

R3G310-RQ16-K4 ebmpapst Datasheet

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Nominal data

Type	R3G310-RQ16-K4	
Motor	M3G084-GF	
Phase		3~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 240
Frequency	Hz	50/60
Type of data definition		ml
Speed (rpm)	min ⁻¹	2650
Power input	W	720
Current draw	A	2.4
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	60

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}	%	66	49.9	09 Power input P_{ed}	kW	0.71
02 Measurement category		A		09 Air flow q_v	m ³ /h	2475
03 Efficiency category		Static		09 Pressure increase p_{fs}	Pa	628
04 Efficiency grade N		78.1	62	10 Speed (rpm) n	min ⁻¹	2625
05 Variable speed drive		Yes		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 = $1 + p_{fs} / 100\,000\text{ Pa}$

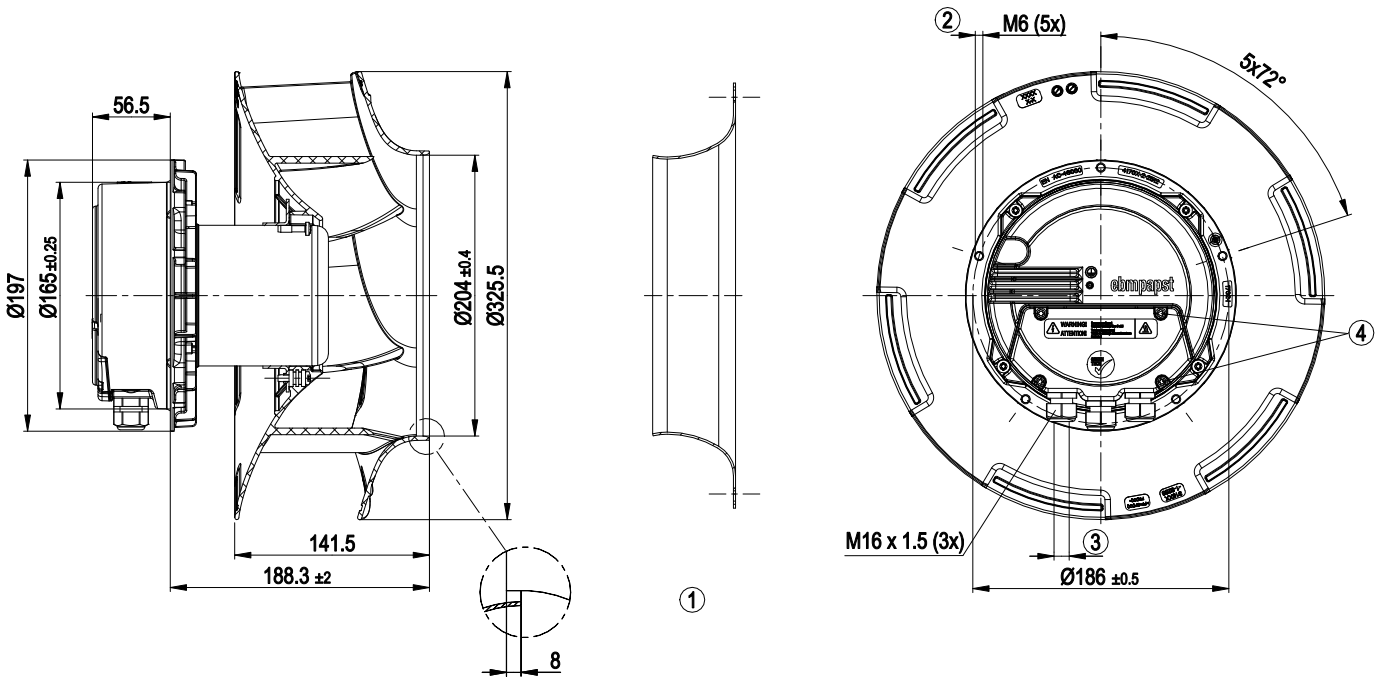
LU-172245



Technical features

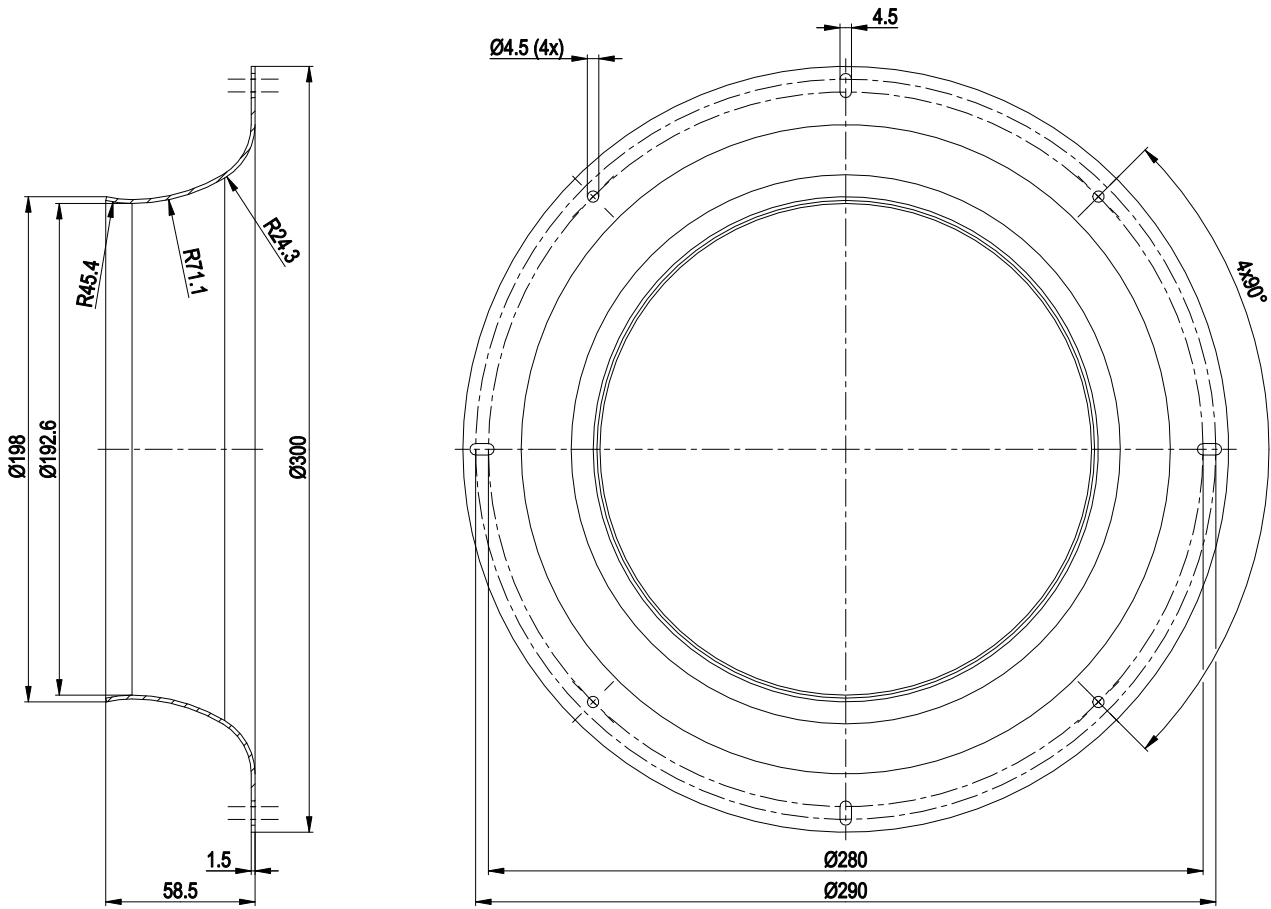
Mass	6.8 kg
Size	310 mm
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium
Material of impeller	Plastic, PP (black)
Number of blades	6
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 54
Insulation class	"B"
Humidity (F)/environmental protection class (H)	H1
Max. permissible ambient motor temp. (transp./ storage)	+80 °C
Min. permissible ambient motor temp. (transp./storage)	-40 °C
Mounting position	Shaft horizontal or rotor on top; rotor on bottom on request
Condensate discharge holes	None
Operation mode	S1
Motor bearing	Ball bearing
Technical features	<ul style="list-style-type: none"> - Output 10 VDC, max. 10 mA - Output 20 VDC, max. 50 mA - Output for slave 0-10 V - Input for sensor 0-10 V or 4-20 mA - External 24 V input (programming) - Alarm relay - Integrated PID controller - Motor current limit - PFC, passive - RS485 MODBUS RTU - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Over-temperature protected electronics / motor - Line undervoltage / phase failure detection
EMC interference immunity	Acc. to EN 61000-6-2 (industrial environment)
EMC interference emission	Acc. to EN 61000-6-4 (industrial environment)
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
Protection class	I (if protective earth is connected by customer at the connection point of the housing)
Product conforming to standard	EN 61800-5-1; CE
Approval	UL 1004-7 + 60730; C22.2 Nr.77 + CAN/CSA-E60730-1

Product drawing



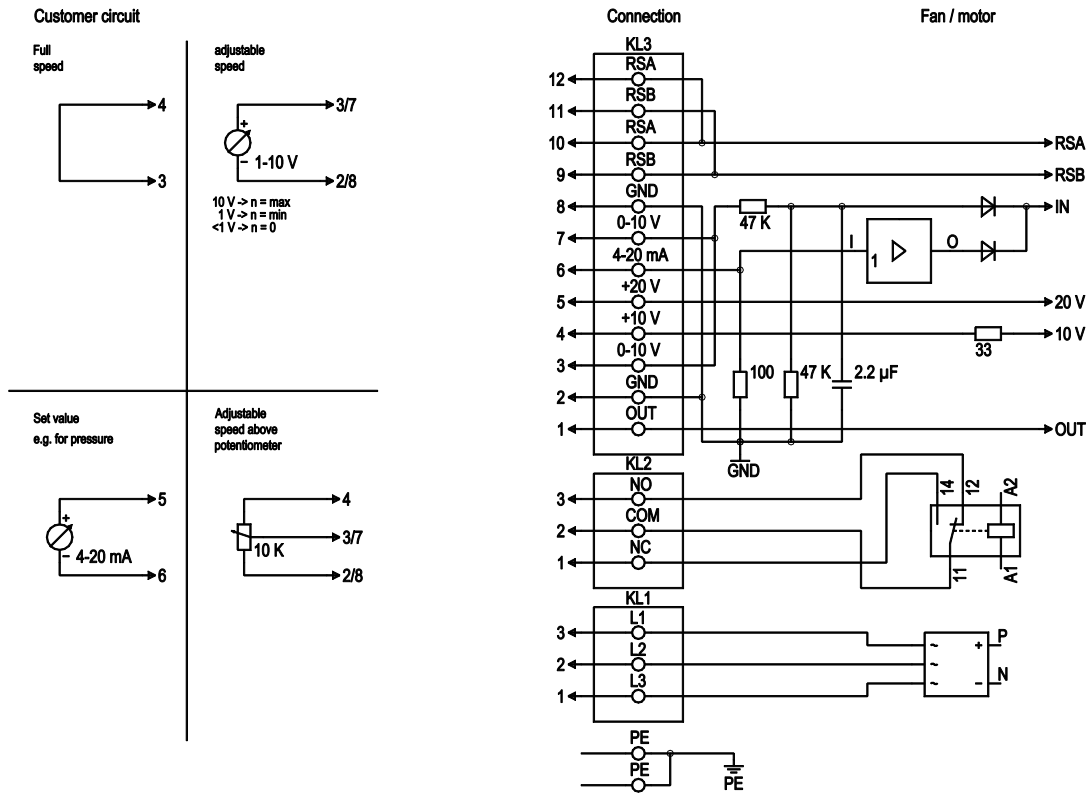
1	Accessory part: Inlet nozzle 31000-2-4013 not included in scope of delivery
2	Thread reach max. 16 mm
3	Cable diameter min. 4 mm; max. 10 mm; tightening torque 2.5 ± 0.4 Nm
4	Tightening torque 3.5 ± 0.5 Nm

Accessory part



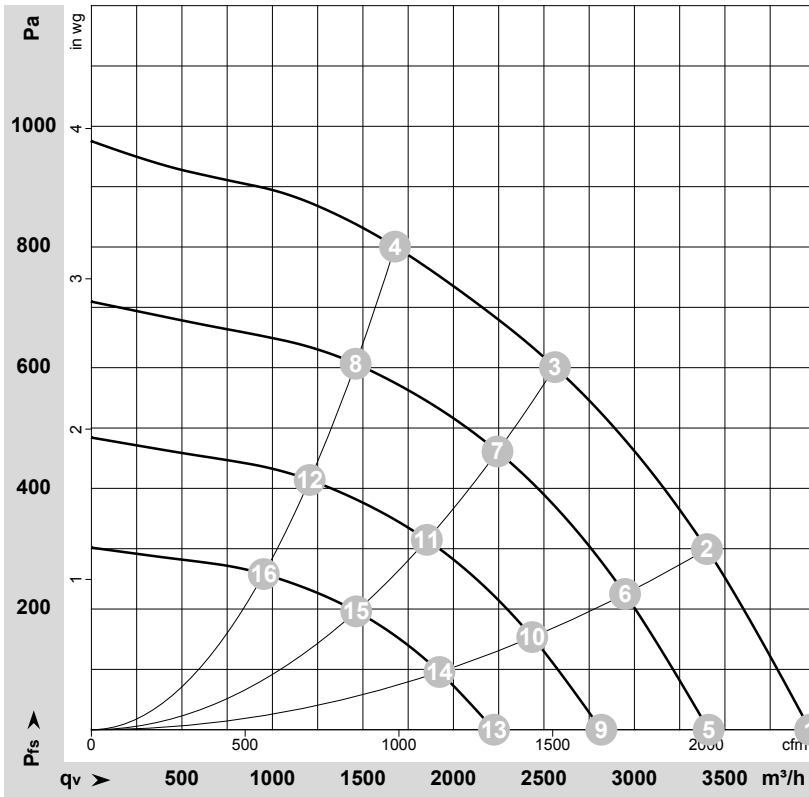
Accessory part: Inlet nozzle 31000-2-4013 not included in scope of delivery

Connection screen



No.	Conn.	Designation	Function / assignment
PE		PE	Protective earth connection
KL1	1, 2, 3	L1, L2, L3	Supply voltage, voltage range (see type plate), 50/60 Hz
KL2	1	NC	Floating status contact, break with error
KL2	2	COM	Floating status contact, changeover contact, common connection (2 A, max. 250 VAC, min. 10 mA, AC1)
KL2	3	NO	Floating status contact, close with error
KL3	1	OUT	Analogue output, 0-10 VDC, max. 3 mA, SELV, Output of the actual motor duty cycle (PWM): 1 V corresponds to 10% PWM, 10 V correspond to 100% PWM.
KL3	2, 8	GND	Signal ground for control interface, SELV
KL3	3, 7	0-10 V	Set value / actual sensor value input 0-10 VDC, impedance 100 kΩ only as alternative to 4-20 mA input, SELV
KL3	4	+10 V	Voltage output 10 VDC (+/-3%), max. 10 mA, power supply for external devices (e.g. potentiometer), SELV
KL3	5	+20 V	Voltage output 20 VDC (+25%/-10%), max. 50 mA, supply voltage for external devices (e.g. sensors), SELV
KL3	6	4-20 mA	Set value / actual sensor value input 4-20 mA, impedance 100 Ω, only as alternative to 0-10 V input, SELV
KL3	9, 11	RSB	RS485 interface for MODBUS, RSB
KL3	10, 12	RSA	RS485 interface for MODBUS, RSA

Charts: Air flow 50 Hz



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

Measurement: LU-172245-1

Air performance measured as per ISO 5801 Installation category A. For detailed information on the measuring set-up, please contact ebmpapst. Suction-side noise levels: L_{wA} measured as per ISO 13347 / L_{pA} 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

	U	f	n	P _{ed}	I	L _{pA_{in}}	L _{wA_{in}}	q _v	P _{fs}	q _v	P _{fs}
	V	Hz	min ⁻¹	W	A	dB(A)	dB(A)	m³/h	Pa	cfm	inH ₂ O
1	230	50	2650	535	1.79	76	84	3970	0	2335	0.00
2	230	50	2650	661	2.20	72	79	3400	300	2000	1.20
3	230	50	2650	720	2.40	69	76	2560	600	1505	2.41
4	230	50	2650	682	2.26	70	77	1675	800	985	3.21
5	230	50	2300	339	1.13	72	80	3410	0	2005	0.00
6	230	50	2300	431	1.43	68	76	2950	225	1735	0.90
7	230	50	2300	481	1.57	65	73	2245	462	1320	1.85
8	230	50	2300	450	1.49	66	74	1460	608	860	2.44
9	230	50	1900	191	0.64	68	75	2815	0	1660	0.00
10	230	50	1900	243	0.81	64	71	2435	154	1435	0.62
11	230	50	1900	271	0.89	60	68	1855	315	1090	1.26
12	230	50	1900	254	0.84	61	69	1205	415	710	1.67
13	230	50	1500	94	0.31	62	69	2225	0	1310	0.00
14	230	50	1500	119	0.40	58	65	1925	96	1130	0.39
15	230	50	1500	134	0.44	55	62	1465	196	860	0.79
16	230	50	1500	125	0.41	56	63	950	259	560	1.04

U = Supply voltage · f = Frequency · n = Speed (rpm) · P_{ed} = Power input · I = Current draw · L_{pA_{in}} = Sound pressure level inlet side · L_{wA_{in}} = Sound power level inlet side · q_v = Air flow
 P_{fs} = Pressure increase

