D3G146-AL02-12

EC centrifugal fan

forward-curved, dual-intake

with housing (without flange)

D3G146-AL02-12 ebmpapst Datasheet
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Nominal data

Type	**D3G146-AL02-12**
Motor	**M3G074-CF**

Phase		1
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 240
Frequency	Hz	50/60
Method of obtaining data		fa
Speed (rpm)	min^{-1}	1620
Power consumption	W	166
Current draw	A	1.35
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

Data according to Commission Regulation (EU) 327/2011

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	45	32.5
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		56.4	44
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.15
09 Air flow q_v	m^3/h	590
09 Pressure increase p_{fs}	Pa	385
10 Speed (rpm) n	min^{-1}	2540
11 Specific ratio*		1.00

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-163963

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Technical description

Weight	3.4 kg
Size	146 mm
Motor size	74
Rotor surface	Thick-film passivated
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	IP54
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	H1+
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
Mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Fault output (open collector) - Power limiter - Motor current limitation - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Overvoltage detection - Thermal overload protection for electronics/motor - Line undervoltage detection
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Motor protection	Electronic motor protection
With cable	Variable
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 60335-1; CE

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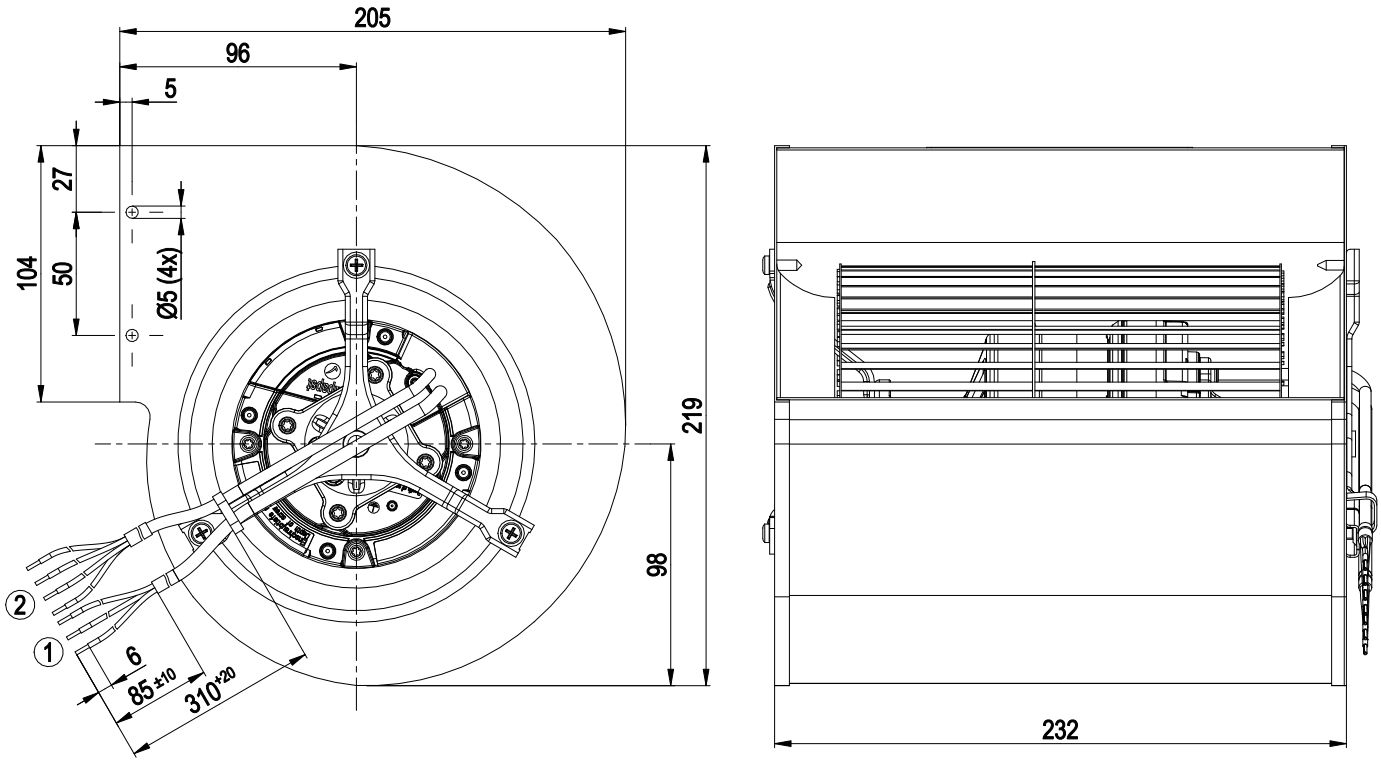
Product drawing



1	Cable halogen-free, 3G 0.5 mm²
	3x splice
2	Cable halogen-free, 4x 0.25 mm²
	4x splice

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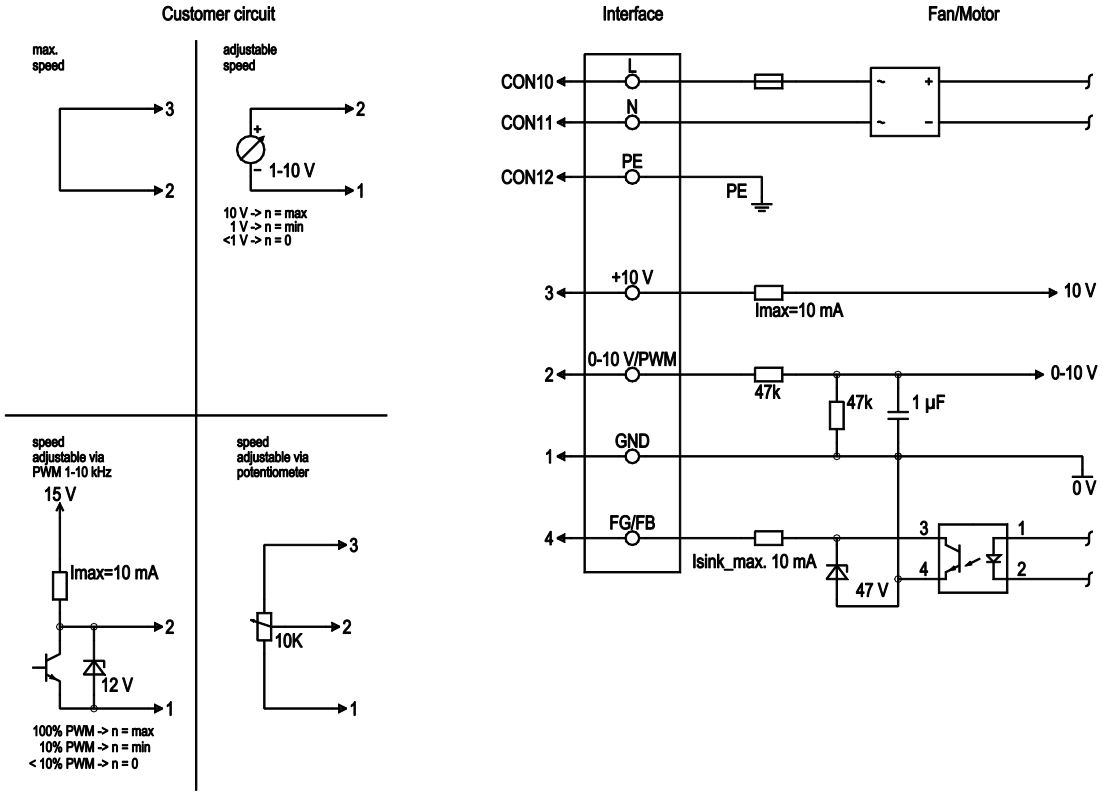
Connection diagram



No.	Conn.	Designation	Color	Function/assignment
	CON10	L	brown	Supply connection, power supply, phase, see nameplate for voltage range
	CON11	N	blue	Supply connection, power supply, neutral conductor, see nameplate for voltage range
	CON12	PE	green/yellow	Ground connection
	2	0- 10V PWM	yellow	0-10 V / PWM control input, Ri=100 kΩ, SELV
	3	+10 V	red	Fixed voltage output 10 VDC +/-3%, Imax. 10 mA, short-circuit-proof, power supply for ext. devices (e.g. potentiometers), SELV
	1	GND	blue	Reference ground for control interface, SELV
	4	FG/FB	white	Fan good / fan bad: Open collector, fan good = high, electrically isolated, Isink max = 10 mA

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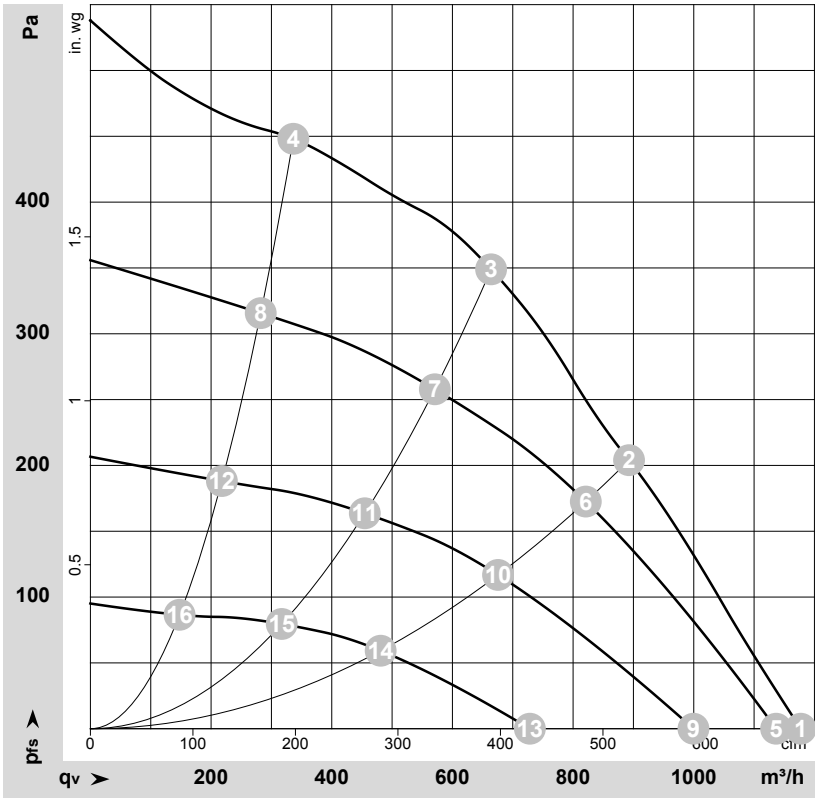
Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-163963-1
Measurement: LU-190071-1
Measurement: LU-190073-1
Measurement: LU-190075-1

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

	Wired	U	f	n	P_{ed}	I	LpA_{in}	LwA_{in}	q_V	p_{fs}	q_V	p_{fs}
		V	Hz	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa	cfm	in. wg
1	1~	230	50	1620	166	1.35	62	74	1175	0	695	0.00
2	1~	230	50	2040	166	1.35	59	71	895	200	525	0.80
3	1~	230	50	2440	166	1.35	61	73	665	350	390	1.41
4	1~	230	50	2735	126	1.05	63	75	335	450	200	1.81
5	1~	230	50	1560	155	1.30	61	74	1135	0	670	0.00
6	1~	230	50	1905	137	1.17	57	70	820	183	485	0.73
7	1~	230	50	2095	103	0.90	57	69	570	259	335	1.04
8	1~	230	50	2265	74	0.67	58	70	280	317	165	1.27
9	1~	230	50	1375	107	0.93	58	70	1000	0	590	0.00
10	1~	230	50	1550	72	0.66	52	64	675	125	400	0.50
11	1~	230	50	1665	51	0.48	51	62	455	165	270	0.66
12	1~	230	50	1750	38	0.36	50	62	220	187	130	0.75
13	1~	230	50	1000	42	0.41	50	62	730	0	430	0.00
14	1~	230	50	1100	27	0.27	43	55	480	64	285	0.26
15	1~	230	50	1155	19	0.20	41	52	315	80	185	0.32
16	1~	230	50	1190	15	0.16	41	53	150	85	85	0.34

Wired = Wiring · U = Voltage · f = Frequency · 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