K3G310-AX52-05

EC centrifugal module

backward-curved, single-intake

with support bracket

K3G310-AX52-05 ebmpapst Datasheet
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Nominal data

Type	**K3G310-AX52-05**	
Motor	**M3G112-EA**	
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}	2580
Power consumption	W	1000
Current draw	A	1.63
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	50

ml = Max. load · me = Max. efficiency · fa = Free air · cs = Customer specification · ce = Customer equipment
Subject to change

Data according to ErP Directive

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	63.3	51.4
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		73.9	62
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.98
09 Air flow q_v	m^3/h	3050
09 Pressure increase p_{fs}	Pa	681
10 Speed (rpm) n	min^{-1}	2590
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-106400

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Technical description

Weight	15.4 kg
Fan size	310 mm
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum, painted black
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	IP54
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	F4-1
Max. permitted ambient temp. for motor (transport/storage)	+80 °C
Min. permitted ambient temp. for motor (transport/storage)	-40 °C
Installation position	See product drawing
Condensation drainage holes	On rotor side
Mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Tach output - Alarm relay - Integrated PID controller - Motor current limitation - PFC, passive - RS-485 ebmBUS - Soft start - Control input 0-10 VDC / PWM - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC circuit feedback	According to EN 61000-3-2/3
EMC interference emission	According to EN 61000-6-3 (household environment)
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Motor protection	Thermal overload protector (TOP) internally connected
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE

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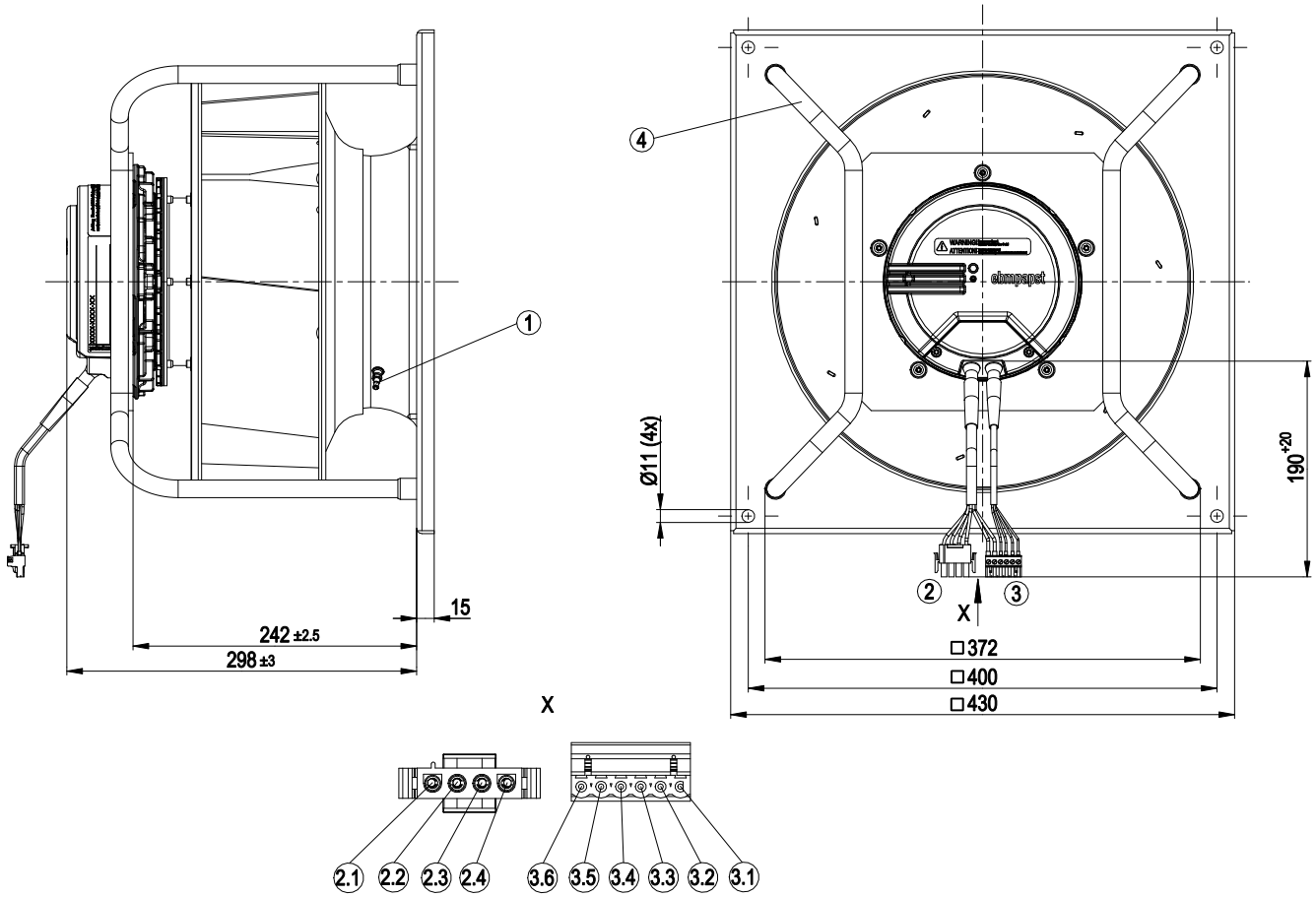
Product drawing



1	Inlet ring with pressure tap (k-factor: 116)
2	Cable AWG 18 with connector housing AMP part number 1-480 702-0 with 4 x plug pin AMP part number 926 885-1
2.1	PE (green/yellow)
2.2	L3 (black 3)
2.3	L2 (black 2)
2.4	L1 (black 1)
3	Cable AWG 18 and AWG 22 with connector housing Phönix part number 17 57 05 1
3.1	+10 V (red)
3.2	GND (blue)
3.3	0-10 V/PWM (yellow)
3.4	not specified (orange)
3.5	NC - Alarm (white1)
3.6	COM - Alarm (white 2)
4	Installation position: Shaft horizontal (only install support struts vertically as illustrated) or rotor on bottom; rotor on top on request

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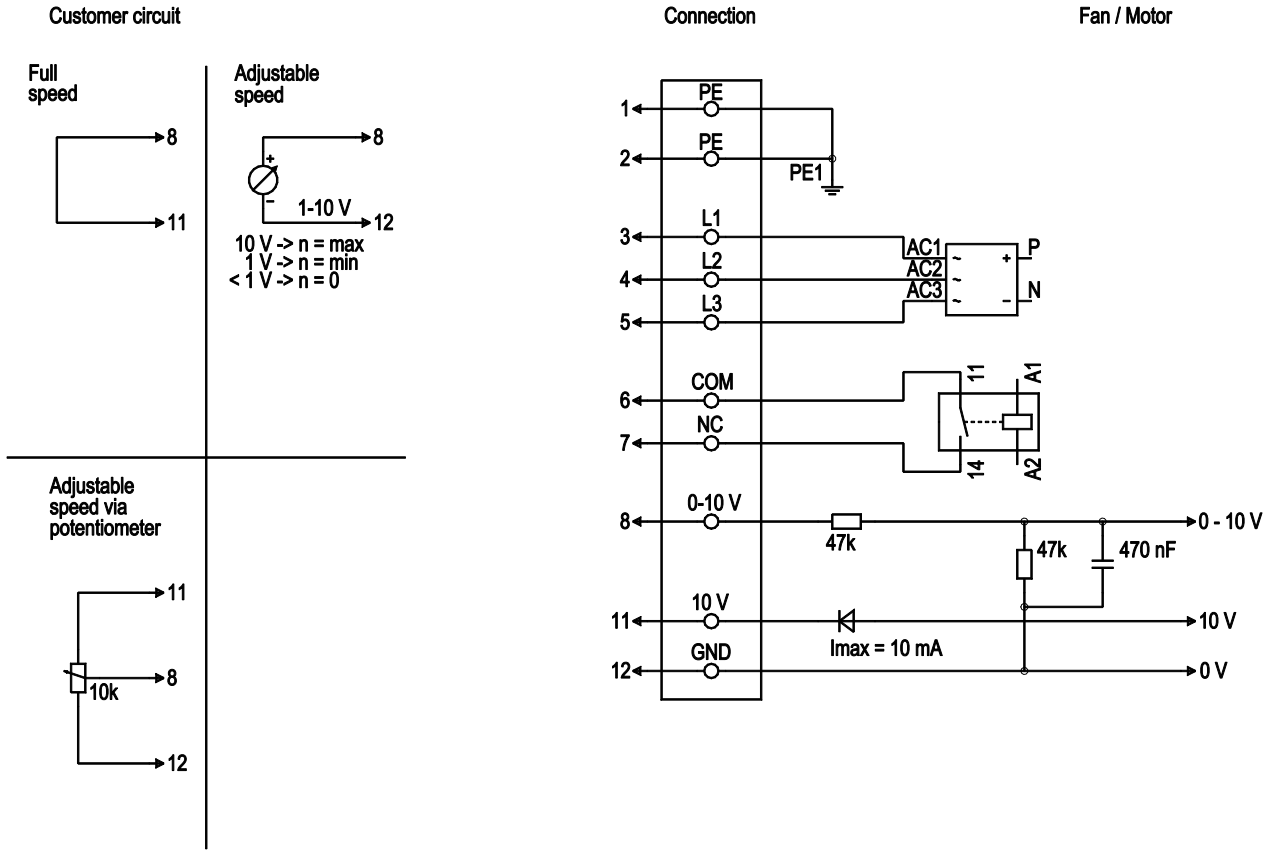
Connection diagram



No.	Conn.	Designation	Color	Function/assignment
1	1, 2	PE	green/yellow	Protective earth
1	3, 4, 5	L1, L2, L3	black	Power supply 50 / 60 Hz
1	6	COM	white 1	Floating status contact, break for failure (2A, max. 250 VAC, min. 10 mA, AC1)
1	7	NC	white 2	Floating status contact, break for failure
2	8	0 - 10 V	yellow	Control input, set value 0-10 VDC, impedance 100 kOhm, SELV
2	11	+ 10 V	red	Voltage output 10 VDC (±3%), max. 10 mA, power supply for external devices (e.g. potentiometers), SELV
2	12	GND	blue	Reference ground for control interface, SELV

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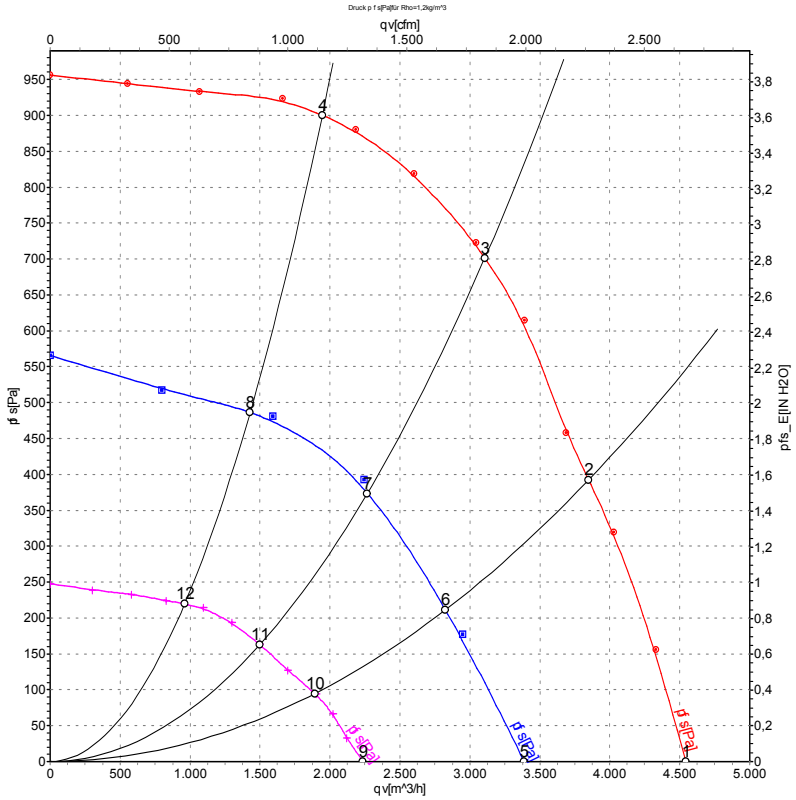
Curves: Air performance 50 Hz



Measurement: LU-106400-1
Measurement: LU-108542-1
Measurement: LU-106401-1

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

	U	f	n	P_{ed}	I	LpA_{in}	LwA_{in}	LwA_{out}	qv	p_{fs}	qv	p_{fs}
	V	Hz	min^{-1}	W	A	dB(A)	dB(A)	dB(A)	m^3/h	Pa	CFM	inH2O
1	400	50	2580	669	1.17	82	88	92	4540	0	2675	0.00
2	400	50	2580	862	1.46	75	81	87	3850	400	2265	1.61
3	400	50	2580	1000	1.63	70	77	83	3105	700	1830	2.81
4	400	50	2580	907	1.53	72	79	85	1945	900	1145	3.61
5	400	50	1930	288	0.57	73	80	84	3385	0	1995	0.00
6	400	50	1910	348	0.69	67	74	79	2825	216	1665	0.87
7	400	50	1900	396	0.77	63	70	76	2265	386	1335	1.55
8	400	50	1905	360	0.72	65	71	77	1430	489	840	1.96
9	400	50	1305	123	0.28	65	72	76	2235	0	1315	0.00
10	400	50	1305	144	0.33	60	67	72	1890	96	1115	0.39
11	400	50	1305	151	0.34	55	62	68	1495	164	880	0.66
12	400	50	1300	151	0.34	56	62	69	960	220	565	0.88

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