S3G500-AN41-09

EC axial fan - HyBlade®

sickled blades (S series)

with guard grille for short nozzle

S3G500-AN41-09 ebmpapst Datasheet
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Nominal data

Type	**S3G500-AN41-09**
Motor	**M3G112-GA**

Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Type of data definition		ml
Speed	min^{-1}	1500
Power input	W	750
Current draw	A	1.2
Max. back pressure	Pa	110
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	70

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_{fs} / 100 000 Pa

		Actual	Request 2013	Request 2015
Overall efficiency η_{es}		44.9	29	33
Efficiency grade N		51.9	36	40
Power input P_{ed}	kW	0.79		
Air flow q_v	m^3/h	6145		
Pressure increase p_{fs}	Pa	188		
Speed n	min^{-1}	1490		

Data established at point of optimum efficiency

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Technical features

Mass	12.7 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
Material of guard grille	Steel, coated in black plastic (RAL9005)
Number of blades	5
Direction of air flow	"V"
Direction of rotation	Counter-clockwise, seen on rotor
Type of protection	IP 54
Insulation class	"F"
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	- External 24 V input (programming) - Integrated PID controller - Motor current limit - PFC, passive - RS485 MODBUS RTU - Soft start - 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
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)
Approval	UL 1004-7 + 60730

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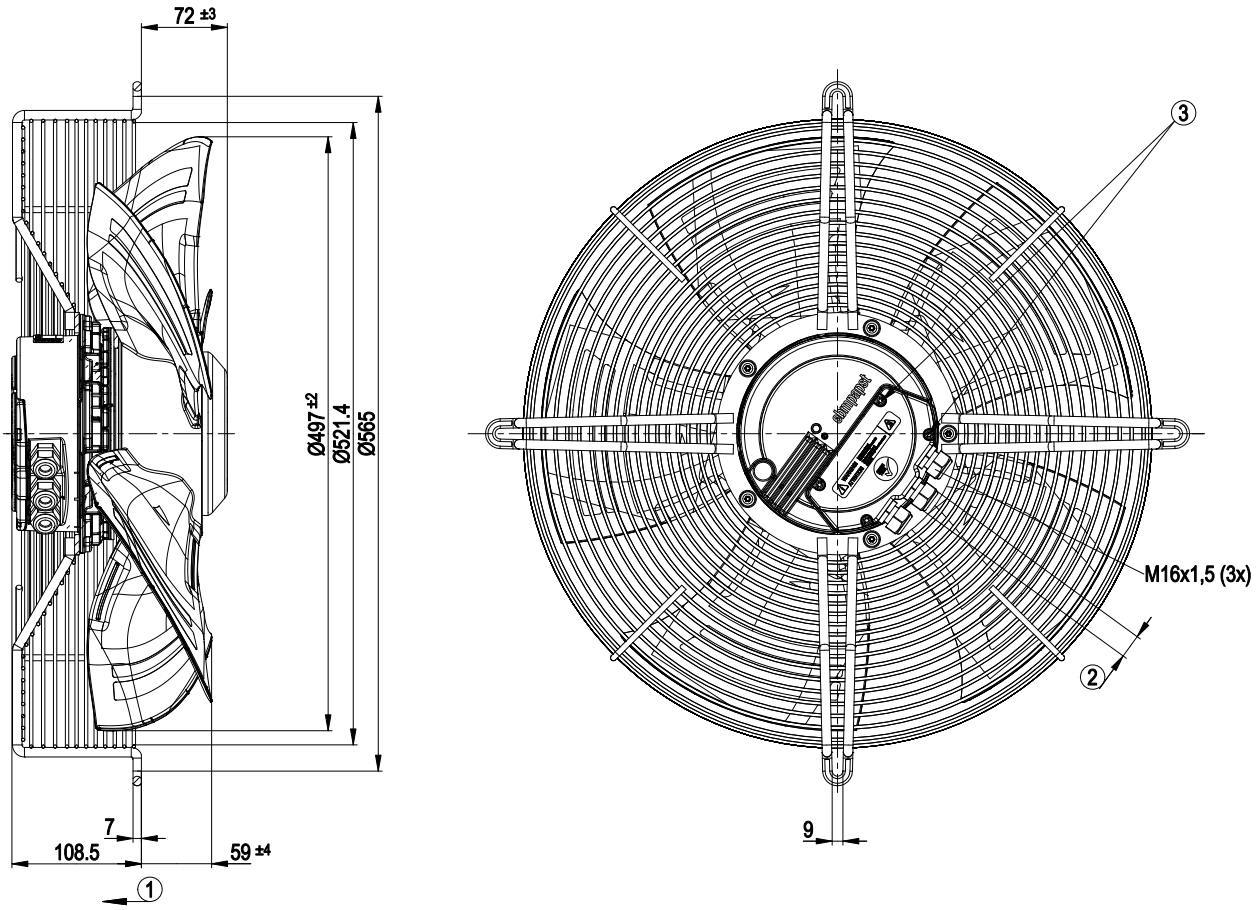
Product drawing



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

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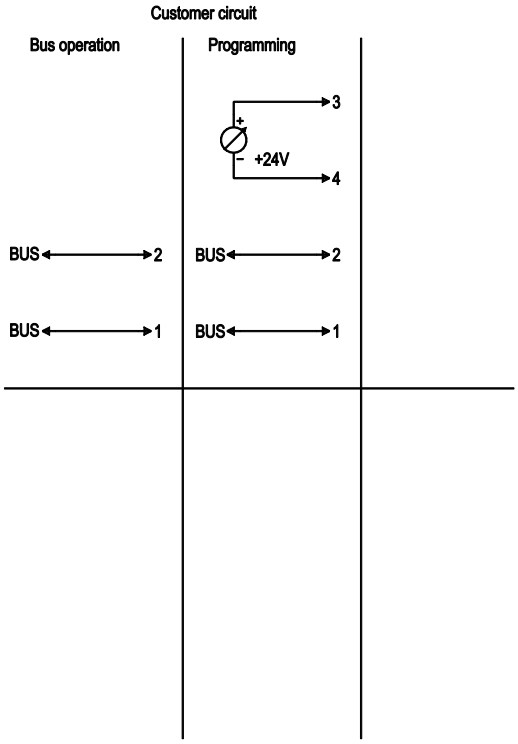
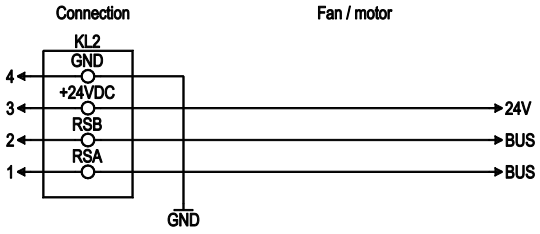
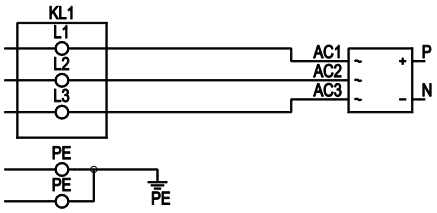
Connection screen







No.	Pin	Signal	Function / assignment
PE	-	PE	Protective earth connection
KL1	1, 2, 3	L1, L2, L3	Supply voltage, 50/60 Hz
KL2	1	RSA	RS485 interface for MODBUS, RSA
KL2	2	RSB	RS485 interface for MODBUS, RSB
KL2	3	+24 VDC	ext. power supply, max. 24 VDC for parametrisation of the electronics
KL2	4	GND	Signal ground

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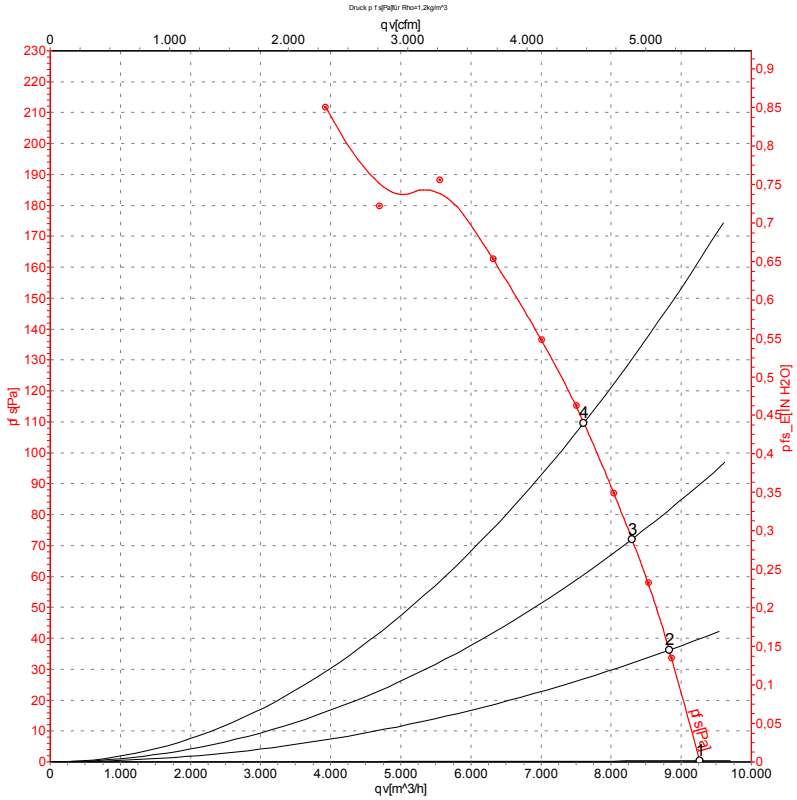
Charts: Air flow 50 Hz



Measurement: LU-115242

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	qv	p_{fs}
	V	Hz	min^{-1}	W	A	m^3/h	Pa
1	400	50	1500	629	1.08	9265	0
2	400	50	1500	670	1.12	8825	37
3	400	50	1500	706	1.19	8295	72
4	400	50	1500	750	1.20	7610	110

U = Supply voltage · f = Frequency · n = Speed · P_{ed} = Power input · I = Current draw · qv = Air flow · p_{fs} = Pressure increase