A3G710-AO85-35

EC axial fan - HyBlade

sickled blades (S series)

for agricultural ventilation

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Nominal data

Type	**A3G710-AO85-35**
Motor	**M3G112-IA**

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}	830
Power input	W	700
Current draw	A	3.1
Max. back pressure	Pa	100
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}	%	41.3	32.5
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		48.8	40
05 Variable speed drive		Yes	

09 Power input P_{ed}	kW	0.66
09 Air flow q_v	m^3/h	10435
09 Pressure increase p_{fs}	Pa	87
10 Speed (rpm) n	min^{-1}	835
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-120942

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Technical features

Mass	15 kg
Size	710 mm
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium, coated in black
Material of blades	Aluminium sheet insert (coated in black), sprayed with PP plastic
Number of blades	5
Blade angle	0°
Direction of air flow	"A"
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 54
Insulation class	"B"
Humidity (F)/environmental protection class (H)	F4-2
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 top; rotor on bottom on request
Condensate discharge holes	On the stator 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 - Operation and alarm display - Direction of rotation selection counter-clockwise / clockwise - Input for sensor 0-10 V or 4-20 mA - External 24 V input (programming) - 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
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
Approval	EAC

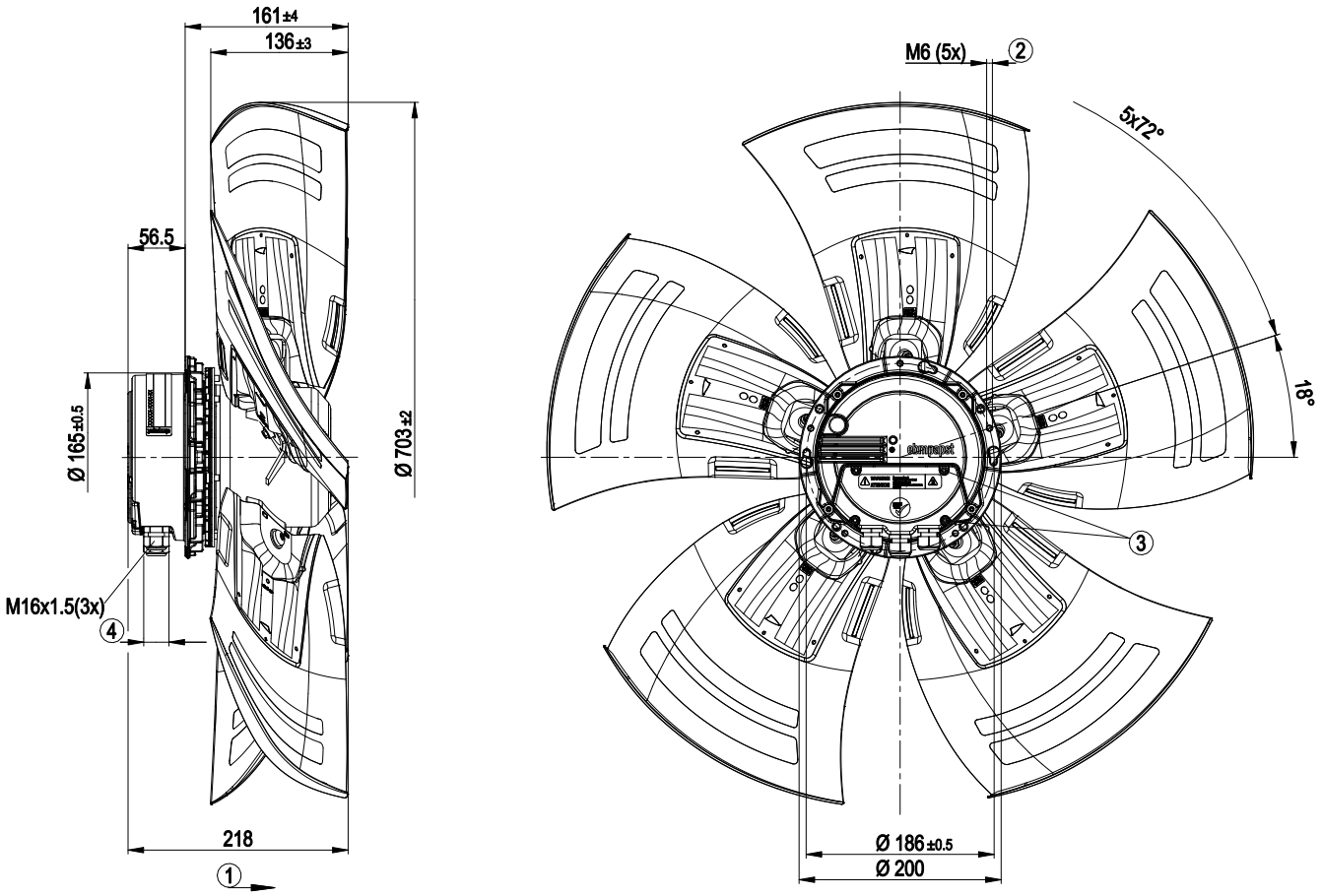
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Product drawing



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

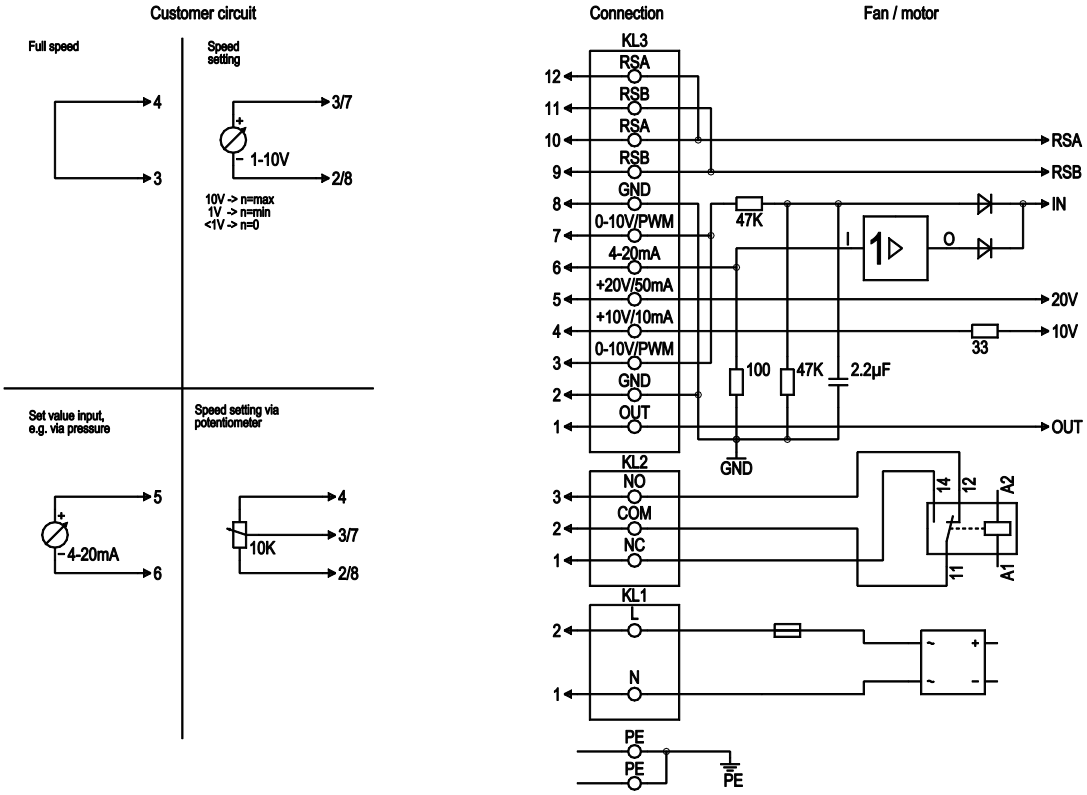
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Connection screen



No.	Conn.	Designation	Function / assignment
PE	-	PE	Protective earth connection
KL1	1, 2	N, L	Supply voltage, 50/60 Hz
KL2	1	NC	Floating status message contact, 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, make for failure
KL3	1	OUT	Analogue output, 0-10 VDC, max. 3 mA, SELV, Output of the current motor level control coefficient: 1 V corresponds to 10% level control coefficient, 10 V correspond 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 ext. devices (e.g. potentiometer), SELV
KL3	5	+20 V	Voltage output 20 VDC (+25%/-10%), max. 50 mA Supply voltage for ext. 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 MODBUS, RSB
KL3	10, 12	RSA	RS485 interface for MODBUS, RSA

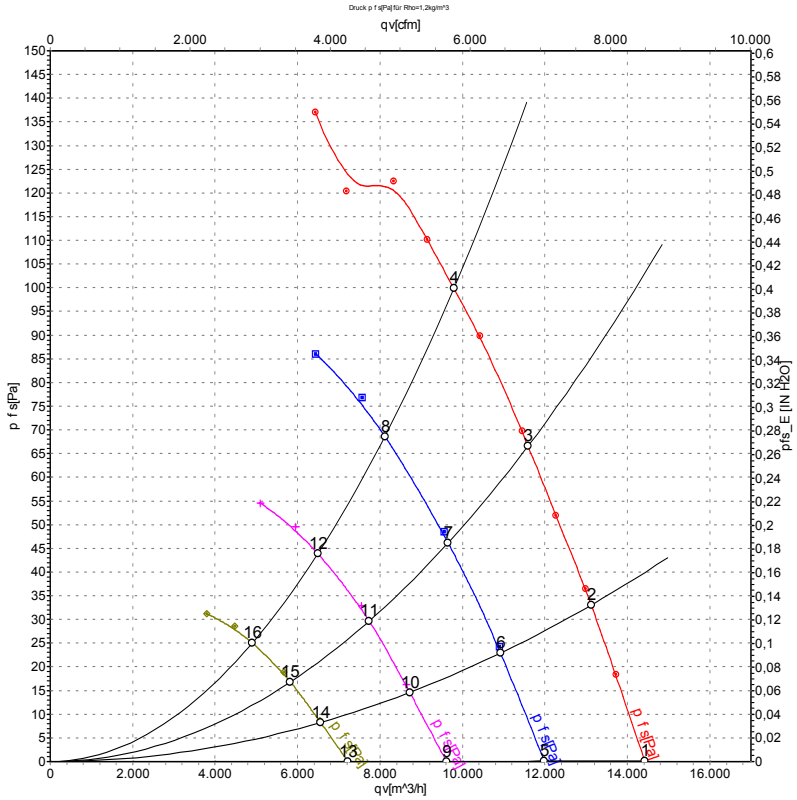
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Charts: Air flow 50 Hz



Measurement: LU-120942-1
Measurement: LU-120952-1
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Measurement: LU-120954-1

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}	LwA_{out}	q_V	p_{fs}	q_V	p_{fs}
	V	Hz	min^{-1}	W	A	dB(A)	dB(A)	dB(A)	m^3/h	Pa	cfm	inH2O
1	230	50	830	448	2.10	62	69	68	14420	0	8485	0.00
2	230	50	830	536	2.45	61	67	67	13120	33	7720	0.13
3	230	50	830	618	2.78	62	68	68	11590	67	6820	0.27
4	230	50	830	700	3.10	66	73	72	9795	100	5765	0.40
5	230	50	690	260	1.23	58	64	63	11980	0	7050	0.00
6	230	50	690	302	1.41	58	63	63	10920	24	6425	0.10
7	230	50	690	352	1.64	58	64	64	9650	47	5680	0.19
8	230	50	690	394	1.82	62	68	68	8115	69	4775	0.28
9	230	50	550	144	0.68	53	59	58	9610	0	5655	0.00
10	230	50	550	170	0.81	53	58	58	8720	15	5135	0.06
11	230	50	550	190	0.90	54	60	59	7735	30	4555	0.12
12	230	50	550	211	0.99	57	63	63	6490	44	3820	0.18
13	230	50	415	74	0.43	48	53	52	7220	0	4250	0.00
14	230	50	415	84	0.48	47	52	52	6555	8	3860	0.03
15	230	50	415	92	0.51	49	54	54	5825	17	3430	0.07
16	230	50	415	100	0.51	51	57	57	4900	25	2885	0.10

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

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