K3G310-PQ17-K9

EC centrifugal module - RadiPac

backward curved, single inlet

with support bracket

K3G310-PQ17-K9 ebmpapst Datasheet
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County court Stuttgart · HRB 590142

Nominal data

Type	**K3G310-PQ17-K9**
Motor	**M3G084-GF**

Phase		3~
Nominal voltage	VAC	200
Nominal voltage range	VAC	200 .. 240
Frequency	Hz	50/60
Type of data definition		ml
Speed (rpm)	min^{-1}	2790
Power input	W	1000
Current draw	A	3.3
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	50

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

Data in accordance with ecodesign regulation EU 327/2011 (EN 17166)

		Actual	Request 2015
01 Overall efficiency η_{es}	%	67.8	51.4
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		78.4	62
05 Variable speed drive		Yes	

09 Power input P_{ed}	kW	0.98
09 Air flow q_v	m^3/h	2895
09 Pressure increase p_{fs}	Pa	766
10 Speed (rpm) n	min^{-1}	2815
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-176880

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Technical features

Mass	15.6 kg
Size	310 mm
Motor size	84
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium
Material of impeller	Aluminium sheet
Material of mounting plate	Sheet steel, galvanised
Material of support bracket	Steel, coated in black
Material of inlet nozzle	Sheet steel, galvanised
Number of blades	5
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP54
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 bottom; rotor on top on request
Condensation drainage holes	Rotor-side
Operation mode	S1
Motor bearing	Ball bearing
Technical features	- 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 61000-6-3 (household environment)
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3.5 mA
Electrical connection	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	EAC; UL 1004-7 + 60730-1; CSA C22.2 no. 77 + CAN/CSA-E60730-1

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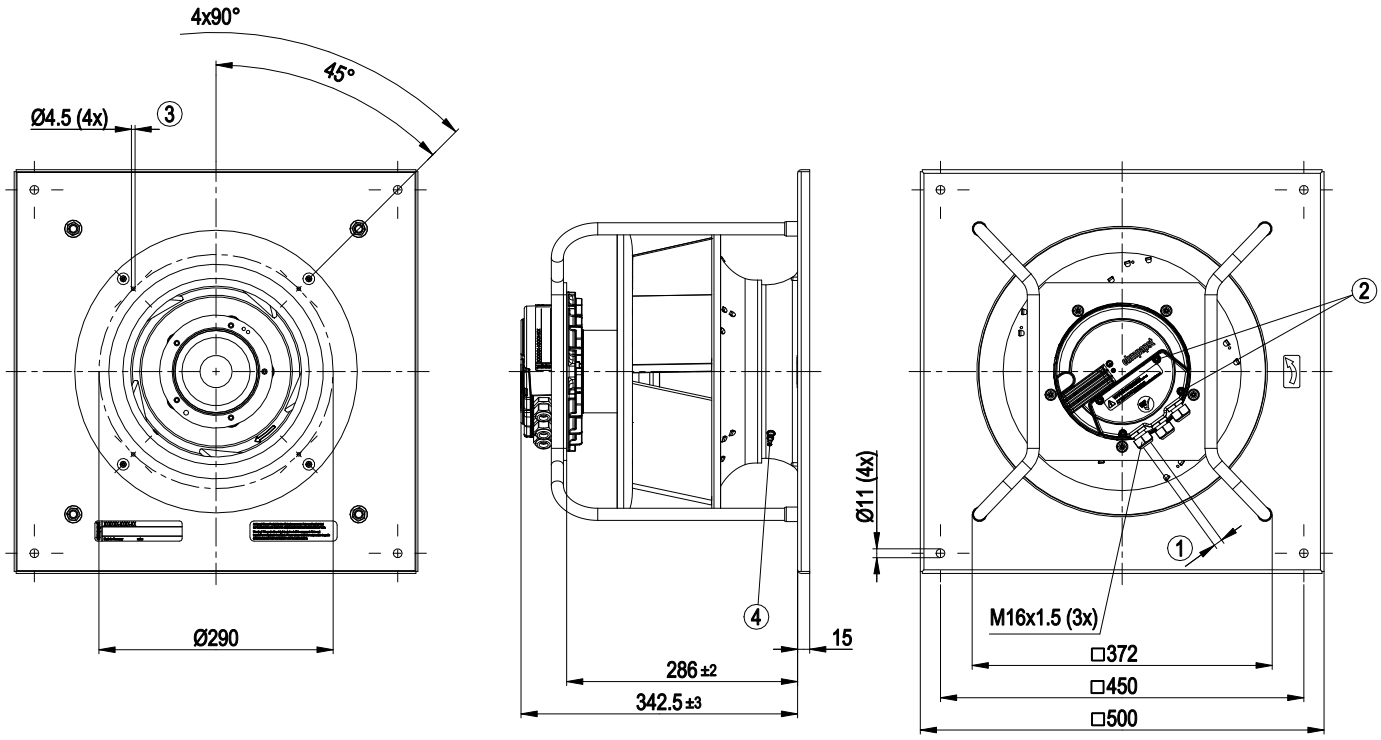
Product drawing



1	Cable diameter min. 6 mm, max. 10 mm, tightening torque 2.5±0.4 Nm
2	Tightening torque 3.5±0.5 Nm
3	Mounting holes for FlowGrid
4	Inlet nozzle with pressure tap (k-factor: 116)

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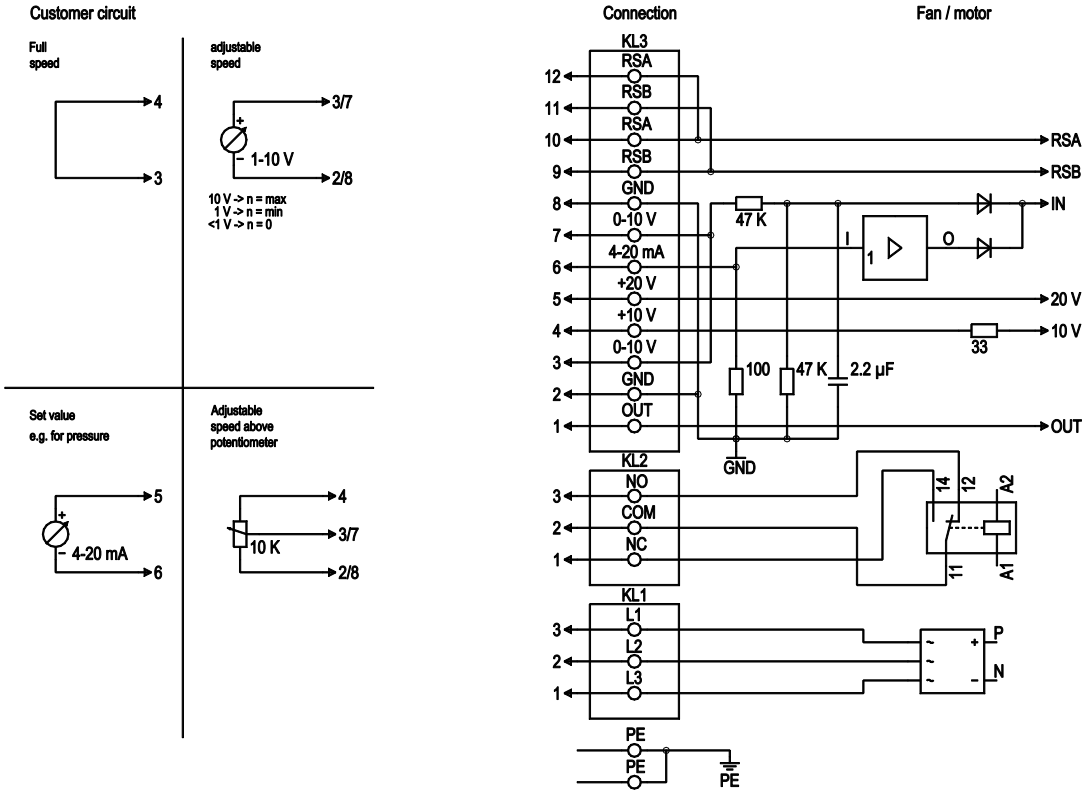
Connection screen



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

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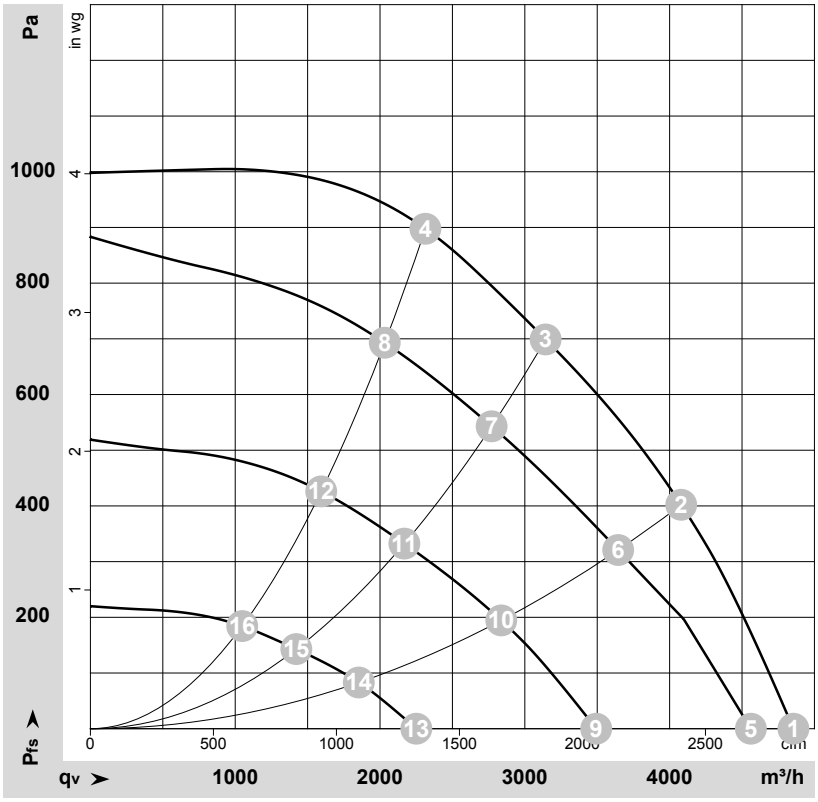
Charts: Air flow 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-176880-1

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

	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	in. wg
1	200	50	2790	543	2.03	83	91	93	4855	0	2860	0.00
2	200	50	2790	850	2.93	75	83	86	4080	400	2400	1.61
3	200	50	2790	974	3.28	69	77	81	3145	700	1850	2.81
4	200	50	2790	1000	3.30	77	84	82	2315	900	1360	3.61
5	200	50	2640	452	1.72	82	89	90	4560	0	2685	0.00
6	200	50	2530	601	2.22	72	80	83	3645	321	2145	1.29
7	200	50	2480	669	2.44	66	74	78	2770	543	1630	2.18
8	200	50	2470	681	2.47	75	81	80	2035	696	1195	2.79
9	200	50	2020	216	0.89	74	83	83	3495	0	2055	0.00
10	200	50	1965	300	1.20	65	74	76	2835	196	1670	0.79
11	200	50	1940	329	1.30	61	69	73	2170	332	1275	1.33
12	200	50	1935	337	1.33	67	73	74	1595	428	940	1.72
13	200	50	1315	76	0.36	65	73	74	2250	0	1325	0.00
14	200	50	1290	101	0.46	56	64	67	1855	84	1090	0.34
15	200	50	1280	110	0.49	52	59	64	1420	143	835	0.57
16	200	50	1280	112	0.50	54	62	65	1050	185	615	0.74

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