EC centrifugal module - RadiPac

backward-curved, single-intake

with support bracket

K3G280-BB04-J4 ebmpapst Datasheet
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www.fansco.com

Nominal data

Type	**K3G280-BB04-J4**
Motor	**M3G084-DF**

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}	3140
Power consumption	W	1040
Current draw	A	1.64
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	40

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}	%	63.3	51.6
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		73.7	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	1.02
09 Air flow q_v	m^3/h	2690
09 Pressure increase p_{fs}	Pa	806
10 Speed (rpm) n	min^{-1}	3150
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

LU-200574

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Technical description

Weight	9.7 kg
Size	280 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	IP55
Insulation class	"F"
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; (sealed)
Technical features	- Output 10 VDC, max. 10 mA - Operation and alarm display - Alarm relay - Integrated PID controller - Power limiter - Motor current limitation - PFC, passive - RS-485 MODBUS-RTU - Soft start - EEPROM write cycles: 100,000 maximum - Control input 0-10 VDC / PWM - Control interface with SELV potential safely disconnected from the mains - Temperature derating - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC interference emission	According to EN 61000-6-3 (household environment), except EN 61000-3-2 for professionally used equipment with a total rated power greater than 1 kW
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Electrical hookup	Connector with cable
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; CE

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

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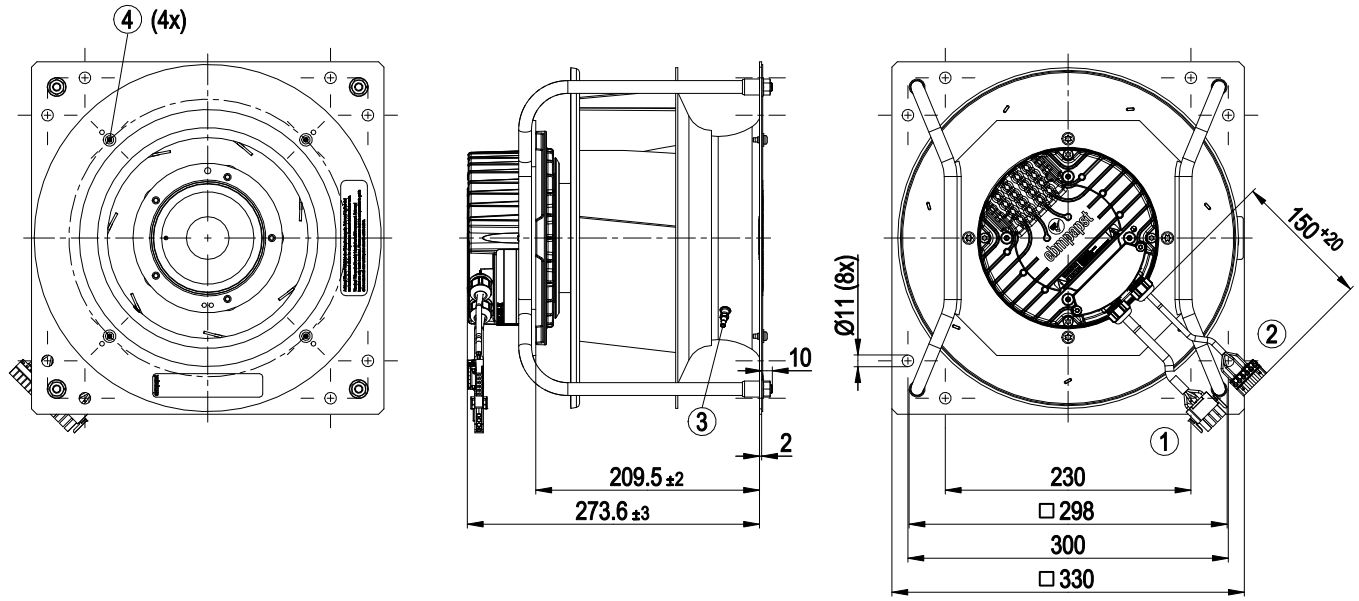
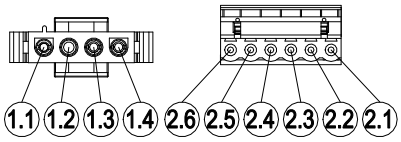
Product drawing





1	Cable PVC AWG18
	4-pole connector housing TE 1-480702-0, 3x plug pin TE 350218-1, 1x plug pin TE 350654-1
1.1	PE
1.2	L3
1.3	L2
1.4	L1
2	Cable PVC AWG22
	6-pole connector housing Phoenix MSTB 2,5/6-ST/5,08 (Order Number 1757051), 4x wire-end ferrule
2.1	not used
2.2	GND
2.3	0-10 V
2.4	not used
2.5	NC
2.6	COM
3	Inlet ring with pressure tap (k-factor: 93)
4	Attachment for inlet ring and FlowGrid

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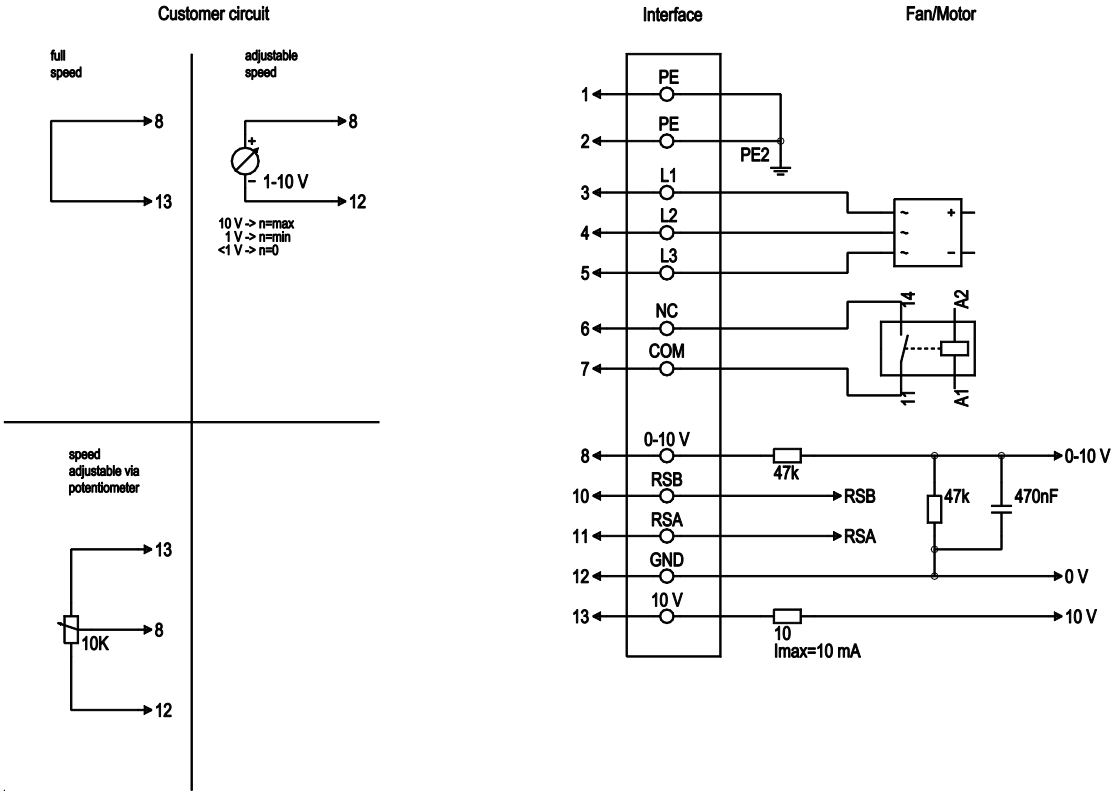
Connection diagram



No.	Conn.	Designation	Color	Function/assignment
1	1, 2	PE	green/yellow	Protective earth
1	3, 4, 5	L1, L2, L3	black	Power supply, phase, 50/60 Hz
1	6	NC	white 1	Status relay, floating status contact, break for failure, contact rating 250 VAC/30 VDC 5 A minimum contact gap 1 mA/5 VDC, reinforced insulation on control interface side, functional insulation on supply side
1	7	COM	white 2	Status relay, floating status contact, common connection, contact rating 250 VAC/30 VDC 5 A minimum contact gap 1 mA/5 VDC, reinforced insulation on control interface side, functional insulation on supply side
2	8	0-10V	yellow	Analog input (set value) SELV, 0-10 V, Ri = 100 kΩ, adjustable curve
2	10	RSB	-	not brought out via wire
2	11	RSA	-	not brought out via wire
2	12	GND	blue	Reference ground for control interface, SELV
2	13	+10V	-	not brought out via wire

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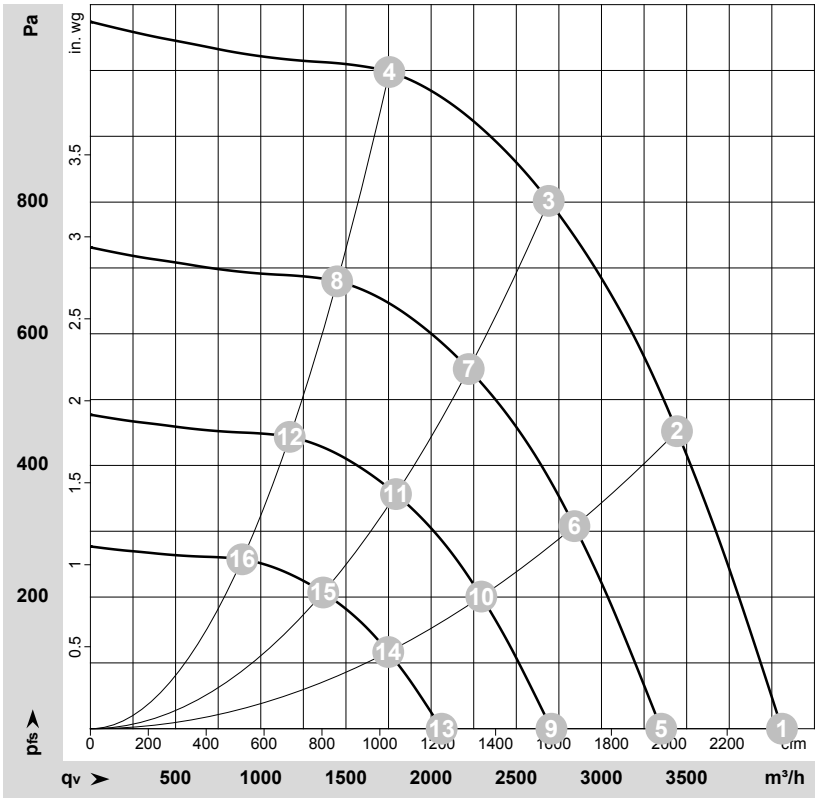
Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-200574-1

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

	Wired	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	3~	400	50	3140	688	1.08	78	86	4060	0	2390	0.00
2	3~	400	50	3140	904	1.40	74	82	3445	450	2025	1.81
3	3~	400	50	3140	1040	1.64	71	79	2690	800	1585	3.21
4	3~	400	50	3140	908	1.40	74	82	1755	1000	1035	4.01
5	3~	400	50	2600	387	0.61	73	81	3350	0	1970	0.00
6	3~	400	50	2600	508	0.78	69	77	2840	308	1670	1.24
7	3~	400	50	2600	579	0.89	66	74	2220	548	1305	2.20
8	3~	400	50	2600	510	0.79	69	78	1450	681	850	2.73
9	3~	400	50	2100	204	0.32	67	75	2705	0	1595	0.00
10	3~	400	50	2100	267	0.41	63	71	2295	201	1350	0.81
11	3~	400	50	2100	305	0.47	61	69	1795	358	1055	1.44
12	3~	400	50	2100	269	0.42	64	72	1170	444	690	1.78
13	3~	400	50	1600	90	0.14	61	68	2060	0	1215	0.00
14	3~	400	50	1600	118	0.18	57	65	1750	117	1030	0.47
15	3~	400	50	1600	135	0.21	54	62	1365	208	805	0.84
16	3~	400	50	1600	119	0.18	57	65	890	258	525	1.04

Wired = Wiring · U = Voltage · 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