

A3G630-AR85-06 ebmpapst Datasheet

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## Nominal data

Type	A3G630-AR85-06	
Motor	M3G112-IA	
Phase		3~
Nominal voltage	VAC	400
Nominal voltage range	VAC	380 .. 480
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min <sup>-1</sup>	1140
Power consumption	W	970
Current draw	A	1.6
Max. back pressure	Pa	170
Max. back pressure	inH <sub>2</sub> O	0.68
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	60

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 $\eta_{es}$	%	45.1	33.6	09 Power consumption $P_{ed}$	kW	0.97
02 Measurement category		A		09 Air flow $q_v$	m <sup>3</sup> /h	8935
03 Efficiency category		Static		09 Pressure increase $p_{fs}$	Pa	163
04 Efficiency grade N		51.5	40	10 Speed (rpm) n	min <sup>-1</sup>	1155
05 Variable speed drive		Yes		11 Specific ratio*		1.00

Data obtained at optimum efficiency level.

The ErP data is determined using a motor-impeller combination in a standardized measurement setup.

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

LU-115687



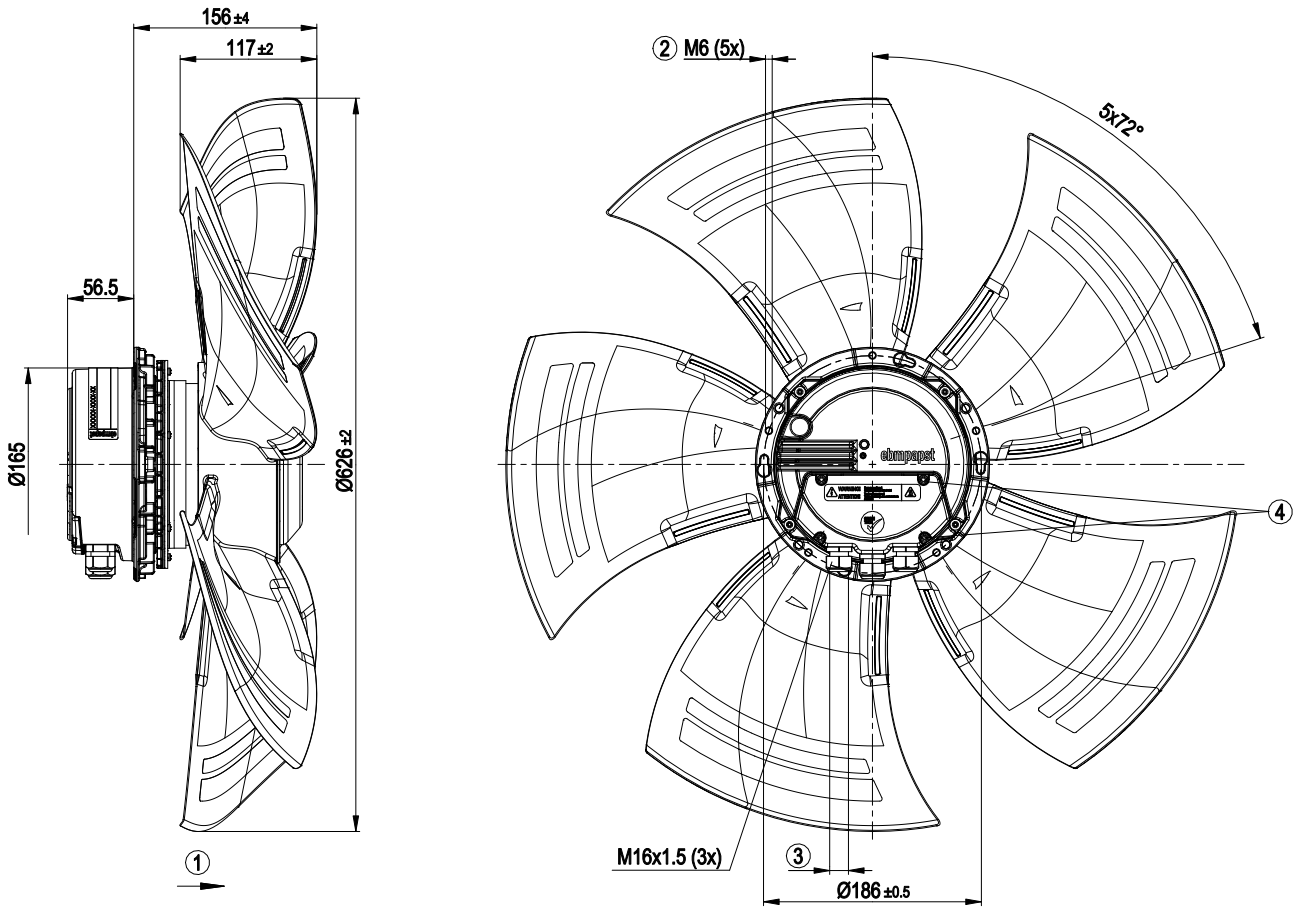
## Technical description

<b>Weight</b>	11.4 kg
<b>Fan size</b>	630 mm
<b>Rotor surface</b>	Painted black
<b>Electronics housing material</b>	Die-cast aluminum
<b>Blade material</b>	Press-fitted sheet steel blank, sprayed with PP plastic
<b>Number of blades</b>	5
<b>Airflow direction</b>	"A"
<b>Direction of rotation</b>	Clockwise, viewed toward rotor
<b>Degree of protection</b>	IP54
<b>Insulation class</b>	"B"
<b>Moisture (F) / Environmental (H) protection class</b>	F4-1
<b>Max. permitted ambient temp. for motor (transport/storage)</b>	+80 °C
<b>Min. permitted ambient temp. for motor (transport/storage)</b>	-40 °C
<b>Installation position</b>	Shaft horizontal or rotor on top; rotor on bottom on request
<b>Condensation drainage holes</b>	On stator side
<b>Mode</b>	S1
<b>Motor bearing</b>	Ball bearing
<b>Technical features</b>	<ul style="list-style-type: none"> <li>- Output 10 VDC, max. 10 mA</li> <li>- Output 20 VDC, max. 50 mA</li> <li>- Output for slave 0-10 V</li> <li>- Input for sensor 0-10 V or 4-20 mA</li> <li>- Alarm relay</li> <li>- Integrated PID controller</li> <li>- Motor current limitation</li> <li>- PFC, passive</li> <li>- RS-485 ebmBUS</li> <li>- Soft start</li> <li>- Control input 0-10 VDC / PWM</li> <li>- Control interface with SELV potential safely disconnected from the mains</li> <li>- Thermal overload protection for electronics/motor</li> <li>- Line undervoltage / phase failure detection</li> </ul>
<b>EMC immunity to interference</b>	According to EN 61000-6-2 (industrial environment)
<b>EMC circuit feedback</b>	According to EN 61000-3-2/3
<b>EMC interference emission</b>	According to EN 61000-6-3 (household environment)
<b>Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)</b>	<= 3.5 mA
<b>Electrical hookup</b>	Via terminal box
<b>Motor protection</b>	Thermal overload protector (TOP) internally connected
<b>With cable</b>	Variable
<b>Protection class</b>	I (with customer connection of protective earth)
<b>Conformity with standards</b>	EN 61800-5-1; CE

# EC axial fan - HyBlade

sickle-shaped blades (S series)

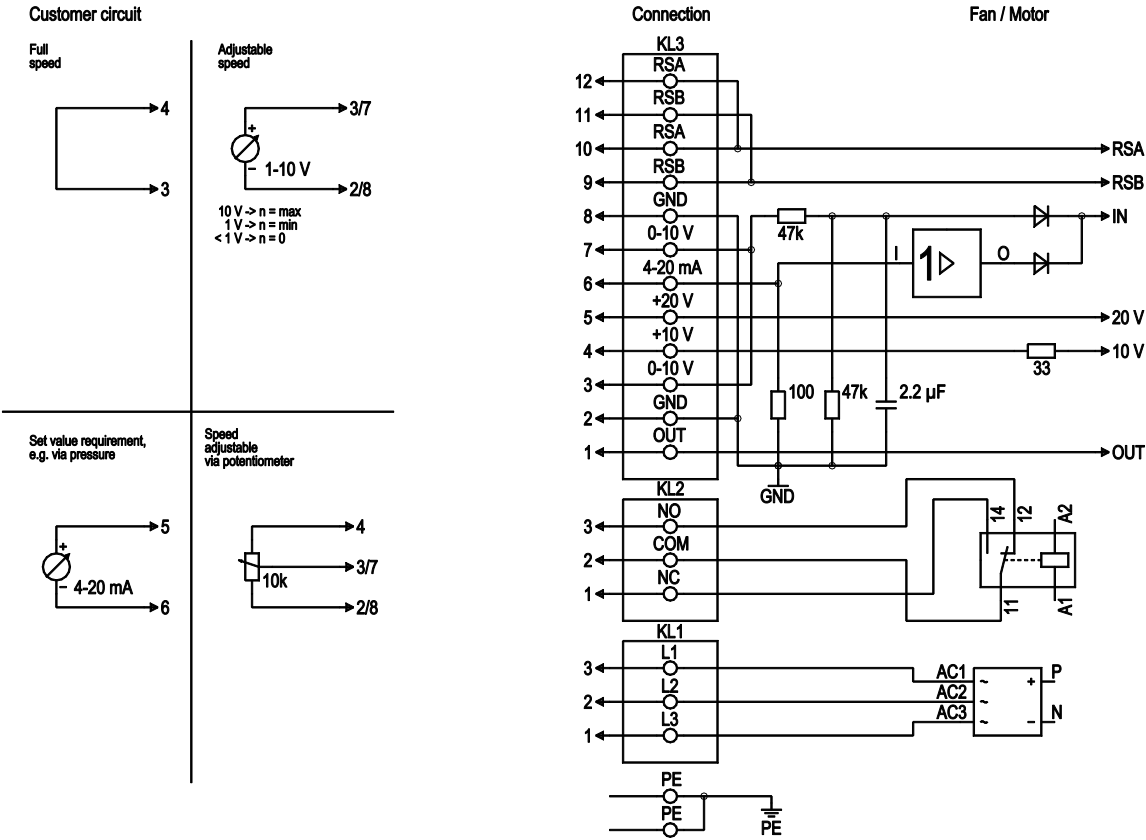
## Product drawing



1	Direction of air flow "A"
2	Max. clearance for screw 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



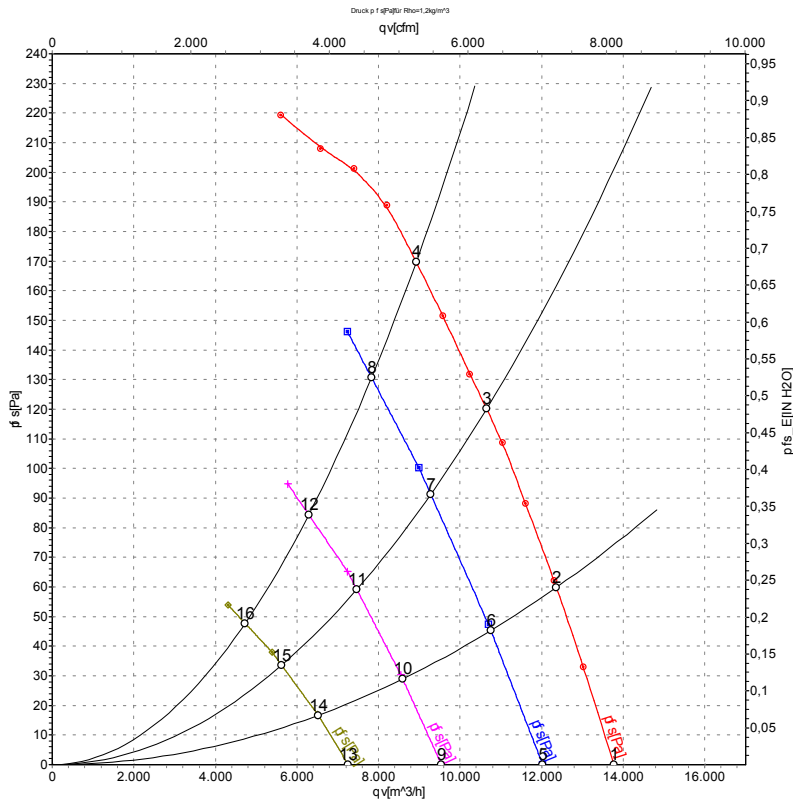
## Connection diagram



No.	Conn.	Designation	Function/assignment
PE		PE	Protective earth terminal
KL1	1, 2, 3	L1, L2, L3	Power supply 50/60 Hz
KL2	1	NC	Floating status contact, break for failure
KL2	2	COM	floating status contact, changeover contact, common connection (2 A, max. 250 VAC, min. 10 mA, AC1)
KL2	3	NO	Floating status contact, make for failure
KL3	1	OUT	Analog output, 0-10 VDC, max. 3 mA, SELV, output of current motor modulation level: 1 V corresponds to 10% modulation level. 10 V corresponds to 100% modulation level.
KL3	2, 8	GND	Reference ground for control interface, SELV
KL3	3, 7	0-10 V	Use control / current sensor 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, power supply for external devices (e.g. potentiometer), SELV
KL3	5	+20 V	Voltage output 20 VDC (+25%/-10%), max. 50 mA, power supply for external devices (e.g. sensors), SELV
KL3	6	4-20 mA	Use control / current sensor 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



## Curves: Air performance 50 Hz



Measurement: LU-115687-1  
 Measurement: LU-118125-1  
 Measurement: LU-118126-1  
 Measurement: LU-118127-1

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 <sub>ed</sub>	I	LpA <sub>in</sub>	LwA <sub>in</sub>	LwA <sub>out</sub>	qv	P <sub>fs</sub>	qv	P <sub>fs</sub>
	V	Hz	min <sup>-1</sup>	W	A	dB(A)	dB(A)	dB(A)	m <sup>3</sup> /h	Pa	CFM	inH <sub>2</sub> O
1	400	50	1140	642	1.02	67	74	74	13770	0	8105	0.00
2	400	50	1140	775	1.25	64	71	71	12360	60	7275	0.24
3	400	50	1140	892	1.42	66	72	71	10650	120	6270	0.48
4	400	50	1140	970	1.60	68	74	73	8920	170	5250	0.68
5	400	50	1000	406	0.75	64	71	70	12020	0	7075	0.00
6	400	50	1000	490	0.86	61	68	67	10750	45	6325	0.18
7	400	50	1000	564	0.95	62	69	68	9280	91	5460	0.37
8	400	50	1000	626	1.05	63	70	69	7830	131	4610	0.53
9	400	50	800	224	0.45	59	65	65	9540	0	5615	0.00
10	400	50	800	270	0.53	56	62	62	8595	29	5060	0.12
11	400	50	800	300	0.58	56	63	62	7470	59	4395	0.24
12	400	50	800	331	0.64	57	64	64	6290	84	3700	0.34
13	400	50	600	109	0.25	52	59	58	7255	0	4270	0.00
14	400	50	600	124	0.28	50	56	56	6520	17	3840	0.07
15	400	50	600	139	0.31	50	56	56	5625	34	3310	0.14
16	400	50	600	152	0.33	50	57	57	4730	48	2785	0.19

U = Power supply · f = Frequency · n = Speed (rpm) · P<sub>ed</sub> = Power consumption · I = Current draw · LpA<sub>in</sub> = Sound pressure level intake side · LwA<sub>in</sub> = Sound power level intake side  
 LwA<sub>out</sub> = Sound power level outlet side · qv = Air flow · p<sub>fs</sub> = Pressure increase

