K3G220-RD21-03

EC centrifugal module - RadiCal®

backward curved, single inlet

with housing



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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**K3G220-RD21-03**	
Motor	**M3G055-CF**	
Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 240
Frequency	Hz	50/60
Type of data definition		ml
Speed	min^{-1}	3230
Power input	W	168
Current draw	A	1.4
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	45

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

Installation category	A
Efficiency category	Static
Variable speed drive	Yes
Specific ratio*	1.00

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

		Actual	Request 2013	Request 2015
Overall efficiency η_{es}	%	53.7	39.1	43.1
Efficiency grade N		72.6	58	62
Power input P_{ed}	kW	0.16		
Air flow q_v	m^3/h	805		
Pressure increase p_{fs}	Pa	350		
Speed n	min^{-1}	3210		

Data definition with optimum efficiency. LU-132488
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.

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Technical features

Mass	2.1 kg
Size	220 mm
Surface of rotor	Thick layer passivated
Material of electronics housing	Die-cast aluminium
Material of impeller	PA plastic
Housing material	PA plastic
Number of blades	7
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 54
Insulation class	"B"
Max. permissible ambient motor temp. (transp./ storage)	+ 80 °C
Min. permissible ambient motor temp. (transp./storage)	- 40 °C
Mounting position	Any
Condensate discharge holes	None, open rotor
Operation mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 1.1 mA - Tach output - Motor current limit - Soft start - Control input 0-10 VDC / PWM - Over-temperature protected electronics / motor - Line undervoltage detection
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3.5 mA
Motor protection	Locked-rotor protection
Cable exit	Variable
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 60335-1; CE
Approval	CCC; EAC

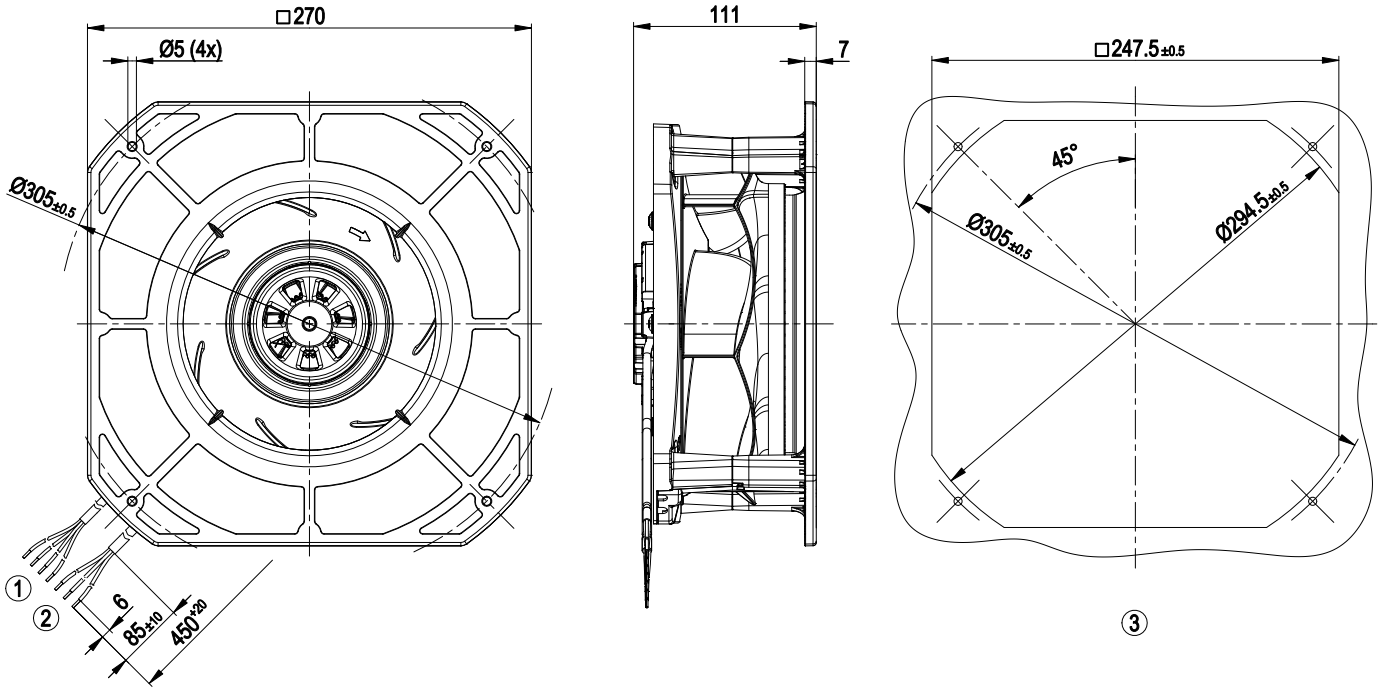
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Product drawing



1	Connection line PVC AWG22, 4x lead tips crimped
2	Connection line PVC AWG20, 3x lead tips crimped
3	Mounting dimensions

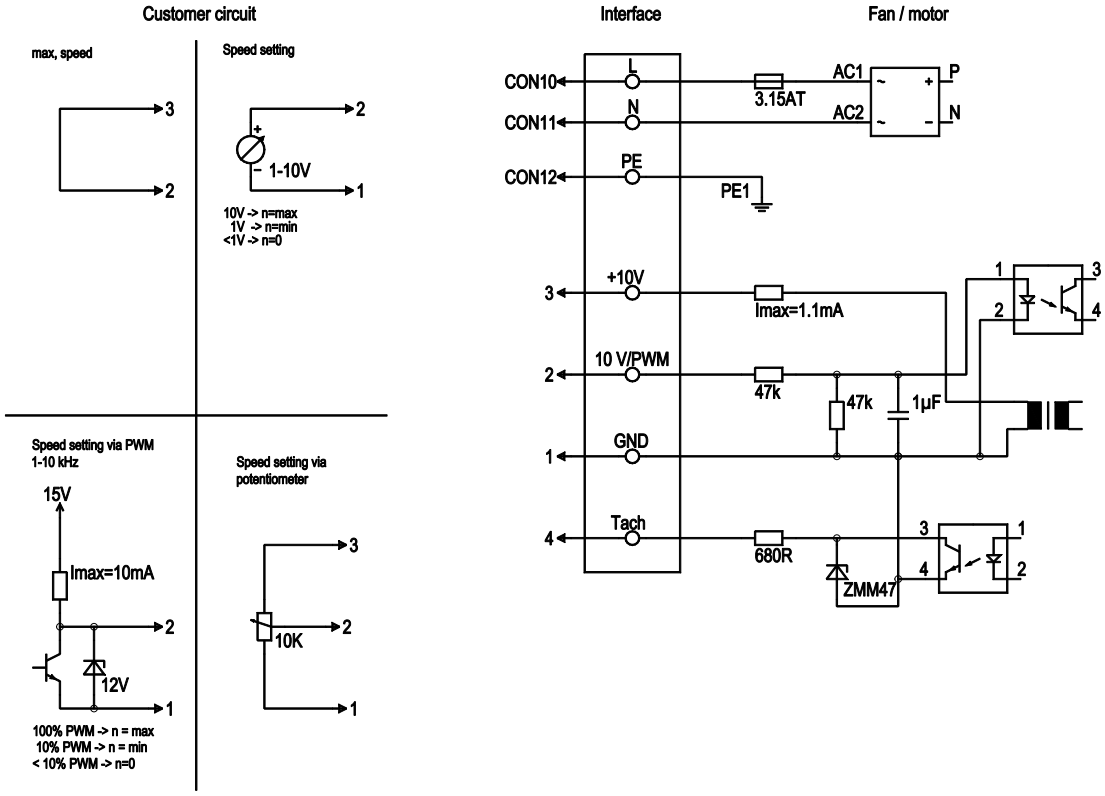
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Connection screen



No.	Conn.	Designation	Colour	Function / assignment
	CON10	L	black	Power supply 230 VAC, 50-60 Hz, for voltage range refer to rating plate
	CON11	N	blue	Neutral conductor
	CON12	PE	green/yellow	Protective earth
	1	GND	blue	GND - Connection for control interface
	2	0- 10V PWM	yellow	Control input 0 - 10 V or PWM, electrically isolated
	3	10V/ max 1.1mA	red	Voltage output 10V/ 1.1mA, electrically isolated, not short-circuit-proof.
	4	Tach	white	Tach output: open collector, 1 pulse per revolution, electrically isolated

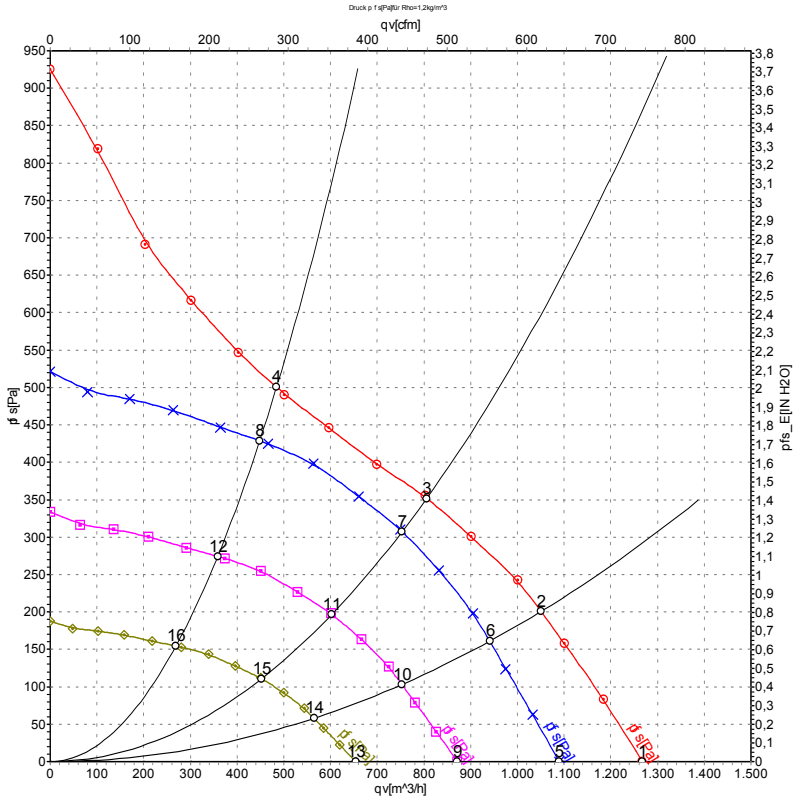
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Charts: Air flow 50 Hz



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}	qv	p_{fs}
	V	Hz	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa
1	230	50	3490	161	1.30	69	77	1270	0
2	230	50	3350	166	1.36	65	73	1050	200
3	230	50	3230	168	1.40	62	70	805	350
4	230	50	3240	165	1.35	64	72	485	500
5	230	50	3000	102	0.82	65	74	1090	0
6	230	50	3000	119	0.98	62	70	940	161
7	230	50	3000	135	1.10	60	68	755	309
8	230	50	3000	131	1.08	62	70	450	429
9	230	50	2400	52	0.42	60	69	870	0
10	230	50	2400	61	0.50	57	66	755	103
11	230	50	2400	69	0.57	55	64	600	198
12	230	50	2400	67	0.55	57	66	360	274
13	230	50	1800	22	0.18	54	62	655	0
14	230	50	1800	26	0.21	51	59	565	58
15	230	50	1800	29	0.24	49	57	450	111
16	230	50	1800	28	0.23	51	59	270	154

U = Supply voltage · f = Frequency · n = Speed · P_{ed} = Power input · I = Current draw · LpA_{in} = Sound pressure level inlet side · LwA_{in} = Sound power level inlet side · qv = Air flow
p_{fs} = Pressure increase

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