K3G400-AM55-02

EC centrifugal module

backward curved, single inlet

with support bracket

K3G400-AM55-02 ebmpapst Datasheet
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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**K3G400-AM55-02**	
Motor	**M3G112-EA**	
Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Type of data definition		ml
State		prelim.
Speed	min^{-1}	1750
Power input	W	810
Current draw	A	1.6
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	40

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*	1.01

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

		Actual	Request 2013	Request 2015
Overall efficiency η_{es}		59.1	46.5	50.5
Efficiency grade N		70.6	58	62
Power input P_{ed}	kW	0.8		
Air flow q_v	m^3/h	3255		
Pressure increase p_{fs}	Pa	483		
Speed n	min^{-1}	1755		

Data established at point of optimum efficiency

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Technical features

Mass	16 kg
Size	400 mm
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium
Material of impeller	Aluminium sheet
Material of mounting plate	Sheet steel, hot-dip galvanised
Material of support bracket	Steel, coated in black
Material of inlet nozzle	Sheet steel, hot-galvanised
Number of blades	6
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 54
Insulation class	"B"
Humidity class	F4-1
Max. permissible ambient motor temp. (transp./ storage)	+80 °C
Min. permissible ambient motor temp. (transp./storage)	-40 °C
Mounting position	Refer to product drawing
Condensate discharge holes	Rotor-side
Operation mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Output 20 VDC, max. 50 mA - Output for slave 0-10 V - Input for sensor 0-10 V or 4-20 mA - Alarm relay - Integrated PID controller - Motor current limit - PFC, passive - RS485 ebmBUS - Soft start - Control input 0-10 VDC / PWM - 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
Electrical leads	Via terminal box
Motor protection	Thermal overload protector (TOP) wired internally
Protection class	I (if protective earth is connected by customer)

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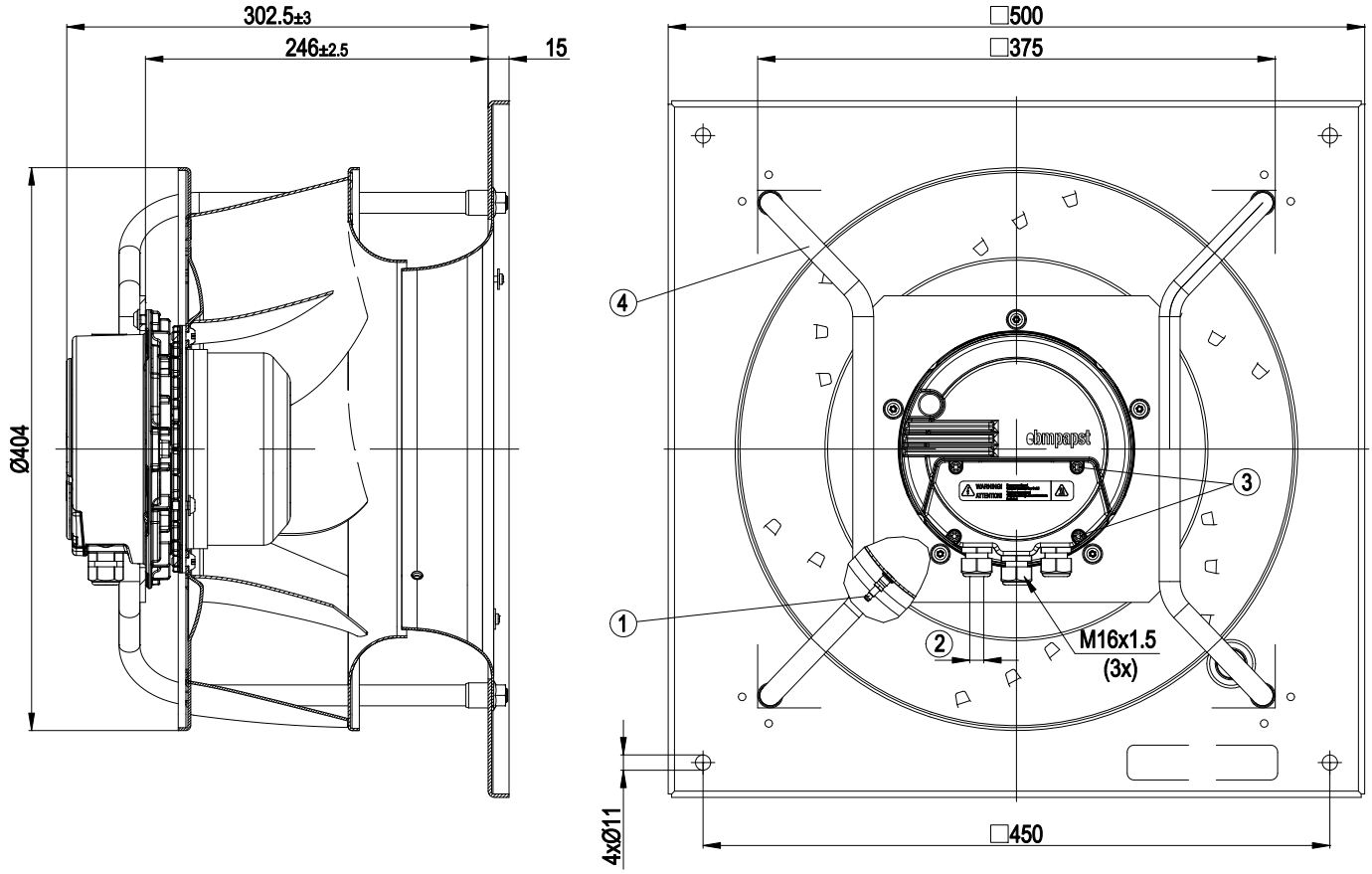
Product drawing



1	Inlet nozzle with bleeder connection for pressure relief (k-factor: 183)
2	Cable diameter: min. 4 mm, max. 10 mm, tightening torque: 2.5±0.4 Nm
3	Tightening torque 3.5±0.5 Nm
4	Mounting position: shaft horizontal (install the support struts only vertically as shown in the view!) or rotor on bottom; rotor on top on request

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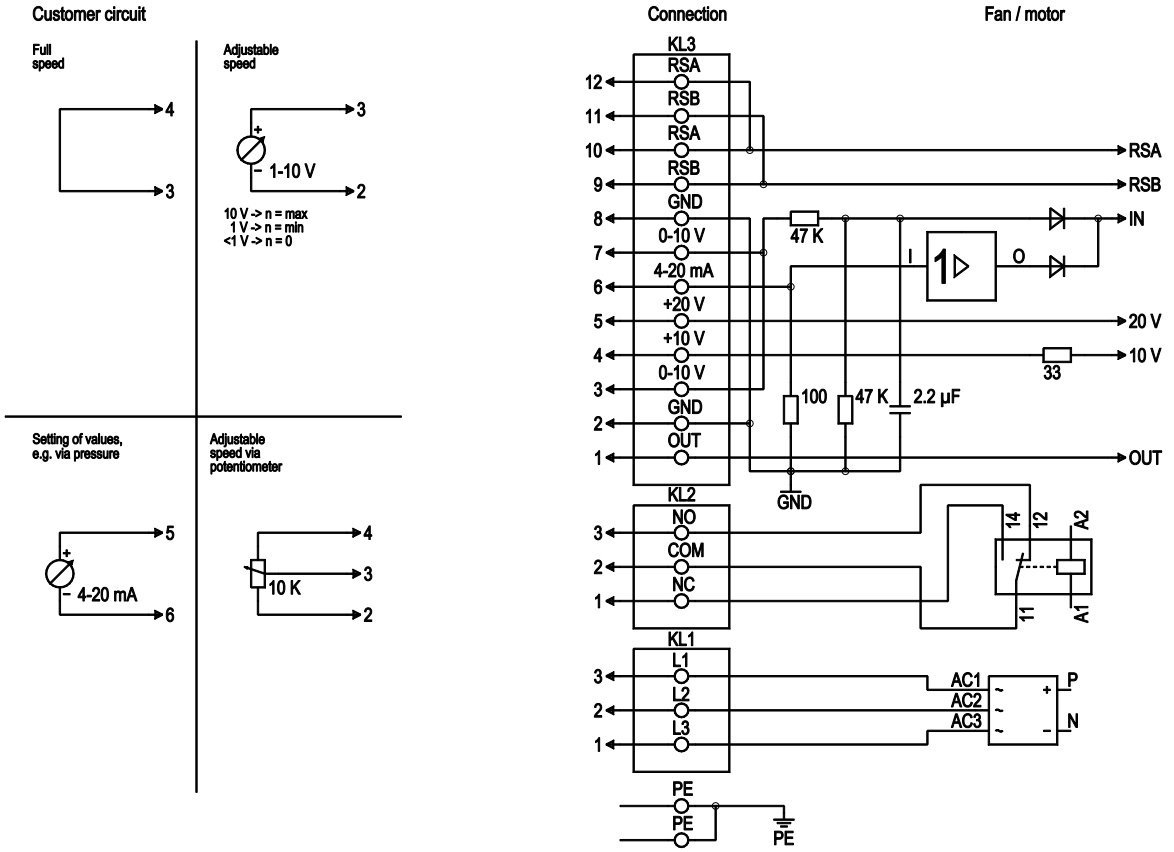
Connection screen



No.	Pin	Signal	Function / assignment
PE		PE	Protective earth connection
KL1	1, 2, 3	L1, L2, L3	Supply voltage, 50/60 Hz
KL2	1	NC	Floating status message contact, normally closed connection
KL2	2	COM	Floating status message contact, changeover contact, common connection (2 A, max. 250 VAC, min. 10 mA, AC1)
KL2	3	NO	Floating status message contact, normally open connection
KL3	1	OUT	Analog output, 0-10 VDC, max. 3 mA, SELV, output of the current level control coefficient: 1 V equates to 10% level control coefficient. 10 V equate to 100% level control coefficient.
KL3	2, 8	GND	Reference mass for control interface, SELV
KL3	3, 7	0-10 V	Use control / actual value input 0-10 VDC, impedance 100 kΩ only as alternative to 4-20 mA input, SELV
KL3	4	+10 V	Voltage output 10 VDC (+/-3%), max. 10 mA, supply voltage for external devices (e.g. potentiometers), SELV
KL3	5	+20 V	Voltage output 20 VDC (+25%/-10%), max. 50 mA, supply voltage for external devices (e.g. sensors), SELV
KL3	6	4-20 mA	Use control / actual value input 4-20 mA, impedance 100 Ω, only as alternative to 0-10 V input, SELV
KL3	9, 11	RSB	RS485 interface for ebmBus, RSB, SELV
KL3	10, 12	RSA	RS485 interface for ebmBus, RSA, SELV

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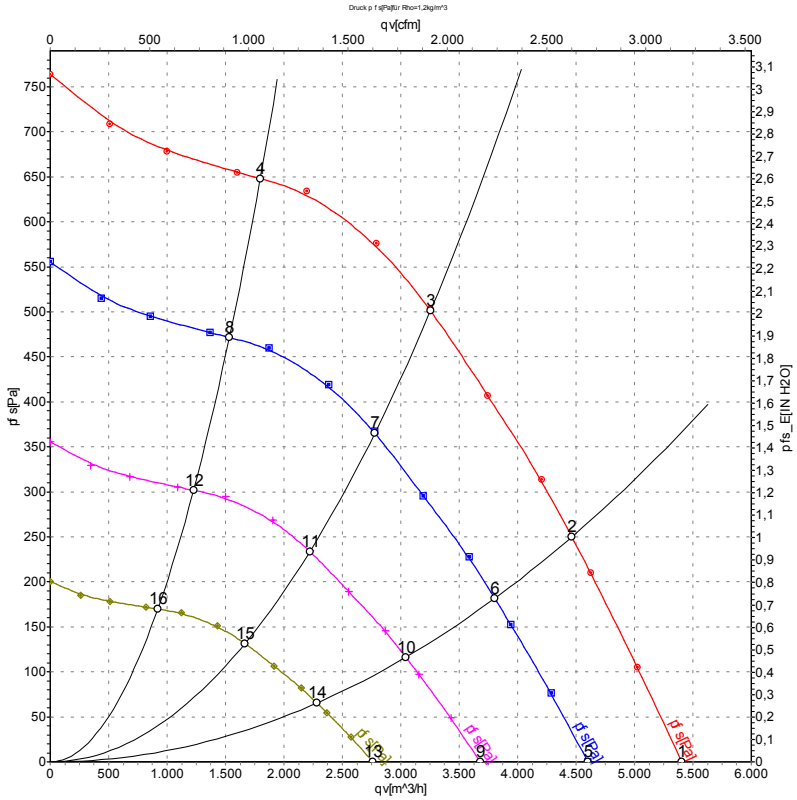
Charts: Air flow 50 Hz



Measurement: LU-110873

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}	LwA_{out}	qv	p_{fs}
	V	Hz	min^{-1}	W	A	dB(A)	dB(A)	dB(A)	m^3/h	Pa
1	400	50	1750	610	1.11	76	83	88	5405	0
2	400	50	1750	734	1.29	72	79	85	4465	250
3	400	50	1750	810	1.40	69	76	82	3255	500
4	400	50	1750	695	1.22	73	80	85	1795	650
5	400	50	1500	376	0.68	73	80	85	4605	0
6	400	50	1500	454	0.80	69	76	81	3805	182
7	400	50	1500	502	0.86	65	73	79	2775	367
8	400	50	1500	431	0.76	69	76	82	1535	471
9	400	50	1200	192	0.35	68	75	80	3680	0
10	400	50	1200	233	0.41	64	71	76	3045	116
11	400	50	1200	257	0.44	60	68	74	2220	235
12	400	50	1200	221	0.39	64	72	77	1225	302
13	400	50	900	81	0.15	62	68	74	2760	0
14	400	50	900	98	0.17	57	64	70	2285	65
15	400	50	900	108	0.19	54	62	67	1665	132
16	400	50	900	93	0.16	58	65	70	920	170

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 · LwA_{out} = Sound power level outlet side
qv = Air flow · p_{fs} = Pressure increase