

EC centrifugal module - RadiCal®

backward curved, single inlet
with housing

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**Nominal data**

Type	K3G220-RD53-03	
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 = $1 + p_{fs} / 100\,000\text{ Pa}$

		Actual	Request 2013	Request 2015
Overall efficiency η_{es}	%	56.6	39.1	43.1
Efficiency grade N		75.5	58	62
Power input P_{ed}	kW	0.16		
Air flow q_v	m ³ /h	805		
Pressure increase p_{fs}	Pa	366		
Speed n	min ⁻¹	3210		

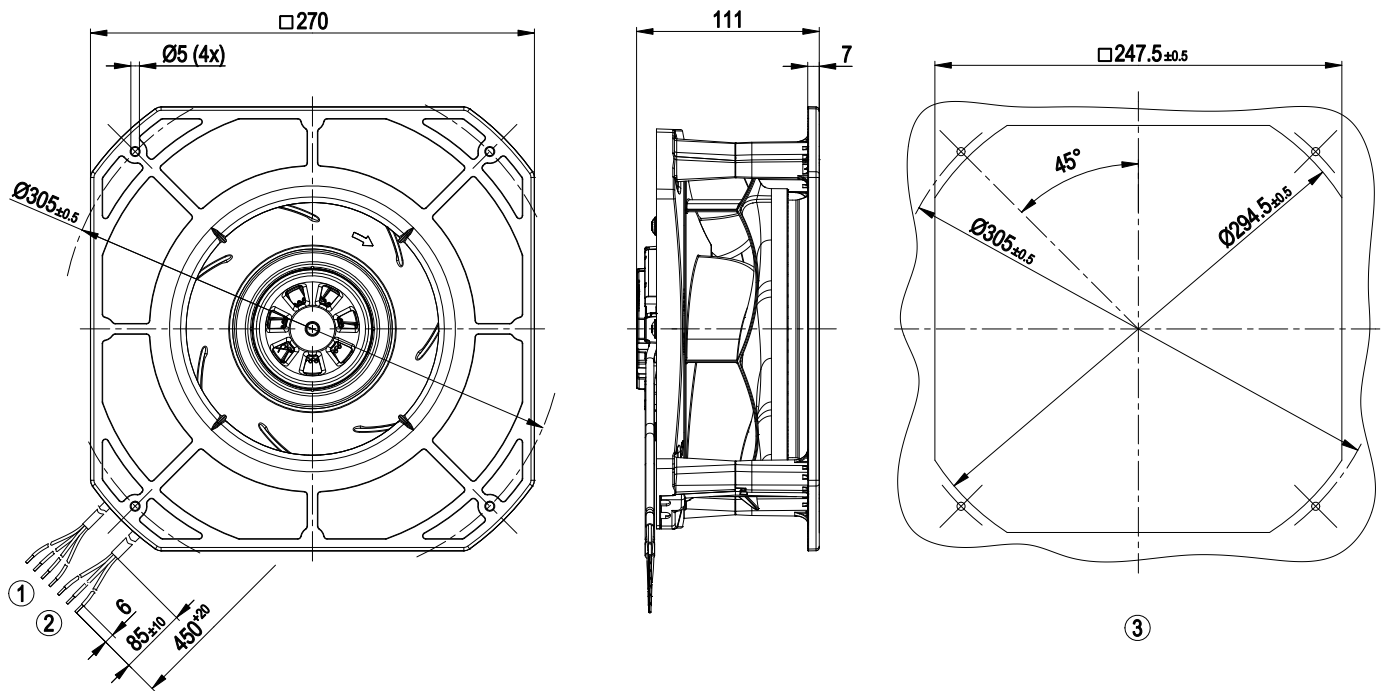
Data definition with optimum efficiency. LU-153697
The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.

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Technical features

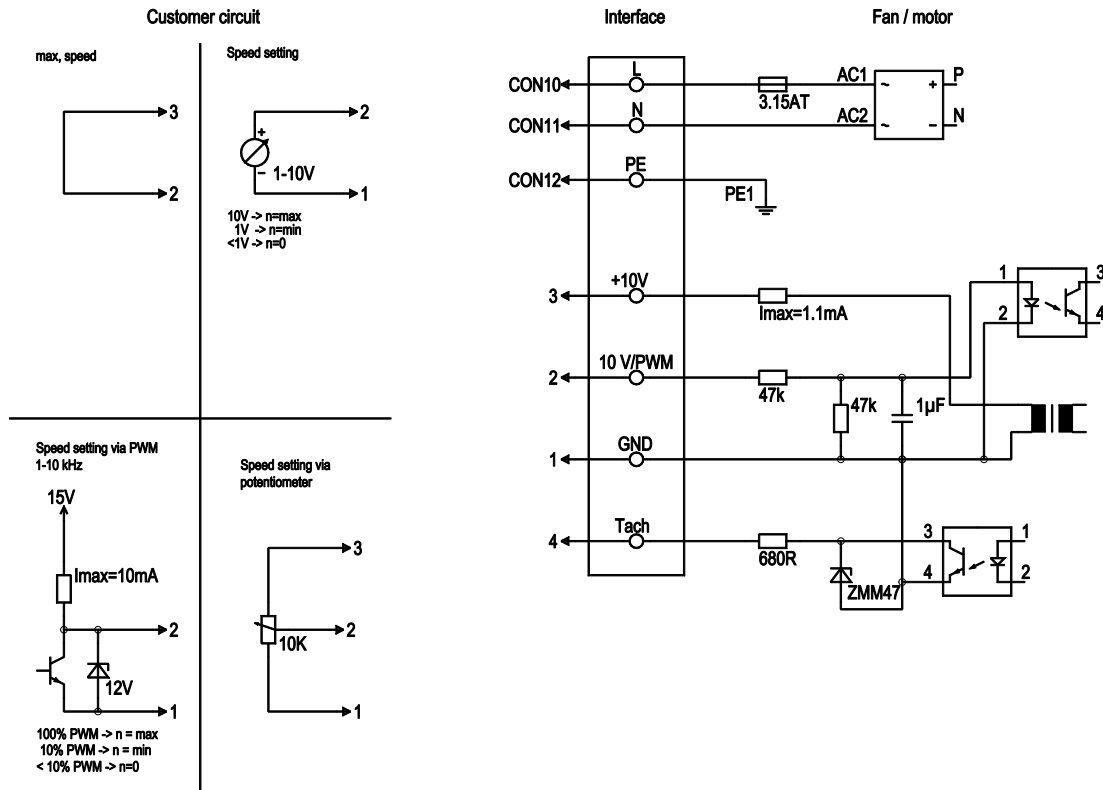
Mass	2.1 kg
Size	220 mm
Surface of rotor	Thick layer passivated
Material of electronics housing	Die-cast aluminium
Material of impeller	PA plastic, galvanised round sheet-metal plate
Housing material	PA plastic
Number of blades	7
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 54
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

Product drawing



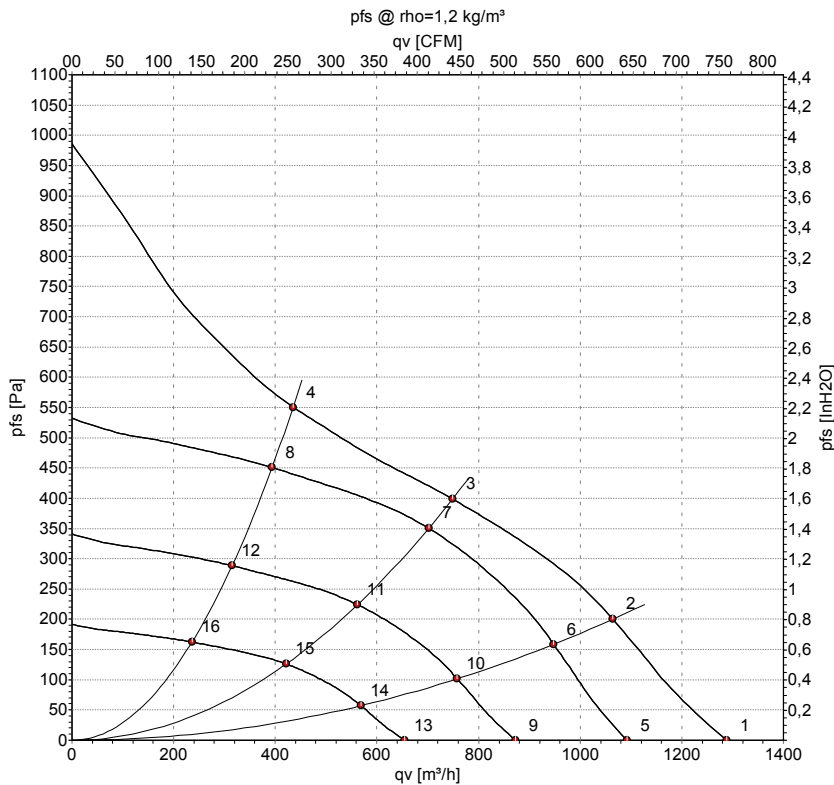
1	Connection line PVC AWG22, 4x lead tips crimped
2	Connection line PVC AWG20, 3x lead tips crimped
3	Mounting dimensions

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

Charts: Air flow 50 Hz



Measurement: LU-153697

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)	m³/h	Pa
1	230	50	3540	168	1.40	70	78	1290	0
2	230	50	3370	168	1.40	65	73	1065	200
3	230	50	3230	168	1.40	62	70	750	400
4	230	50	3310	168	1.40	66	74	435	550
5	230	50	3000	99	0.82	66	73	1090	0
6	230	50	3000	115	0.96	62	70	950	159
7	230	50	3000	135	1.12	61	68	700	350
8	230	50	3000	121	1.01	63	70	395	451
9	230	50	2400	51	0.42	60	68	875	0
10	230	50	2400	59	0.49	57	64	760	102
11	230	50	2400	69	0.57	55	63	560	224
12	230	50	2400	62	0.51	57	65	315	289
13	230	50	1800	21	0.18	53	61	655	0
14	230	50	1800	25	0.21	50	57	570	57
15	230	50	1800	29	0.24	48	55	420	126
16	230	50	1800	26	0.22	50	58	235	162

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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