EC axial fan - HyBlade

sickle-shaped blades (S series)

with guard grille for full nozzle

S3G910-BO84-21 ebmpapst Datasheet
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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**S3G910-BO84-21**
Motor	**M3G112-IA**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50/60
Method of obtaining data		ml
Status		prelim.
Speed (rpm)	min^{-1}	590
Power consumption	W	580
Current draw	A	2.6
Max. back pressure	Pa	80
Max. back pressure	inH2O	0.32
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 η_{es}	%	44.3	31.9
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		52.4	40
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.53
09 Air flow q_v	m^3/h	12325
09 Pressure increase p_{fs}	Pa	63
10 Speed (rpm) n	min^{-1}	595
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_{fs} / 100 000 Pa

LU-121322

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Technical description

Weight	19.7 kg
Fan size	910 mm
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum, painted black
Blade material	Press-fitted sheet steel blank, sprayed with PP plastic
Guard grille material	Steel, coated with black plastic (RAL 9005)
Number of blades	5
Airflow direction	"V"
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP54
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	F4-1
Max. permitted ambient temp. for motor (transport/storage)	+ 80 °C
Min. permitted ambient temp. for motor (transport/storage)	- 40 °C
Installation position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensation drainage holes	On rotor side
Mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 10 mA - Alarm relay - Motor current limitation - PFC, active - Soft start - Control input 0-10 VDC - Control interface with SELV potential safely disconnected from supply - Thermal overload protection for electronics/motor - Line undervoltage / phase failure detection
EMC immunity to interference	According to EN 61000-6-2 (industrial environment)
EMC circuit feedback	According to EN 61000-3-2/3
EMC interference emission	According to EN 61000-6-4 (industrial environment)
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	<= 3.5 mA
Motor protection	Thermal overload protector (TOP) internally connected
With cable	Variable
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 61800-5-1; CE
Approval	EAC

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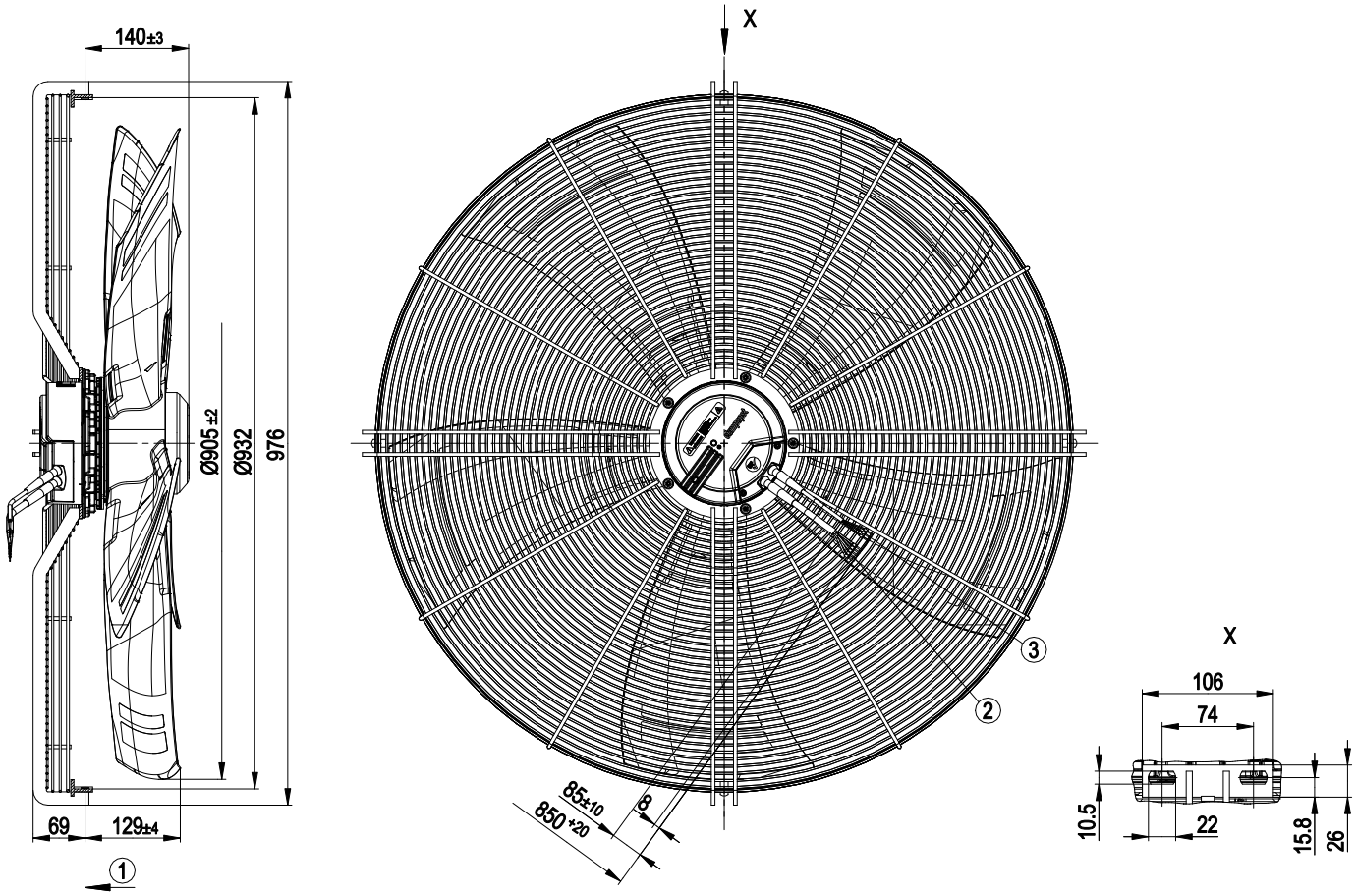
Product drawing



1	Direction of air flow "V"
2	Cable PVC AWG18, 6x crimped ferrules
3	Cable PVC AWG22, 3x crimped ferrules

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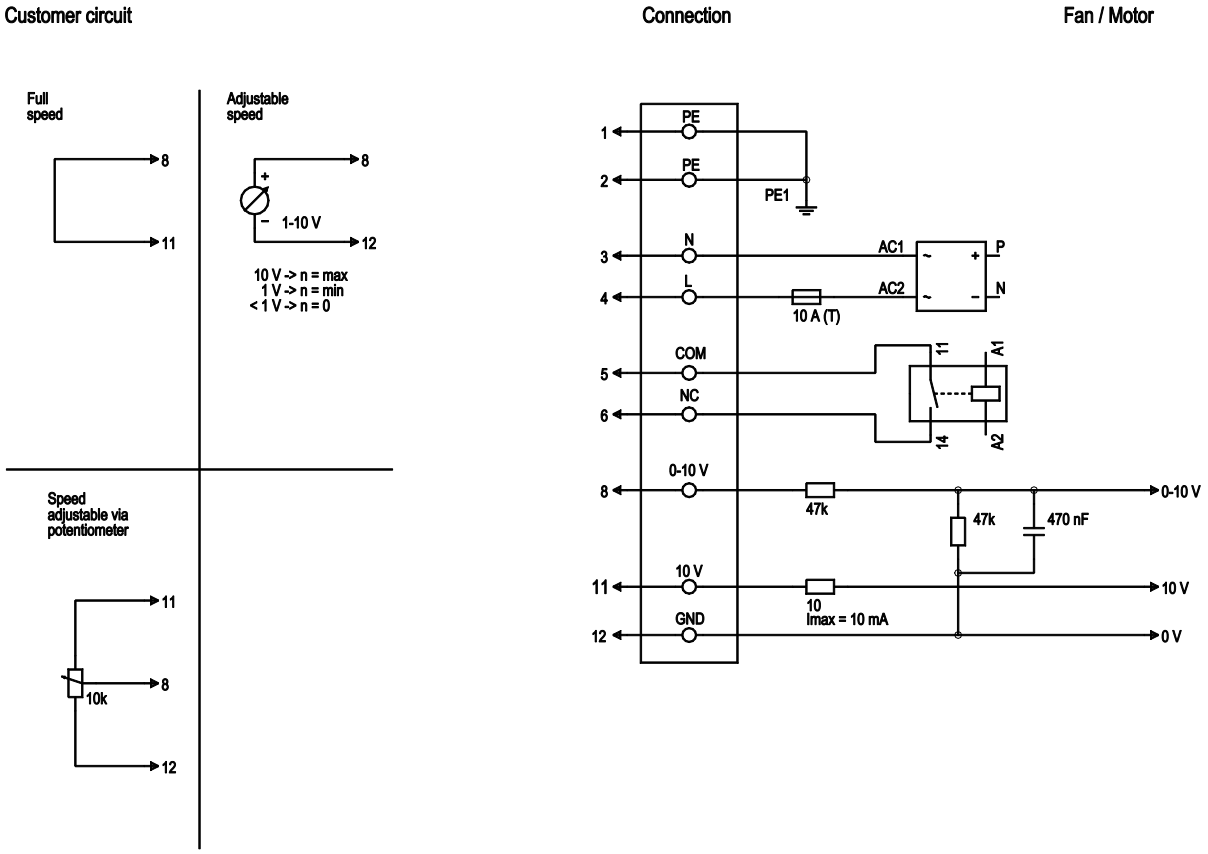
Connection diagram



No.	Conn.	Designation	Color	Function/assignment
1	1,2	PE	green/yellow	Protective earth
1	3	N	blue	Power supply, neutral conductor, 50/60 Hz
1	4	L	black	Power supply, phase, 50/60 Hz
1	5	COM	white 1	Floating status contact, break for failure (2 A, max. 250 VAC, min. 10 mA, AC1)
1	6	NC	white 2	Floating status 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, power supply for external devices (e.g. potentiometer), SELV
2	12	GND	blue	Reference ground for control interface, SELV

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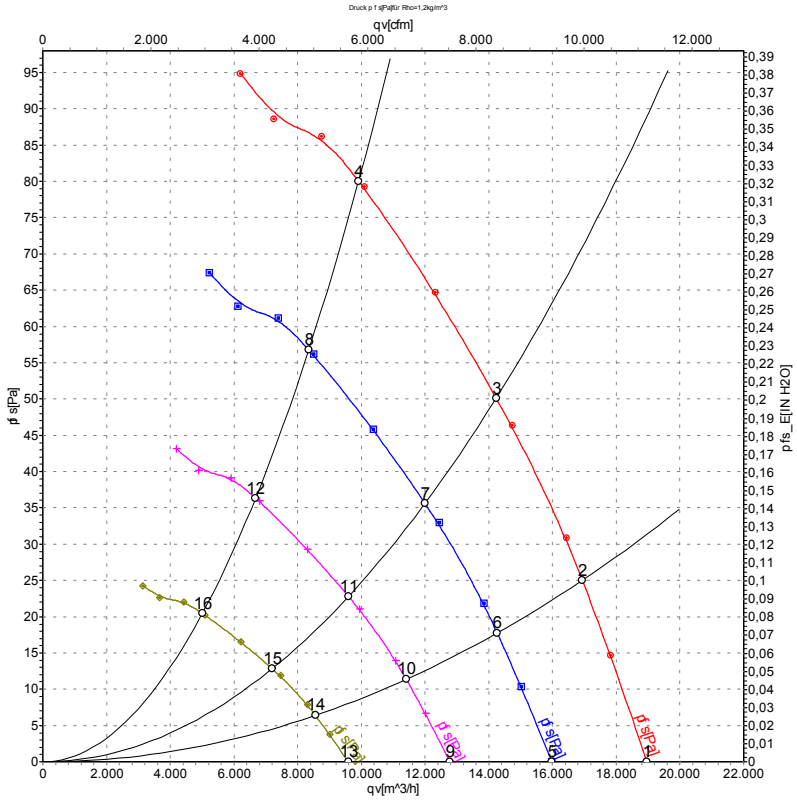
Curves: Air performance 50 Hz



Measurement: LU-121322-1

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_{ed}	I	LpA_{in}	LwA_{in}	LwA_{out}	qv	p_{fs}	qv	p_{fs}
	V	Hz	min^{-1}	W	A	dB(A)	dB(A)	dB(A)	m^3/h	Pa	CFM	inH2O
1	230	50	590	346	1.64	60	67	67	18960	0	11160	0.00
2	230	50	590	428	2.00	59	66	65	16940	25	9970	0.10
3	230	50	590	496	2.29	59	66	65	14230	50	8375	0.20
4	230	50	590	580	2.60	63	71	71	9910	80	5835	0.32
5	230	50	500	207	0.98	56	64	63	15980	0	9405	0.00
6	230	50	500	256	1.19	55	62	62	14260	18	8395	0.07
7	230	50	500	298	1.38	55	62	62	12000	36	7065	0.14
8	230	50	500	343	1.56	59	67	67	8345	57	4910	0.23
9	230	50	400	106	0.50	51	59	58	12780	0	7520	0.00
10	230	50	400	131	0.61	50	57	57	11410	11	6715	0.04
11	230	50	400	152	0.70	50	57	57	9595	23	5650	0.09
12	230	50	400	176	0.80	54	62	63	6675	36	3930	0.14
13	230	50	300	45	0.21	45	53	52	9585	0	5645	0.00
14	230	50	300	55	0.26	44	51	51	8560	6	5035	0.02
15	230	50	300	64	0.30	44	51	51	7200	13	4235	0.05
16	230	50	300	74	0.34	48	56	56	5005	20	2945	0.08

U = Power supply · f = Frequency · n = Speed (rpm) · P_{ed} = Power consumption · I = Current draw · LpA_{in} = Sound pressure level intake side · LwA_{in} = Sound power level intake side
LwA_{out} = Sound power level outlet side · qv = Air flow · p_{fs} = Pressure increase