K3G250-RR02-I7

EC centrifugal module - RadiCal

backward-curved, single-intake

with support bracket

ebm-papst Mulfingen GmbH & Co. KG
Bachmühle 2 · D-74673 Mulfingen
Phone +49 7938 81-0
Fax +49 7938 81-110
info1@de.ebmpapst.com
www.ebmpapst.com

Limited partnership · Headquarters Mulfingen
Amtsgericht (court of registration) Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen
Amtsgericht (court of registration) Stuttgart · HRB 590142

Nominal data

Type	**K3G250-RR02-I7**
Motor	**M3G084-DF**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min^{-1}	4250
Power consumption	W	750
Current draw	A	3.3
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}	%	58.3	50.2
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		70.1	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.75
09 Air flow q_v	m^3/h	1405
09 Pressure increase p_{fs}	Pa	1025
10 Speed (rpm) n	min^{-1}	4260
11 Specific ratio*		1.01

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

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Technical description

Weight	7.96 kg
Fan size	250 mm
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Impeller material	PA plastic
Support plate material	Sheet steel, galvanized and painted black
Support bracket material	Steel, painted black
Inlet nozzle material	Sheet steel, galvanized and painted black
Number of blades	6
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP55
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H1
Ambient temperature note	Occasional start-up between -40°C and -25°C is permissible. For continuous operation at temperatures below -25°C (e.g. refrigeration applications) we recommend our fan design with special low-temperature bearings.
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 - Operation and alarm display - Alarm relay - Integrated PID controller - Power limiter - Motor current limitation - PFC, active - RS-485 MODBUS-RTU - Soft start - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC circuit feedback	According to EN 61000-3-2/3
EMC interference emission	According to EN 61000-6-3 (household environment)
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Electrical hookup	With plug
Motor protection	Thermal overload protector (TOP) internally connected
With cable	Variable
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; EN 60335-1; CE

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Approval	C22.2 No.77 + CAN/CSA-E60730-1; EAC; UL 1004-7 + 60730

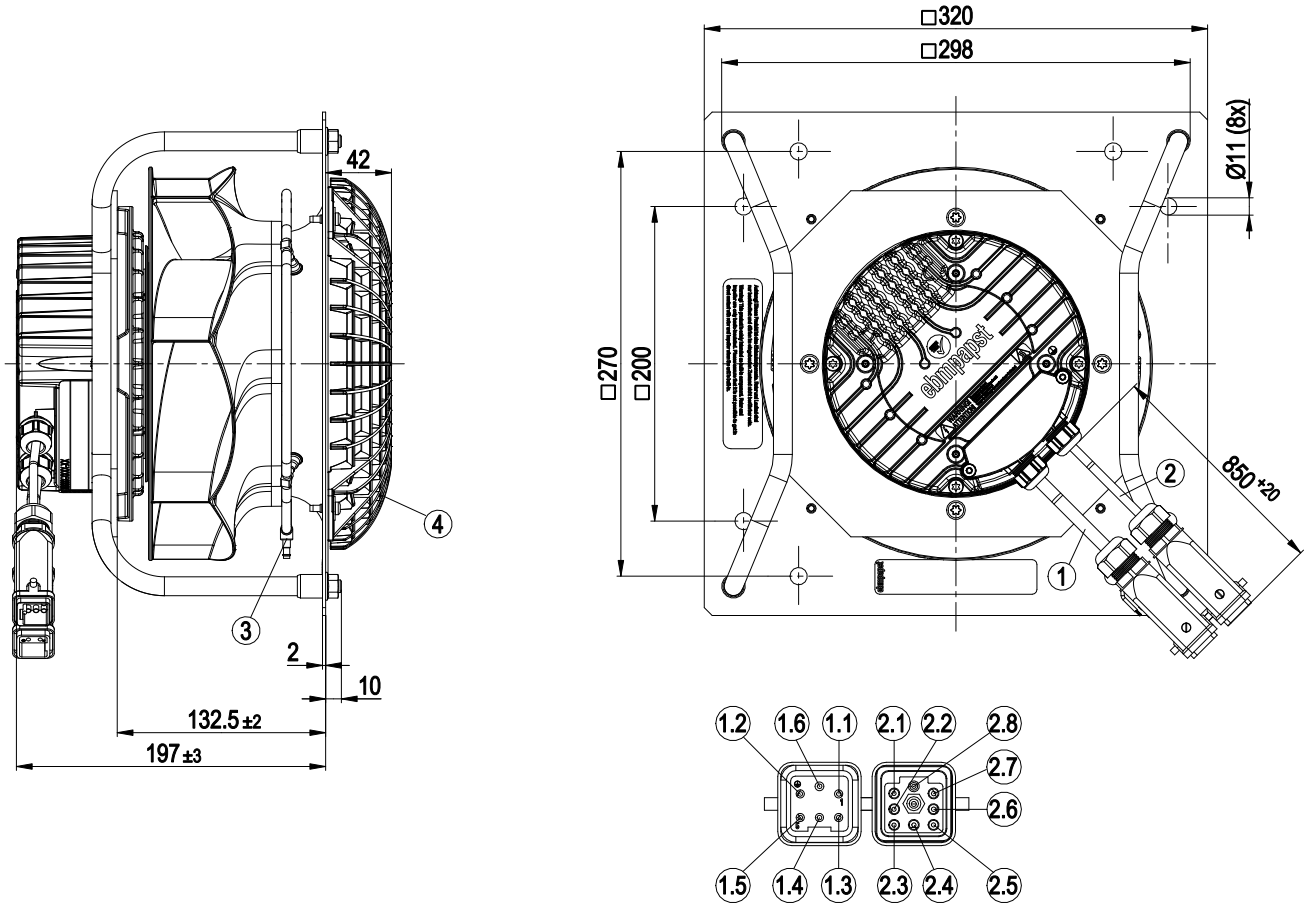
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Product drawing



1	Cable PVC AWG18 with connector housing Harting 19 20 003 0420 and pin insert Harting 09 12 005 3001; 4x plug pin 0933 000 6105
1.1	L
1.2	NC
1.3	COM
1.4	N
1.5	not used
1.6	PE
2	Cable PVC AWG22 with connector housing Harting no. 19200030420 and pin insert no. 09120073001; 4x plug pin 09150006104
2.1	not used
2.2	not used
2.3	GND
2.4	0-10 V PWM
2.5	RSA
2.6	RSB
2.7	not used
2.8	PE (not used)
3	Inlet ring with ring line (k-factor: 60)
4	FlowGrid

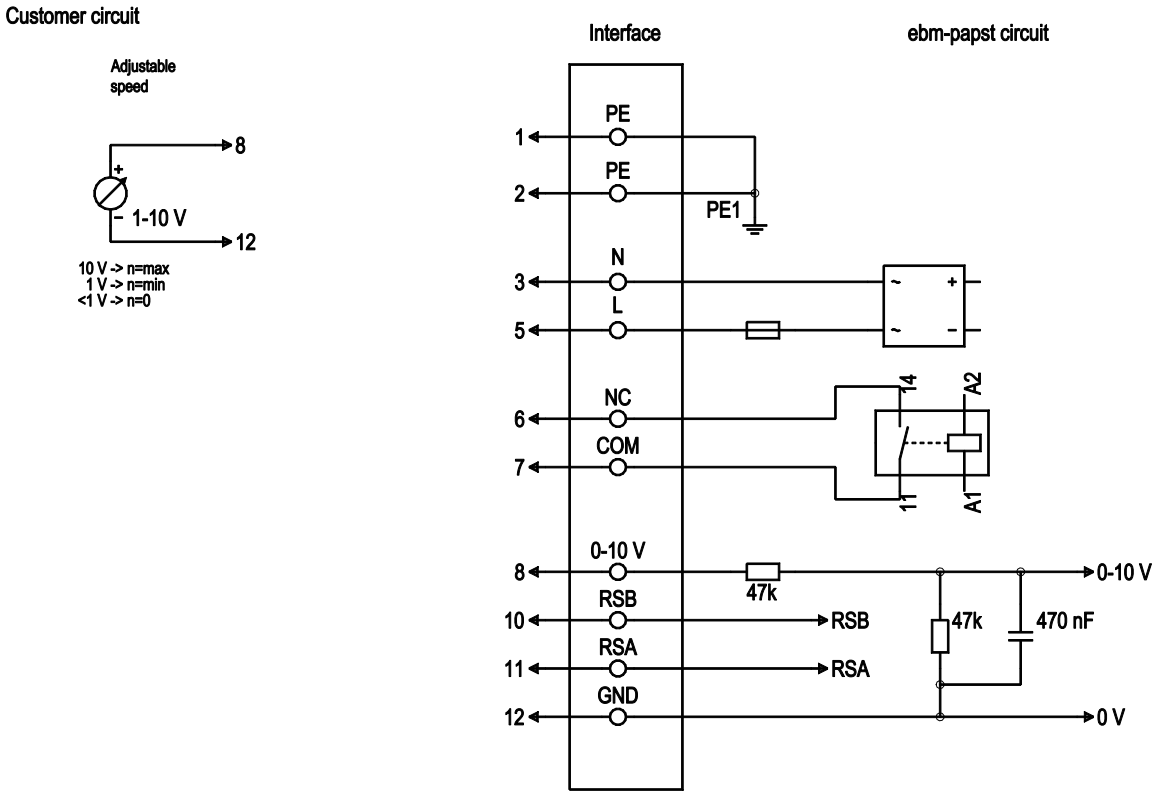
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Connection diagram



No.	Conn.	Designation	Color	Function/assignment
1	1, 2	PE	green/yellow	Protective earth
1	3	N	blue	Power supply, neutral conductor, 50/60 Hz
1	5	L	black	Power supply, phase, 50/60 Hz
1	6	NC	white 1	Status relay, floating status contact; break for failure, contact rating 250 VAC / 2A (AC1) / min. 10 mA, basic insulation on supply side and reinforced insulation on control interface side
1	7	COM	white 2	Status relay, floating status contact; common connection, contact rating 250 VAC / 2A (AC1) / min. 10 mA, basic insulation on supply side and reinforced insulation on control interface side
2	8	0-10V	yellow	Analog input (set value); 0-10 V; Ri = 100 kΩ; adjustable curve
2	10	RSB	brown	RS485 interface for MODBUS, RSB
2	11	RSA	white	RS485 interface for MODBUS, RSA
2	12	GND	blue	Reference ground for control interface, SELV

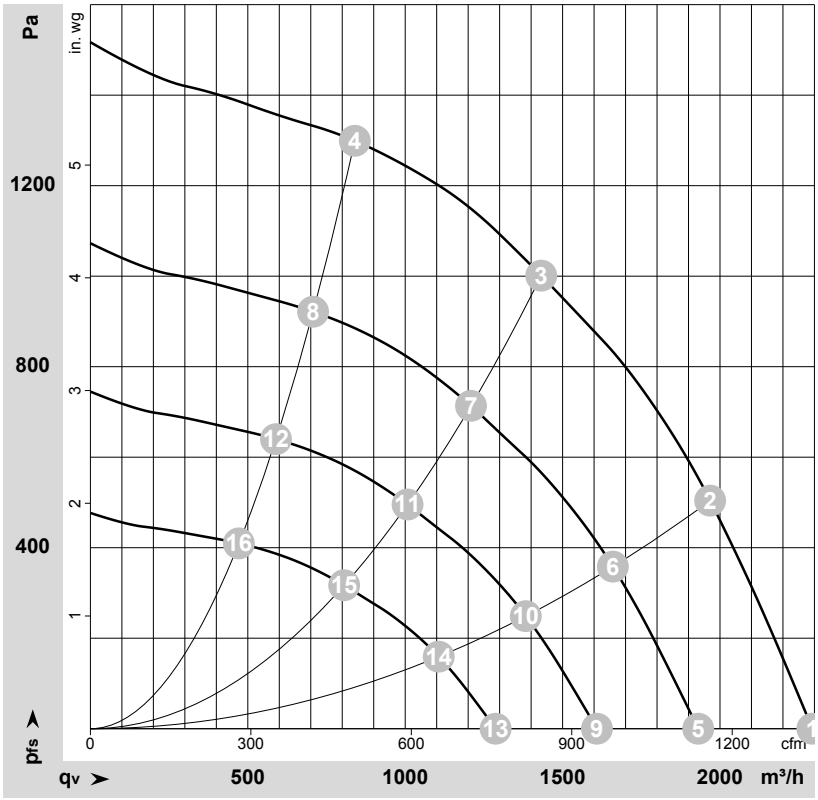
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Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-151692-1

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	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	230	50	4250	586	2.61	82	90	2295	0	1350	0.00
2	230	50	4250	691	3.04	78	86	1970	500	1160	2.01
3	230	50	4250	750	3.30	73	81	1430	1000	845	4.01
4	230	50	4250	663	2.92	77	85	840	1300	495	5.22
5	230	50	3600	349	1.56	78	86	1930	0	1135	0.00
6	230	50	3600	414	1.82	74	81	1660	358	975	1.44
7	230	50	3600	454	2.00	69	77	1210	714	710	2.87
8	230	50	3600	396	1.75	73	81	705	922	415	3.70
9	230	50	3000	202	0.90	73	81	1610	0	945	0.00
10	230	50	3000	240	1.06	69	77	1385	249	815	1.00
11	230	50	3000	263	1.16	65	73	1010	496	595	1.99
12	230	50	3000	229	1.01	69	76	590	640	345	2.57
13	230	50	2400	104	0.46	68	75	1285	0	755	0.00
14	230	50	2400	123	0.54	63	71	1105	159	650	0.64
15	230	50	2400	134	0.59	59	67	805	317	475	1.27
16	230	50	2400	117	0.52	63	70	470	410	280	1.65

U = Power supply · 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

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