

EC centrifugal module - RadiPac

backward-curved, single-intake

with support bracket

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Nominal data

Type	K3G250-AY11-C2	
Motor	M3G084-GF	
Phase	3~	
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Method of obtaining data	ml	
Speed (rpm)	min ⁻¹	3580
Power consumption	W	820
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 (EN 17166)

		Actual	Req. 2015			
01 Overall efficiency η_{es}	%	63.4	50.4	09 Power consumption P_{ed}	kW	0.78
02 Measurement category	A			09 Air flow q_v	m ³ /h	1805
03 Efficiency category	Static			09 Pressure increase p_{fs}	Pa	908
04 Efficiency grade N	75	62		10 Speed (rpm) n	min ⁻¹	3580
05 Variable speed drive	Yes			11 Specific ratio*		1.01

Data obtained at optimum efficiency level.

* Specific ratio = $1 + p_b / 100\,000\text{ Pa}$

LU-154881

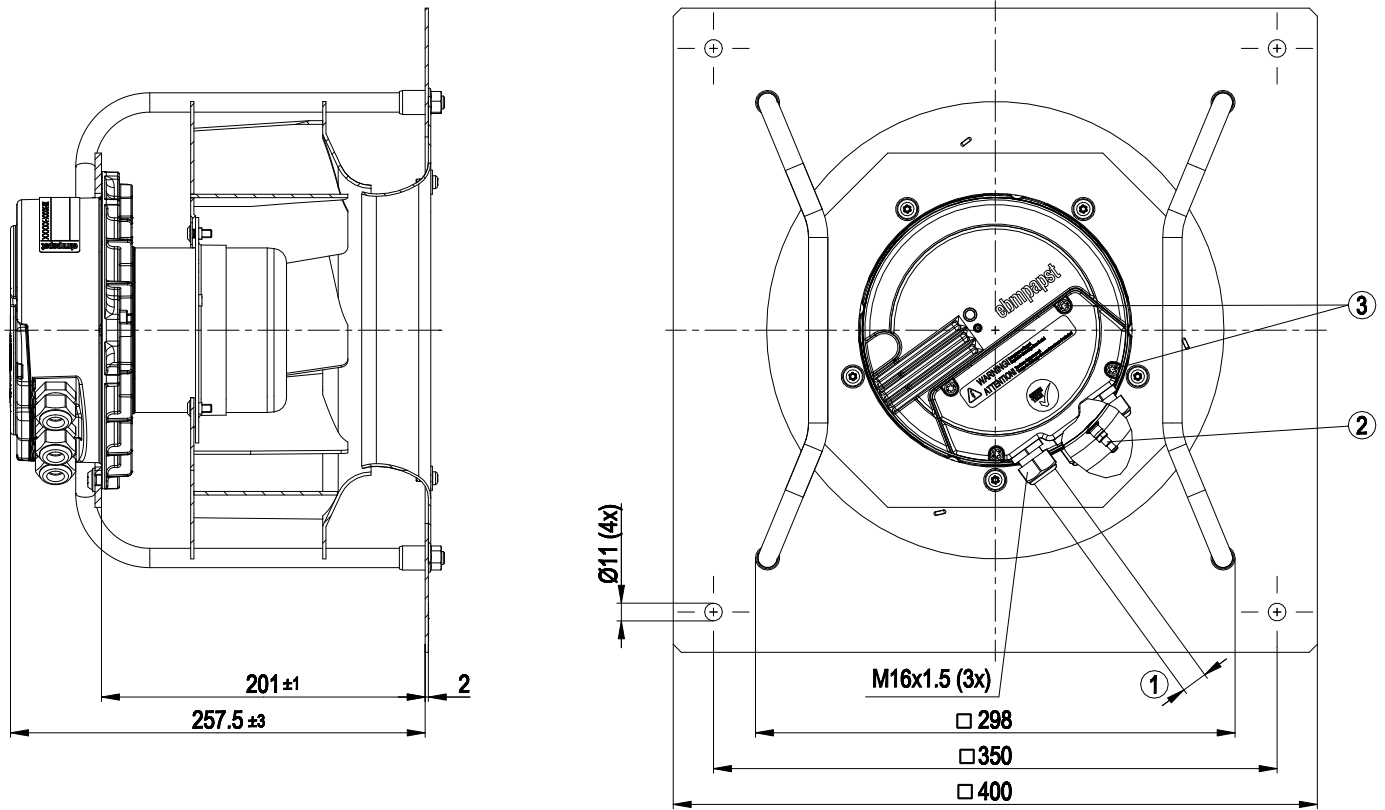
The efficiency values displayed for achieving conformity with the Ecodesign Regulation EU 327/2011 has been reached with defined air duct components (e.g. inlet rings). The dimensions must be requested from ebm-papst. If other air conduction geometries are used on the installation side, the ebm-papst evaluation loses its validity/the conformity must be confirmed again. The product does not fall within the scope of Regulation (EU) 2019/1781 due to the exception specified in Article 2 (2a) (motors completely integrated into a product).



Technical description

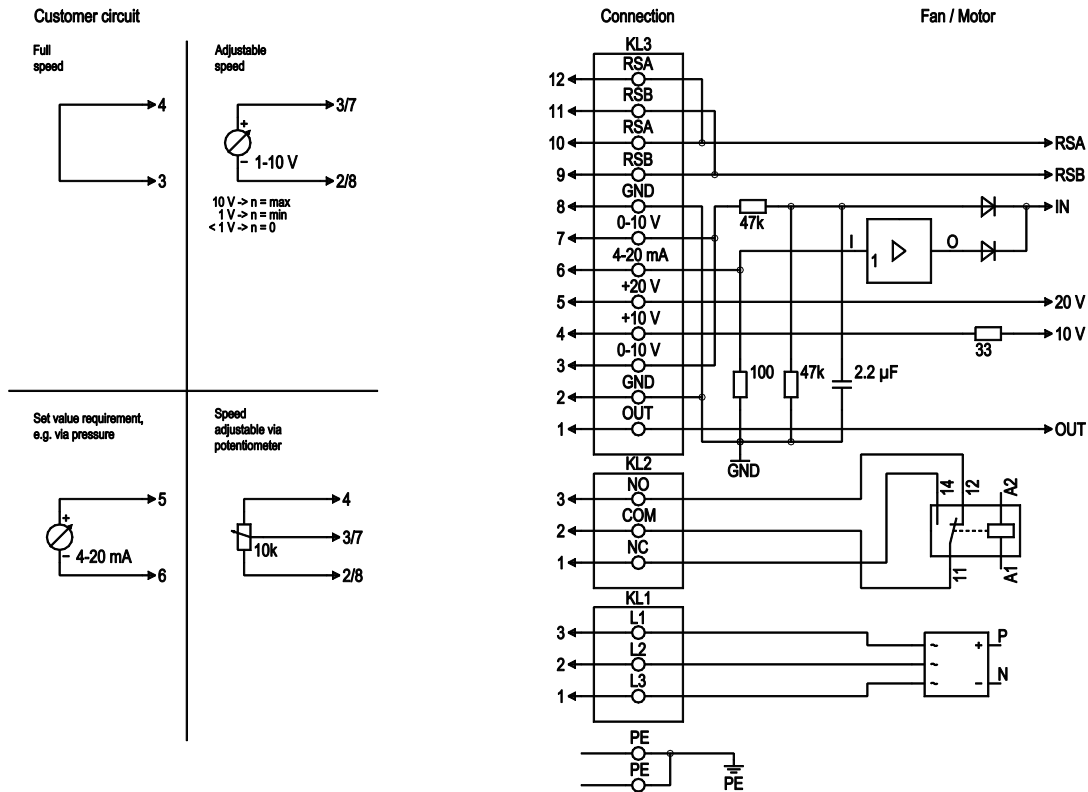
Weight	11.1 kg
Size	250 mm
Motor size	84
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	Sheet aluminum
Support plate material	Sheet steel, galvanized
Support bracket material	Steel, painted black
Inlet nozzle material	Sheet steel, galvanized
Number of blades	7
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	Shaft horizontal or rotor on bottom; rotor on top on request
Condensation drainage holes	On rotor side
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 (parameter setting) - Alarm relay - Integrated PID controller - Motor current limitation - PFC, passive - RS-485 MODBUS-RTU - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from supply - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Electrical hookup	Terminal box
Motor protection	Thermal overload protector (TOP) internally connected
Protection class	I (if protective earth is connected by customer to the housing's connection point)
Conformity with standards	EN 61800-5-1; CE; UKCA
Approval	CSA C22.2 No. 77 + CAN/CSA-E60730-1; CCC; EAC; UL 1004-7 + 60730-1

Product drawing



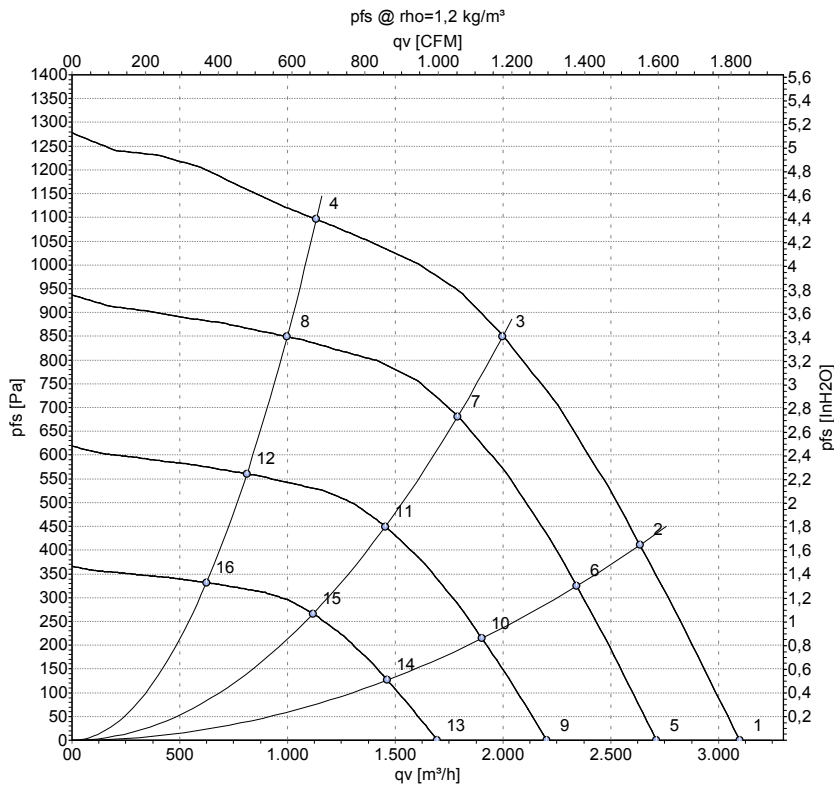
1	Cable diameter min. 4 mm, max. 10 mm; tightening torque 2.5 ± 0.4 Nm
2	Inlet ring with pressure tap (k-factor: 70)
3	Tightening torque 3.5 ± 0.5 Nm

Connection diagram



No.	Conn.	Designation	Function/assignment
PE		PE	Protective earth terminal
KL1	1, 2, 3	L1, L2, L3	Power supply, voltage range (see nameplate), 50/60 Hz
KL2	1	NC	Floating status contact, break for failure
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, make for failure
KL3	1	OUT	Analog output, 0-10 VDC, max. 3 mA, SELV, output of current motor modulation level: 1 V corresponds to 10% modulation level. 10 V corresponds to 100% modulation level.
KL3	2, 8	GND	Reference ground for control interface, SELV
KL3	3, 7	0-10 V	Use control / current 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, power supply for external devices (e.g. sensors), SELV
KL3	6	4-20 mA	Use control / current 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

Curves: Air performance 50 Hz



Measurement: LU-154881-1

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	f	n	P _{ed}	I	LwA _{in}	q _v	p _{fs}	q _v	p _{fs}
	V	Hz	min ⁻¹	W	A	dB(A)	m³/h	Pa	cfm	in. wg
1	400	50	3655	642	1.25	87	3095	0	1820	0.00
2	400	50	3605	735	1.32	84	2635	410	1550	1.65
3	400	50	3580	820	1.35	80	2000	850	1175	3.41
4	400	50	3635	709	1.32	88	1135	1100	665	4.42
5	400	50	3200	431	0.84		2710	0	1595	0.00
6	400	50	3200	515	0.98		2340	324	1375	1.30
7	400	50	3200	567	1.08		1790	683	1050	2.74
8	400	50	3200	484	0.94		1000	849	585	3.41
9	400	50	2600	231	0.45		2205	0	1295	0.00
10	400	50	2600	276	0.53		1900	214	1120	0.86
11	400	50	2600	304	0.58		1455	451	855	1.81
12	400	50	2600	259	0.50		810	561	475	2.25
13	400	50	2000	105	0.20		1695	0	995	0.00
14	400	50	2000	126	0.24		1465	127	860	0.51
15	400	50	2000	138	0.26		1115	267	655	1.07
16	400	50	2000	118	0.23		625	332	365	1.33

U = Voltage · f = Frequency · n = Speed (rpm) · P_{ed} = Power consumption · I = Current draw · LwA_{in} = Sound power level intake side · q_v = Air flow · p_{fs} = Pressure increase