S3G710-AO85-21

EC axial fan - HyBlade

sickle-shaped blades (S series)

with guard grille for short nozzle

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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**S3G710-AO85-21**
Motor	**M3G112-IA**

Phase		1~
Nominal voltage	VAC	230
Nominal voltage range	VAC	200 .. 277
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min^{-1}	830
Power consumption	W	700
Current draw	A	3.1
Max. back pressure	Pa	100
Max. back pressure	inH2O	0.4
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}	%	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 consumption 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 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-120942

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Technical description

Weight	19 kg
Fan size	710 mm
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum, painted black
Blade material	Sheet aluminum insert, sprayed with PP plastic
Guard grille material	Steel, coated with black plastic (RAL 9005)
Number of blades	5
Blade pitch	0°
Airflow direction	"V"
Direction of rotation	Counterclockwise, 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)	Max. +80 °C
Min. permitted ambient temp. for motor (transport/storage)	Min. -40 °C
Installation position	Shaft horizontal or rotor on bottom
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 V - Control interface with SELV potential safely disconnected from supply - Thermal overload protection for electronics/motor - 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	CCC; EAC

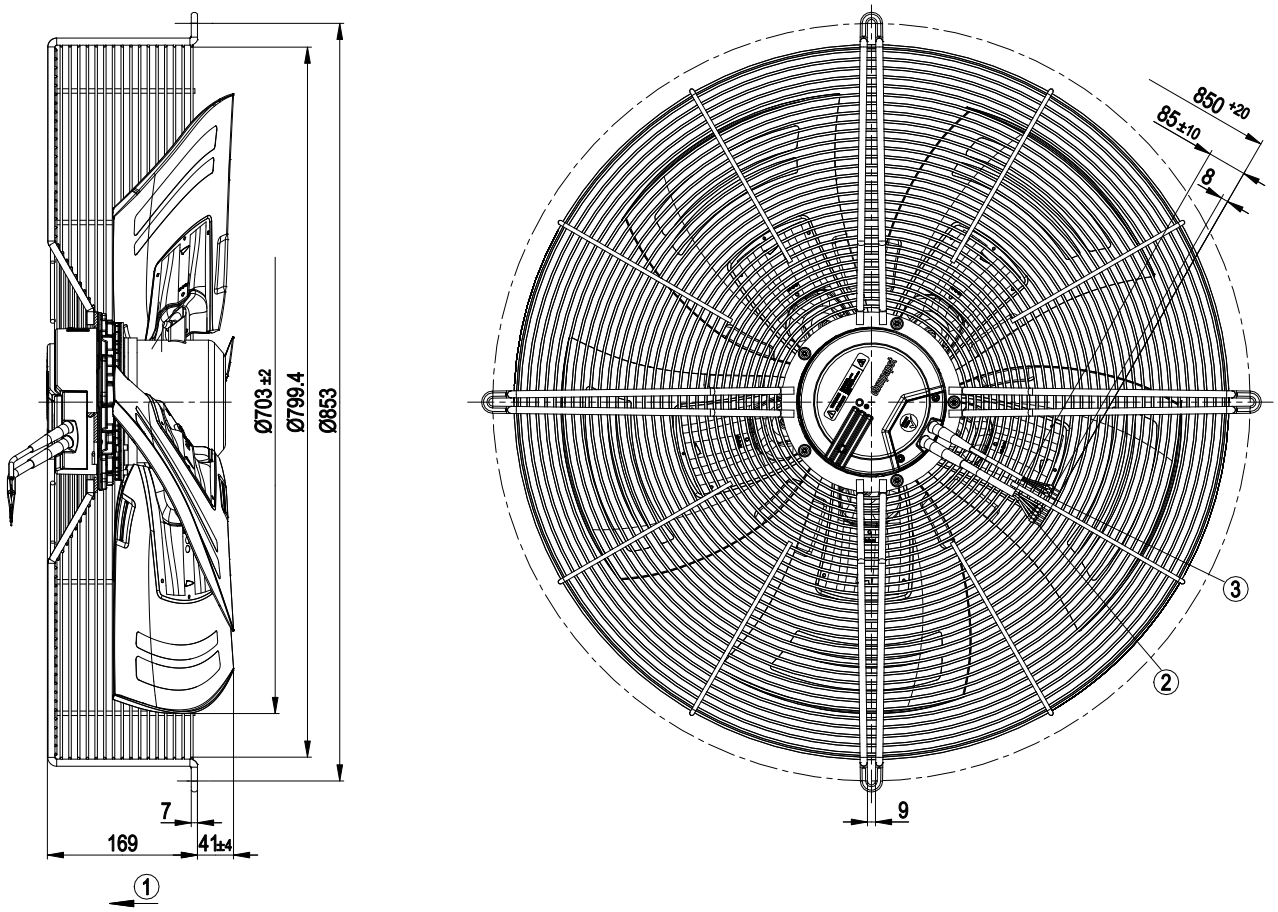
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Product drawing



1	Direction of air flow "V"
2	Cable PVC AWG18, 5x crimped ferrules
3	Cable PVC AWG22, 3x crimped ferrules

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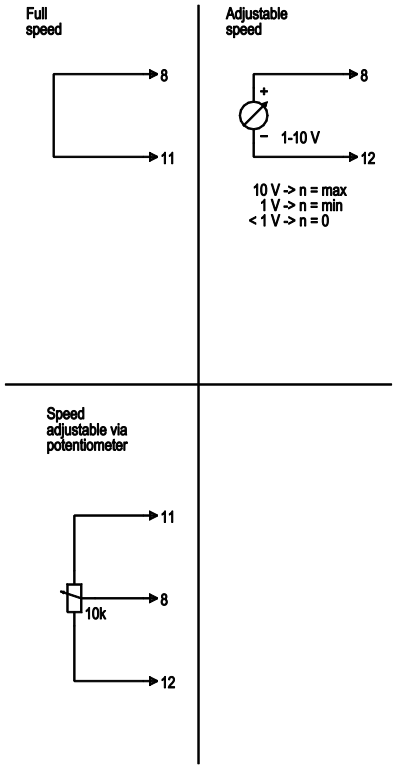
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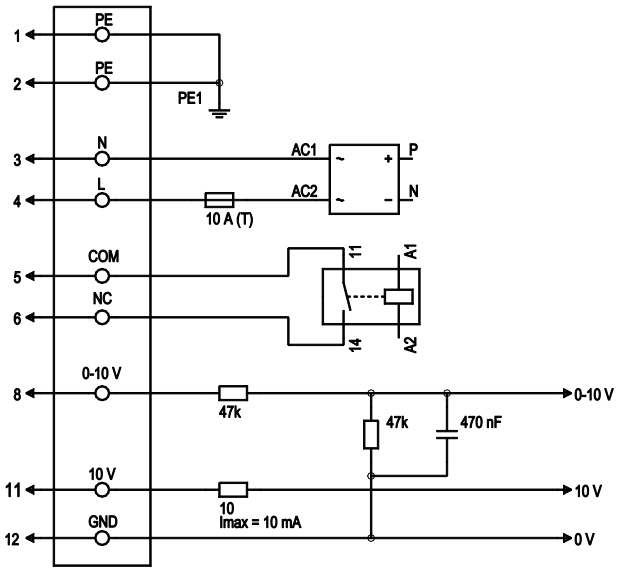
Connection diagram

Customer circuit



Connection

Fan / Motor



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

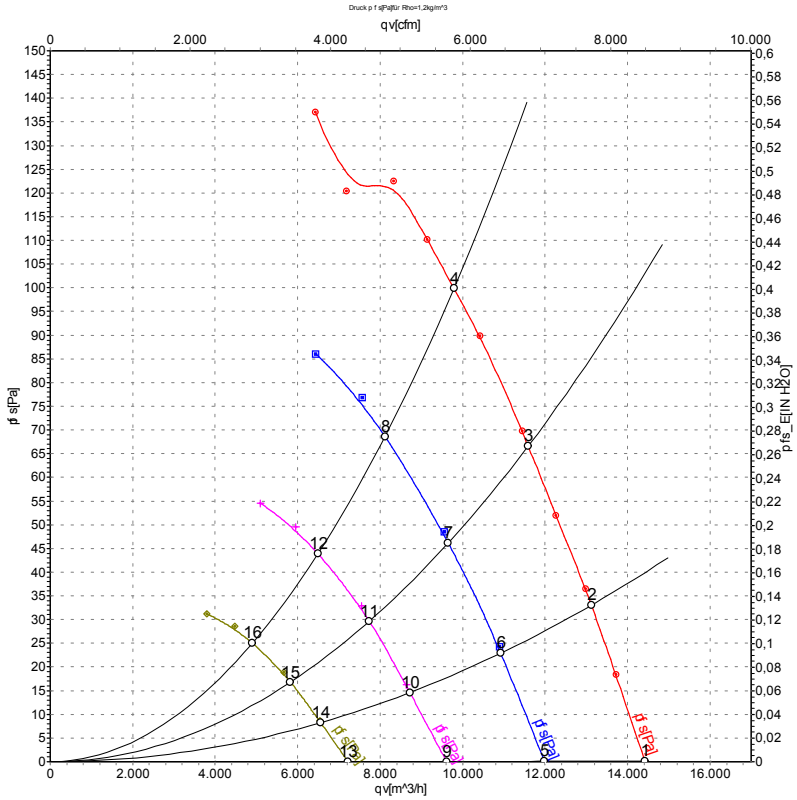
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Curves: Air performance 50 Hz



Measurement: LU-120942-1
Measurement: LU-120952-1
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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	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 = 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

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