K3G310-RR05-H4

EC centrifugal module - RadiCal

backward curved, single inlet

with support bracket



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Nominal data

Type	**K3G310-RR05-H4**
Motor	**M3G084-DF**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50/60
Type of data definition		ml
Speed (rpm)	min^{-1}	2360
Power input	W	500
Current draw	A	2.2
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	60

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

		Actual	Request 2015
01 Overall efficiency η_{es}	%	66.2	48.4
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		79.8	62
05 Variable speed drive		Yes	

09 Power input P_{ed}	kW	0.51
09 Air flow q_v	m^3/h	2400
09 Pressure increase p_{fs}	Pa	462
10 Speed (rpm) n	min^{-1}	2360
11 Specific ratio*		1.00

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-151718

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Technical features

Mass	9.5 kg
Size	310 mm
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium, coated in black
Material of impeller	PP plastic
Material of mounting plate	Sheet steel, galvanised and coated in black
Material of support bracket	Steel, coated in black
Material of inlet nozzle	Sheet steel, galvanised and coated in black
Number of blades	6
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 55; Depending on installation and position
Insulation class	"F"
Humidity (F)/environmental protection class (H)	F4-1
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
Condensate discharge holes	Rotor-side
Operation mode	S1
Motor bearing	Ball bearing; (sealed)
Technical features	- Output 10 VDC, max. 10 mA - Operation and alarm display - Alarm relay - Integrated PID controller - Output limit - Motor current limit - PFC, active - 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 harmonics	Acc. to EN 61000-3-2/3
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
Motor protection	Thermal overload protector (TOP) wired internally
Cable exit	Variable
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; EN 60335-1; CE
Approval	UL 1004-7 + 60730; C22.2 Nr.77 + CAN/CSA-E60730-1; EAC

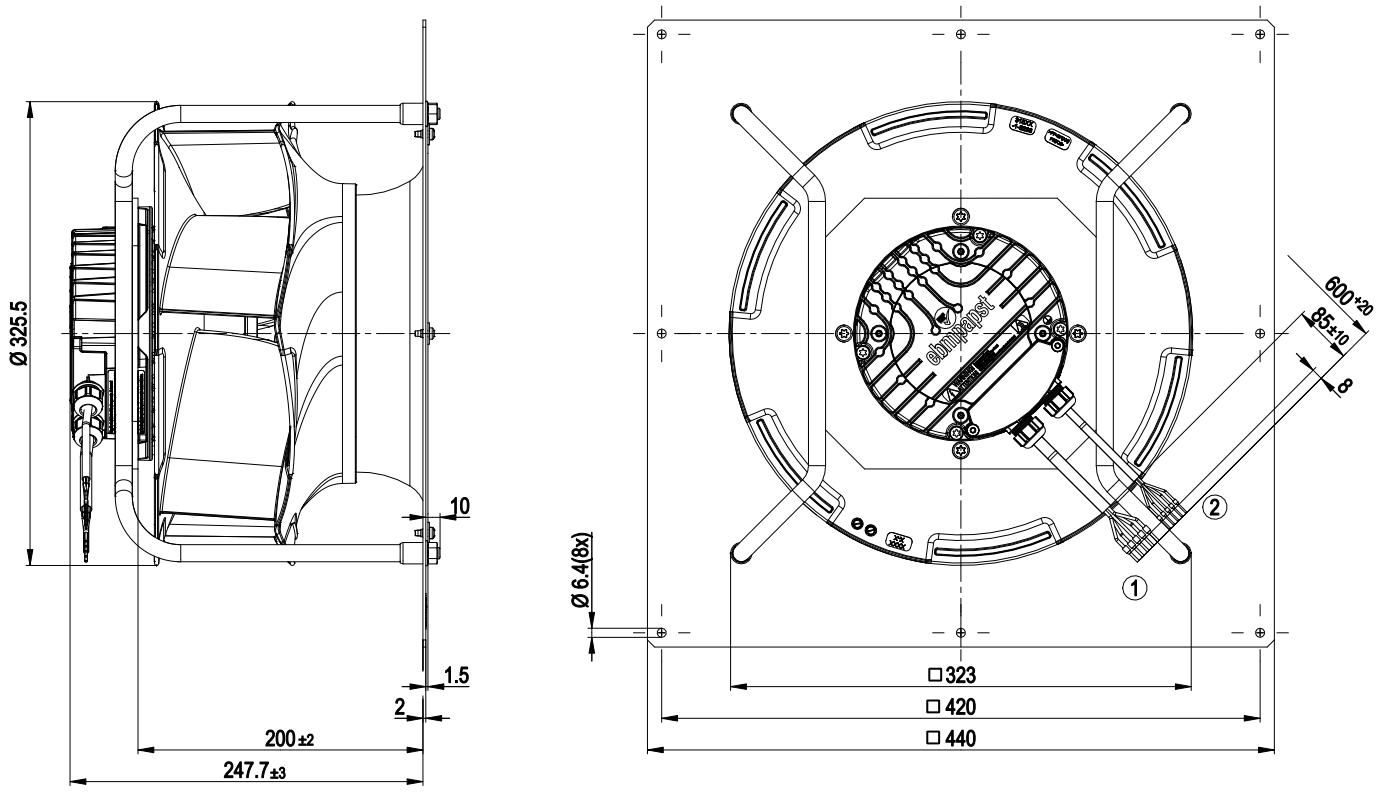
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Product drawing



1	Connection line PVC AWG18, 5x crimped core-end sleeves
2	Connection line PVC AWG22, 5x crimped core-end sleeves

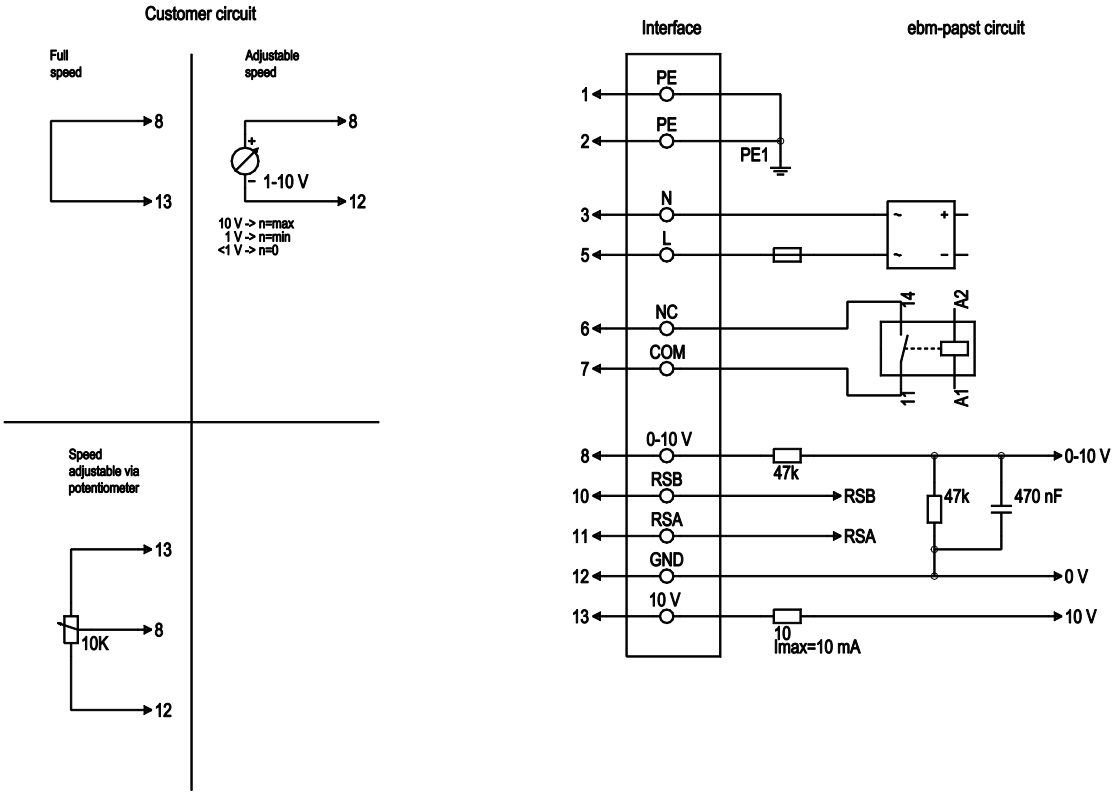
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Connection screen



No.	Conn.	Designation	Colour	Function / assignment
1	1, 2	PE	green/yellow	Protective earth
1	3	N	blue	Supply voltage, neutral conductor, 50/60 Hz
1	5	L	black	Supply voltage, 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 mains 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 mains side and reinforced insulation on control interface side
2	8	0-10V	yellow	Analogue input 1 (set value); 0-10 V; Ri=100kΩ; parametrisable 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
2	13	+10V	red	Fixed voltage output 10 VDC; +10 V +/-3%; max. 10 mA; short-circuit-proof; power supply for external devices (e.g. potentiometer)

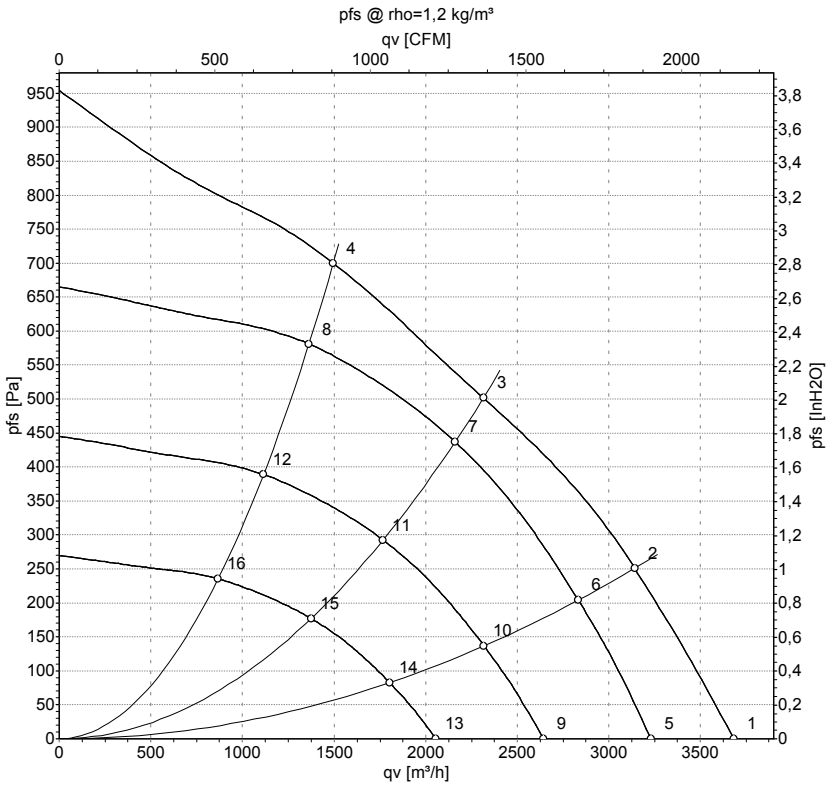
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Charts: Air flow 50 Hz



Measurement: LU-151718-1

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}	q_V	p_{fs}	q_V	p_{fs}
	V	Hz	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa	cfm	inH2O
1	230	50	2510	430	1.88	74	81	3680	0	2165	0.00
2	230	50	2440	500	2.20	69	76	3140	250	1850	1.00
3	230	50	2360	500	2.20	65	72	2315	500	1365	2.01
4	230	50	2410	500	2.20	70	77	1495	700	880	2.81
5	230	50	2200	291	1.27	71	78	3230	0	1900	0.00
6	230	50	2200	373	1.62	67	74	2835	204	1670	0.82
7	230	50	2200	420	1.83	63	70	2160	437	1270	1.75
8	230	50	2200	393	1.71	67	75	1365	583	800	2.34
9	230	50	1800	159	0.70	66	73	2645	0	1555	0.00
10	230	50	1800	204	0.89	62	69	2320	137	1365	0.55
11	230	50	1800	230	1.00	58	65	1770	293	1040	1.18
12	230	50	1800	215	0.94	62	70	1115	391	655	1.57
13	230	50	1400	75	0.33	59	67	2055	0	1210	0.00
14	230	50	1400	96	0.42	55	63	1805	83	1060	0.33
15	230	50	1400	108	0.47	52	59	1375	177	810	0.71
16	230	50	1400	101	0.44	56	63	870	236	510	0.95

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 · q_V = Air flow p_{fs} = Pressure increase

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