

A3G910-AO83-03

EC axial fan - HyBlade®

sickled blades (S series)



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Nominal data

Type	A3G910-AO83-03	
Motor	M3G112-IA	
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	610
Power input	W	625
Current draw	A	1.1
Max. back pressure	Pa	85
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

Installation category	A
Efficiency category	Static
Variable speed drive	Yes
Specific ratio*	1.00

* Specific ratio = $1 + p_b / 100\,000\text{ Pa}$

	Actual	Request 2013	Request 2015
Overall efficiency η_{es}	45.5	28.2	32.2
Efficiency grade N	53.3	36	40
Power input P_{ed}	kW	0.59	
Air flow q_v	m ³ /h	11680	
Pressure increase p_{fs}	Pa	76	
Speed n	min ⁻¹	615	

Data established at point of optimum efficiency



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Technical features

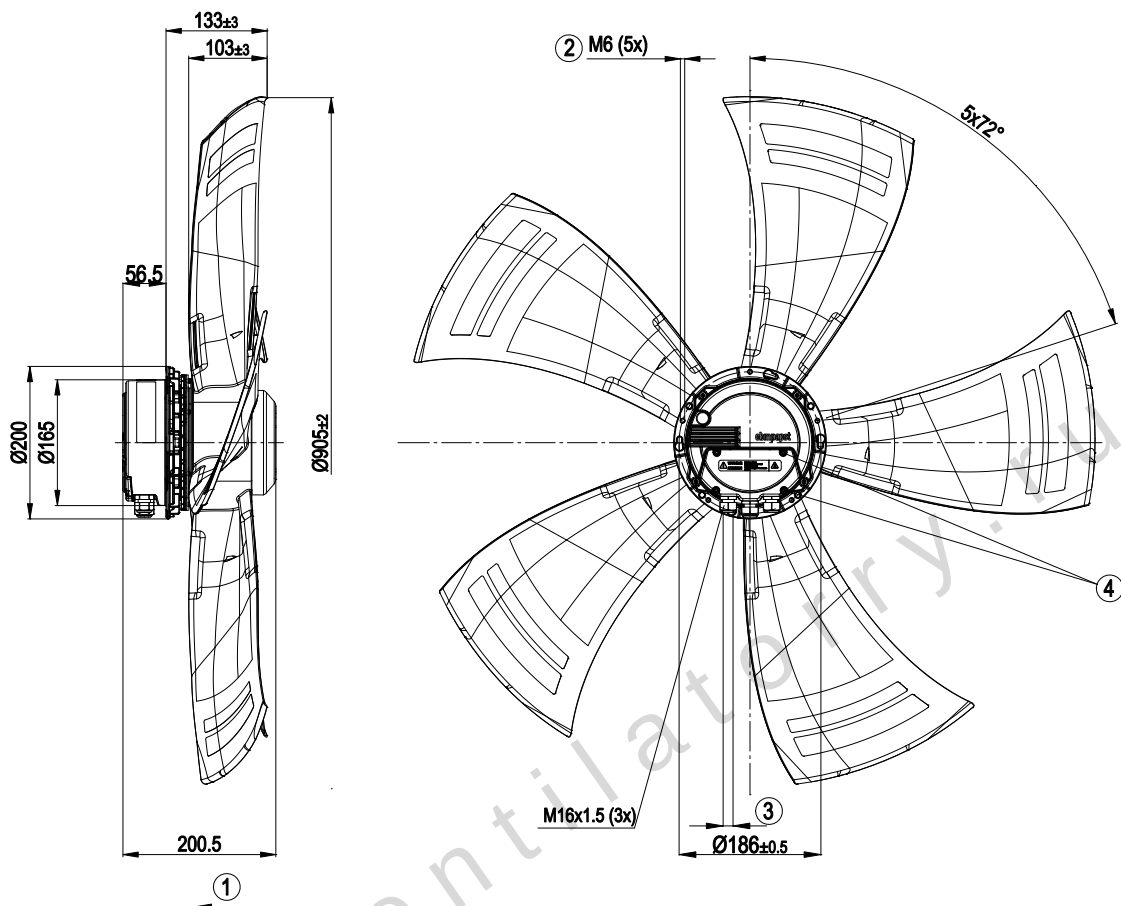
Mass	12.4 kg
Size	910 mm
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium, coated in black
Material of blades	Press-fitted sheet steel blank, sprayed with PP plastic
Number of blades	5
Blade angle	0°
Direction of air flow	"V"
Direction of rotation	Clockwise, seen on 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	Shaft horizontal or rotor on bottom; rotor on top on request
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 - 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
Electrical leads	Via terminal box
Motor protection	Thermal overload protector (TOP) wired internally
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 61800-5-1; CE

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Product drawing



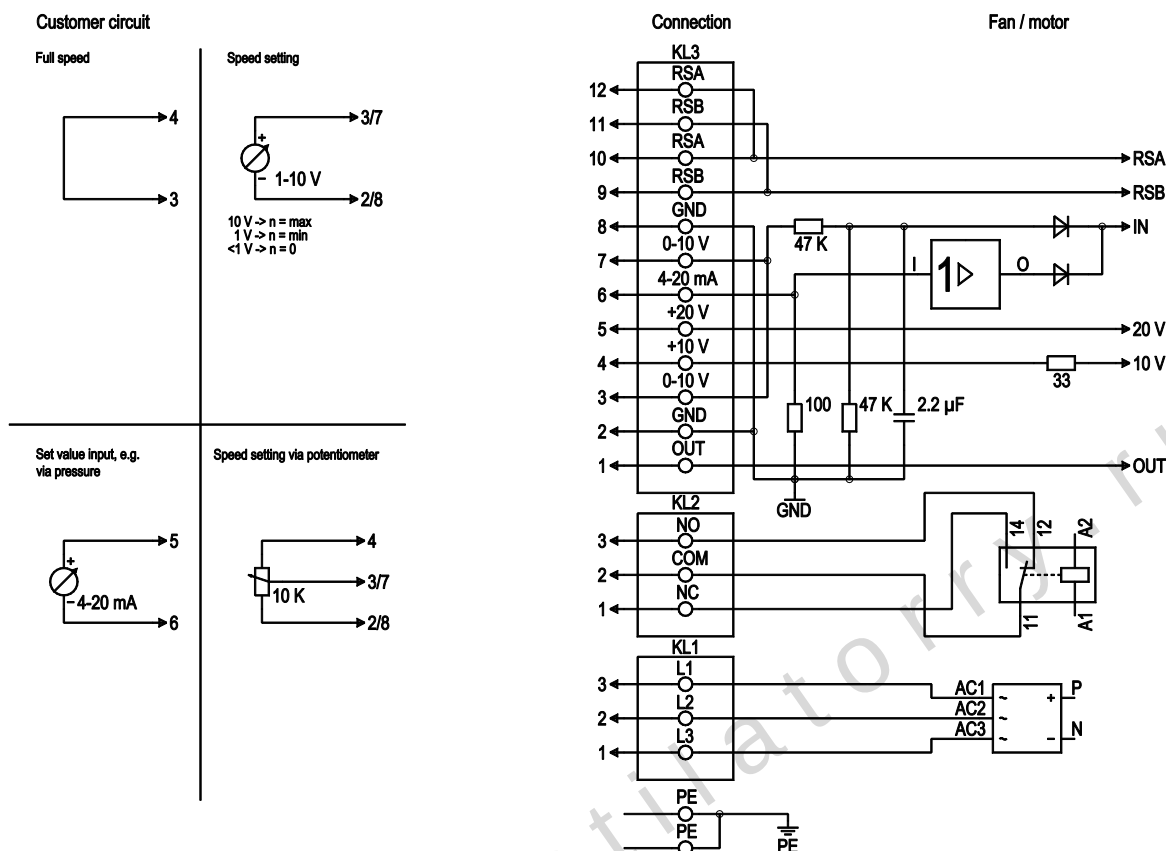
1	Direction of air flow "V"
2	Depth of screw max. 16 mm
3	Cable diameter: min. 4 mm, max. 10 mm; tightening torque: 2.5±0.4 Nm
4	Tightening torque 3.5±0.5 Nm

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Connection screen



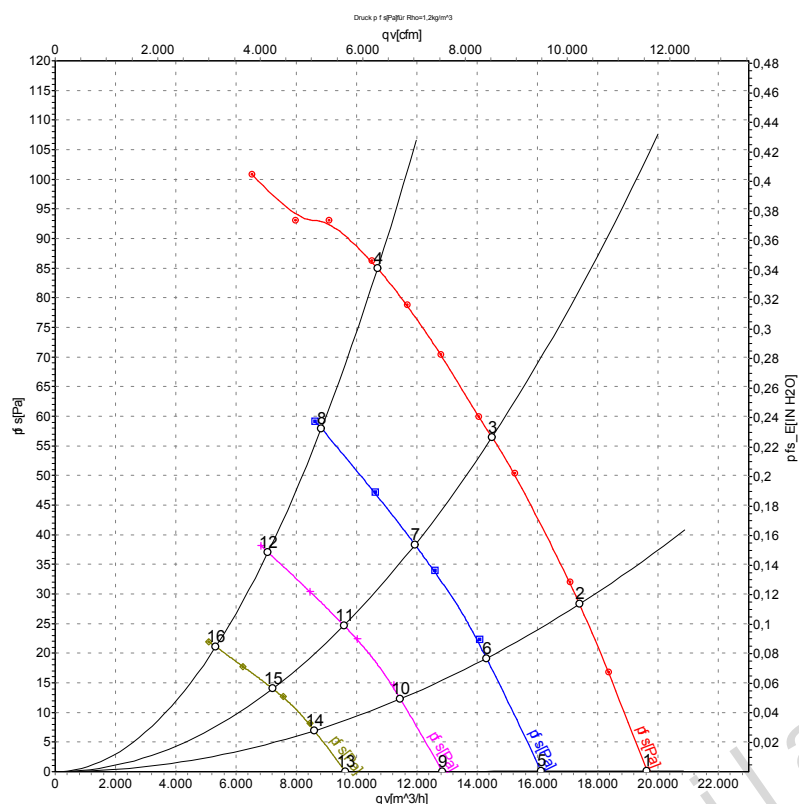
No.	Pin	Signal	Function / assignment
PE		PE	Protective earth connection
KL1	1, 2, 3	L1, L2, L3	Supply voltage, 50/60 Hz
KL2	1	NC	Floating status message contact, normally closed connection; break for failure
KL2	2	COM	Floating status message contact, changeover contact, common connection (2 A, max. 250 VAC, min. 10 mA, AC1)
KL2	3	NO	Floating status message contact, normally open connection; make for failure
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-120677
 Measurement: LU-120687
 Measurement: LU-120688
 Measurement: LU-120689

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}	q _v	p _{fs}
	V	Hz	min ⁻¹	W	A	dB(A)	dB(A)	dB(A)	m ³ /h	Pa
1	400	50	610	380	0.69	60	68	67	19630	0
2	400	50	610	463	0.77	59	66	65	17390	28
3	400	50	610	541	0.89	58	66	65	14480	56
4	400	50	610	625	1.10	62	70	70	10690	85
5	400	50	505	213	0.43	56	62	61	16120	0
6	400	50	505	259	0.51	55	61	60	14300	20
7	400	50	505	300	0.57	55	61	60	11930	38
8	400	50	505	340	0.63	56	63	63	8825	58
9	400	50	405	120	0.28	50	56	56	12830	0
10	400	50	405	143	0.32	52	56	55	11440	13
11	400	50	405	165	0.35	50	55	54	9575	25
12	400	50	405	185	0.38	50	57	57	7060	37
13	400	50	305	63	0.18	41	47	47	9625	0
14	400	50	305	71	0.20	43	49	49	8595	7
15	400	50	305	80	0.21	42	48	48	7215	14
16	400	50	305	89	0.22	42	48	49	5325	21

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

