D3G310-GG05-04

EC centrifugal fan - RadiFit

backward curved, dual inlet

with housing (flange)

D3G310-GG05-04 ebmpapst Datasheet
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General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen
County court Stuttgart · HRB 590142

Nominal data

Type	**D3G310-GG05-04**	
Motor	**M3G112-IA**	
Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Type of data definition		ml
Speed (rpm)	min^{-1}	3140
Power input	W	3180
Current draw	A	4.9
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	40

ml = Max. load · me = Max. efficiency · fa = Running at free air · cs = Customer specs · cu = Customer unit
Subject to alterations

Data according to ErP directive

		Actual	Request 2015
01 Overall efficiency η_{es}	%	63.9	55.5
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		69.4	61
05 Variable speed drive		Yes	

09 Power input P_{ed}	kW	3.01
09 Air flow q_v	m^3/h	4990
09 Pressure increase p_{fs}	Pa	1310
10 Speed (rpm) n	min^{-1}	3140
11 Specific ratio*		1.01

Data definition with optimum efficiency.
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.

* Specific ratio = 1 + p_{fs} / 100 000 Pa

LU-167607

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Technical features

Mass	34 kg
Size	310 mm
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium
Material of impeller	Aluminium sheet
Housing material	Sheet steel, galvanised
Motor suspension	Motor mounted via brackets on one side
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 54
Insulation class	"F"
Humidity (F)/environmental protection class (H)	F3-1
Max. permissible ambient motor temp. (transp./ storage)	+85 °C
Min. permissible ambient motor temp. (transp./storage)	-40 °C
Mounting position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensate discharge holes	Rotor-side
Operation mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Operation and alarm display - External 24 V input (programming) - Alarm relay - Integrated PID controller - Output limit - Motor current limit - PFC, passive - RS485 MODBUS RTU - Soft start -Maximum EEPROM write cycles 100,000 - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Temperature derating - Over-temperature protected electronics / motor - Line undervoltage / phase failure detection
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3.5 mA
Electrical leads	Via terminal box
Motor protection	Thermal overload protector (TOP) wired internally
Cable exit	Variable
Degree of soiling	3
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	CE
Remark	Standard conformity as per EN 61800-5-1 and EN 60335-1 in preparation

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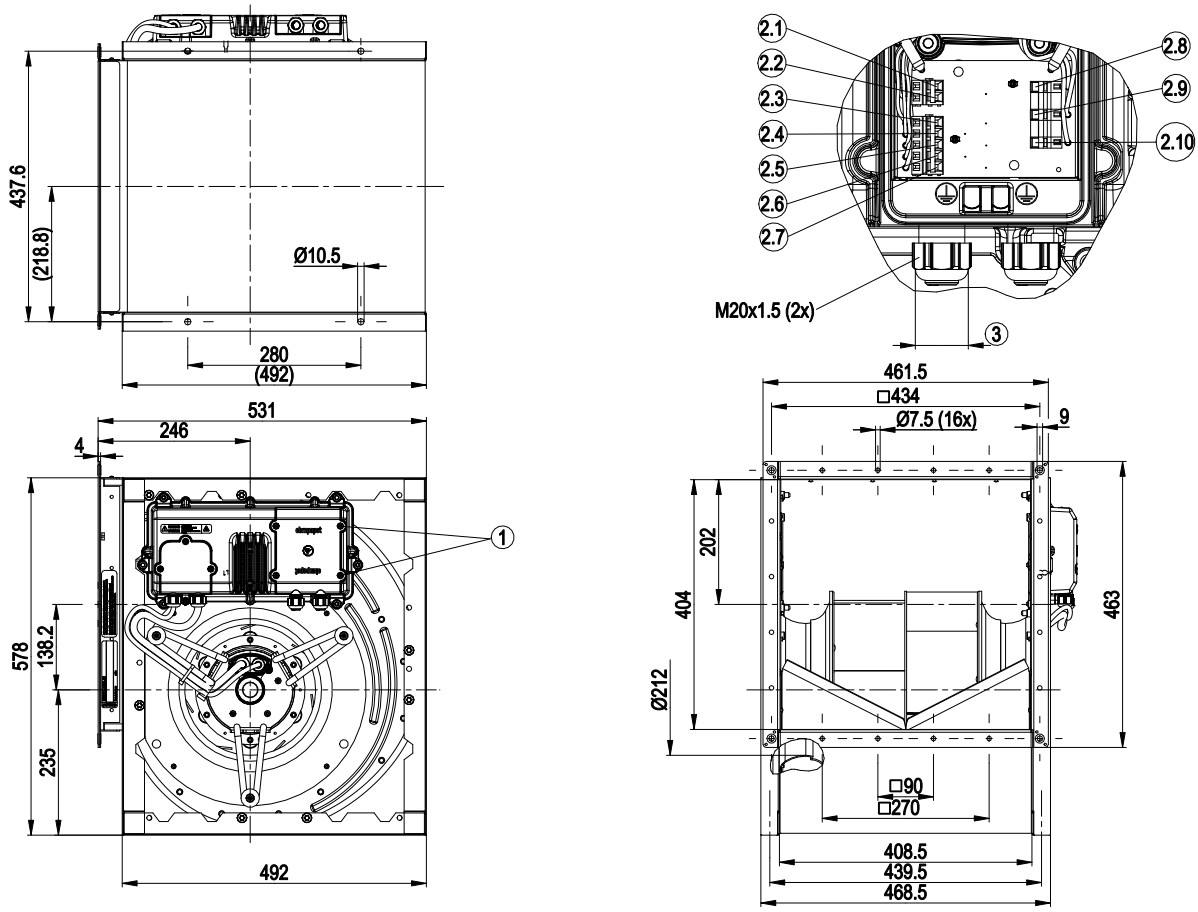
Product drawing



1	Tightening torque 3±0.5 Nm
2.1	NC
2.2	COM
2.3	+10 V
2.4	0-10 V
2.5	GND
2.6	RSA
2.7	RSB
2.8	L1
2.9	L2
2.10	L3
3	Cable diameter min. 8 mm, max. 12 mm, tightening torque 2.5±0.4 Nm

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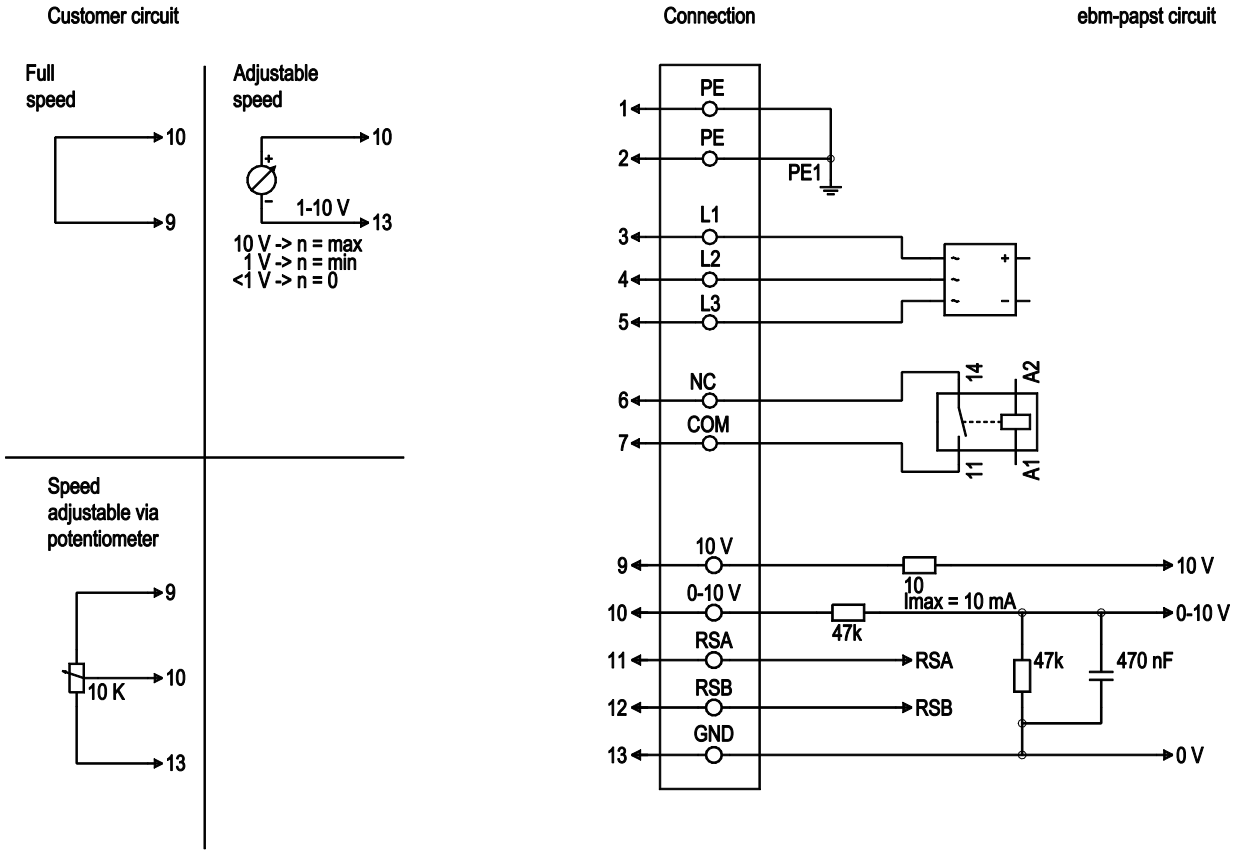
Connection screen



No.	Conn.	Designation	Colour	Function / assignment
1	1, 2	PE	green/yellow	Protective earth
1	3, 4, 5	L1, L2, L3	black	Power supply 50 / 60 Hz
1	6	NC	white 1	Status relay, floating status contact, break for failure; contact rating 250 VAC / 2 A (AC1) / min. 10 mA, reinforced insulation on mains side and basic insulation on control interface side (or reinforced insulation on control interface side up to 250 VAC potential difference)
1	7	COM	white 2	Status relay, floating status contact, break for failure; contact rating 250 VAC / 2 A (AC1) / min. 10 mA, reinforced insulation on mains side and basic insulation on control interface side (or reinforced insulation on control interface side up to 250 VAC potential difference)
2	9	+10 V	red	Fixed voltage output 10 VDC, SELV, +10 V +/-3%, max. 10 mA short-circuit-proof, power supply for ext. devices (e.g. potentiometer); Fixed voltage input 24 VDC for parameter setting via MODBUS without mains power supply
2	10	0-10 V	yellow	Analogue input (set value) SELV, 0-10 V, Ri=100kΩ, parametrisable curve
2	11	RSA	white	RS-485 interface for MODBUS, RSA; SELV
2	12	RSB	brown	RS-485 interface for MODBUS, RSB; SELV
2	13	GND	blue	Signal ground for control interface, SELV

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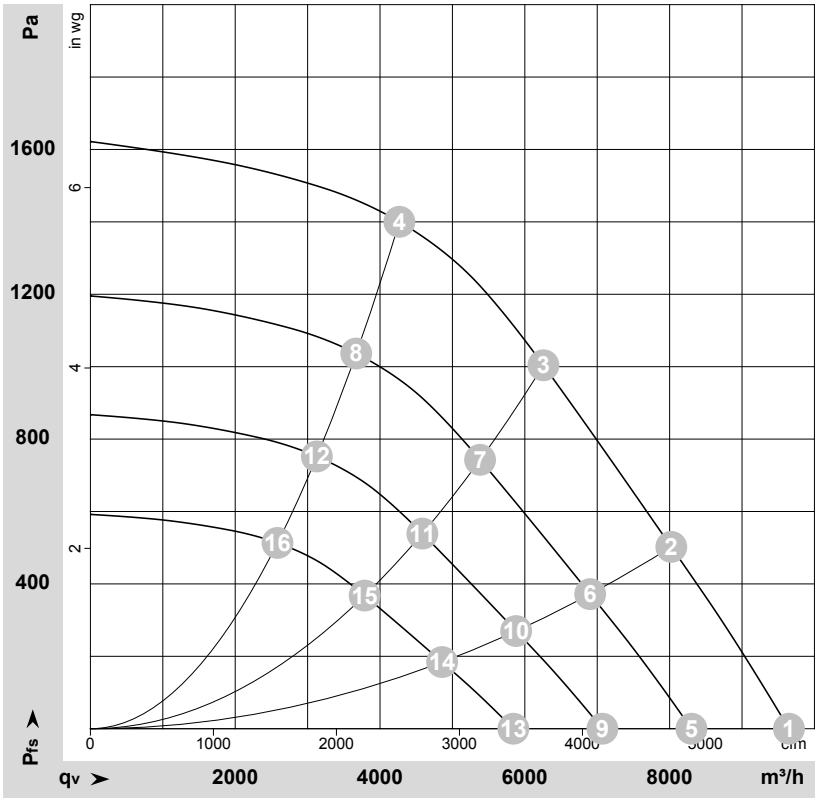
Charts: Air flow 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-167607-1

Air performance measured as per ISO 5801 Installation category A. For detailed information on the measuring set-up, please contact ebm-papst. Suction-side noise levels: LwA measured as per ISO 13347 / LpA measured with 1m distance to fan axis. The values given are valid under the measuring conditions mentioned above and may vary according to the actual installation situation. With any deviation from the standard set-up, the specific values have to be checked and reviewed with the unit installed.

Measured values

	Conn.	U	f	n	P_{ed}	I	LpA_{in}	LwA_{in}	LwA_{out}	q_V	p_{fs}	q_V	p_{fs}
		V	Hz	min^{-1}	W	A	dB(A)	dB(A)	dB(A)	m^3/h	Pa	cfm	inH2O
1	Y	400	50	3140	2825	4.35	84	97	105	9650	0	5680	0.00
2	Y	400	50	3140	3093	4.74	81	95	101	8025	500	4720	2.01
3	Y	400	50	3140	3180	4.90	78	91	97	6255	1000	3685	4.01
4	Y	400	50	3140	2809	4.32	77	90	94	4270	1400	2510	5.62
5	Y	400	50	2700	1799	2.77	80	93	101	8300	0	4885	0.00
6	Y	400	50	2700	1971	3.02	78	91	97	6905	372	4065	1.49
7	Y	400	50	2700	2023	3.10	74	88	93	5380	743	3170	2.98
8	Y	400	50	2700	1789	2.75	73	87	90	3670	1037	2160	4.16
9	Y	400	50	2300	1112	1.71	76	89	97	7070	0	4160	0.00
10	Y	400	50	2300	1218	1.87	74	87	93	5880	270	3460	1.08
11	Y	400	50	2300	1251	1.92	70	84	89	4585	539	2700	2.16
12	Y	400	50	2300	1106	1.70	69	83	86	3130	752	1840	3.02
13	Y	400	50	1900	627	0.96	71	84	92	5840	0	3440	0.00
14	Y	400	50	1900	687	1.05	69	82	88	4855	184	2860	0.74
15	Y	400	50	1900	705	1.08	65	79	84	3785	368	2230	1.48
16	Y	400	50	1900	623	0.96	64	78	81	2585	513	1520	2.06

Conn. = Connection · U = Supply voltage · f = Frequency · n = Speed (rpm) · P_{ed} = Power input · I = Current draw · LpA_{in} = Sound pressure level inlet side · LwA_{in} = Sound power level inlet side LwA_{out} = Sound power level outlet side · q_V = Air flow · p_{fs} = Pressure increase