S3G650-AD05-50

EC axial fan - HyBlade

sickle-shaped blades (S series)

with guard grille for short nozzle

S3G650-AD05-50 ebmpapst Datasheet
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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**S3G650-AD05-50**
Motor	**M3G084-GF**

Phase		1~
Nominal voltage	VAC	230
Frequency	Hz	50/60
Method of obtaining data		ml
Speed (rpm)	min^{-1}	650
Power consumption	W	182
Current draw	A	1.1
Max. back pressure	Pa	45
Max. back pressure	inH2O	0.18
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	50

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}	%	38.4	29
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		49.4	40
05 Variable speed drive		Yes	

09 Power consumption P_{ed}	kW	0.18
09 Air flow q_v	m^3/h	4995
09 Pressure increase p_{fs}	Pa	44
10 Speed (rpm) n	min^{-1}	655
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-123008

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Technical description

Weight	11.2 kg
Fan size	650 mm
Rotor surface	Painted black
Electronics housing material	Die-cast aluminum
Blade material	Press-fitted sheet steel blank, sprayed with PP plastic
Guard grille material	Steel, phosphated and coated with black plastic
Number of blades	5
Airflow direction	"V"
Direction of rotation	Counterclockwise, viewed toward rotor
Degree of protection	IP54; installation- and position-dependent
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 top; rotor on bottom on request
Condensation drainage holes	On rotor side
Mode	S1
Motor bearing	Ball bearing
Technical features	- Output 10 VDC, max. 1.1 mA - Alarm relay - Shake-loose function - Motor current limitation - Soft start - Control input 0-10 VDC / PWM - Thermal overload protection for electronics/motor - Line undervoltage 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 61000-6-3 (household 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 60335-1; CE

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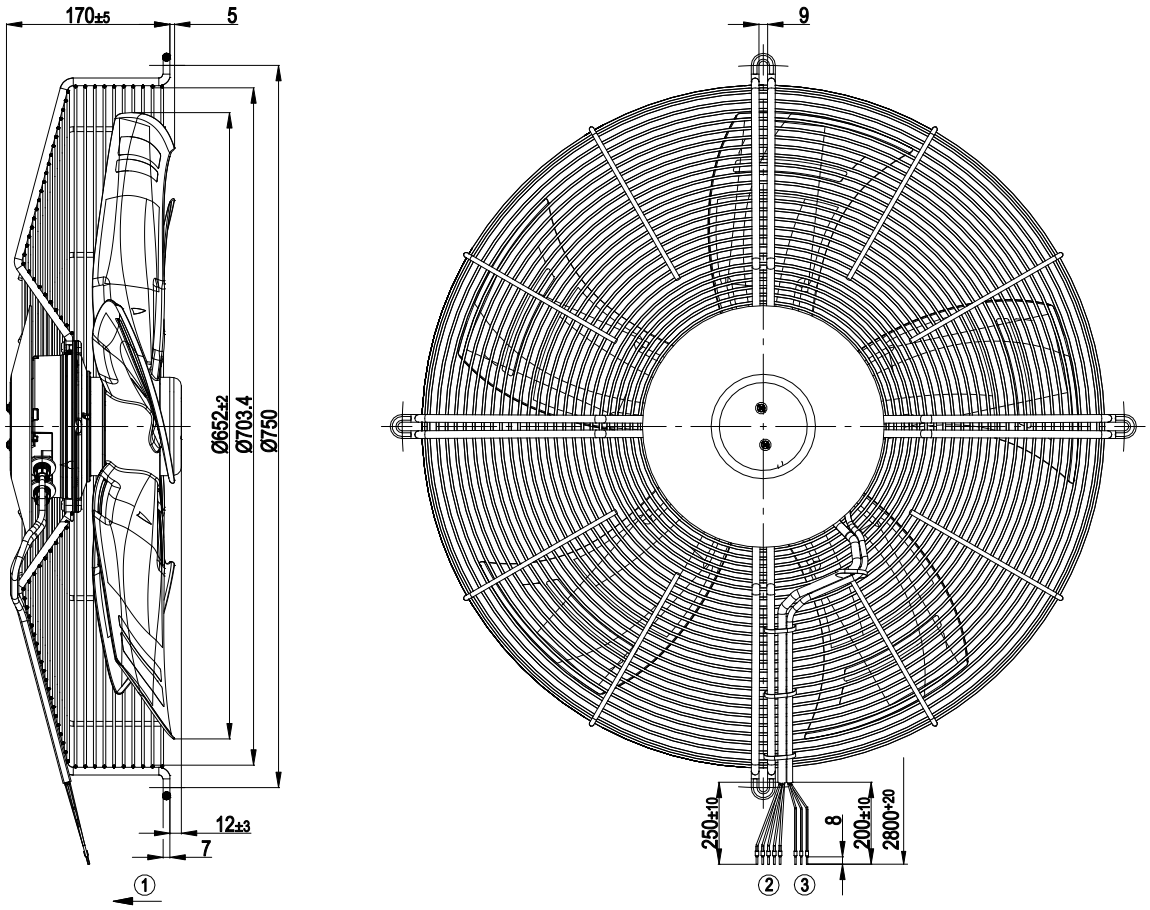
Product drawing



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

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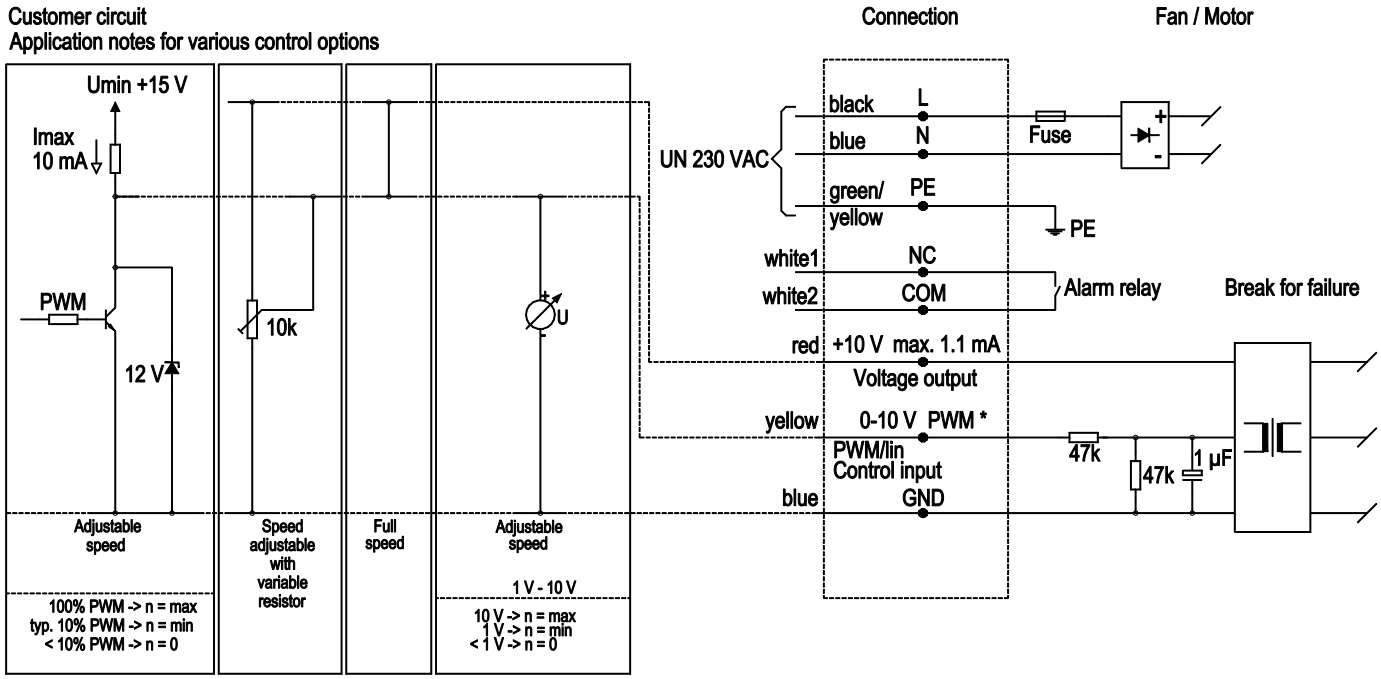
Connection diagram



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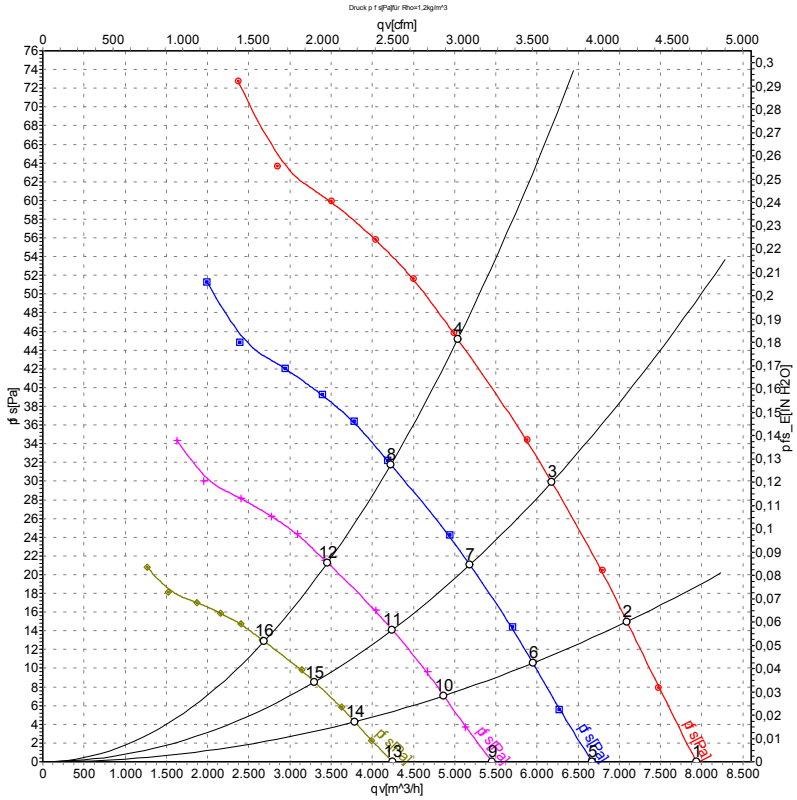
Curves: Air performance 50 Hz



Measurement: LU-123008-1

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	650	110	0.73	53	59	58	7935	0	4670	0.00
2	230	50	650	136	0.87	53	59	58	7095	15	4175	0.06
3	230	50	650	158	1.00	54	59	59	6180	30	3635	0.12
4	230	50	650	182	1.10	54	60	60	5040	45	2965	0.18
5	230	50	550	66	0.43	49	55	54	6670	0	3925	0.00
6	230	50	550	80	0.52	49	55	54	5950	10	3500	0.04
7	230	50	550	94	0.59	50	56	55	5185	21	3050	0.08
8	230	50	550	106	0.66	50	56	56	4225	32	2485	0.13
9	230	50	450	36	0.24	44	50	50	5455	0	3210	0.00
10	230	50	450	44	0.28	45	50	50	4870	7	2865	0.03
11	230	50	450	51	0.32	46	51	50	4245	14	2495	0.06
12	230	50	450	58	0.36	46	52	52	3455	21	2035	0.08
13	230	50	350	17	0.11	39	45	45	4245	0	2500	0.00
14	230	50	350	21	0.13	39	45	44	3785	4	2230	0.02
15	230	50	350	24	0.15	40	46	45	3300	8	1940	0.03
16	230	50	350	27	0.17	40	47	46	2690	13	1585	0.05

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