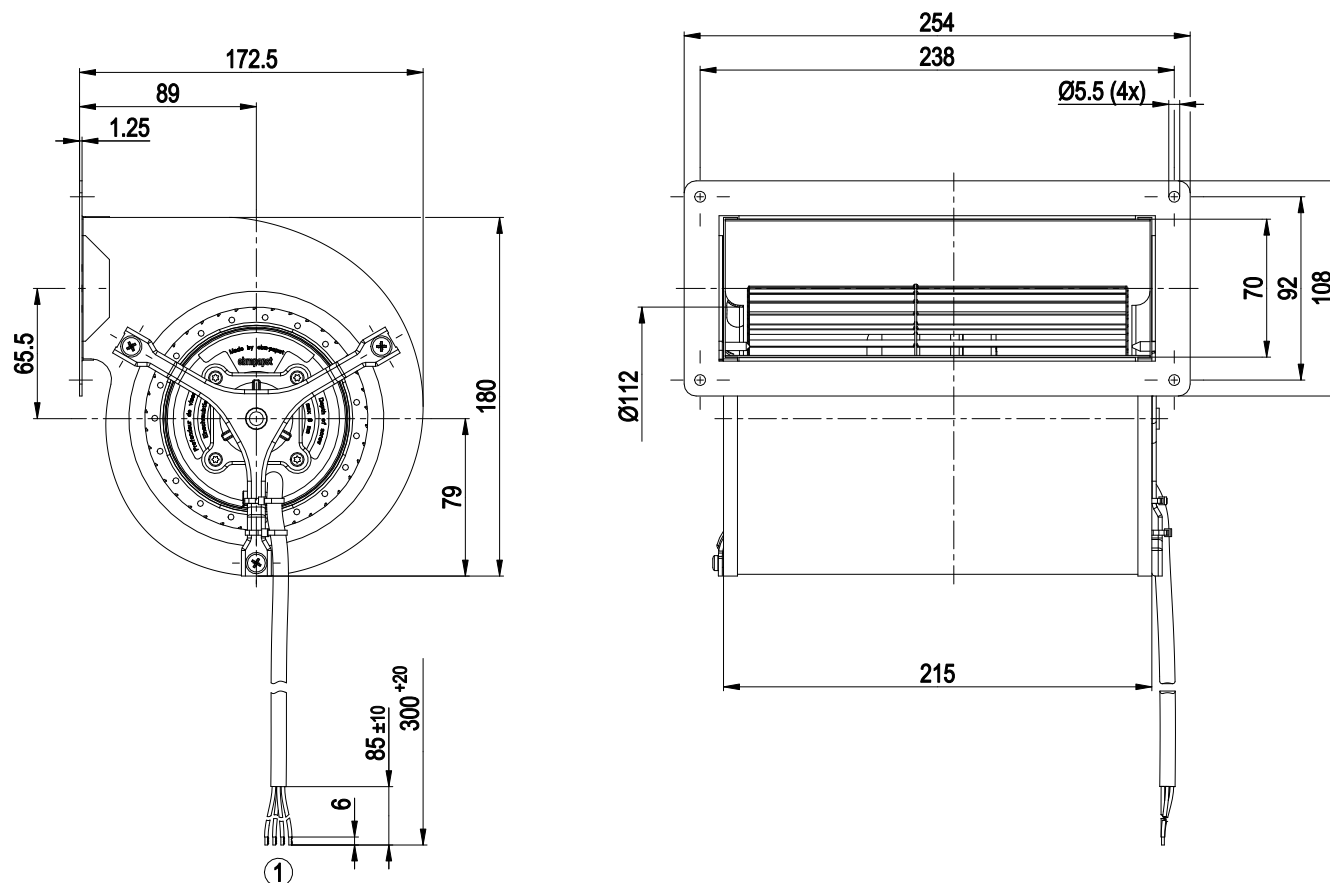
D1G133-AB29-18

EC centrifugal fan

forward-curved, dual-intake

with housing (flange), for rail applications

Product drawing



EC centrifugal fan

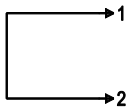
forward-curved, dual-intake

with housing (flange), for rail applications

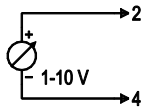
Connection diagram

Customer circuit

Full speed

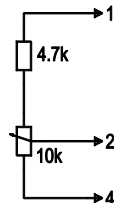


Adjustable speed

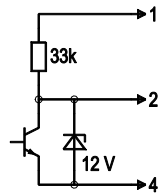


10 V $\rightarrow$ n = max
 1 V $\rightarrow$ n = min
 <1 V $\rightarrow$ n = 0
 Safe start
 at Unom -30%
 from 4 V Ucontr.

Speed adjustable via potentiometer

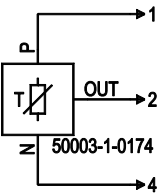


Speed adjustable via PWM 1-10 kHz



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

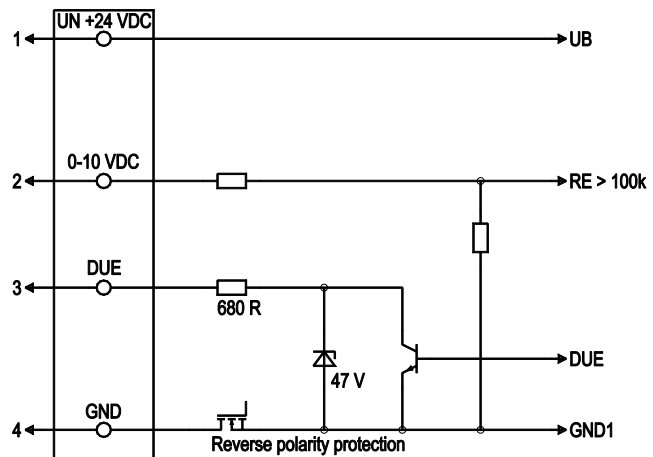
Set value requirement via temperature controller



$T < 10^\circ\text{C} \rightarrow$ n = 0
 $T > 45^\circ\text{C} \rightarrow$ n = max

Connection

Fan / Motor



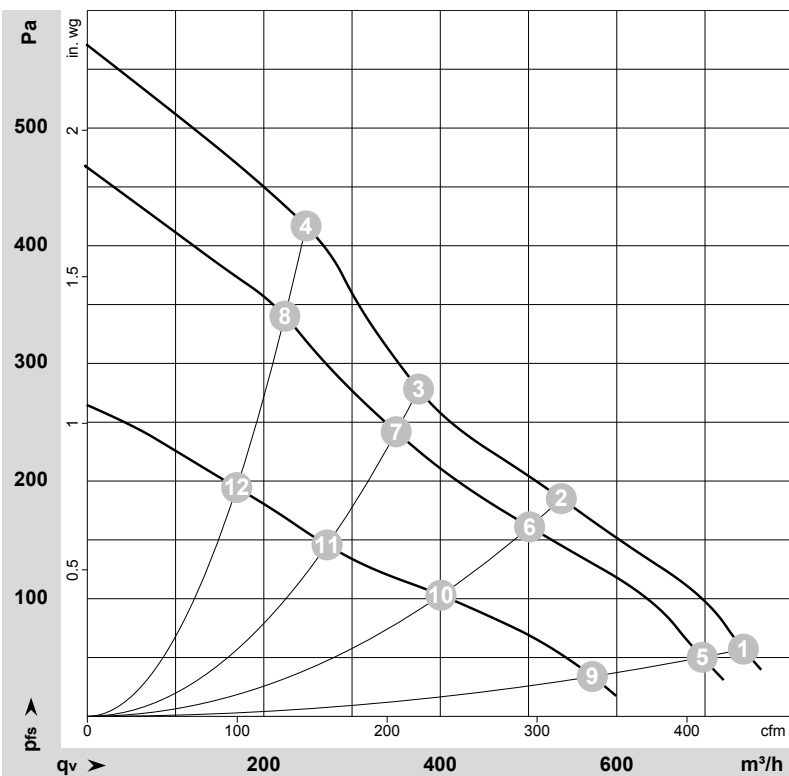
No.	Conn.	Designation	Color	Function/assignment
1	1	Un +24 VDC	brown	Power supply 24 VDC, maximum ripple 3.5%
1	2	0-10 VDC	black	Control input Re > 100k
1	3	Tach	gray	Tach output, 3 pulses per revolution, Isink max = 10 mA
1	4	GND	blue	Reference ground

EC centrifugal fan

forward-curved, dual-intake

with housing (flange), for rail applications

Curves: Air performance



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

Measurement: LU-48008-1
 Measurement: LU-48007-1
 Measurement: LU-48009-1

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	1900	135	6.23	745	55	435	0.22
2	28	2300	116	5.04	535	185	315	0.74
3	28	2655	107	4.41	375	278	220	1.12
4	28	3050	97	3.87	250	417	145	1.67
5	24	1780	105	5.60	695	50	410	0.20
6	24	2160	95	4.63	500	160	295	0.64
7	24	2470	88	4.12	350	240	205	0.96
8	24	2815	73	3.35	225	340	130	1.36
9	16	1505	62	4.34	570	37	335	0.15
10	16	1750	50	3.48	400	104	235	0.42
11	16	1940	42	2.92	270	145	160	0.58
12	16	2150	34	2.42	170	194	100	0.78

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

