A3G500-AM56-21

EC axial fan - HyBlade

sickled blades (S series)



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Nominal data

Type	**A3G500-AM56-21**
Motor	**M3G112-EA**

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}	1420
Power input	W	750
Current draw	A	3.4
Max. back pressure	Pa	175
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}	%	41.6	32.8
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	0.73
09 Air flow q_v	m^3/h	5850
09 Pressure increase p_{fs}	Pa	173
10 Speed (rpm) n	min^{-1}	1425
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-121382

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Technical features

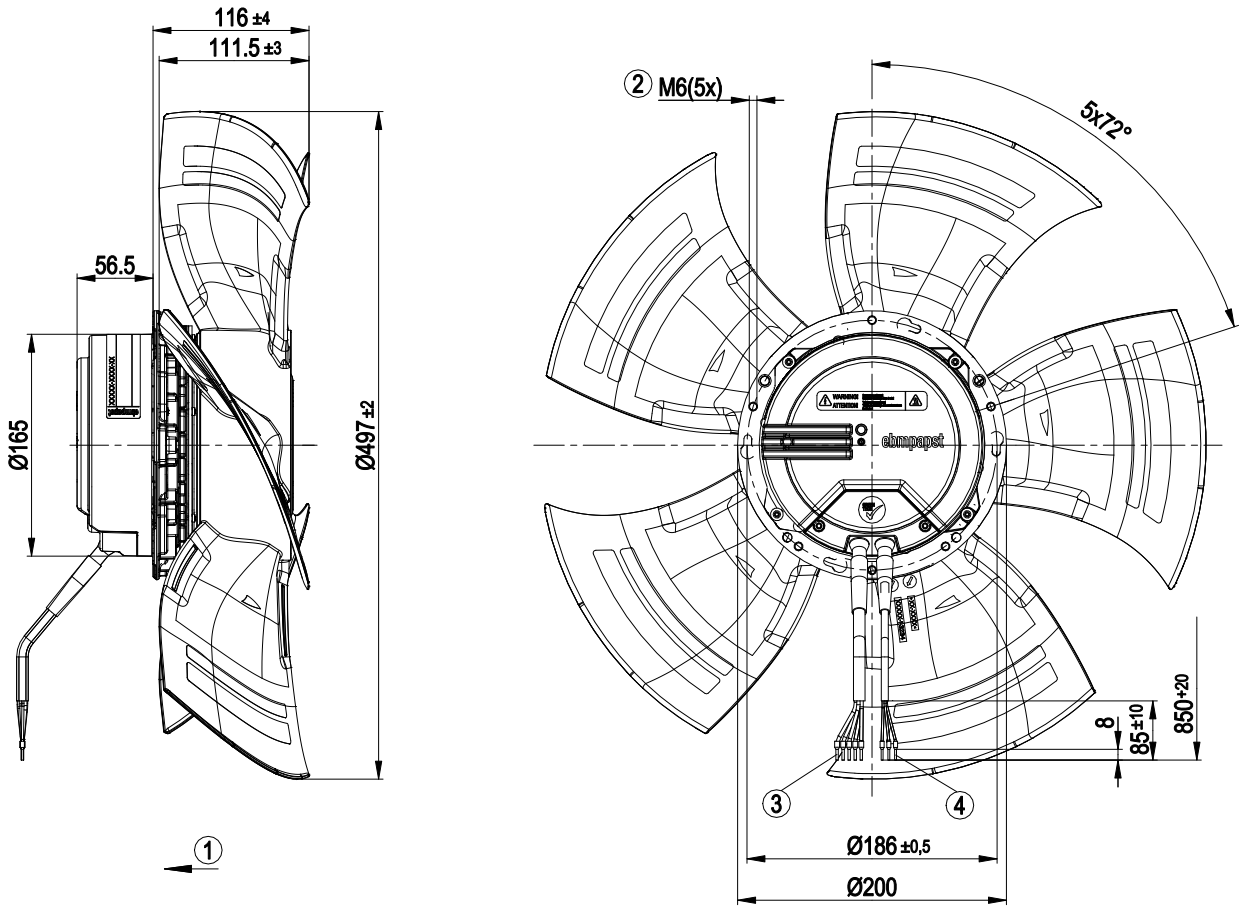
Mass	7.6 kg
Size	500 mm
Surface of rotor	Coated in black
Material of electronics housing	Die-cast aluminium, coated in black
Material of blades	Press-fitted sheet steel blank, sprayed with PP plastic
Number of blades	5
Direction of air flow	"V"
Direction of rotation	Counter-clockwise, seen on rotor
Type of protection	IP 54
Insulation class	"B"
Humidity (F)/environmental protection class (H)	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 - Alarm relay - Motor current limit - PFC, active - Soft start - Control input 0-10 VDC 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 61000-6-4 (industrial environment)
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3.5 mA
Motor protection	Thermal overload protector (TOP) wired internally
Cable exit	Variable
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 61800-5-1; CE
Approval	CCC; EAC

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Product drawing



1	Direction of air flow "V"
2	Depth of screw max. 12 - 16 mm
3	Connection line PVC AWG18, 5x crimped core-end sleeves
4	Connection line PVC AWG22, 3x crimped core-end sleeves

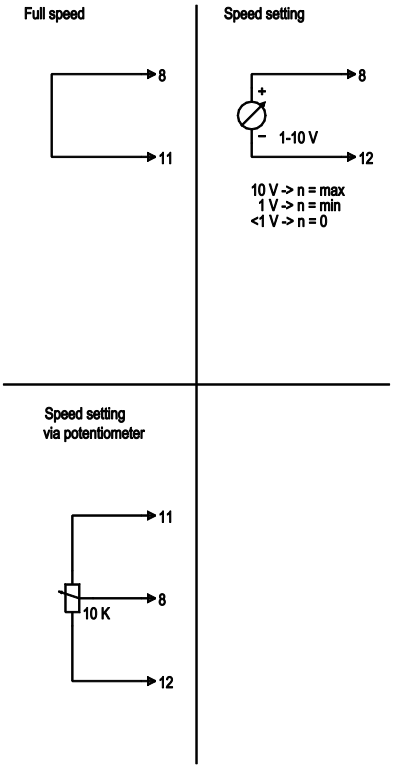
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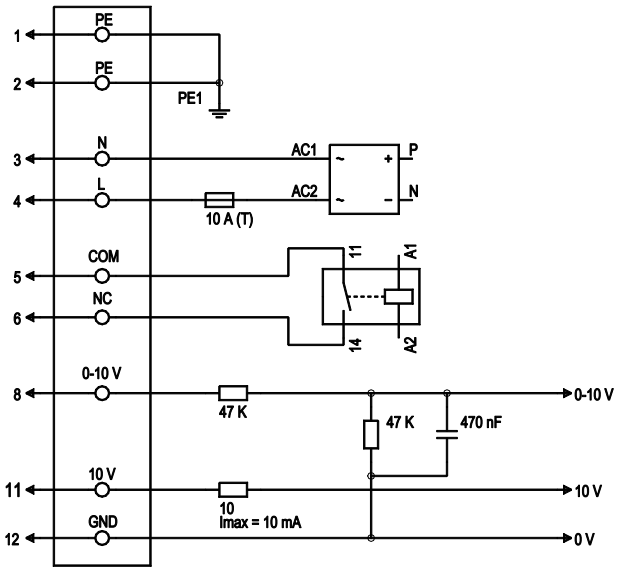
Connection screen

Customer circuit



Connection

Fan / motor



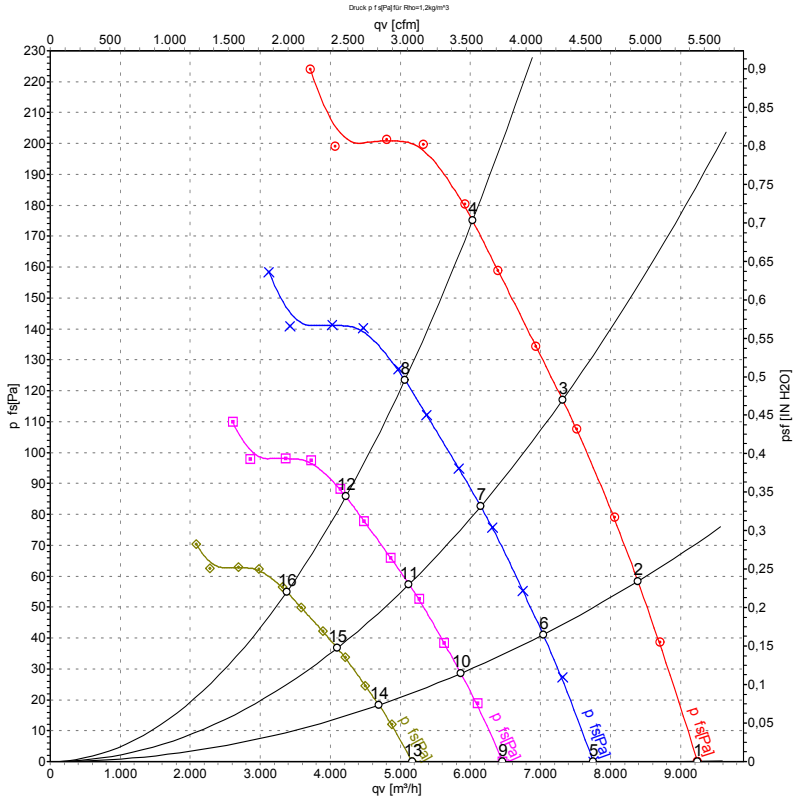
No.	Conn.	Designation	Colour	Function / assignment
1	1,2	PE	green/yellow	Protective earth
1	3	N	blue	Supply voltage, neutral conductor, 50/60 Hz
1	4	L	black	Supply voltage, phase, 50/60 Hz
1	5	COM	white 1	Floating status message contact, break for failure (2 A, max. 250 VAC, min. 10 mA, AC1)
1	6	NC	white 2	Floating status message contact, break for failure
2	8	0-10 V	yellow	Control input, set value 0-10 VDC, impedance 100 kΩ, SELV
2	11	10 VDC	red	Voltage output 10 VDC (+/-3%), max. 10 mA, supply voltage for external devices (e.g. potentiometer), SELV
2	12	GND	blue	Reference mass for control interface, SELV

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Charts: Air flow 50 Hz



Measurement: LU-131222-1

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	1420	554	2.52	70	77	77	9245	0	5440	0.00
2	230	50	1420	633	2.85	67	75	75	8390	58	4940	0.23
3	230	50	1420	696	3.12	66	73	73	7315	117	4305	0.47
4	230	50	1420	750	3.40	66	74	73	6030	175	3550	0.70
5	230	50	1200	327	1.49	66	74	74	7755	0	4565	0.00
6	230	50	1200	373	1.68	64	71	71	7040	41	4145	0.16
7	230	50	1200	413	1.85	62	69	69	6145	83	3620	0.33
8	230	50	1200	443	1.97	62	70	70	5065	124	2980	0.50
9	230	50	1000	189	0.86	62	70	70	6460	0	3805	0.00
10	230	50	1000	216	0.97	60	67	67	5865	28	3455	0.11
11	230	50	1000	239	1.07	58	65	65	5125	57	3015	0.23
12	230	50	1000	256	1.14	58	66	66	4220	86	2485	0.35
13	230	50	800	97	0.44	58	65	65	5170	0	3040	0.00
14	230	50	800	111	0.50	55	62	62	4695	18	2760	0.07
15	230	50	800	122	0.55	53	60	60	4100	37	2410	0.15
16	230	50	800	131	0.59	54	61	61	3375	55	1990	0.22

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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